DNR/DOT PROJECT REVIEW

State of Wisconsin – Department of Natural Resources (DNR) and Department of Transportation (WisDOT)
DTNR0002 6/2018

DNR Internet: http://dnr.wi.gov/	WisDOT Internet: http://wisconsindot.gov/
SHAWN HASELEU NORTHERN REGION 810 W MAPLE STREET SPOONER, WI 54801	**Wisconsin Department of Transportation** **Division of Transportation Systems Development** 1701 N 4th Street Superior, Wi 54880

Inform WisDOT Regional Environmental Coordinator, if more than 45 days is needed.

Design Project ID	Project Highway	Review Submittal Date (m/d/yy)
1610-08-31*	STH 13	10/16/18
Construction Project ID	**Estimated Project Cost (range)**	**Construction Year (yyyy)**
1610-08-74*	$2,500,000.00 to $3,000,000.00	2020

Project Name	Project Limits
Park Falls - Mellen*	See Project Description
County	**Project on Tribal Land**
Ashland	☐ Yes ☒ No
Contact Name	**Contact (Area Code) Phone Number**
Travis Jensen	715-395-3025
Section/Township/Range	**Estimated Area of Ground Disturbance (acres)**
T43, R2W, S21,6,7,8,16; T44N, R3W,S12,13,24,25,36; T44N, R2W, S6,7	26

Type of Review Requested

- ☐ Initial Review
- ☒ Final Concurrence
- ☐ Scope Change
- ☐ Other:

Document Type

- ☐ Environmental Assessment (EA)
- ☐ Environmental Report (ER)
- ☐ Programmatic Categorical Exclusion (PCE)
- ☒ Categorical Exclusion Checklist (CEC)

WisDOT Project Classification

- ☒ Bridge Rehabilitation, FDM 3-5-2
- ☐ Bridge Replacement, FDM 3-5-2
- ☐ Expansion, FDM 3-5-2
- ☐ Pavement Replacement, FDM 3-5-2
- ☐ Preventive Maintenance, FDM 3-1-5
- ☐ SHRM (State Hwy Rehab/Maint), Maintenance Manual 13.08
- ☐ Recondition, FDM 3-5-2
- ☐ Reconstruction, FDM 3-5-2
- ☐ Resurface, FDM 3-5-2
- ☐ Safety (HSIP), PMM 4-1-10
- ☒ Other: Miscellaneous

Work Involved

- ☒ Beam Guard Replacement
- ☒ Borrow and/or Waste Site Required
- ☐ Channel Change/Stream Relocation
- ☒ Clearing and Grubbing
- ☒ Culvert Replacement or Extensions
- ☐ Dredging
- ☒ Grading
- ☐ Fill Outside Toe of Slope
- ☐ Intersection Improvement
- ☐ Right of Way Acquisition
- ☐ Shoulder Work
- ☐ Storm Sewer
- ☐ Other:

Storm Water Management (check all that apply)

- ☒ Trans 401 post construction requirements
- ☐ NPDES MS4/Urbanized Area
- ☐ TMDL Implementation Area
- ☒ Transportation Construction General Permit (TCGP)

For more information, please see the back of this form.

Project Description and Reason for Project:
(include project location map with limits and necessary attachments; attach additional sheets if needed)

This concurrence is applicable to the following three tied projects:

1610-08-31/74
Park Falls - Mellen
Morse Road - Cayuga Road
STH 13
Ashland County
Project Description and Reason: This project includes: culvert replacement, slope flattening around the culverts, beam guard replacement, and any incidentals required to complete the work. The existing culverts are failing and in need of replacement to preserve the integrity of the roadway. The slopes around the culverts tend to be steep (1:1 - 2:1) and deep, which is difficult to rebuild without having erosion issues, thus slopes will be flattened around culvert replacement locations.

1610-08-06/76
Park Falls - Mellen
Cayuga Road - Jefferson Ave
STH 13
Ashland County
Project Description and Reason: This project is the same as the project above (1610-08-31/74), just on the next segment to the north.

1610-11-03/73
Park Falls - Mellen
Soo Line Railroad Bridge B-02-0025
STH 13
Ashland County
Project Description and Reason: This bridge rehabilitation project includes: deck overlay, replace approach panels, and any incidentals required to complete the work. This project is needed to address the aging concrete on the bridge deck to preserve the integrity of the bridge structure.

ASHLAND 2-NW

Madeline Island

Lake Superior

SOUTH CHANNEL

Long Island

Chequamegon Pt.

Chequamegon Bay

Oak Pt.

Ashland

Odanah

Bad River Slough

Kakagon R.

Wood Cr.

Sioux Cr.

Bad River Indian Reservation

Stone's John L.

Maggies Cr.

Morrison Cr.

Diamond Cr.

GINGLES

SANBORN

WHITE RIVER

Bad River

Potatoe R.

Vaughn Cr.

Trout Cr.

Sanborn

Marengo

Marengo R.

Marengo Cr.

Mineralville

Highbridge

Brunswieler Cr.

Forks Cr.

Tyler Cr.

Gemmer Cr.

Copper Falls State Park

MARENGO

ASHLAND

Mellen

Penokee

Rocky Run

Beaverdam L.

Morgan Cr.

Long L.

Bass L.

Silver L.

Kraus Cr.

Montreal

MORSE

Devils

Ballou Cr.

Eureka

Hardscrabble Cr.

Hobo Cr.

Camp Six Cr.

Beaver L.

Galilee L.

Snowshoe L.

Dollar L.

Carolina L.

Twin Lks.

Meder L.

Long L.

Conley L.

Cayuga

Iron R.

Bad Minnie Cr.

Dry L.

Ditmans L.

Angeline Cr.

Brush Cr.

McCarthy L.

Spider L.

Spider Cr.

Moquah L.

Mud L.

Day L.

Twin L.

Upper Clam L.

Lt. Clam L.

McLaren L.

Clam Lake

Beaver L.

Cranberry L.

Woodtick L.

Dead Horse Slough

Dead Horse Cr.

Deer Cr.

Torch R.

Torch R. W.

Torch R. E.

Muskellunge L.

Muskellunge Cr.

Gates L.

Shanagolden

GORDON

JACOBS

PEEKSVILLE

AGENDA

SHANAGOLDEN

CHIPPEWA

Glidden

Meyers L.

Sell L.

Willerth Cr.

Commerce

Chippewa R.

Fork Cr.

Cycle L.

Little Buttermut L.

Buttermut Cr.

Buttermut

Parker L.

Blueberry L.

Blueberry Cr.

Rabid Cr.

Clambeau Cr.

Hoffman

Nelson Cr.

Dorr Cr.

Slim L.

Bullhead L.

Canada L.

Pelican L.

Moose Cr.

Black Cr.

Run Cr.

Hungry Hen Cr.

Fishtrap Cr.

Snooze L.

Bear L.

Cub L.

Reims Cr.

Camp Cr.

Sprink Cr.

Pine Cr.

Smith Cr.

Spiller Cr.

Beaver Cr.

Lake Superior

Devils Island

N. Twin Island

Rocky Island

S. Twin Island

Cat Island

Bear Island

Outer Island

Sand Pt.

APOSTLE ISLANDS NATIONAL LAKESHORE

Otter Island

Ironwood Island

Manitou Island

Trout Pt.

Oak Island

Stockton Island

Quarry Pt.

Quarry Bay

Presque Isle Bay

Presque Isle Pt.

Gull Island

Hermit Island

Michigan Island

Steamboat Pt.

Basswood Island

Amnicon Pt.

LA POINTE

Bad River Indian Reservation

Madeline Island

Big Bay

Sunset Bay

NORTH CHANNEL

Pt. De Froid

La Pointe

Big Bay State Park

Big Bay Pt.

Chebomnicon Bay

SOUTH CHANNEL

Grants Pt.

APOSTLE ISLANDS

For boundaries of public hunting and fishing grounds please contact the Department of Natural Resources

REGIONS

NW NE NC SW SE

SECTION NUMBERING OF A TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

LEGEND

- Freeway
- Multilane Divided
- U.S. or State Hwy
- County Trunk Hwy
- Town Road
- Firelane
- Railroad
- State Trail
- Interchange
- Highway Separation
- Interstate Highway No.
- U.S. Highway No.
- State Highway No.
- County Highway Letter
- State Boundary
- County Boundary
- Civil Town Boundary
- Section Line
- Dam
- Hospital
- Schools
- Airport
- County Seat
- Unincorporated Village
- Fish Hatchery
- Game Farm
- Public Hunt. or Fish. Grds.
- Public Camp & Picnic Grds.
- Ranger Station
- State Park
- County Park ... With Facilities
- Without Facilities
- Rest Area ... Modern Facilities
- Wayside ... Rustic Facilities

PROJECT LIMITS (STH 13):
PROJECT ID: 1610-08-06/76
CAYUGA ROAD - JEFFERSON AVE

PROJECT LIMITS (STH 13):
PROJECT ID: 1610-08-31/74
MORSE RD- CAYUGA RD

CIVIL TOWNS

LA POINTE, GINGLES, SANBORN, WHITE RIVER, ASHLAND, MARENGO, MORSE, GORDON, JACOBS, SHANAGOLDEN, PEEKSVILLE, CHIPPEWA, AGENDA

MILES OF HIGHWAY
as of Dec. 31, 2012

STATE	121
COUNTY	91
LOCAL ROADS	877
OTHER ROADS	63
TOTAL FOR COUNTY	1,152

Land Area (2000 Census) .... 1,044 sq mi
Population (2000 Census) 16,866
County Seat .... Ashland

ASHLAND CO.
DEPARTMENT OF TRANSPORTATION
STATE OFFICE BUILDING
Madison, Wisconsin

SCALE 0 1 2 MILES

Corrected for JAN. 2014

Base compiled from U.S.G.S. Quadrangles 1:100,000 Series

ASHLAND 2-NW

Special Provisions

Table of Contents

Article	Description	Page #
1.	General	2
2.	Scope of Work.	2
3.	Prosecution and Progress.	2
4.	Traffic	2
5.	Holiday Work Restrictions.	3
6.	Utilities.	3
7.	Railroad Insurance and Coordination - Wisconsin Central Ltd (CN)	3
8.	Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.	4
9.	Environmental Protection	5
10.	Notice to Contractor – Contamination Beyond Construction Limits.	5
11.	Environmental Protection, Invasive Species Control	6
12.	Environmental Protection, Aquatic Exotic Species Control.	6
13.	Abatement of Asbestos Containing Material B-02-0025, Item 203.0210.S.	7
14.	Removing Old Structure Over Waterway With Minimal Debris Station 432+98.50, Item 203.0600.S.	8
15.	QMP Base Aggregate Dense 1 1/4-Inch Compaction, Item 371.1000.S.	8
16.	Removing Small Pipe Culverts, Item 203.0100.	14
17.	Abandoning culvert Pipes, Item 204.0270	14
18.	Backfill Controlled Low Strength, Item 209.0200.S.	15
19.	Culvert Pipe	16

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Projects: 1610-08-74, Park Falls – Mellen, Morse Road to Cayuga Road, STH 13, Ashland County; 1610-08-76, Park Falls – Mellen, Cayuga Road to Jefferson Ave, STH 13, Ashland County; 1610-11-73, Park Falls – Mellen, Soo Line Railroad Bridge B-02-0025, STH 13, Ashland County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2019 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20180628)

2. Scope of Work.

The work under this contract shall consist of grading, base aggregate dense, culvert pipe, structure rehabilitation, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing with a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

4. Traffic

Keep STH 13 open to traffic at all times during the construction project except during times the detour is in effect. STH 13 may be detoured for passenger vehicles utilizing STH 77 and CTH GG. STH may be detoured for truck traffic utilizing either: STH 77, USH 63, and USH 2 or; STH 182, STH 47, and STH 51. The detour shall be utilized for up to a three (3) week period to replace deep culvert pipes. Flaggers may be utilized for culvert pipe installation in other areas. Keep all side roads open to traffic at all times during the construction project.

Maintain vehicular access along STH 13 at all times for all emergency vehicles. Maintain access to all farms, fields, businesses, and residential properties at all times unless approved by the engineer. Coordinate with owner or resident at least 48 hours prior to the work when construction operations may temporarily restrict access to a property.

Conduct construction and hauling operations in such a manner that minimizes the duration and intensity of interference to the free flow of traffic on STH 13.

Pipe Replacement

Replace pipe in conjunction with favorable weather forecasts to all the pipe replacement to start and conclude as soon as possible. For pipe replacements, outside of the detour areas, replace culvert pipes one-half at a time utilizing flagging operations. Traffic control shall consist of daylight flagging operations with one-half of a pipe being removed and replaced, restored to aggregate, then remove and replace the second half of the pipe on one work day. Restore aggregate prior to opening to allow two-way traffic overnight. Utilize construction detail "XXXX" after culvert is replaced in order to notify drivers until culvert patches are paved.

Lane closures shall not exceed ½ mile in length unless authorized by the engineer. A flagger shall be stationed at all side roads intersecting STH 13 within the work zone. The flagger shall be in sight of or in direct communication with flaggers controlling traffic flows on STH 13 and be equipped with a STOP / SLOW paddle fastened to a support staff.

Do not park equipment or place material within 18 feet of the edge of the shoulder unless approved by the engineer. Do not park or store equipment or material not being used during actual performance of work within 30 feet of the edge of the traveled way.

If traffic delays become longer than 15 minutes, coordinate with the engineer to limit or alter construction operations to prevent undue inconvenience to the traveling public as specified under standard spec 108.5.

Coordinate all arrangements for handling traffic with the engineer before work is started. Ensure that all traffic control devices are in place and approved by the engineer before beginning each stage.

Wisconsin Lane Closure System Advance Notification

Provide the following advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS).

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16')	**MINIMUM NOTIFICATION**
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥16')	**MINIMUM NOTIFICATION**
Lane and shoulder closures	3 business days
Ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 13 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, May 22nd 2020 to 6:00 AM Tuesday, May 26th, 2020 for Memorial Day;
- From noon Thursday, June 2nd 2020 to 6:00 AM Monday, July 6th, 2020 for Independence Day;
- From noon Friday, September 4th, 2020 to 6:00 AM Tuesday, September 8th, 2020 for Labor Day.

stp-107-005 (20050502)

6. Utilities.

This contract comes under the provision of Administrative Rule Trans 220.

stp-107-065 (20080501)

7. Railroad Insurance and Coordination - Wisconsin Central Ltd (CN)

A Description

Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd (CN) property and any existing tracks.

A.1 Railroad Insurance Requirements

In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Enter B1, B2 or B3 and press F3

A.2 Train Operation

Enter one of the following: F (Freight only), P (Passenger & Freight present) or M (for Multiple Crossings) then press F3

A.3 Names and Addresses of Railroad Representatives for Consultation and Coordination

Construction Contact

Jackie Macewicz, Manager Public Works; 1625 Depot St., Stevens Point, WI 54481; Telephone (715) 345-2503; E-mail jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

Flagging Contact

Submit by US Mail a "Request for Flagging Services and Cable Location" form with prepayment to: Mary Ellen Carmody, CN, 24002 Vreeland Road, Flat Rock, MI 48134; Telephone (734) 783-4533. The form can be obtained at:

https://www.cn.ca/en/delivering-responsibly/safety/erailsafe/utility-installations

Requests for flagging and cable locates can take up to five business days after the railroad receives the paperwork. Reference the Wisconsin Milepost and Subdivision located in A.1. Advise Ms. Carmody that the flagging services are to be billed at the rate for a public highway project.

Cable Locate Contact

In addition to contacting Diggers Hotline, follow the procedure listed under Flagging Contact.

Wisconsin Central Ltd (CN) will only locate railroad owned facilities buried in the railroad right-of-way. The railroad does not locate any other utilities.

A.4 Work by Railroad

The railroad will perform the work described in this section, except for work described in other special provisions, and will be accomplished without cost to the contractor. None.

A.5 Temporary Grade Crossing

Enter C1 or C2 and press F3

A.6 Rail Security Awareness and Contractor Orientation

All employees of contractors who work on CN properties are required to have minimum CN Safety and Security Awareness training. This training can be obtained by registering and following the CN link through www.contractororientation.com. This training is good for a period of one year.

a. Exception: CN has exempted from this training those it classifies as "Delivery Persons". Delivery Persons include contractors such as UPS, FedEx, trucking companies, etc. who merely access the property to supply materials or equipment.

The security awareness and contractor orientation certification must be renewed for projects that will carry over beyond the one year period. Contractor and subcontractor employees shall wear the identification badge issued by www.contractororientation.com when on railroad right-of-way. Costs associated with training and registration are incidental to other items in the contract.

stp-107-026 (20170615)

8. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Matt Dickeson at 715-395-3022.

stp-107-054 (20080901)

9. Environmental Protection

Northern Long-eared Bat *(Myotis septentrionalis)*

Northern Long-eared Bats (NLEB) have the potential to inhabit the project limits because they roost in trees. Roosts have been identified within 150 feet of the project limits. The species and all active roosts are protected by the Federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work and notify the engineer and the WisDOT Regional Environmental Coordinator (REC).

To avoid adverse impacts upon the NLEBs, no Clearing is allowed between June 1 and July 31, both dates inclusive.

If the required Clearing is not completed by May 31, the department will suspend all clearing and associated work directly impacted by Clearing. The department will issue a notice to proceed with Clearing and associated work directly impacted by clearing after consulting with the United States Fish and Wildlife Service (USFWS).

Submit a schedule and description of Clearing operations with the ECIP 14 days prior to any Clearing operations. The department will determine, based on schedule and scope of work, what additional erosion control measures shall be implemented prior to the start of Clearing operations, and list those additional measures in the ECIP.

Migratory Birds

Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Removing Old Structure Over Waterway with Minimal Debris.

0074 (20090901)

Fish Spawning

There shall be no instream disturbance of Happy Creek (STA 718+30) or Tafelski Creek (STA 845+90) as a result of construction activity under or for this contract, from September 15th to May 16th both dates inclusive, in order to avoid adverse impacts upon the spawning of trout.

In addition, there shall be no instream disturbance of the Bad River (STA 581+25), Bad River Tributary (STA 528+08), and Spillerberg Creek (STA 392+27) as a result of construction activity under or for this contract, from March 1st, and June 15th.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

0036 (20090901)

10. Notice to Contractor – Contamination Beyond Construction Limits.

The department completed testing for soil and ground water contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following sites:

1. Station 625+00 to 627+00 from 18 feet RT of centerline to 75 feet RT of centerline.
2. Station 628+00 to 631+00 from 18 feet RT of centerline to 75 feet RT of centerline

The contaminated soils at the above sites are expected to be beyond the excavation limits necessary to complete the work under this project. Control construction operations at these locations to ensure that they do not extend beyond the excavation limits indicated in the plans. If contaminated soils are

encountered at these sites or elsewhere on the project during excavation, terminate excavation in the area and notify the engineer.

The Hazardous Materials Report is available by contacting: Matt Dickenson, 1701 N. 4th ST, Superior, WI, 54880, 715-395-3022.

stp-107-100 (20050901)

11. Environmental Protection, Invasive Species Control

Invasive noxious weeds such as Wild Parsnip (*Pastinaca sativa*) are becoming more prolific in Wisconsin and pose adverse health effects to highway workers and citizens of the state. Wisconsin Administrative Code Ch NR 40, "Invasive Species Rule", details the rule that restricts or prohibits the spread of certain invasive plants.

Construction sites that involve a population of a restricted or prohibited plant should use the follow cleaning procedures to minimize the spread of invasive species in Wisconsin. Use these procedures for all equipment that comes in contact with affected areas of the state and/or infested roadsides.

Ensure that all equipment that has been in contact with areas containing restricted or prohibited plants has been decontaminated for plant materials before being used in other areas of the state. Before using equipment on this project, thoroughly clean all equipment that has come into contact with restricted or prohibited plants.

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain invasive plant materials (fragments, stems, leaves, seeds, or roots)

2. Inspect equipment that has contacted invasive plants. Scrape off any attached plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed plant materials in a garbage can before leaving the area

Wild parsnip is known to potentially inhabit areas of disturbance on this project. Ensure that all equipment that has been in contact with wild parsnip is decontaminated as described above before leaving the project site to be used in other locations around the state.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

12. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels before being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

http://dnr.wi.gov/topic/invasives/disinfection.html

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;

3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can before leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
    4.1. Washing with ~212 F water (steam clean), or
    4.2. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
    4.3. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104º F) application.

omplete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

stp-107-055 (20130615)

13. Abatement of Asbestos Containing Material B-02-0025, Item 203.0210.S.

A Description

This special provision describes abating asbestos containing material on structures.

B (Vacant)

C Construction

John Roelke, License Number All-119523, inspected Structure B-02-0025 for asbestos on February 21, 2017. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities: Caulk (parapet expansion joints) = 9.75 SF, Caulk (Abutment joint) = 2.3 SF.

The RACM on this structure must be abated by a licensed abatement contractor. A copy of the inspection report is available from Matt Dickenson, 715-395-3022. In accordance with NR447 and DHS159 , ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days before beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form and the abatement report to Matt Dickeson, 715-395-3022 and DOT BTS-ESS attn: Hazardous Materials Specialist PO Box 7965, Madison, WI. 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure B-02-0025, STH 13 N over Soo Line Railroad
- Site Address: Lat = 461402.34 Long = 904012.62
- Ownership Information: WisDOT Transporation NW Region, 1701 N 4th St, Superior, Wi, 54880.
- Contact: Matt Dickenson
- Phone: 715-395-3022
- Age: 34 years. This structure was constructed in 1985
- Area: 8201 SF of deck

Insert the following paragraph in Section 6.g.:

- If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department’s Bureau of Technical Services at 608-266-1476 for an emergency response as specified in standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

D Measurement

The department will measure Abatement of Asbestos Containing Material (Structure), completed in according to the contract and accepted, as a single complete unit of work.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
203.0210.S	Abatement of Asbestos Containing Material B-02-0025	LS

Payment is full compensation for submitting necessary forms; removing all asbestos; properly disposing of all waste materials; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

stp-203-005 (20120615)

14. Removing Old Structure Over Waterway With Minimal Debris Station 432+98.50, Item 203.0600.S.

Conform to standard spec 203 as modified in this special provision.

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove the existing structure B-02-0025 over the Bad River in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

(2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department's written approval of the plan. Include the following information in the structure removal and clean-up plan:

- Methods and schedule to remove the structure.
- Methods to control potentially harmful environmental impacts.
- Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.
- Methods to control dust and contain slurry.
- Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
- Methods for cleaning the waterway or wetlands.

(3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the waterway, wetland, or excavation site.

Add the following Removing Old Structure bid item to standard spec 203.5.1:

ITEM NUMBER	DESCRIPTION	UNIT
203.0600.S	Removing Old Structure Over Waterway With Minimal Debris Station 432+98.50	LS

stp-203-020 (20170615)

15. QMP Base Aggregate Dense 1 1/4-Inch Compaction, Item 371.1000.S.

A Description

(1) This special provision describes modifying the compaction and density testing and documentation requirements of work done under the Base Aggregate Dense 1 1/4-Inch bid items. Conform to standard spec 305 as modified in this special provision and to the contract QMP Base Aggregate article.

(2) Provide and maintain a quality management program. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process related to construction of dense graded base which meets all the requirements of this provision.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures.

http://wisconsindot.gov/rdwy/cmm/cm-08-00toc.pdf

(4) This special provision applies to Base Aggregate Dense 1 1/4-Inch material placed on the mainline traveled way and adjacent mainline shoulders according to the typical finished sections. Unless otherwise specified by the contract, all Base Aggregate Dense 1 1/4-Inch material placed on side roads, private and public entrances, ramps, tapers, turn lanes, and other locations not described as the mainline traveled

way and its adjacent mainline shoulders is exempt from the compaction and density requirement modifications and testing contained within this special provision.

B (Vacant)

C Construction

C.1 General

(1) The engineer shall approve the grade before placement of the base. Approval of the grade shall be in accordance with applicable provisions of the Standard Specifications.

Add the following to standard spec 305.3.2.2:

(3) Compact the 1 1/4-Inch dense graded base to a minimum of 93.0% of the material target density. Ensure that adequate moisture is present during placement and compaction operations to prevent segregation and to help achieve compaction.

(4) The material target density will be identified using one of the following methods:

1. For 1 1/4-Inch dense graded base composed of ≤20% reclaimed asphaltic pavement (RAP) or crushed concrete (RCA), as determined by classification of material (aggregate or RAP and/or RCA) and percentage by weight of each material type retained on the No. 4 Sieve: maximum dry density in accordance with AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224, and modified to require determination of Bulk Specific Gravity (Gm) in accordance with AASHTO T 85. Bulk Specific Gravities determined in accordance with standard spec 106.3.4.2.2 for aggregate source approval may be utilized
2. For 1 1/4-Inch dense graded base composed of >20% RAP or RCA, as determined by classification of material (aggregate or RAP and/or RCA) and percentage by weight of each material type retained on the No. 4 Sieve, the contractor may choose from the following options:
    2.1. Maximum dry density as determined by AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224, and modified to require determination of Bulk Specific Gravity (G_m) in accordance with AASHTO T 85.
    2.2. Maximum wet density as determined by AASHTO T-180, Method D, modified to define *Maximum Density* as the wet density in pounds per cubic foot of soil at optimum moisture content using Method D specified compaction, with correction for coarse particles as determined by AASHTO T224, and modified to require determination of Bulk Specific Gravity (G_m) in accordance with AASHTO T 85.
    2.3. Average of 10 random control strip wet density measurements as described in section C.2.5.1.

(5) Base Aggregate Dense 1 1/4-Inch will be accepted for compaction on a target density lot basis.

(6) Field density tests on materials using contractor elected target density methods C.1(4).2.2 or C.1(4).2.3 will not be considered for lot acceptance on the basis of compaction under the requirements of this provisions until the moisture content of the in-place material is less than 2.0 percentage points above the maximum wet density optimum moisture or 2.0 percentage points of the average moisture content of the 10 density tests representing a control strip, respectively.

C.2 Quality Management Program

C.2.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer no later than 10 business days before placement of material. Do not place any dense graded base before the engineer reviews and accepts the plan. Construct the project as the plan provides.

(2) Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

8. A description of placement methods and operations. Including, but not limited to: staging, construction of an initial working platform, lift thicknesses, and equipment.

C.2.2 Pre-Placement Meeting

A minimum of two weeks before the start of placement of Base Aggregate Dense 1 1/4-Inch material, hold a pre-placement meeting at a mutually agreed upon time and location. Present the Quality Control Plan at the meeting. Attendance at the pre-placement meeting is mandatory for the project superintendent, quality control manager, project inspection and testing staff, all appropriate contractor personnel involved in the sampling, testing, and quality control including subcontractors, and the engineer or designated representatives.

C.2.3 Personnel

(1) Perform the quality control sampling, testing, and documentation required under this provision using technicians certified by the Department's Highway Technician Certification Program (HTCP). Have a HTCP Nuclear Density Technician I, or ACT certified technician, perform field density and field moisture content testing.

(2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

C.2.4 Equipment

(1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

(2) Furnish nuclear gauges from the department's approved product list at:

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/default.aspx

(3) Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

(4) For all target density methods, conform to ASTM D 6938 and CMM 8.15 for wet density testing and gauge monitoring methods.

(5) For the specified target density determined using method C.1(4).1, compute the dry densities for the compacted dense graded base, composed of ≤20% RAP or RCA, according to ASTM D 6938.

(6) For contractor elected target density method C.1(4).2.1 compute dry densities of dense graded base composed of >20% RAP or RCA using a moisture correction factor and the nuclear wet density value. Determine the moisture correction value, for each Proctor produced under the requirements of C.2.5, using the moisture bias as shown in CMM 8.15.12.1 and 8.15.12.2, except the one-point Proctor tests of the 5 random tests is not required. Conduct a moisture bias test for every 9000 tons of Base Aggregate Dense 1 1/4-Inch placed. Determine natural moistures in the laboratory.

(7) Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position on the same date of placement of the Base Aggregate Dense 1 1/4-Inch material. Backscatter may be used only if the material being tested cannot reliably maintain an undistorted direct transmission test hole. Direct transmission tests must be performed at the greatest possible probe depth of 2 inches, 4 inches, or 6 inches, but not to exceed the depth of the compacted layer being tested. Perform each test for 4 minutes of nuclear gauge count time.

C.2.5 Contractor Testing

(1) Perform compaction testing on the mainline dense graded base material, as defined by A.(4). Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians as required in C.2.3. Conform to CMM 8.15 for testing and gauge monitoring methods.

(2) Select test sites randomly using ASTM Method D3665. Do not test less than 1 ½ feet from the unsupported edge of the dense graded base layer. Test sites must be located within the mainline traveled way or the traveled way's adjacent mainline shoulder.

C.2.5.1 Contractor Required Quality Control (QC) Testing

(1) Conduct testing at a minimum frequency of one test per lot. A lot will consist of each 1500 tons for each layer with a minimum lift thickness of 2" of Base Aggregate Dense 1 1/4-Inch material placed, regardless of the location of placement. Each lot of in-place mainline, as defined by A.(4), Base Aggregate Dense 1 1/4-Inch material compacted will be accepted when the lot field density meets the required minimum 93.0% of target density. Lots that don't achieve 93.0% of target density must be addressed and approved in accordance with C.2.7.

(2) Notify the engineer, if a lot field density test falls below the required minimum value. Document and perform corrective actions in accordance with C.2.7. Deliver documentation of all compaction testing results to the engineer at the time of testing.

C.2.5.1.1 Target Density Determination

C.2.5.1.1.1 Density Control Strip Method

(1) For contractor elected target density method C.1(4).2.3, construct a control strip for each layer of placement to identify the target wet density for the base aggregate dense material. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.

(2) Unless the engineer approves otherwise, construct control strips to a minimum dimension of 300 feet long and one full lane width.

(3) Completed control strips may remain in-place to be incorporated into the final roadway cross-section.

(4) Construct additional control strips, at a minimum, when:

1. The four point moving average gradation on any one sieve differs from the original gradation test result for that sieve by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip. A previously determined Proctor value will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test.
2. The source of base aggregate changes.
3. The four point moving average percentage of blended recycled materials, from classification of material retained on the No. 4 sieve in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip. A previously determined Proctor value will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test.
4. The layer thickness changes more than 2.0 inches.
5. The percent target density exceeds 103.0% on two consecutive density measurements.

(5) Construct control strips using equipments and methods representative of the operations to be used to place and compact the remaining 1 1/4–Inch Base Aggregate Dense material. Wet the base, as mutually agreed upon by the contractor and engineer, to obtain and/or maintain adequate moisture content to ensure proper compaction. Discontinue water placement if the base begins to exhibit signs of saturation or instability.

(6) After compacting the control strip with a minimum of 2 passes, mark and take density measurements at 3 random locations, at least 1 ½ feet from the edge of the base. Subsequent density measurements will be taken at the same 3 locations.

(7) After each subsequent pass of compaction equipment over the entirety of the control strip, take density measurements at the 3 marked locations. Continue compacting and testing until the increase in density measurements is less than 2.0 lb/ft^3, or the density measurements begin to decrease.

(8) Upon completion of control strip compaction, take 10 randomly located density measurements within the limits of the control strip, at least 1 ½ feet from the edge of the base. The final measurements recorded at the 3 locations under article C.2.4.1.1.1(6) may be included as 3 of the 10 measurements. Average the ten measurements to obtain the control strip target density and target moisture for use in contractor elected method C.1(4).2.3.

C.2.5.1.1.2 Maximum Wet and/or Dry Density Methods

(1) For contractor elected target density methods C.1(4).2.1, C.1(4).2.2, and contractually specified target density method C.1(4).1; perform one gradation and 5-point Proctor test before placement of 1 1/4-Inch dense graded base. Perform additional gradations every 3000 tons. If sampling requirements are identical, samples/testing performed for the QMP Base Aggregate specification may be used to fulfill the gradation testing requirements of this specification.

(2) Perform additional 5-point Proctor tests, at a minimum, when:

1. The four point moving average gradation on any one sieve differs from the original gradation test result for that sieve, by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to create a 5-point Proctor. Each 5-point Proctor test will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test.
2. The source of base aggregate changes.
3. The four point moving average percentage of blended recycled materials ; from classification of material retained on the No. 4 sieve; in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip. A previously determined Proctor value will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test
4. Percent target density exceeds 103.0% on two consecutive density tests.

(3) Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

(4) Split each contractor QC Proctor sample and identify it according to CMM 8.30. Deliver the split to the engineer within one business day for department QV Proctor testing.

(5) Split each non-Proctor contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

C.2.5.2 Optional Contractor Assurance (CA) Testing

(1) CA Testing is optional and is conducted to further validate QC testing. The contractor may submit recorded CA data to provide additional information for the following:

1. Process control decisions
2. Troubleshooting possible sampling, splitting, or equipment problems.

C.2.6 Department Testing

C.2.6.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within two business days after the department obtains the sample.

C.2.6.2 Quality Verification (QV) Testing

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.2.3 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests at the minimum frequency of 30% of the required gradation, density and Proctor contractor tests.

(3) The department will utilize contractor's QC Proctor results for determination of the material target density. The department will verify QC Proctor values by testing QC Proctor split sample. The department will use QC Proctor value as a target density if the QC and QV Proctor test results meet the tolerance requirements specified in section 2.6.2.(7).

(4) The department will locate gradation and nuclear density test samples, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV sample, test half for QV, and retain the remaining half for 7 calendar days.

(5) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(6) The department will utilize control strip target density testing results in lieu of QV Proctor sampling and testing when the contractor elected C.1 (3).2.3 target density method is used.

(7) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, take corrective actions in accordance with C.2.7 until the requirements of this special provision are met. Differing QC and QV nuclear density values of more than 2.0 pcf will be investigated and resolved. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.2.6.3 Independent Assurance (IA)

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.2.6.4.

C.2.6.4 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor shall review the data, examine data reduction and analysis methods, evaluate sampling and testing methods/procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C.2.7 Corrective Action

(1) Lots not achieving 93.0% of target density may be addressed and accepted for compaction in accordance with the requirements of this section. Unless otherwise stated, the actions taken to address an unacceptable lot must be applied to the entire lot.

> Passing CA test results in accordance with section C.2.5.2 will reduce the limits of lot investigations and/or corrective actions.

(2) Investigate the moisture content of material in an unacceptable lot. Moisture content testing/samples collected under the QC and/or QV testing articles of this specification may be used to complete this investigation. Obtain moisture content readings in accordance with ASTM D 6938. For material composed of >20% RAP or RCA, correct the moisture content with the moisture correction value using the moisture bias, as shown in CMM 8.15.12.1 and 8.15.12.2, except the one-point Proctor tests of the 5 random tests is not required.

(3) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1(4).2.1, or C.1(4).2.2, or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.3, and exhibiting no signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations, shall be compacted a minimum of one more pass using equipment and methods representative of the operations used to place and compact the Base Aggregate Dense 1 1/4–Inch, and density tested at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft^3 continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft^3, the lot is accepted as satisfying the compaction requirements of this provision.

(4) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1 (4).2.1, or C.1(4).2.2, or within 2.0 percentage points of the target moisture content for target density method C.1 (4).2.3, and exhibiting signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations, will be reviewed by the engineer. The engineer may request subgrade improvement methods, such as excavation below subgrade (EBS), installation of geotextile fabrics, installation of breaker run material, or others to be completed, or may

request an additional pass of compactive effort using equipment and methods representative of the operations used to place and compact the base aggregate dense and density test.

1. If, after an additional pass, the change in density at the same location (station and offset) as the failing QC and/or QV density tests exceeds 2.0 lb/ft^3 in a lot continue subsequent compactive efforts and density testing on that lot. If the change in density at the same location (station and offset) as the failing QC and/or QV density tests is less than or equal to 2.0 lb/ft^3, and subgrade improvement methods are not requested by the engineer, the lot is accepted as satisfying the compaction requirements of this provision.
2. If subgrade improvement methods are requested by the engineer, upon completion, including compaction of the restored base material, conduct a density test within the improved subgrade limits. This density test result will replace the prior field density value. If the lot field density equals or exceeds 93.0% of target density the lot is accepted as satisfying the compaction requirements of this provision. If the lot field density fails to achieve 93.0% of target density, compact the lot a minimum of one more pass using equipment and methods representative of the operations used to place and compact the base aggregate dense; and density test at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft^3 continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft^3, the lot is accepted as satisfying the compaction requirements of this provision.

(5) Unacceptable lots, with moisture contents in excess of 2.0 percentage points above or below optimum moisture for target density methods C.1(4).1, C.1(4).2.1, or C.1(4).2.2 ; or in excess of 2.0 percentage points above or below the target moisture content for target density method C.1(4).2.3; shall receive contractor performed and documented corrective action; including additional density testing.

(6) Density tests completed subsequent to any corrective action will replace previous field density test results for that lot. Continue corrective actions until 93.0% of target density is achieved or an alternate compaction acceptance criteria is met in accordance with this section.

(7) Field moisture contents of materials tested using contractor elected target density methods C.1(4).2.2 or C.1(4).2.3 cannot exceed 2.0 percentage points of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively. Density tests on materials using contractor elected target density methods C.1(4).2.2 or C.1(4).2.3 will not be considered for lot compaction acceptance until the moisture content of the corresponding density test of the in-place material is less than 2.0 percentage points above of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively.

D Measurement

(1) The department will measure QMP Base Aggregate Dense 1 1/4-Inch Compaction by the ton acceptably completed. The measured tons of QMP Base Aggregate Dense 1 1/4-Inch Compaction equals the tons of Base Aggregate Dense 1 1/4-Inch acceptably completed, regardless of placement location and density testing eligibility.

E Payment

(1) The department will pay for the measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
371.1000.S	QMP Base Aggregate Dense 1 1/4-Inch Compaction	TON

(2) Payment is full compensation for performing compaction testing; for sampling and laboratory testing; and for developing, completing, and documenting the compaction quality management program. The department will pay separately for providing aggregate under the Base Aggregate Dense 1 1/4-Inch bid item.

stp-370-010 (20171130)

16. Removing Small Pipe Culverts, Item 203.0100.

Modify pertinent sections of standard spec 203 with the following:

The item of Removing Small Pipe Culverts shall include: required saw cuts (both asphalt and concrete), removal and disposal of asphalt, granular backfill grade 2 in pipe trench, and replacement of excavated material as incidental to the item of Removing Small Pipe Culverts. The items of Asphaltic Surface, Base Aggregate Dense, and Pavement Removal will be paid for by their respective items.

17. Abandoning culvert Pipes, Item 204.0270

Replace standard spec 204.3.3.2(1) with the following:

(1) Under the Abandoning Culvert Pipes bid item, fill the abandoned pipe with Backfill Controlled Low Strength (Item 209.0200.s) and plug both ends of the abandoned pipe as specified in standard spec 204.3.3.1.

18. Backfill Controlled Low Strength, Item 209.0200.S.

A Description

This special provision describes furnishing and placing a controlled low strength material designed for use as backfill in trenches for culverts, sewers, utilities, or similar structures, as backfill behind bridges abutments, or as fill for the abandonment of culverts, pipes, or tanks.

B Materials

Provide controlled low strength backfill that consists of a designed cementitious mixture of natural or processed materials. Allowable materials include natural sand, natural gravel, produced sand, foundry sand, produced gravel, fly ash, Portland cement, and other broken or fragmented mineral materials. The designed mixture shall be self-leveling and shall be free of shrinkage after hardening. Design the mixture to reach a state of hardening such that it can support foot traffic in no more than 24 hours. Provide a mixture that also meets the following requirements.

TEST	METHOD	VALUE
Flow (inch)	ASTM D-6103	9 min
Compressive Strength (psi)	ASTM D-6024	20-40 @ 14 days
		40-80 @ 28 days
		80-120 @ 90 days

Chemical admixtures to control air content and setting time are allowable. Ten days before placement, furnish the engineer with a design mix detailing all components and their proportions in the mix. Also, provide documentation from the supplier of the industrial byproducts that the foundry sand and fly ash used in the mixture meet the requirements for Industrial Byproducts Categories 1, 2, 3, or 4 in NR 538 of the Wisconsin Administrative Code for use as a confined geotechnical fill.

C Construction

Place controlled low strength backfill at the locations and to the lines and grades as shown on the plan. Proportion and mix materials to produce a product of consistent texture and flow characteristics. The engineer may reject any materials exhibiting a substantial change in properties, appearance, or composition.

If the official Weather Bureau forecast for the construction site predicts temperatures at or below freezing within the next 24 hours after placement of controlled low strength backfill, protect the placed materials from freezing during that time period. If the temperature is not forecast to rise above 40º F for 72 hours after placement, the engineer may require protection from freezing for up to 72 hours.

No controlled low strength backfill shall be allowed to enter any stream, lake, or sewer system. The contractor shall be responsible for any clean up or remediation costs resulting from such occurrences.

D Measurement

The department will measure Backfill Controlled Low Strength in volume by the cubic yard of material placed and accepted. Such volume shall be computed from actual measurements of the dimensions of the area to be backfilled. In irregular or inaccessible areas, the engineer may allow volume to be determined by other appropriate methods.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
209.0200.S	Backfill Controlled Low Strength	CY

Payment is full compensation for designing the mix; supplying all materials; preparing the proportioned mix; hauling it to the construction site; placing the material; and protecting it from freezing.

19. Culvert Pipe

All joints of next RCCP including the endwalls shall be tied as specified in standard spec 520. Joint ties, including materials and installation, will be considered incidental to the individual culvert pipe items.

Any marsh excavation encountered while excavating for pipe foundation is incidental to the individual culvert pipe items. Marsh excavation locations are shown on the plans.

PROJECT ID: **1610-08-74**

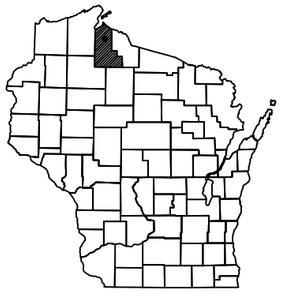
WITH: 1610-08-76, 1610-11-73

COUNTY: **ASHLAND**

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS =



N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1610-08-74		
1610-08-76		
1610-11-73		

PARK FALLS - MELLEN
MORSE ROAD - CAYUGA ROAD

STH 13
ASHLAND COUNTY

STATE PROJECT NUMBER
1610-08-74

PARK FALLS - MELLEN
CAYUGA ROAD - JEFFERSON AVE

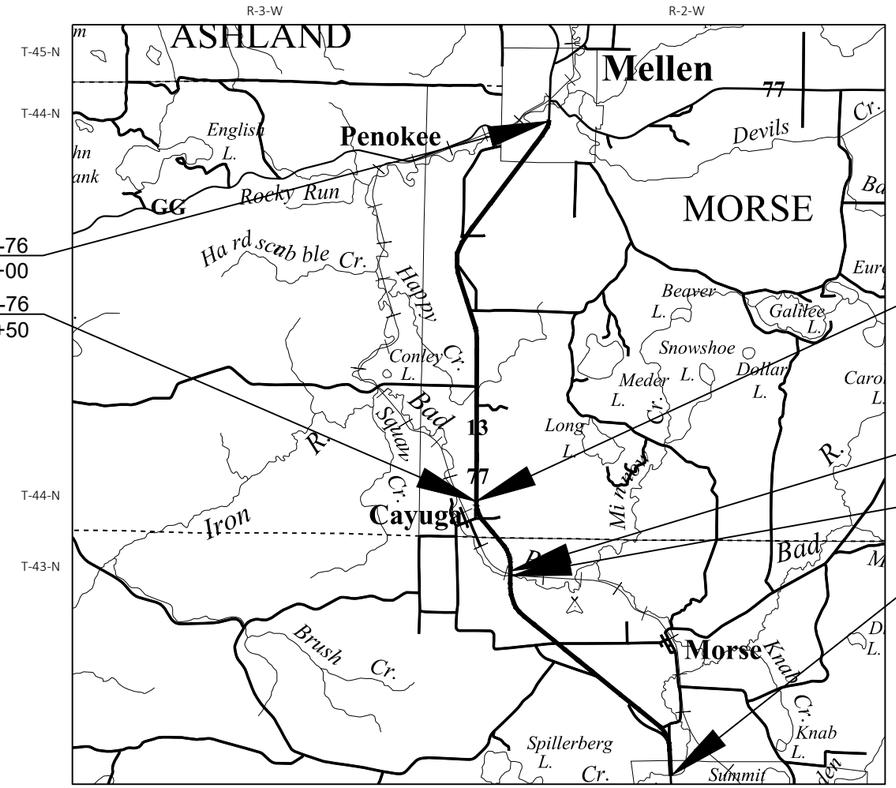
STH 13
ASHLAND COUNTY

STATE PROJECT NUMBER
1610-08-76

PARK FALLS - MELLEN
SOO LINE RAILROAD BRIDGE B-02-0025

STH 13
ASHLAND COUNTY

STATE PROJECT NUMBER
1610-11-73



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 5.31

DESIGN DESIGNATION			1610-08-74
A.A.D.T.	2015	=	1300
A.A.D.T.	2040	=	1600
D.H.V.		=	196
D.D.		=	60/40
T.		=	23.8%
DESIGN SPEED		=	55 MPH
ESALS		=	

DESIGN DESIGNATION			1610-08-76
A.A.D.T.	2015	=	1200
A.A.D.T.	2040	=	1400
D.H.V.		=	196
D.D.		=	60/40
T.		=	30.6%
DESIGN SPEED		=	55 MPH
ESALS		=	

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ASHLAND COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	QUEST, LLC
Designer	TRAVIS JENSEN
Project Manager	MATT DICKENSON
Regional Examiner	TOU YANG
Regional Supervisor	JEFF OLSON

APPROVED FOR THE DEPARTMENT

DATE: _____ _____ (Signature)

E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_TI.DWG PLOT DATE : 9/20/2018 9:01 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

GENERAL NOTES

WHEN THE QUANTITY OF BASE AGGREGATE OR PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR BY THE CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT FOR AREAS WITHIN FINISHED SHOULDER POINT, SHALL BE FERTILIZED SEEDED AND MULCHED.

THE LOCATION OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

THE LOCATIONS OF UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE PRIOR TO THE START OF WORK.

CURVE DATA IS BASED ON THE ARC DEFINITION.

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

NO EQUIPMENT OR MATERIALS SHALL BE STORED IN WETLAND AREAS.

PRIOR TO THE PLACEMENT OF GUARDRAIL, THE BASE AGGREGATE SHOULDERS SHALL BE CONSTRUCTED, SHAPED AND COMPACTED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

PAVEMENT QUANTITIES ARE BASED ON 112 LBS/SY COMPACTED 1" THICK.

COMMUNICATIONS

CENTURY LINK
COMMUNICATION LINES
PO Box 369
MINONG, WI 54859
ALAN NICKELL
ALAN.NICKELL@CENTURYLINK.COM
715-566-3879 MOBILE
715-378-2131 OFFICE

CHARTER COMMUNICATIONS
COMMUNICATION LINES
2304 SOUTH MAIN ST
RICE LAKE, WI 54868
TOM HAASE
TOM.HAASE@CHARTER.COM
715-234-5341 OFFICE
715-370-1601 MOBILE

PACKERLAND BROADBAND
COMMUNICATION LINES
105 KENT ST
PO BOX 190
IRON MOUNTAIN, MI 49801
WAYNE CRETTON
wayne.cretton@plbb.us
906-282-3768

MERIT NETWORK, INC
COMMUNICATIONS LINES
1000 OAKBROOK DRIVE
ANN ARBOR, MI 48104
CARLOS RAMOS
CRAMOSJR@MERIT.EDU
734-527-5767

XCEL ENERGY
GAS/PETRO; ELEC; TRANSMISION
2400 FARM ROAD
ASHALDN, WI 54806
MURRAY SMERER, SENIOR DESIGNER
715-682-6928

NORVADO
COMMUNICATION LINES
43750 USH 63
PO Box 67
CABLE, WI 54821
GUY FOLSOM, FIELD ENGINEER
GFOLSOM@NORVADO.COM
715-798-7123 OFFICE
715-580-8123 MOBILE

NORTHERN NATURAL GAS CO
GAS/PETROLEUM FACILITIES
1995 NORTHERN NATURAL GAS RD
CARLTON, MN 55718
JEFF TELKER
JEFF.TELKER@NNGCO.COM
402-530-3466 OFFICE
218-348-3470 MOBILE

WISDNR NORTHERN REGION
810 WEST MAPLE STREET
SPOONER, WI 54801
SHAWN HASELEU
ENV. ANALYSIS AND REVIEW SPECIALIST
SHAWN.HASELEU@WISCONSIN.GOV
715-635-4228

BAYFIELD ELECTRIC COOP
ELECTRICAL FACILITIES
PO BOX 68
IRON RIVER, WI 54847
GARY TARASEWICZ
GARY.TARASEWICS@BAYFIELDELECTRIC.COM
715-372-4287

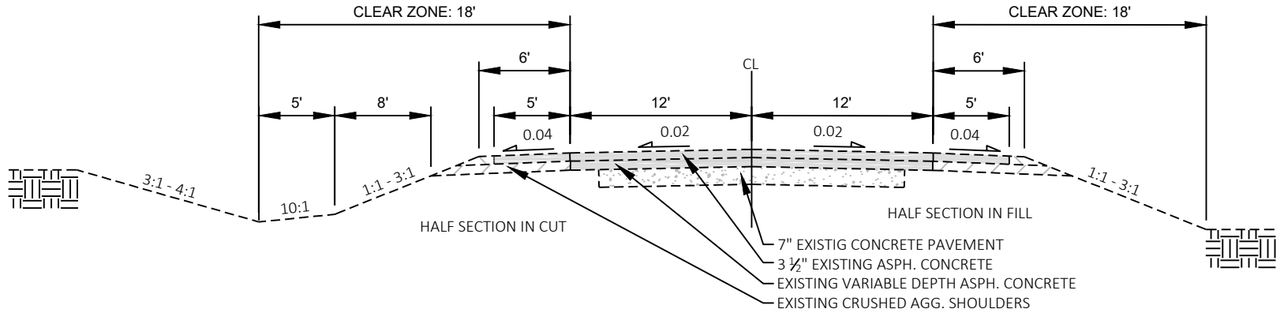
ENBRIDGE ENERGY
GAS/PETROLEUM FACILITIES
1320 GRAND AVENUE
SUPERIOR, WI 54880
STEVEN JOHNSON
STEVENP.JOHNSON@ENBRIDGE.COM
715-394-0708

GREAT LAKES GAS
GAS/PETROLEUM FACILITIES
103 WEST SUPERIOR ST, SUITE 812
DULUTH, MN 55802
PAUL NORGREN
PAUL_NORGREN@TRANSCANADA.COM
218-733-3350

WISDOT NW REGION
1701 N 4TH ST
SUPERIOR, WI 54880
MATT DICKENSON
PROJECT MANAGER
MATTHEW.DICKENSON@DOT.WI.GOV
715-395-3022

2

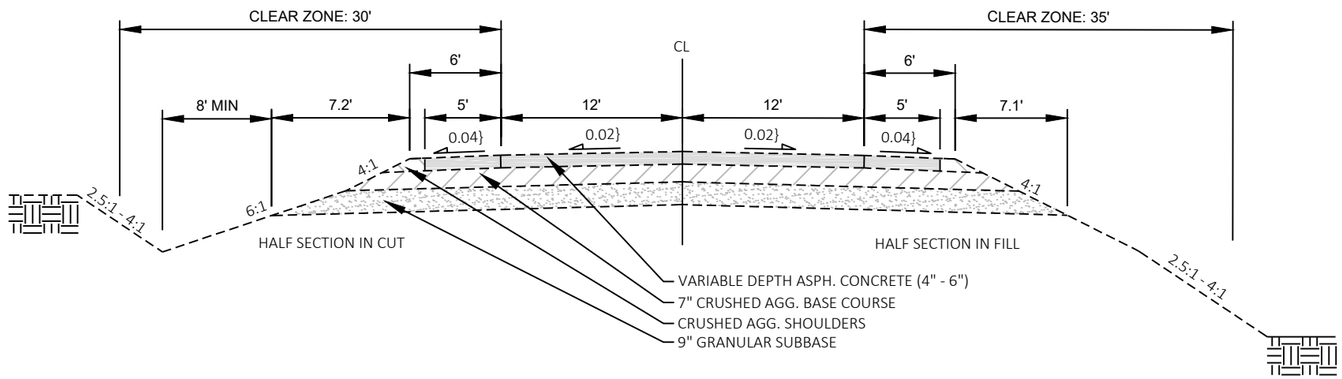
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com



TYPICAL EXISTING SECTION STH 13

1610-08-74
STA 391+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

1610-08-76
STA 646+50 TO STA 927+00



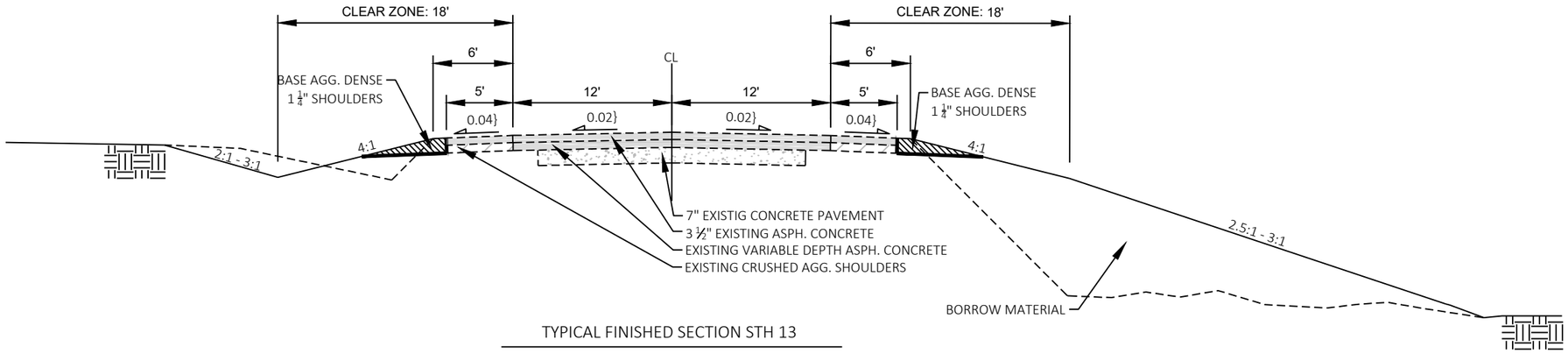
TYPICAL EXISTING SECTION STH 13

1610-08-74
STA 565+55.76 TO STA 604+44.55

1610-11-73
STA XX+XX TO STA YY+YY

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E

2



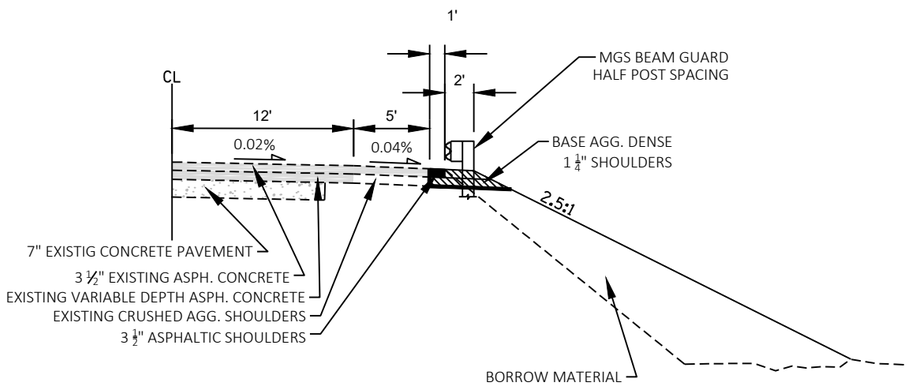
TYPICAL FINISHED SECTION STH 13

HALF SECTION IN CUT

1610-08-74
STA 390+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

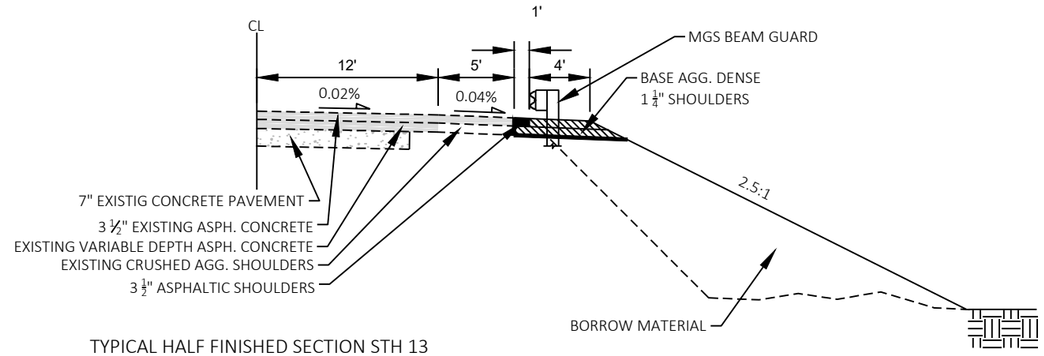
1610-08-76
STA 646+50 TO STA 927+00

HALF SECTION IN FILL



TYPICAL FINISHED SECTION STH 13

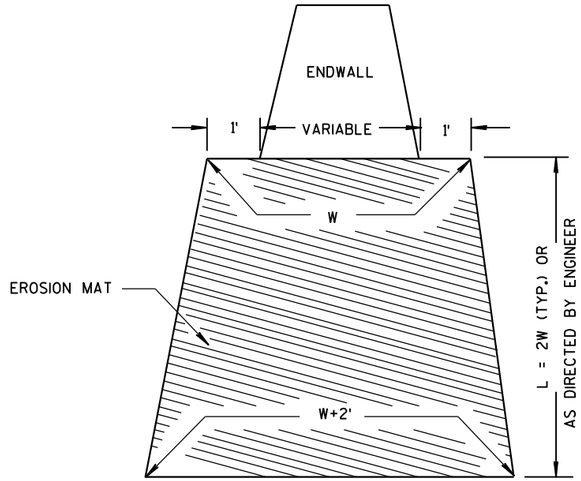
STA 804+13 TO STA 808+00
STA 813+00 TO STA 826+00



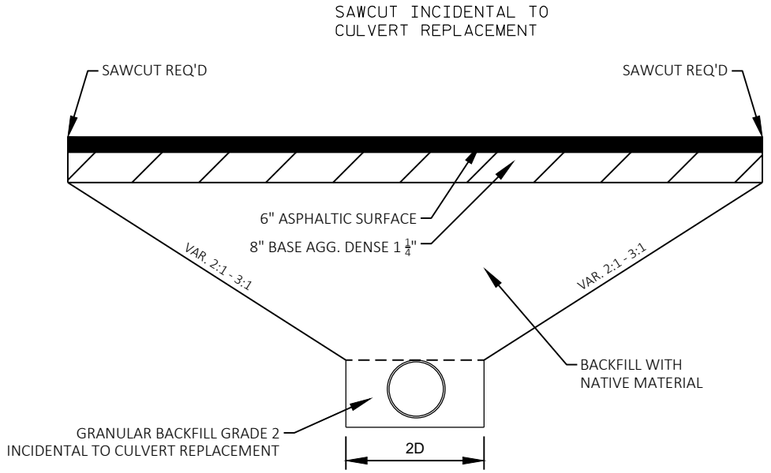
TYPICAL HALF FINISHED SECTION STH 13

1610-08-74
STA 390+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

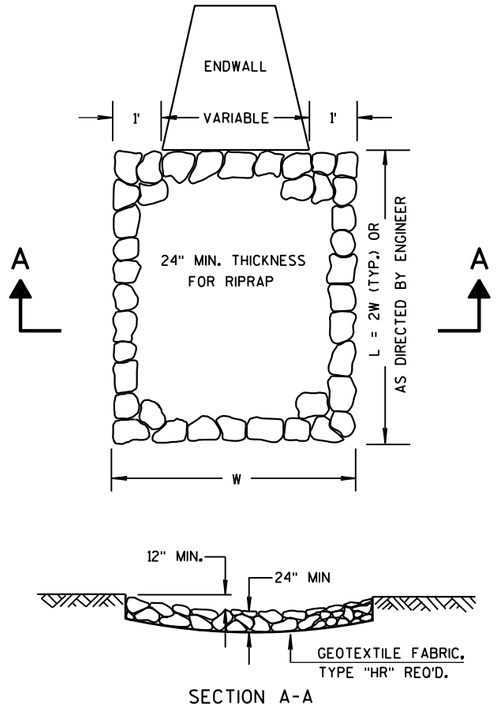
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E



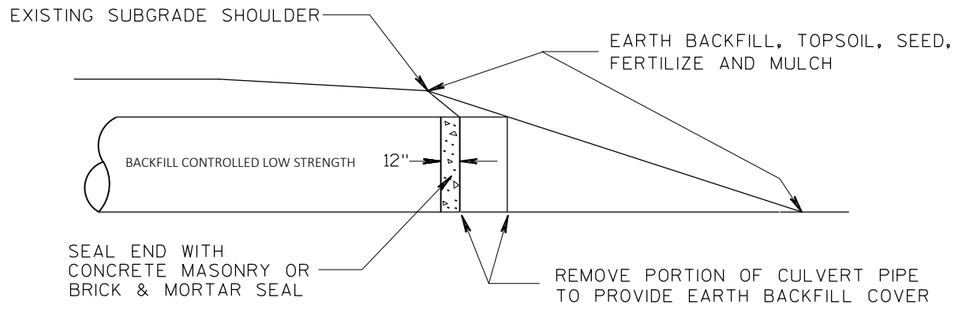
EROSION MAT TREATMENT AT CULVERTS



CROSS DRAIN INSTALLATION DETAIL



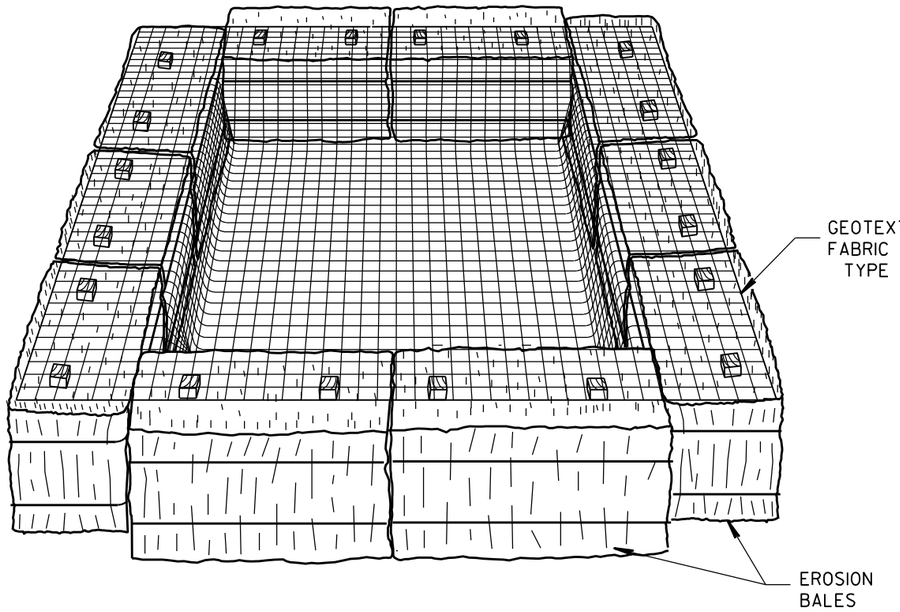
HEAVY RIPRAP TREATMENT AT CULVERTS



ABANDONING CULVERT PIPE DETAIL

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CONSTRUCTION DETAILS	SHEET	E

2



TEMPORARY SETTLING BASIN

(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$\frac{800\ C.F.}{1.5\ FT.}$ = 533 S.F.

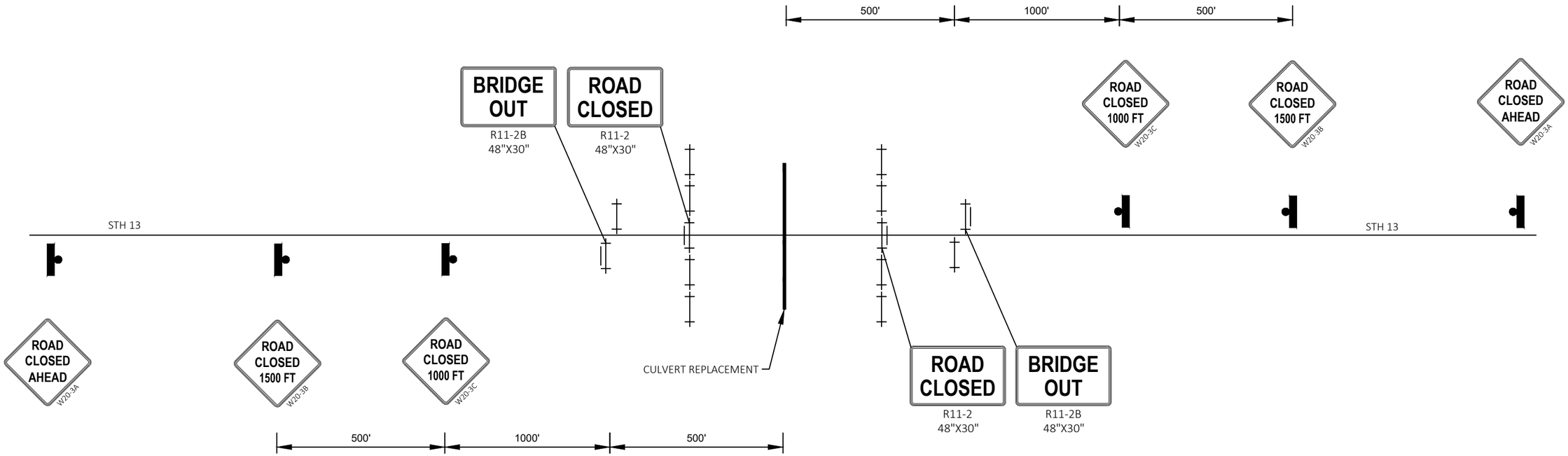
USE A 20 FT. X 27 FT. BASIN

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = _____ ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = _____ACRES

2



TRAFFIC CONTROL AROUND CULVERT REPLACEMENT DURING DETOUR

NOTE:
TRAFFIC CONTROL TO BE IN PLACE UNTIL LOCAL TRAFFIC CAN DRIVE ON GRAVEL OVER REPLACEMENT AREAS.

NO MORE THAN TWO CLOSURES WILL BE ALLOWED AT ONE TIME. ACCESS TO ALL BUSINESSES, RESIDENCES, AND DRIVEWAYS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

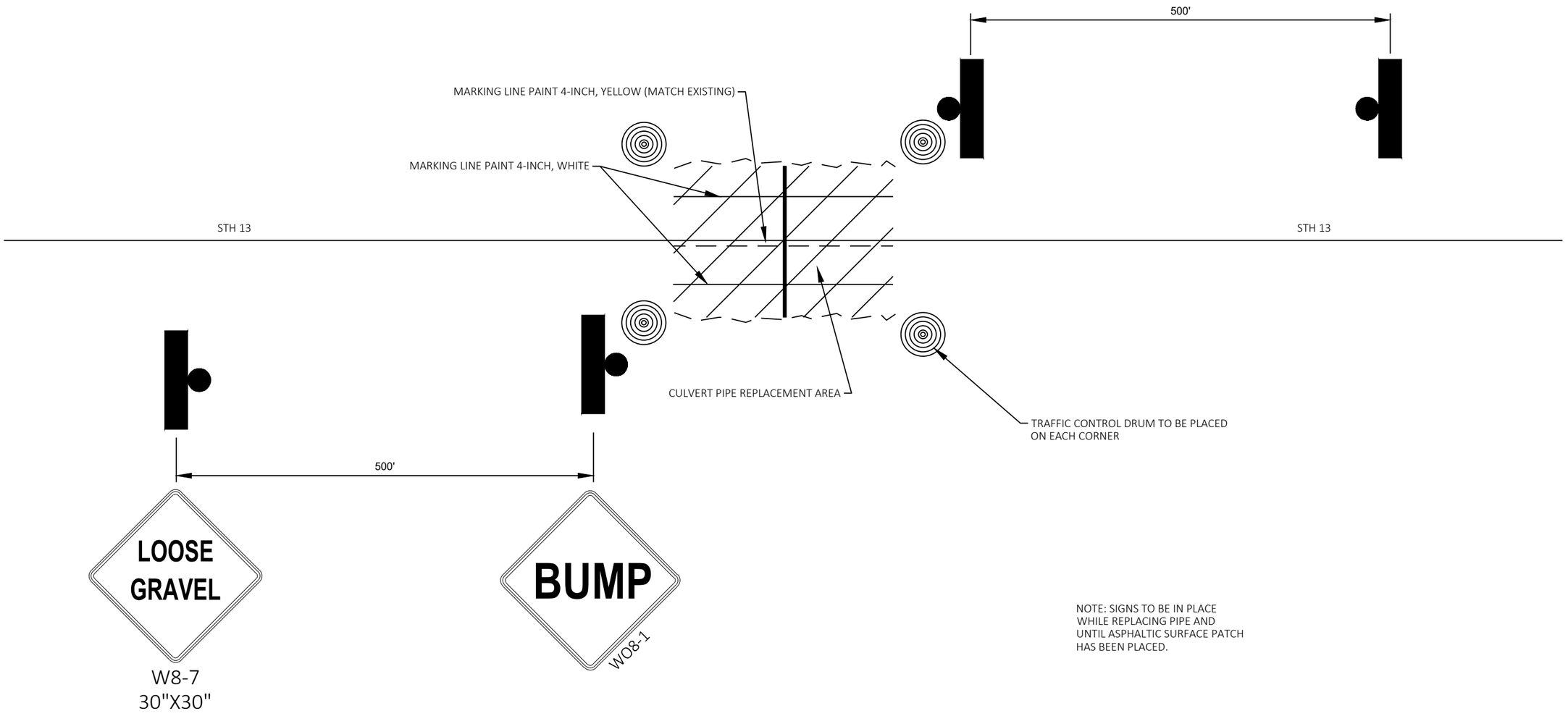
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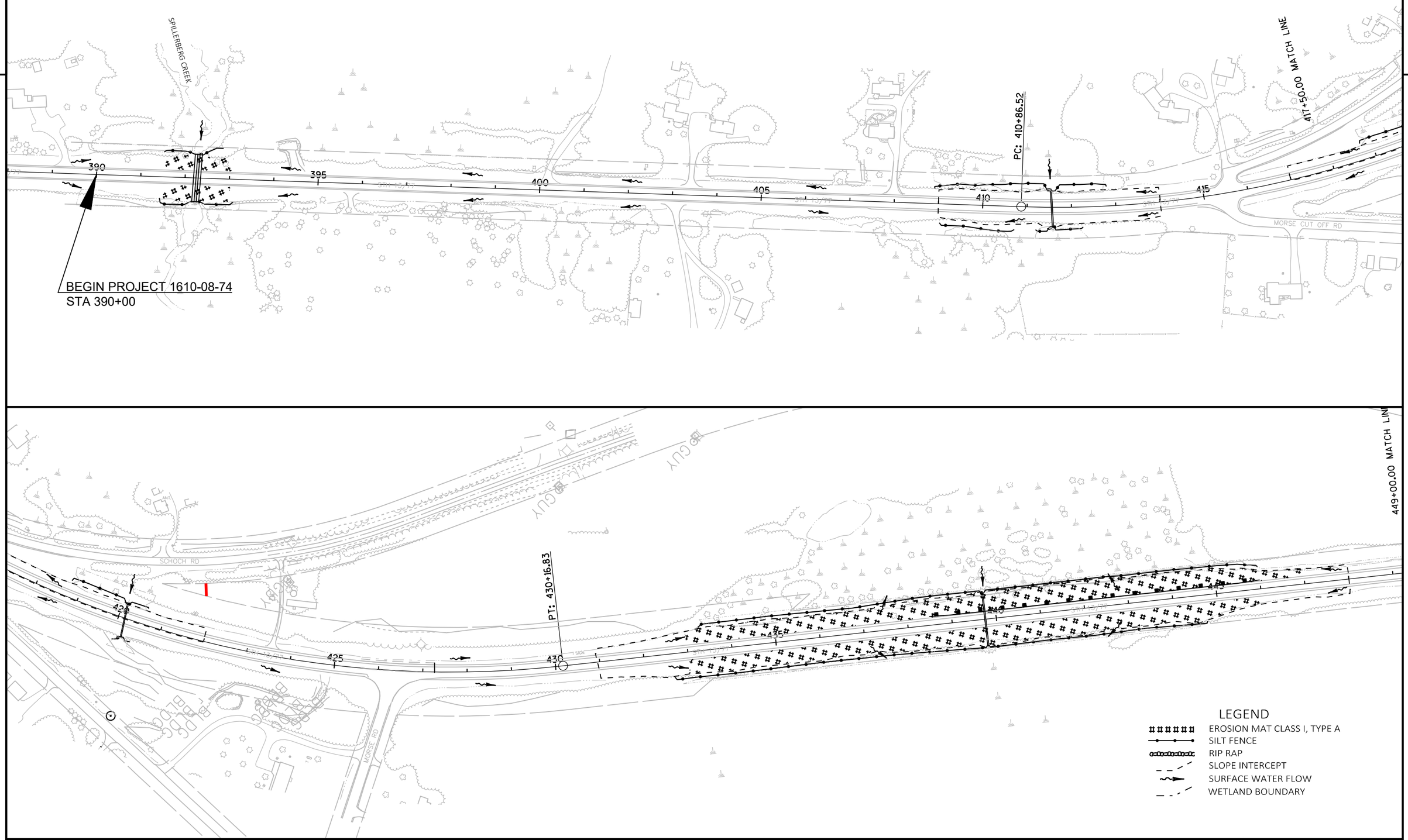
W8-7
36"X36"

TEMPORARY SIGNING AND PERMANENT MARKING AT CULVERT PIPE REPLACEMENT



W8-7
30"X30"

NOTE: SIGNS TO BE IN PLACE WHILE REPLACING PIPE AND UNTIL ASPHALTIC SURFACE PATCH HAS BEEN PLACED.



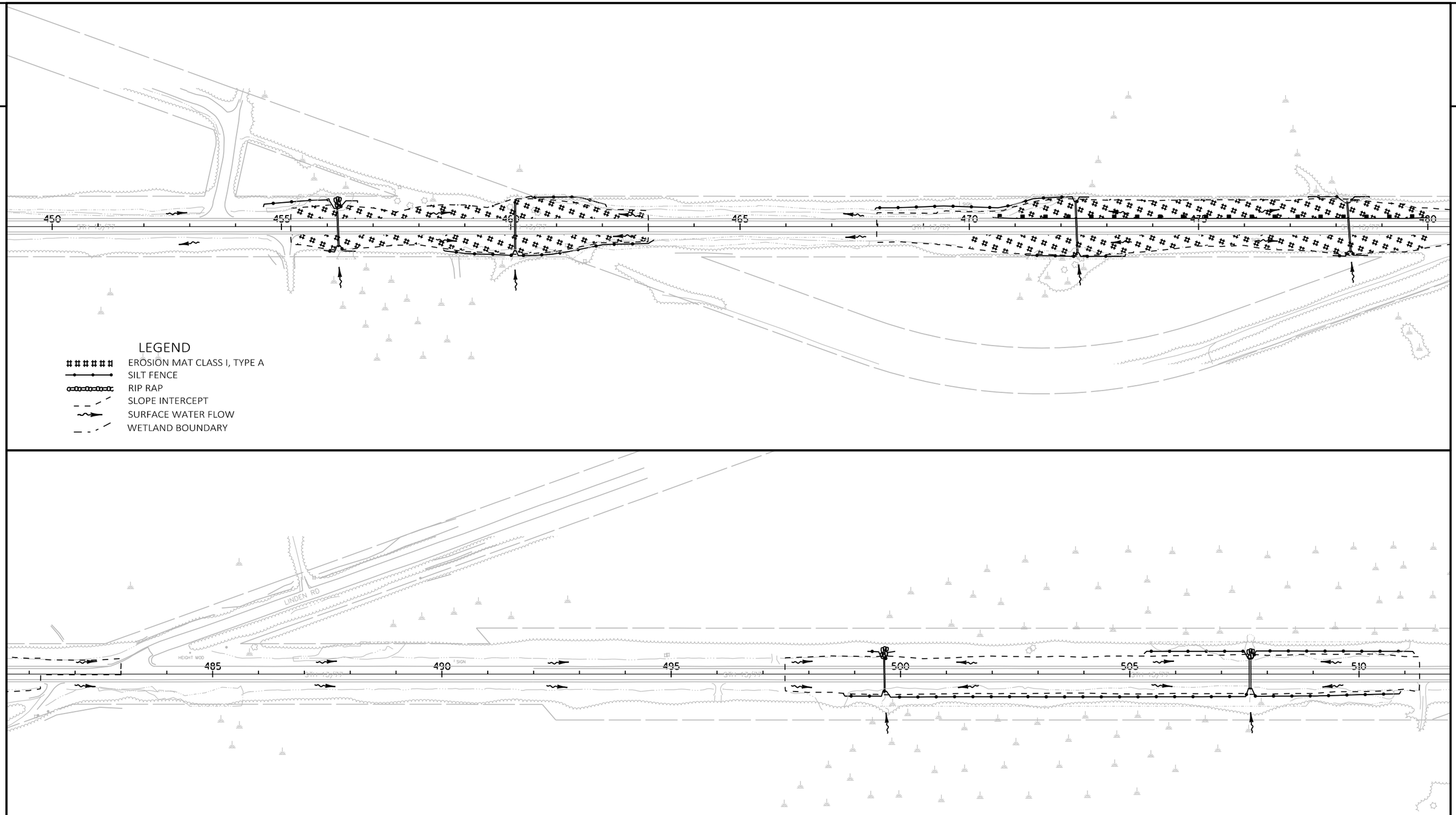
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_EC.DWG
LAYOUT NAME - EC-1

PLOT DATE : 10/2/2018 9:14 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

2

2



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY

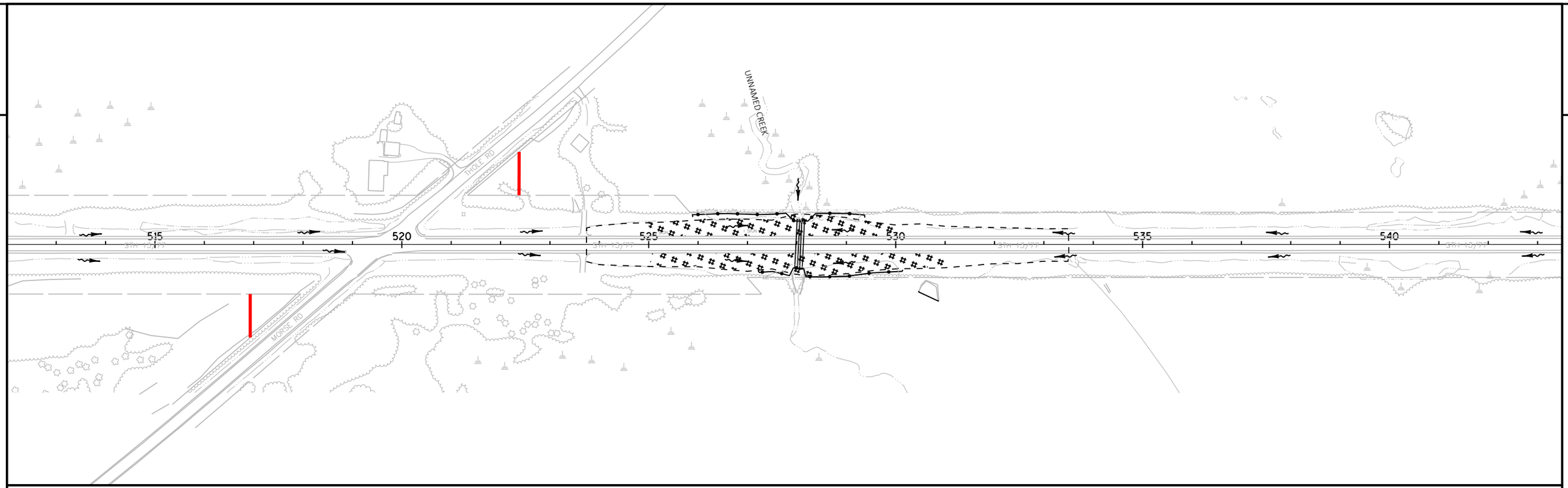
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FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_EC.DWG
LAYOUT NAME - EC-2

PLOT DATE : 10/2/2018 9:15 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

2

2



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_EC.DWG
LAYOUT NAME - EC-3

PLOT DATE : 10/2/2018 9:15 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

2

PT: 575+15.88

606+50.00 MATCH LINE

BAD RIVER

560

585

PC: 588+09.31

590

595

600

PT: 604+44.55

606+50.00 MATCH LINE

605

610

615

620

625

PC: 625+81.38

630

635

CATUCA RD

606+50.00 MATCH LINE

LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-74)	SHEET	E

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LAYOUT NAME - EC-4

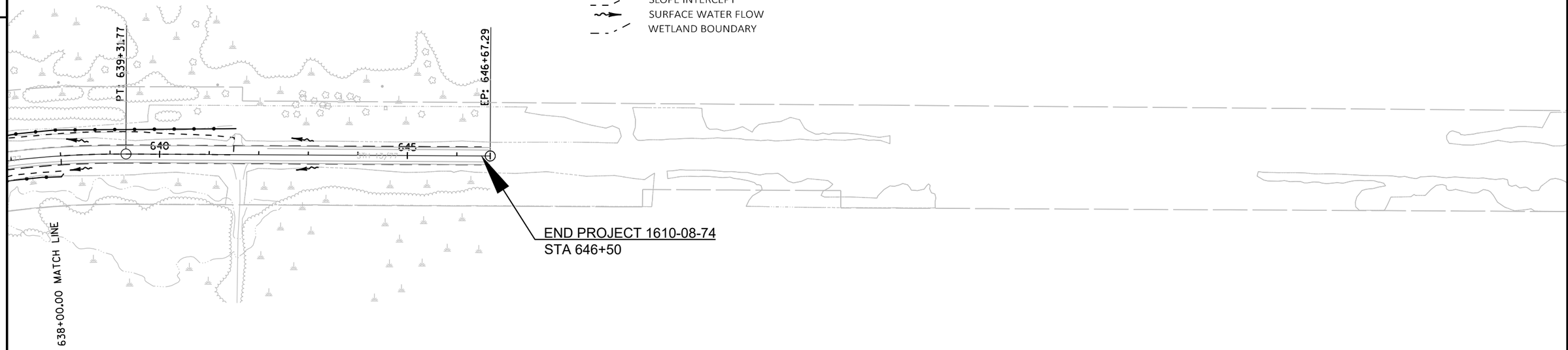
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2

2

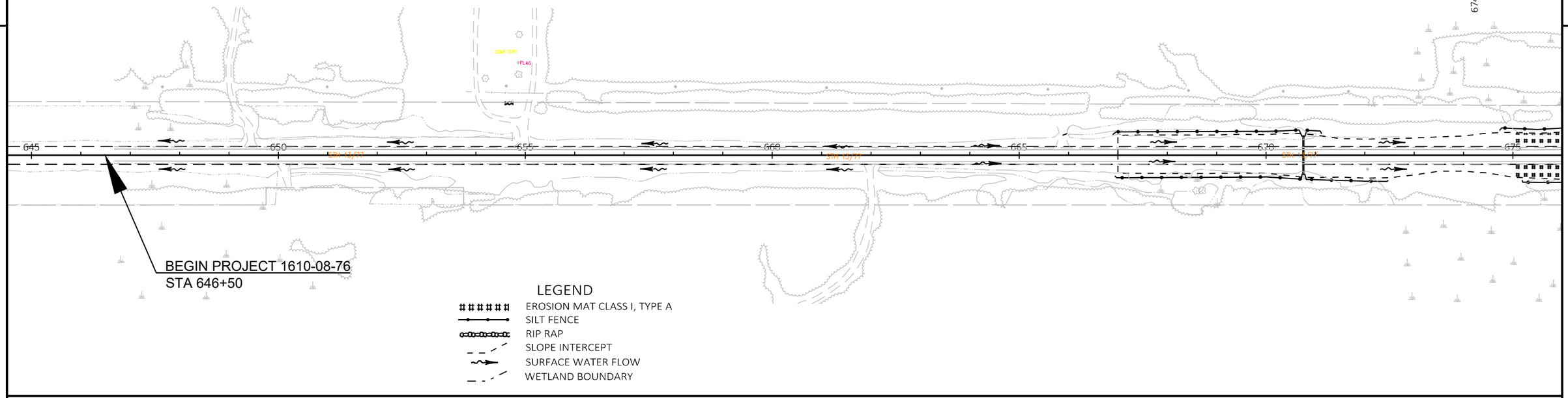
LEGEND

EROSION MAT CLASS I, TYPE A
SILT FENCE
RIP RAP
SLOPE INTERCEPT
SURFACE WATER FLOW
WETLAND BOUNDARY



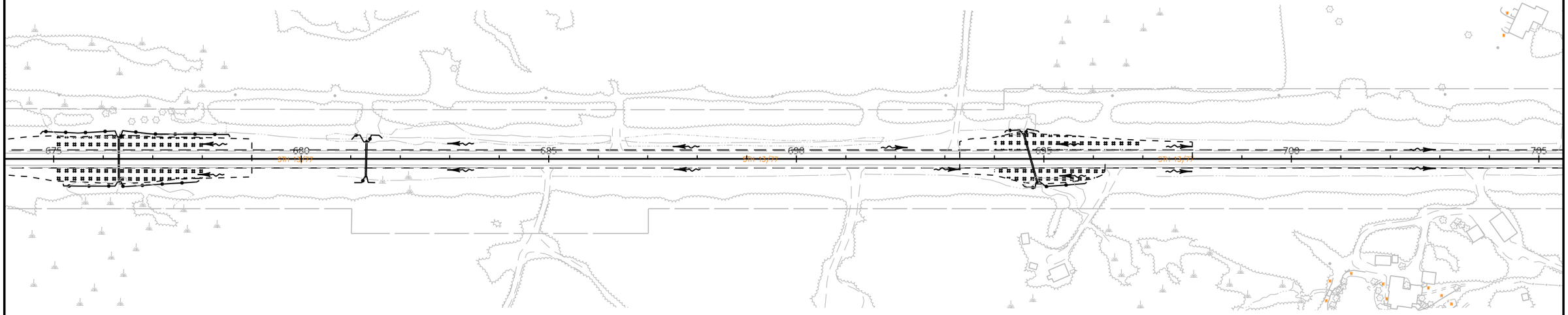
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-74)	SHEET	E

2



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY

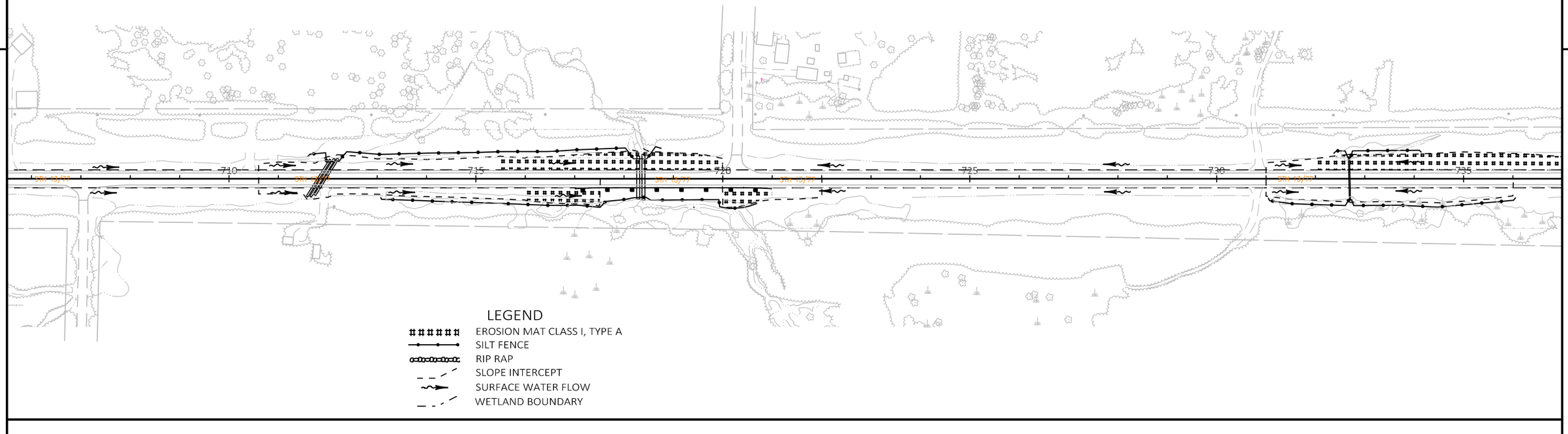


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-76)	SHEET	E

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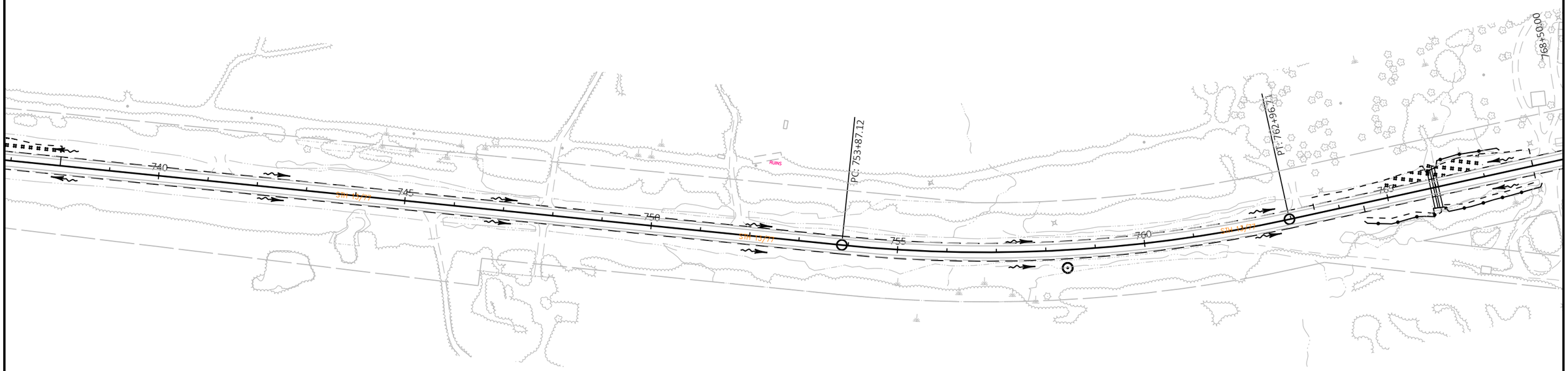
PLOT DATE : 10/2/2018 9:16 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

2



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY



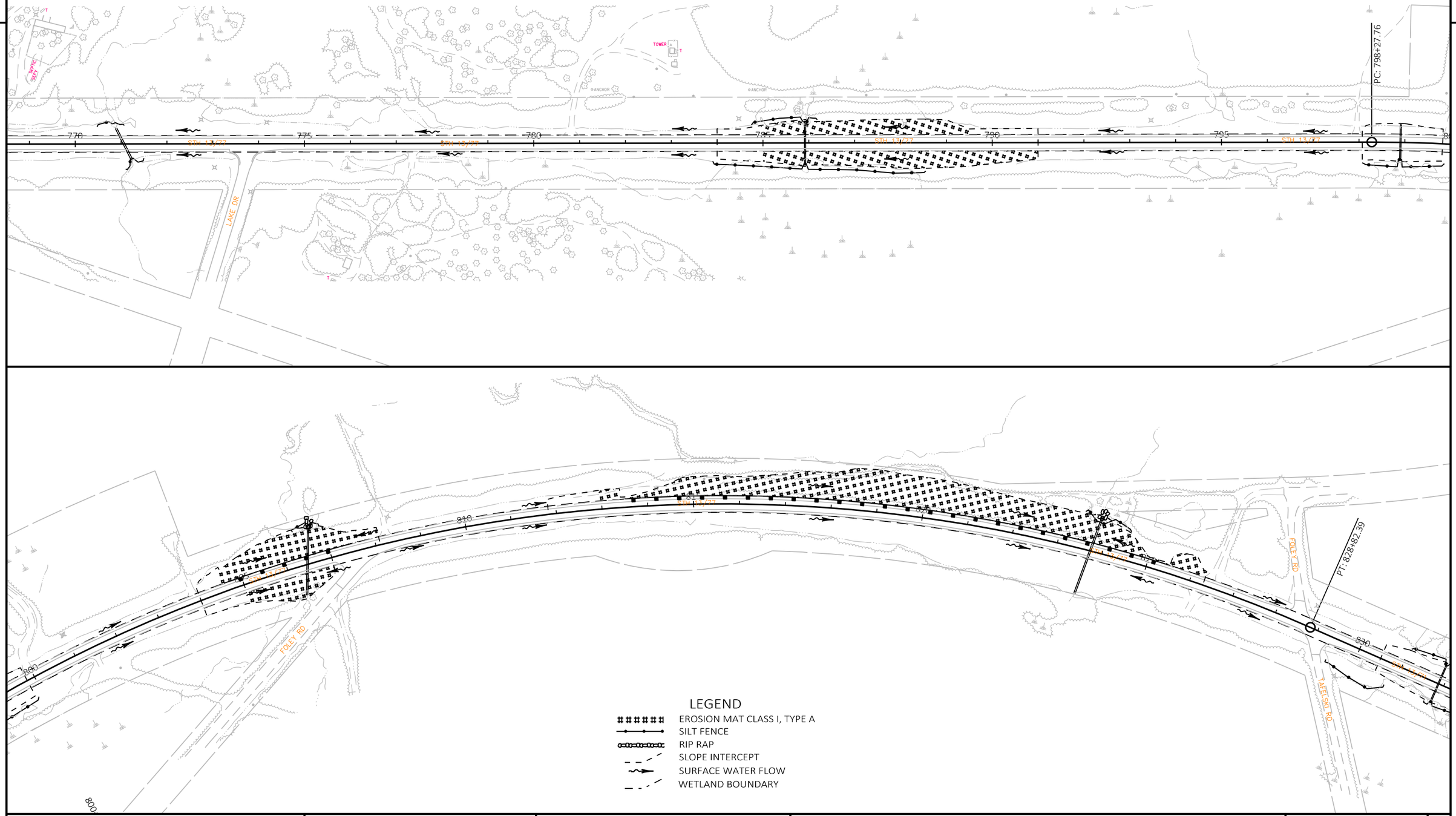
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FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_EC.DWG
LAYOUT NAME - EC - 2

PLOT DATE : 10/2/2018 9:17 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

2

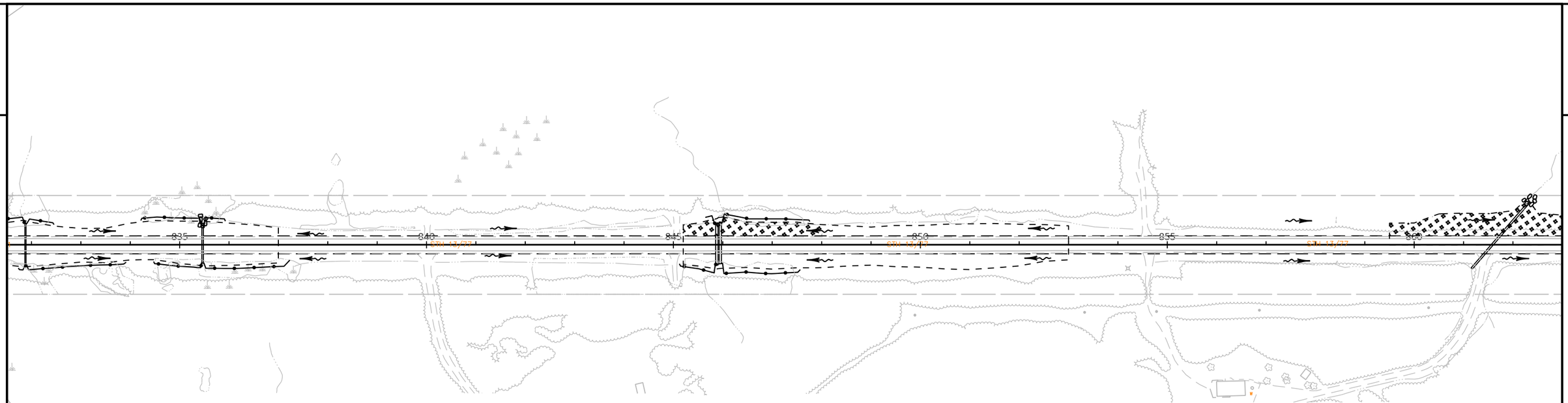
2



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-76)	SHEET	E

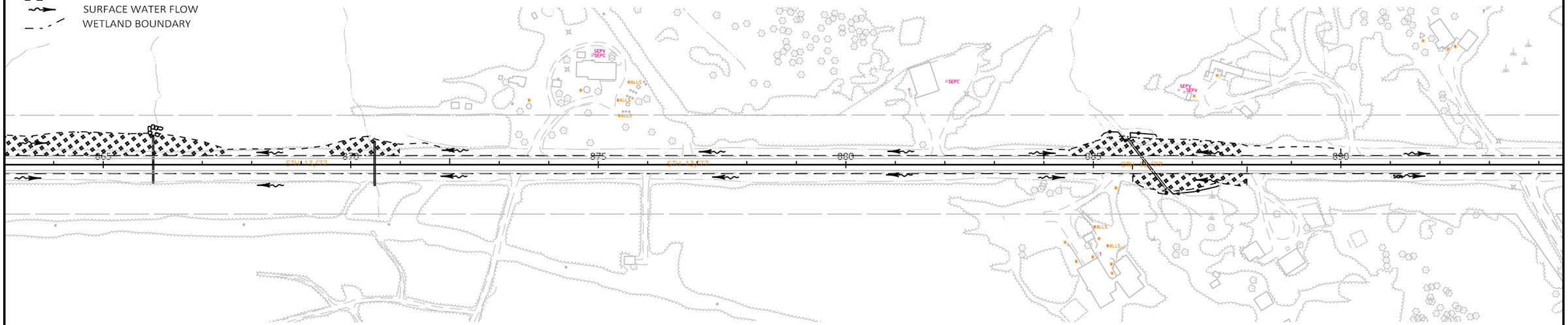
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LAYOUT NAME - EC - 3
PLOT DATE : 10/2/2018 9:17 AM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2



LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_EC.DWG
LAYOUT NAME - EC - 4

PLOT DATE : 10/2/2018 9:17 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

2

2

926+00.00

PC: 920+00.57

BERKSHIRE DR

THOMAS ST

SEPTIC

SEPV

SEPC

895

900

905

910

915

920

925

930

935

940

SIGN

CSM 13.07

CSM 13.08

CSM 13.09

CSM 13.10

CSM 13.11

CSM 13.12

PC: 920+00.57

PT: 928+58.63

JEFFERSON AVE

FOOTBRIDGE

WASHINGTON AVE

PT: 931+91.43

FILLER CAPS

FLAG

MH

CANOPY

FILLER CAP

VACUUM

STATUES

WALLS

FAYETTE AVE

YOUNG GRAFF

BASEBALL DIAMOND

PLAYGROUND

STH 77

WIS

END PROJECT 1610-08-76
STA 927+00

926+00.00

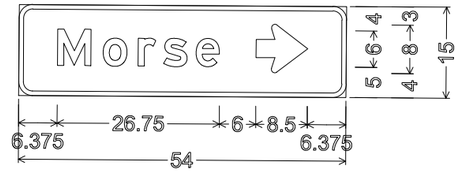
LEGEND

- EROSION MAT CLASS I, TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- WETLAND BOUNDARY

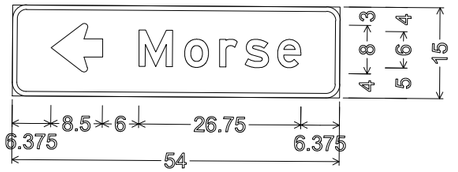
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	EROSION CONTROL (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_EC.DWG
LAYOUT NAME - EC - 5

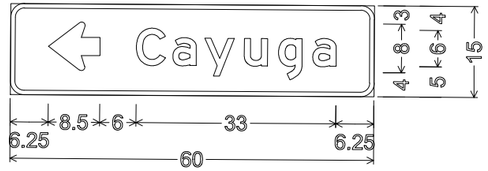
PLOT DATE : 10/2/2018 9:17 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



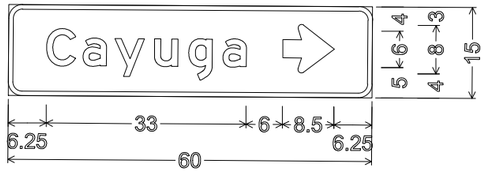
2.250" Radius, 0.750" Border



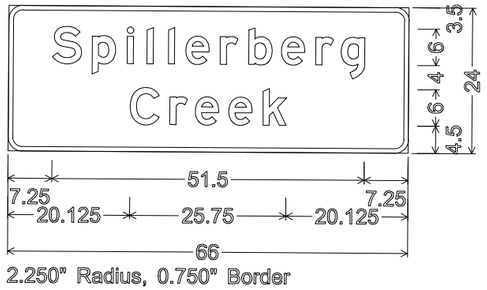
2.250" Radius, 0.750" Border



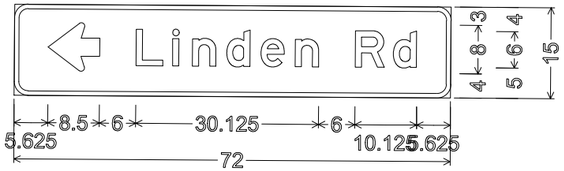
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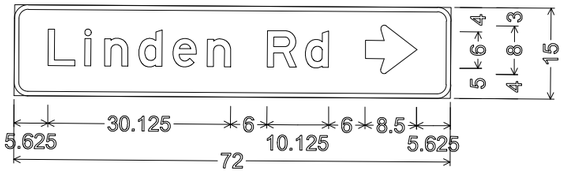
2.250" Radius, 0.750" Border



2.250" Radius, 0.750" Border



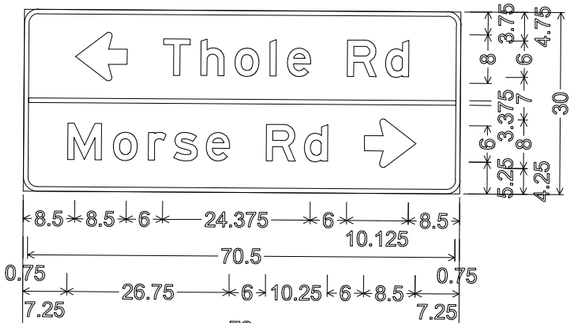
2.250" Radius, 0.750" Border



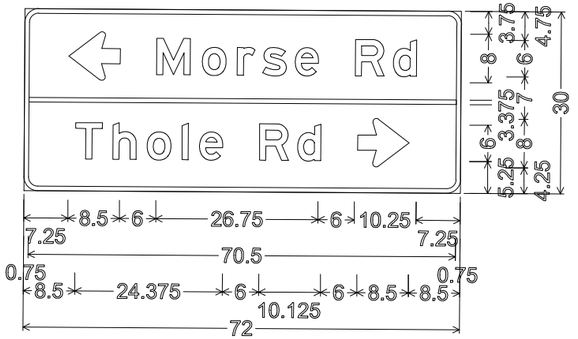
2.250" Radius, 0.750" Border

NOTES

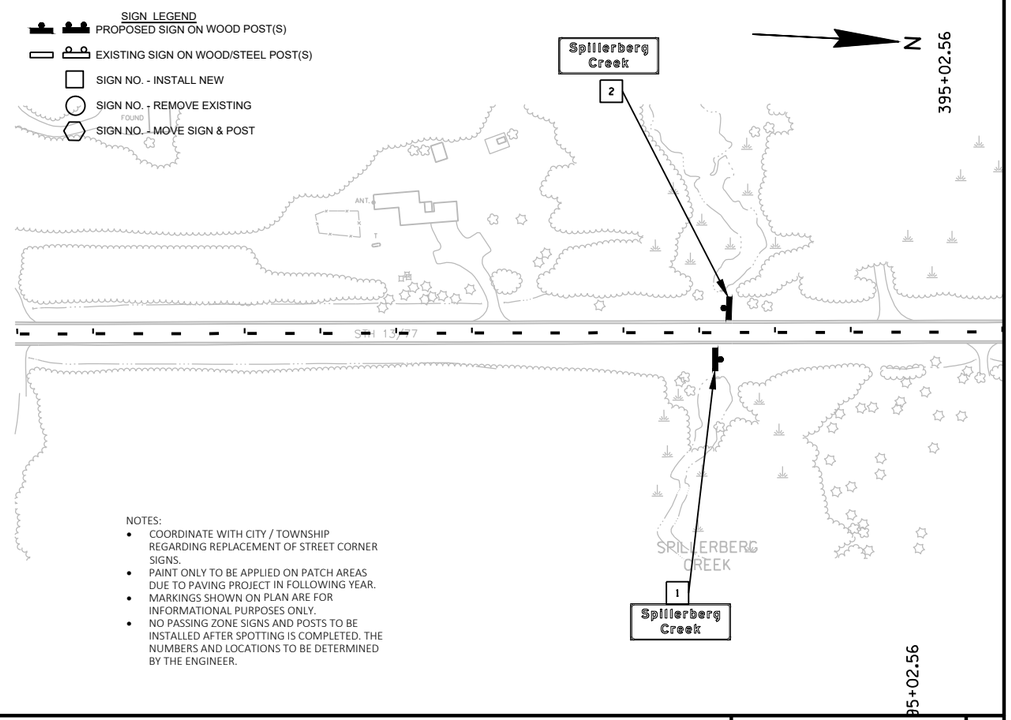
1. All Signs are Type II – Type H Reflective
2. Color:
   Background – Green except as noted
   Message – White except as noted
3. Message Series – E except as noted



2.250" Radius, 0.750" Border



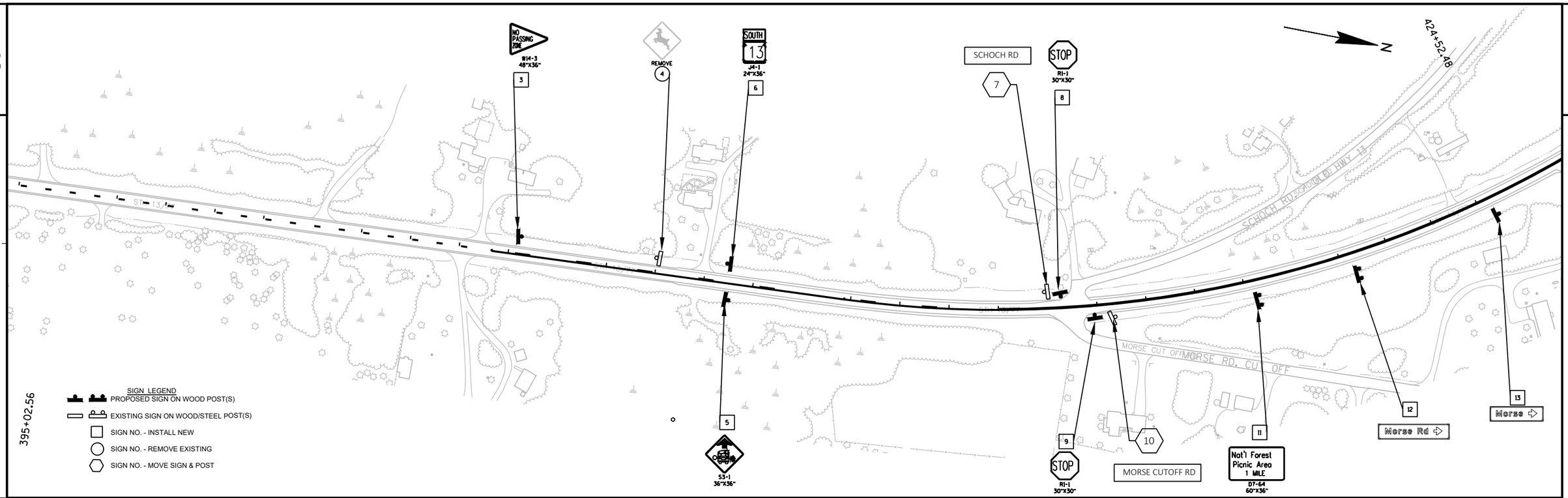
2.250" Radius, 0.750" Border

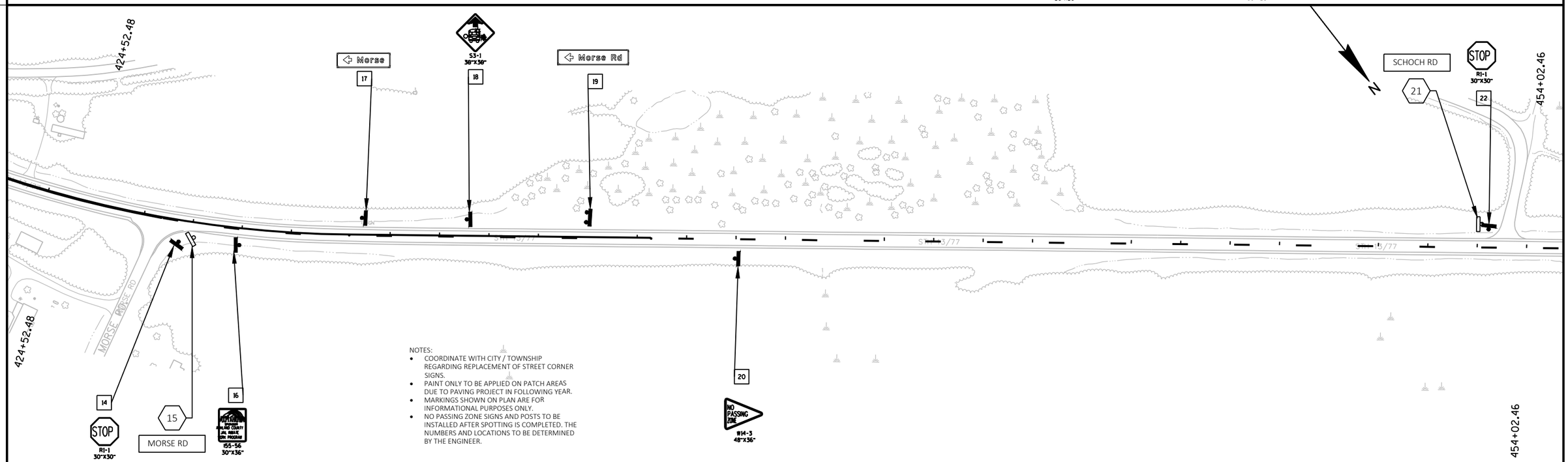


NOTES:

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-77	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E





NOTES:

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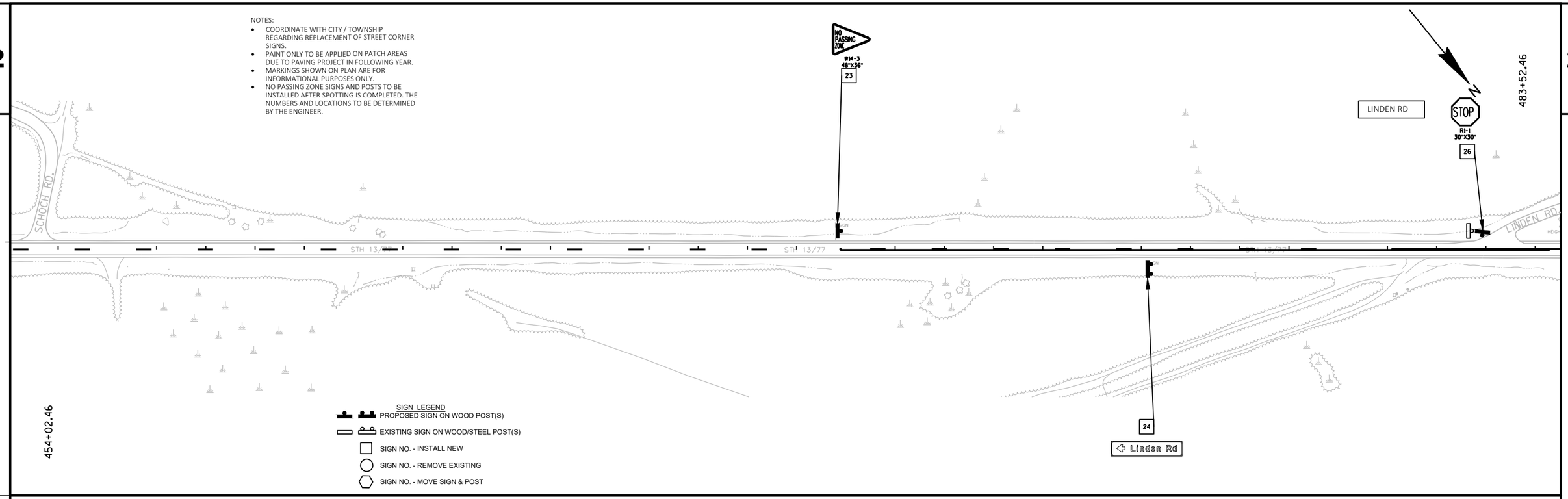
PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-77	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E

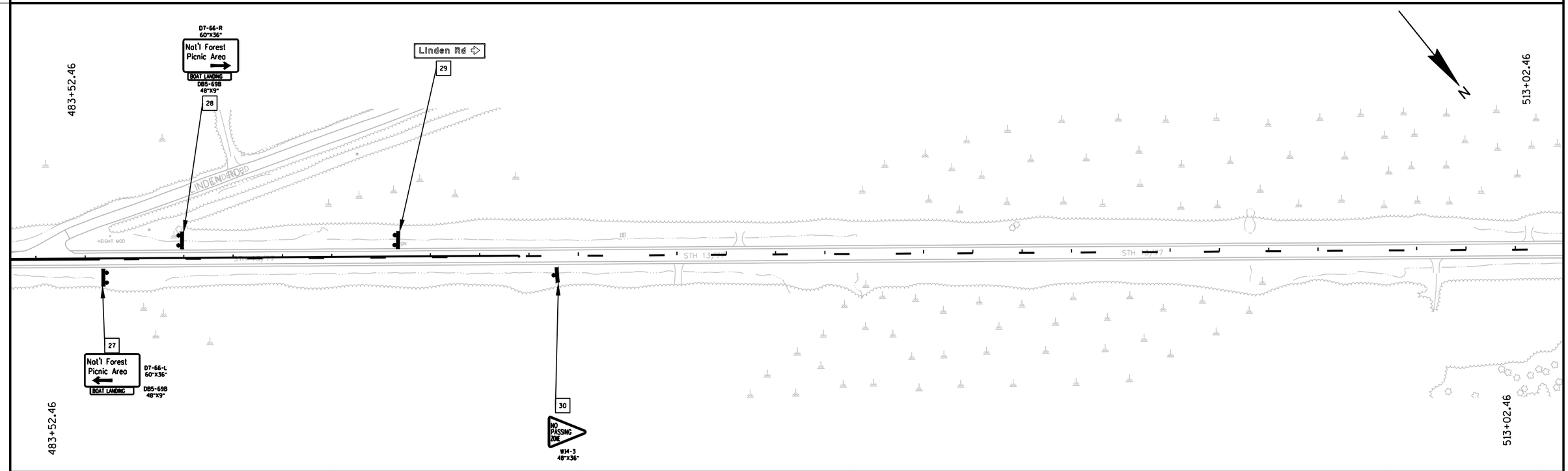
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_SIGNING & MARKING.DWG
1610-08-31 - S&M-2

PLOT DATE : 10/2/2018 12:03 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:200 FT

NOTES:

- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS.
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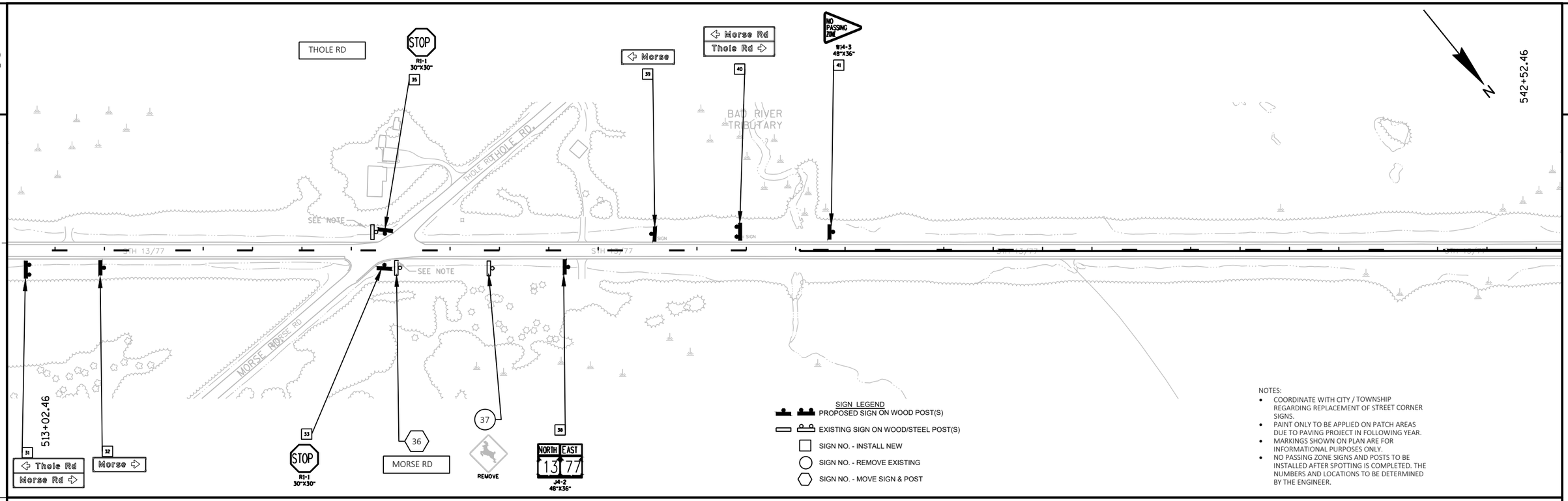


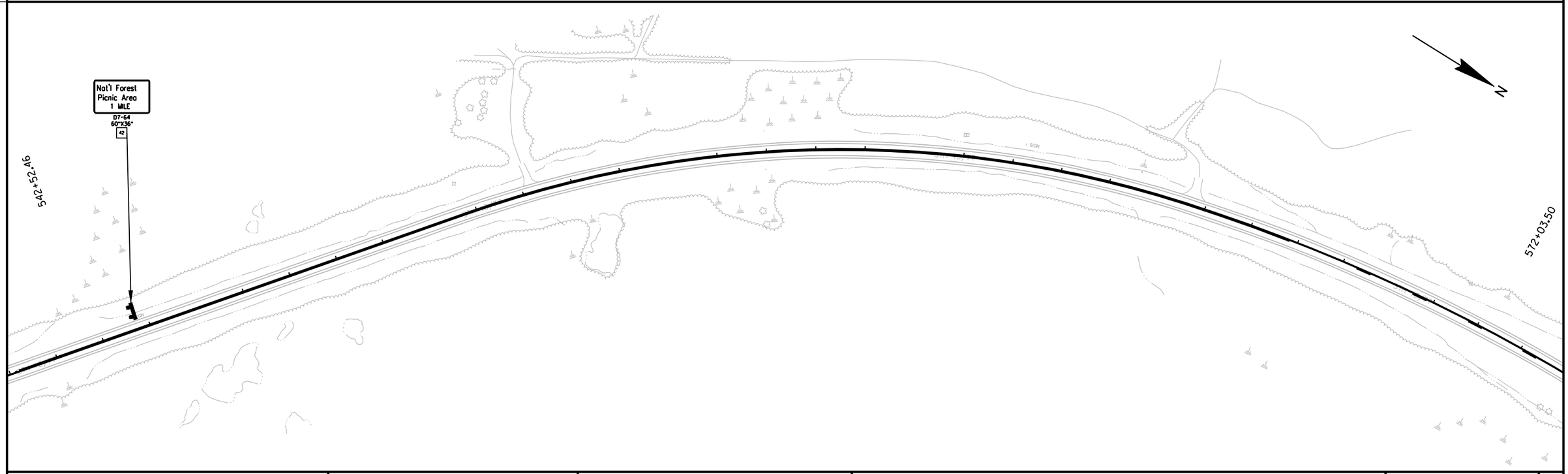


PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-31	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_SIGNING & MARKING.DWG
1610-08-31 - S&M-3

PLOT DATE : 10/2/2018 12:03 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:200 FT

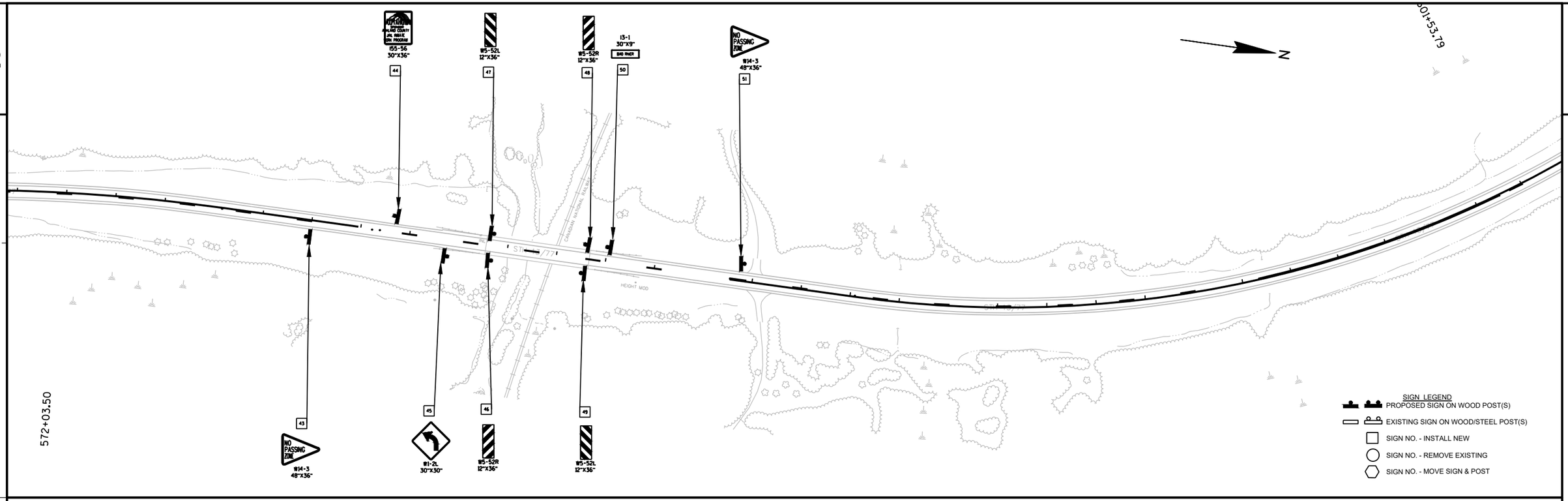




PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-31	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_SIGNING & MARKING.DWG
1610-08-31 - S&M-4

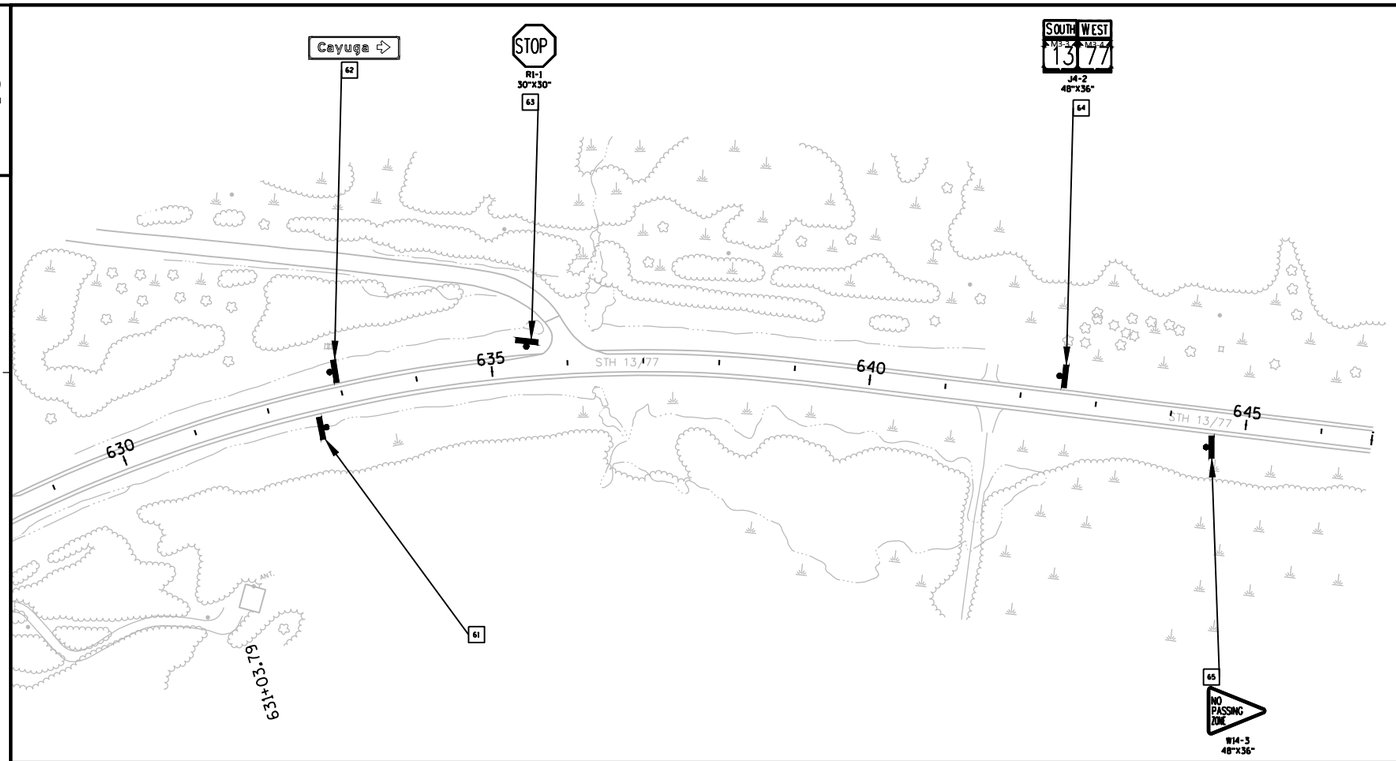
PLOT DATE : 10/2/2018 12:03 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:200 FT



NOTES:
- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS.
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-77	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_SIGNING & MARKING.DWG
1610-08-31 - S&M-5
PLOT DATE : 10/2/2018 12:04 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:200 FT



2

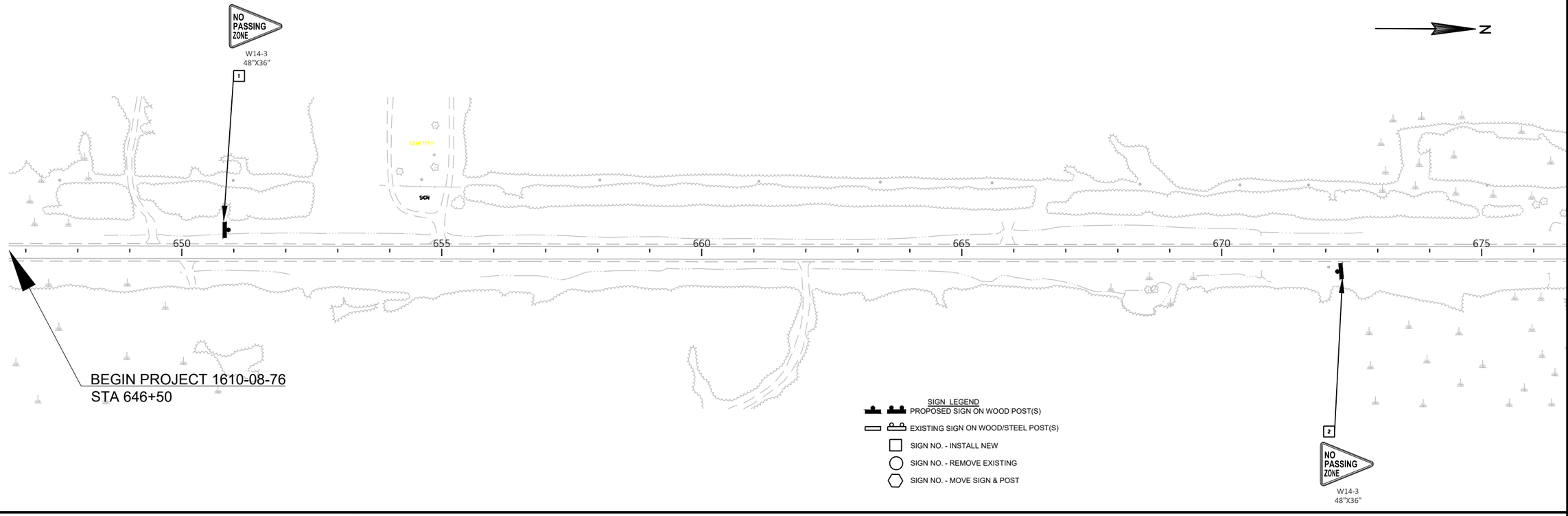
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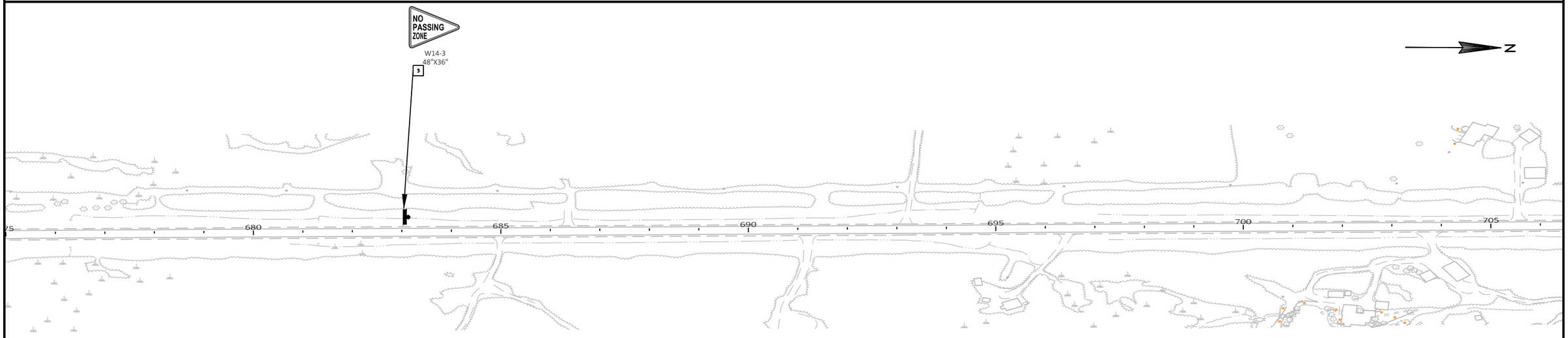
- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS.
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SIGN LEGEND

- PROPOSED SIGN ON WOOD POST(S)
- EXISTING SIGN ON WOOD/STEEL POST(S)
- SIGN NO. - INSTALL NEW
- SIGN NO. - REMOVE EXISTING
- SIGN NO. - MOVE SIGN & POST

PROJECT NO: 1610-08-74, 1610-08-76, 1610-08-77	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-74)	SHEET	E

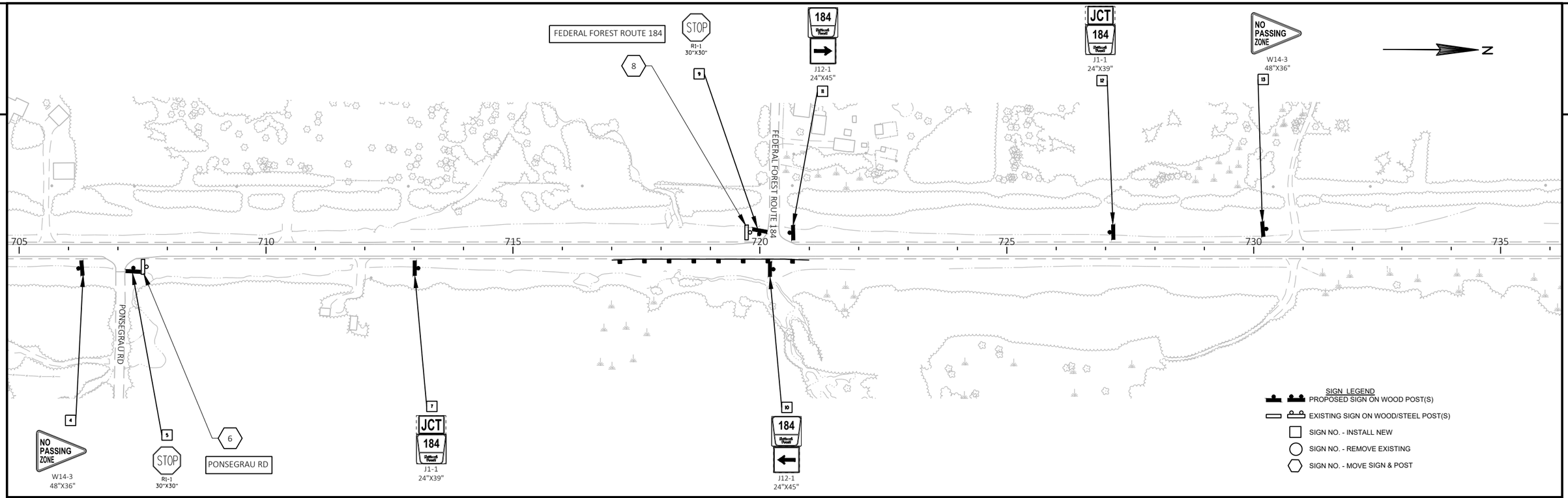




NOTES:

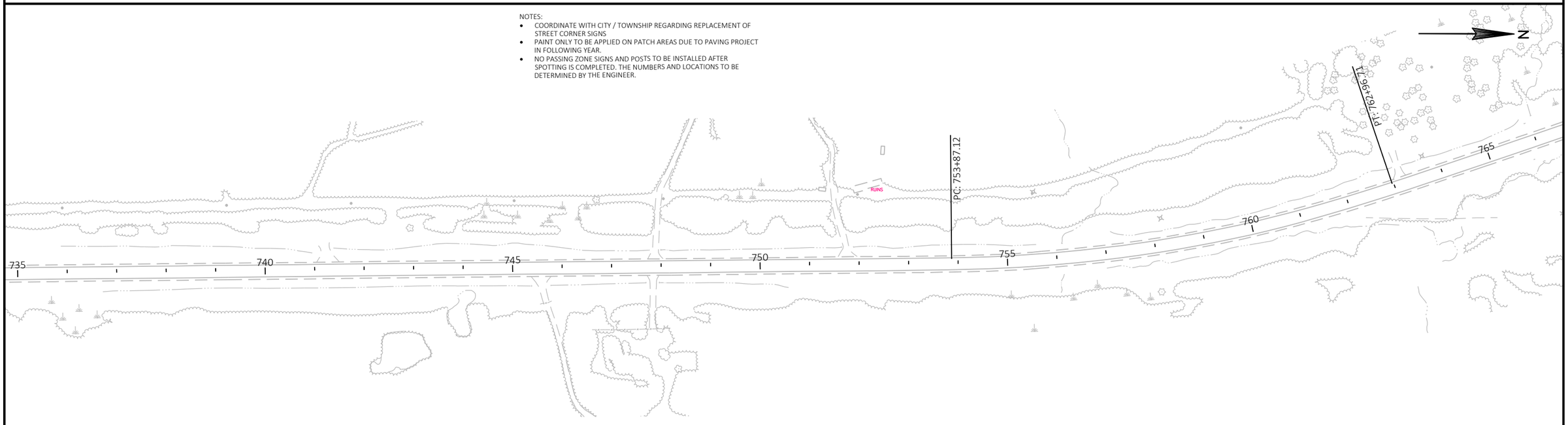
- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS
- PAINT ONLY TO BE APPLIED ON PATCH AREAS DUE TO PAVING PROJECT IN FOLLOWING YEAR.
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-76)	SHEET	E

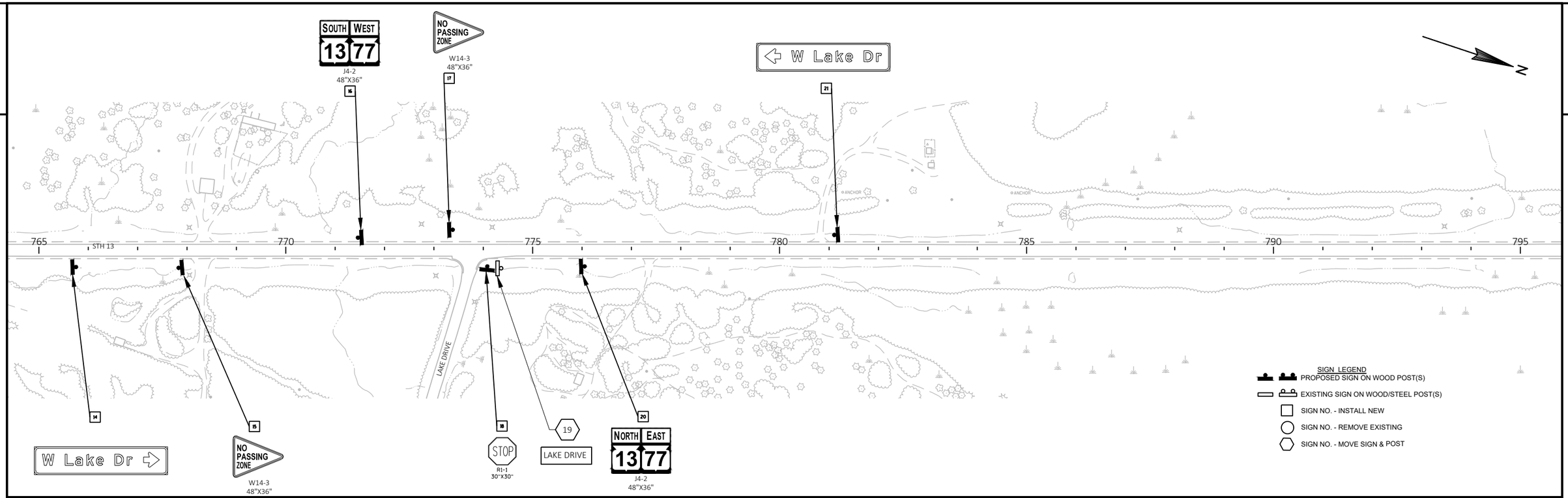


NOTES:

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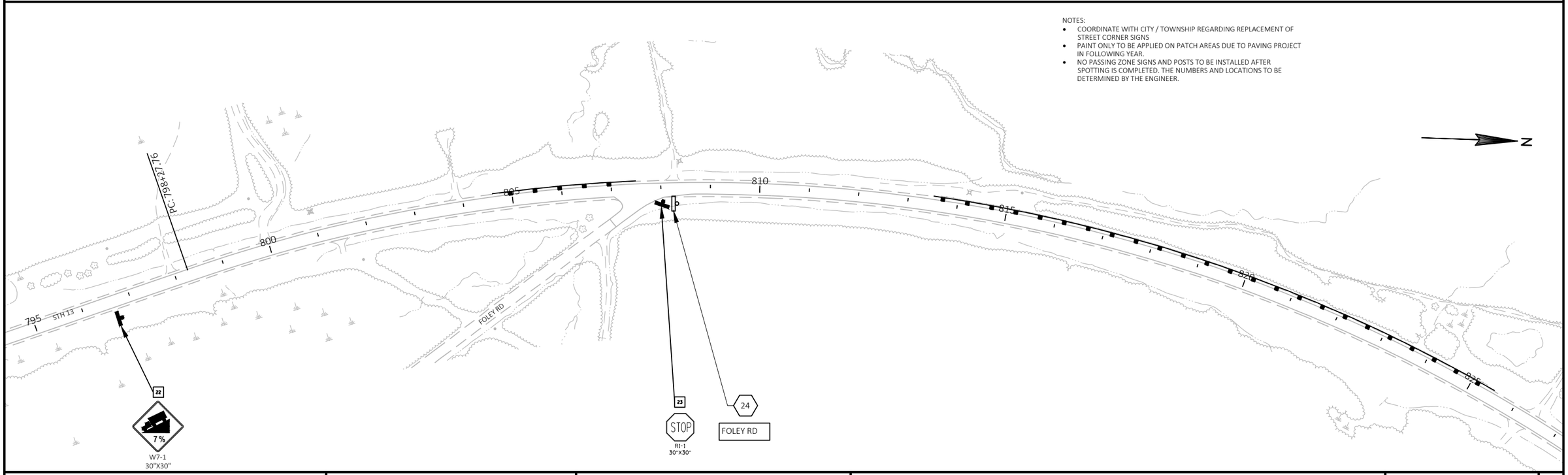


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-76)	SHEET	E



NOTES:

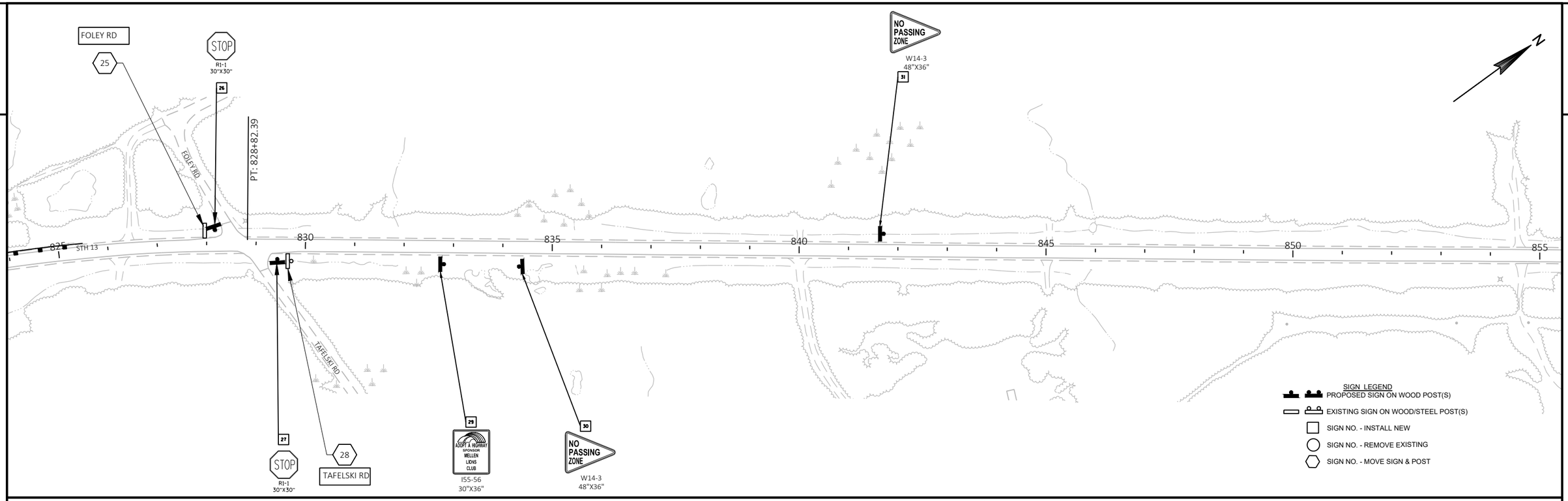
- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS
- PAINT ONLY TO BE APPLIED ON PATCH AREAS DUE TO PAVING PROJECT IN FOLLOWING YEAR.
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-76)	SHEET	E

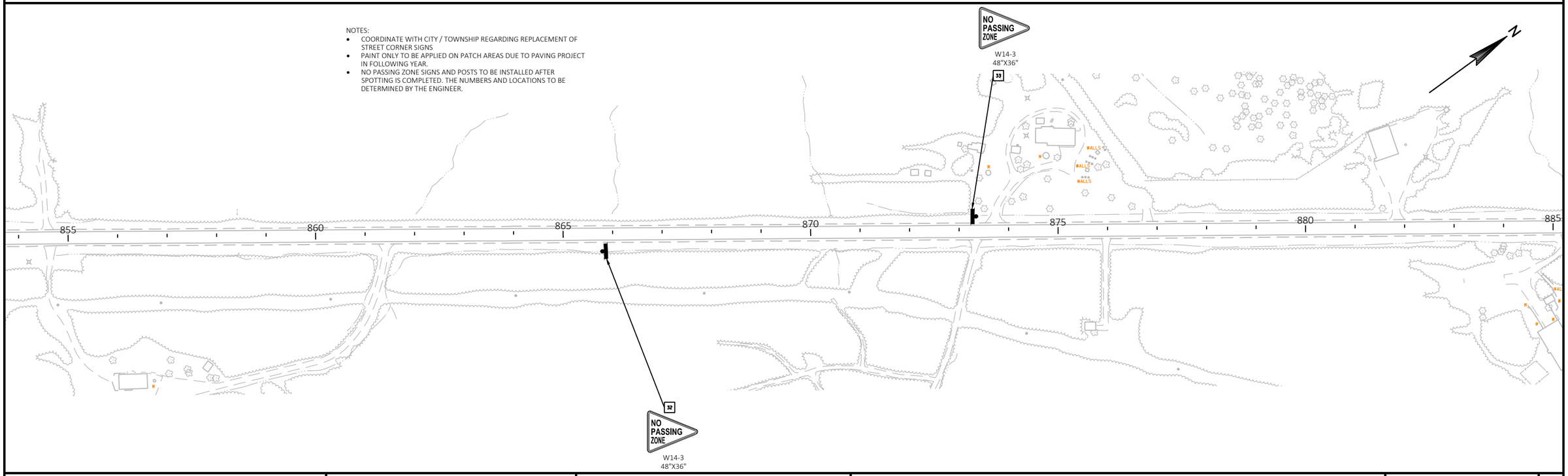
FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_S&M.DWG
LAYOUT NAME - S&M-3

PLOT DATE : 10/2/2018 12:48 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



NOTES:

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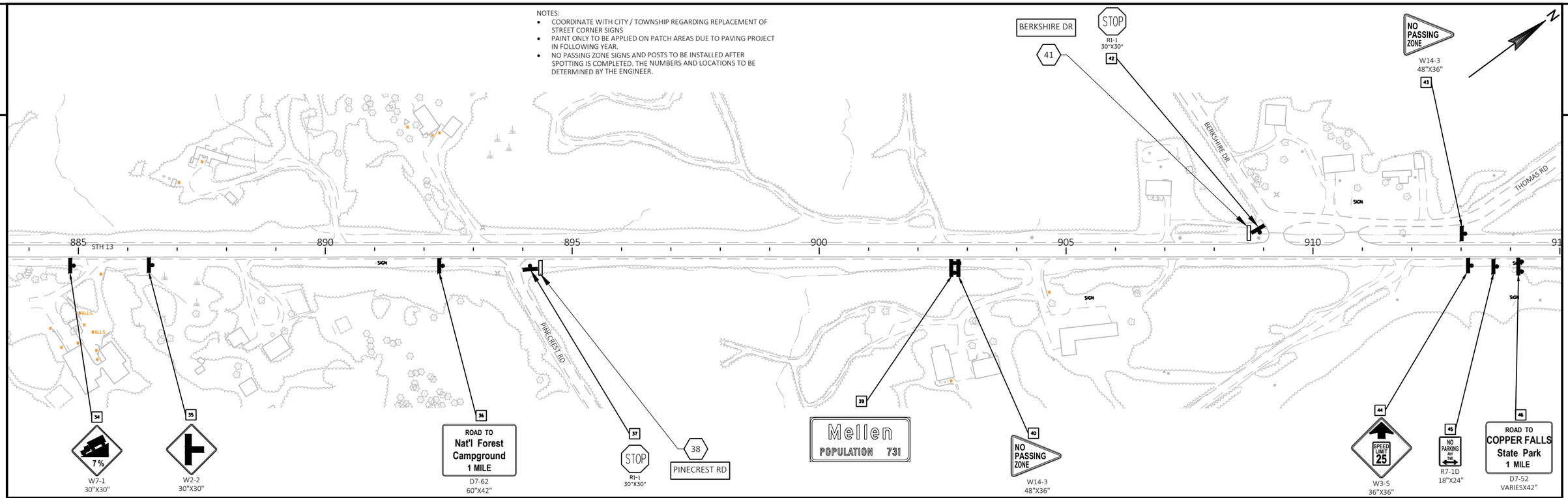
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_S&M.DWG
LAYOUT NAME - S&M-4

PLOT DATE : 10/2/2018 12:49 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

NOTES:

- COORDINATE WITH CITY / TOWNSHIP REGARDING REPLACEMENT OF STREET CORNER SIGNS
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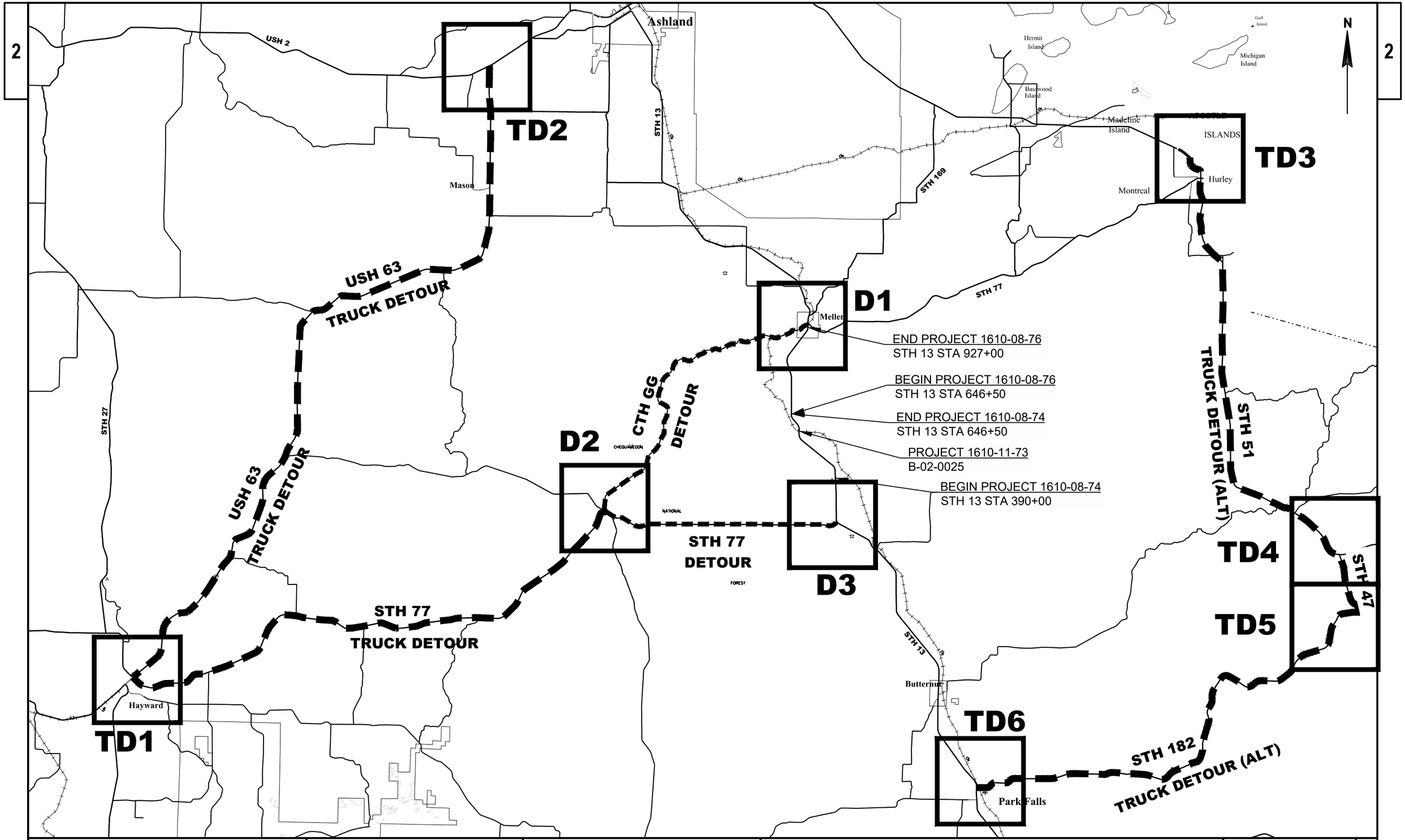


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	SIGNING & MARKING (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_S&M.DWG
LAYOUT NAME - S&M-5

PLOT DATE : 10/2/2018 12:49 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44



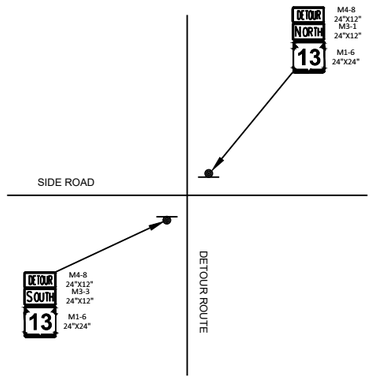
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR OVERVIEW	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - DET-1

PLOT DATE : 10/10/2018 10:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

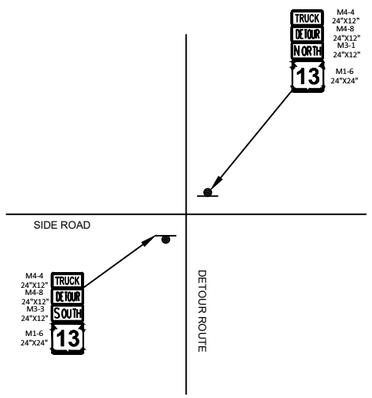
CAR DETOUR REASSURANCES TO BE PLACED AT THE FOLLOWING LOCATIONS:

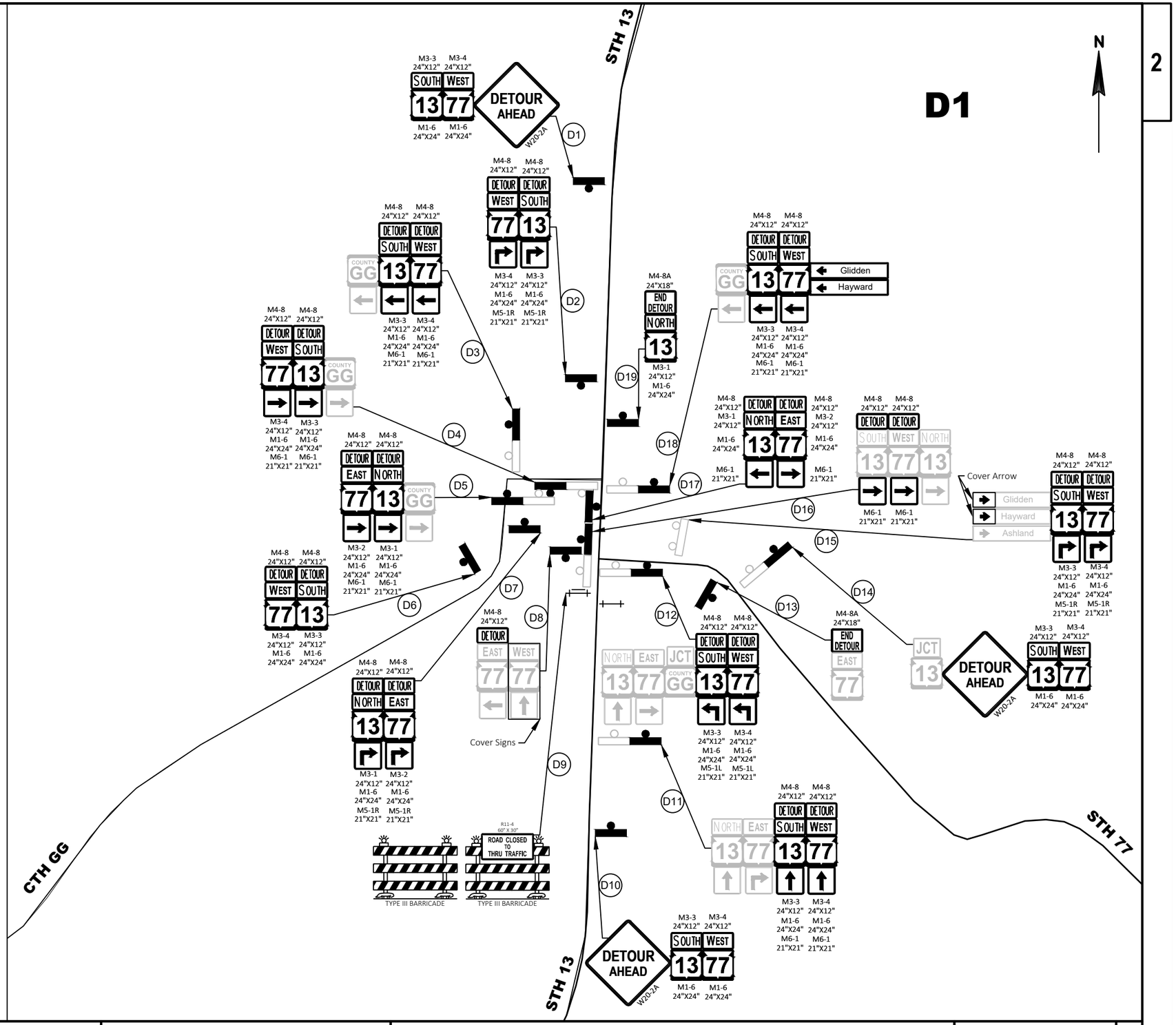
- **SPIDER LAKE ROAD (ON CTH GG)**
- **CONLEY ROAD (ON CTH GG)**
- **QUARRY ROAD (ON CTH GG)**



TRUCK DETOUR REASSURANCES TO BE PLACED AT THE FOLLOWING LOCATIONS:

- **CTH S (ON STH 77)**
- **N. COUNTY ROAD A (ON STH77)**
- **CTH K (ON STH 77)**
- **CTH OO (ON USH 63)**
- **CTH M (ON USH 63)**
- **CTH N (ON USH 63)**
- **CTH D (ON USH 63)**
- **CTH E (ON USH 63)**
- **CTH E (ON USH 63)**
- **STH 118 (ON USH 63)**
- **CTH G (ON USH 51)**
- **CTH J (ON USH 51)**
- **SHADY KNOLL ROAD (ON STH 182)**





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL D1	SHEET E

2

2

D2

N

CTH M

CTH GG

STH 77

CTH GG

STH 77

D20 D21 D22 D23 D24 D25 D26 D27 D28 D29 D30 D31 D32 D33 TD1 TD2 TD3 TD4 TD5

Glidden
Hayward

DETOUR AHEAD
W20-2A

M4-8A 24"X18" END DETOUR WEST 77

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL D2	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - DET-3

PLOT DATE : 10/10/2018 10:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1"= 500'

D3

N

STH 13

STH 77

STH 13

D34 — M3-2 24"X12" EAST / M3-1 24"X12" NORTH / 77 / 13 / DETOUR AHEAD W20-2A / M1-6 24"X24" / M1-6 24"X24"

D35 — M4-8 24"X12" DETOUR NORTH / M4-8 24"X12" DETOUR EAST / SOUTH 13 / WEST 77 / 13 / 77 / M3-1 24"X12" / M3-2 24"X12" / M1-6 24"X24" M5-2R 21"X21" / M1-6 24"X24" M5-2R 21"X21"

D36 — M4-8 24"X12" DETOUR NORTH / M4-8 24"X12" DETOUR EAST / SOUTH 13 / WEST 77 / 13 / 77 / M3-1 24"X12" / M3-2 24"X12" / M1-6 24"X24" / M1-6 24"X24" / M6-2 21"X21" / M6-2 21"X21"

D46 — TYPE III BARRICADE

D47 — R11-4 60" X 30" ROAD CLOSED TO THRU TRAFFIC / TYPE III BARRICADE

TD8 — M4-4 24"X12" TRUCK / M4-4 24"X12" TRUCK / M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / M3-1 24"X12" NORTH / M3-2 24"X12" EAST / M1-6 24"X24" / 13 / 77 / M1-6 24"X24" / M6-1 21"X21" / M6-1 21"X21"

D45 — M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / WEST 77 / NORTH 13 / EAST 77 / M6-1 21"X21" / M6-1 21"X21"

D44 — Mellen / Clam Lake / Hayward

TD7 — Cover Arrow / M4-4 24"X12" TRUCK / M4-4 24"X12" TRUCK / M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / M3-1 24"X12" NORTH / M3-2 24"X12" EAST / 13 / 77 / M4-8 24"X12" / M4-8 24"X12" / M3-1 24"X12" / M3-2 24"X12" / M1-6 24"X24" / M1-6 24"X24" / M5-1L 21"X21" / M5-1L 21"X21"

D43 — M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / M3-4 24"X12" WEST / NORTH 13 / EAST 77 / M1-6 24"X24" / M3-1 24"X12" / M3-2 24"X12" / M1-6 24"X24" / M1-6 24"X24" / M5-1L 21"X21" / M5-1L 21"X21" / M5-1L 21"X21"

D42 — JCT 77 / DETOUR AHEAD W20-2A / M3-1 24"X12" NORTH / M3-2 24"X12" EAST / 13 / 77 / M1-6 24"X24" / M1-6 24"X24"

D41 — END DETOUR M4-8A 24"X18" / SOUTH M3-3 24"X12" / 13 / M1-6 24"X24"

D40 — M4-8 24"X12" DETOUR / NORTH EAST SOUTH / 13 77 13 / Cover Signs

D39 — Mellen / Ashland / Glidden / Cover Signs

D38 — DETOUR M4-8 24"X12" / SOUTH M3-3 24"X12" / JCT 13 / 13 / M1-6 24"X24" / M5-1R 21"X21"

D37 — M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / NORTH 13 / EAST 77 / M3-1 24"X12" / M3-2 24"X12" / M1-6 24"X24" / M1-6 24"X24"

TD6 — M4-4 24"X12" TRUCK / M4-4 24"X12" TRUCK / M4-8 24"X12" DETOUR / M4-8 24"X12" DETOUR / M3-1 24"X12" NORTH / M3-2 24"X12" EAST / M1-6 24"X24" / 13 / 77 / M1-6 24"X24"

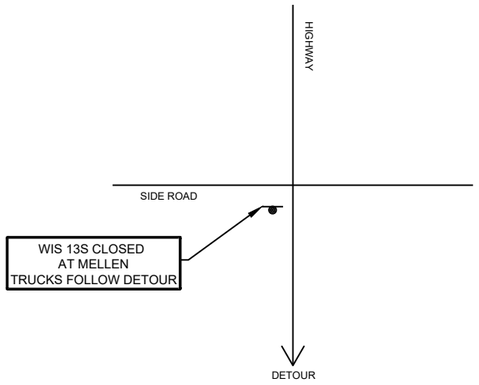
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL D3	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - DET-4

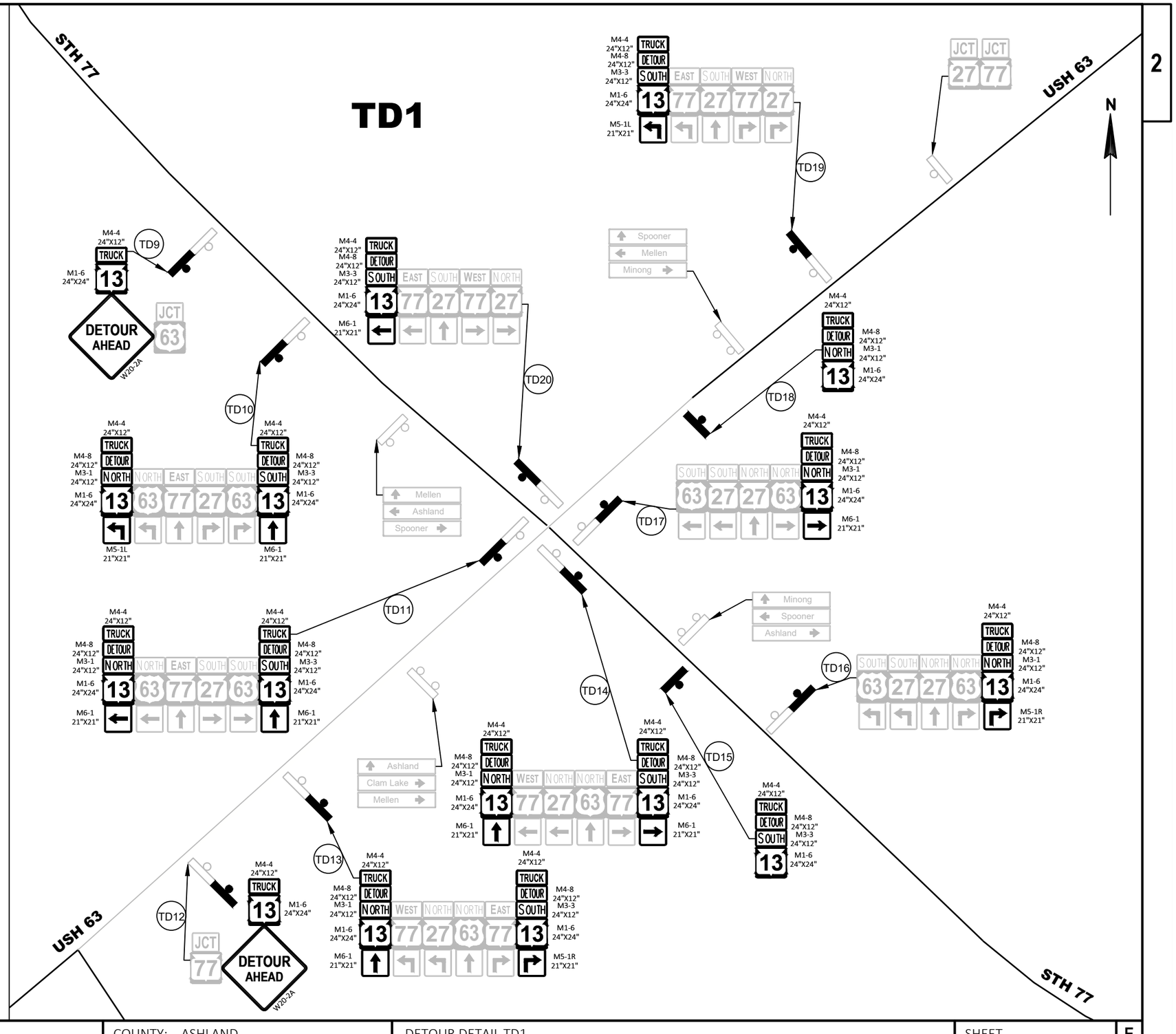
PLOT DATE : 10/10/2018 10:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1" = 500'

TRUCK DETOUR NOTICES TO BE PLACED AT THE FOLLOWING LOCATIONS:

- **26TH AVE E (ON USH 2 WB IN ASHLAND)**
- **CTH G (ON USH 2 EB IN INO)**



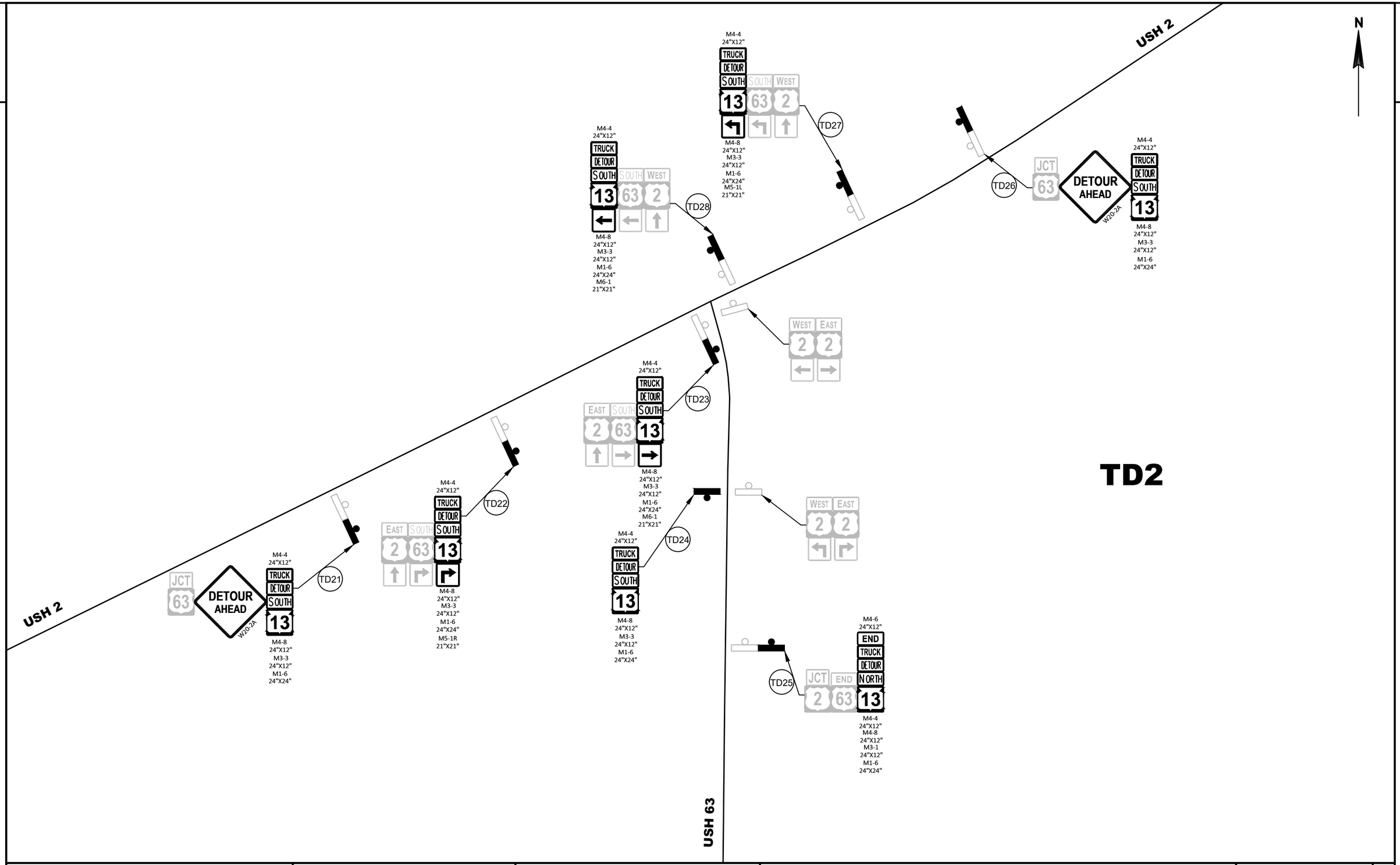
TD1



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD1	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - TD-1

PLOT DATE : 10/10/2018 10:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

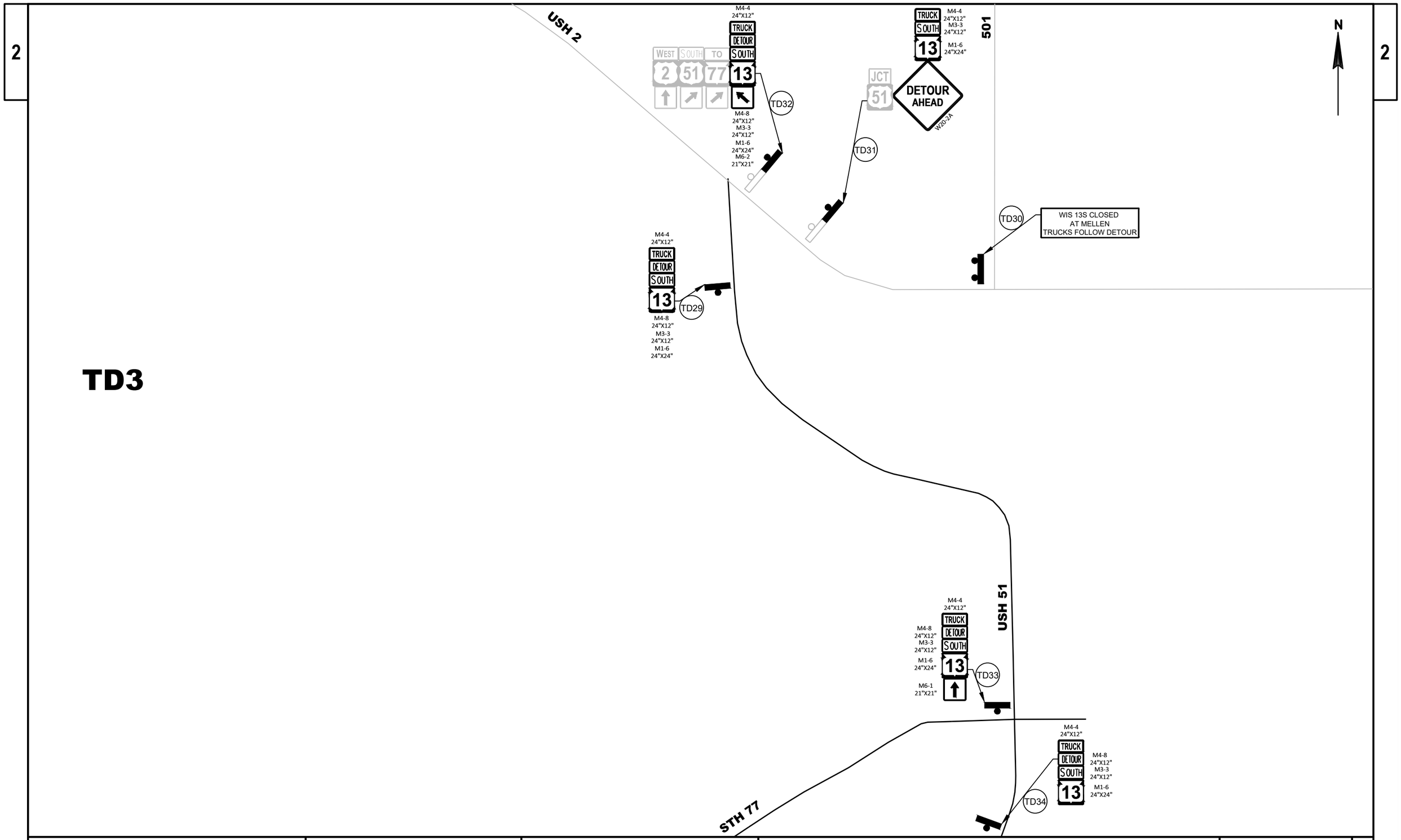


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD2	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - TD-2

PLOT DATE : 10/10/2018 10:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

TD3



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD3	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - TD-3

PLOT DATE : 10/10/2018 10:27 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

2

2

TD4

N

USH 51

JCT JCT
47 182

NORTH SOUTH
51 51

SOUTH WEST NORTH
47 182 51

SOUTH WEST NORTH
47 182 51

JCT JCT
47 182

M4-4
24"X12"
TRUCK
DETOUR
SOUTH

TD35

SOUTH SOUTH WEST
51 47 182
13

M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"
M5-1R
21"X21"

M4-4
24"X12"
TRUCK
DETOUR
SOUTH

TD36

SOUTH SOUTH WEST
51 47 182
13

M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"
M6-1
21"X21"

M4-4
24"X12"
TRUCK
DETOUR
SOUTH

TD37

13

M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"

JCT END END
51 47 182

STH 47

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD4	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - TD-4

PLOT DATE : 10/10/2018 10:27 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

TD5

STH 47

STH 182

TD38

M4-4
24"X12"

TRUCK
DETOUR
SOUTH
13

SOUTH WEST
47 182

M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"
M5-1R
21"X21"

NORTH EAST SOUTH
47 182 47

WEST NORTH EAST
182 47 182

JCT
182

TD39

M4-4
24"X12"
M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"
M6-1
21"X21"

TD40

M4-4
24"X12"
M4-8
24"X12"
M3-3
24"X12"
M1-6
24"X24"

JCT
47

N

2

2

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD5	SHEET	E

2

2

TD6

STH 13

STH 182

N

END
TRUCK
DETOUR
SOUTH

M4-6 24"X12"
M4-4 24"X12"
M4-8 24"X12"
M3-3 24"X12"
M1-6 24"X24"

JCT END
13 182 13

EAST SOUTH
182 13

SOUTH NORTH
13 13

TD42

TD41

NORTH
13 182

WIS 13S CLOSED
AT MELLEN
TRUCKS FOLLOW DETOUR

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	DETOUR DETAIL TD6	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_DETOUR.DWG
LAYOUT NAME - TD-6

PLOT DATE : 10/10/2018 10:27 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

CLEARING & GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA		GRUBBING 201.0205 STA		REMARKS
PROJECT 1610-08-74									
0010	409+00	-	414+00	L & R	5		5		GRADING
0010	420+00	-	423+00	L	3		3		INTERSECTION SIGHT DISTANCE
0010	432+00	-	433+00	L & R	1		1		GRADING
0010	437+50	-	443+00	L & R	6		6		GRADING
0010	477+50	-	478+50	R	1		1		GRADING
0010	630+00	-	631+50	R	2		2		INTERSECTION SIGHT DISTANCE
				TOTAL 0010	17	*	17	*	1610-08-74
PROJECT 1610-08-76									
0010	806+00	-	807+00	L & R	1		1		GRADING
0010	814+00	-	825+00	L	11		11		GRADING
0010	859+50	-	872+00	L & R	13		13		GRADING
0010	884+50	-	888+00	L & R	4		4		GRADING
0010	895+50	-	901+00	L & R	6		6		GRADING
0010	917+50	-	924+50	L & R	7		7		GRADING
				TOTAL 0010	41	*	41	*	1610-08-76

* FULL EXTENTS OF CLEARING AND GRUBBING TO BE DETERMINED BY ENGINEER IN THE FIELD

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	EXISTING CULVERT INFO
PROJECT 1610-08-74				
0010	392+27	STH 13 - SPILLERBERG CREEK	1	60"X108' RCCP
0010	411+53	STH 13	1	24"X88' RCCP
0010	420+11	STH 13	1	24"X68' RCCP
0010	439+75	STH 13	1	30"X112' RCCP
0010	453+57	SCHOCH RD - LT	1	60'; UNKOWN
0010	456+25	STH 13	1	30"X96' RCCP
0010	460+10	STH 13	1	30"X100' RCCP
0010	472+36	STH 13	1	30"X108' RCCP
0010	478+32	STH 13	1	30"X100' RCCP
0010	499+65	STH 13	1	24"X76' RCCP
0010	507+63	STH 13	1	24"X64' RCCP
0010	519+34	MORSE RD - RT	1	67'; UNKNOWN
0010	528+05	STH 13	2	2-60"X93' RCCP
0010	556+96	STH 13	1	24"X80' RCCP
0010	564+58	STH 13	1	24"X72' RCCP
0010	589+02	STH 13	1	36"X112' CMP
0010	596+48	STH 13	1	24"X60' CMP
0010	606+60	STH 13	1	24"X70' RCCP
0010	615+48	STH 13	1	30"X68' RCCP
0010	621+72	STH 13	1	24"X72' RCCP
0010	627+48	E CAYUGA RD - RT	1	37'; UNKNOWN
0010	636+20	STH 13	2	24"X80' RCCP, 30"X100' RCCP
		TOTAL 0010	24	1610-08-74

REMOVING SMALL PIPE CULVERTS - CONTINUED

CATEGORY	STATION	LOCATION	203.0100 EACH	EXISTING CULVERT INFO
PROJECT 1610-08-76				
0010	670+74	STH 13	1	24"X68' RCCP
0010	676+30	STH 13	1	24"X82' RCCP
0010	681+32	STH 13	1	24"X70' RCCP
0010	694+73	STH 13	1	24"X94' RCCP
0010	707+03	PONSEGRAU RD	1	35'; UNKNOWN
0010	711+64	STH 13	1	36"X80' RCCP
0010	718+30	STH 13	2	48"X85' RCCP, 57"X85' CMCP
0010	720+25	CONLEY RD	1	51'; UNKNOWN
0010	732+70	STH 13	1	24"X71' RCCP
0010	756+10	STH 13	1	24" RCCP
0010	765+94	STH 13	2	48"X75' RCCP, 48"X75' CMCP
0010	770+78	STH 13	1	36"X76' RCCP
0010	773+68	LAKE DRIVE	1	46'; UNKNOWN
0010	776+00	STH 13	1	60" RCCP
0010	785+91	STH 13	1	24"X85' RCCP
0010	794+10	STH 13	1	24" RCCP
0010	798+90	STH 13	1	24"X75' RCCP
0010	806+25	STH 13	1	36"X127' RCCP
0010	823+68	STH 13	1	30"X176' RCCP
0010	828+55	FOLEY RD	1	40'; UNKNOWN
0010	829+00	TAFELSKI RD	1	36'; UNKNOWN
0010	831+87	STH 13	1	24"X78' RCCP
0010	835+45	STH 13	1	30"X71' RCCP
0010	845+90	STH 13	1	30"X71' RCCP
0010	858+41	STH 13	1	30" RCCP
0010	861+16	STH 13	1	36"X125' RCCP
0010	866+00	STH 13	1	24"X75' RCCP
0010	870+20	STH 13	1	60" RCCP
0010	885+78	STH 13	1	36"X122' RCCP
0010	893+81	PINECREST LN	1	40'; UNKNOWN
0010	899+81	STH 13	1	30"X159' RCCP
0010	909+22	BERKSHIRE DR	1	39'; UNKNOWN
0010	921+37	STH 13	1	36"X83' RCCP
		TOTAL 0010	35	1610-08-76

ABANDONING CULVERT PIPES

CATEGORY	STATION	LOCATION	204.0270 EACH	REMARKS
PROJECT 1610-08-76				
0010	814+94	STH 13	1	30" RCCP
		TOTAL 0010	1	

REMOVING PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 SY
PROJECT 1610-08-74					
0010	391+82	-	392+72	CULVERT REPLACEMENT	200
0010	411+68	-	412+12	CULVERT REPLACEMENT	98
0010	419+98	-	420+32	CULVERT REPLACEMENT	76
0010	439+27	-	440+21	CULVERT REPLACEMENT	209
0010	455+83	-	456+37	CULVERT REPLACEMENT	120
0010	459+71	-	460+49	CULVERT REPLACEMENT	173
0010	471+87	-	472+81	CULVERT REPLACEMENT	209
0010	477+86	-	478+70	CULVERT REPLACEMENT	187
0010	499+43	-	499+87	CULVERT REPLACEMENT	98
0010	507+39	-	507+85	CULVERT REPLACEMENT	102
0010	527+53	-	528+57	CULVERT REPLACEMENT	231
0010	556+62	-	557+30	CULVERT REPLACEMENT	151
0010	564+43	-	564+73	CULVERT REPLACEMENT	67
0010	588+68	-	589+32	CULVERT REPLACEMENT	142
0010	596+33	-	596+67	CULVERT REPLACEMENT	76
0010	606+45	-	606+75	CULVERT REPLACEMENT	67
0010	615+25	-	615+71	CULVERT REPLACEMENT	102
0010	621+58	-	621+88	CULVERT REPLACEMENT	67
0010	635+91	-	636+49	CULVERT REPLACEMENT	129
				TOTAL 0010	2502
PROJECT 1610-08-76					
0010	670+57	-	670+91	CULVERT REPLACEMENT	76
0010	676+03	-	676+57	CULVERT REPLACEMENT	120
0010	681+20	-	681+44	CULVERT REPLACEMENT	53
0010	694+46	-	695+00	CULVERT REPLACEMENT	120
0010	711+47	-	711+81	CULVERT REPLACEMENT	76
0010	717+98	-	718+62	CULVERT REPLACEMENT	142
0010	732+48	-	732+92	CULVERT REPLACEMENT	98
0010	765+49	-	766+03	CULVERT REPLACEMENT	120
0010	770+64	-	770+92	CULVERT REPLACEMENT	62
0010	785+65	-	786+17	CULVERT REPLACEMENT	116
0010	798+78	-	799+02	CULVERT REPLACEMENT	53
0010	805+82	-	806+68	CULVERT REPLACEMENT	191
0010	814+56	-	815+32	CULVERT REPLACEMENT	169
0010	823+11	-	824+25	CULVERT REPLACEMENT	253
0010	831+69	-	832+05	CULVERT REPLACEMENT	80
0010	835+27	-	835+63	CULVERT REPLACEMENT	80
0010	845+66	-	846+14	CULVERT REPLACEMENT	107
0010	860+76	-	861+56	CULVERT REPLACEMENT	178
0010	865+76	-	866+24	CULVERT REPLACEMENT	107
0010	885+46	-	886+10	CULVERT REPLACEMENT	142
0010	899+31	-	900+31	CULVERT REPLACEMENT	222
0010	921+20	-	921+54	CULVERT REPLACEMENT	76
				TOTAL 0010	2640

EARTHWORK SUMMARY TABLE

LOCATION	(1) 205.0100 EXCAVATION COMMON (CUT) CY	(2) 205.0100 EXCAVATION COMMON (EBS) CY	(3) REUSEABLE MATERIAL CY	(4) EXPANDED FILL CY	MARSH EXCAVATION CY	(5) 208.0100 BORROW [FILL] CY	(6) 209.2100 BACKFILL GRANULAR, GRADE 2 [MARSH FILL] CY
PROJECT 1610-08-74							
409+00 - 414+00	47	0	47	509	0	462	0
417+00 - 422+00	22	0	22	227	0	205	0
431+00 - 448+00	192	0	192	8202	0	8009	0
455+23 - 463+00	119	0	119	2896	216	2669	324
468+00 - 483+00	213	0	213	6706	0	6493	0
497+50 - 511+23	179	0	179	2732	0	2553	0
524+00 - 533+28	107	0	107	4183	0	4076	0
550+00 - 565+00	108	0	108	4022	859	3485	1288
611+00 - 617+00	138	0	138	861	0	723	0
632+00 - 641+50	55	0	55	1100	1922	84	2883
UNDISTRIBUTED	---	250	---	---	---	---	---
PROJECT 1610-08-74 TOTALS:	1180	250	1180	31438	2997	28760	4495
PROJECT 1610-08-76							
667+00 - 679+00	187	0	187	2545	0	2358	0
693+30 - 698+00	74	0	74	797	0	723	0
710+60 - 722+00	184	0	184	2680	0	2496	0
731+00 - 738+00	87	0	87	2114	0	2027	0
763+50 - 768+00	84	0	84	534	0	449	0
784+00 - 791+00	120	0	120	2503	717	2025	1075
798+07 - 799+82	36	0	36	189	0	153	0
804+00 - 808+10	29	0	29	3072	0	3043	0
811+83 - 826+30	16	0	16	4711	0	4695	0
830+50 - 837+00	129	0	129	998	0	869	0
845+20 - 853+00	161	0	161	1961	0	1800	0
859+50 - 872+00	104	0	104	4623	0	4520	0
884+00 - 890+00	51	0	51	1352	0	1301	0
895+50 - 902+00	129	0	129	3706	0	3576	0
917+50 - 924+22	101	0	101	1491	0	1390	0
UNDISTRIBUTED	---	250	---	---	---	---	---
PROJECT 1610-08-76 TOTALS:	1493	250	1493	33276	717	31425	1075

(1) EXCAVATION COMMON (CUT) FROM C3D SURFACES (INCLUDES EXISTING PAVEMENT IF WITHIN CUT LIMIT)
(2) EXCAVATION COMMON (EBS) TO BE BACKFILLED WITH BACKFILL GRANULAR, GRADE 2. EBS ASSUME TO BE AT CULVERT REPLACEMENT AREAS.
(3) REUSEABLE MATERIAL = USEABLE EXCAVATION COMMON (CUT) + USEABLE EXCAVATION COMMON (EBS)
(4) EXPANDED FILL = REQUIRED FILL MATERIAL = FILL + EBS FILL (EXPANSION FACTOR = 1.18)
(5) BORROW [FILL] = REQUIRED EMBANKMENT MATERIAL (=EXPANDED FILL - REUSEABLE MATERIAL-(MARSH EX.*0.50)).
(6) BACKFILL GRANULAR, GRADE 2 = MATERIAL REQUIRED TO FILL MARSH EXCAVATION AREAS (EXPANSION FACTOR = 1.50).

3

BACKFILL CONTROLLED LOW STRENGTH

CATEGORY	STATION	LOCATION	209.0200.S CY	REMARKS
0010	814+94	STH 13	25.00	30"X133' RCCP
		TOTAL 0010	25	

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 TON
PROJECT 1610-08-74					
0010				UNDSITRIBUTED	100
				TOTAL 0010	100
PROJECT 1610-08-76					
0010				UNDISTRIBUTED	100
				TOTAL 0010	100

TACK COAT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 GAL
PROJECT 1610-08-74					
				CULVERT REPLACEMENT LOCATIONS	
0010	391+82	-	392+72	CULVERT PATCH	41
0010	411+68	-	412+12	CULVERT PATCH	20
0010	419+98	-	420+32	CULVERT PATCH	15
0010	439+27	-	440+21	CULVERT PATCH	43
0010	455+83	-	456+37	CULVERT PATCH	24
0010	459+71	-	460+49	CULVERT PATCH	35
0010	471+87	-	472+81	CULVERT PATCH	43
0010	477+86	-	478+70	CULVERT PATCH	38
0010	499+43	-	499+87	CULVERT PATCH	20
0010	507+39	-	507+85	CULVERT PATCH	21
0010	527+53	-	528+57	CULVERT PATCH	47
0010	556+62	-	557+30	CULVERT PATCH	31
0010	564+43	-	564+73	CULVERT PATCH	14
0010	588+68	-	589+32	CULVERT PATCH	29
0010	596+33	-	596+67	CULVERT PATCH	15
0010	606+45	-	606+75	CULVERT PATCH	14
0010	615+25	-	615+71	CULVERT PATCH	21
0010	621+58	-	621+88	CULVERT PATCH	14
0010	635+91	-	636+49	CULVERT PATCH	26
				TOTAL 0010	510
PROJECT 1610-08-76					
				CULVERT REPLACEMENT LOCATIONS	
0010	670+57	-	670+91	CULVERT PATCH	15
0010	676+03	-	676+57	CULVERT PATCH	25
0010	681+20	-	681+44	CULVERT PATCH	12
0010	694+46	-	695+00	CULVERT PATCH	27
0010	711+47	-	711+81	CULVERT PATCH	17
0010	717+98	-	718+62	CULVERT PATCH	33
0010	732+48	-	732+92	CULVERT PATCH	23
0010	756+02	-	756+18	CULVERT PATCH	9
0010	765+49	-	766+03	CULVERT PATCH	30
0010	770+64	-	770+92	CULVERT PATCH	16
0010	785+65	-	786+17	CULVERT PATCH	31
0010	793+98	-	794+22	CULVERT PATCH	14
0010	798+78	-	799+02	CULVERT PATCH	15
0010	805+82	-	806+68	CULVERT PATCH	54
0010	814+56	-	815+32	CULVERT PATCH	49
0010	823+11	-	824+25	CULVERT PATCH	74
0010	831+69	-	832+05	CULVERT PATCH	24
0010	835+27	-	835+63	CULVERT PATCH	24
0010	845+66	-	846+14	CULVERT PATCH	33
0010	858+14	-	858+68	CULVERT PATCH	38
0010	860+76	-	861+56	CULVERT PATCH	58
0010	865+76	-	866+24	CULVERT PATCH	35
0010	885+46	-	886+10	CULVERT PATCH	48
0010	899+31	-	900+31	CULVERT PATCH	76
0010	921+20	-	921+54	CULVERT PATCH	26
				TOTAL 0010	807

ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	465.0105 TON
PROJECT 1610-08-74					
0010	391+82	-	392+72	CULVERT PATCH	95
0010	411+68	-	412+12	CULVERT PATCH	47
0010	419+98	-	420+32	CULVERT PATCH	36
0010	439+27	-	440+21	CULVERT PATCH	99
0010	455+83	-	456+37	CULVERT PATCH	57
0010	459+71	-	460+49	CULVERT PATCH	83
0010	471+87	-	472+81	CULVERT PATCH	99
0010	477+86	-	478+70	CULVERT PATCH	89
0010	499+43	-	499+87	CULVERT PATCH	47
0010	507+39	-	507+85	CULVERT PATCH	49
0010	527+53	-	528+57	CULVERT PATCH	110
0010	556+62	-	557+30	CULVERT PATCH	72
0010	564+43	-	564+73	CULVERT PATCH	32
0010	588+68	-	589+32	CULVERT PATCH	68
0010	596+33	-	596+67	CULVERT PATCH	36
0010	606+45	-	606+75	CULVERT PATCH	32
0010	615+25	-	615+71	CULVERT PATCH	49
0010	621+58	-	621+88	CULVERT PATCH	32
0010	635+91	-	636+49	CULVERT PATCH	61
				TOTAL 0010	1191
PROJECT 1610-08-76					
0010	670+57	-	670+91	CULVERT PATCH	36
0010	676+03	-	676+57	CULVERT PATCH	59
0010	681+20	-	681+44	CULVERT PATCH	27
0010	694+46	-	695+00	CULVERT PATCH	62
0010	711+47	-	711+81	CULVERT PATCH	40
0010	717+98	-	718+62	CULVERT PATCH	78
0010	732+48	-	732+92	CULVERT PATCH	55
0010	756+02	-	756+18	CULVERT PATCH	20
0010	765+49	-	766+03	CULVERT PATCH	71
0010	770+64	-	770+92	CULVERT PATCH	37
0010	785+65	-	786+17	CULVERT PATCH	71
0010	793+98	-	794+22	CULVERT PATCH	34
0010	798+78	-	799+02	CULVERT PATCH	34
0010	805+82	-	806+68	CULVERT PATCH	126
0010	814+56	-	815+32	CULVERT PATCH	113
0010	823+11	-	824+25	CULVERT PATCH	174
0010	831+69	-	832+05	CULVERT PATCH	56
0010	835+27	-	835+63	CULVERT PATCH	57
0010	845+66	-	846+14	CULVERT PATCH	78
0010	858+14	-	858+68	CULVERT PATCH	89
0010	860+76	-	861+56	CULVERT PATCH	134
0010	865+76	-	866+24	CULVERT PATCH	82
0010	885+46	-	886+10	CULVERT PATCH	112
0010	899+31	-	900+31	CULVERT PATCH	177
0010	921+20	-	921+54	CULVERT PATCH	61
				TOTAL 0010	1884

BASE AGGREGATE DENSE 1 1/4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	305.0120 TON	REMARKS
PROJECT 1610-08-74						
	MAINLINE SHOULDERS					
0010	409+00	-	414+00	STH 13 SHOULDERS	170	
0010	417+00	-	422+00	STH 13 SHOULDERS	85	LT ONLY
0010	431+00	-	438+54	STH 13 SHOULDERS	256	
0010	438+54	-	446+01	STH 13 SHOULDERS	363	BEAM GUARD LT
0010	446+01	-	448+00	STH 13 SHOULDERS	68	
0010	455+23	-	463+00	STH 13 SHOULDERS	264	
0010	468+00	-	470+51	STH 13 SHOULDERS	85	
0010	470+51	-	481+00	STH 13 SHOULDERS	510	BEAM GUARD LT
0010	481+00	-	483+00	STH 13 SHOULDERS	34	LT ONLY
0010	497+50	-	511+23	STH 13 SHOULDERS	466	
0010	524+00	-	533+28	STH 13 SHOULDERS	315	
0010	550+00	-	552+25	STH 13 SHOULDERS	38	RT ONLY
0010	552+25	-	560+00	STH 13 SHOULDERS	263	
0010	560+00	-	565+00	STH 13 SHOULDERS	85	LT ONLY
0010	611+00	-	617+00	STH 13 SHOULDERS	204	
0010	632+00	-	636+00	STH 13 SHOULDERS	68	RT ONLY
0010	636+00	-	638+00	STH 13 SHOULDERS	68	
0010	638+00	-	641+50	STH 13 SHOULDERS	59	LT ONLY
	CULVERT REPLACEMENT LOCATIONS					
0010	391+82	-	392+72	CROSS PIPE	204	
0010	411+68	-	412+12	CROSS PIPE	100	
0010	419+98	-	420+32	CROSS PIPE	77	
0010	439+27	-	440+21	CROSS PIPE	213	
0010	455+83	-	456+37	CROSS PIPE	122	
0010	459+71	-	460+49	CROSS PIPE	177	
0010	471+87	-	472+81	CROSS PIPE	213	
0010	477+86	-	478+70	CROSS PIPE	190	
0010	499+43	-	499+87	CROSS PIPE	100	
0010	507+39	-	507+85	CROSS PIPE	104	
0010	527+53	-	528+57	CROSS PIPE	235	
0010	556+62	-	557+30	CROSS PIPE	154	
0010	564+43	-	564+73	CROSS PIPE	68	
0010	588+68	-	589+32	CROSS PIPE	145	
0010	596+33	-	596+67	CROSS PIPE	77	
0010	606+45	-	606+75	CROSS PIPE	68	
0010	615+25	-	615+71	CROSS PIPE	104	
0010	621+58	-	621+88	CROSS PIPE	68	
0010	635+91	-	636+49	CROSS PIPE	131	
				TOTAL 0010	5947	1610-08-74

BASE AGGREGATE DENSE 1 1/4-INCH - CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	305.0120 TON	REMARKS
PROJECT 1610-08-76						
	MAINLINE SHOULDERS					
0010	667+00	-	679+00	STH 13 SHOULDERS	407	
0010	693+30	-	696+24	STH 13 SHOULDERS	100	
0010	696+24	-	698+00	STH 13 SHOULDERS	30	LT ONLY
0010	710+60	-	720+00	STH 13 SHOULDERS	319	
0010	720+00	-	722+00	STH 13 SHOULDERS	34	RT ONLY
0010	731+00	-	736+00	STH 13 SHOULDERS	170	
0010	736+00	-	738+00	STH 13 SHOULDERS	34	LT ONLY
0010	763+50	-	764+50	STH 13 SHOULDERS	17	LT ONLY
0010	764+50	-	768+00	STH 13 SHOULDERS	119	
0010	784+00	-	791+00	STH 13 SHOULDERS	237	
0010	798+07	-	799+82	STH 13 SHOULDERS	59	
0010	804+00	-	807+00	STH 13 SHOULDERS	146	BEAM GUARD LT
0010	807+00	-	808+10	STH 13 SHOULDERS	35	BEAM GUARD LT
0010	811+83	-	826+30	STH 13 SHOULDERS	458	BEAM GUARD LT
0010	830+50	-	837+00	STH 13 SHOULDERS	221	
0010	845+20	-	853+00	STH 13 SHOULDERS	265	
0010	859+50	-	872+00	STH 13 SHOULDERS	212	
0010	884+00	-	885+80	STH 13 SHOULDERS	31	LT ONLY
0010	885+80	-	888+10	STH 13 SHOULDERS	78	
0010	888+10	-	890+00	STH 13 SHOULDERS	32	LT ONLY
0010	895+50	-	902+00	STH 13 SHOULDERS	221	
0010	917+50	-	924+22	STH 13 SHOULDERS	228	
	CULVERT REPLACEMENT LOCATIONS					
0010	670+57	-	670+91	CROSS PIPE	77	
0010	676+03	-	676+57	CROSS PIPE	122	
0010	681+20	-	681+44	CROSS PIPE	54	
0010	694+46	-	695+00	CROSS PIPE	122	
0010	711+47	-	711+81	CROSS PIPE	77	
0010	717+98	-	718+62	CROSS PIPE	145	
0010	732+48	-	732+92	CROSS PIPE	100	
0010	756+02	-	756+18	CROSS PIPE	36	
0010	765+49	-	766+03	CROSS PIPE	122	
0010	770+64	-	770+92	CROSS PIPE	63	
0010	785+65	-	786+17	CROSS PIPE	118	
0010	793+98	-	794+22	CROSS PIPE	54	
0010	798+78	-	799+02	CROSS PIPE	54	
0010	805+82	-	806+68	CROSS PIPE	195	
0010	814+56	-	815+32	CROSS PIPE	172	
0010	823+11	-	824+25	CROSS PIPE	258	
0010	831+69	-	832+05	CROSS PIPE	81	
0010	835+27	-	835+63	CROSS PIPE	81	
0010	845+66	-	846+14	CROSS PIPE	109	
0010	858+14	-	858+68	CROSS PIPE	122	
0010	860+76	-	861+56	CROSS PIPE	181	
0010	865+76	-	866+24	CROSS PIPE	109	
0010	885+46	-	886+10	CROSS PIPE	145	
0010	899+31	-	900+31	CROSS PIPE	226	
0010	921+20	-	921+54	CROSS PIPE	77	
				TOTAL 0010	6352	1610-08-76

CULVERT REPLACMENT SUMMARY

CATEGORY	STATION	LOCATION	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH 522.0324 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH 522.0330 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH 522.0336 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 42-INCH 522.0342 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH 522.0348 LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 60-INCH 522.0360 LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH 522.1024 EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH 522.1030 EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH 522.1036 EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH 522.1042 EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH 522.1048 EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 60-INCH 522.1060 EACH	CONSTRUCTION STAKING PIPE CULVERTS 650.6000 EACH
PROJECT 1610-08-74															
0010	392+24	CROSS PIPE						110						2	1
0010	392+35	CROSS PIPE						109						2	1
0010	411+53	CROSS PIPE		83						2					1
0010	420+11	CROSS PIPE	77						2						1
0010	439+75	CROSS PIPE		121						2					1
0010	453+65	SCHOCH RD - LT													
0010	456+25	CROSS PIPE		88						2					1
0010	460+10	CROSS PIPE		110						2					1
0010	472+36	CROSS PIPE		113						2					1
0010	478+32	CROSS PIPE		111						2					1
0010	499+65	CROSS PIPE	75						2						1
0010	507+63	CROSS PIPE				68						2			1
0010	519+20	MORSE RD - RT													
0010	520+00	THOLE RD - LT													
0010	528+03	CROSS PIPE						101						2	1
0010	528+13	CROSS PIPE						102						2	1
0010	556+96	CROSS PIPE	97						2						1
0010	564+58	CROSS PIPE	78						2						1
0010	589+02	CROSS PIPE	114						2						1
0010	596+48	CROSS PIPE		64						2					1
0010	606+60	CROSS PIPE	59						2						1
0010	615+48	CROSS PIPE				68						2			1
0010	621+72	CROSS PIPE		64						2					1
0010	627+50	CAYUGA RD - RT													
0010	636+36	CROSS PIPE					67						2		1
0010	636+46	CROSS PIPE					72						2		1
		TOTAL 0010	500	754	0	136	139	422	12	16	0	4	4	8	22
PROJECT 1610-08-76															
0010	670+74	CROSSING CULVERT	79						2						1
0010	676+30	CROSSING CULVERT	92						2						1
0010	681+32	CROSSING CULVERT	74						2						1
0010	694+73	CROSSING CULVERT	103						2						1
0010	707+00	CONLEY RD - RT													
0010	711+64	CROSSING CULVERT			268						6				3
0010	718+30	CROSSING CULVERT						183						4	2
0010	720+20	)ERAL FOREST ROUTE 184 - LT													
0010	732+70	CROSSING CULVERT	88						2						1
0010	765+94	CROSSING CULVERT						164						4	2
0010	770+78	CROSSING CULVERT			89						2				1
0010	774+25	LAKE DRIVE - RT													
0010	785+91	CROSSING CULVERT	95						2						1
0010	798+90	CROSSING CULVERT	78						2						1
0010	806+25	CROSSING CULVERT		149						2					1
0010	823+68	CROSSING CULVERT		175						2					1
0010	828+50	FOLEY RD - LT													
0010	829+00	TAFELSKI RD - RT													
0010	831+87	CROSSING CULVERT	88						2						1
0010	835+45	CROSSING CULVERT		78						2					1
0010	845+90	CROSSING CULVERT					170						4		2
0010	861+16	CROSSING CULVERT			175						2				1
0010	866+00	CROSSING CULVERT	97						2						1
0010	870+48	CROSSING CULVERT	89						2						
0010	885+78	CROSSING CULVERT			129						2				1
0010	898+80	PINECREST LN - RT													
0010	899+91	CROSSING CULVERT		160						2					1
0010	909+22	BERKSHIRE DR - LT													
0010	921+37	CROSSING CULVERT			91						2				1
		TOTAL 0010	883	562	752	0	170	347	20	8	14	0	4	8	26

RIPRAP HEAVY

CATEGORY	STATION	LOCATION	606.0300 CY	REMARKS
PROJECT 1610-08-74				
0010	456+25	CULVERT END	10	30" RCCP
0010	499+65	CULVERT END	10	24" RCCP
0010	507+63	CULVERT END	10	42" RCCP
0010		UNDISTRIBUTED	40	
		TOTAL 0010	70	
PROJECT 1610-08-76				
0010	806+25	CULVERT END	10	30" RCCP
0010	823+68	CULVERT END	10	30" RCCP
0010	835+45	CULVERT END	10	30" RCCP
0010	861+16	CULVERT END	10	36" RCCP
0010	866+00	CULVERT END	10	24" RCCP
0010	899+81	CULVERT END	10	30" RCCP
0010	921+37	CULVERT END	10	36" RCCP
0010		UNDISTRIBUTED	40	
		TOTAL 0010	110	

MGS GUARDRAIL 3

CATEGORY	STATION	TO	STATION	LOCATION	614.2300 LF
PROJECT 1610-08-74					
0010	439+00	-	445+00	MAINLINE LEFT	600
0010	471+00	-	480+00	MAINLINE LEFT	900
				TOTAL 0010	1500

MGS GUARDRAIL 3 HS

CATEGORY	STATION	TO	STATION	LOCATION	614.2310 LF
PROJECT 1610-08-76					
0010	717+50	-	720+50	MAINLINE - RT	300
0010	804+00	-	807+50	MAINLINE - LT	300
0010	813+50	-	825+50	MAINLINE - LT	1200
				TOTAL 0010	1800

MGS GUARDRAIL TERMINAL EAT

CATEGORY	STATION	TO	STATION	LOCATION	614.2610 EACH
PROJECT 1610-08-74					
0010	438+50	-	439+00	MAINLINE LEFT	1
0010	445+50	-	446+00	MAINLINE LEFT	1
0010	470+50	-	471+00	MAINLINE LEFT	1
0010	479+50	-	480+00	MAINLINE LEFT	1
				TOTAL 0010	4
PROJECT 1610-08-76					
0010	717+00	-	717+50	MAINLINE RIGHT	1
0010	720+50	-	721+00	MAINLINE RIGHT	1
0010	804+00	-	804+50	MAINLINE LEFT	1
0010	807+50	-	808+00	MAINLINE LEFT	1
0010	813+00	-	813+50	MAINLINE LEFT	1
0010	825+50	-	826+00	MAINLINE LEFT	1
				TOTAL 0010	6

WATER

CATEGORY	LOCATION	624.0100 MGAL
PROJECT 1610-08-74		
0010	PROJECT	100
	TOTAL 0010	100
PROJECT 1610-08-76		
0010	PROJECT	100
	TOTAL 0010	100

3

LANDSCAPING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	EROSION MAT CLASS I TYPE A 628.2002 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB	SEEDING TEMPORARY 630.0200 LB
PROJECT 1610-08-74										
0010	391+53	-	393+05	CULVERT	1103	0	1103	0.69	29.8	
0010	409+00	-	414+00	GRADING / CULVERT	2088	2088	0	1.32	56.4	
0010	417+00	-	422+00	GRADING / CULVERT	859	859	0	0.54	23.2	
0010	431+00	-	448+00	GRADING / CULVERT	12404	1614	10791	7.81	334.9	
0010	455+20	-	463+00	GRADING / CULVERT	4863	0	4863	3.06	131.3	
0010	468+00	-	483+00	GRADING / CULVERT	9399	1612	7787	5.92	253.8	
0010	497+50	-	511+50	GRADING / CULVERT	6860	6860	0	4.32	185.2	
0010	523+75	-	533+50	GRADING / CULVERT	6022	1975	4048	3.79	162.6	
0010	550+00	-	565+00	GRADING / CULVERT	6133	1287	4846	3.86	165.6	
0010	588+75	-	589+28	CULVERT	423	423	0	0.27	11.4	
0010	596+33	-	596+63	CULVERT	94	94	0	0.06	2.5	
0010	611+00	-	617+00	GRADING / CULVERT	2665	2665	0	1.68	71.9	
0010	621+56	-	621+88	CULVERT	80	80	0	0.05	2.2	
0010	632+00	-	641+50	GRADING / CULVERT	2511	2511	0	1.58	67.8	
0010				UNDISTRIBUTED	5551	2207	3233	3.43	146.9	100
				TOTAL 0010	61056	24276	36670	38.00	1646.0	100
PROJECT 1610-08-76										
0010	667+00	-	679+00	GRADING / CULVERT	6115	4262	1853	3.85	165.1	
0010	681+15	-	681+48	CULVERT	108	108	0	0.07	2.9	
0010	693+30	-	696+24	GRADING / CULVERT	1679	104	1575	1.06	45.3	
0010	696+24	-	698+00	GRADING / CULVERT	371	281	90	0.23	10.0	
0010	710+60	-	720+00	GRADING / CULVERT	4218	2253	1965	2.66	113.9	
0010	720+00	-	722+00	GRADING / CULVERT	636	248	388	0.40	17.2	
0010	731+00	-	738+00	GRADING / CULVERT	3276	1254	2022	2.06	88.4	
0010	763+50	-	768+00	GRADING / CULVERT	1747	1197	550	1.10	47.2	
0010	770+82	-	771+30	CULVERT	166	166	0	0.10	4.5	
0010	784+00	-	791+00	GRADING / CULVERT	4148	596	3552	2.61	112.0	
0010	798+07	-	799+82	GRADING / CULVERT	813	813	0	0.51	22.0	
0010	804+00	-	808+10	GRADING / CULVERT	2870	164	2706	1.81	77.5	
0010	811+83	-	826+30	GRADING / CULVERT	7482	291	7191	4.71	202.0	
0010	830+50	-	837+00	GRADING / CULVERT	3139	3139	0	1.98	84.8	
0010	845+20	-	853+00	GRADING / CULVERT	4417	3505	912	2.78	119.3	
0010	859+50	-	872+00	GRADING / CULVERT	4813	595	4218	3.03	129.9	
0010	884+00	-	890+00	GRADING / CULVERT	2576	665	1911	1.62	69.5	
0010	895+50	-	902+00	GRADING / CULVERT	4814	918	3896	3.03	130.0	
0010	917+50	-	924+20	GRADING / CULVERT	3657	3657	0	2.30	98.8	
0010				UNDISTRIBUTED	5705	2422	3283	3.59	154.0	100
				TOTAL 0010	62750	26638	36112	40.00	1694.0	100

EROSION BALES

CATEGORY	LOCATION	628.1104 EACH
PROJECT 1610-08-74		
0010	UNDISTRIBUTED	50
	TOTAL 0010	50
PROJECT 1610-08-76		
0010	UNDISTRIBUTED	50
	TOTAL 0010	50

SILT FENCE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF
PROJECT 1610-08-74						
0010	391+45	-	393+15	L & R	322	322
0010	408+85	-	412+80	L & R	707	707
0010	418+70	-	420+60	L & R	249	249
0010	432+52	-	446+05	L & R	2499	2499
0010	454+65	-	463+15	L & R	978	978
0010	468+00	-	478+85	L & R	958	958
0010	498+65	-	511+10	L & R	1960	1960
0010	526+00	-	530+00	L & R	692	692
0010	553+00	-	558+40	L & R	561	561
0010	563+60	-	565+15	L & R	232	232
0010	596+33		596+65	L & R	72	72
0010	610+90	-	617+15	L & R	1139	1139
0010	621+50	-	622+50	L & R	100	100
0010	632+00	-	641+60	L & R	1207	1207
0010				UNDISTRIBUTED	584	584
				TOTAL 0010	12260	12260
PROJECT 1610-08-76						
0010	667+00	-	679+00	L & R	1716	1716
0010	681+01	-	681+61	L & R	146	146
0010	693+30	-	698+00	L & R	231	231
0010	710+60	-	722+00	L & R	1558	1558
0010	731+00	-	738+00	L & R	725	725
0010	763+50	-	768+00	L & R	585	585
0010	770+79	-	771+46	L & R	115	115
0010	784+00	-	791+00	L & R	646	646
0010	798+07	-	799+82	R	210	210
0010	804+00	-	808+10	L	100	100
0010	811+83	-	826+30	L	130	130
0010	830+50	-	837+00	L & R	897	897
0010	845+20	-	853+00	L & R	524	524
0010	884+00	-	890+00	L & R	290	290
0010	917+50	-	924+22	L & R	876	876
0010				UNDISTRIBUTED	437	437
				TOTAL 0010	9186	9186

MOBILIZATIONS EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1905 EACH
PROJECT 1610-08-74					
0010	390+00	-	646+50	PROJECT	10
				TOTAL 0010	10
PROJECT 1610-08-76					
0010	646+50	-	927+00	PROJECT	11
				TOTAL 0010	11

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1910 EACH
PROJECT 1610-08-74					
0010	390+00	-	646+50	PROJECT	5
				TOTAL 0010	5
PROJECT 1610-08-76					
0010	390+00	-	646+50	PROJECT	5
				TOTAL 0010	5

ROCK BAGS

CATEGORY	LOCATION	628.7570 EACH
PROJECT 1610-08-74		
0010	UNDISTRIBUTED	25
	TOTAL 0010	25
PROJECT 1610-08-76		
0010	UNDISTRIBUTED	25
	TOTAL 0010	25

MARKERS CULVERT END

CATEGORY	STATION	LOCATION	633.5200 EACH
PROJECT 1610-08-74			
0010	392+27	CULVERT	4
0010	411+53	CULVERT	2
0010	420+11	CULVERT	2
0010	439+75	CULVERT	2
0010	456+25	CULVERT	2
0010	460+10	CULVERT	2
0010	472+36	CULVERT	2
0010	478+32	CULVERT	2
0010	499+65	CULVERT	2
0010	507+63	CULVERT	2
0010	528+08	CULVERT	4
0010	556+96	CULVERT	2
0010	564+58	CULVERT	2
0010	589+02	CULVERT	2
0010	596+48	CULVERT	2
0010	606+60	CULVERT	2
0010	615+48	CULVERT	2
0010	621+72	CULVERT	2
0010	636+41	CULVERT	4
		TOTAL 0010	44
PROJECT 1610-08-76			
0010	670+74	CULVERT	2
0010	676+30	CULVERT	2
0010	681+32	CULVERT	2
0010	694+73	CULVERT	2
0010	711+64	CULVERT	6
0010	718+30	CULVERT	4
0010	732+70	CULVERT	2
0010	765+94	CULVERT	4
0010	770+78	CULVERT	2
0010	785+91	CULVERT	2
0010	798+90	CULVERT	2
0010	806+25	CULVERT	2
0010	814+94	CULVERT	2
0010	823+68	CULVERT	2
0010	831+87	CULVERT	2
0010	835+45	CULVERT	2
0010	845+90	CULVERT	4
0010	861+16	CULVERT	2
0010	866+00	CULVERT	2
0010	870+48	CULVERT	2
0010	885+78	CULVERT	2
0010	899+81	CULVERT	2
0010	921+37	CULVERT	2
		TOTAL 0010	56

SIGNING SUMMARY

CATEGORY	SIGN NUMBER	SIDE	STATION	SIGN CODE	DESCRIPTION	POSTS WOOD 4X4-INCH X 16-FT 634.0416 EACH	SIGNS TYPE II REFLECTIVE H 637.2210 SF	SIGNS TYPE II REFLECTIVE F 637.2230 SF	MOVING SIGNS TYPE II 638.2102 EACH	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	MOVING SMALL SIGN SUPPORTS 638.4000 EACH	REMARKS
PROJECT 1610-08-76													
0010	1	R	392+08	D1-2	SPILLERBERG CREEK	1	11.00			1	1		
0010	2	L	392+27	D1-2	SPILLERBERG CREEK	1	1.00			1	1		
0010	3	L	404+15	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	4	L	407+05	W11-3	DEER CROSSING					1	1		
0010	5	R	408+40	S3-1	SCHOOL BUS STOP AHEAD	1		9		1	1		
0010	6	L	408+52	J4-1	SOUTH, 13	1	6.00			1	1		
0010	7	L	415+00		SCHOCH RD				1			1	PUT BACK IN SAME LOCATION
0010	8	L	415+10	R1-1	STOP	1	5.25			1	1		
0010	9	R	416+00	R1-1	STOP	1	5.25			1	1		
0010	10	R	416+10		MORSE CUTOFF RD				1			1	PUT BACK IN SAME LOCATION
0010	11	R	419+20	D7-64	NAT'L FOREST PICNIC AREA	1	15.00			1	1		
0010	12	R	421+25	D1-1	MORSE RD	2	7.50			1	1		
0010	13	R	424+25	D1-1	MORSE	1	5.63			1	1		
0010	14	R	426+78	R1-1	STOP	1	5.25			1	1		AT MORSE RD
0010	15	R	426+80		MORSE RD				1			1	PUT BACK IN SAME LOCATION
0010	16	R	427+90	I55-56	ADOPT A HIGHWAY	1	7.50			1	1		ASHLAND COUNTY JAIL INMATE WORK PROGRAM
0010	17	L	430+50	D1-1	MORSE	1	5.63			1	1		
0010	18	L	432+60	S3-1	SCHOOL BUS STOP AHEAD	1		9		1	1		
0010	19	L	435+00	D1-1	MORSE RD	2	8.00			1	1		
0010	20	R	438+05	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	21	L	453+12		SCHOCH RD				1			1	PUT BACK IN SAME LOCATION
0010	22	L	453+20	R1-1	STOP	1	6.25			1	1		AT SCHOCH RD
0010	23	L	469+82	W14-3	NO PASSING ZONE	1	6.25			1	1		
0010	24	R	476+11	D1-1	LINDEN RD	2	7.50			1	2		
0010	25	L	482+70		LINDEN RD				1			1	PUT BACK IN SAME LOCATION
0010	26	L	482+75	R1-1	STOP	1	5.25			1	1		
0010	27	R	484+38	D7-66-L, DB5-69B	NAT'L FOREST PICNIC AREA, BOAT LANDING	2	18.00			1	1		
0010	28	L	485+90	D7-66-R, DB5-69B	NAT'L FOREST PICNIC AREA, BOAT LANDING	2	18.00			1	1		
0010	29	L	490+35	D1-1	LINDEN RD	2	7.50			1	1		
0010	30	R	493+57	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	31	R	512+40	D2-1	THOLE RD, MORSE RD	2	15.00			1	1		
0010	32	R	513+94	D1-1	MORSE	1	5.63			1	1		
0010	33	R	519+63	R1-1	STOP	1	6.25			1	1		AT MORSE RD
0010	34	L	519+42	D1-1	THOLE RD				1			1	PUT BACK IN SAME LOCATION
0010	35	L	519+43	R1-1	STOP	1	5.25			1	1		AT MORSE RD
0010	36	R	519+80	D1-1	MORSE RD				1			1	PUT BACK IN SAME LOCATION
0010	37	R	521+78	W11-3	DEER CROSSING					1	1		
0010	38	R	523+30	J4-2	NORTH, 13, EAST, 77	1	12.00			1	1		
0010	39	L	525+11	D1-1	MORSE	1	5.63			1	1		
0010	40	L	526+84	D2-1	MORSE RD, THOLE RD	2	15.00			1	2		
0010	41	L	528+68	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	42	L	543+75	D7-64	NAT'L FOREST PICNIC AREA 1 MILE	2	15.00			1	1		
0010	43	R	576+98	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	44	L	578+71	I55-56	ADOPT A HIGHWAY	1	7.50			1	1		ASHLAND COUNTY JAIL INMATE WORK PROGRAM
0010	45	R	479+72	W1-2L	LEFT CURVE	1	6.25			1	1		
0010	46	R	580+65	W5-52R	CHEVRON	1	3.00			1	1		
0010	47	L	580+65	W5-52L	CHEVRON	1	3.00			1	1		
0010	48	L	582+61	W5-62L	CHEVRON	1	3.00			1	1		
0010	49	R	582+61	WT-62R	CHEVRON	1	3.00			1	1		
0010	50	L	583+05	I3-1	BAD RIVER	1	1.88			1	1		
0010	51	L	585+75	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	52	R	608+25	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	53	L	610+87	W1-2R	CURVE RIGHT	1	6.25			1	1		
0010	54	L	619+53	W14-3	NO PASSING ZONE	1	6.00			1	1		
0010	55	R	623+36	D1-1	CAYUGA	1	6.25			1	1		
0010	56	L	626+94	W11-3	DEER CROSSING					1	1		
0010	57	L	632+86		CAYUGA RD				1			1	PUT BACK IN SAME LOCATION
0010	58	L	632+90	R1-1	STOP	1	5.25			1	1		
0010	59	R	632+86	R1-1	STOP	1	5.25			1	1		
0010	60	R	532+90		CAYUGA RD				1			1	PUT BACK IN SAME LOCATION
0010	61	R	632+31	W11-6	SNOWMOBILE CROSSING	1	6			1	1		
0010	62	L	632+96	D1-1	CAYUGA	1	6			1	1		
0010	63	L	635+57	R1-1	STOP	1	5			1	1		
0010	64	L	642+55	J4-2	SOUTH, 13, WEST, 77	1	12			1	1		
0010	65	R	644+55	W14-3	NO PASSING ZONE	1	6			1	1		
PROJECT 1610-08-74					TOTAL 0010	62	366	18	9	56	58	9	

SIGNING SUMMARY

CATEGORY	SIGN NUMBER	SIDE	STATION	SIGN CODE	DESCRIPTION	POSTS WOOD 4X4-INCH X 16-FT 634.0416 EACH	SIGNS TYPE II REFLECTIVE H 637.2210 SF	SIGNS TYPE II REFLECTIVE F 637.2230 SF	MOVING SIGNS TYPE II 638.2102 EACH	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	MOVING SMALL SIGN SUPPORTS 638.4000 EACH	REMARKS
PROJECT 1610-08-76													
0010	1	L	650+85	W14-3	NO PASSING ZONE	1		6		1	1		
0010	2	R	672+25	W14-3	NO PASSING ZONE	1		6		1	1		
0010	3	L	683+05	W14-3	NO PASSING ZONE	1		6		1	1		
0010	4	R	706+25	W14-3	NO PASSING ZONE	1		6		1	1		
0010	5	R	707+30	R1-1	STOP	1	5.25			1	1		
0010	6	R	707+30	D1-1	PONSEGRAU RD				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	7	R	713+00	J1-1	JCT FEDERAL FOREST ROUTE 184	1	6.50			1	1		
0010	8	L	719+75	D1-1	FEDERAL FOREST ROUTE 184				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	9	L	720+00	R1-1	STOP	1	5.25			1	1		
0010	10	R	720+20	J12-1	FEDERAL FOREST ROUTE 184, LEFT ARROW	1	7.50			1	1		
0010	11	L	720+65	J12-1	FEDERAL FOREST ROUTE 184, RIGHT ARROW	1	7.50			1	1		
0010	12	L	727+15	J1-1	JCT FEDERAL FOREST ROUTE 184	1	6.50			1	1		
0010	13	L	730+20	W14-3	NO PASSING ZONE	1		6		1	1		
0010	14	R	765+70	D1-1	W LAKE DR (RIGHT ARROW)	1	7.50			1	1		
0010	15	R	767+90	W14-3	NO PASSING ZONE	1		6		1	1		
0010	16	L	771+50	J4-2	SOUTH 13 WEST 77	1	12.00			1	1		
0010	17	L	773+35	W14-3	NO PASSING ZONE	1		6		1	1		
0010	18	R	774+10	R1-1	STOP	1	5.25			1	1		
0010	19	R	774+10	D1-1	LAKE DRIVE				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	20	R	776+00	J4-2	NORTH 13 EAST 77	1	12.00			1	1		
0010	21	L	781+15	D1-1	(LEFT ARROW) W LAKE DR	1	7.50			1	1		
0010	22	R	796+65	W7-1	HILL SYMBOL (7%)	1	6.25			1	1		
0010	23	R	808+00	R1-1	STOP	1	5.25			1	1		
0010	24	R	808+10	D1-1	FOLEY RD				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	25	L	828+10	D1-1	FOLEY RD				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	26	L	828+20	R1-1	STOP	1	5.25			1	1		
0010	27	R	829+35	R1-1	STOP	1	5.25			1	1		
0010	28	R	829+45	D1-1	TAFELSKI RD				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	29	R	832+75	I55-56	ADOPT A HIGHWAY	1	7.50			1	1		"MELLEN LIONS CLUB"
0010	30	R	834+35	W14-3	NO PASSING ZONE	1		6		1	1		
0010	31	L	841+60	W14-3	NO PASSING ZONE	1		5		1	1		
0010	32	R	865+85	W14-3	NO PASSING ZONE	1		6		1	1		
0010	33	L	873+30	W14-3	NO PASSING ZONE	1		6		1	1		
0010	34	R	884+90	W7-1	HILL SYMBOL (7%)	1	6.25			1	1		
0010	35	R	886+45	W2-2	SIDE ROAD (RIGHT ANGLE) SYMBOL	1	6.25			1	1		
0010	36	R	892+30	D7-62	ROAD TO NAT'L FOREST CAMPGOUND 1 MILE	1	17.50			1	1		
0010	37	R	894+10	R1-1	STOP	1	5.18			1	1		
0010	38	R	894+20	D1-1	PINECREST RD					1	1		REPLACE IN SAME LOCATION AFTER GRADING
0010	39	R	902+75	D1-1	MELLEN, POPULATION 731	1	9.00			1	1		
0010	40	R	902+75	W14-3	NO PASSING ZONE	1		6		1	1		
0010	41	L	908+85	D1-1	BERKSHIRE DR				1			1	REPLACE IN SAME LOCATION AFTER GRADING
0010	42	L	908+95	R1-1	STOP	1	5.25			1	1		
0010	43	L	913+05	W14-3	NO PASSING ZONE	1		6		1	1		
0010	44	R	913+20	W3-5	REDUCED SPEED LIMIT AHEAD 25	1		9		1	1		
0010	45	R	913+70	R7-1D	NO PARKING ANY TIME DOUBLE ARROW	1	3.00			1	1		
0010	46	R	914+20	D7-52	ROAD TO COPPER FALLS STATE PARK 1 MILE	2	18.00			1	2		
0010	47	R	917+50	R7-1D	NO PARKING ANY TIME DOUBLE ARROW	1	3.00			1	1		
0010	48	L	919+15	J4-2	SOUTH 13 WEST 77	1	12.00			1	1		
0010	49	L	921+00	D1-1	HAYWARD 59	2	7.50			1	2		EXISTING SIGN INCLUDES "GLIDDEN 16", WILL NOT BE REPL
0010	50	R	921+95	R7-1D	NO PARKING ANY TIME DOUBLE ARROW	1	3.00			1	1		
0010	51	L	921+95	R2-1	SPEED LIMIT 55	1	5.00			1	1		
0010	52	L	924+00	I55-56	ADOPT A HIGHWAY	1	7.50			1	1		"MELLEN LIONS CLUB"
0010	53	R	924+05	R2-1	SPEED LIMIT 25	1	5.00			1	1		
0010	54	R	926+10	W2-1	CROSS ROAD	1		6		1	1		
0010	55	R	927+20	S1-1	SCHOOL ZONE	1		7		1	1		
PROJECT 1610-08-76					TOTAL 0010	49	226	94	7	48	50	6	

FIELD OFFICE TYPE C

CATEGORY	LOCATION	642.5201 EACH
PROJECT 1610-08-74		
0010	PROJECT	0.45
	TOTAL 0010	0.45
PROJECT 1610-08-76		
0010	PROJECT	0.45
	TOTAL 0010	0.45

TEMPORARY PORTABLE RUMBLE STRIPS

CATEGORY	LOCATION	643.0310.S LS
PROJECT 1610-08-74		
0010	FLAGGING OPERATIONS	1
	TOTAL 0010	1
PROJECT 1610-08-76		
0010	FLAGGING OPERATIONS	1
	TOTAL 0010	1

3

TRAFFIC CONTROL SUMMARY

ALL TRAFFIC CONTROL ITEMS SHOWN IN THE TRAFFIC CONTROL SUMMARY TALBE ARE UNDER CONTRACT 1610-08-74. THE ONLY TRAFFIC CONTROL ITEM UNDER 1610-08-76 IS 643.5000, TRAFFIC CONTROL.

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
PROJECT 1610-08-74												
TRAFFIC CONTROL												
0010											0.45	PROJECT 1610-08-74
0010		SDD15C4	10	137	VARIES	ADVANCE WARNING			1370			TC, ADVANCE WARNING SIGNS 45 MPH OR GREATER
0010		CONST. DET	10	21	VARIES	CULVERT REPLACEMENT - DETOUR		294	210			TC AROUND CULVERT REPLACEMENT DURING DETOUR
0010		CONST. DET	4	200	VARIES	CULVERT REPLACEMENT	800		800			TEMP. SIGNING AND PERM. MARKING AT CULVERT PIPE REPLACEMENT
DETOUR SIGNING												ALL DETOUR SIGNING IS UNDER CONTRACT 1610-08-74
0010	D1	D1	1	21	M3-3	SOUTH			21			N OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M1-6	13			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	D2	D1	1	21	M4-8	DETOUR			21			N OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	D3	D1	1	21	M4-8	DETOUR			21			N OF GG/HILLCREST DR INT ON GG IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN LEFT			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

ALL TRAFFIC CONTROL ITEMS SHOWN IN THE TRAFFIC CONTROL SUMMARY TALBE ARE UNDER CONTRACT 1610-08-74. THE ONLY TRAFFIC CONTROL ITEM UNDER 1610-08-76 IS 643.5000, TRAFFIC CONTROL.

TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D4	D1	1	21	M4-8	DETOUR			21			S OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	D5	D1	1	21	M4-8	DETOUR			21			S OF GG/HILLCREST DR INT ON GG IN MELLEN
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	D6	D1	1	21	M4-8	DETOUR			21			S OF GG/HILLCREST DR INT ON GG IN MELLEN
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010	D7	D1	1	21	M4-8	DETOUR			21			S OF GG/HILLCREST DR INT ON GG IN MELLEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	D8	D1	1	21	M4-8	DETOUR			21			S OF 13/GG INT ON 13 IN MELLEN
0010		D1	1	21		COVER SIGNS (WEST 77 STRAIGHT)			21	3		S OF 13/GG INT ON 13 IN MELLEN
0010	D9	D1	1	21	R11-3	ROAD CLOSED TO THRU TRAFFIC	42		21			S OF 13/E 77 INT ON 13 IN MELLEN
0010	D10	D1	1	21	W20-2A	DETOUR AHEAD			21			S OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010	D11	D1	1	21	M4-8	DETOUR			21			S OF 13/E 77 INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D12	D1	1	21	M4-8	DETOUR			21			S OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN LEFT AHEAD			21			
0010	D13	D1	1	21	M4-8A	END DETOUR			21			E OF 13/E 77 INT ON 13 IN MELLEN
0010	D14	D1	1	21	W20-2A	DETOUR AHEAD			21			E OF 13/E 77 INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010	D15	D1	1	21	M4-8	DETOUR			21			E OF 13/E 77 INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010			1	21	A4-12	(RIGHT ARROW)			21			
0010			1	21	A4-12	(RIGHT ARROW)			21			
0010	D16	D1	1	21	M4-8	DETOUR			21			W OF 13/E 77 INT ON 13 IN MELLEN
0010			1	21	M6-1	TURN RIGHT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	D17	D1	1	21	M4-8	DETOUR			21			W OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	D18	D1	1	21	M4-8	DETOUR			21			E OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010			1	21	D1-1	(LEFT ARROW) GLIDDEN			21			
0010			1	21	D1-1	(LEFT ARROW) HAYWARD			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D19	D1	1	21	M4-8A	END DETOUR			21			N OF 13/GG INT ON 13 IN MELLEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010	D20	D2	1	21	M4-8	DETOUR			21			N OF CTH M/CTH GG ON CTH M IN CLAM LAKE
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	D21	D2	1	21	M4-8	DETOUR			21			N OF CTH M/CTH GG INT ON CTH M IN CLAM LAKE
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	D22	D2	1	21	M4-8A	END DETOUR			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010	D23	D2	1	21	M1-6	NORTH			21			SW OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M3-1	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	D24	D2	1	21	M4-8	DETOUR			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	D25	D2	1	21	M4-8	DETOUR			21			E OF CTH M/CTH GG INT ON CTH M IN CLAM LAKE
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-4	WEST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	D26	D2	1	21	M4-8	DETOUR			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	D27	D2	1	21	M4-8	DETOUR			21			E OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D28	D2	1 21	M4-8	DETOUR			21			E OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1 21	M3-1	NORTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	M5-1R	TURN RIGHT AHEAD			21			
0010			1 21	M4-8	DETOUR			21			
0010			1 21	M3-2	EAST			21			
0010			1 21	M1-6	77			21			
0010			1 21	M5-1R	TURN RIGHT AHEAD			21			
0010	D29	D2	1 21	M4-8	DETOUR			21			E OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1 21	M3-1	NORTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	M6-1	TURN RIGHT			21			
0010			1 21	M4-8	DETOUR			21			
0010			1 21	M3-2	EAST			21			
0010			1 21	M1-6	77			21			
0010			1 21	M6-1	TURN RIGHT			21			
0010	D30	D2	1 21	M4-8	DETOUR			21			N OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1 21	M3-3	SOUTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	M6-1	TURN LEFT			21			
0010			1 21	M4-8	DETOUR			21			
0010			1 21	M3-4	WEST			21			
0010			1 21	M1-6	77			21			
0010			1 21	M6-1	TURN RIGHT			21			
0010	D31	D2	1 21	D1-1	(LEFT ARROW) GLIDDEN			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1 21	D1-1	(RIGHT ARROW) HAYWARD			21			
0010	D32	D2	1 21	M4-8	DETOUR			21			E OF CTH M/CTH GG INT ON CTH M IN CLAM LAKE
0010			1 21	M3-1	NORTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	M6-1	TURN RIGHT			21			
0010			1 21	M4-8	DETOUR			21			
0010			1 21	M3-2	EAST			21			
0010			1 21	M1-6	77			21			
0010			1 21	M6-1	TURN RIGHT			21			
0010	D33	D2	1 21	M4-8	DETOUR			21			N OF CTH M/CTH GG INT ON CTH M IN CLAM LAKE
0010			1 21	M3-1	NORTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	M4-8	DETOUR			21			
0010			1 21	M3-2	EAST			21			
0010			1 21	M1-6	77			21			
0010	D34	D3	1 21	M3-2	EAST			21			N OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1 21	M1-6	77			21			
0010			1 21	M3-1	NORTH			21			
0010			1 21	M1-6	13			21			
0010			1 21	W20-2A	DETOUR AHEAD			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D35	D3	1	21	M4-8	DETOUR			21			N OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-2R	KEEP RIGHT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-2R	KEEP RIGHT AHEAD			21			
0010	D36	D3	1	21	M4-8	DETOUR			21			N OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-2	KEEP RIGHT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-2	KEEP RIGHT			21			
0010	D37	D3	1	21	M4-8	DETOUR			21			W OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010	D38	D3	1	21	M4-8	DETOUR			21			W OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	RURN RIGHT AHEAD			21			
0010	D39	D3	1	21		COVER SIGNS (MELLEN + ASHLAND)			21	2		W OF 13/W 77 INT ON 13 IN GLIDDEN
0010	D40	D3	1	21	M4-8	DETOUR			21			W OF 13/W 77 INT ON 13 IN GLIDDEN
0010		D3	1	21		COVER SIGNS (NORTH 13 LEFT + EAST 77 LEFT)			21	6		W OF 13/W 77 INT ON 13 IN GLIDDEN
0010	D41	D3	1	21	M4-8A	END DETOUR			21			S OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010	D42	D3	1	21	W20-2A	DETOUR AHEAD			21			S OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			

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CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	D43	D3	1	21	M3-4	WEST			21			S OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M1-6	77			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	D44	D3	1	21	A4-12	(LEFT ARROW)			21			S OF 13/W 77 INT ON 13 IN GLIDDEN
0010	D45	D3	1	21	M4-8	DETOUR			21			E OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	D46	D3	1	21	R11-4	ROAD CLOSED TO THRU TRAFFIC		42	21			N OF 13/W 77 INT ON 13 IN GLIDDEN
0010	D47	D3	1	21	R11-4	ROAD CLOSED TO THRU TRAFFIC		42	21			N OF 13/W 77 INT ON 13 IN GLIDDEN
0010												
0010	TD1	D2	1	21	M4-4	TRUCK			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010	TD2	D2	1	21	M4-4	TRUCK			21			W OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD3	D2	1	21	M4-4	TRUCK			21			S OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD4	D2	1	21	M4-4	TRUCK			21			E OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	TD5	D2	1	21	M4-4	TRUCK			21			E OF W 77/CTH M INT ON W 77 IN CLAM LAKE
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD6	D3	1	21	M4-4	TRUCK			21			W OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010	TD7	D3	1	21	M4-4	TRUCK			21			S OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	TD8	D3	1	21	M4-4	TRUCK			21			E OF 13/W 77 INT ON 13 IN GLIDDEN
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-2	EAST			21			
0010			1	21	M1-6	77			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	TD9	TD1	1	21	M4-4	TRUCK			21			NW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M1-6	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	TD10	TD1	1	21	M4-4	TRUCK			21			NW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD11	TD1	1	21	M4-4	TRUCK			21			NW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD12	TD1	1	21	M4-4	TRUCK			21			SW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M1-6	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	TD13	TD1	1	21	M4-4	TRUCK			21			SW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	TD14	TD1	1	21	M4-4	TRUCK			21			SW OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	TD15	TD1	1	21	M4-4	TRUCK			21			SE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	TD16	TD1	1	21	M4-4	TRUCK			21			SE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	TD17	TD1	1	21	M4-4	TRUCK			21			SE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	TD18	TD1	1	21	M4-4	TRUCK			21			SE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010	TD19	TD1	1	21	M4-4	TRUCK			21			NE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	TD20	TD1	1	21	M4-4	TRUCK			21			NE OF 63/W 77 INT ON 63 IN HAYWARD
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	TD21	TD2	1	21	M4-4	TRUCK			21			SW OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	TD22	TD2	1	21	M4-4	TRUCK			21			SW OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	TD23	TD2	1	21	M4-4	TRUCK			21			SW OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	TD24	TD2	1	21	M4-4	TRUCK			21			S OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	TD25	TD2	1	21	M4-6	END			21			S OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-1	NORTH			21			
0010			1	21	M1-6	13			21			
0010	TD26	TD2	1	21	M4-4	TRUCK			21			NE OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	TD27	TD2	1	21	M4-4	TRUCK			21			NE OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1L	TURN LEFT AHEAD			21			
0010	TD28	TD2	1	21	M4-4	TRUCK			21			NE OF 2/63 INT ON 2 IN MASON
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN LEFT			21			
0010	TD29	TD3	1	21	M4-4	TRUCK			21			S OF 2/51 INT ON 2 IN HURLEY
0010			1	21	M4-3	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010	TD30	TD3	1	21	SPECIAL	WIS 13S CLOSED AT MELLEN TRUCKS FOLLOW DETOUR			21			E OF 2/51 INT ON 2 IN IRON WOOD
0010	TD31	TD3	1	21	M4-4	TRUCK			21			E OF 2/51 INT ON 2 IN HURLEY
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	W20-2A	DETOUR AHEAD			21			
0010	TD32	TD3	1	21	M4-4	TRUCK			21			E OF 2/51 INT ON 2 IN HURLEY
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-2	KEEP RIGHT			21			
0010	TD33	TD3	1	21	M4-4	TRUCK			21			N OF 51/E 77 INT ON 51 IN HURLEY
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	STRAIGHT AHEAD			21			
0010	TD34	TD3	1	21	M4-4	TRUCK			21			S OF 51/E 77 INT ON 51 IN HURLEY
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	TD35	TD4	1	21	M4-4	TRUCK			21			W OF 51/47 INT ON 51 IN MERCER
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	TD36	TD4	1	21	M4-4	TRUCK			21			W OF 51/47 INT ON 51 IN MERCER
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	TD37	TD4	1	21	M4-4	TRUCK			21			S OF 51/47 INT ON 51 IN MERCER
0010			1	21	M4-3	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010	TD38	TD5	1	21	M4-4	TRUCK			21			W OF 47/182 INT ON 47 IN PARK FALLS
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M5-1R	TURN RIGHT AHEAD			21			
0010	TD39	TD5	1	21	M4-4	TRUCK			21			W OF 47/182 INT ON 47 IN PARK FALLS
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010			1	21	M6-1	TURN RIGHT			21			
0010	TD40	TD5	1	21	M4-4	TRUCK			21			S OF 47/182 INT ON 47 IN PARK FALLS
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			
0010	TD41	TD6	1	21	SPECIAL				21			S OF 13/182 INT ON 13 IN PARK FALLS
0010	TD42	TD6	1	21	M4-6	END			21			E OF 13/182 INT ON 13 IN PARK FALLS
0010			1	21	M4-4	TRUCK			21			
0010			1	21	M4-8	DETOUR			21			
0010			1	21	M3-3	SOUTH			21			
0010			1	21	M1-6	13			21			

TRAFFIC CONTROL SUMMARY CONTINUED ON NEXT PAGE

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TRAFFIC CONTROL SUMMARY - CONTINUED

CATEGORY	SIGN GROUP #	DETAIL	SIGN	DAYS	SIGN CODE	DESCRIPTION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL 643.5000 EACH	LOCATION / NOTES
0010	REASSURANC	D1	6	21	M4-8	DETOUR			126			VARIOUS LOCATIONS (CAR DETOUR)
0010			3	21	M3-1	NORTH			63			
0010			3	21	M3-3	SOUTH			63			
0010			6	21	M1-6	13			126			
0010	REASSURANC	D1	26	21	M4-4	TRUCK			546			VARIOUS LOCATIONS (TRUCK DETOUR)
0010			26	21	M4-8	DETOUR			546			
0010			13	21	M3-1	NORTH			273			
0010			13	21	M3-3	SOUTH			273			
0010			26	21	M1-6	13			546			
0010	TD NOTICE	TD1	2	21	SPECIAL	WIS 13S CLOSED AT MELLEN TRUCKS FOLLOW DETOUR			42			VARIOUS LOCATIONS
PROJECT 1610-08-74						TOTAL 0010	800	420	15295	11	0	
PROJECT 1610-08-76												
0010											0.45	PROJECT 1610-08-74
PROJECT 1610-08-76						TOTAL 0010	0	0	0	0	0.45	
PROJECT 1610-11-73												
0010											0.10	PROJECT 1610-11-73
PROJECT 1610-11-73						TOTAL 0010	0	0	0	0	0.10	

GEOTEXTILE TYPE HR

CATEGORY	STATION	LOCATION	645.0120 SY	REMARKS
PROJECT 1610-08-74				
0010	456+25	CULVERT END	20	30" RCCP
0010	499+65	CULVERT END	20	24" RCCP
0010	507+63	CULVERT END	20	42" RCCP
0010		UNDISTRIBUTED	20	
		TOTAL 0010	80	
1610-08-76				
0010	806+25	CULVERT END	20	30" RCCP
0010	823+68	CULVERT END	20	30" RCCP
0010	835+45	CULVERT END	20	30" RCCP
0010	861+16	CULVERT END	20	36" RCCP
0010	866+00	CULVERT END	20	24" RCCP
0010	899+81	CULVERT END	20	30" RCCP
0010	921+37	CULVERT END	20	36" RCCP
0010		UNDISTRIBUTED	20	
		TOTAL 0010	160	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1610-08-31)

CATEGORY	LOCATION	650.9910 LS
PROJECT 1610-08-74		
0010	PROJECT	1
	TOTAL 0010	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1610-08-76)

CATEGORY	LOCATION	650.9910 LS
PROJECT 1610-08-76		
0010	PROJECT	1
	TOTAL 0010	1

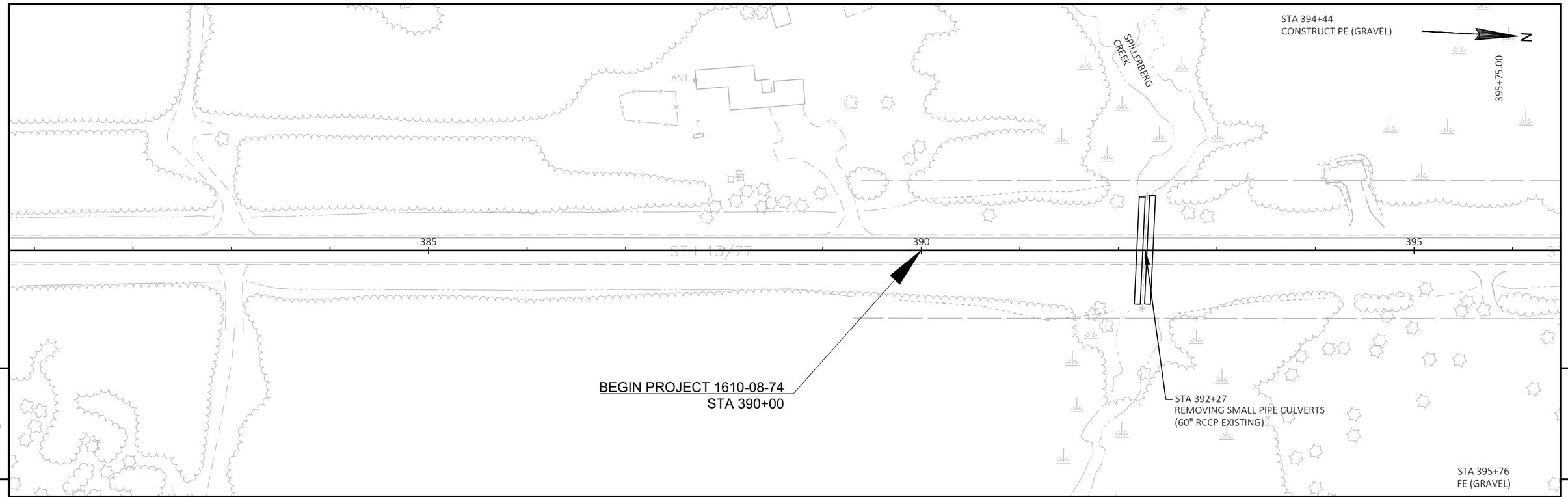
PAVEMENT MARKING PAINT 4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	646.0103 LF	WHITE EDGELINE	YELLOW CENTERLINE
PROJECT 1610-08-74							
0010	391+82	-	392+72	CULVERT PATCH	270	180	90
0010	411+68	-	412+12	CULVERT PATCH	132	88	44
0010	419+98	-	420+32	CULVERT PATCH	102	68	34
0010	439+27	-	440+21	CULVERT PATCH	282	188	94
0010	455+83	-	456+37	CULVERT PATCH	162	108	54
0010	459+71	-	460+49	CULVERT PATCH	234	156	78
0010	471+87	-	472+81	CULVERT PATCH	282	188	94
0010	477+86	-	478+70	CULVERT PATCH	252	168	84
0010	499+43	-	499+87	CULVERT PATCH	132	88	44
0010	507+39	-	507+85	CULVERT PATCH	138	92	46
0010	527+53	-	528+57	CULVERT PATCH	312	208	104
0010	556+62	-	557+30	CULVERT PATCH	204	136	68
0010	564+43	-	564+73	CULVERT PATCH	90	60	30
0010	588+68	-	589+32	CULVERT PATCH	192	128	64
0010	596+33	-	596+67	CULVERT PATCH	102	68	34
0010	606+45	-	606+75	CULVERT PATCH	90	60	30
0010	615+25	-	615+71	CULVERT PATCH	138	92	46
0010	621+58	-	621+88	CULVERT PATCH	90	60	30
0010	635+91	-	636+49	CULVERT PATCH	174	116	58
				TOTAL 0010	3378		
PROJECT 1610-08-76							
0010	670+57	-	670+91	CULVERT PATCH	102	68	34
0010	676+03	-	676+57	CULVERT PATCH	162	108	54
0010	681+20	-	681+44	CULVERT PATCH	72	48	24
0010	694+46	-	695+00	CULVERT PATCH	162	108	54
0010	711+47	-	711+81	CULVERT PATCH	102	68	34
0010	717+98	-	718+62	CULVERT PATCH	192	128	64
0010	732+48	-	732+92	CULVERT PATCH	132	88	44
0010	756+02	-	756+18	CULVERT PATCH	48	32	16
0010	765+49	-	766+03	CULVERT PATCH	162	108	54
0010	770+64	-	770+92	CULVERT PATCH	84	56	28
0010	785+65	-	786+17	CULVERT PATCH	156	104	52
0010	793+98	-	794+22	CULVERT PATCH	72	48	24
0010	798+78	-	799+02	CULVERT PATCH	72	48	24
0010	805+82	-	806+68	CULVERT PATCH	258	172	86
0010	814+56	-	815+32	CULVERT PATCH	228	152	76
0010	823+11	-	824+25	CULVERT PATCH	342	228	114
0010	831+69	-	832+05	CULVERT PATCH	108	72	36
0010	835+27	-	835+63	CULVERT PATCH	108	72	36
0010	845+66	-	846+14	CULVERT PATCH	144	96	48
0010	858+14	-	858+68	CULVERT PATCH	162	108	54
0010	860+76	-	861+56	CULVERT PATCH	240	160	80
0010	865+76	-	866+24	CULVERT PATCH	144	96	48
0010	885+46	-	886+10	CULVERT PATCH	192	128	64
0010	899+31	-	900+31	CULVERT PATCH	300	200	100
0010	921+20	-	921+54	CULVERT PATCH	102	68	34
				TOTAL 0010	3846		

CONSTRUCTION STAKING SLOPE STAKES

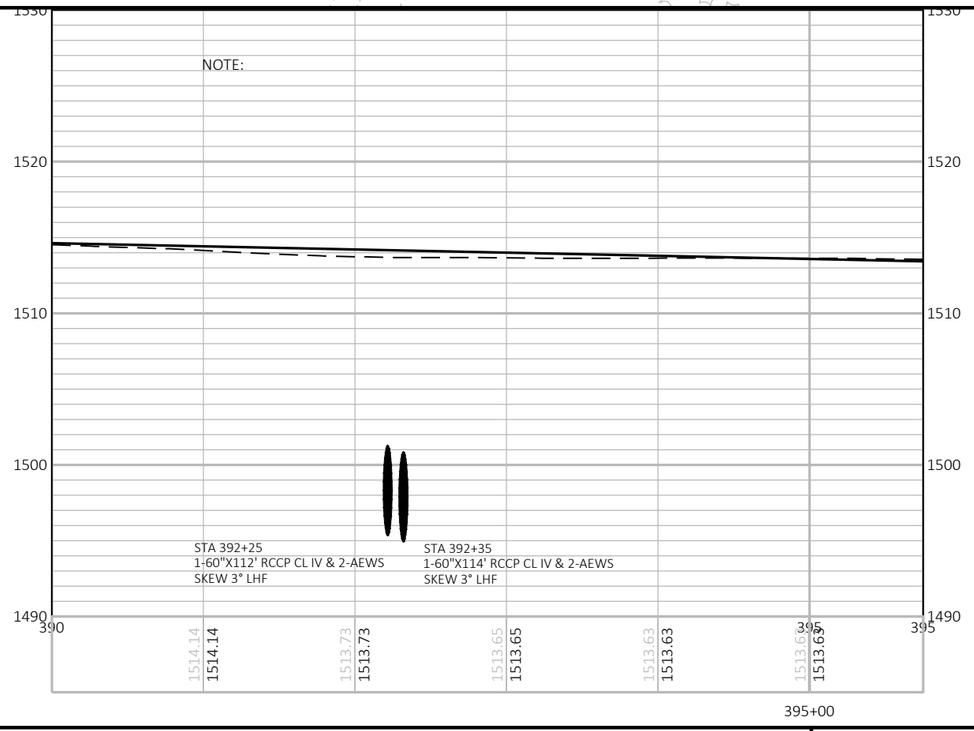
650.9920

CATEGORY	STATION	TO	STATION	LOCATION	LF
PROJECT 1610-08-74					
0010	409+00	-	414+00	STH 13	500
0010	417+00	-	422+00	STH 13	500
0010	431+00	-	448+00	STH 13	1700
0010	455+23	-	463+00	STH 13	777
0010	468+00	-	483+00	STH 13	1500
0010	497+50	-	511+23	STH 13	1373
0010	524+00	-	533+28	STH 13	928
0010	550+00	-	565+00	STH 13	1500
0010	611+00	-	617+00	STH 13	600
0010	632+00	-	641+50	STH 13	950
				TOTAL 0010	10328
PROJECT 1610-08-76					
0010	667+00	-	679+00	STH 13	1200
0010	693+30	-	698+00	STH 13	470
0010	710+60	-	722+00	STH 13	1140
0010	731+00	-	738+00	STH 13	700
0010	763+00	-	768+00	STH 13	500
0010	784+00	-	791+00	STH 13	700
0010	798+07	-	799+82	STH 13	175
0010	804+00	-	808+10	STH 13	410
0010	811+83	-	826+30	STH 13	1447
0010	830+50	-	837+00	STH 13	650
0010	845+20	-	853+00	STH 13	780
0010	859+50	-	872+00	STH 13	1250
0010	884+00	-	890+00	STH 13	600
0010	895+50	-	902+00	STH 13	650
0010	917+50	-	924+22	STH 13	672
				TOTAL 0010	11344

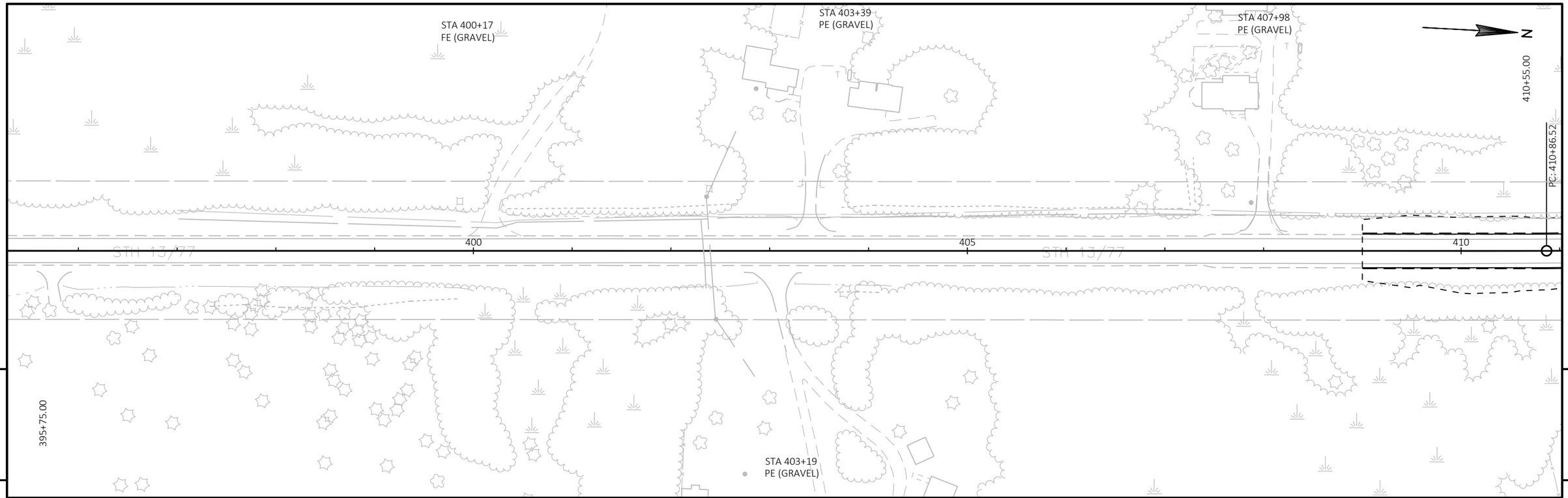


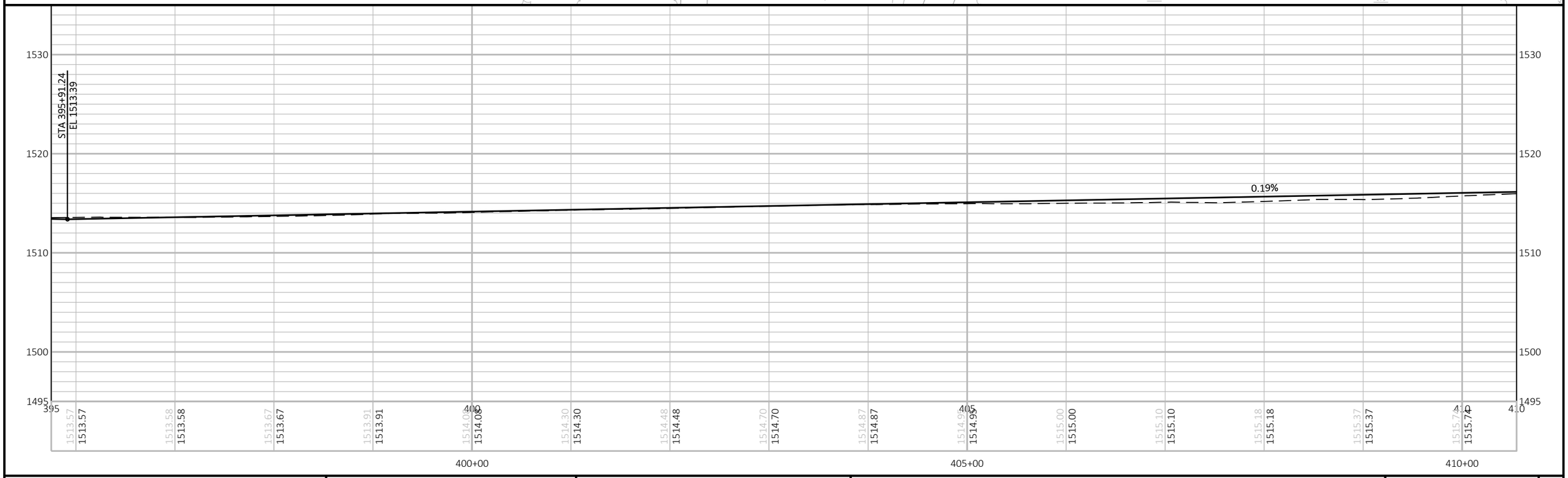
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-2

PLOT DATE : 9/25/2018 9:24 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

SCHOCH RD (PAVED)
STA 415+60

STA 423+53
PE (GRAVEL)

PC: 410+86.52

410

STH 13

SCHOCH RD

415

425

420

STA 411+53
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 420+11
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 421+13.09
Y = 181628.222
X = 565972.920
DELTA = 48°15'28"
D = 2°30'00"
T = 1026.57'
L = 1930.31'
R = 2291.83'
PC STA = 410+86.52
PT STA = 430+16.83

MORSE CUT OFF RD

MORSE CUT OFF ROAD (PAVED)
STA 415+50

MORSE CUT OFF ROAD

5

5

VPC STA 420+10.67
VPC EL 1517.96

VPI STA 424+03.90
VPI EL 1518.71

STA 411+53
1-30"X89' RCCP CL IV & 2-AEWS
SKEW 3° RHF

STA 420+11
1-24"X77' RCCP CL IV & 2-AEWS
SKEW 7° RHF

VCL = 786.45

K = 2165.67

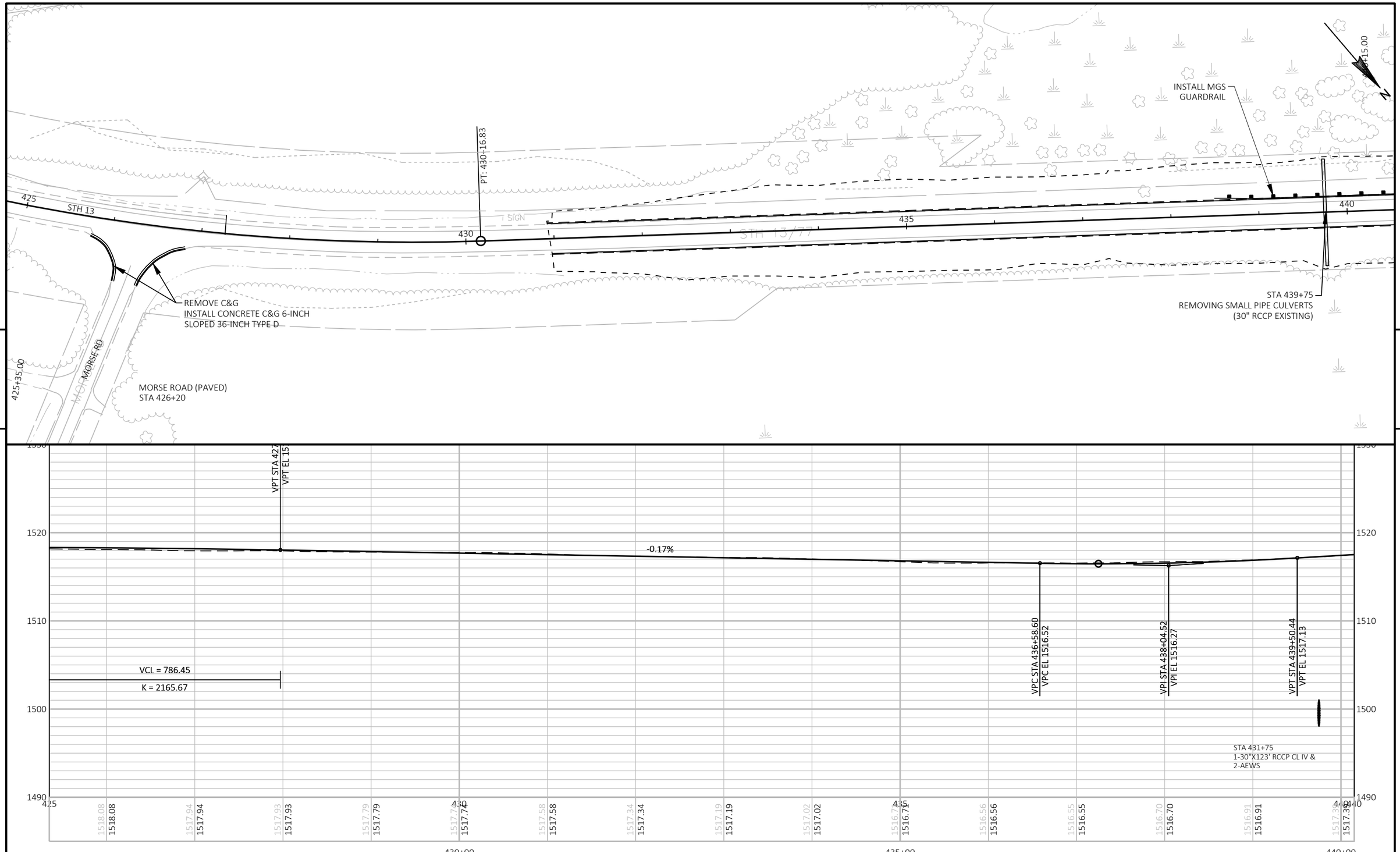
1530
1520
1510
1500
1495

410
415
420
425

1516.12 1516.12
1516.32 1516.32
1516.52 1516.52
1516.60 1516.60
1516.99 1516.99
1517.28 1517.28
1517.44 1517.44
1517.68 1517.68
1517.85 1517.85
1518.01 1518.01
1518.21 1518.21
1518.24 1518.24
1518.22 1518.22
1518.10 1518.10
1518.13 1518.13

415+00
420+00
425+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E



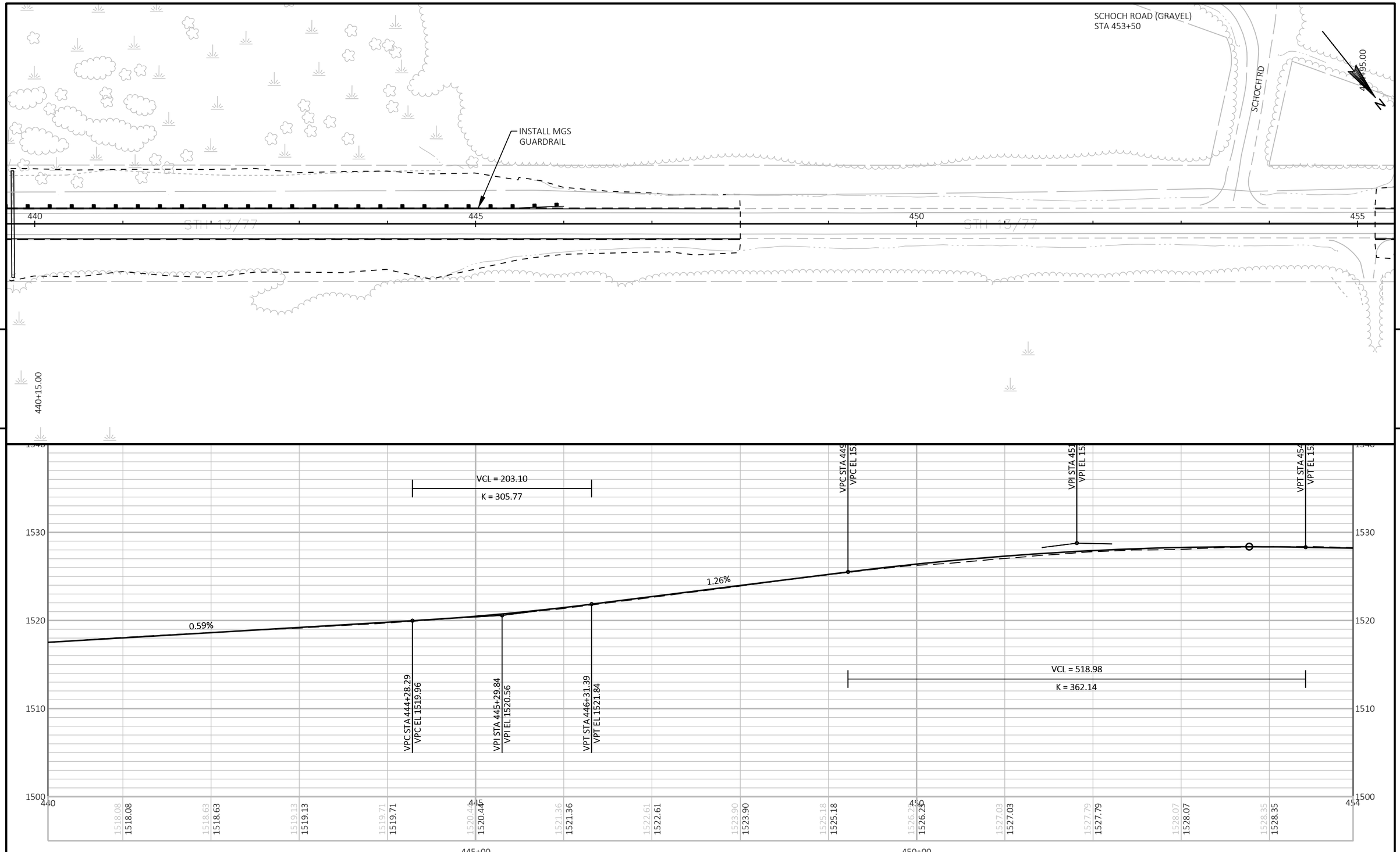
5

5

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-4

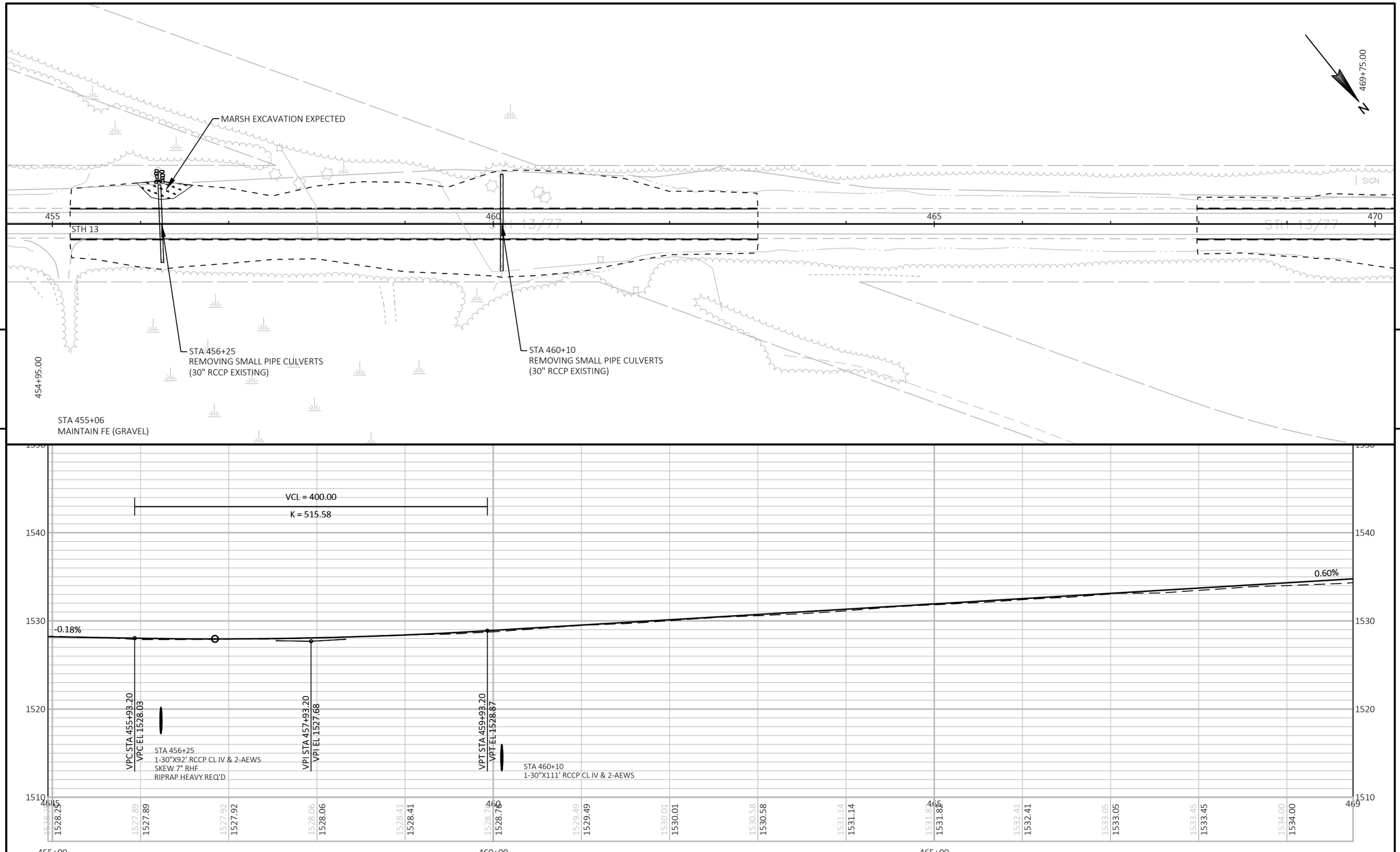
PLOT DATE : 9/25/2018 9:25 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

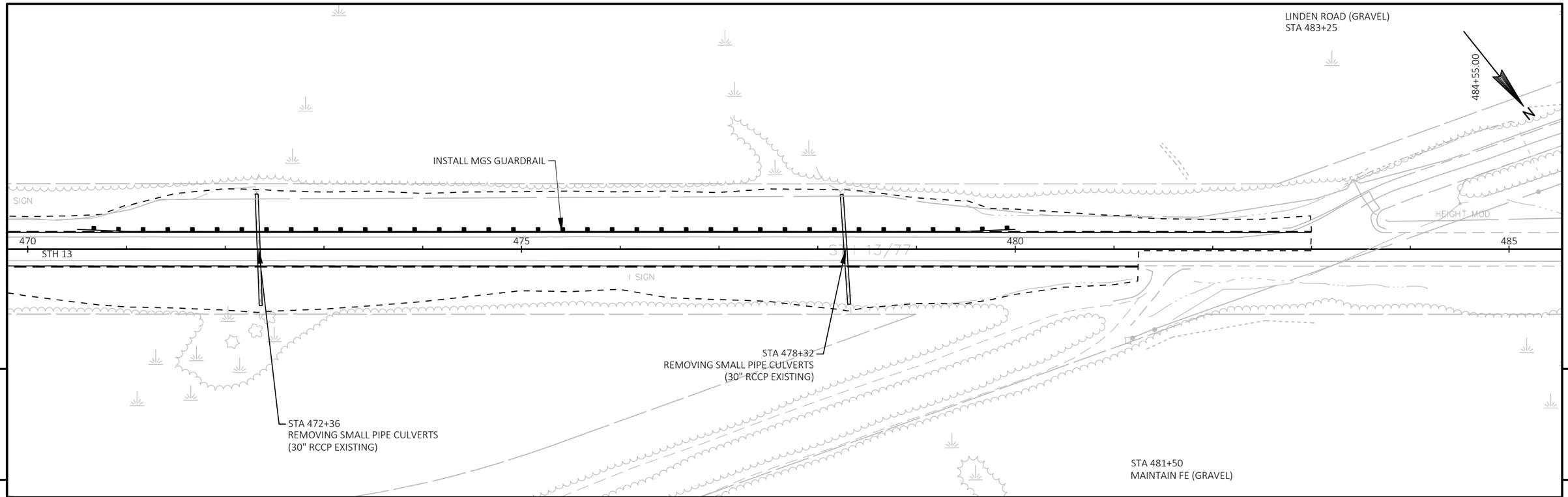
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-5

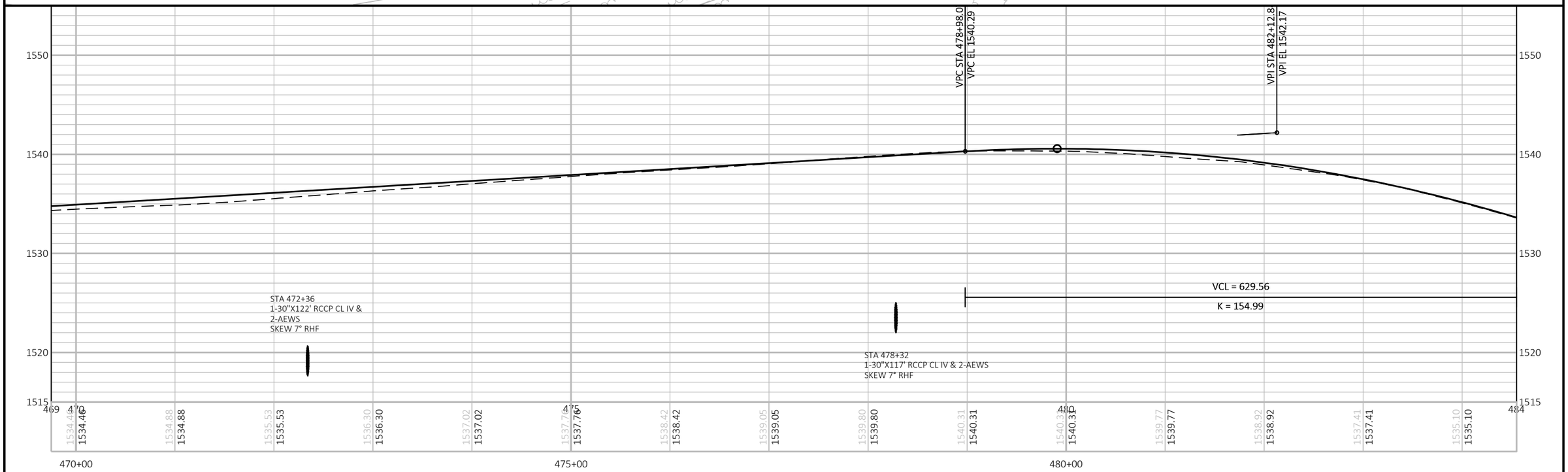
PLOT DATE : 9/25/2018 9:25 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-6
PLOT DATE : 9/25/2018 9:25 AM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

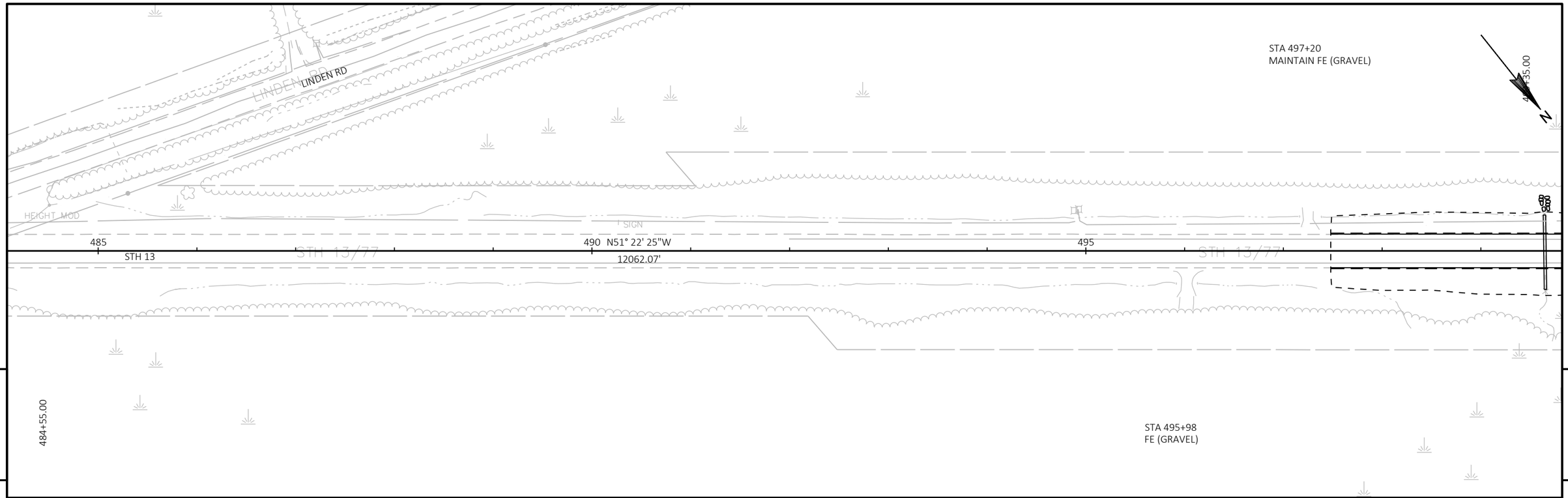


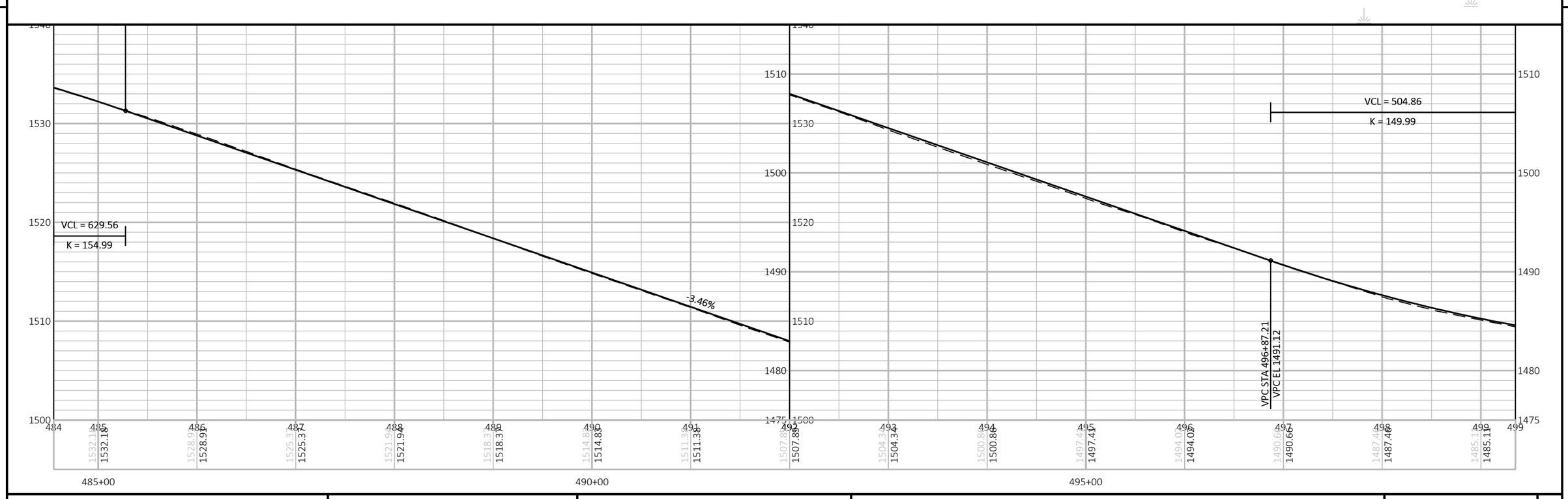


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-7

PLOT DATE : 9/25/2018 9:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-8

PLOT DATE : 9/25/2018 9:26 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 513+27
FE (GRAVEL)

514+00

N

500

STH 13

505

STH 13/77

510

STH

499+35.00

STA 499+65
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 507+63
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 511+36
MAINTAIN FE (GRAVEL)

5

5

VCL = 504.86

K = 149.99

1500
1490
1480
1470
1460

VPI STA 499+39.64
VPI EL 1482.38

STA 499+65
1-24"X81' RCCP CL IV & 2-AEWS
SKEW 7° RHF
HEAVY RIPRAP REQ'D

VPT STA 501+92.08
VPT EL 1482.13

STA 507+63
1-42"X71' RCCP CL IV & 2-AEWS
SKEW 7° RHF
HEAVY RIPRAP REQ'D

499 500 505 510 514

1483.52 1482.60 1482.07 1481.91 1481.83 1481.79 1481.68 1481.54 1481.50 1481.38 1481.33 1481.28 1481.15 1481.09 1480.99

1483.52 1482.60 1482.60 1482.07 1482.07 1481.91 1481.91 1481.83 1481.83 1481.79 1481.79 1481.68 1481.68 1481.54 1481.54 1481.50 1481.50 1481.38 1481.38 1481.33 1481.33 1481.28 1481.28 1481.15 1481.15 1481.09 1481.09 1480.99 1480.99

500+00 505+00 510+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-9
PLOT DATE : 9/25/2018 9:27 AM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 44

THOLE RD (GRAVEL)
STA 520+00

STA 523+68
MAINTAIN PE (GRAVEL)

N 2381995.00

STH 13

STH 13/77

515

520

525

STH 13/77

I SIGN

I SIGN

REMOVE C&G

514+15.00

MORSE RD (PAVED)
STA 519+15
REMOVING SMALL PIPE CULVERTS
INSTALL: 1-18"X35' CP CL III-A
NON-METAL & 2-AEW

STA 523+61
MAINTAIN FE (GRAVEL)

STA 528+08
REMOVING SMALL PIPE CULVERTS
(60" RCCP EXISTING)

5

5

VCL = 454.43
K = 80.66

-0.10%

STA 528+08
2-60"X104' RCCP CL IV &
2-AEWS
SKEW 7° RHF

VPC STA 527+21.79
VPC EL 1479.69

1500
1490
1480
1470
1460

514
515
520
525
528

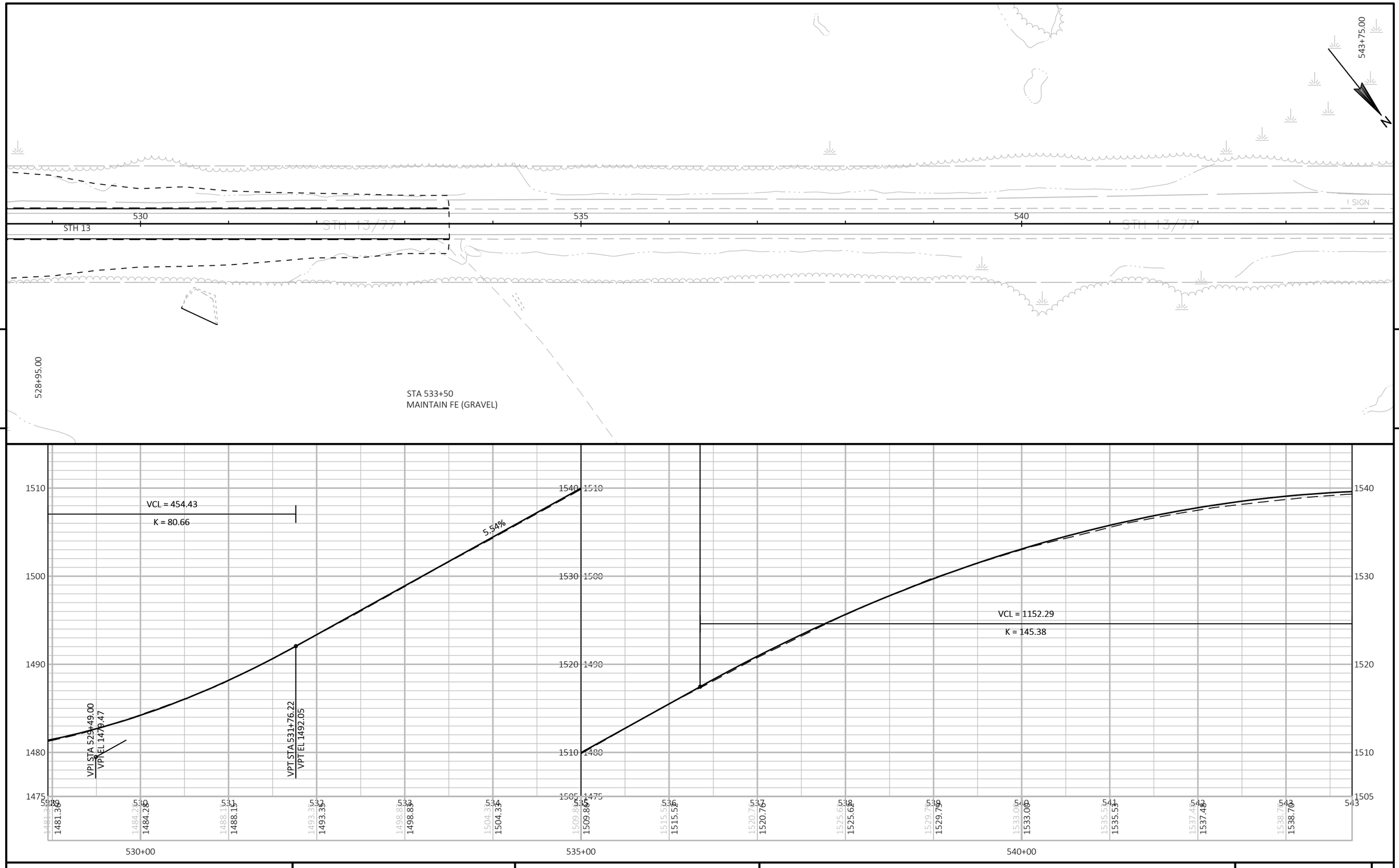
1480.90
1480.75
1480.67
1480.59
1480.49
1480.39
1480.33
1480.28
1480.14
1479.99
1479.83
1479.68
1479.56
1479.89

515+00
520+00
525+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-10

PLOT DATE : 9/25/2018 9:27 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-11

PLOT DATE : 9/25/2018 9:27 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

STA 552+17
MAINTAIN FE (GRAVEL)

PC: 550+78.90

MARSH EXCAVATION EXPECTED

558+55.00

I SIGN

STH 13

545

550

555

STA 556+96
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 55
Y = 190276
X = 555150
DELTA = 37
D = 2°30'39
T = 764.69
L = 1475.72
R = 2282.00
PC STA = 55
PT STA = 56

543+75.00

VCL = 1152.29
K = 145.38

-2.39%

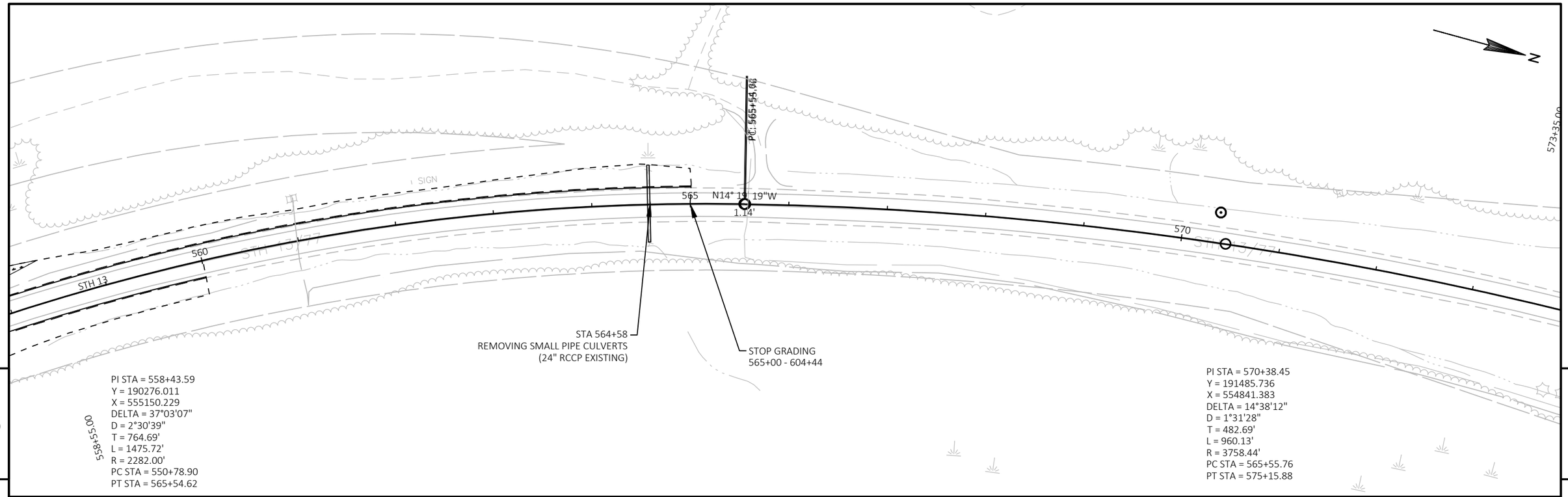
STA 556+14.26
EL 1515.84

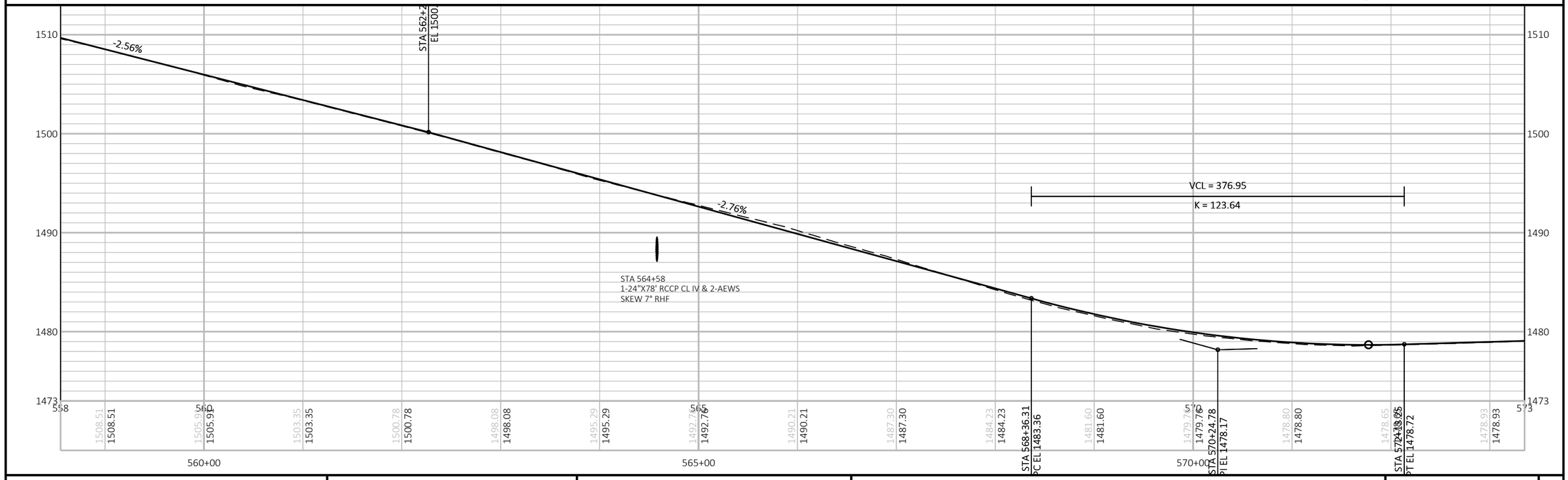
STA 556+96
2-24"X101' RCCP CL IV & 2-AEWS
SKEW 7° RHF

543	545	550	555	558
1539.47	1539.47	1539.44	1538.74	1537.25
1535.25	1532.80	1530.44	1528.11	1525.64
1523.17	1520.79	1518.49	1516.10	1513.55
1510.92				

545+00 550+00 555+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

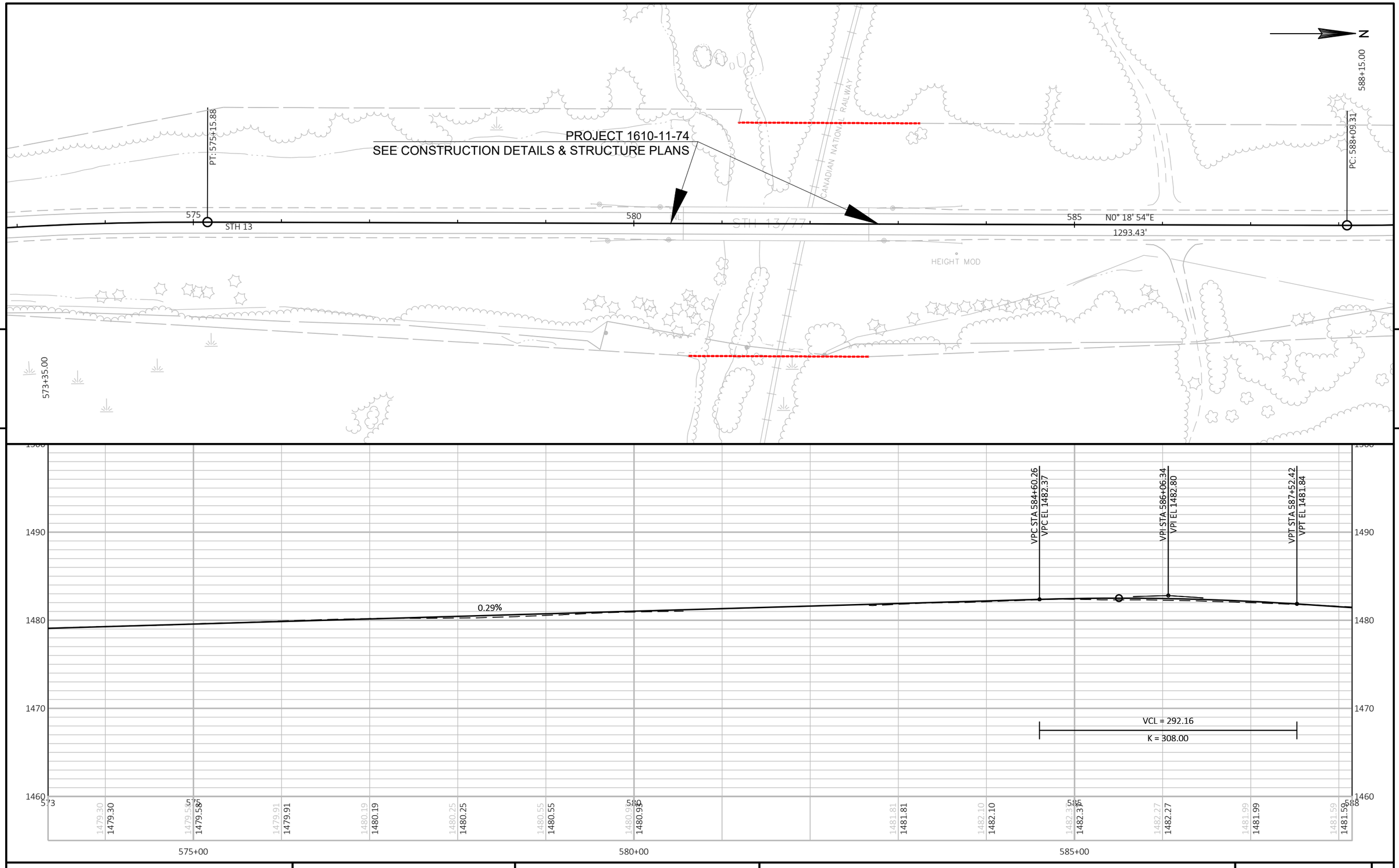




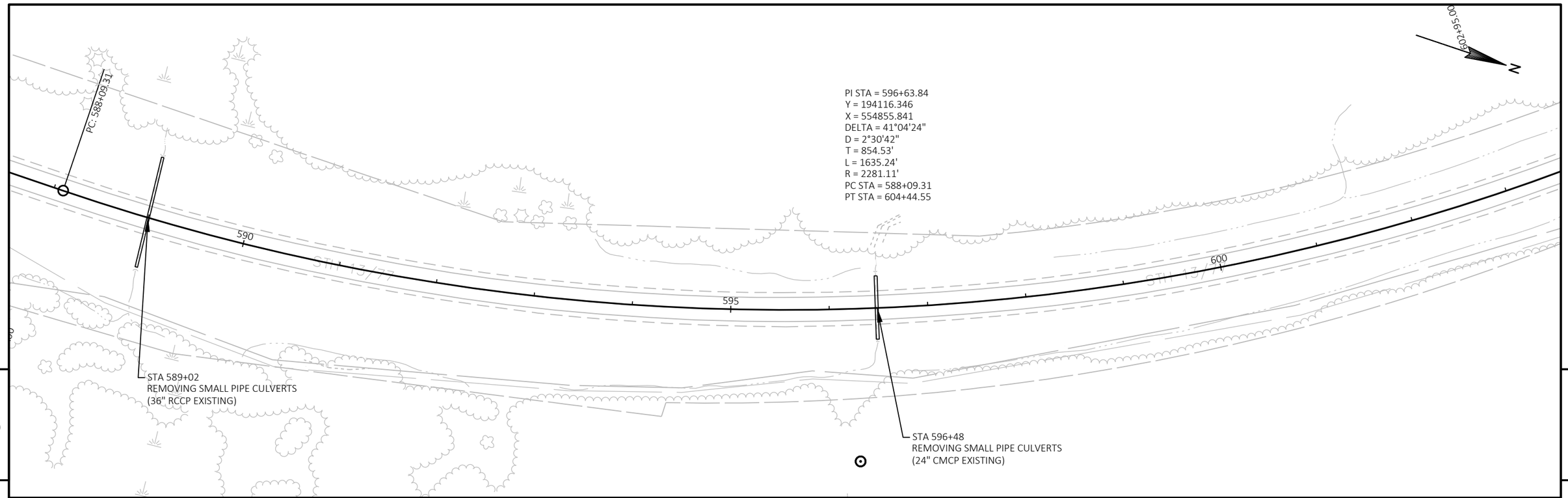
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

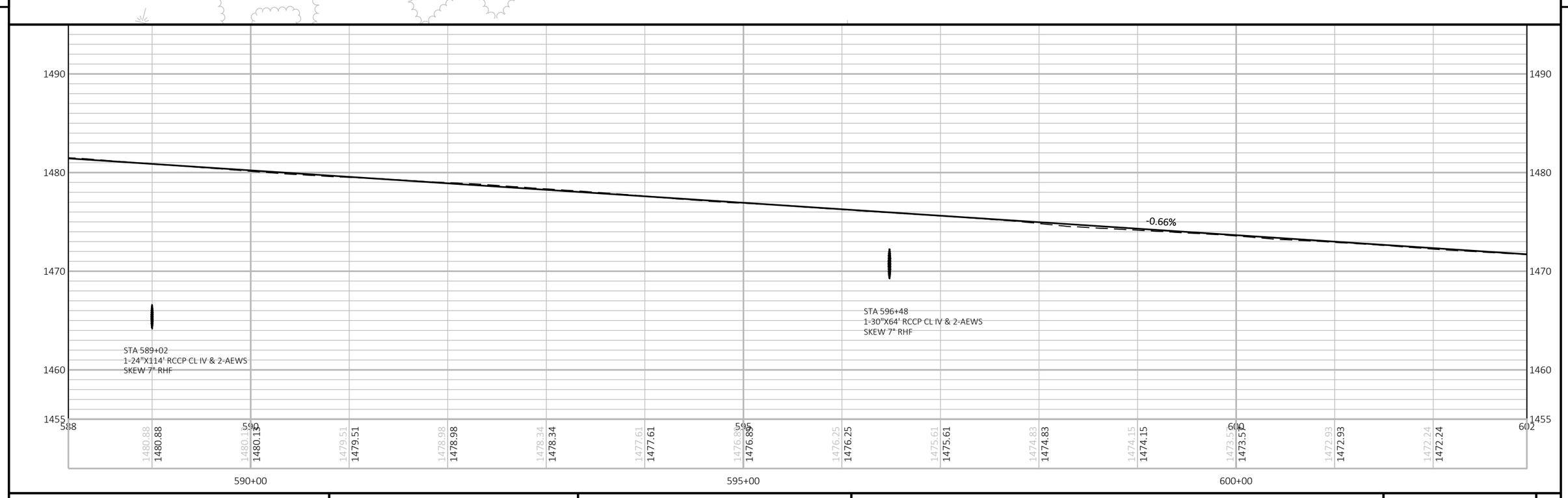
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-13

PLOT DATE : 9/25/2018 9:28 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

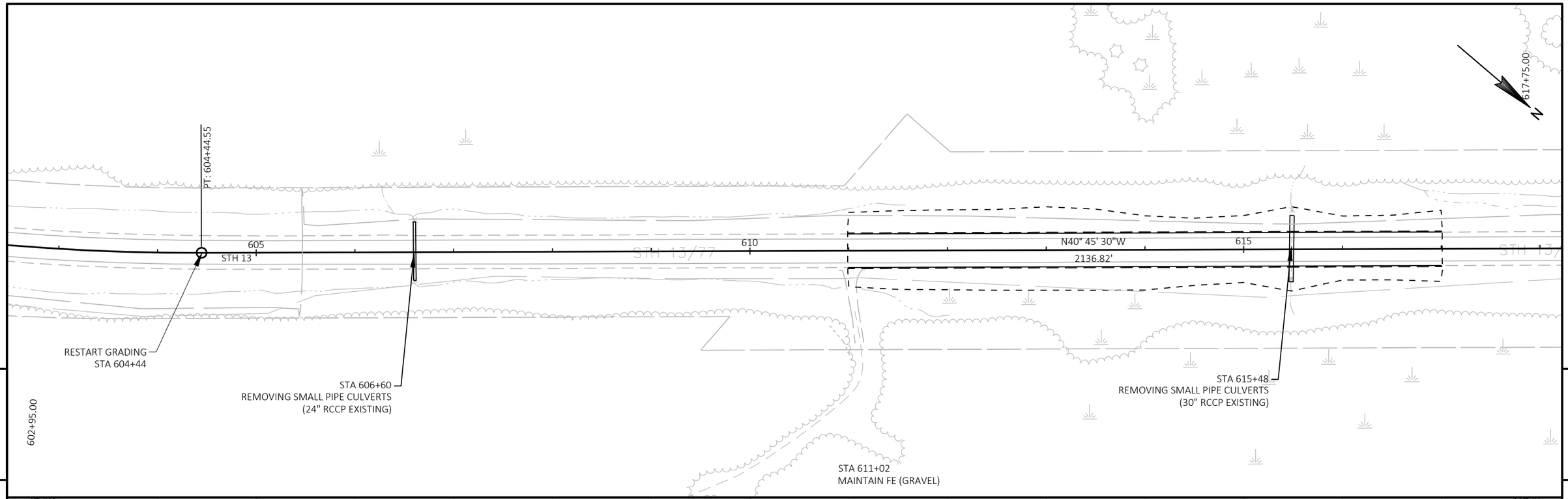


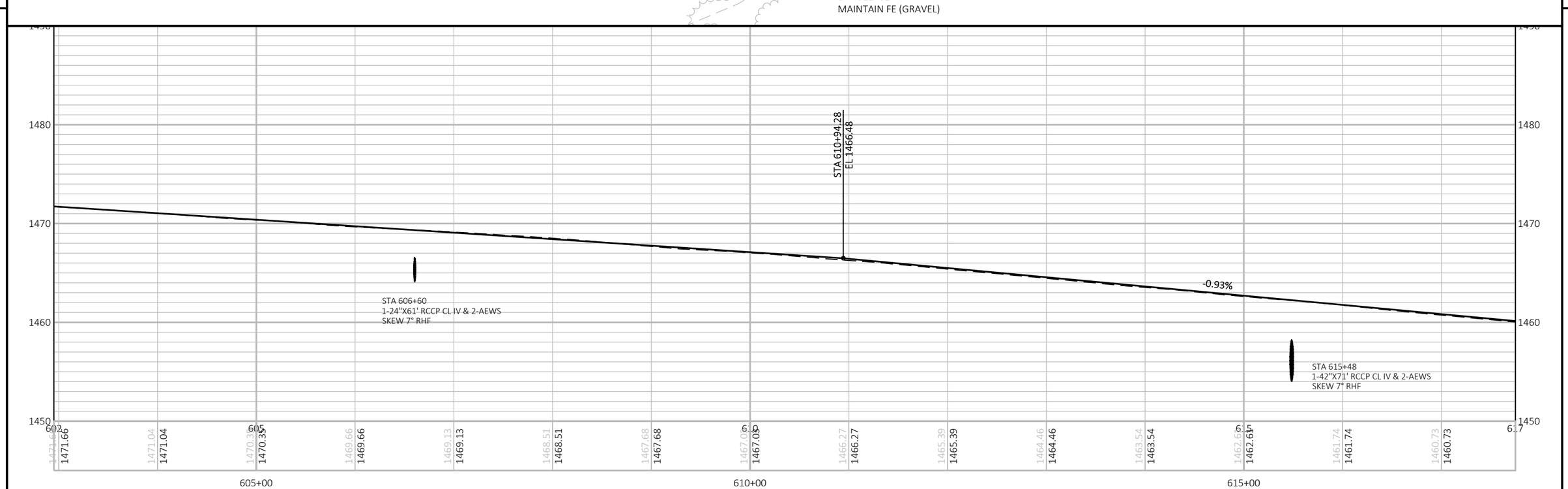


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-15

PLOT DATE : 9/25/2018 9:29 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

STA 620+05
PE (GRADE)

STA 626+80
FE (GRADE)

CAYUGA RD (GRADE)
STA 628+00

PC: 625+81.38

STH 13

620

625

630

CAYUGA RD

N

STA 621+72
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

NOTICE TO CONTRACTOR:
POTENTIAL HAZMAT

617+75.00

STA624+50
CONSTRUCT FE (GRADE)

CAYUGA RD

E CAYUGA RD (GRADE)
STA 627+50
REMOVING SMALL PIPE CULVERTS
INSTALL: 1-24"X56' CP CL III-A
NON-METAL & 2-AEW

5

5

VCL = 201.24
K = 293.90

VCL = 456.39
K = 784.87

VCL = 191.00
K = 273.98

STA 623+92.68
EL 1457.40

VPC STA 624+98.26
VPC EL 1457.54

VPI STA 625+93.76
VPI EL 1457.66

VPT STA 626+89.26
VPT EL 1457.11

VPC STA 618+50.88
VPC EL 1459.43

VPI STA 619+51.50
VPI EL 1458.49

VPT STA 620+52.12
VPT EL 1458.25

STA 621+72
1-30"X64' RCCP CL IV & 2-AEWS
SKEW 7° RHF

VPC STA 628+01.17
VPC EL 1456.48

VPI STA 630+29.37
VPI EL 1455.18

VPT STA 632+57.56
VPT EL 1455.20

-0.25%

0.13%

-0.57%

1480
1470
1460
1450
1440

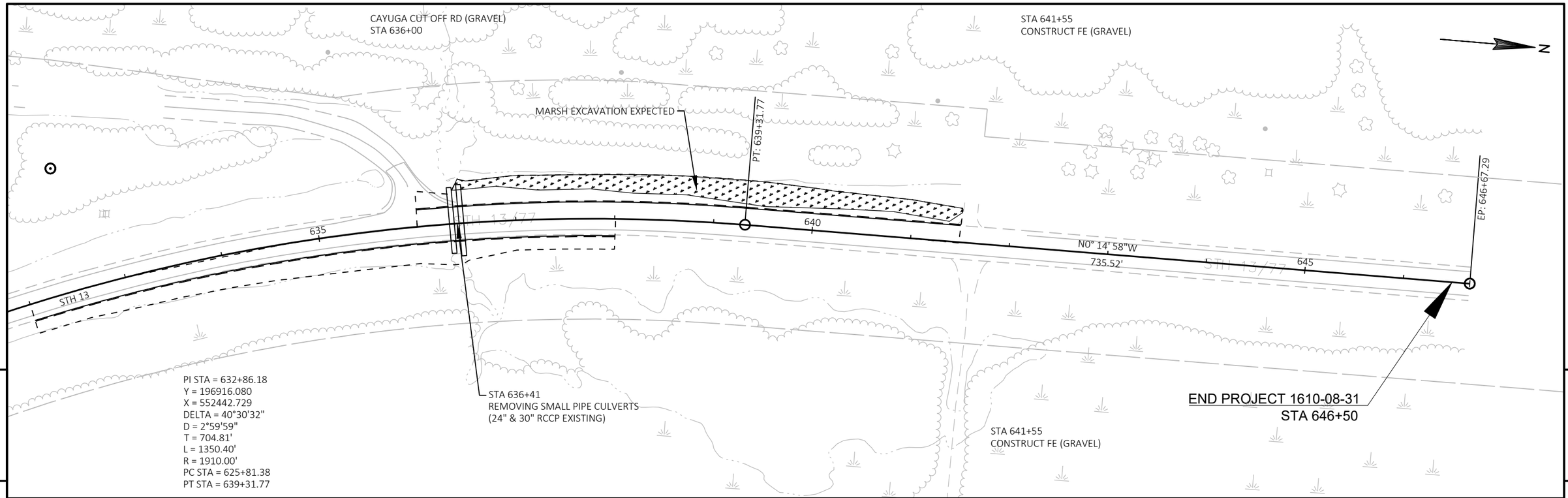
617
620
625
630
632

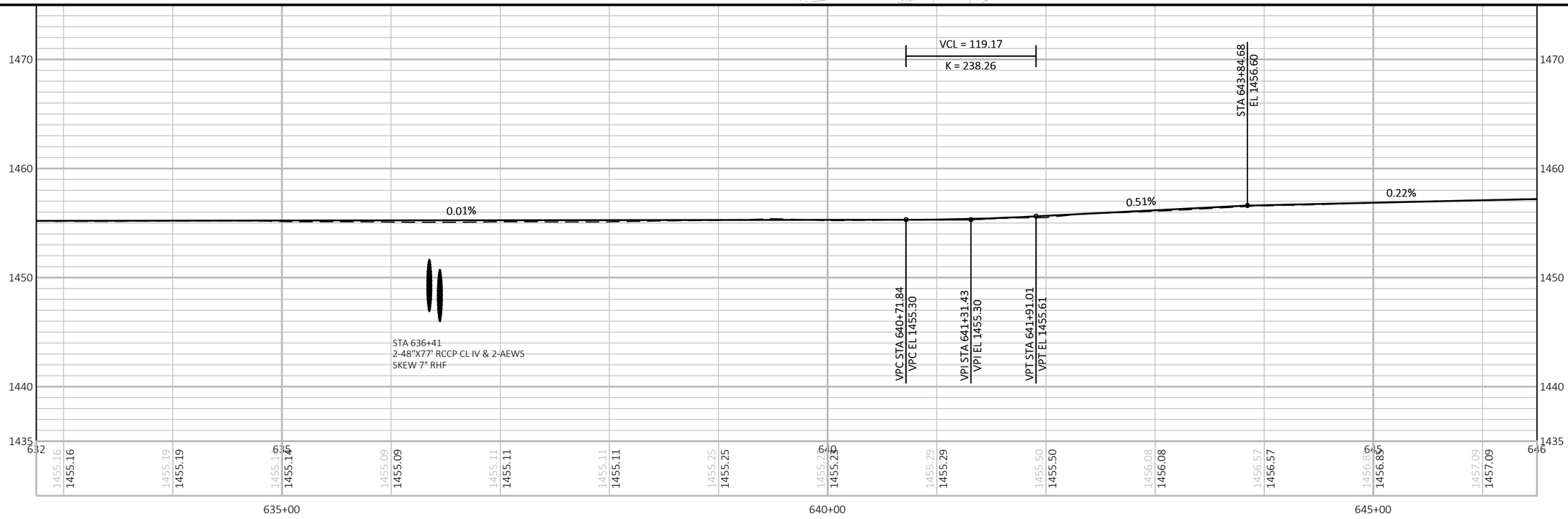
1459.95 1459.95
1458.85 1458.85
1458.32 1458.32
1458.07 1458.07
1457.88 1457.88
1457.63 1457.63
1457.35 1457.35
1457.50 1457.50
1457.48 1457.48
1457.02 1457.02
1456.43 1456.43
1455.96 1455.96
1455.59 1455.59
1455.23 1455.23
1455.17 1455.17

620+00
625+00
630+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-17
PLOT DATE : 9/25/2018 9:29 AM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

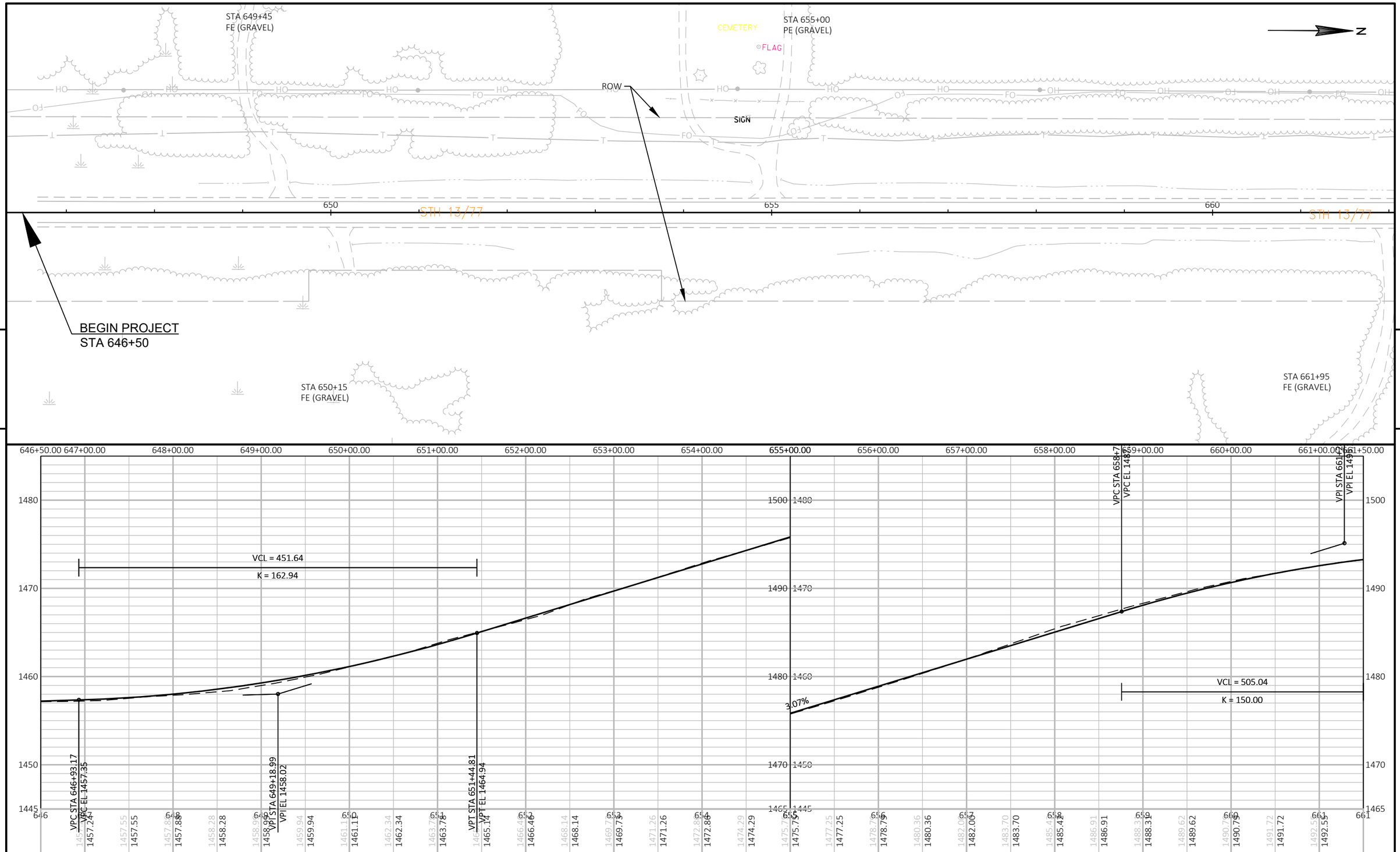




PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-18

PLOT DATE : 9/25/2018 9:29 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

STA 665+90
FE (GRAVEL)

ROW

SLOPE INTERCEPTS

665 670 675

STH 13/77

677+60.00

662+80.00

STA 670+74
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 676+30
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

5

5

VPT STA 663+81.01
VPT EL 1494.36

VCL = 505.04
K = 150.00

-0.30%

VCL = 382.27
K = 375.00

STA 670+74
1-24"x82' RCCP CL IV & 2-AEWS

VPC STA 674+17.05
VPC EL 1491.25

VPI STA 676+08.19
VPI EL 1490.68

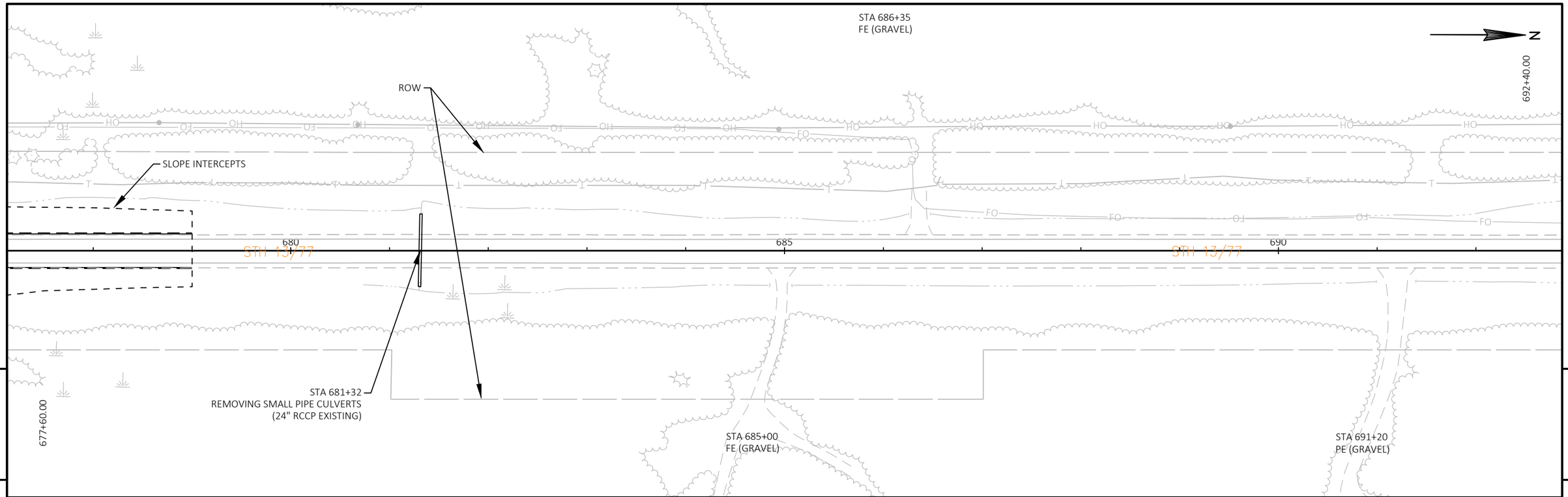
STA 676+30
1-24"x96' RCCP CL IV & 2-AEWS

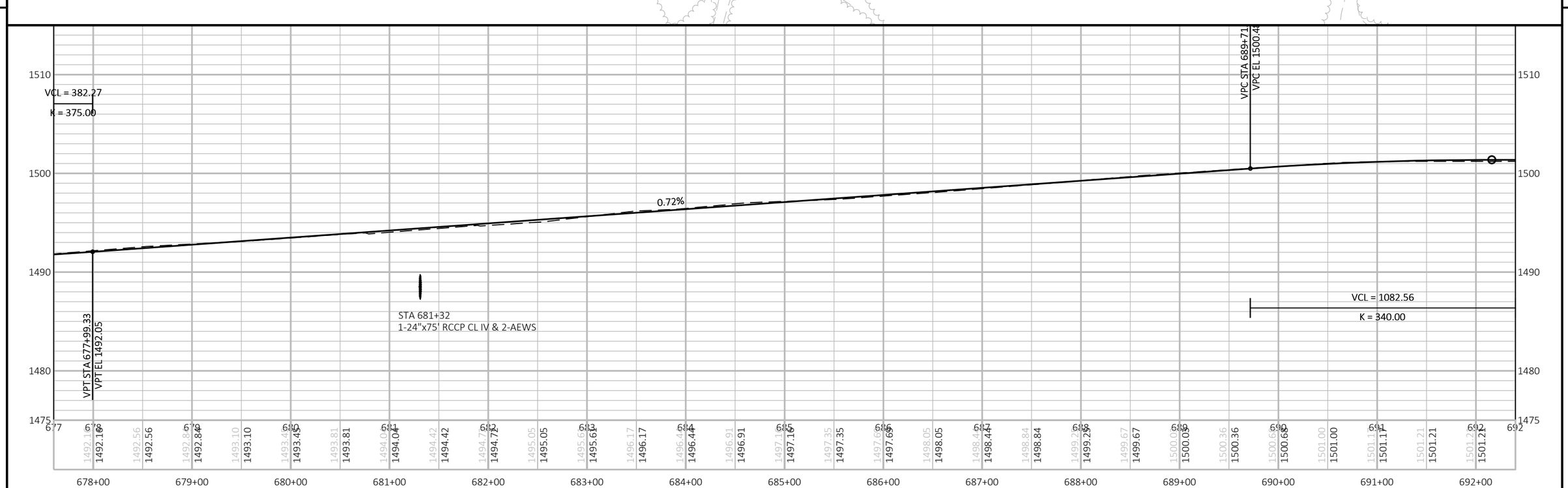
1510 1500 1490 1480 1475

662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677
1494.43	1494.43	1494.50	1494.50	1494.38	1494.38	1494.07	1494.07	1493.80	1493.80	1493.74	1493.74	1493.63	1493.63	1493.49	1493.49
1493.36	1493.31	1493.17	1493.17	1493.19	1493.19	1493.12	1493.12	1492.92	1492.92	1492.74	1492.74	1492.59	1492.59	1492.28	1492.28
1492.17	1492.17	1492.08	1492.08	1491.99	1491.99	1491.83	1491.83	1491.64	1491.64	1491.46	1491.46	1491.34	1491.34	1491.23	1491.23
1491.14	1491.14	1491.07	1491.07	1491.23	1491.23	1491.30	1491.30	1491.52	1491.52	1491.76	1491.76				

663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00 676+00 677+00

PROJECT NO:	1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 3

PLOT DATE : 10/9/2018 1:23 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 693+20
MAINTAIN FE (GRAVEL)

STA 705+55
PE (GRAVEL)

N

707+20.00

ROW

SLOPE INTERCEPTS

695

N0° 15' 43"W
11458.01'

700

705

STH 13/77

STH 13/77

STA 694+73
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

692+40.00

STA 696+40
MAINTAIN PE (GRAVEL)

STA 703+75
PE (GRAVEL)

CONLEY RD - RT (GRAVEL)
STA 707+00

5

5

1500
1490
1480
1470
1465

VCL = 1082.56

K = 340.00

STA 694+73
1-24"x107' RCCP CL IV & 2-AEWS

-2.46%

692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707
1501.21	1501.01	1500.74	1500.41	1500.28	1500.00	1499.54	1499.00	1498.54	1497.96	1497.24	1496.50	1495.62	1494.63	1493.50	1492.30
1491.20	1489.99	1488.78	1487.57	1486.35	1484.99	1483.71	1482.57	1481.29	1480.05	1478.85	1477.67	1476.44	1475.21	1474.00	

693+00 694+00 695+00 696+00 697+00 698+00 699+00 700+00 701+00 702+00 703+00 704+00 705+00 706+00 707+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 4

PLOT DATE : 10/9/2018 1:23 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 710+40
MAINTAIN FE (GRAVEL)

HAPPY CREEK

FEDERAL FOREST ROUTE 184 (GRAVEL)
STA 720+20

N

722+00.00

TRIBUTARY TO
HAPPY CREEK

ROW

SLOPE INTERCEPTS

710

715

720

STH 13/77

STH 13/77

STH 13/77

STA 711+64
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

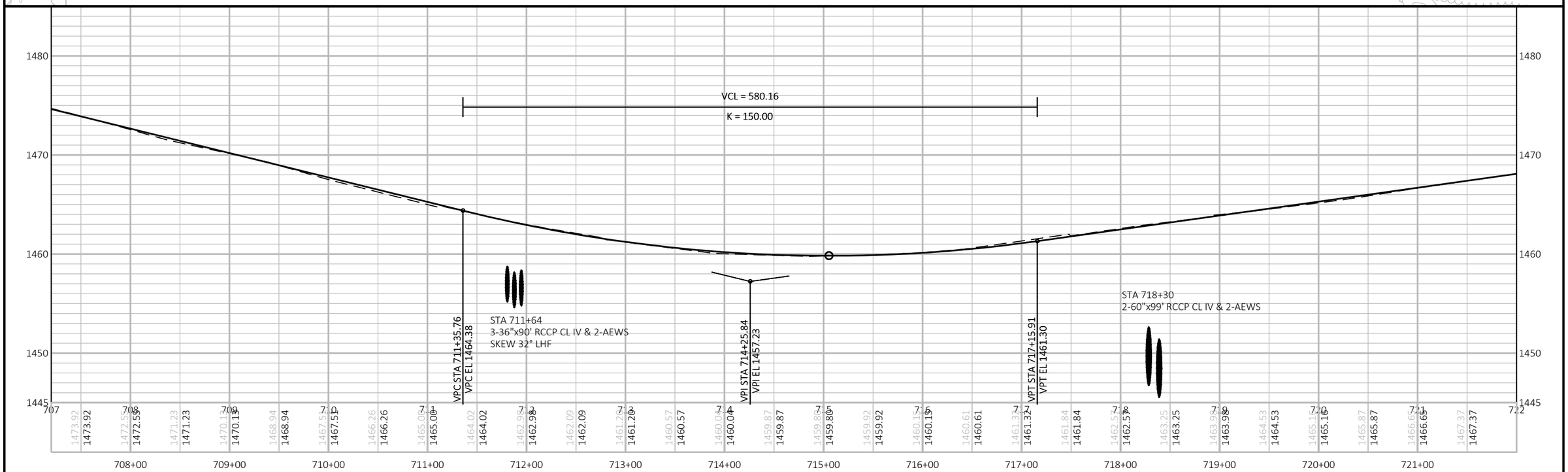
STA 718+30
REMOVING SMALL PIPE CULVERTS
(57"CMP & 48" RCCP EXISTING)

707+20.00

STA 711+95
MAINTAIN PE (GRAVEL)

5

5



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 5

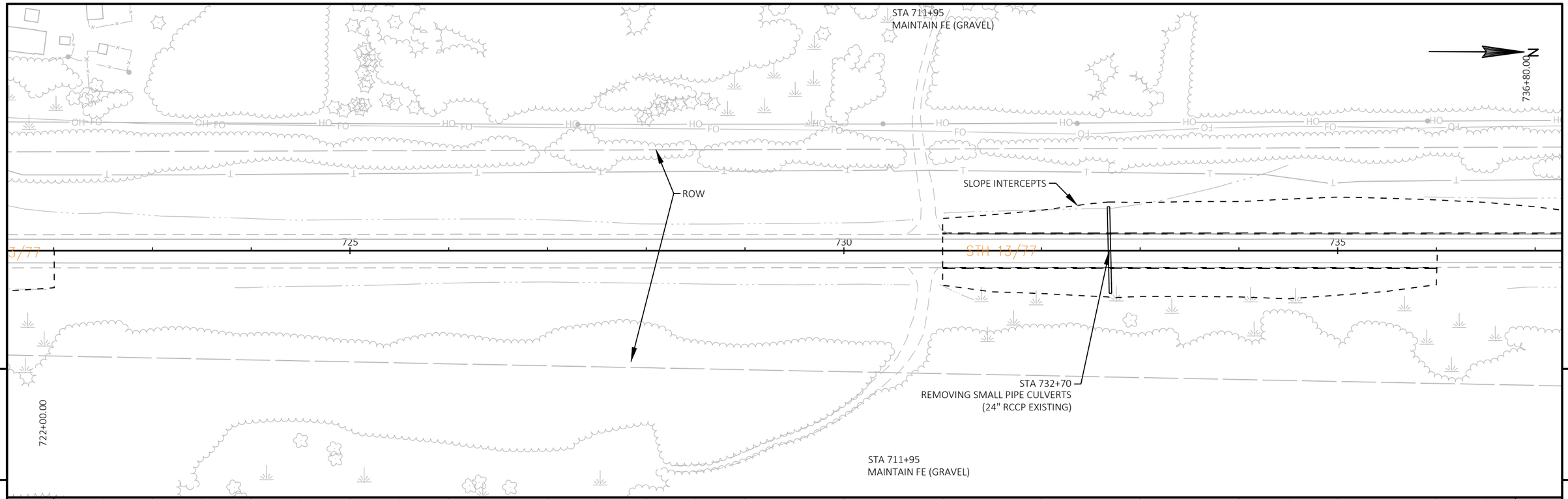
PLOT DATE : 10/9/2018 1:23 PM

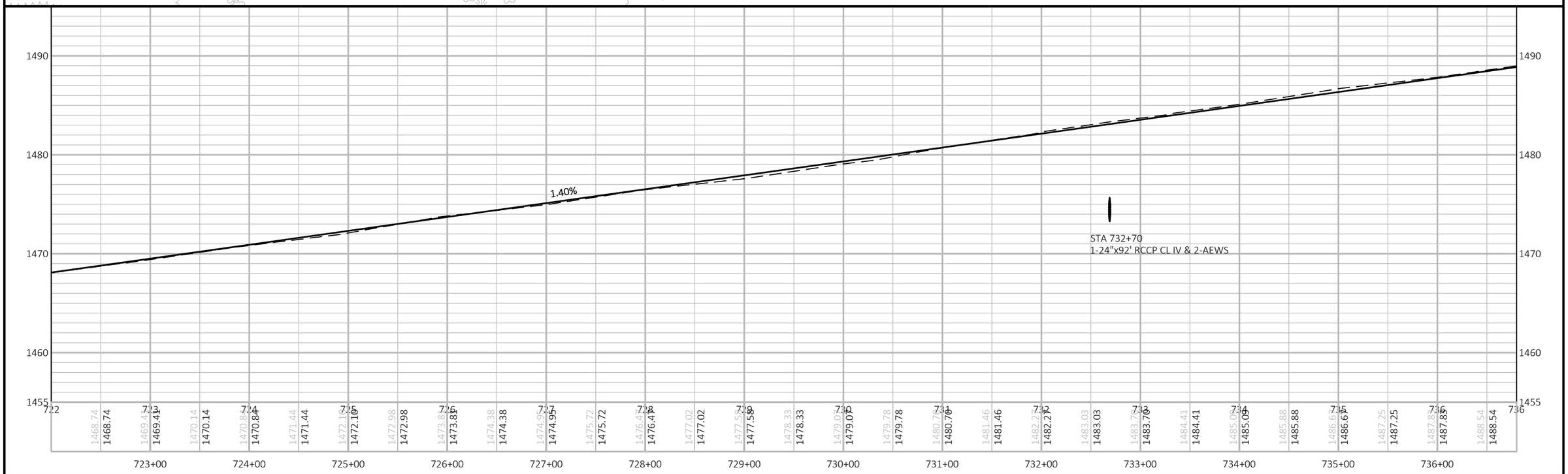
PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : ##########

WISDOT/CADDS SHEET 44





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 6

PLOT DATE : 10/9/2018 1:23 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 741+25
FE (GRAVEL)

STA 747+90
FE (GRAVEL)

N

751+60.00

SLOPE INTERCEPTS

ROW

740

745

750

STH 13/77

STH

736+80.00

STA 745+50
FE (GRAVEL)

STA 747+85
FE (GRAVEL)

5

5

VPC

VPI

VPT

1500

1490

1480

1470

1460

VCL = 1154.19

K = 252.50

736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751
1489.26	1489.80	1490.32	1490.74	1491.14	1491.47	1491.75	1491.82	1491.78	1491.77	1491.55	1491.26	1490.91	1490.48	1489.91	1489.25	1488.59	1487.61	1486.59	1485.55	1484.46	1483.21	1481.76	1480.19	1478.66	1476.99	1475.36	1473.62	1472.09	1470.59

737+00 738+00 739+00 740+00 741+00 742+00 743+00 744+00 745+00 746+00 747+00 748+00 749+00 750+00 751+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 7

PLOT DATE : 10/9/2018 1:24 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 751+75
PE (GRAVEL)

STA 763+10
MAINTAIN FE (GRAVEL)

RUINS

PC: 753+87.12

PT: 762+96.71

STH 13/77

ROW

SLOPE INTERCEPTS

755

760

765

STA 756+10
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 758+45.76
Y = 209534.982
X = 552386.067
DELTA = 18°09'32"
D = 1°59'47"
T = 458.64'
L = 909.59'
R = 2870.00'
PC STA = 753+87.12
PT STA = 762+96.71

STA 765+94
REMOVING SMALL PIPE CULVERTS
(48" CMP & 48" RCCP EXISTING)

751+60.00

66+40.00

N

5

5

K = 185.00

-3.17%

VPC STA 761+07.87
VPC EL 1440.25

STA 765+94
2-60"x91' RCCP CL IV & 2-AEWS

1470 1460 1450 1440 1435

1450 1440 1430 1420 1415

751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766

1469.07 1467.50 1466.06 1464.44 1462.82 1461.07 1459.19 1457.97 1456.42 1455.00 1453.12 1451.54 1449.99 1448.44 1446.93 1445.44 1443.82 1442.16 1440.65 1439.19 1437.85 1436.69 1435.57 1434.60 1433.70 1432.89 1432.38 1432.25 1431.93

752+00 753+00 754+00 755+00 756+00 757+00 758+00 759+00 760+00 761+00 762+00 763+00 764+00 765+00 766+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

STA 768+30
MAINTAIN PE (GRAVEL)

SEPTIC
SEPV

SLOPE INTERCEPTS

ROW

STA 770+78
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

STA 768+35
MAINTAIN PE (GRAVEL)

766+40.00

STH 13/77

LAKE DR

LAKE DRIVE (PAVED)
STA 774+25
REMOVING CURB & GUTTER
INSTALL: XX LF CURB & GUTTER

STA 776+00
REMOVING SMALL PIPE CULVERT
(60" RCCP EXISTING)

STA 777+40
FE (GRAVEL)

STA 780+75
PE (GRAVEL)

781+20.00

N18° 25' 14"W
3531.05'

ANCHOR

N

5

5

VCL = 1740.80
K = 185.00

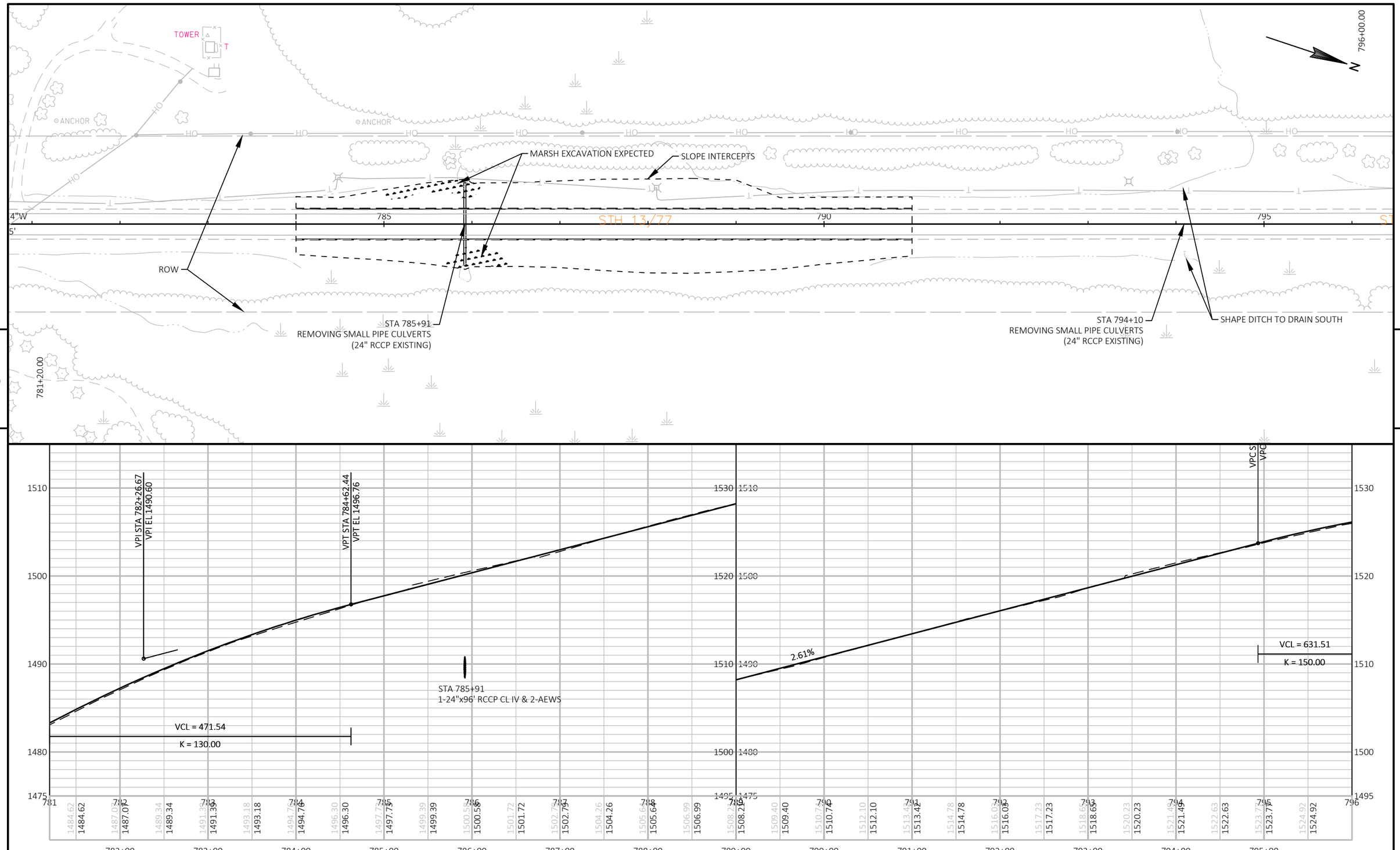
STA 770+78
1-36"x87' RCCP CL IV & 2-AEWS
SKEW 27° LHF

6.24%

VCL = 471.54
K = 130.00

VPT STA 778+48.67
VPT EL 1467.01

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 10

PLOT DATE : 10/9/2018 1:24 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 797+90
MAINTAIN FE (GRAVEL)

STA 799+90
MAINTAIN PE (GRAVEL)

STA 803+85
MAINTAIN FE (GRAVEL)

STA 808+25
MAINTAIN FE (GRAVEL)

N

MGS BEAM GUARD
(HALF POST SPACING)

SLOPE INTERCEPTS

SLOPE INTERCEPTS

PC: 798+27.76

800

805

STH 13/77

STH 13/77

810

810+80.00

ROW

STA 798+90
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 806+25
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

FOLEY RD

STA 801+45
FE (GRAVEL)

FOLEY RD (GRAVEL)
STA 807+50

796+00.00

5

5

STA 798+90
1-24"x77' RCCP CL IV & 2-AEWS

VCL = 631.51
K = 150.00

-1.60%

VPC STA 808+48.75
VPC EL 1515.38

VPI STA 810+15.01
VPI EL 1512.73

STA 806+25
1-30"x149' RCCP CL IV & 2-AEWS
SKEW 17° LHF
RIPRAP HEAVY REQ'D

VCL = 332.54
K = 75.00

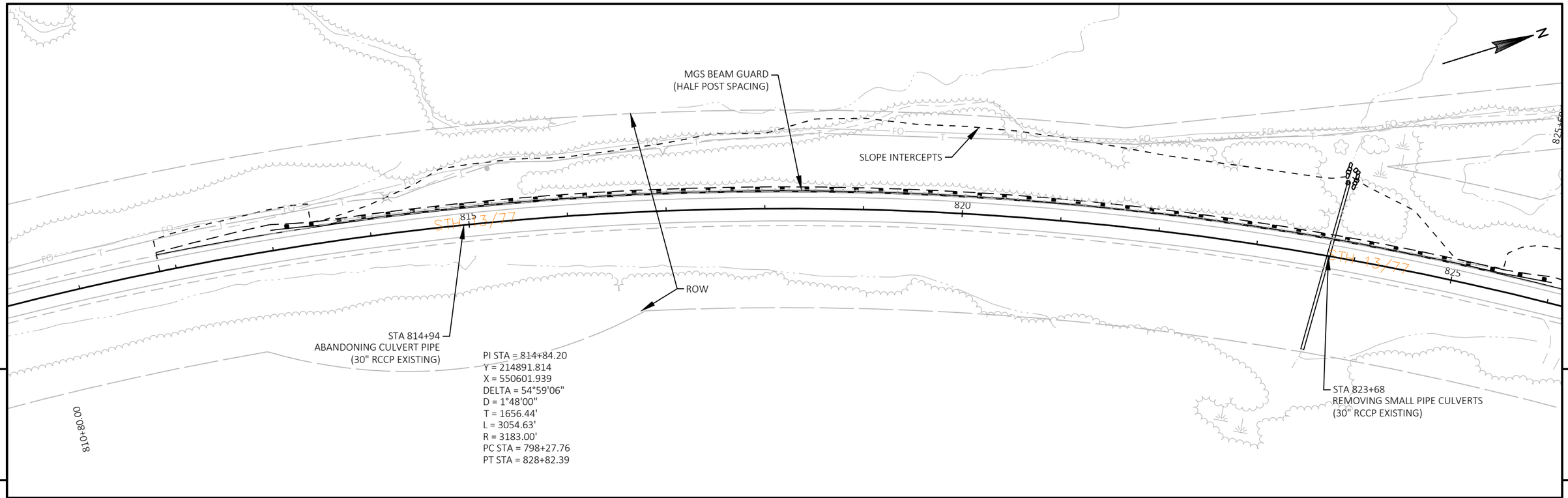
1530
1520
1510
1500
1495

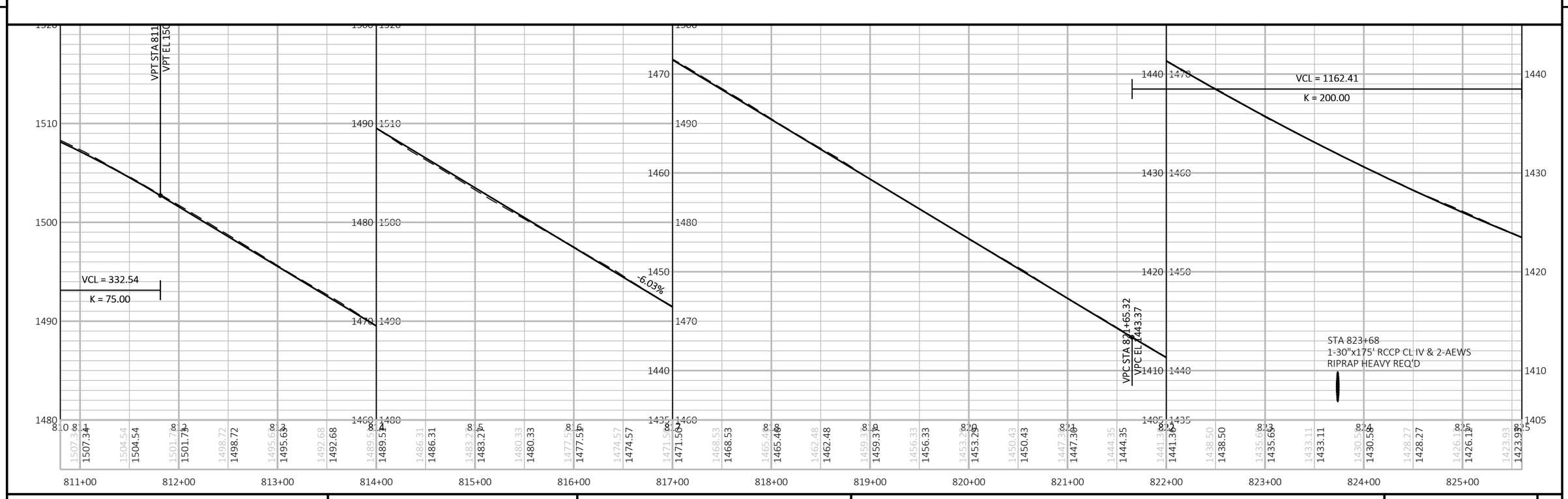
796 797 798 799 800 801 802 803 804 805 806 807 808 809 810

1526.84 1526.84 1527.63 1527.63 1528.24 1528.24 1528.69 1528.69 1528.98 1528.98 1528.99 1528.99 1528.87 1528.87 1528.41 1528.41 1527.85 1527.85 1527.19 1527.19 1526.34 1526.34 1525.65 1525.65 1525.02 1525.02 1524.28 1524.28 1523.38 1523.38 1522.43 1522.43 1521.69 1521.69 1520.84 1520.84 1520.02 1520.02 1519.35 1519.35 1518.50 1518.50 1517.79 1517.79 1516.91 1516.91 1516.21 1516.21 1515.47 1515.47 1514.50 1514.50 1513.13 1513.13 1511.48 1511.48 1509.63 1509.63

797+00 798+00 799+00 800+00 801+00 802+00 803+00 804+00 805+00 806+00 807+00 808+00 809+00 810+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E





PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 12

PLOT DATE : 10/9/2018 1:25 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ###########

STA 826+45
MAINTAIN PE (GRAVEL)

FOLEY RD (GRAVEL)
STA 828+50

FOLEY RD

PT: 828+82.39

N

840+40.00

STA 840+00
FE (GRAVEL)

SLOPE INTERCEPTS

830

STH 13/71

835

840

STH 13/71

ROW

STA 831+87
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 835+45
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

TAFELSKI RD

825+60.00

STA 826+20
FE (GRAVEL)

TAFELSKI RD (GRAVEL)
STA 829+00

STA 840+00
PE (GRAVEL)

5

5

VCL = 1162.41
K = 200.00

-0.22%

VPI STA 827+46.53
VPI EL 1408.33

STA 831+87
1-24"x86' RCCP CL IV & 2-AEWS

VPT STA 833+27.73
VPT EL 1407.07

STA 835+45
1-30"x80' RCCP CL IV & 2-AEWS
RIPRAP HEAVY REQ'D

1430
1420
1410
1400
1390

826+00 827+00 828+00 829+00 830+00 831+00 832+00 833+00 834+00 835+00 836+00 837+00 838+00 839+00 840+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

STA 845+05
MAINTAIN FE (GRAVEL)

N

855+20.00

STA 854+60
FE (GRAVEL)

SLOPE INTERCEPTS

840 STH 13/77 845 850 STH 13/77 855

ROW

STA 845+90
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

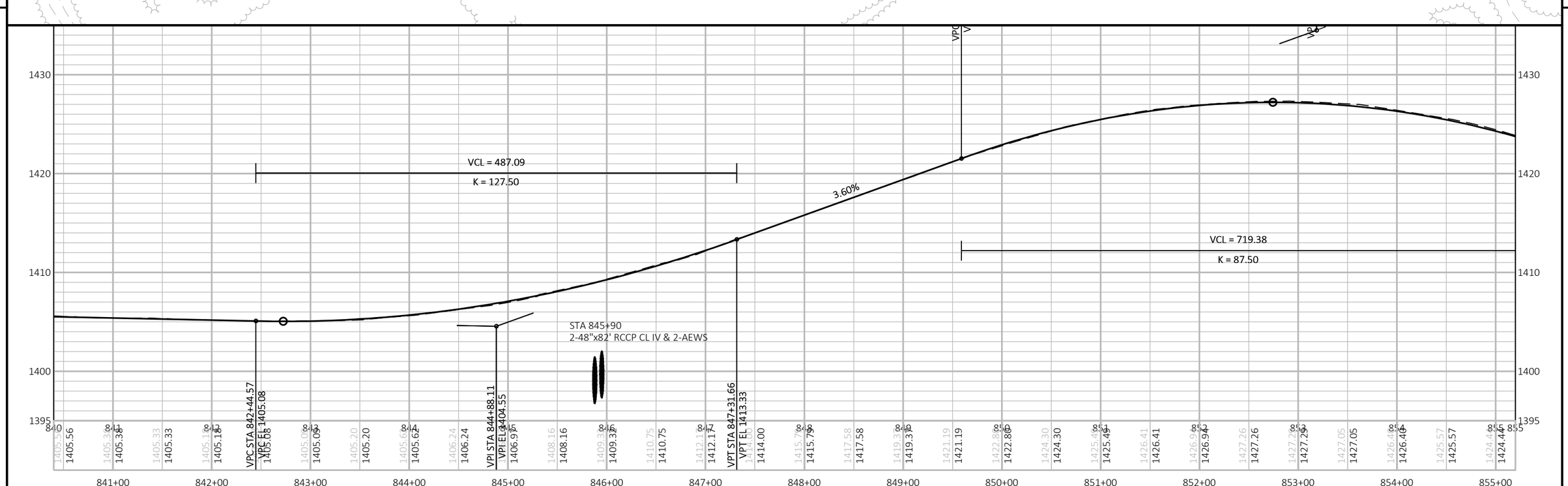
5

840+40.00

STA 845+00
MAINTAIN FE (GRAVEL)

STA 854+65
FE (GRAVEL)

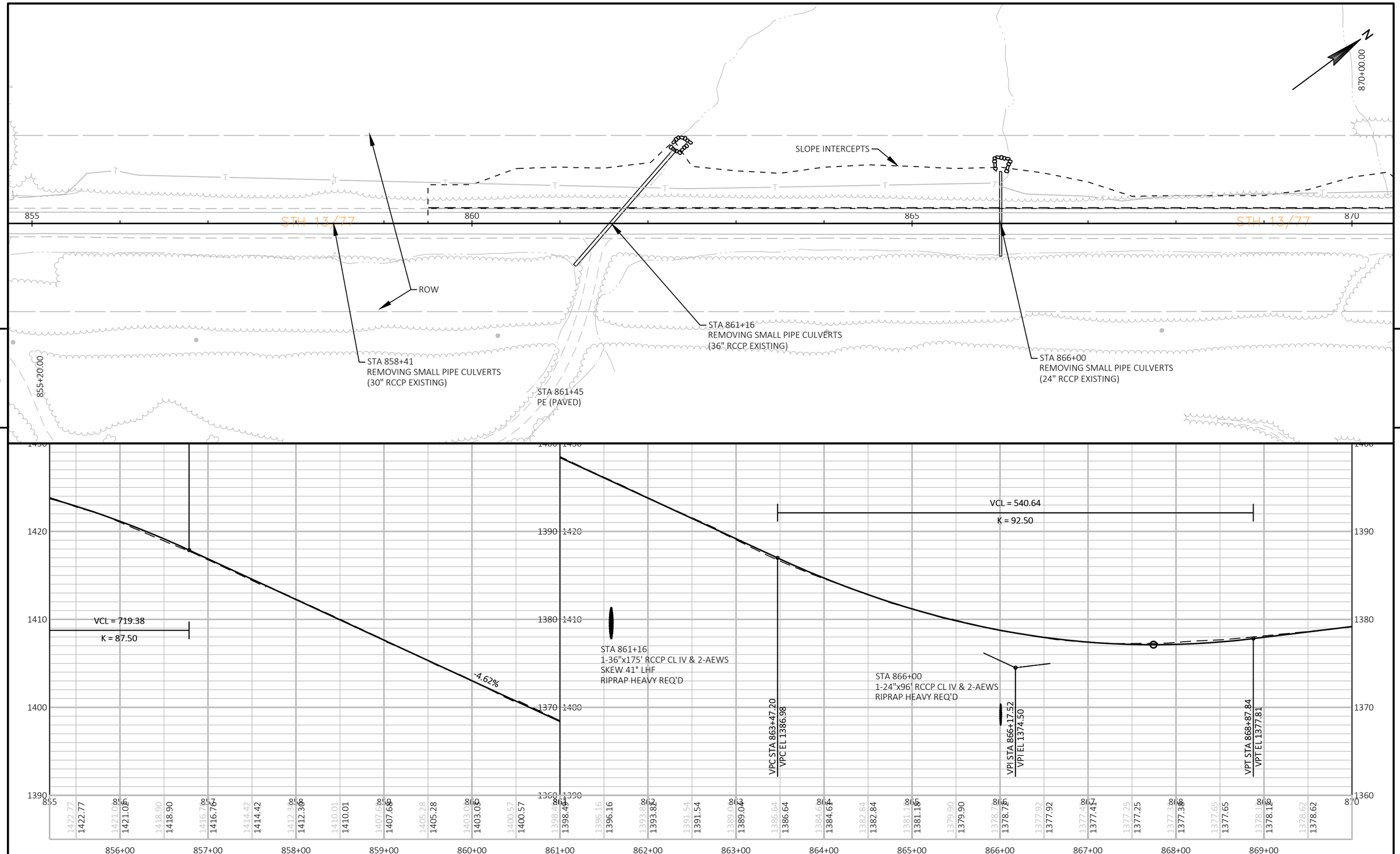
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 14

PLOT DATE : 10/9/2018 1:25 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



5

5

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 15
PLOT DATE : 10/9/2018 1:25 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 44

STA 873+75
PE (GRAVEL)

STA 876+80
FE (GRAVEL)

STA 881+85
PE (GRAVEL)

SEPV
SEPC

WALLS

SEPC

884+80.00

SLOPE INTERCEPTS

SLOPE INTERCEPTS

870

875

880

885

N36° 33' 52"E
9118.18'

STH 13/77

ROW

STA 870+48
REMOVING SMALL PIPE CULVERTS
(60" RCCP EXISTING)

870+00.00

STA 873+35
PE (GRAVEL)

STA 875+95
FE (GRAVEL)

5

5

VPC STA
VPC EL

VPI STA
VPI EL

VPT STA
VPT EL

1400
1390
1380
1370
1365

1.23%

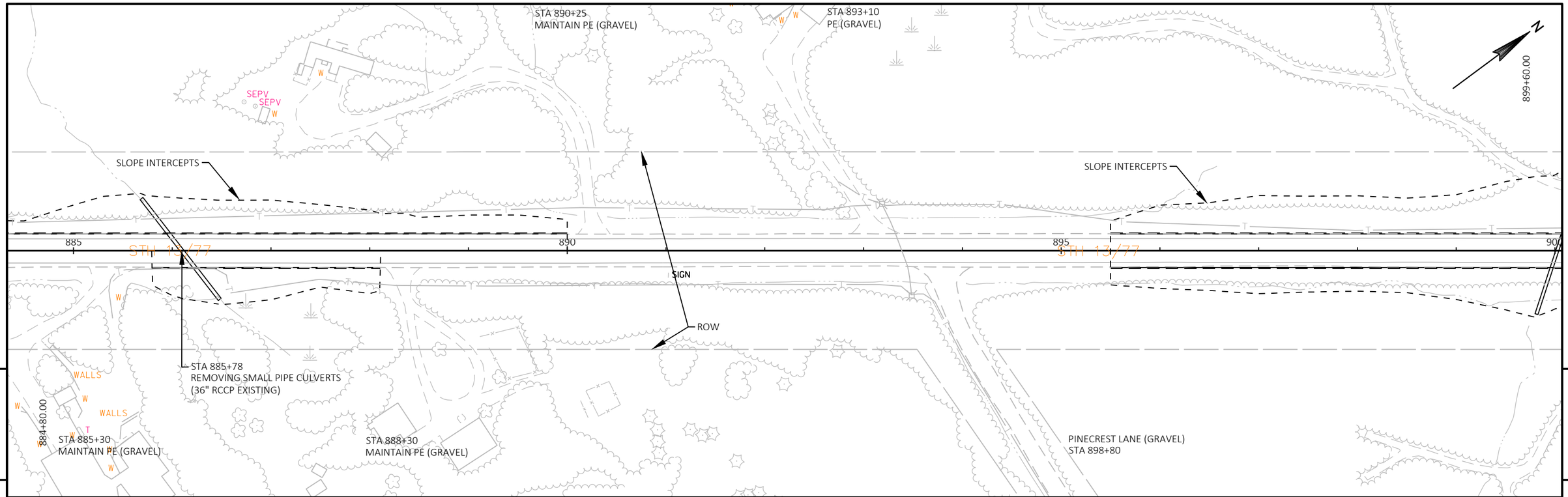
VCL = 251.14
K = 130.00

STA 870+48
1-24"x90' RCCP CL IV & 2-AEWS

870	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1379.74	1380.36	1381.02	1381.62	1382.30	1382.70	1383.53	1384.10	1384.80	1385.38	1386.01	1386.55	1387.21	1387.62	1388.21	1388.78	1389.51	1390.16	1390.91	1391.44	1391.93	1392.65	1393.20	1393.64	1394.30	1394.76	1394.93	1394.74	1394.53

871+00 872+00 873+00 874+00 875+00 876+00 877+00 878+00 879+00 880+00 881+00 882+00 883+00 884+00

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET	E

STA 902+45
FE (GRAVEL)

STA 907+05
PE (PAVED)

BERKSHIRE DRIVE (GRAVEL)
STA 909+22

BERKSHIRE DR

SEPTIC
SEPV
SEPV
SEPC

SLOPE INTERCEPTS

ROW

SIGN

STH 13/77

STA 899+81
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

STA 904+30
FE (GRAVEL)

STA 907+15
FE (GRAVEL)

899+60.00

914+40.00

THOMAS S

5

5

-6.03%

VCL = 309.65
K = 130.00

STA 899+81
1-30"x159' RCCP CL IV & 2-AEWS
SKEW 18° LHF
RIPRAP HEAVY REQ'D

VPC STA 908+90.03
VPC EL 1289.63

VPI STA 910+44.86
VPI EL 1280.30

VPT STA 911+99.68
VPT EL 1274.66

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 18

PLOT DATE : 10/9/2018 1:26 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

WISDOT/CADDS SHEET 44

STA 917+20
MAINTAIN PE (GRAVEL)

STA 924+40
MAINTAIN FE (GRAVEL)

THOMAS ST

STH 13/77

SIGN

915

PC: 920+00.57

920

SLOPE INTERCEPTS

925

END PROJECT
STA 927+00

PT: 928+58.63

JEFFERSON AVE

ROW

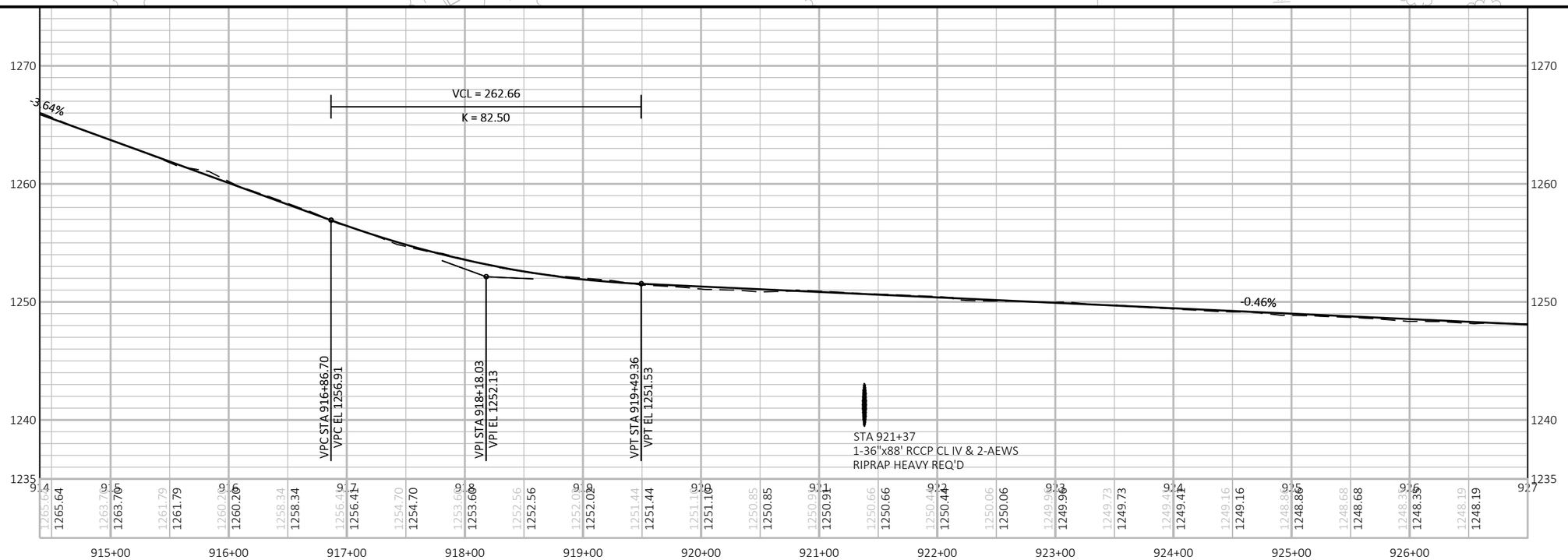
914+40.00

STA 916+80
MAINTAIN FE (GRAVEL)

STA 921+37
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

STA 924+50
MAINTAIN FE (GRAVEL)

PI STA = 924+43.56
Y = 223901.654
X = 557284.558
DELTA = 35°07'00"
D = 4°05'33"
T = 442.99'
L = 858.06'
R = 1400.00'
PC STA = 920+00.57
PT STA = 928+58.63



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: - STH 13 (1610-08-76)	SHEET E

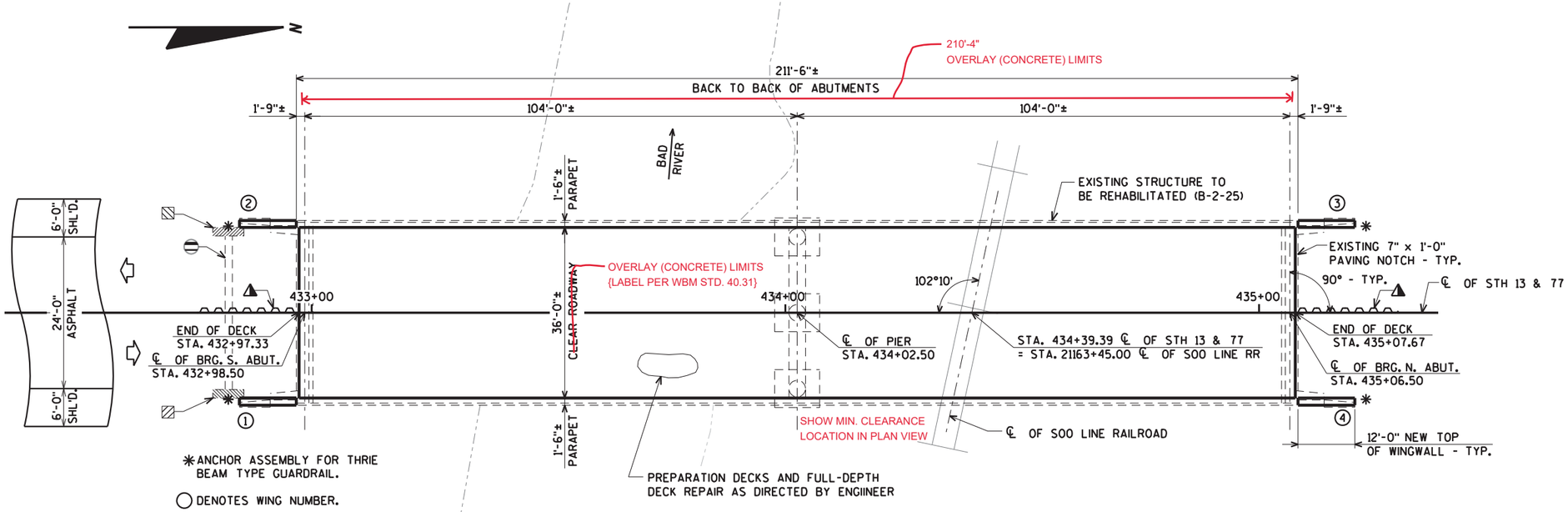
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LAYOUT NAME - 19

PLOT DATE : 10/9/2018 1:26 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

$PRFNAME$
U:\42-1087.00 - Ashland Co. STH 13 and 77 over the Soo Line RR Bridge Rehab\Structures\421087 gp

STATE PROJECT NUMBER

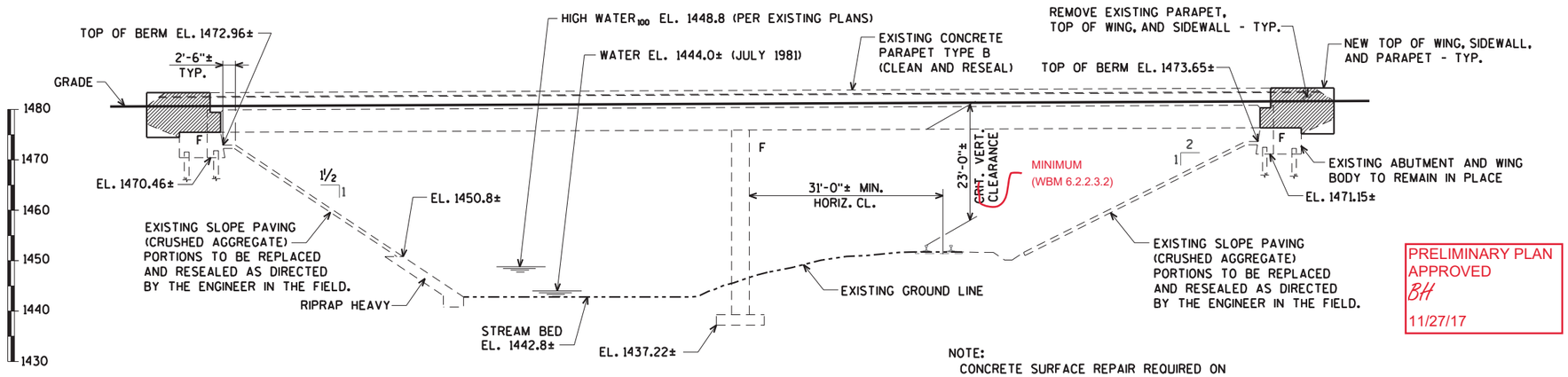
1610-11-73



PLAN

2 SPAN 54" PRESTRESSED GIRDER BRIDGE
(CONCRETE OVERLAY)

FOR TYPICAL SECTIONS AND DESIGN DATA SEE SHEET 2



ELEVATION

NOTE:
CONCRETE SURFACE REPAIR REQUIRED ON ABUTMENTS AND PIERS AS DIRECTED BY THE ENGINEER IN THE FIELD. INCLUDE PARAPETS ALSO?

PRELIMINARY PLAN APPROVED
BH
11/27/17

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

LIST OF DRAWINGS

1. PRELIMINARY PLAN
2. TYPICAL SECTIONS
2. QUANTITIES AND NOTES

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-2-25

STH 13 & 77 OVER THE BAD RIVER & SOO LINE RR

COUNTY	TOWN/~~CITY/VILLAGE~~
ASHLAND	GORDON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CBM		CLS	

PRELIMINARY PLAN

SHEET 1 OF 3

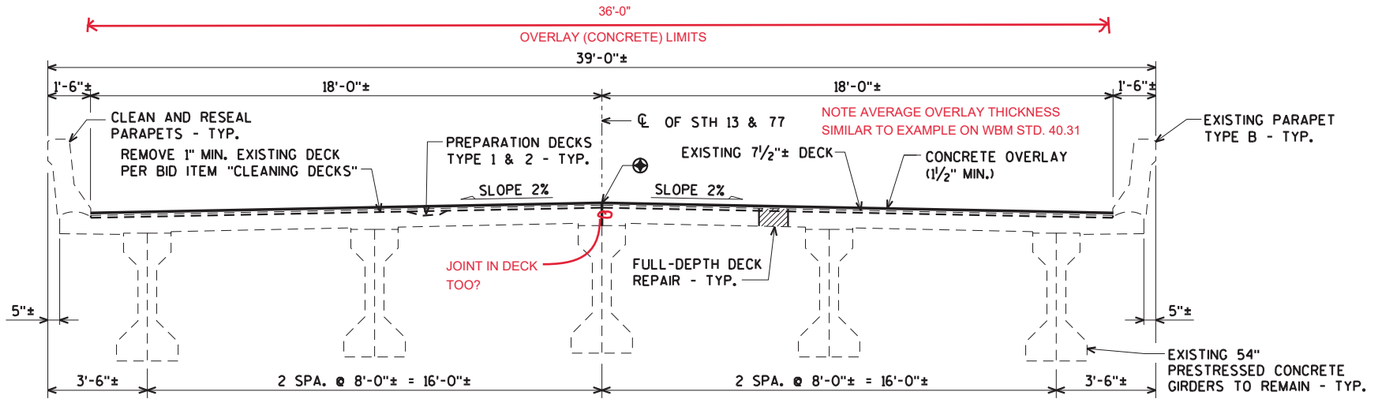
I.D. DATE:

DATE:
DATE:
DATE:

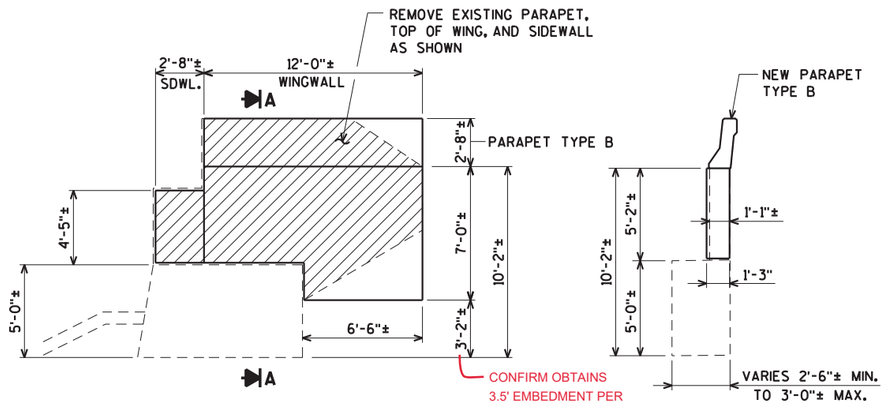
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

8



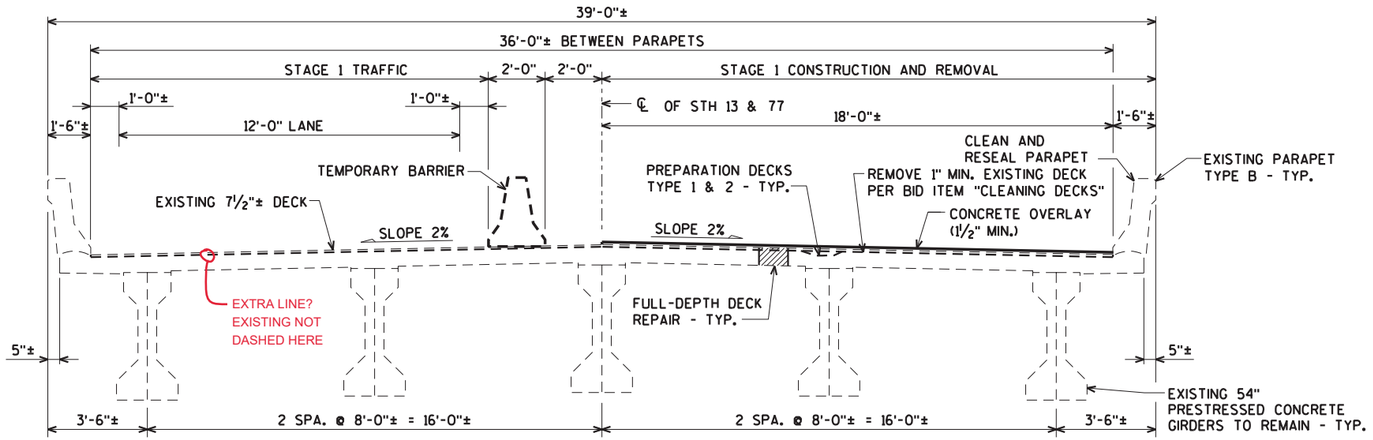
CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



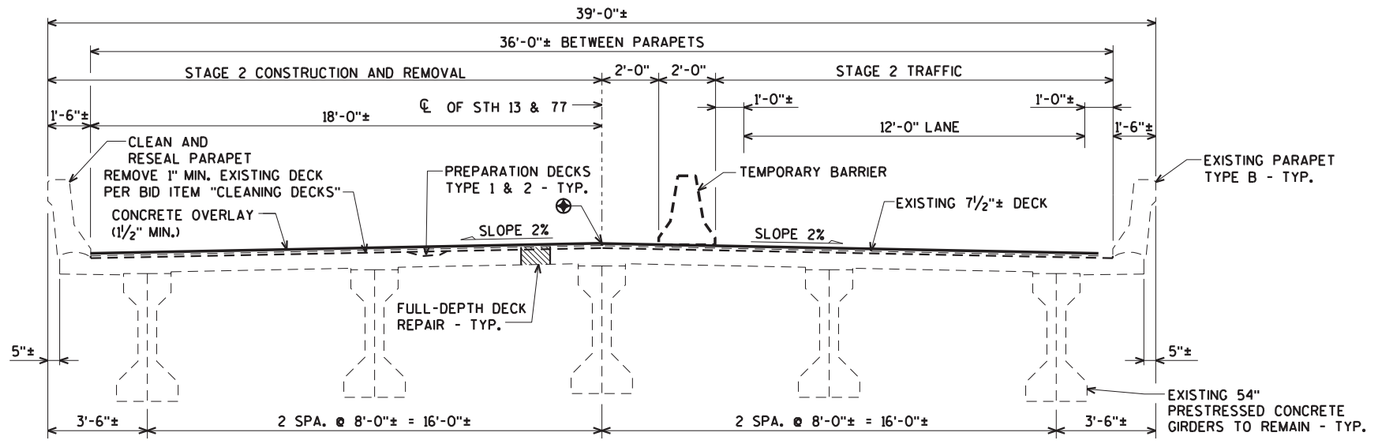
WING 2 ELEVATION
(OTHER WINGS SIMILAR)

SECTION A

CONFIRM EXISTING ABUTMENT CAN ACCOMMODATE THE PROPOSED CHANGE IN WING GEOMETRY.



CROSS SECTION THRU ROADWAY
STAGE 1 TRAFFIC
(LOOKING NORTH)



CROSS SECTION THRU ROADWAY
STAGE 2 TRAFFIC
(LOOKING NORTH)

⊕ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING:
OPERATING RATING:
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = KIPS

MATERIAL PROPERTIES:

OMIT THIS SINCE PATCHES FILLED WITH OVERLAY CONCRETE

CONCRETE MASONRY	~~DECK PATCHING &~~ OVERLAY & PARAPETS	f'_c =	4,000 p.s.i.
	ALL OTHER	f'_c =	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)		f_y =	60,000 p.s.i.

TRAFFIC DATA:

A.A.D.T. = 1,400 (2020)
A.A.D.T. = 1,600 (2040)
R.D.S. = 55 M.P.H.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-2-25

DRAWN BY CLS | PLANS CK'D.

TYPICAL SECTIONS

SHEET 2 OF 3

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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TOTAL ESTIMATED QUANTITIES

OMIT ROADWAY ITEMS AS NOTED ON SHEET 1.
INCLUDE ASBESTOS ABATEMENT PER ASBESTOS REPORT.
INCLUDE 604.9010.S SLOPE PAVING REPAIR CRUSHED AGGREGATE?

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 434+02.50	LS	1
	204.0245	REMOVING STORM SEWER 18-INCH	LF	
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-2-25	LS	1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	
	502.0100	CONCRETE MASONRY BRIDGES	CY	
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	
	502.3210	PIGMENTED SURFACE SEALER	SY	
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	
	509.0301	PREPARATION DECKS TYPE 1	SY	
	509.0302	PREPARATION DECKS TYPE 2	SY	
	509.0500	CLEANING DECKS	SY	
◑	509.1500	CONCRETE SURFACE REPAIR	SF	
	509.2000	FULL-DEPTH DECK REPAIR	SY	
△	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	
	511.1100	TEMPORARY SHORING B-2-25 (2)	SF	
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	
	522.0118	CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH (3)	LF	
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	
	SPV.0180.01	RESEAL PARAPETS	SY	
		NON-BID ITEMS		
		FILLER	SIZE	½"

◑ UNDISTRIBUTED FOR ABUTMENTS AND PIER & PARAPETS? AS DIRECTED BY THE ENGINEER IN THE FIELD.

△ BID ITEM ALSO INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL DEPTH DECK REPAIR".

SSR NOTES TYPE 2 DECK PREPARATION IS 20% OF TYPE 1. SUGGEST USING 40% PER WBM 6.4.22 UNLESS QUANTITY IS BASED OFF AN IR SCAN.

INCLUDE BID ITEMS/NOTES/DETAILS FROM WBM STD. 9.01 AS APPLICABLE FOR WING REPAIR WORK.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL PLANS.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

PREPARATION DECKS AND CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

NOTE THAT PREPARATION DECKS AND FULL-DEPTH REPAIR ARE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS" (PER WBM 40.31)

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" AT THE CENTERLINE AND AT THE FACE OF PARAPETS PLACED ABOVE THE DECK SURFACE AFTER "CLEANING DECKS". EXPECTED AVERAGE OVERLAY THICKNESS IS 1½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

2" (ADD 1/2" PER WBM STD. 40.31)

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM "PREPARATION DECKS".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM, "CLEANING DECKS", BUT LESS THAN 1½" MAXIMUM.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM 'CONCRETE MASONRY OVERLAY DECKS'.

OMIT THIS NOTE SINCE THERE IS A BID ITEM USED FOR EXCAVATION

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE INSIDE FACES AND TOP SURFACES OF THE NEW PARAPETS ON THE WINGWALLS PER MANUFACTURERS RECOMMENDATIONS. THE COLOR OF THE PIGMENTED SURFACE SEALER SHALL BE WHITE.

THE INSIDE FACES AND TOP SURFACES OF THE EXISTING PARAPETS ON THE SUPERSTRUCTURE SHALL BE RESEALED. SEE SPECIAL PROVISIONS. THE COLOR OF THE SURFACE TREATMENT SHALL BE WHITE.

THE CONCRETE APPROACH SLABS AT THE ABUTMENTS WILL VARY IN THICKNESS FROM 1'-0½" MIN. AT THE ℄ OF STH 13 & 77.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1985.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES AT THE WING REPAIR.

AT WING REPAIRS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW WING SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-2-25

DRAWN BY CLS | PLANS CK'D.

QUANTITIES AND NOTES

SHEET 3 OF 3

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

EARTHWORK DATA: STH 13 (1610-08-74)

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
392+19	--	--	--	--	--	--	--	CULVERT END
392+24	--	--	--	--	--	--	--	CULVERT END
392+29	--	--	--	--	--	--	--	CULVERT END
392+35	--	--	--	--	--	--	--	CULVERT END
409+00	6.84	6.84	0.98	0.00	0.00	0.00	0.00	
410+00	1.80	1.80	31.42	16.00	16.00	70.80	-54.80	
410+87	1.33	1.33	26.94	5.04	5.04	110.95	-160.71	
411+00	1.56	1.56	24.81	0.70	0.70	14.70	-174.71	
411+54	1.93	1.93	46.97	3.49	3.49	84.70	-255.92	CULVERT END
411+58	1.90	1.90	51.65	0.28	0.28	8.62	-264.26	CULVERT END
412+00	1.90	1.90	19.39	2.96	2.96	65.20	-326.50	
413+00	1.14	1.14	22.18	5.63	5.63	90.84	-411.71	
414+00	5.97	5.97	6.70	13.17	13.17	63.11	-461.65	
			SUBTOTAL:	**47.26**	**47.26**	**508.92**		
417+00	1.22	1.22	7.21	0.00	0.00	0.00	0.00	
418+00	1.31	1.31	6.61	4.69	4.69	30.20	-25.51	
419+00	0.99	0.99	17.49	4.26	4.26	52.66	-73.92	
420+00	1.03	1.03	17.10	3.74	3.74	75.59	-145.76	
420+11	1.13	1.13	21.87	0.44	0.44	9.37	-154.69	CULVERT END
420+20	1.14	1.14	11.32	0.38	0.38	6.53	-160.84	CULVERT END
420+52	1.34	1.34	7.50	1.47	1.47	13.16	-172.53	
421+00	1.22	1.22	7.06	2.28	2.28	15.27	-185.53	
422+00	1.28	1.28	3.95	4.63	4.63	24.06	-204.95	
			SUBTOTAL:	**21.88**	**21.88**	**226.83**		
431+00	3.88	3.88	19.29	0.00	0.00	0.00	0.00	
432+00	4.54	4.54	30.25	15.59	15.59	108.25	-92.66	
433+00	3.77	3.77	72.46	15.39	15.39	224.44	-301.71	
434+00	2.61	2.61	114.43	11.81	11.81	408.39	-698.29	
435+00	2.92	2.92	126.06	10.24	10.24	525.52	-1213.56	
436+00	2.45	2.45	122.94	9.94	9.94	544.11	-1747.73	
437+00	2.45	2.45	106.19	9.07	9.07	500.69	-2239.35	
437+30	1.99	1.99	97.64	2.47	2.47	133.62	-2370.50	
438+00	2.26	2.26	172.26	5.51	5.51	412.85	-2777.84	
438+50	3.00	3.00	185.26	4.87	4.87	390.62	-3163.59	EAT POST 1
438+75	2.78	2.78	173.24	2.68	2.68	195.85	-3356.76	EAT POST 5
439+00	2.72	2.72	129.78	2.55	2.55	165.54	-3519.76	EAT POST 9
439+75	2.67	2.67	239.65	7.49	7.49	605.45	-4117.72	CULVERT END
440+00	2.90	2.90	176.63	2.58	2.58	227.41	-4342.56	
441+00	2.95	2.95	147.80	10.83	10.83	708.94	-5040.66	
442+00	2.80	2.80	186.66	10.65	10.65	730.86	-5760.87	
443+00	3.42	3.42	130.88	11.52	11.52	693.88	-6443.24	
444+00	2.81	2.81	97.19	11.54	11.54	498.38	-6930.08	
445+00	3.19	3.19	139.27	11.11	11.11	516.71	-7435.67	
445+50	3.38	3.38	79.62	6.08	6.08	239.16	-7668.75	EAT POST 9
445+75	3.57	3.57	57.05	3.22	3.22	74.66	-7740.19	EAT POST 5
446+00	3.82	3.82	39.23	3.42	3.42	52.60	-7789.37	EAT POST 1
447+00	2.43	2.43	28.95	11.57	11.57	148.99	-7926.78	
448+00	4.13	4.13	14.39	12.15	12.15	94.71	-8009.34	
			SUBTOTAL:	**192.28**	**192.28**	**8201.62**		
455+23	23.38	23.38	16.37	0.00	0.00	0.00	0.00	
456+00	3.36	3.36	83.72	38.13	38.13	168.41	-130.28	
456+23	2.64	2.64	136.66	2.56	2.56	110.76	-238.49	CULVERT END
457+00	3.17	3.17	62.26	8.28	8.28	334.70	-564.90	
458+00	3.51	3.51	46.03	12.37	12.37	236.63	-789.17	
459+00	3.04	3.04	111.12	12.13	12.13	343.40	-1120.44	
460+00	3.14	3.14	124.57	11.44	11.44	515.03	-1624.02	
460+10	3.02	3.02	182.32	1.14	1.14	67.06	-1689.94	CULVERT END
461+00	2.55	2.55	155.00	9.28	9.28	663.40	-2344.05	
462+00	3.39	3.39	19.72	11.00	11.00	381.80	-2714.85	
463+00	3.66	3.66	14.67	13.06	13.06	75.15	-2776.94	
			SUBTOTAL:	**119.39**	**119.39**	**2896.34**		

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-74)

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

SHEET: E

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-74)

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

SHEET: E

EARTHWORK DATA: STH 13 (1610-08-74)

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
468+00	5.77	5.77	4.61	0.00	0.00	0.00	0.00	
469+00	3.50	3.50	13.72	17.17	17.17	40.05	-22.89	
469+30	3.78	3.78	16.79	4.04	4.04	20.00	-38.84	
470+00	3.02	3.02	47.66	8.81	8.81	98.58	-128.61	
470+50	3.32	3.32	83.37	5.87	5.87	143.16	-265.91	EAT POST 1
470+75	3.50	3.50	91.50	3.16	3.16	95.53	-358.28	EAT POST 5
471+00	3.67	3.67	122.56	3.32	3.32	116.94	-471.90	EAT POST 9
472+00	3.19	3.19	167.70	12.70	12.70	634.27	-1093.47	
472+31	5.59	5.59	219.88	5.04	5.04	262.55	-1350.98	CULVERT END
472+36	2.63	2.63	209.28	0.76	0.76	46.89	-1397.11	CULVERT END
473+00	2.65	2.65	134.80	6.26	6.26	481.20	-1872.05	
474+00	2.68	2.68	142.88	9.87	9.87	606.78	-2468.96	
475+00	2.45	2.45	123.68	9.50	9.50	582.48	-3041.95	
476+00	3.15	3.15	125.65	10.37	10.37	544.83	-3576.41	
477+00	3.16	3.16	155.70	11.69	11.69	614.80	-4179.52	
478+00	3.04	3.04	190.53	11.48	11.48	756.58	-4924.62	
478+25	3.29	3.29	238.76	2.93	2.93	234.52	-5156.21	CULVERT END
478+32	3.35	3.35	251.63	0.86	0.86	75.01	-5230.36	CULVERT END
479+00	3.12	3.12	147.69	8.15	8.15	593.36	-5815.57	
479+50	3.58	3.58	120.79	6.20	6.20	293.34	-6102.71	EAT POST 9
479+75	3.87	3.87	84.06	3.45	3.45	111.91	-6211.17	EAT POST 5
480+00	4.16	4.16	74.64	3.72	3.72	86.70	-6294.15	EAT POST 1
481+00	4.46	4.46	22.94	15.96	15.96	213.23	-6491.41	
481+26	1.73	1.73	7.63	2.98	2.98	17.37	-6505.80	
481+46	1.65	1.65	6.96	1.25	1.25	6.38	-6510.93	
482+00	1.48	1.48	6.30	3.13	3.13	15.65	-6523.44	
483+00	22.29	22.29	0.00	44.02	44.02	13.77	-6493.19	
			SUBTOTAL:	**212.70**	**212.70**	**6705.89**		
497+50	3.69	3.69	22.54	0.00	0.00	0.00	0.00	
498+00	3.88	3.88	26.57	7.01	7.01	53.66	-46.65	
499+00	3.42	3.42	44.96	13.52	13.52	156.31	-189.44	
499+65	3.89	3.89	43.37	8.80	8.80	125.46	-306.10	CULVERT END
500+00	3.47	3.47	40.21	4.77	4.77	63.92	-365.25	
501+00	3.28	3.28	36.65	12.50	12.50	167.95	-520.70	
502+00	3.27	3.27	40.92	12.13	12.13	169.50	-678.08	
503+00	3.44	3.44	45.52	12.43	12.43	188.89	-854.54	
504+00	3.47	3.47	37.66	12.80	12.80	181.76	-1023.51	
505+00	3.13	3.13	56.08	12.22	12.22	204.84	-1216.13	
506+00	2.82	2.82	53.01	11.02	11.02	238.38	-1443.49	
507+00	3.35	3.35	56.88	11.43	11.43	240.13	-1672.19	
507+62	3.40	3.40	95.49	7.75	7.75	206.43	-1870.88	CULVERT END
508+00	3.28	3.28	53.73	4.70	4.70	123.91	-1990.08	
509+00	3.75	3.75	58.57	13.02	13.02	245.40	-2222.46	
510+00	3.77	3.77	40.67	13.93	13.93	216.86	-2425.39	
511+23	5.28	5.28	14.59	20.61	20.61	148.53	-2553.31	
			SUBTOTAL:	**178.62**	**178.62**	**2731.93**		
524+00	4.31	4.31	34.36	0.00	0.00	0.00	0.00	
525+00	4.04	4.04	51.55	15.46	15.46	187.73	-172.27	
526+00	2.94	2.94	82.16	12.93	12.93	292.18	-451.52	
527+00	3.75	3.75	94.65	12.39	12.39	386.36	-825.50	
527+99	2.43	2.43	284.56	11.33	11.33	820.36	-1634.52	CULVERT END
528+00	2.39	2.39	286.94	0.09	0.09	12.49	-1646.92	
528+03	2.30	2.30	291.14	0.26	0.26	37.90	-1684.56	CULVERT END
528+08	2.13	2.13	295.25	0.41	0.41	64.07	-1748.22	CULVERT END
528+12	2.02	2.02	298.91	0.31	0.31	51.93	-1799.84	CULVERT END
529+00	2.49	2.49	191.77	7.35	7.35	943.56	-2736.05	
530+00	2.36	2.36	97.86	8.98	8.98	632.90	-3359.97	
531+00	2.85	2.85	77.00	9.65	9.65	382.10	-3732.42	
532+00	2.95	2.95	33.15	10.74	10.74	240.70	-3962.38	
533+00	3.86	3.86	17.80	12.61	12.61	111.34	-4061.10	
533+28	3.99	3.99	13.25	4.07	4.07	19.00	-4076.03	
			SUBTOTAL:	**106.58**	**106.58**	**4182.61**		

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-74)

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

SHEET:

E

EARTHWORK DATA: STH 13 (1610-08-74)

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
550+00	1.60	1.60	7.53	0.00	0.00	0.00	0.00	
550+79	1.55	1.55	13.60	4.61	4.61	36.48	-31.87	
551+00	1.89	1.89	14.36	1.34	1.34	12.83	-43.36	
552+00	1.68	1.68	36.08	6.61	6.61	110.22	-146.97	
552+24	19.60	19.60	59.82	9.46	9.46	50.29	-187.81	
553+00	1.74	1.74	127.97	30.03	30.03	311.87	-469.64	
554+00	1.66	1.66	114.77	6.30	6.30	530.43	-993.78	
555+00	1.91	1.91	119.67	6.61	6.61	512.29	-1499.46	
556+00	1.31	1.31	147.46	5.96	5.96	583.73	-2077.23	
556+96	1.46	1.46	204.77	4.92	4.92	738.90	-2811.20	CULVERT END
556+98	1.44	1.44	199.62	0.11	0.11	17.67	-2828.77	CULVERT END
557+00	1.44	1.44	192.35	0.11	0.11	17.13	-2845.79	
558+00	2.64	2.64	52.93	7.56	7.56	535.98	-3374.22	
558+17	2.83	2.83	42.22	1.72	1.72	35.35	-3407.85	
559+00	1.64	1.64	23.22	6.87	6.87	118.69	-3519.66	
560+00	1.86	1.86	19.87	6.48	6.48	94.16	-3607.34	
561+00	0.22	0.22	14.45	3.85	3.85	75.00	-3678.49	
562+00	0.14	0.14	12.48	0.67	0.67	58.85	-3736.67	
563+00	0.39	0.39	11.41	0.98	0.98	52.20	-3787.89	
564+00	0.49	0.49	14.42	1.63	1.63	56.44	-3842.70	
564+58	0.64	0.64	20.15	1.21	1.21	43.81	-3885.30	CULVERT END
565+00	0.62	0.62	12.45	0.98	0.98	29.92	-3914.24	
			SUBTOTAL:	**108.01**	**108.01**	**4022.25**		
588+97	--	--	--	--	--	--	--	CULVERT END -L
589+02	--	--	--	--	--	--	--	CULVERT END - R
596+48	--	--	--	--	--	--	--	CULVERT END
606+60	--	--	--	--	--	--	--	CULVERT END
611+00	26.58	26.58	6.49	0.00	0.00	0.00	0.00	
612+00	4.48	4.48	43.76	57.52	57.52	109.81	-52.29	
613+00	4.23	4.23	62.12	16.13	16.13	231.37	-267.52	
614+00	4.59	4.59	28.23	16.33	16.33	197.43	-448.62	
615+00	3.70	3.70	18.39	15.35	15.35	101.87	-535.14	
615+48	3.87	3.87	64.24	6.73	6.73	86.67	-615.09	CULVERT END
616+00	4.84	4.84	11.09	8.39	8.39	85.60	-692.30	
617+00	4.65	4.65	11.17	17.57	17.57	48.64	-723.36	
			SUBTOTAL:	**138.02**	**138.02**	**861.39**		
621+73	--	--	--	--	--	--	--	CULVERT END
632+00	1.01	1.01	6.34	0.00	0.00	0.00	0.00	
632+57	0.98	0.98	6.42	2.10	2.10	15.89	-13.79	
633+00	1.35	1.35	10.43	1.86	1.86	15.83	-27.77	
634+00	0.90	0.90	12.73	4.17	4.17	50.61	-74.21	
635+00	0.79	0.79	18.69	3.13	3.13	68.66	-139.74	
636+00	0.74	0.74	17.83	2.83	2.83	79.80	-216.71	
636+35	5.56	5.56	37.01	4.08	4.08	41.94	-254.57	CULVERT END
636+45	4.23	4.23	41.00	1.81	1.81	17.05	-269.80	CULVERT END
637+00	3.09	3.09	20.68	7.46	7.46	74.13	-336.48	
638+00	2.36	2.36	47.75	10.09	10.09	149.53	-475.92	
639+00	0.04	0.04	52.86	4.44	4.44	219.85	-691.32	
639+32	0.06	0.06	53.50	0.06	0.06	74.37	-765.64	
640+00	1.02	1.02	39.81	1.36	1.36	138.65	-902.93	
641+00	2.38	2.38	19.41	6.30	6.30	129.41	-1026.04	
641+50	3.31	3.31	2.90	5.27	5.27	24.38	-1045.15	
			SUBTOTAL:	**54.96**	**54.96**	**1100.11**		
TOTAL	**510.32**	**510.32**	**11794.64**	**1179.71**	**1179.71**	**31437.88**		

-- *=ABRUPT START, **=ABRUPT END, ***ABRUPT SECTION CHANGE

-- BOX CULVERT C-03-0060 EXTENDS FROM STA 530+60 - STA 530+80.

-- (1): REUSEABLE CUT MATERIAL AVAILABLE FOR USE IN CONSTRUCTION OUTSIDE ROADWAY 1:1

-- (2): FILL QUANTITIES ARE EXPANDED (SELECT BORROW=1.18)

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
667+00	5.22	5.22	29.65	0.00	0.00	0.00	0.00	
668+00	3.71	3.71	50.20	16.54	16.54	174.49	-157.95	
669+00	3.79	3.79	41.39	13.89	13.89	200.14	-344.20	
670+00	3.37	3.37	42.30	13.26	13.26	182.88	-513.82	
670+76	3.65	3.65	87.99	9.88	9.88	216.38	-720.32	CULVERT END
671+00	4.01	4.01	54.37	3.40	3.40	74.66	-791.57	
672+00	3.81	3.81	42.47	14.48	14.48	211.61	-988.71	
673+00	4.37	4.37	15.79	15.15	15.15	127.31	-1100.87	
674+00	5.01	5.01	14.97	17.37	17.37	67.22	-1150.71	
675+00	3.46	3.46	63.71	15.69	15.69	171.93	-1306.96	
676+00	4.10	4.10	87.29	14.00	14.00	329.96	-1622.92	
676+31	3.88	3.88	125.92	4.58	4.58	144.43	-1762.77	CULVERT END
677+00	3.99	3.99	78.48	10.06	10.06	308.19	-2060.90	
678+00	4.43	4.43	29.84	15.59	15.59	236.70	-2282.01	
679+00	7.86	7.86	15.56	22.76	22.76	99.21	-2358.46	
			SUBTOTAL:	**186.64**	**186.64**	**2545.10**		
681+31	--	--	--	--	--	--	--	CULVERT END
693+30	5.20	5.20	3.55	0.00	0.00	0.00	0.00	
694+00	6.84	6.84	24.26	15.61	15.61	42.54	-26.93	
694+59	4.74	4.74	85.36	12.65	12.65	141.33	-155.61	CULVERT END
694+87	4.01	4.01	125.01	4.54	4.54	128.72	-279.79	CULVERT END
695+00	4.10	4.10	114.40	1.95	1.95	68.01	-345.84	
696+00	6.37	6.37	28.66	19.39	19.39	312.61	-639.07	
696+23	6.60	6.60	18.60	5.52	5.52	23.75	-657.30	
696+24	1.88	1.88	18.03	0.16	0.16	0.80	-657.94	
697+00	1.97	1.97	10.28	5.42	5.42	47.02	-699.54	
698+00	2.93	2.93	4.61	9.07	9.07	32.54	-723.00	
			SUBTOTAL:	**74.31**	**74.31**	**797.31**		
710+60	8.86	8.86	0.35	0.00	0.00	0.00	0.00	
711+00	6.61	6.61	5.03	11.46	11.46	4.70	6.76	
711+58	7.08	7.08	9.48	14.70	14.70	18.39	3.07	CULVERT END
711+66	6.51	6.51	13.28	2.01	2.01	3.98	1.11	CULVERT END
711+74	5.98	5.98	21.96	1.85	1.85	6.16	-3.20	CULVERT END
711+92	29.02	29.02	11.91	11.67	11.67	13.32	-4.86	
712+05	22.97	22.97	22.52	12.52	12.52	9.78	-2.12	CULVERT END
712+14	9.46	9.46	31.59	5.41	5.41	10.64	-7.36	CULVERT END
712+20	10.51	10.51	51.27	2.22	2.22	10.86	-16.01	CULVERT END
713+00	4.90	4.90	19.93	22.83	22.83	124.47	-117.65	
714+00	5.26	5.26	23.97	18.81	18.81	95.93	-194.76	
715+00	3.33	3.33	35.93	15.91	15.91	130.89	-309.75	
716+00	3.20	3.20	52.00	12.09	12.09	192.14	-489.80	
717+00	2.62	2.62	119.83	10.78	10.78	375.48	-854.50	EAT POST 1
717+25	2.47	2.47	129.25	2.36	2.36	136.07	-988.21	EAT POST 5
717+50	3.81	3.81	126.83	2.91	2.91	139.90	-1125.20	EAT POST 9
718+00	1.50	1.50	54.19	4.92	4.92	197.78	-1318.07	
718+29	1.31	1.31	74.02	7.49	1.51	346.73	-1657.30	CULVERT END
718+39	1.36	1.36	111.03	0.49	0.49	40.44	-1697.24	CULVERT END
719+00	0.65	0.65	83.86	2.27	2.27	259.78	-1954.76	
719+99	2.50	2.50	16.92	5.78	5.78	218.02	-2167.00	
720+01	1.52	1.52	98.38	0.15	0.15	5.04	-2171.89	
720+50	1.71	1.71	54.19	2.93	2.93	163.36	-2332.32	EAT POST 9
720+75	1.71	1.71	36.66	1.58	1.58	49.63	-2380.37	EAT POST 5
721+00	2.40	2.40	29.90	1.90	1.90	36.36	-2414.83	EAT POST 1
722+00	2.46	2.46	11.37	9.00	9.00	90.18	-2496.01	
			SUBTOTAL:	**184.03**	**178.05**	**2680.04**		
731+00	11.77	11.77	6.48	0.00	0.00	0.00	0.00	
732+00	4.25	4.25	56.84	29.67	29.67	138.37	-108.70	
732+69	3.56	3.56	111.44	9.98	9.98	253.73	-352.45	CULVERT END
733+00	4.48	4.48	93.69	4.62	4.62	138.96	-486.79	
734+00	3.29	3.29	94.24	14.39	14.39	410.66	-883.06	
735+00	0.97	0.97	133.35	7.89	7.89	497.33	-1372.50	
736+00	3.83	3.83	62.83	8.89	8.89	428.69	-1792.30	
736+01	1.29	1.29	53.21	0.09	0.09	2.54	-1794.74	
737+00	1.38	1.38	24.78	4.90	4.90	168.72	-1958.57	
738+00	2.25	2.25	9.75	6.72	6.72	75.45	-2027.30	
			SUBTOTAL:	**87.14**	**87.14**	**2114.44**		

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-76)

SHEET: E

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
763+50	19.64	19.64	2.73	0.00	0.00	0.00	0.00	
764+00	3.16	3.16	2.96	21.11	21.11	6.22	14.89	
764+49	2.83	2.83	3.64	5.44	5.44	7.07	13.26	
764+50	7.32	7.32	4.30	0.19	0.19	0.17	13.28	
765+00	5.60	5.60	15.01	11.96	11.96	21.10	4.14	
765+92	4.40	4.40	53.30	17.04	17.04	137.33	-116.15	CULVERT END
766+02	4.51	4.51	18.18	1.65	1.65	15.62	-130.12	CULVERT END
767+00	3.46	3.46	61.05	14.46	14.46	169.67	-285.32	
768+00	3.36	3.36	19.67	12.63	12.63	176.39	-449.08	
			SUBTOTAL:	**84.48**	**84.48**	**533.56**		
770+89	--	--	--	--	--	--	--	CULVERT END
771+23	--	--	--	--	--	--	--	CULVERT END
784+00	7.63	7.63	3.37	0.00	0.00	0.00	0.00	
785+00	5.32	5.32	30.13	23.98	23.98	73.20	-49.22	
785+92	3.40	3.40	121.51	14.86	14.86	304.85	-339.22	CULVERT END
786+00	3.50	3.50	63.46	1.02	1.02	32.34	-370.53	
787+00	2.90	2.90	111.92	11.85	11.85	383.24	-741.92	
788+00	3.39	3.39	150.62	11.65	11.65	573.70	-1303.97	
789+00	3.94	3.94	141.09	13.57	13.57	637.44	-1927.83	
790+00	5.96	5.96	41.81	18.33	18.33	399.67	-2309.17	
791+00	7.35	7.35	3.45	24.65	24.65	98.90	-2383.42	
			SUBTOTAL:	**119.92**	**119.92**	**2503.34**		
794+07	--	--	--	--	--	--	--	CULVERT END
794+10	--	--	--	--	--	--	--	CULVERT END
798+07	4.25	4.25	9.60	0.00	0.00	0.00	0.00	
798+28	3.69	3.69	30.41	3.09	3.09	18.36	-15.27	
798+59	3.98	3.98	37.62	4.40	4.40	46.08	-56.95	
798+91	3.76	3.76	43.77	4.59	4.59	56.91	-109.28	CULVERT END
799+00	4.02	4.02	20.46	1.30	1.30	12.63	-120.61	
799+82	10.77	10.77	10.28	22.46	22.46	55.08	-153.24	
			SUBTOTAL:	**35.83**	**35.83**	**189.07**		
804+00	3.13	3.13	15.18	0.00	0.00	0.00	0.00	
804+10	2.90	2.90	45.98	1.12	1.12	13.36	-12.25	EAT POST 1
804+35	2.54	2.54	58.94	2.52	2.52	57.32	-67.05	EAT POST 5
804+59	2.56	2.56	77.70	2.27	2.27	71.66	-136.44	EAT POST 9
805+00	2.30	2.30	139.84	3.69	3.69	194.90	-327.65	
806+00	2.19	2.19	380.08	8.31	8.31	1136.12	-1455.46	
806+25	2.38	2.38	451.66	2.12	2.12	454.38	-1907.72	CULVERT END
806+69	3.03	3.03	242.91	4.41	4.41	667.82	-2571.13	CULVERT END
806+99	3.79	3.79	112.83	3.79	3.79	233.21	-2800.54	
807+00	0.77	0.77	104.04	0.08	0.08	4.74	-2805.20	
807+39	0.40	0.40	32.98	0.85	0.85	116.77	-2921.12	
807+50	0.00	0.00	46.88	0.08	0.08	19.20	-2940.24	EAT POST 9
807+75	0.00	0.00	38.57	0.00	0.00	46.68	-2986.92	EAT POST 5
808+00	0.00	0.00	37.41	0.00	0.00	41.51	-3028.43	EAT POST 1
808+10	0.00	0.00	28.86	0.00	0.00	14.48	-3042.91	
			SUBTOTAL:	**29.23**	**29.23**	**3072.14**		

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-76)

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

SHEET: E

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
811+83	0.00	0.00	4.78	0.00	0.00	0.00	0.00	
812+00	0.00	0.00	11.24	0.00	0.00	5.95	-5.95	
813+00	0.00	0.00	32.91	0.00	0.00	96.48	-102.43	EAT POST 1
813+25	0.00	0.00	17.52	0.00	0.00	27.55	-129.98	EAT POST 5
813+50	1.67	1.67	0.00	0.77	0.77	9.57	-138.77	EAT POST 9
813+55	1.73	1.73	0.00	0.31	0.31	0.00	-138.46	
814+00	0.81	0.81	3.85	2.12	2.12	3.79	-140.13	
814+75	0.33	0.33	47.12	1.58	1.58	83.53	-222.08	
815+00	0.36	0.36	59.89	0.32	0.32	58.46	-280.22	
815+03	0.37	0.37	61.79	0.04	0.04	7.98	-288.16	
816+00	0.13	0.13	79.54	0.90	0.90	299.57	-586.83	
817+00	0.06	0.06	100.37	0.35	0.35	393.14	-979.61	
818+00	0.07	0.07	119.07	0.24	0.24	479.52	-1458.89	
819+00	0.02	0.02	128.11	0.17	0.17	540.13	-1998.85	
820+00	0.05	0.05	183.98	0.13	0.13	681.97	-2680.70	
821+00	0.03	0.03	118.79	0.15	0.15	661.61	-3342.16	
822+00	0.41	0.41	78.76	0.81	0.81	431.68	-3773.03	
823+00	0.26	0.26	73.72	1.24	1.24	333.20	-4104.98	
823+74	0.34	0.34	71.96	0.82	0.82	235.57	-4339.73	CULVERT END
824+00	0.48	0.48	58.71	0.39	0.39	74.24	-4413.58	
825+00	1.01	1.01	0.00	2.76	2.76	128.29	-4539.11	
825+50	1.06	1.06	5.45	1.92	1.92	5.95	-4543.15	EAT POST 9
825+74	0.00	0.00	46.78	0.47	0.47	27.39	-4570.07	EAT POST 5
826+00	0.00	0.00	79.31	0.00	0.00	71.64	-4641.71	EAT POST 1
826+30	0.00	0.00	2.06	0.00	0.00	53.34	-4695.05	
			SUBTOTAL:	**15.50**	**15.50**	**4710.55**		
830+50	5.73	5.73	3.37	0.00	0.00	0.00	0.00	
831+00	4.89	4.89	28.45	9.83	9.83	34.77	-24.93	
831+88	5.23	5.23	75.01	16.49	16.49	198.95	-207.39	CULVERT END
832+00	5.18	5.18	54.51	2.31	2.31	33.96	-239.04	
833+00	6.21	6.21	5.09	21.09	21.09	130.24	-348.18	
834+00	3.72	3.72	23.65	18.39	18.39	62.80	-392.60	
835+00	5.74	5.74	47.55	17.52	17.52	155.59	-530.66	
835+46	4.56	4.56	82.83	8.77	8.77	131.06	-652.95	CULVERT END
836+00	6.16	6.16	39.08	10.72	10.72	143.85	-786.08	
837+00	6.73	6.73	9.80	23.87	23.87	106.81	-869.02	
			SUBTOTAL:	**129.00**	**129.00**	**998.03**		
845+20	7.36	7.36	14.21	0.00	0.00	0.00	0.00	
845+88	3.97	3.97	123.96	14.27	14.27	205.31	-191.04	CULVERT END
845+95	3.96	3.96	155.88	1.03	1.03	42.81	-232.82	CULVERT END
846+00	4.07	4.07	147.48	0.74	0.74	33.14	-265.22	
847+00	5.51	5.51	77.01	17.74	17.74	490.55	-738.03	
848+00	4.43	4.43	54.03	18.41	18.41	286.35	-1005.97	
849+00	6.02	6.02	22.82	19.35	19.35	167.93	-1154.55	
850+00	6.00	6.00	33.19	22.26	22.26	122.39	-1254.68	
851+00	4.88	4.88	72.47	20.15	20.15	230.89	-1465.42	
852+00	5.65	5.65	43.68	19.50	19.50	253.81	-1699.73	
853+00	9.46	9.46	14.84	27.98	27.98	127.88	-1799.63	
			SUBTOTAL:	**161.43**	**161.43**	**1961.06**		
859+50	2.29	2.29	30.78	0.00	0.00	0.00	0.00	
860+00	2.13	2.13	23.61	4.09	4.09	59.43	-55.33	
861+00	2.52	2.52	104.62	8.61	8.61	280.21	-326.93	
861+17	2.56	2.56	99.95	1.60	1.60	75.99	-401.32	CULVERT END
862+00	2.35	2.35	219.98	7.55	7.55	580.26	-974.03	
862+31	2.54	2.54	193.51	2.81	2.81	280.10	-1251.33	CULVERT END
863+00	2.72	2.72	73.76	6.72	6.72	402.98	-1647.59	
864+00	1.63	1.63	128.11	8.06	8.06	441.12	-2080.66	
865+00	0.95	0.95	172.39	4.78	4.78	656.65	-2732.53	
866+01	1.13	1.13	210.76	3.89	3.89	845.63	-3574.27	CULVERT END
867+00	1.56	1.56	34.94	4.93	4.93	531.53	-4100.86	
868+00	5.21	5.21	0.06	12.54	12.54	76.48	-4164.81	
869+00	2.36	2.36	3.86	14.02	14.02	8.57	-4159.36	
870+00	2.27	2.27	55.38	8.57	8.57	129.45	-4280.23	
870+48	1.88	1.88	74.04	3.69	3.69	135.75	-4412.29	CULVERT END
871+00	1.97	1.97	10.44	3.71	3.71	95.99	-4504.58	
872+00	2.35	2.35	0.19	8.00	8.00	23.23	-4519.81	
			SUBTOTAL:	**103.56**	**103.56**	**4623.37**		

PROJECT NO:1610-08-74,1610-08-76,1610-11-73

HWY: STH 13

COUNTY: ASHLAND

EARTHWORK DATA SHEETS (1610-08-76)

PLOT DATE : June 14, 1911

PLOT BY : A.R.H.

PLOT NAME :

PLOT SCALE : 1:1

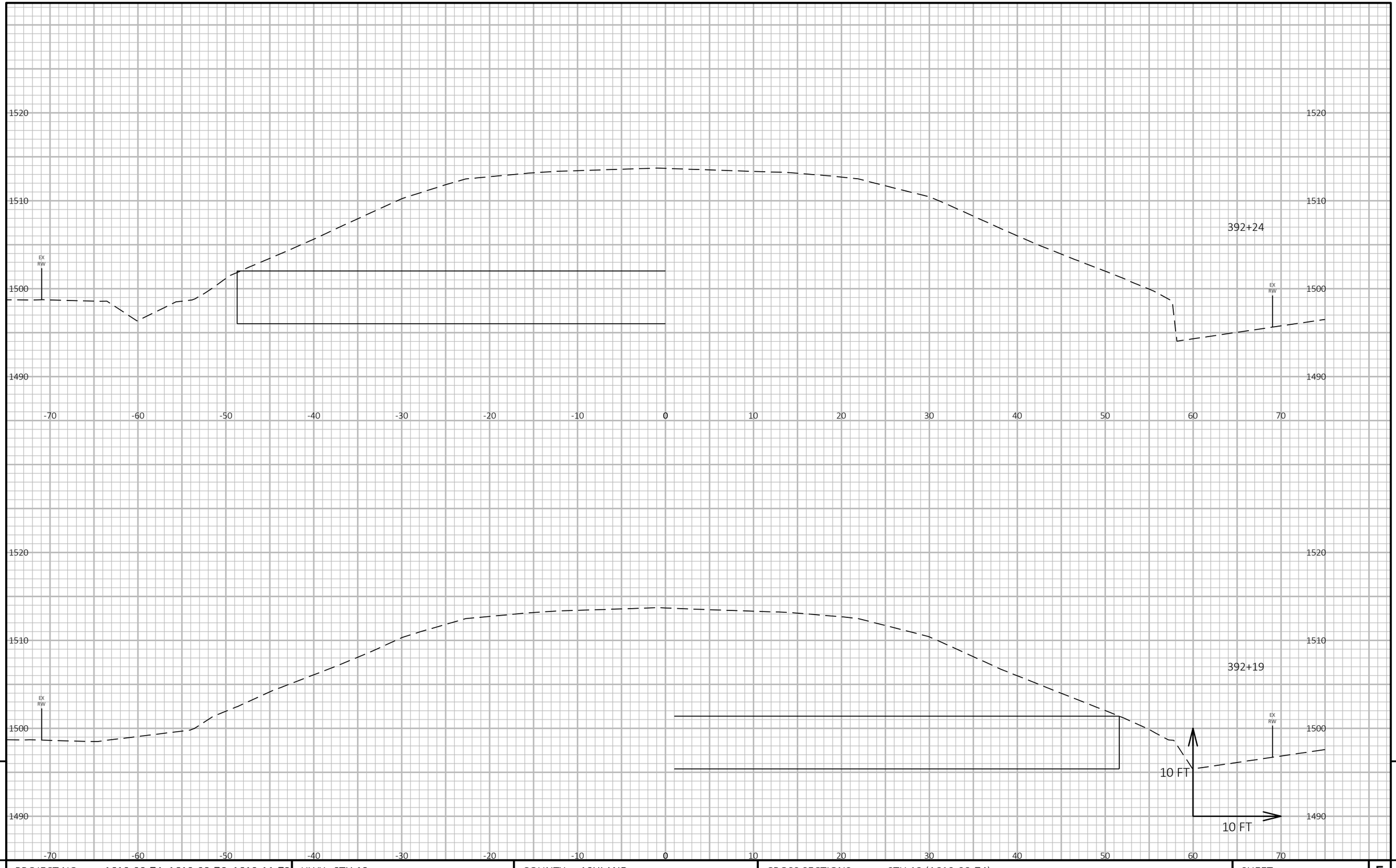
SHEET:

E

STATION	AREA (SF) CUT	AREA (SF) REUSEABLE CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) (1) REUSEABLE CUT	INCREMENTAL VOLUME (CY) (2) FILL	CUMULATIVE VOLUME (CY) MASS ORDINATE	NOTES
884+00	1.82	1.82	0.85	0.00	0.00	0.00	0.00	
885+00	1.39	1.39	36.72	5.94	5.94	82.10	-76.15	
885+69	2.84	2.84	103.25	5.41	5.41	211.04	-281.79	CULVERT END
886+00	5.85	5.85	84.81	4.99	4.99	127.39	-404.20	
886+48	3.96	3.96	134.75	8.72	8.72	230.29	-625.77	CULVERT END
887+00	3.47	3.47	108.38	7.15	7.15	276.27	-894.88	
888+00	2.96	2.96	39.01	11.91	11.91	322.07	-1205.05	
888+10	3.22	3.22	35.54	1.14	1.14	16.29	-1220.20	
888+11	0.64	0.64	15.43	0.07	0.07	1.11	-1221.24	
889+00	0.62	0.62	12.19	2.08	2.08	53.72	-1272.88	
890+00	1.55	1.55	2.35	4.02	4.02	31.77	-1300.63	
			SUBTOTAL:	**51.43**	**51.43**	**1352.06**		
895+50	12.59	12.59	2.56	0.00	0.00	0.00	0.00	
896+00	4.87	4.87	47.52	16.17	16.17	54.72	-38.55	
897+00	4.02	4.02	113.85	16.46	16.46	352.62	-374.71	
898+00	4.96	4.96	89.78	16.63	16.63	444.97	-803.05	
899+00	5.30	5.30	139.27	19.00	19.00	500.52	-1284.57	
899+81	4.87	4.87	331.69	15.26	15.26	833.60	-2102.91	
900+00	5.24	5.24	246.54	3.56	3.56	240.07	-2339.43	
900+31	6.31	6.31	274.36	6.63	6.63	352.86	-2685.66	
901+00	5.20	5.20	131.84	14.71	14.71	612.46	-3283.41	
902+00	6.18	6.18	11.71	21.07	21.07	313.68	-3576.02	
			SUBTOTAL:	**129.48**	**129.48**	**3705.50**		
917+50	8.10	8.10	7.81	0.00	0.00	0.00	0.00	
918+00	5.48	5.48	30.00	12.57	12.57	41.31	-28.74	
918+52	6.72	6.72	39.52	11.75	11.75	79.00	-95.98	
919+00	4.35	4.35	68.32	9.84	9.84	113.11	-199.26	
919+03	4.25	4.25	68.24	0.48	0.48	8.95	-207.73	
919+54	5.19	5.19	41.56	8.92	8.92	122.37	-321.18	
920+00	5.74	5.74	25.03	9.31	9.31	66.94	-378.81	
920+49	6.22	6.22	26.18	10.85	10.85	54.83	-422.79	
921+00	4.15	4.15	57.57	9.79	9.79	93.33	-506.33	
921+38	3.87	3.87	112.14	5.64	5.64	140.92	-641.61	
922+00	1.79	1.79	61.17	6.50	6.50	234.80	-869.91	
923+00	1.86	1.86	60.79	6.76	6.76	266.51	-1129.66	
924+00	1.75	1.75	46.47	6.69	6.69	234.38	-1357.35	
924+22	1.79	1.79	24.90	1.44	1.44	34.31	-1390.22	
			SUBTOTAL:	**100.54**	**100.54**	**1490.76**		
			GRAND TOTAL:	**1492.54**	**1486.55**	**33276.33**		

-- *=ABRUPT START, **=ABRUPT END, ***ABRUPT SECTION CHANGE
-- BOX CULVERT C-03-0060 EXTENDS FROM STA 530+60 - STA 530+80.
-- (1): REUSEABLE CUT MATERIAL AVAILABLE FOR USE IN CONSTRUCTION OUTSIDE ROADWAY 1:1
-- (2): FILL QUANTITIES ARE EXPANDED (SELECT BORROW=1.18)

PROJECT NO:1610-08-74,1610-08-76,1610-11-73
HWY: STH 13
COUNTY: ASHLAND
EARTHWORK DATA SHEETS (1610-08-76)
PLOT DATE : June 14, 1911
PLOT BY : A.R.H.
PLOT NAME :
PLOT SCALE : 1:1
SHEET: E



9

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

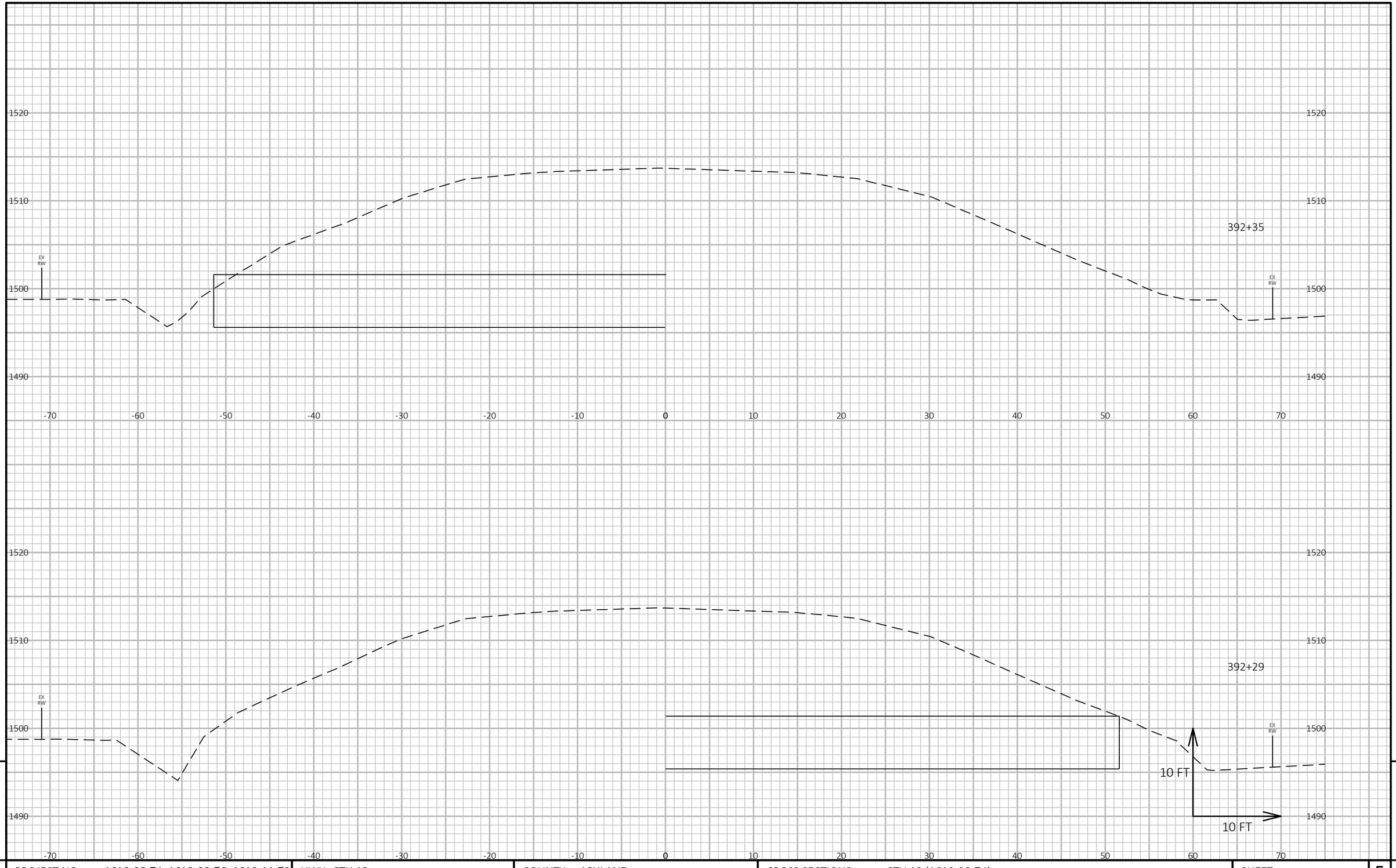
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LAYOUT NAME - XS-(1)

PLOT DATE : 9/25/2018 12:01 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

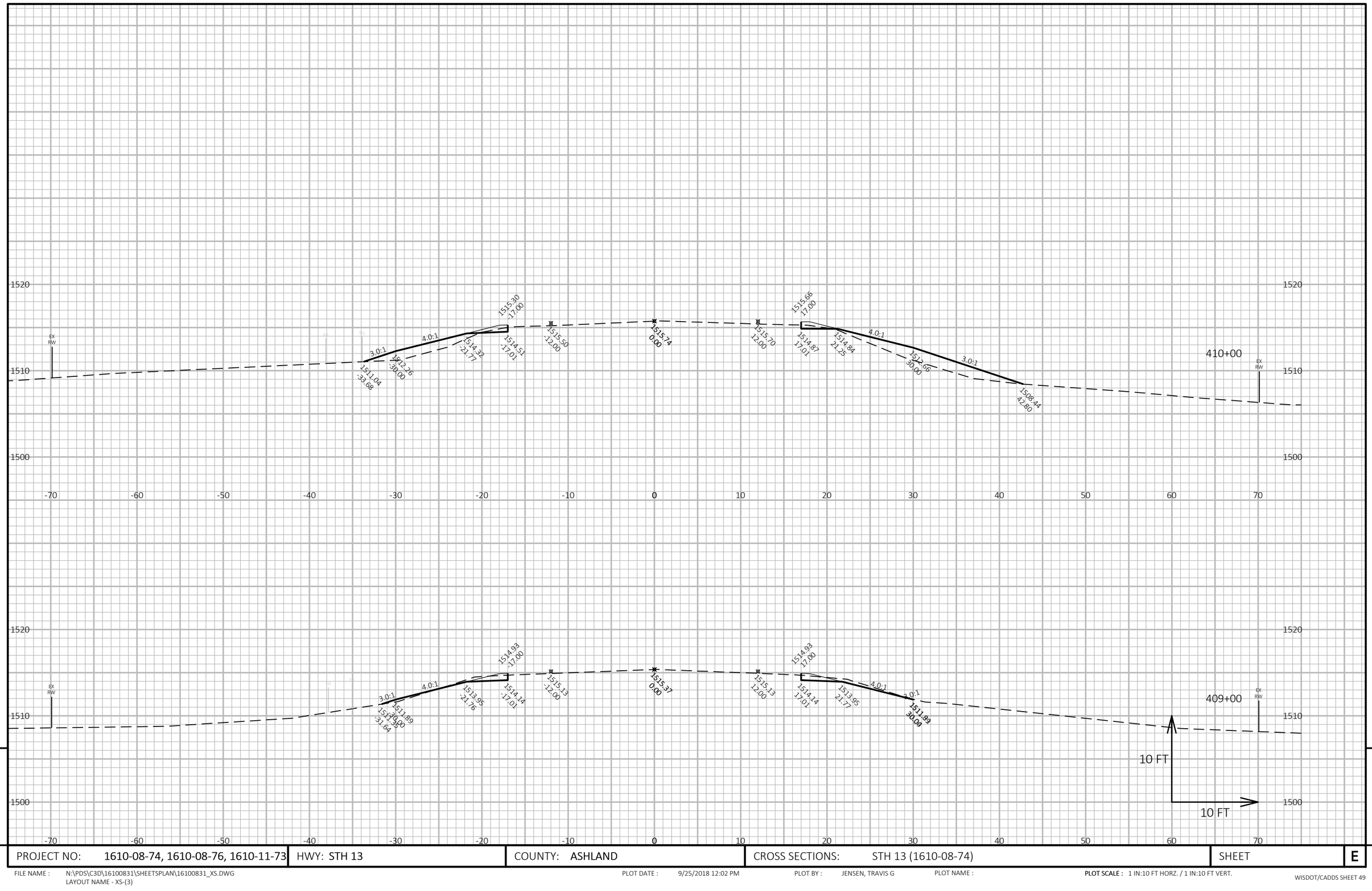
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LAYOUT NAME - XS-(2)

PLOT DATE : 9/25/2018 12:01 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

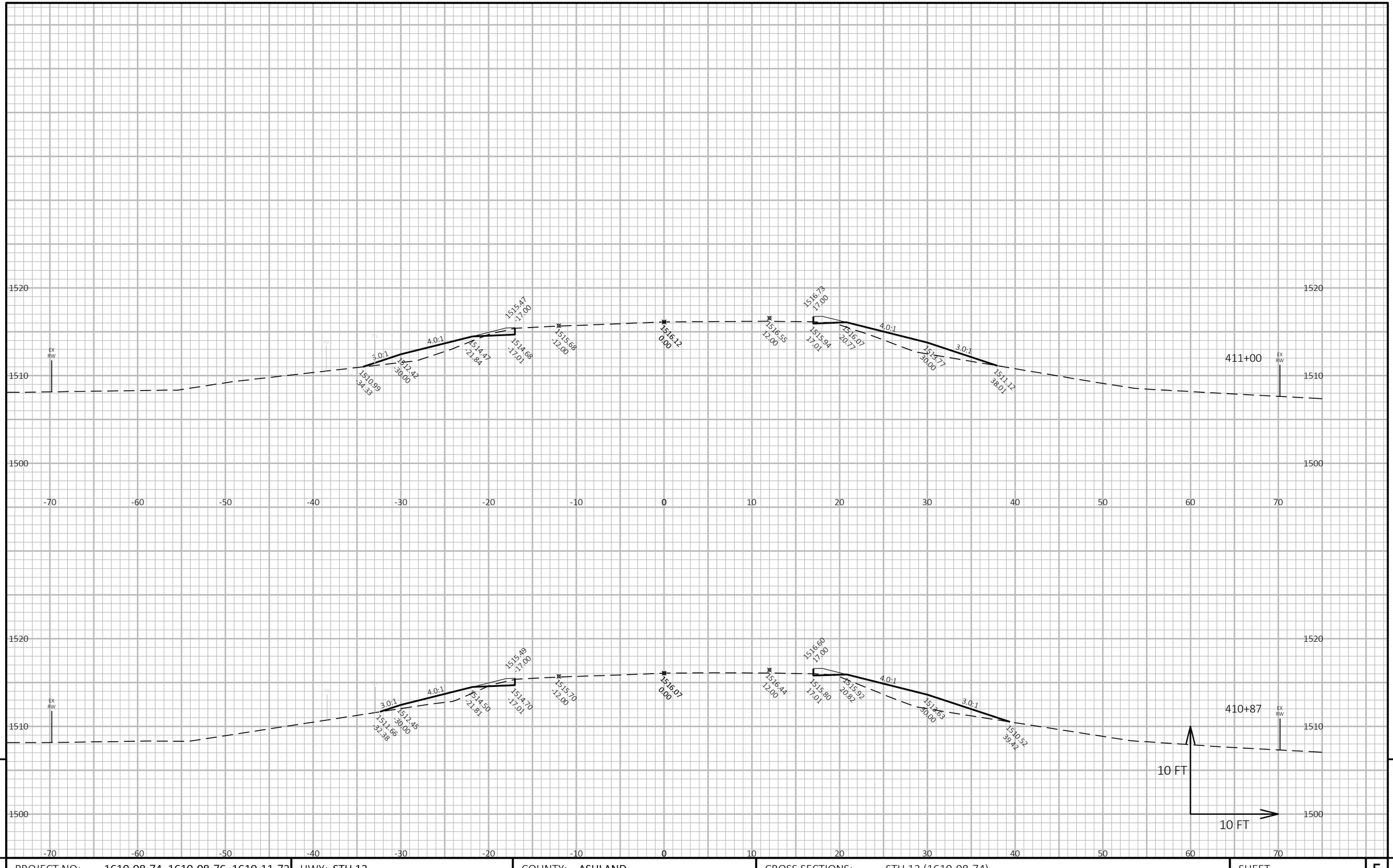
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LAYOUT NAME - XS-(3)

PLOT DATE : 9/25/2018 12:02 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

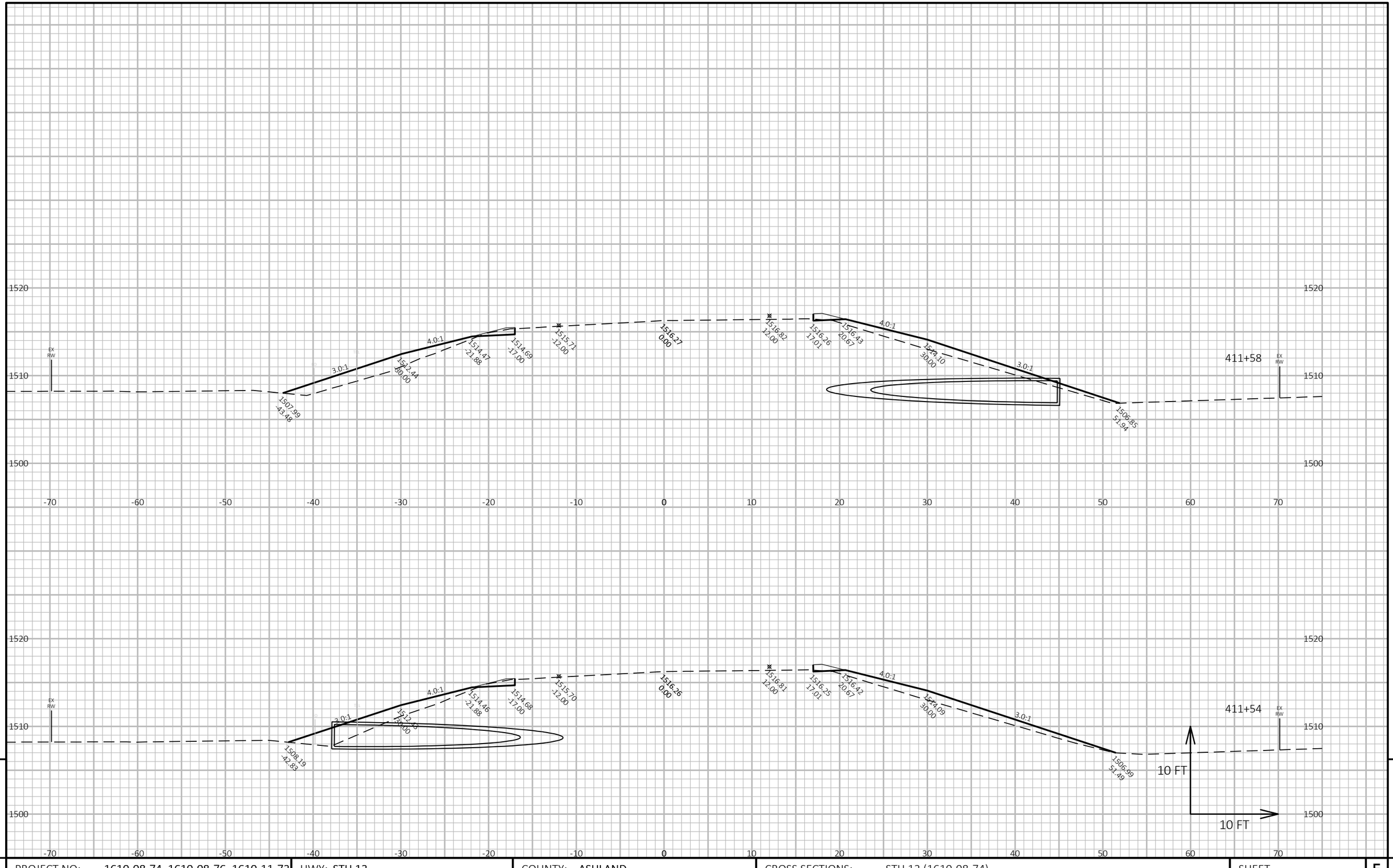
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LAYOUT NAME - XS-(4)

PLOT DATE : 9/25/2018 12:02 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

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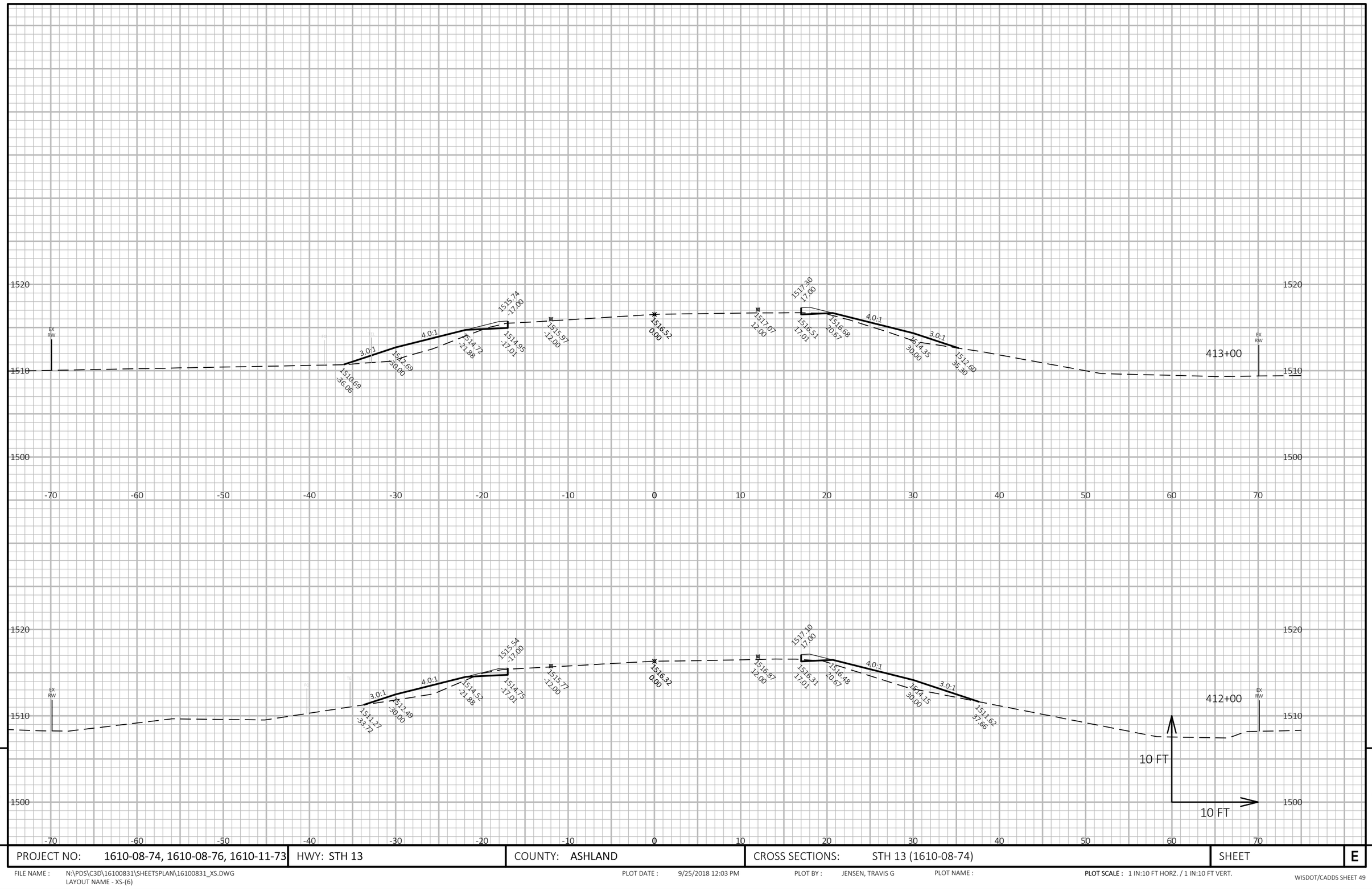
PLOT DATE : 9/25/2018 12:03 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

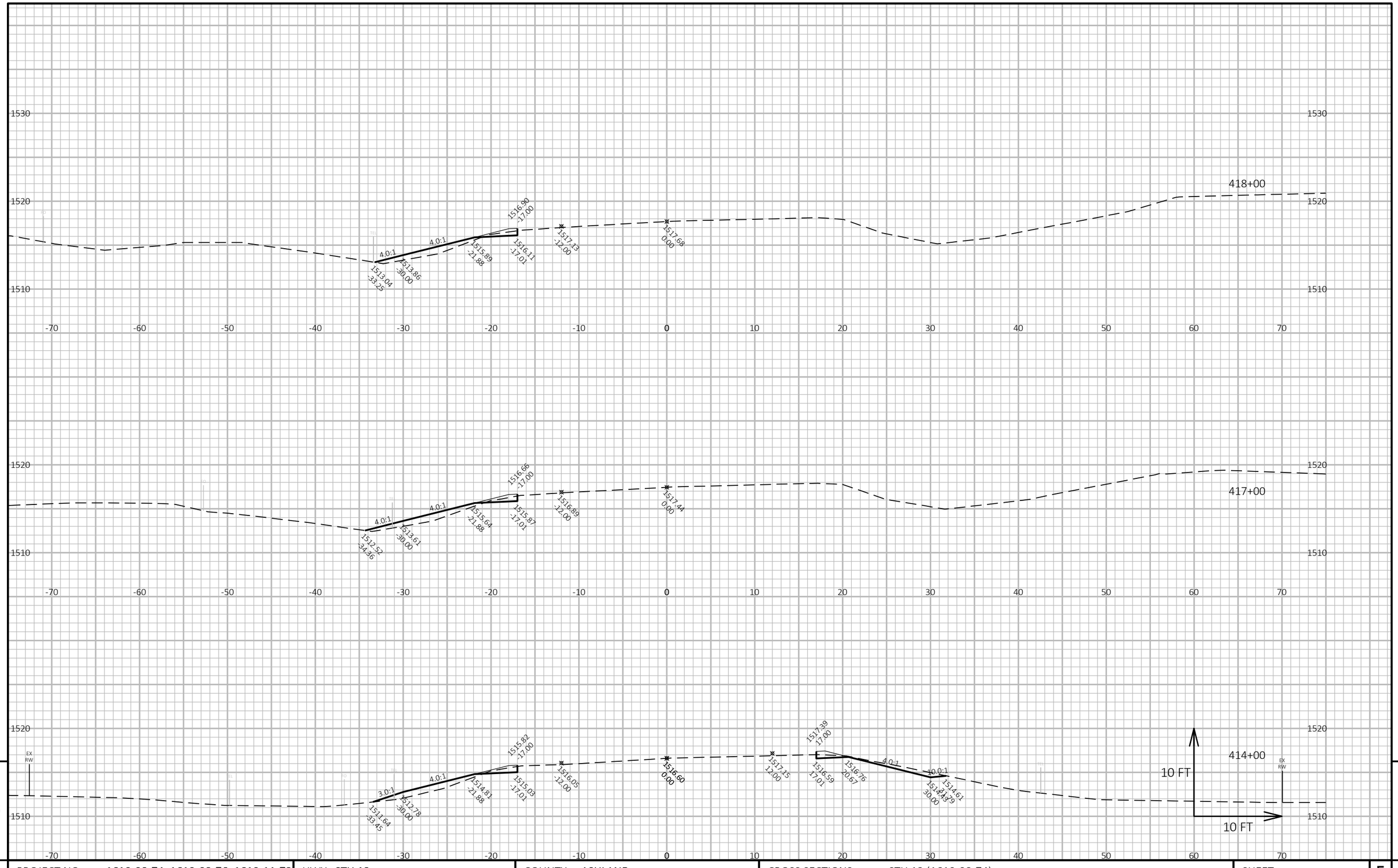
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LAYOUT NAME - XS-(6)

PLOT DATE : 9/25/2018 12:03 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

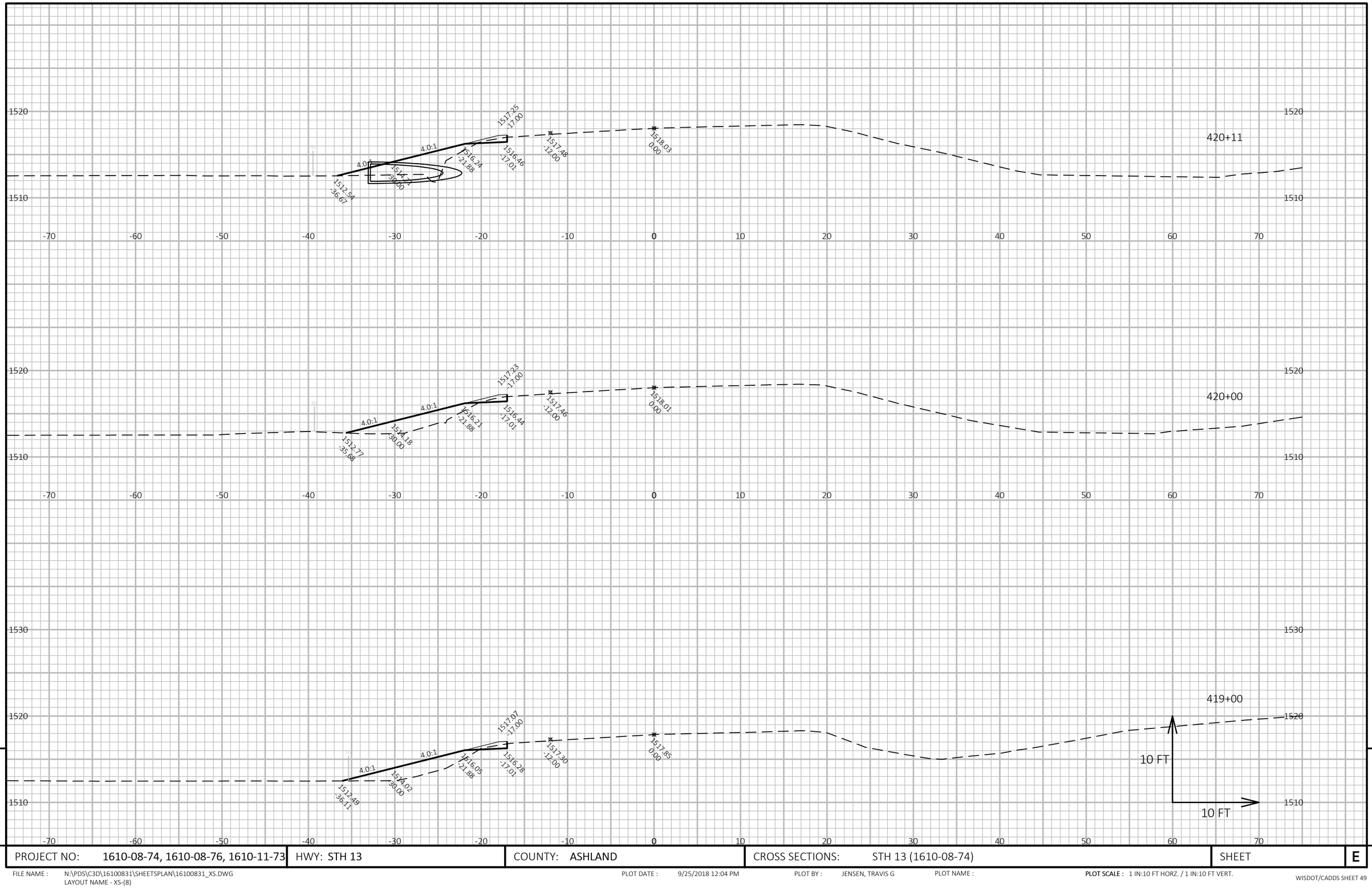
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LAYOUT NAME - XS-(7)

PLOT DATE : 9/25/2018 12:04 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



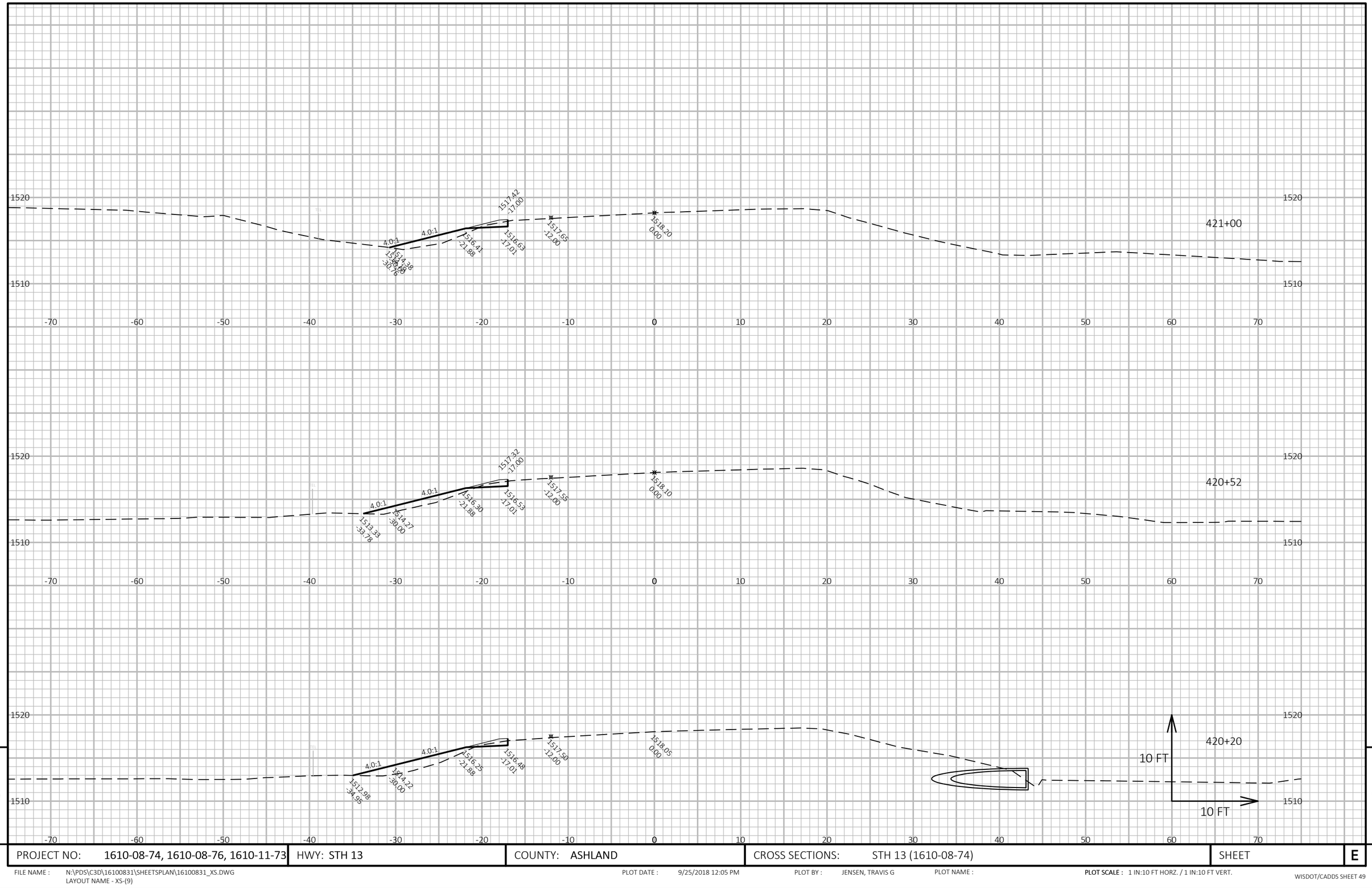
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

9

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(8)

PLOT DATE : 9/25/2018 12:04 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(9)

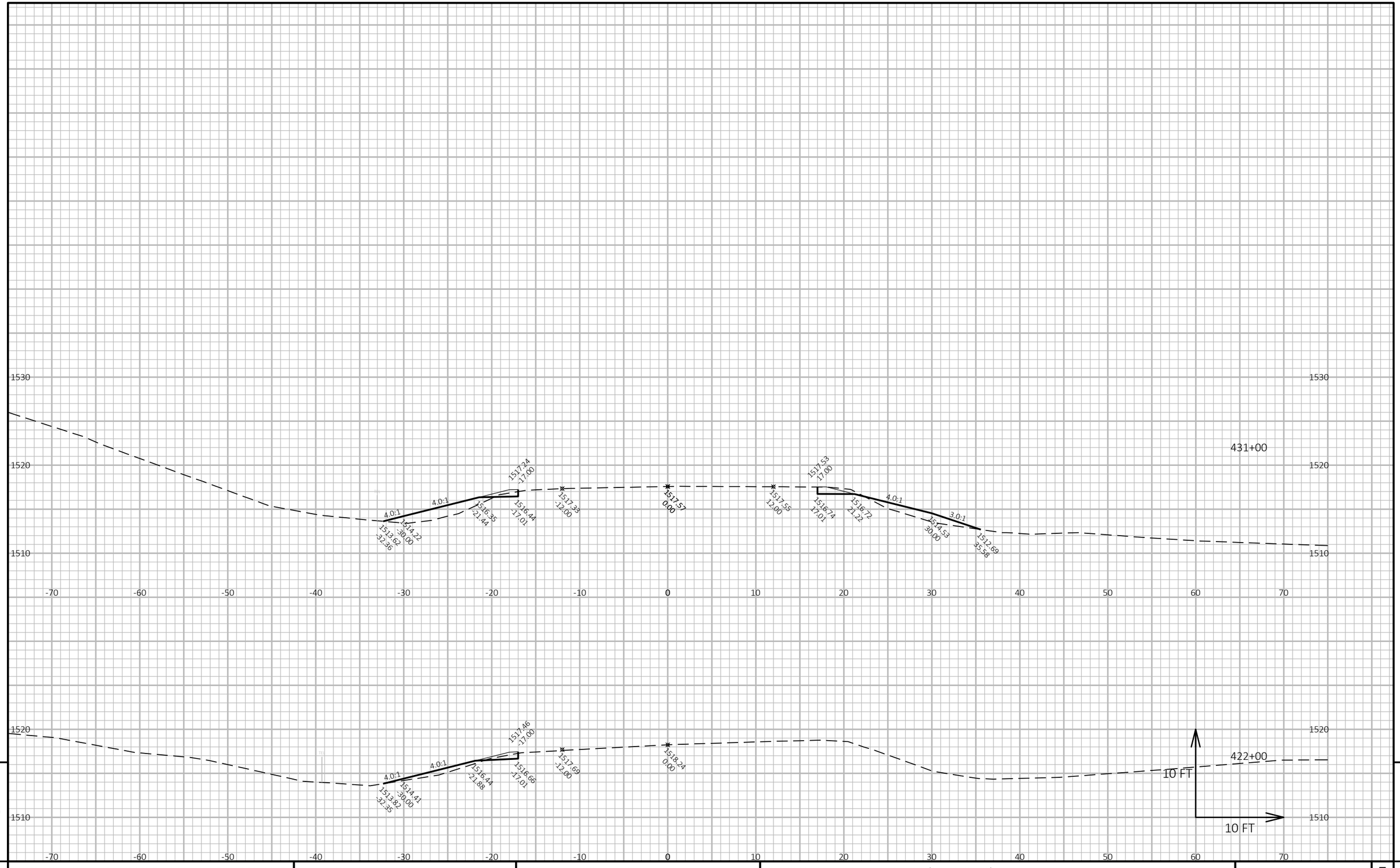
PLOT DATE : 9/25/2018 12:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

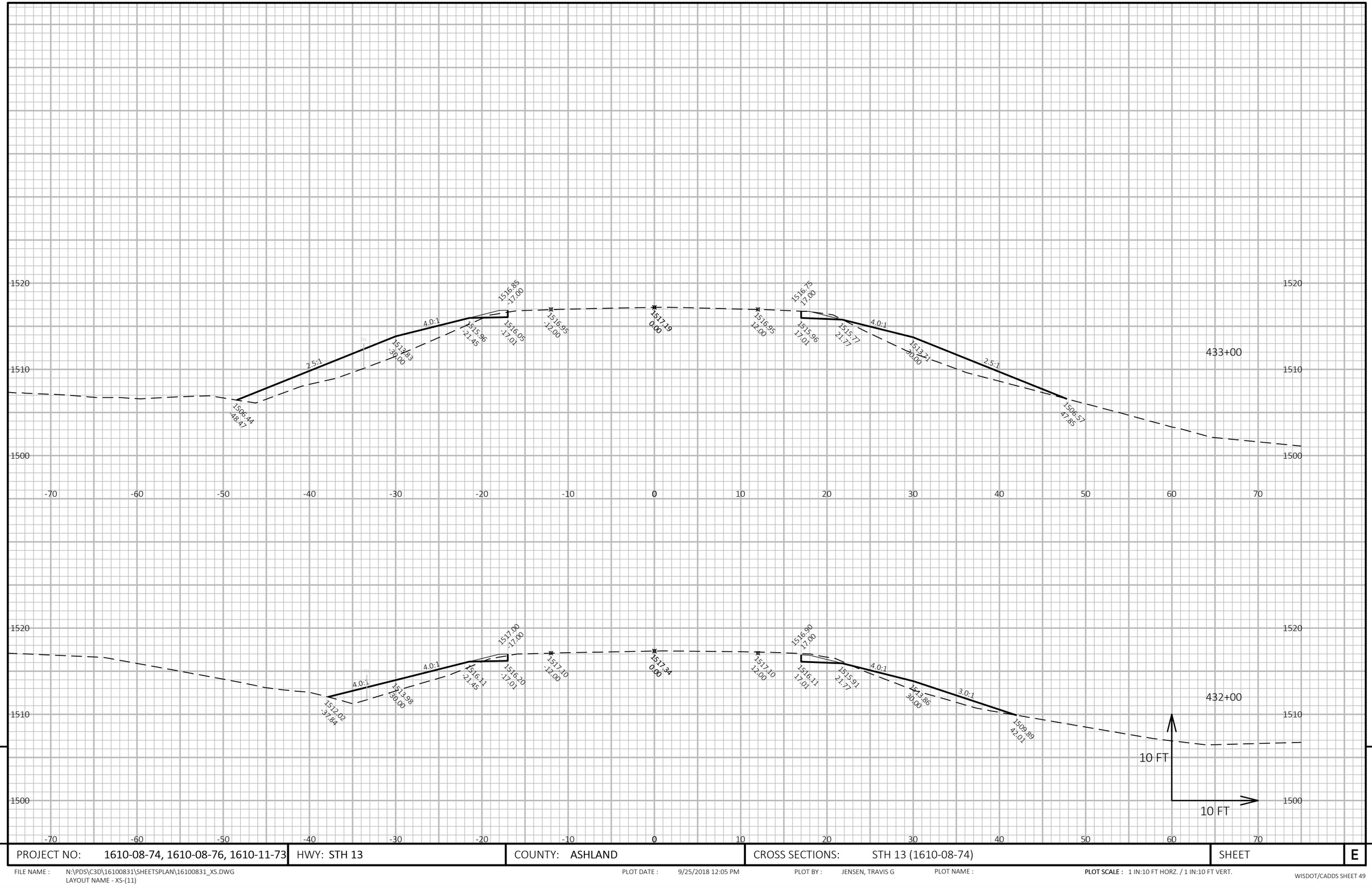
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LAYOUT NAME - XS-(10)

PLOT DATE : 9/25/2018 12:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



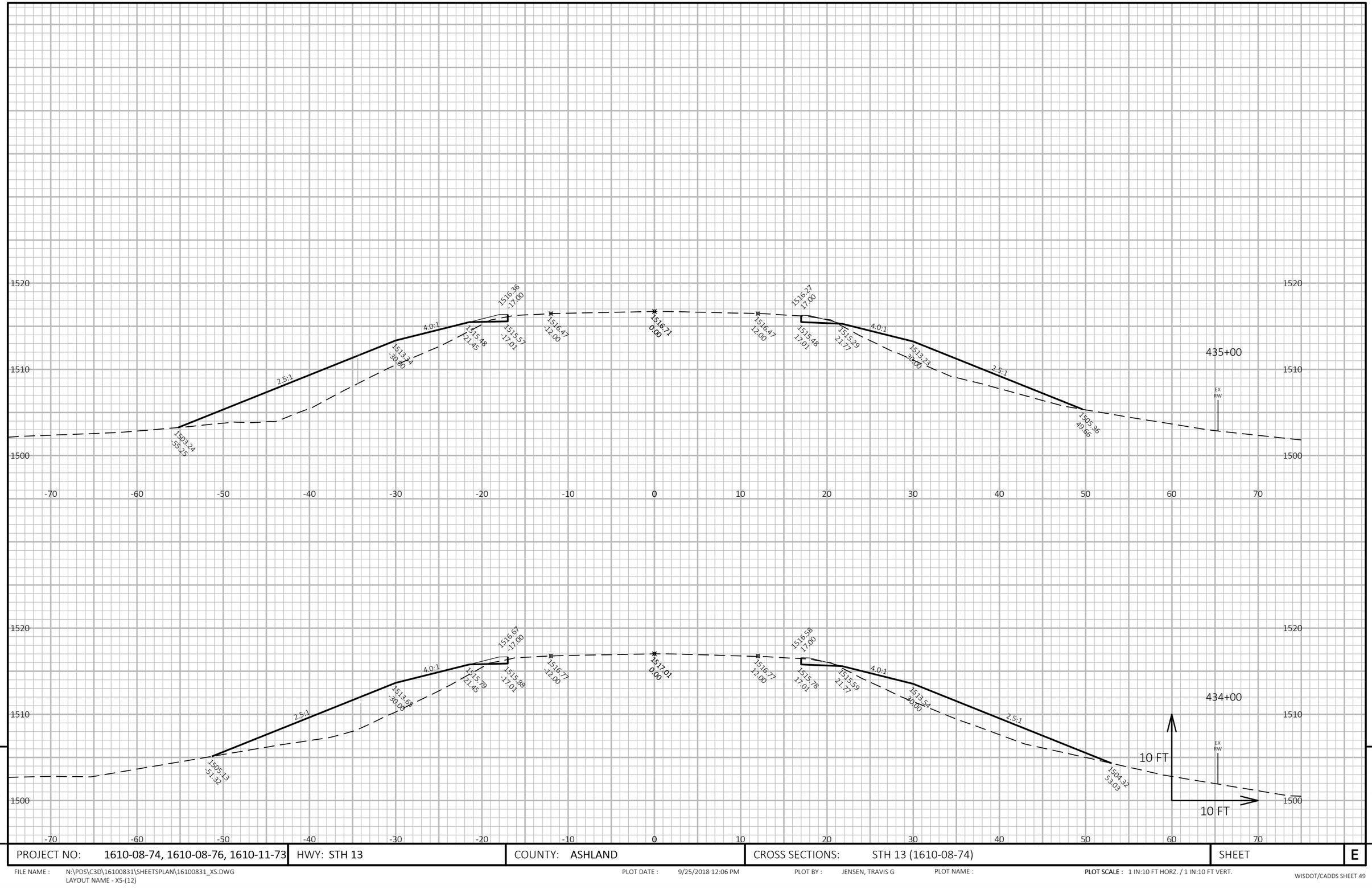
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(11)

PLOT DATE : 9/25/2018 12:05 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

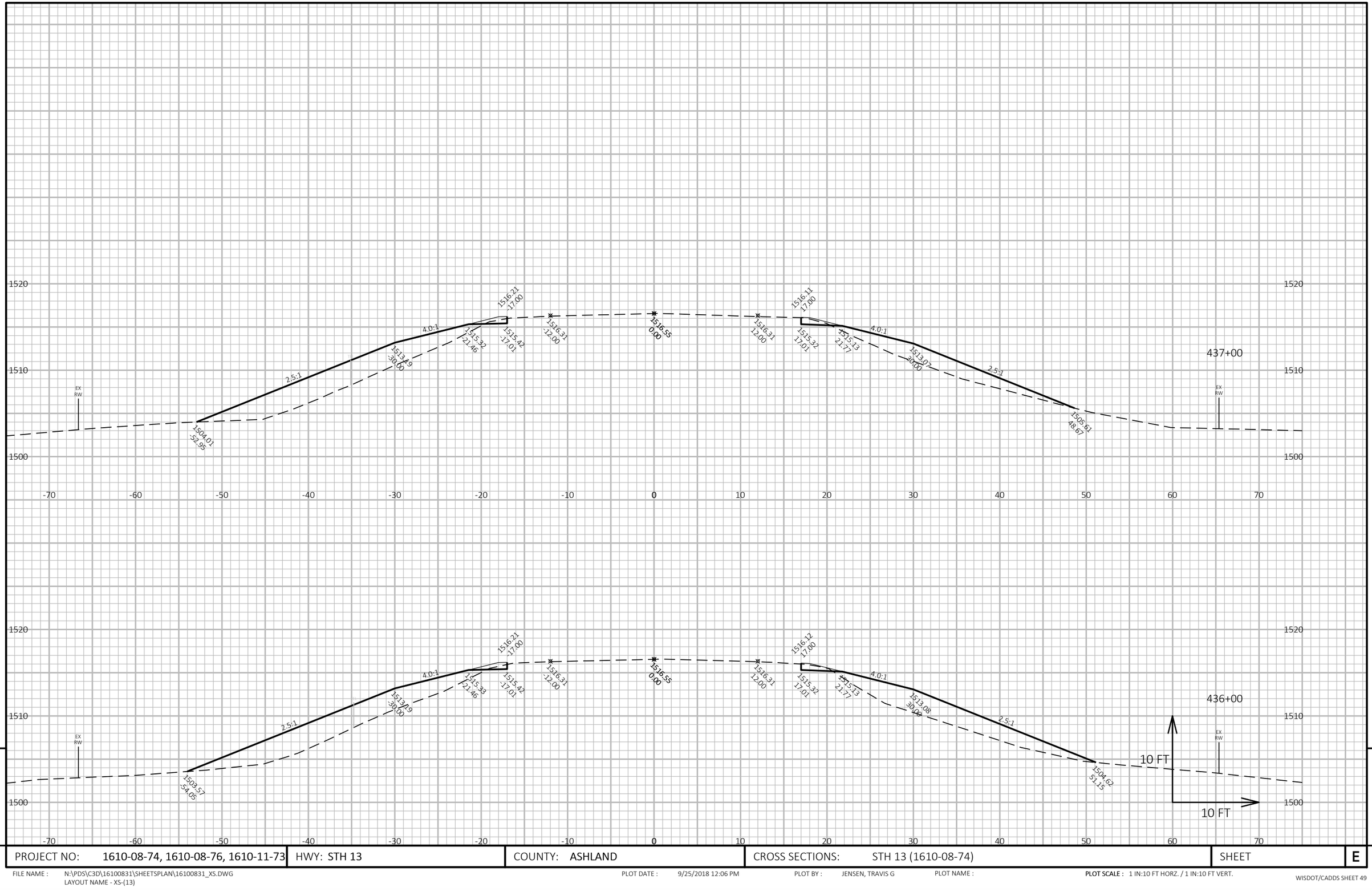
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LAYOUT NAME - XS-(12)

PLOT DATE : 9/25/2018 12:06 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

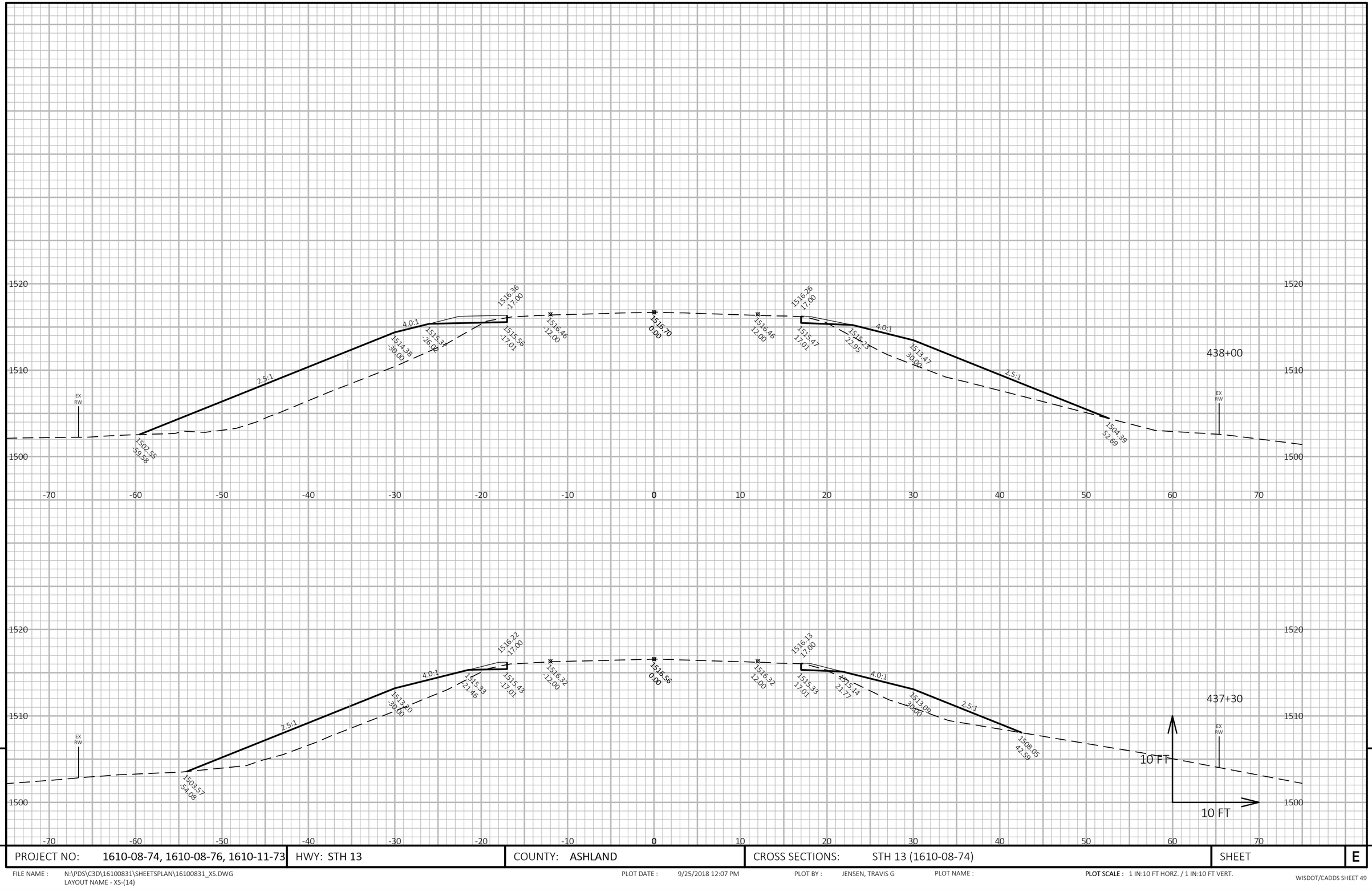
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(13)

PLOT DATE : 9/25/2018 12:06 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

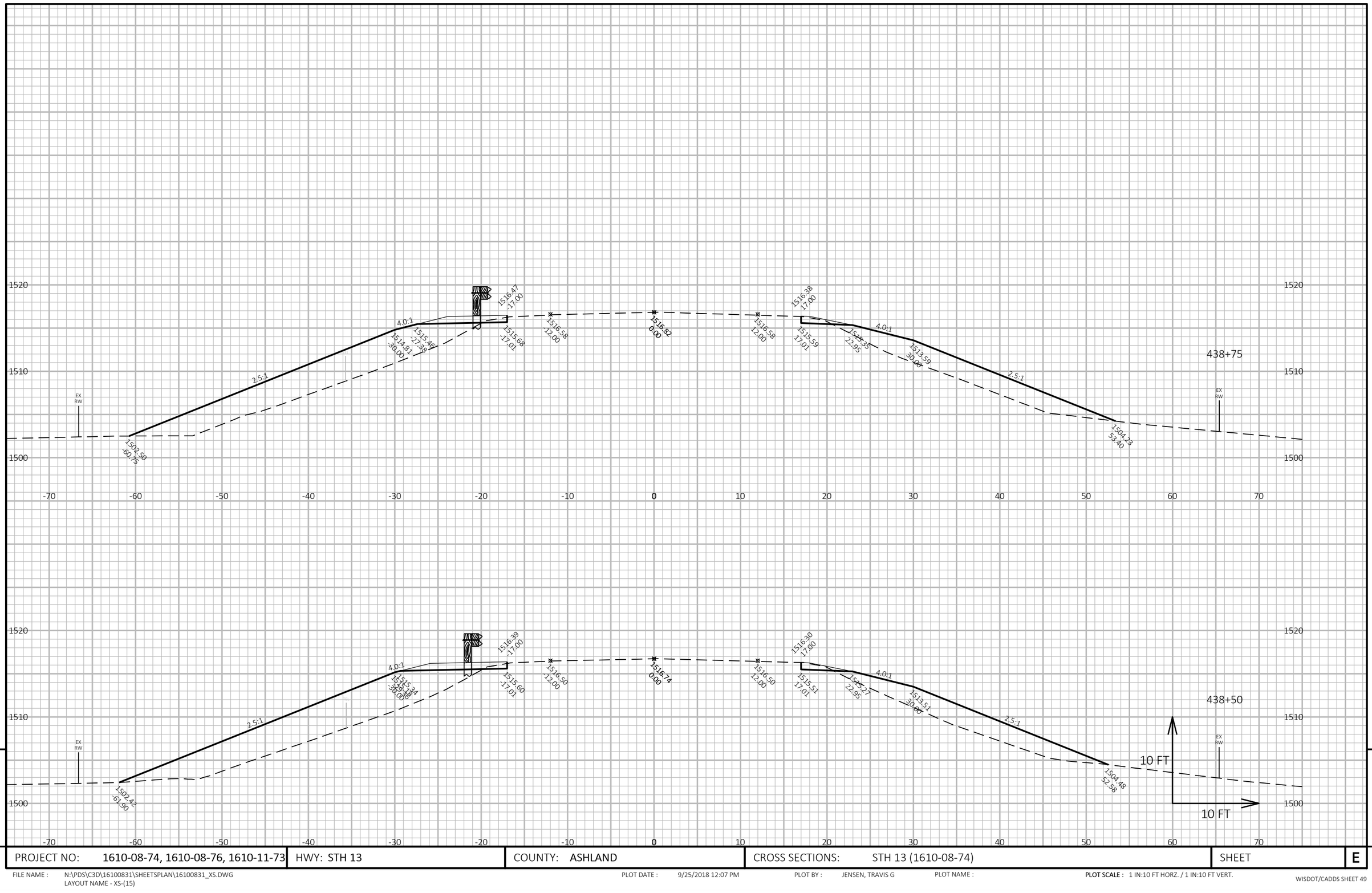
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(14)

PLOT DATE : 9/25/2018 12:07 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

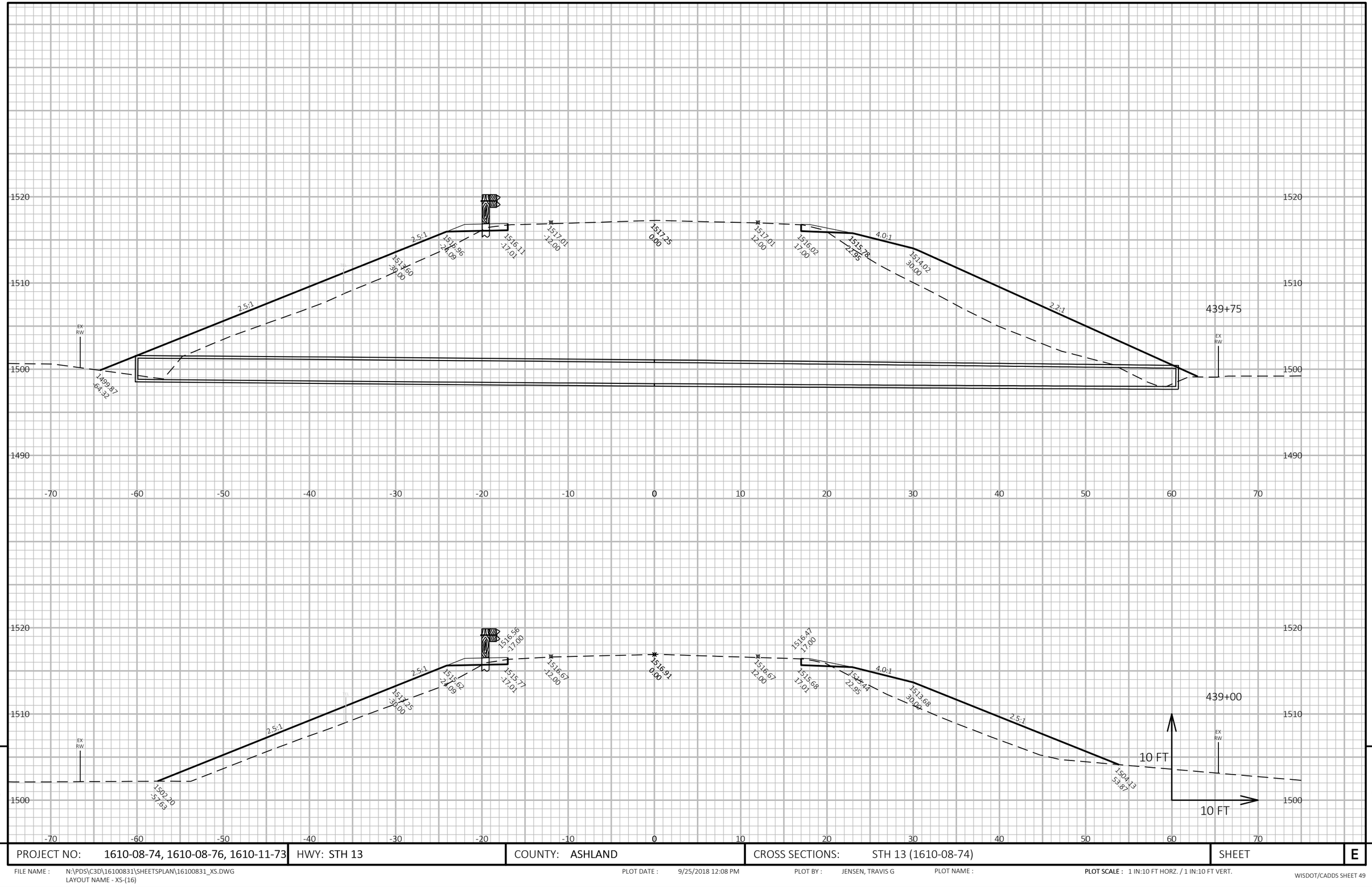


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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(15)

PLOT DATE : 9/25/2018 12:07 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(16)

PLOT DATE : 9/25/2018 12:08 PM

PLOT BY : JENSEN, TRAVIS G

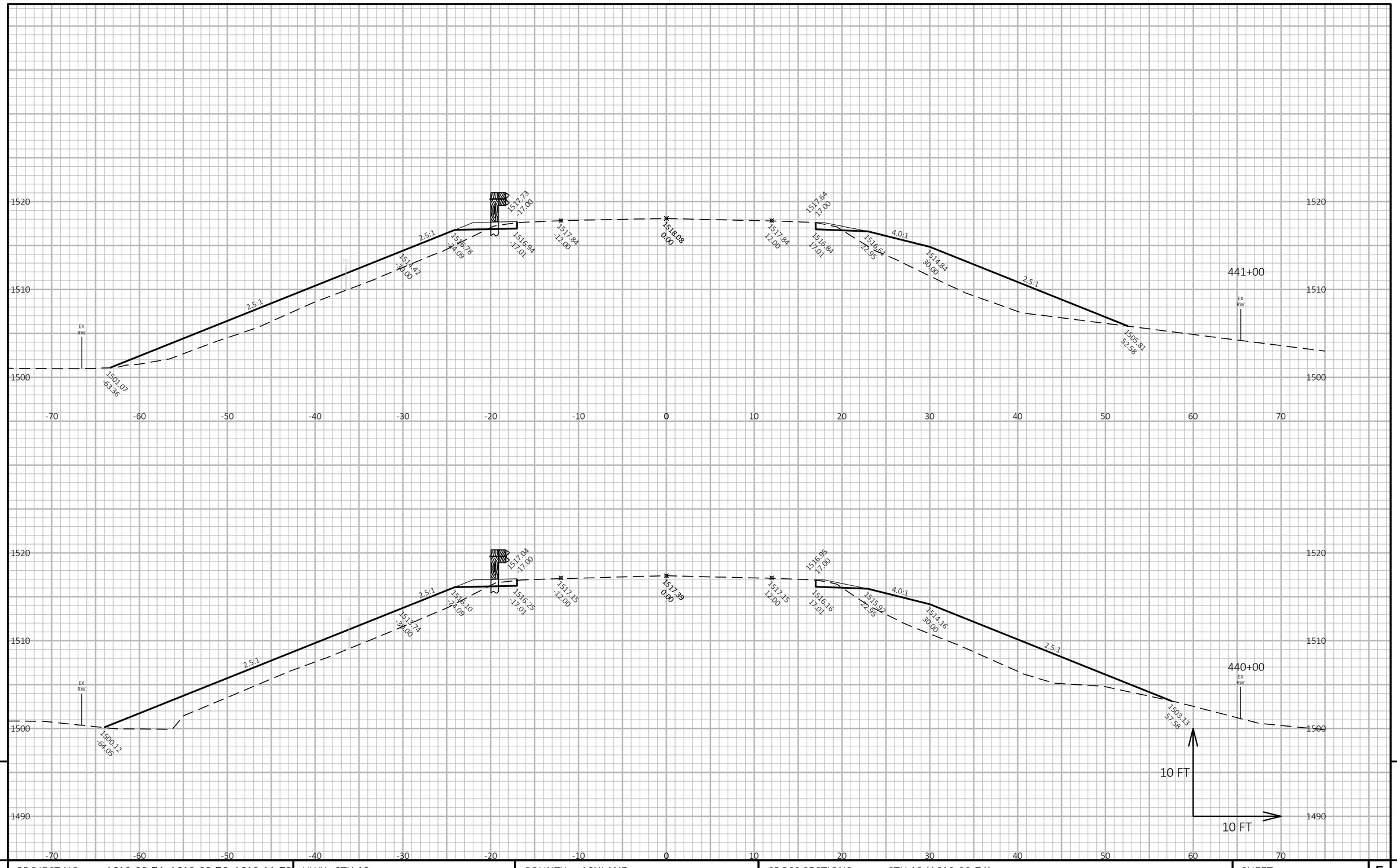
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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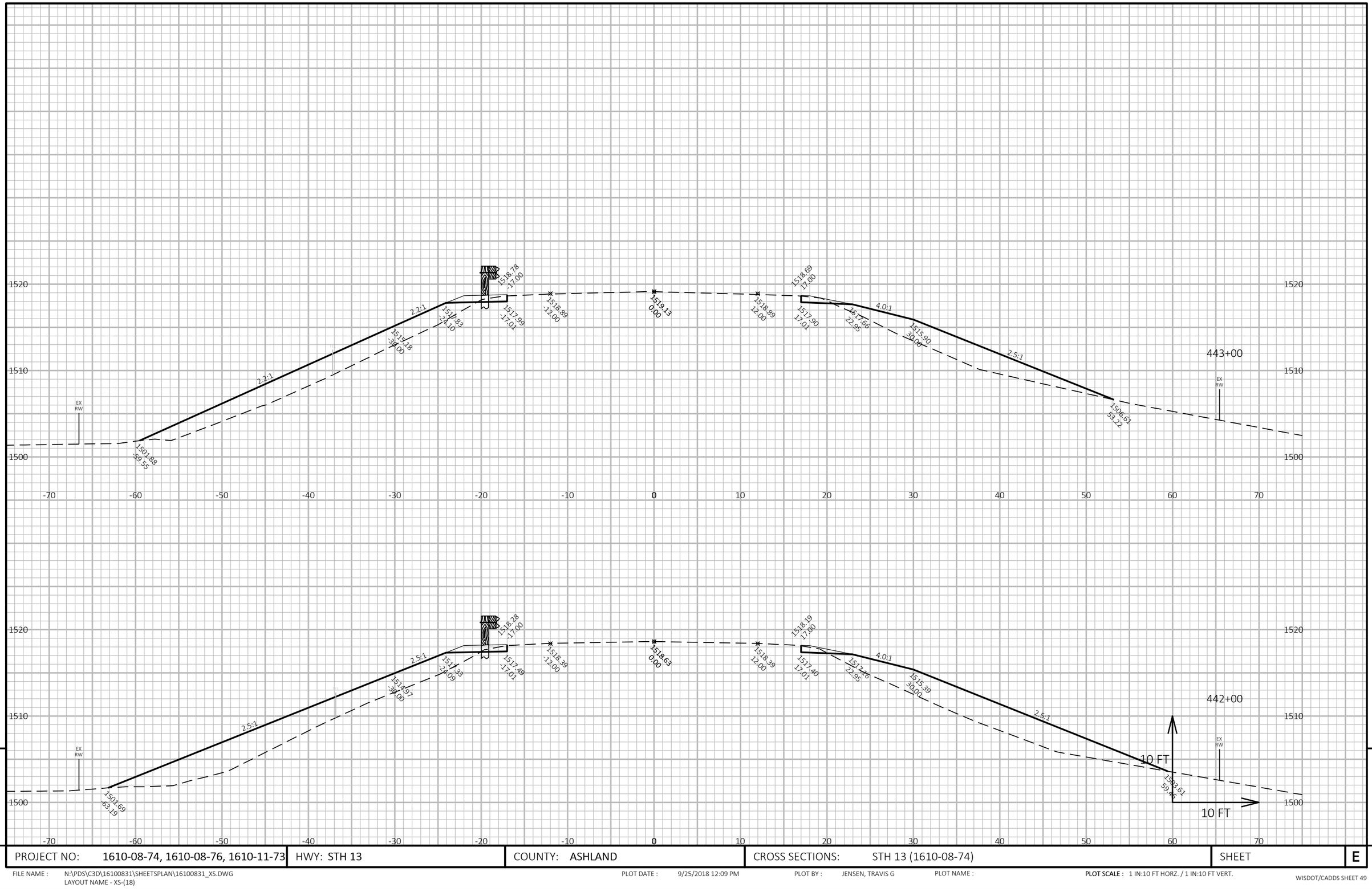
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(17)

PLOT DATE : 9/25/2018 12:08 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

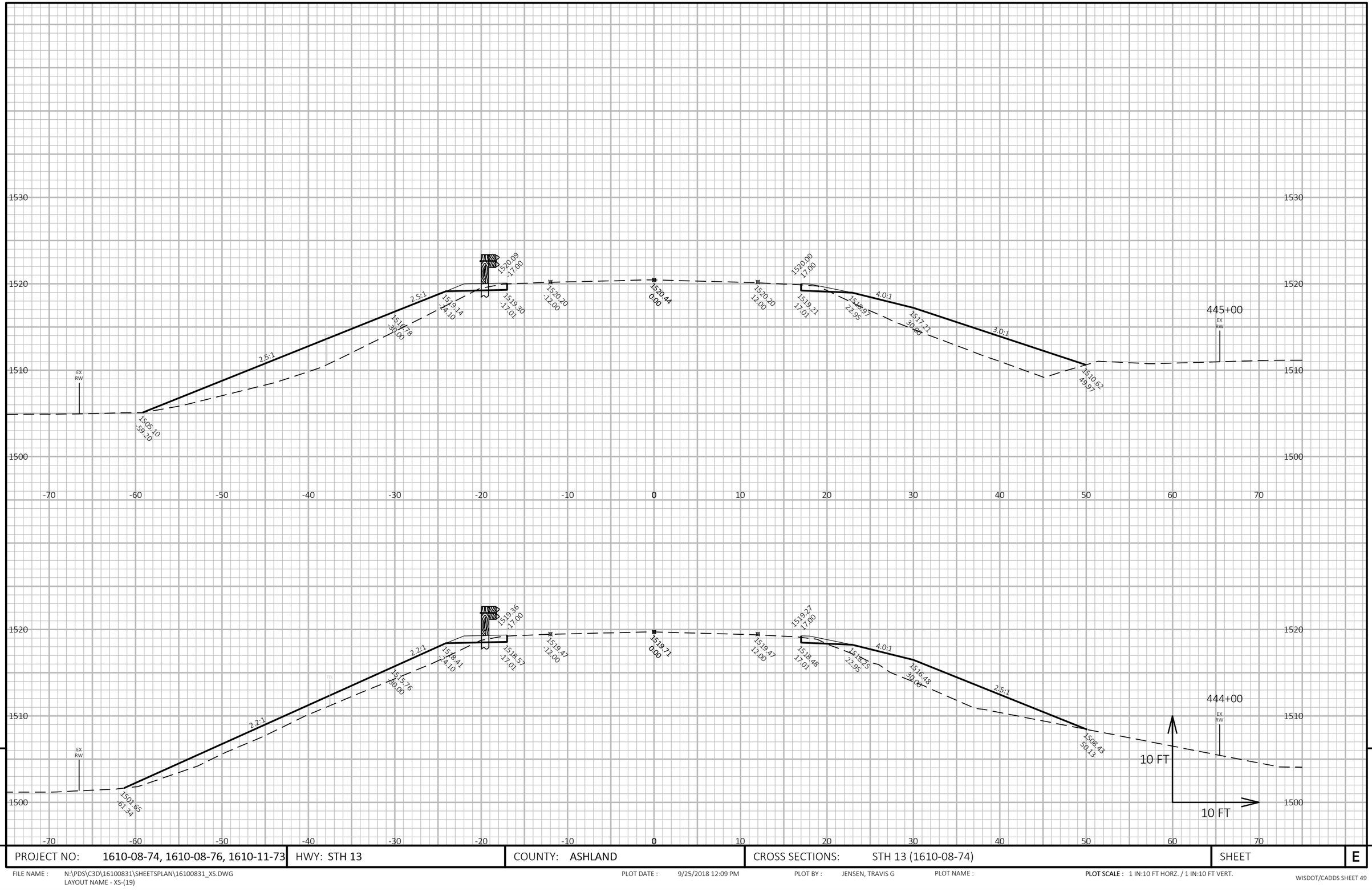
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LAYOUT NAME - XS-(18)

PLOT DATE : 9/25/2018 12:09 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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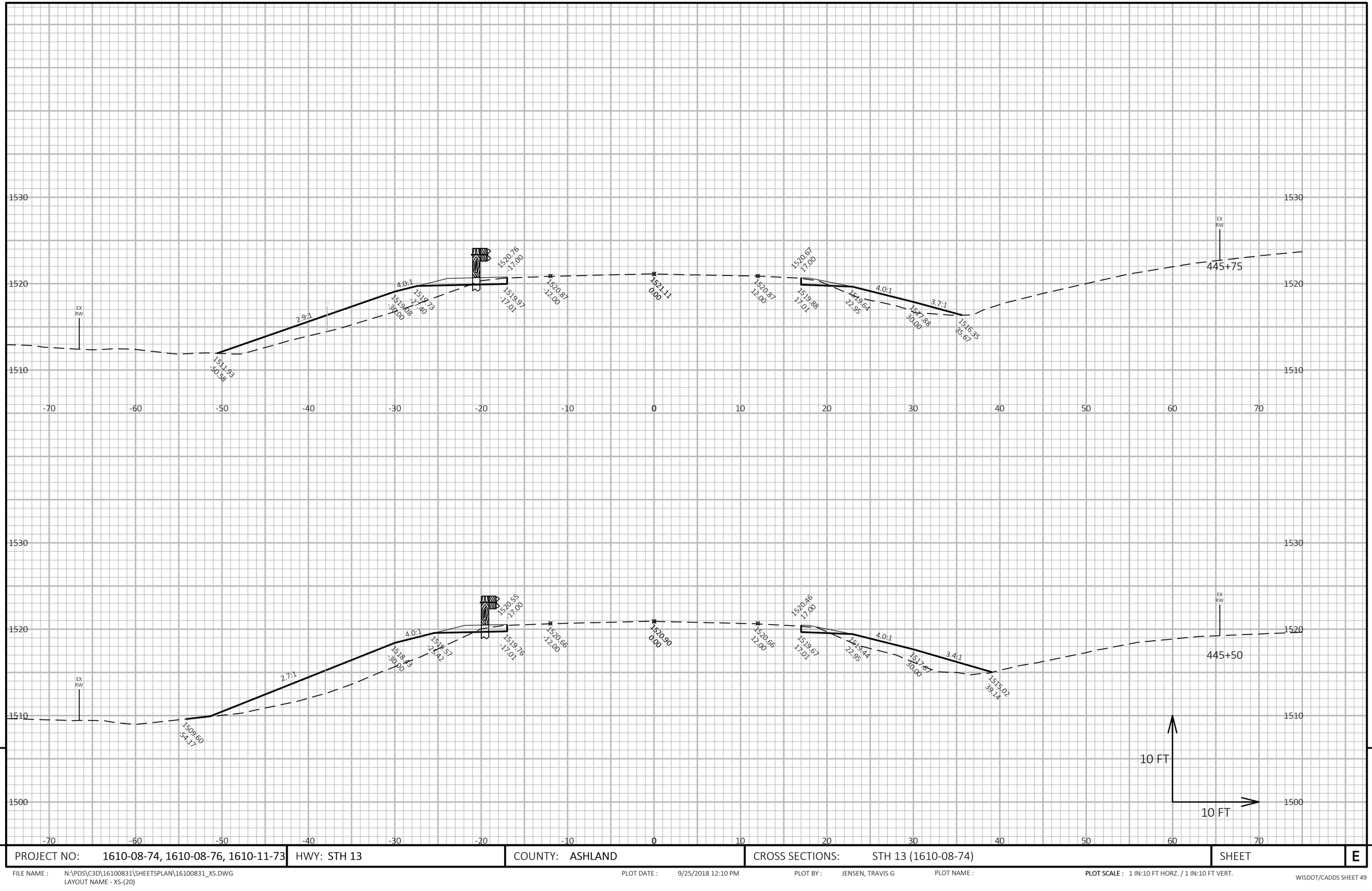
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

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FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(19)

PLOT DATE : 9/25/2018 12:09 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(20)

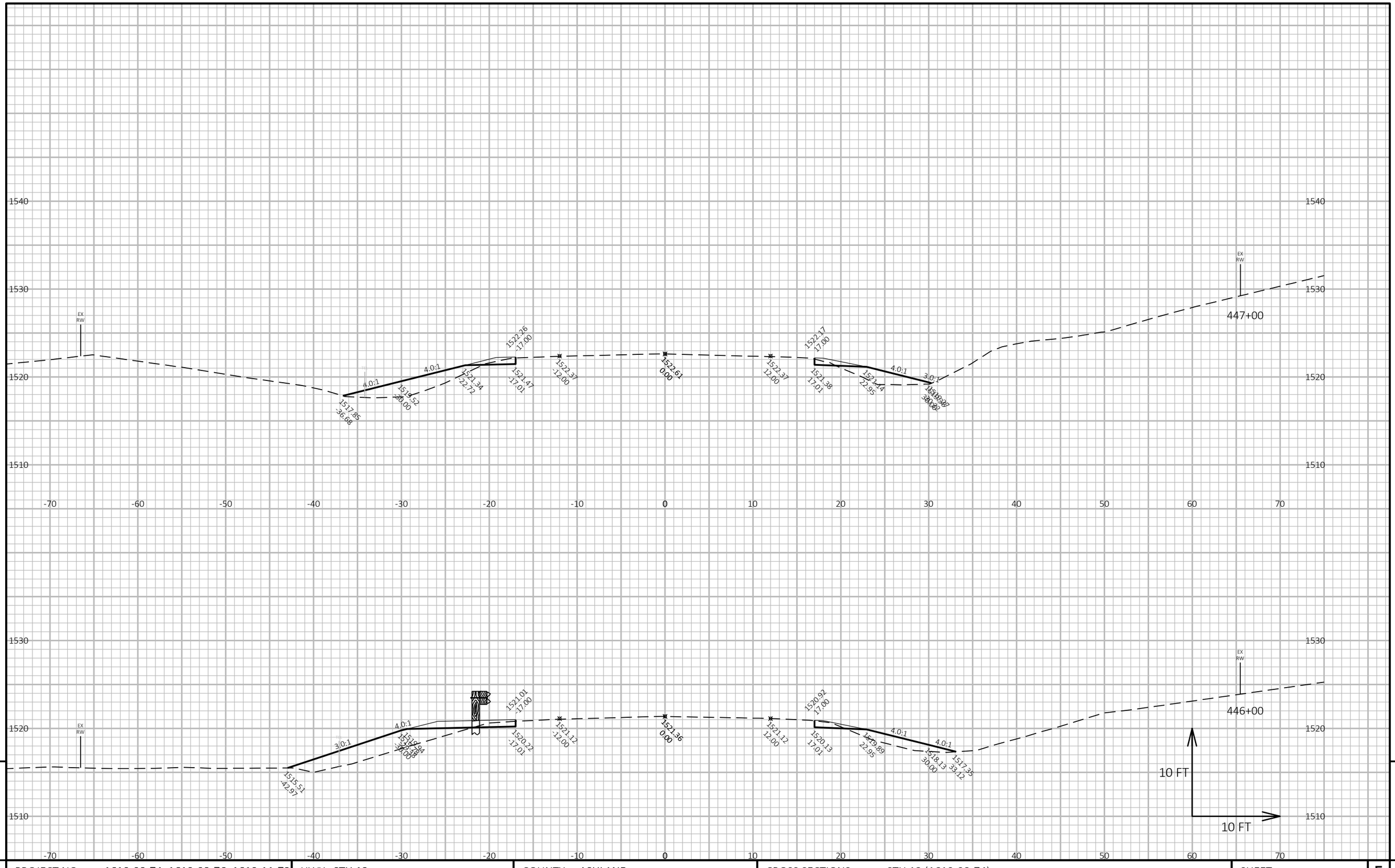
PLOT DATE : 9/25/2018 12:10 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(21)

PLOT DATE : 9/25/2018 12:10 PM

PLOT BY : JENSEN, TRAVIS G

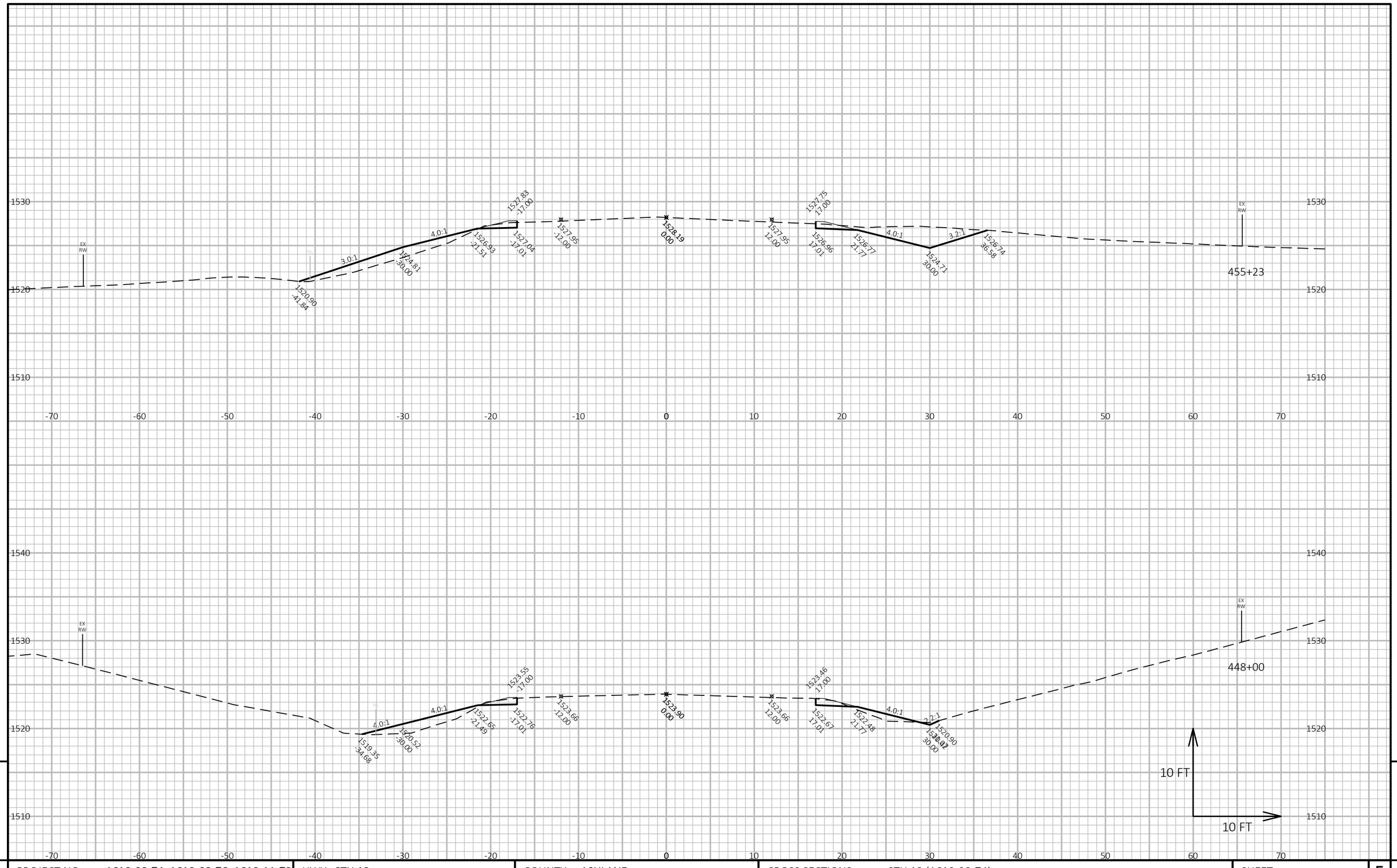
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

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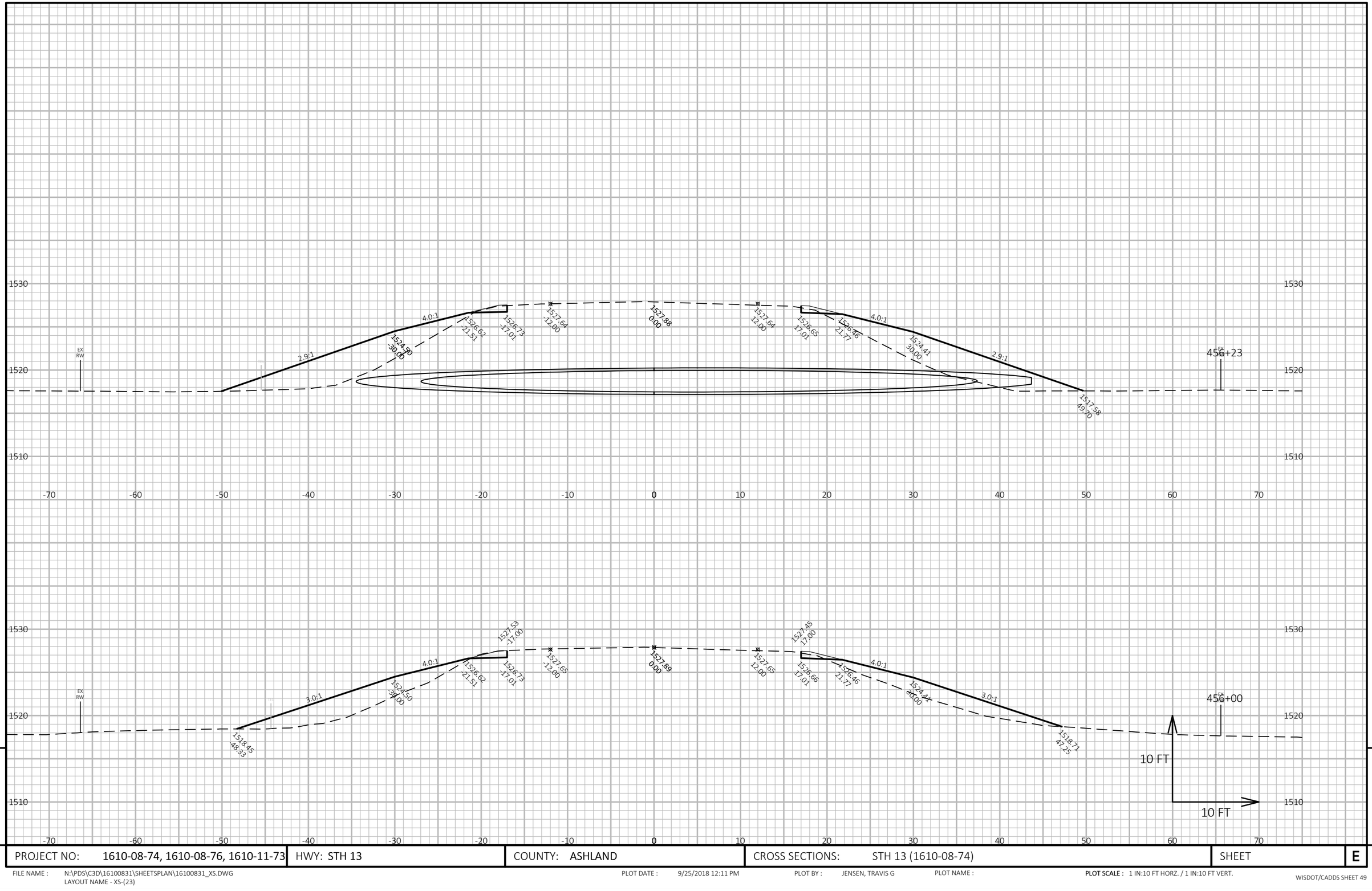
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LAYOUT NAME - XS-(22)

PLOT DATE : 9/25/2018 12:11 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

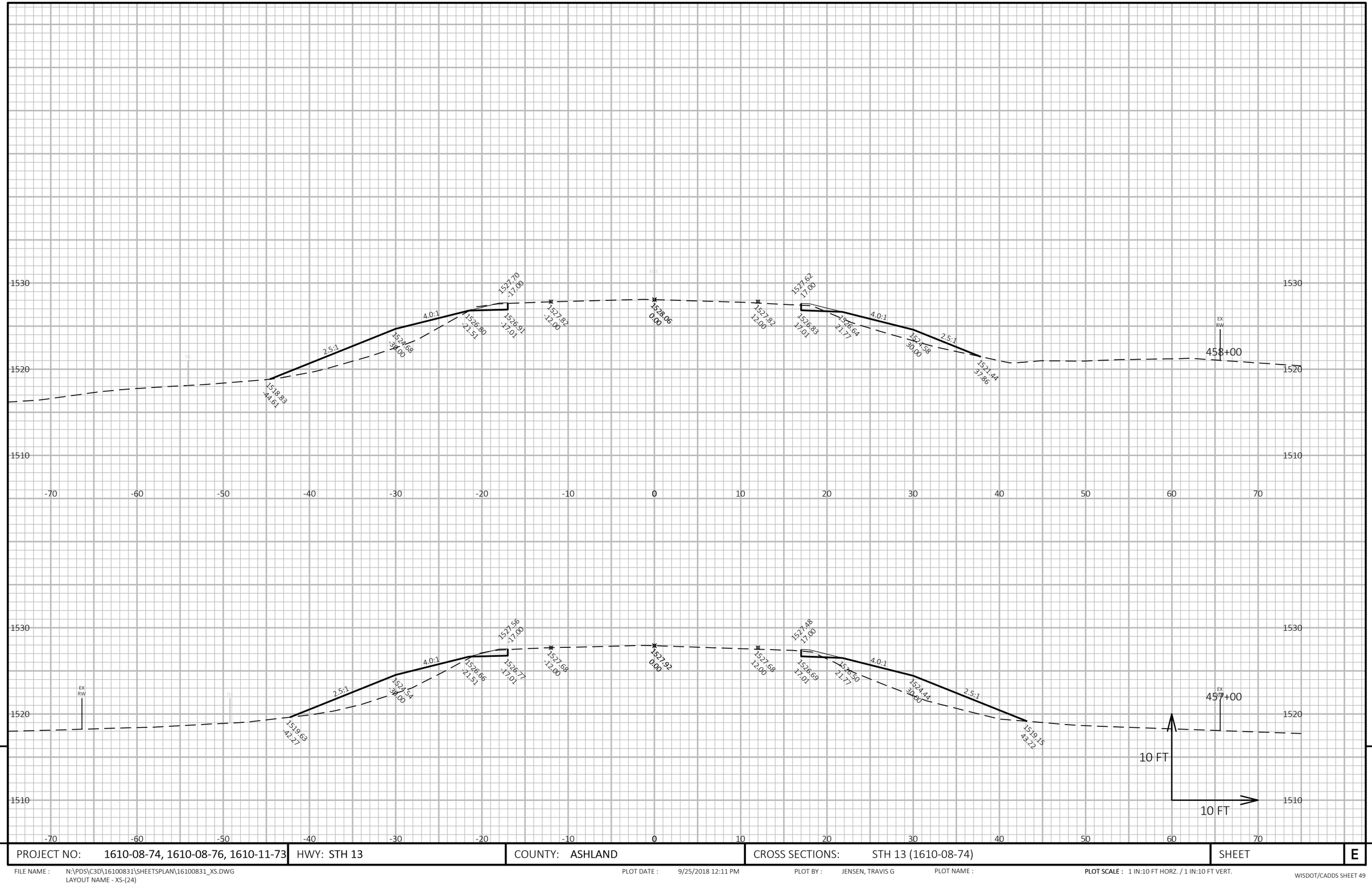


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(23)

PLOT DATE : 9/25/2018 12:11 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



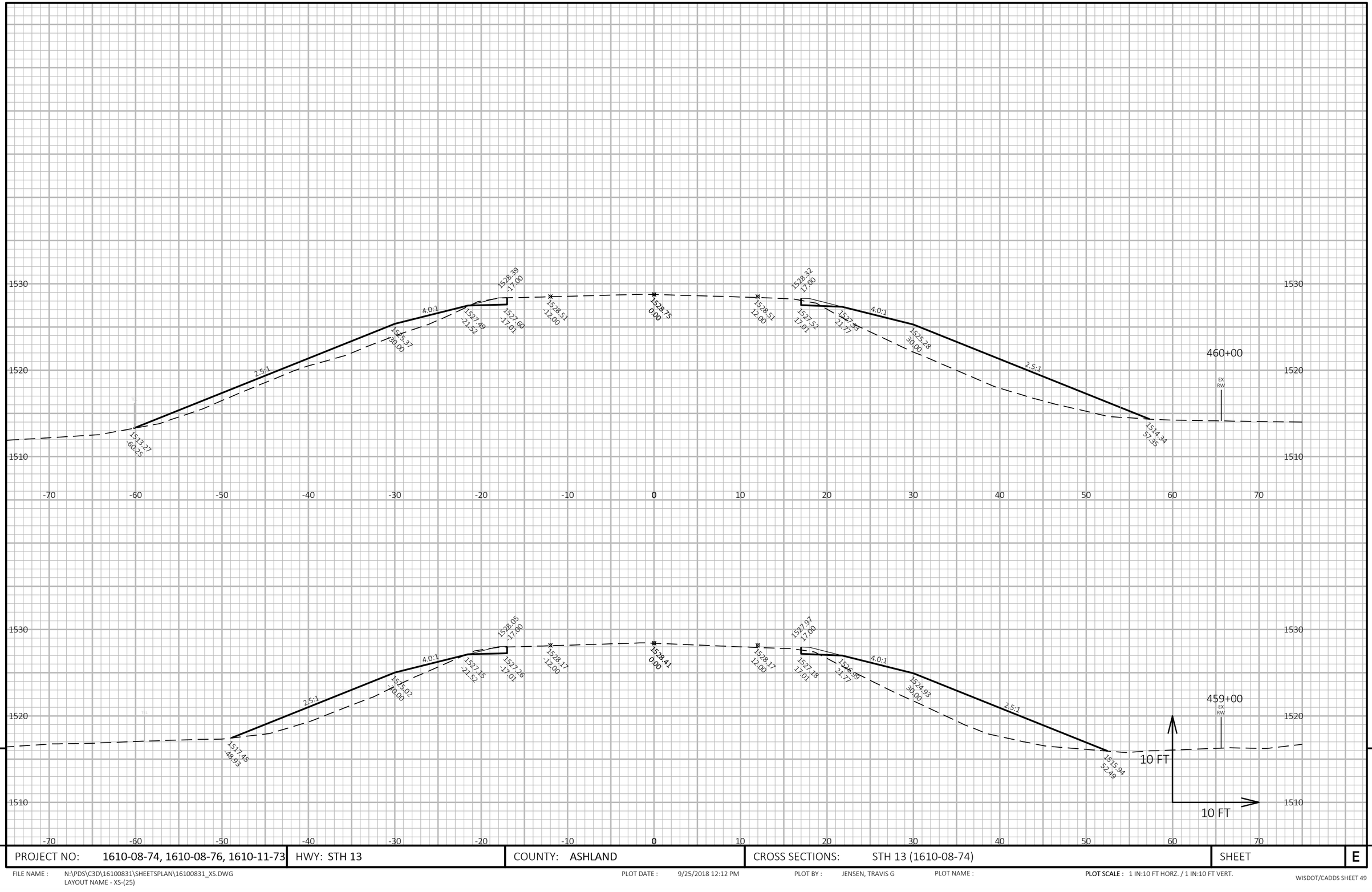
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(24)

PLOT DATE : 9/25/2018 12:11 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

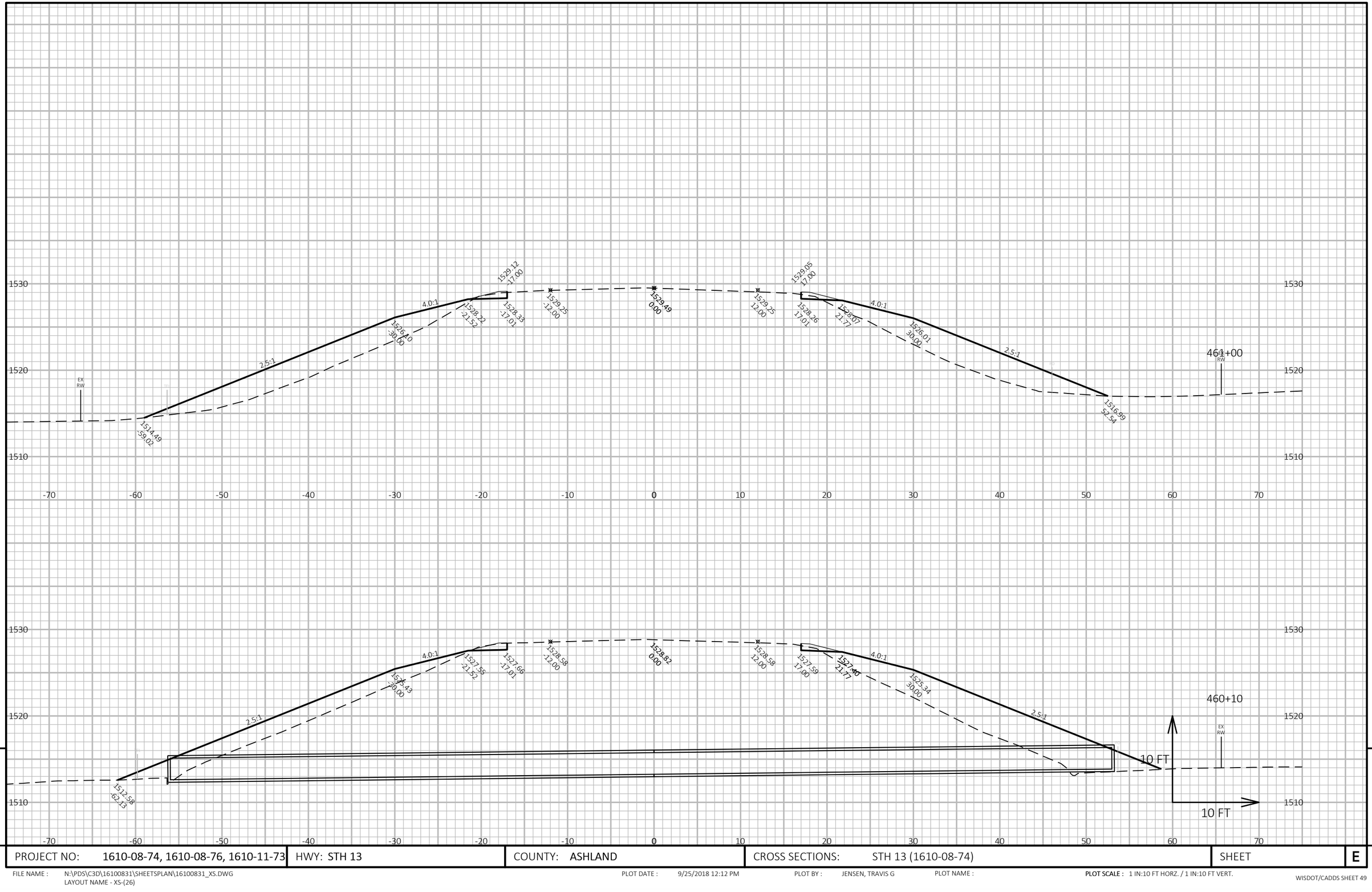
9 9



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(25)

PLOT DATE : 9/25/2018 12:12 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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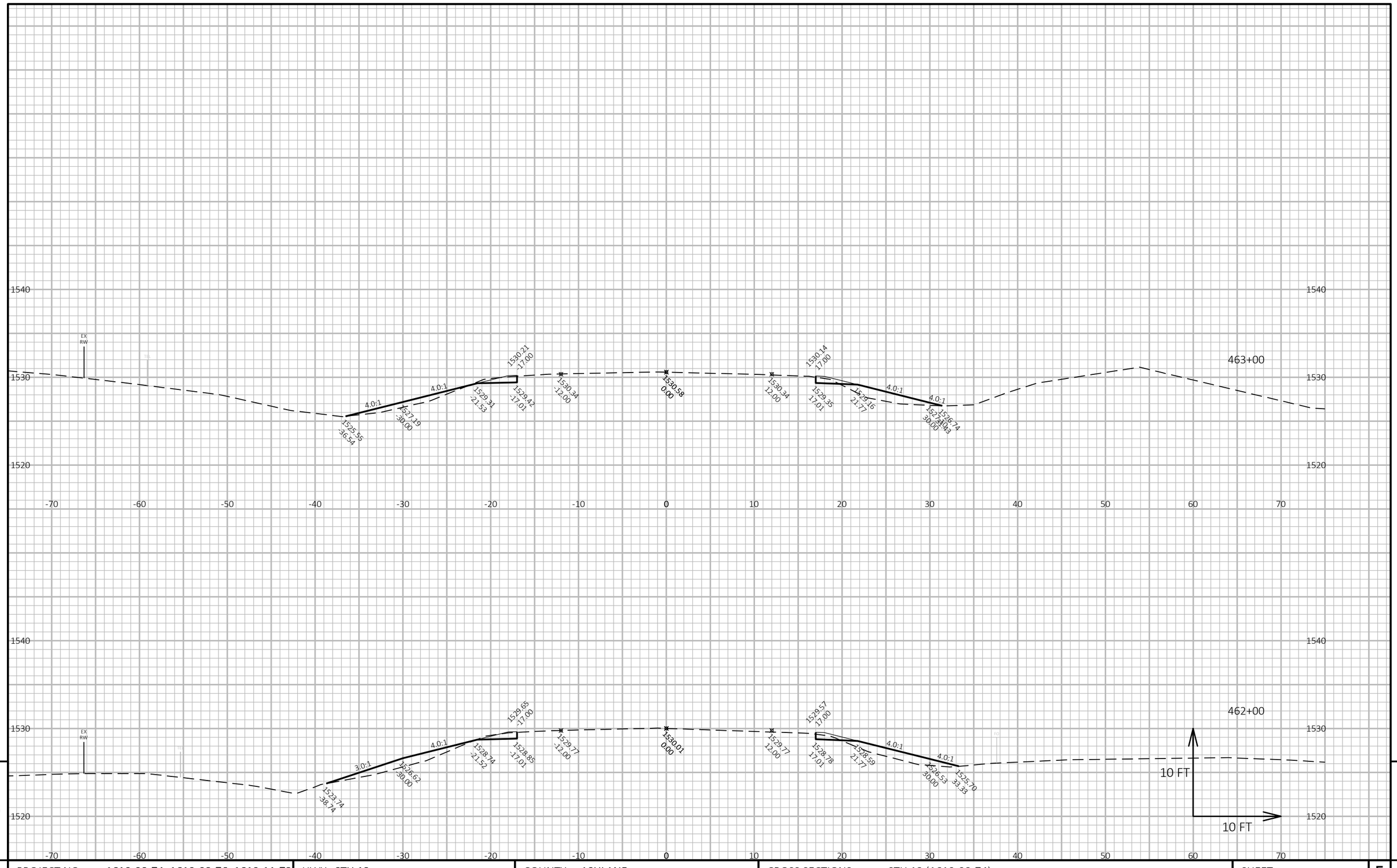
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(26)

PLOT DATE : 9/25/2018 12:12 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



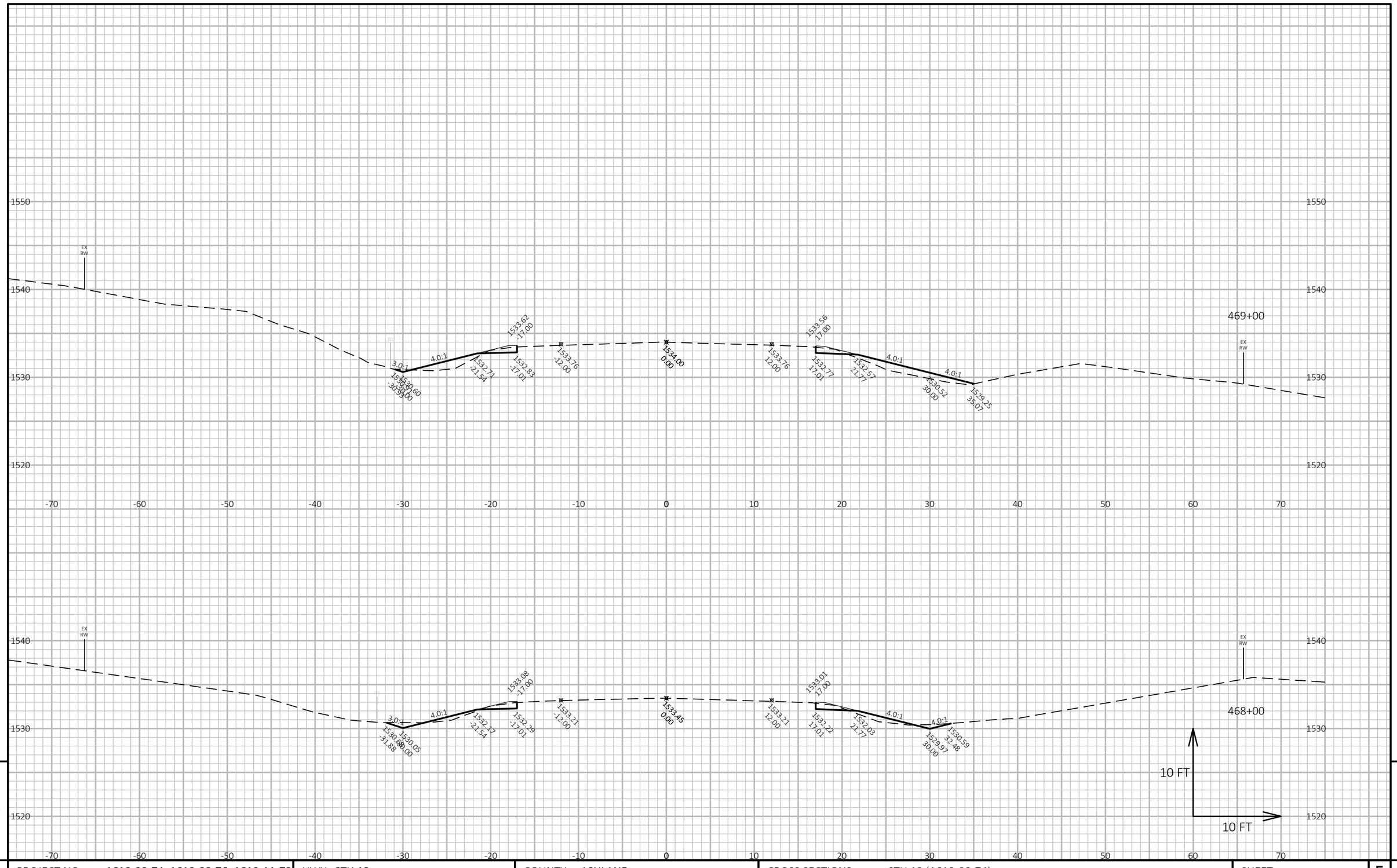
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(27)

PLOT DATE : 9/25/2018 12:13 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

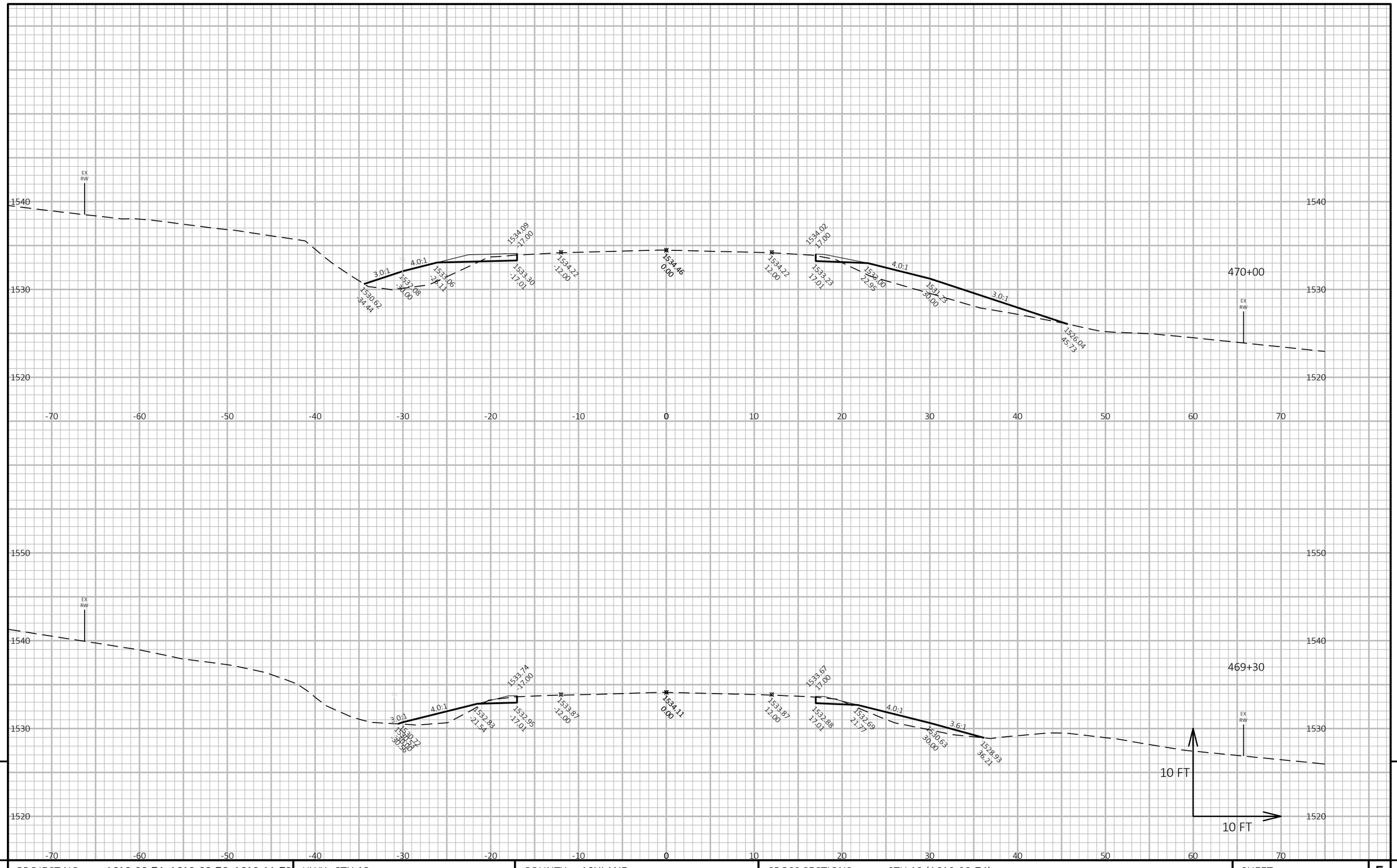
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(28)

PLOT DATE : 9/25/2018 12:13 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



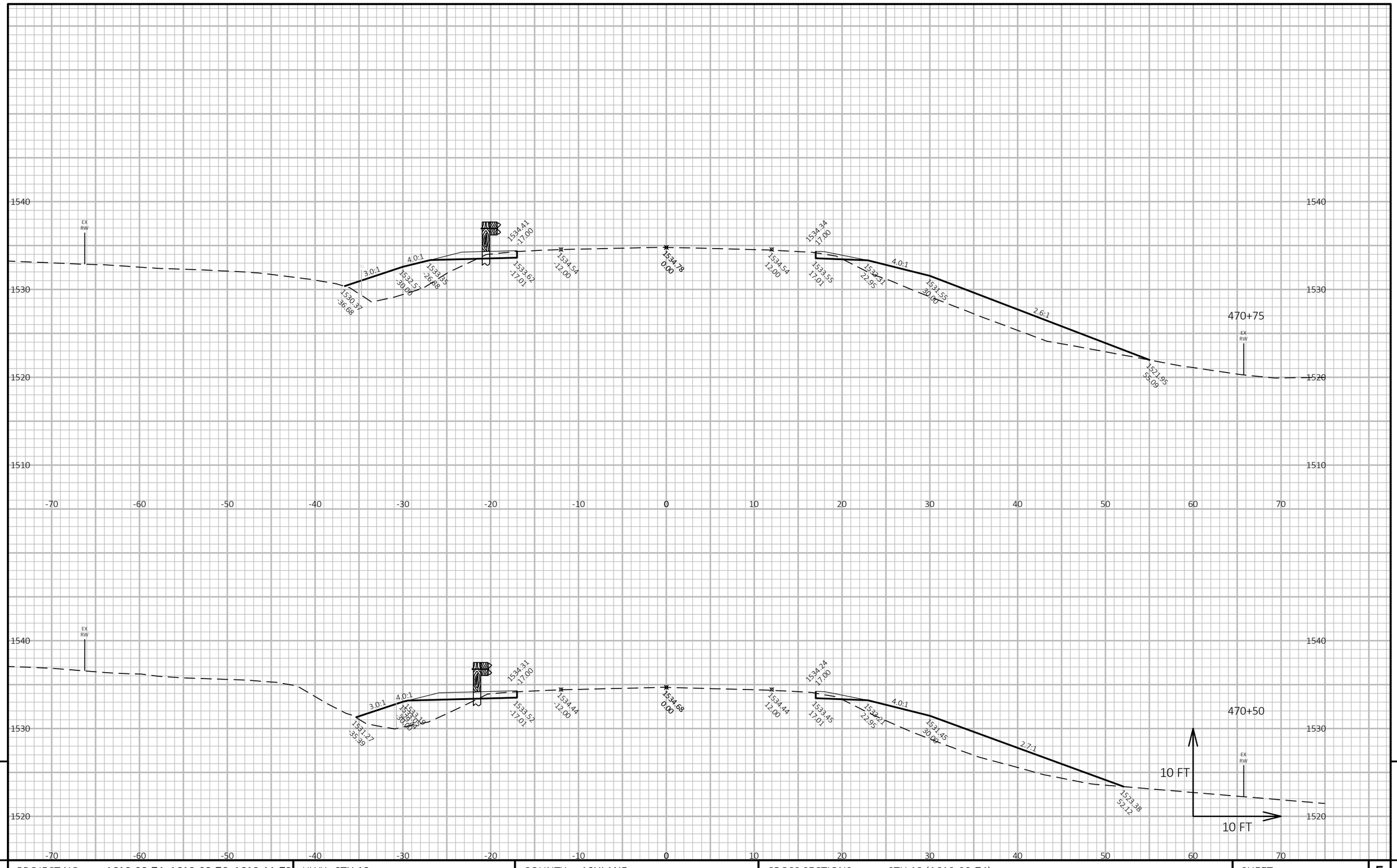
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(29)

PLOT DATE : 9/25/2018 12:14 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

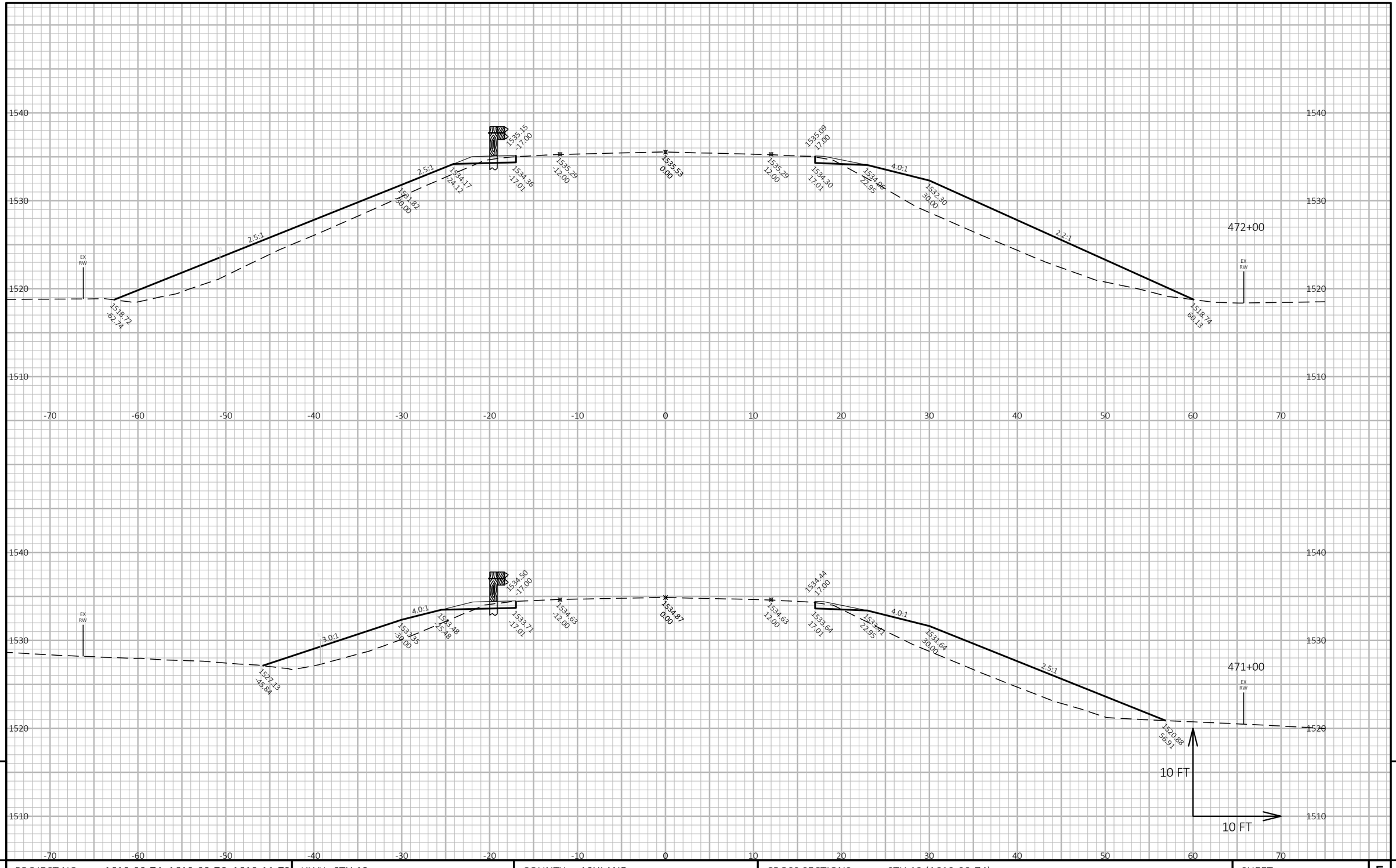
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(30)

PLOT DATE : 9/25/2018 12:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

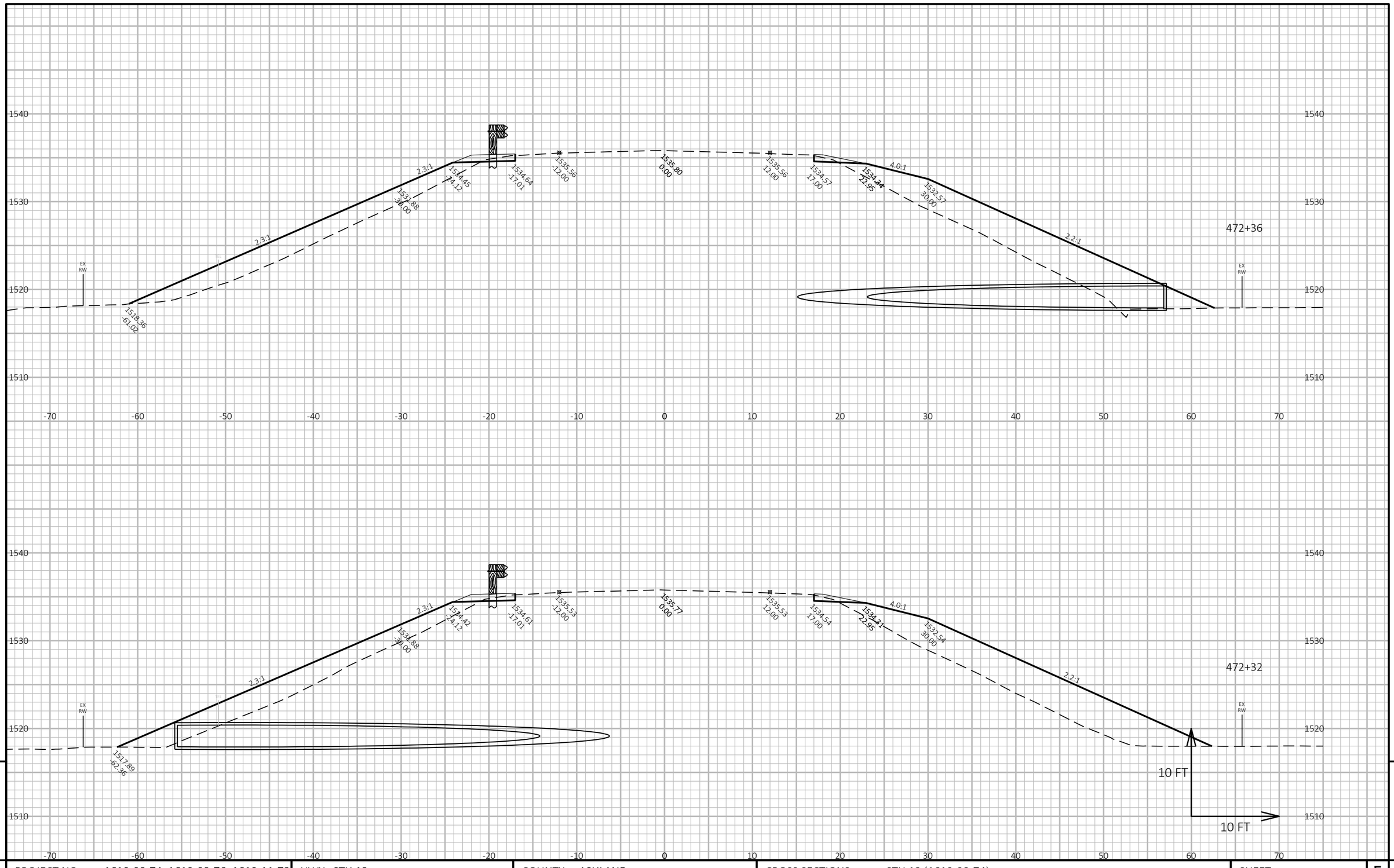
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LAYOUT NAME - XS-(31)

PLOT DATE : 9/25/2018 12:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

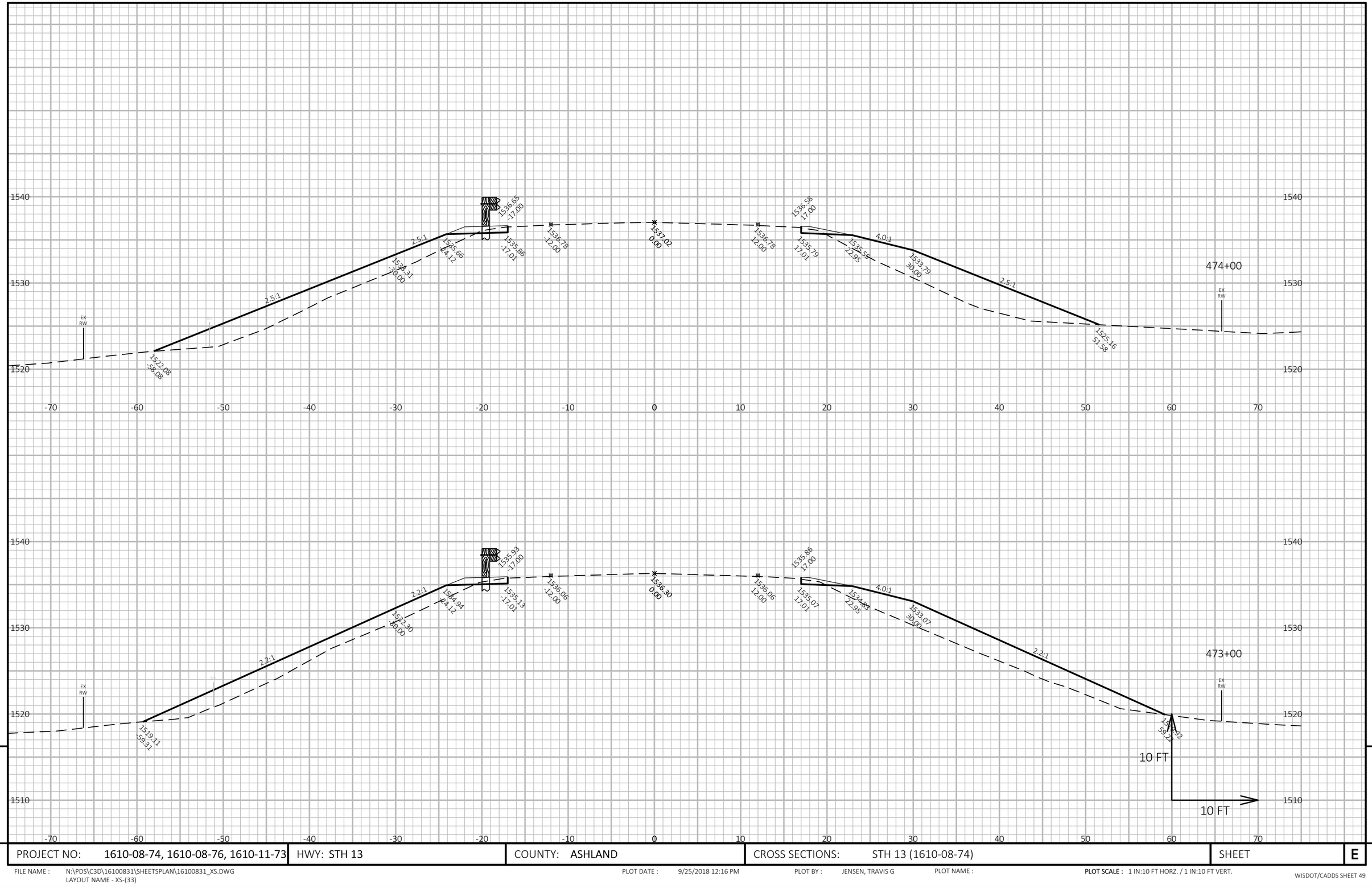
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(32)

PLOT DATE : 9/25/2018 12:15 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

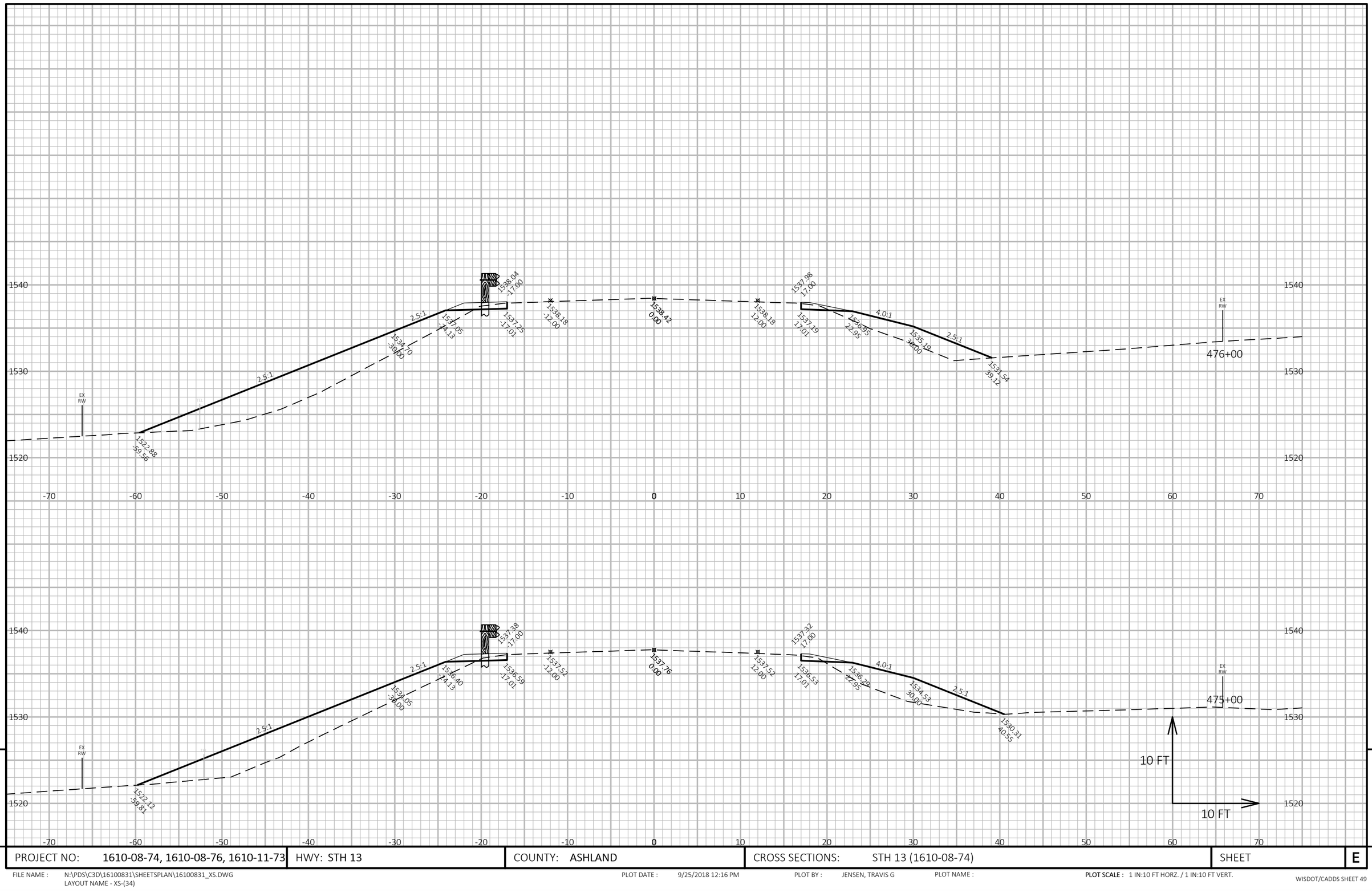
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(33)

PLOT DATE : 9/25/2018 12:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



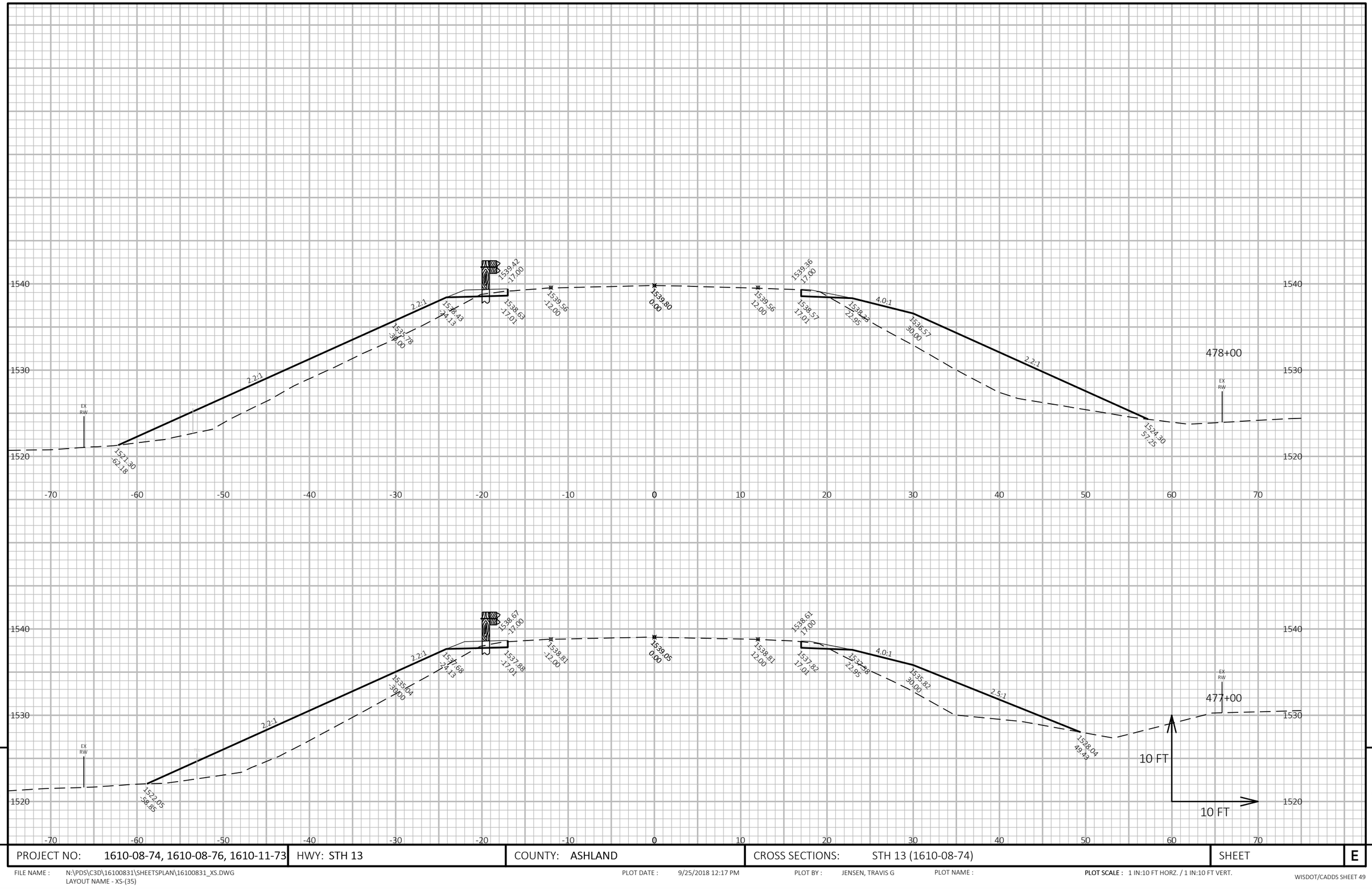
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

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FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(34)

PLOT DATE : 9/25/2018 12:16 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(35)

PLOT DATE : 9/25/2018 12:17 PM

PLOT BY : JENSEN, TRAVIS G

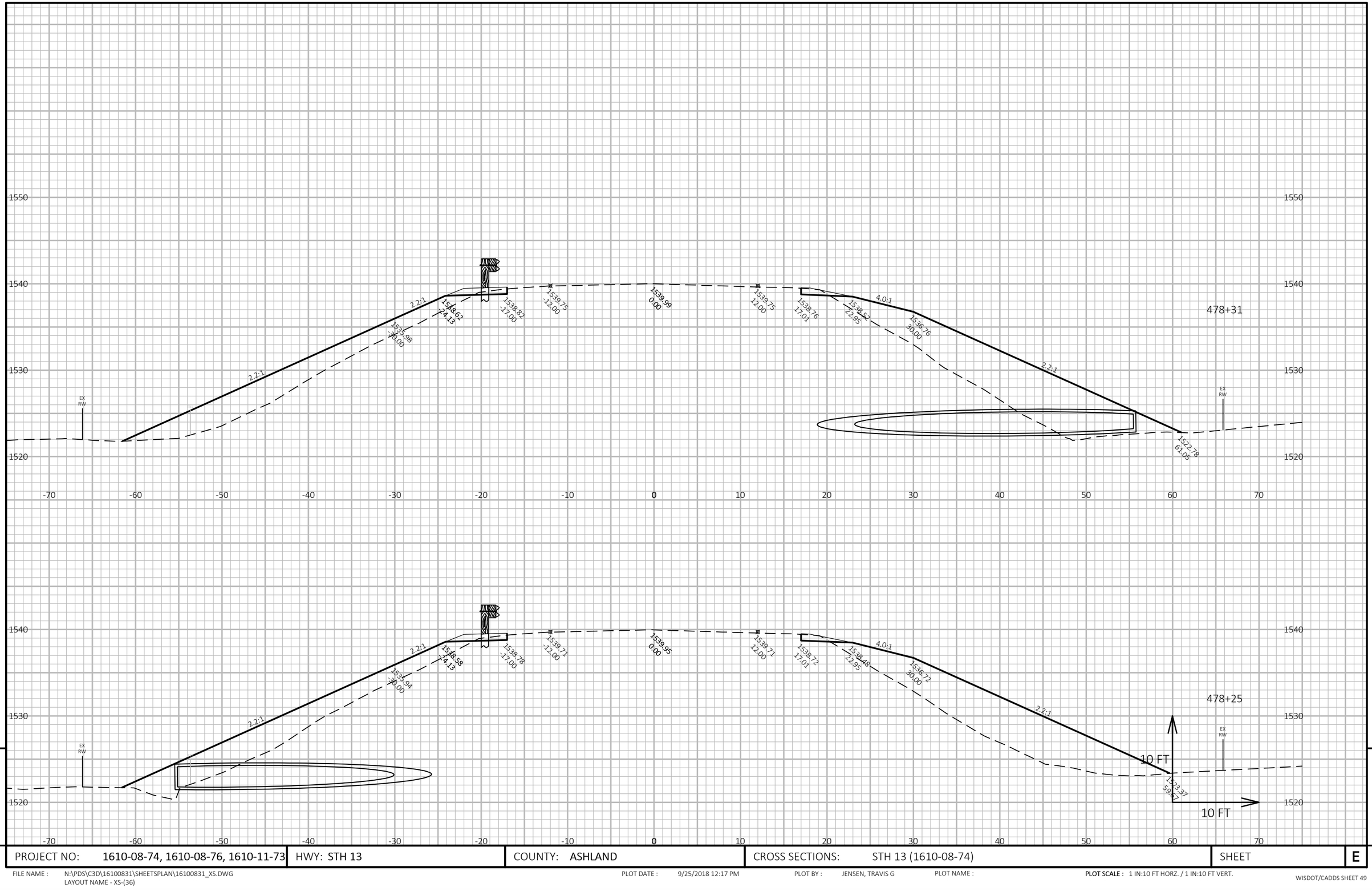
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

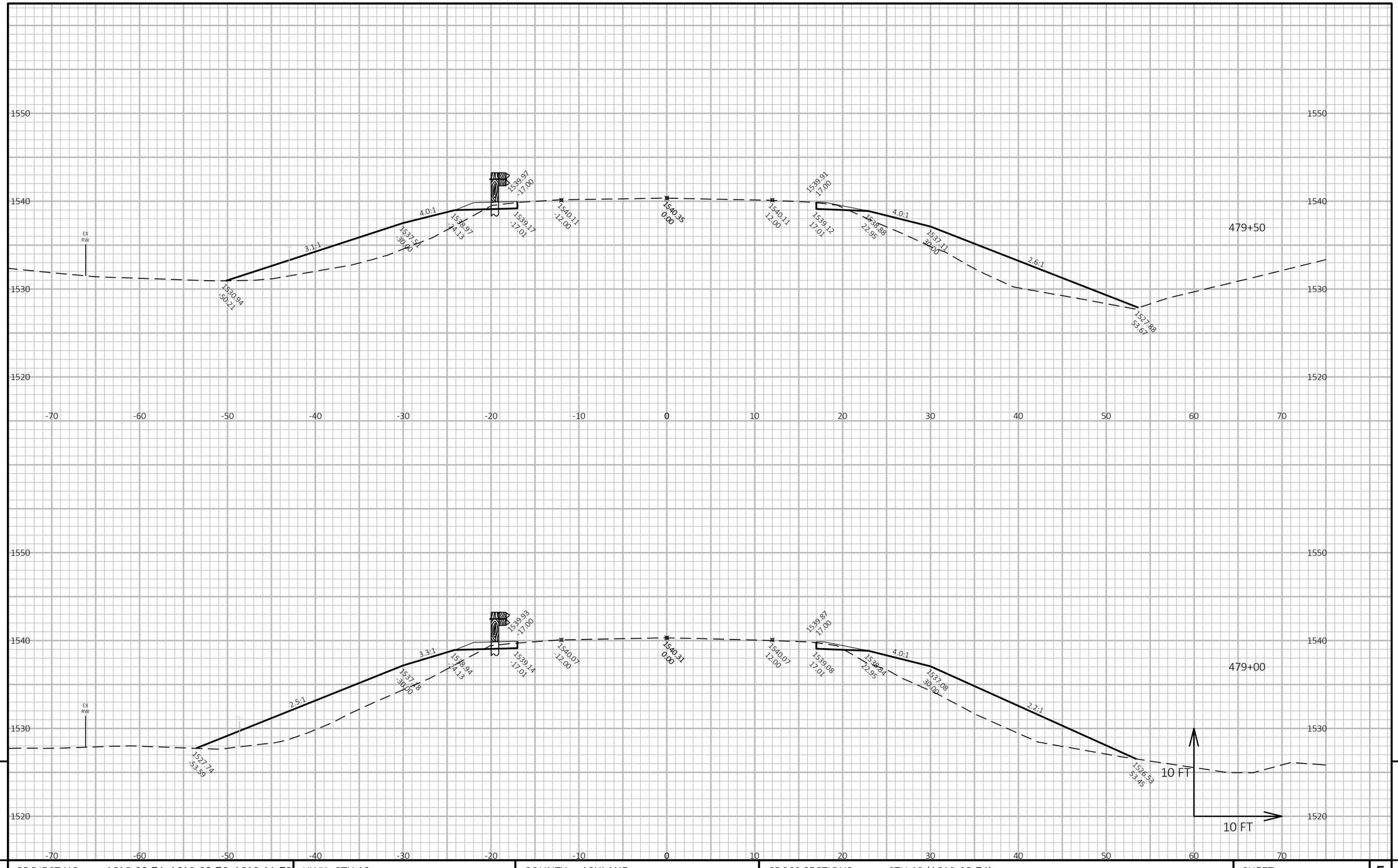
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(36)

PLOT DATE : 9/25/2018 12:17 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(37)

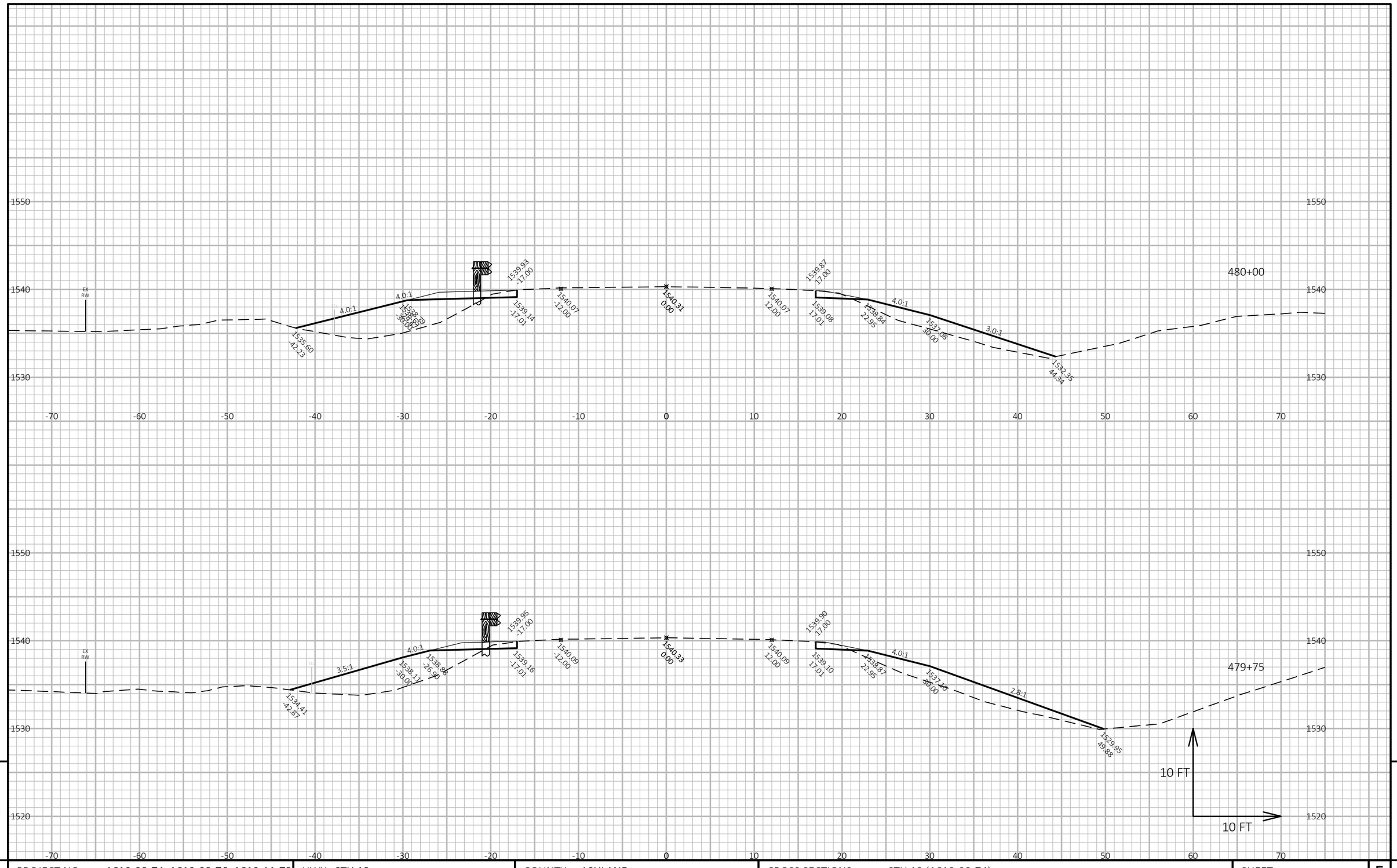
PLOT DATE : 9/25/2018 12:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

9

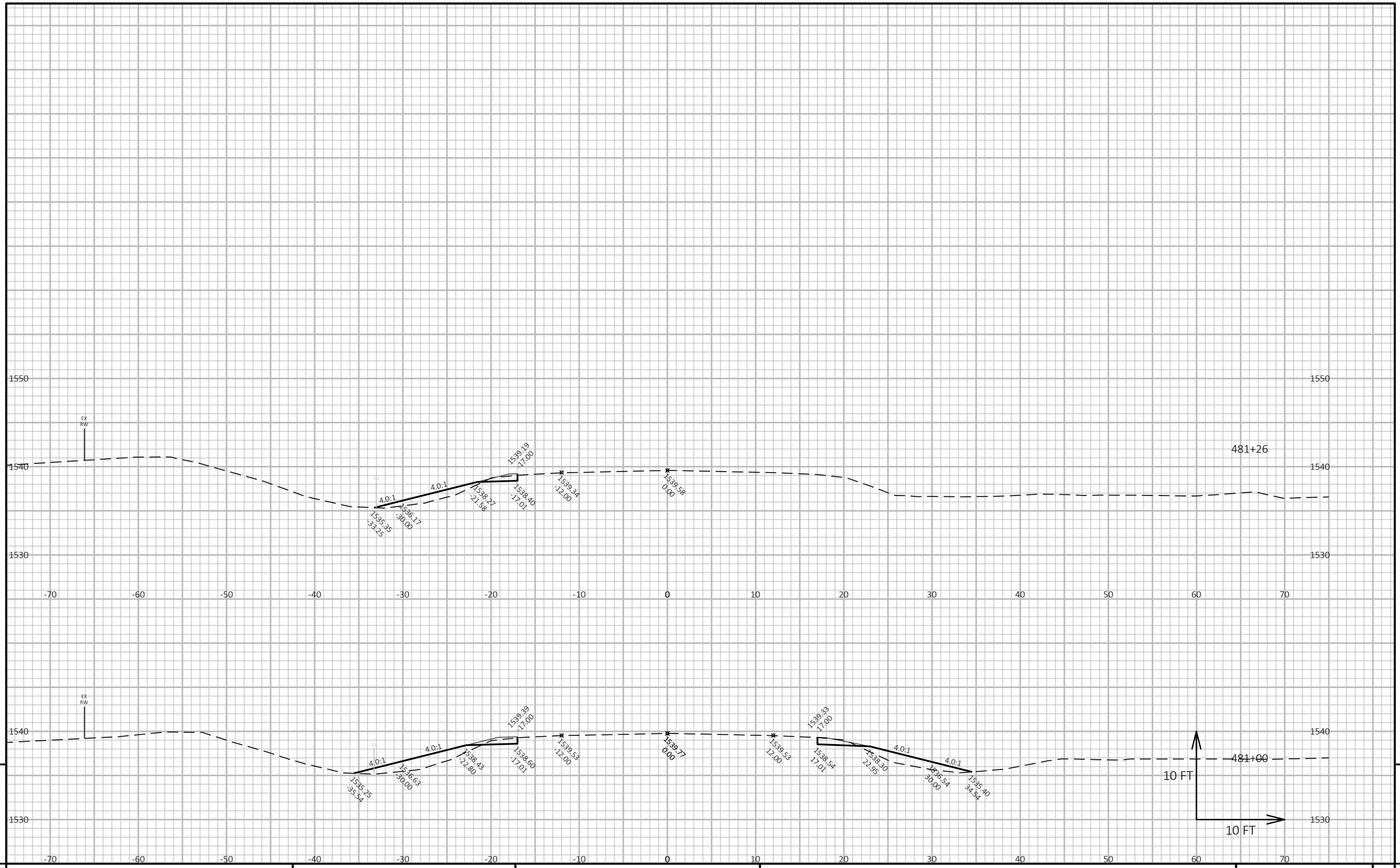
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(38)

PLOT DATE : 9/25/2018 12:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(39)

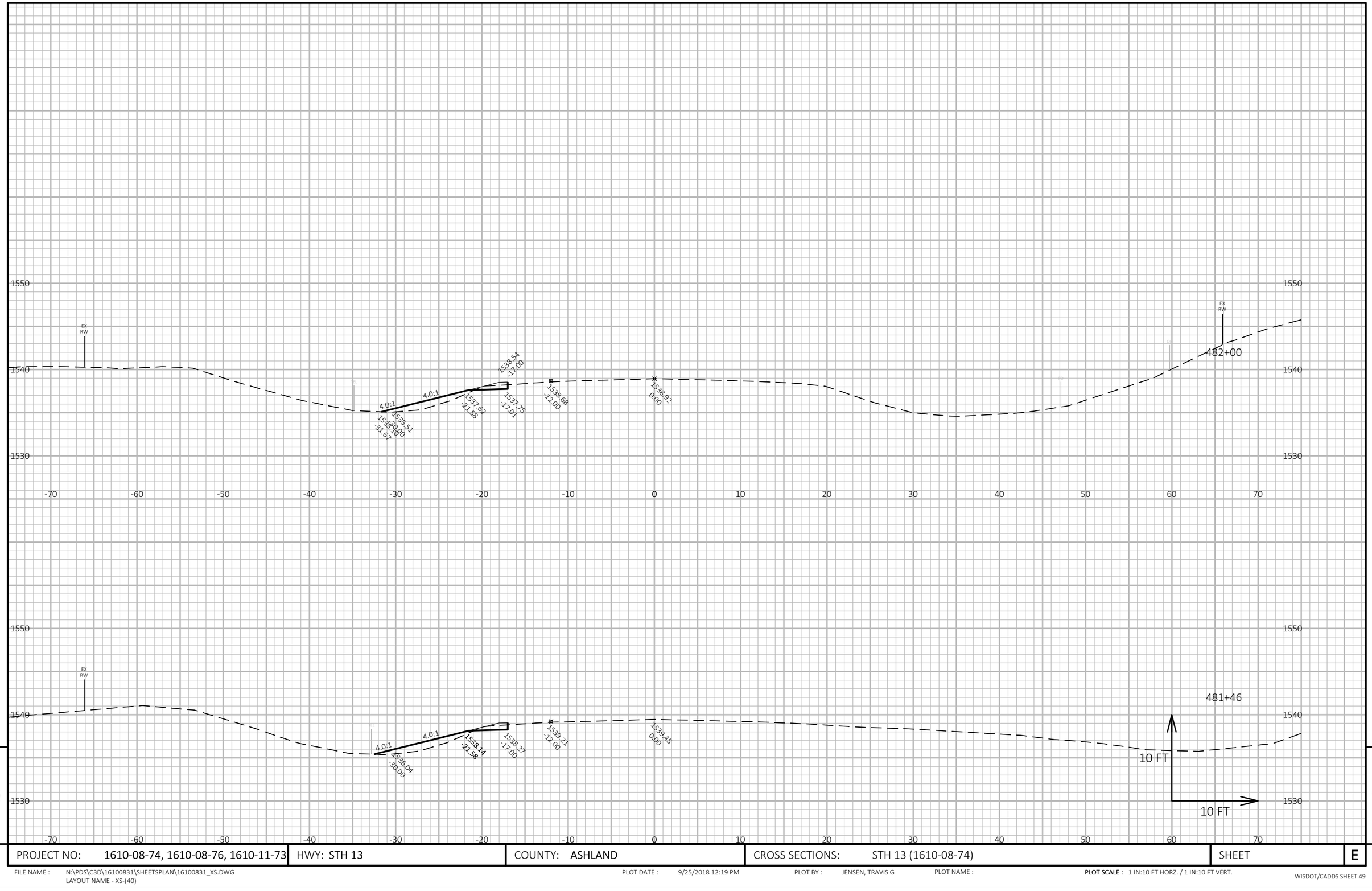
PLOT DATE : 9/25/2018 12:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

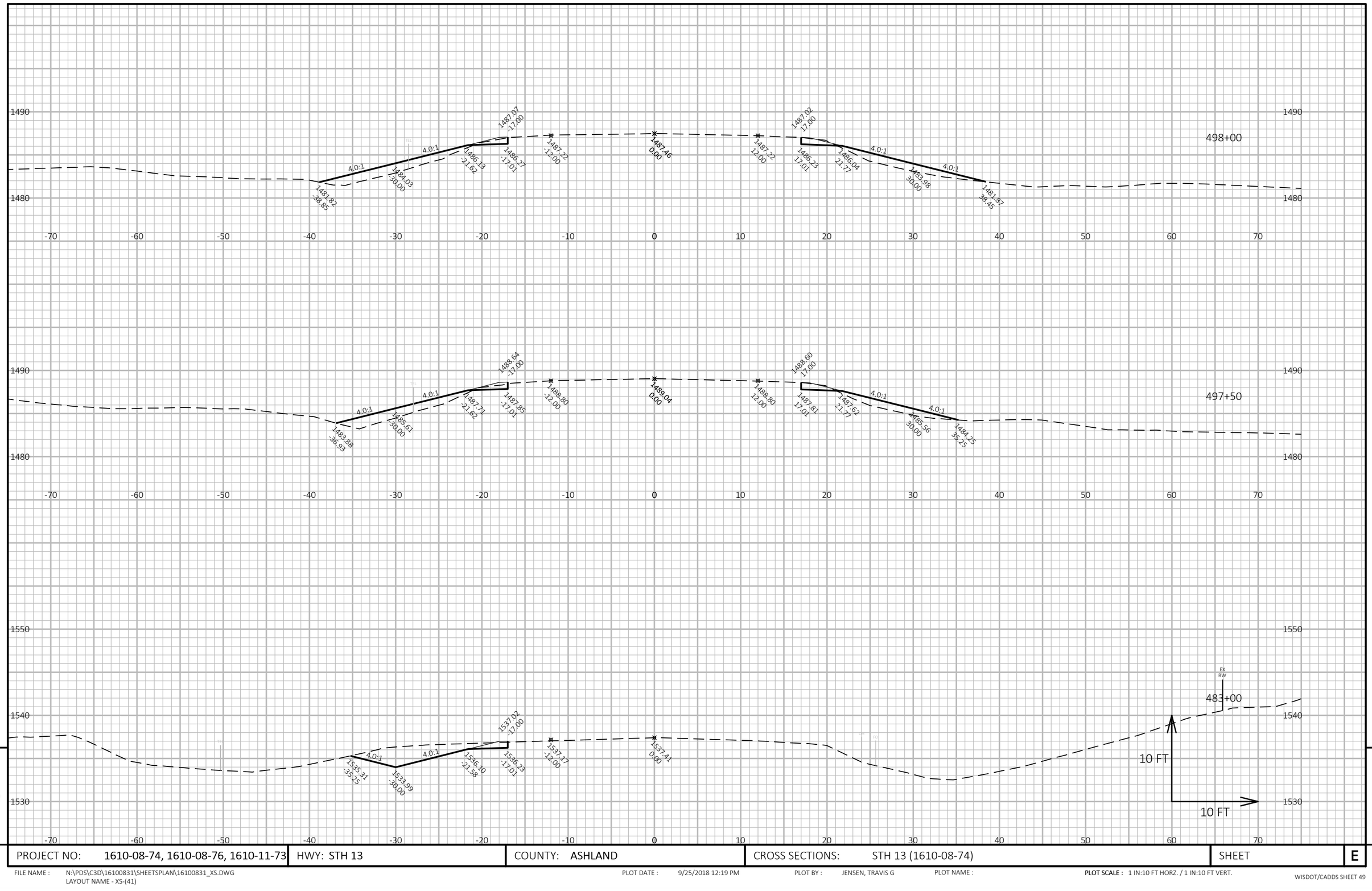
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(40)

PLOT DATE : 9/25/2018 12:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

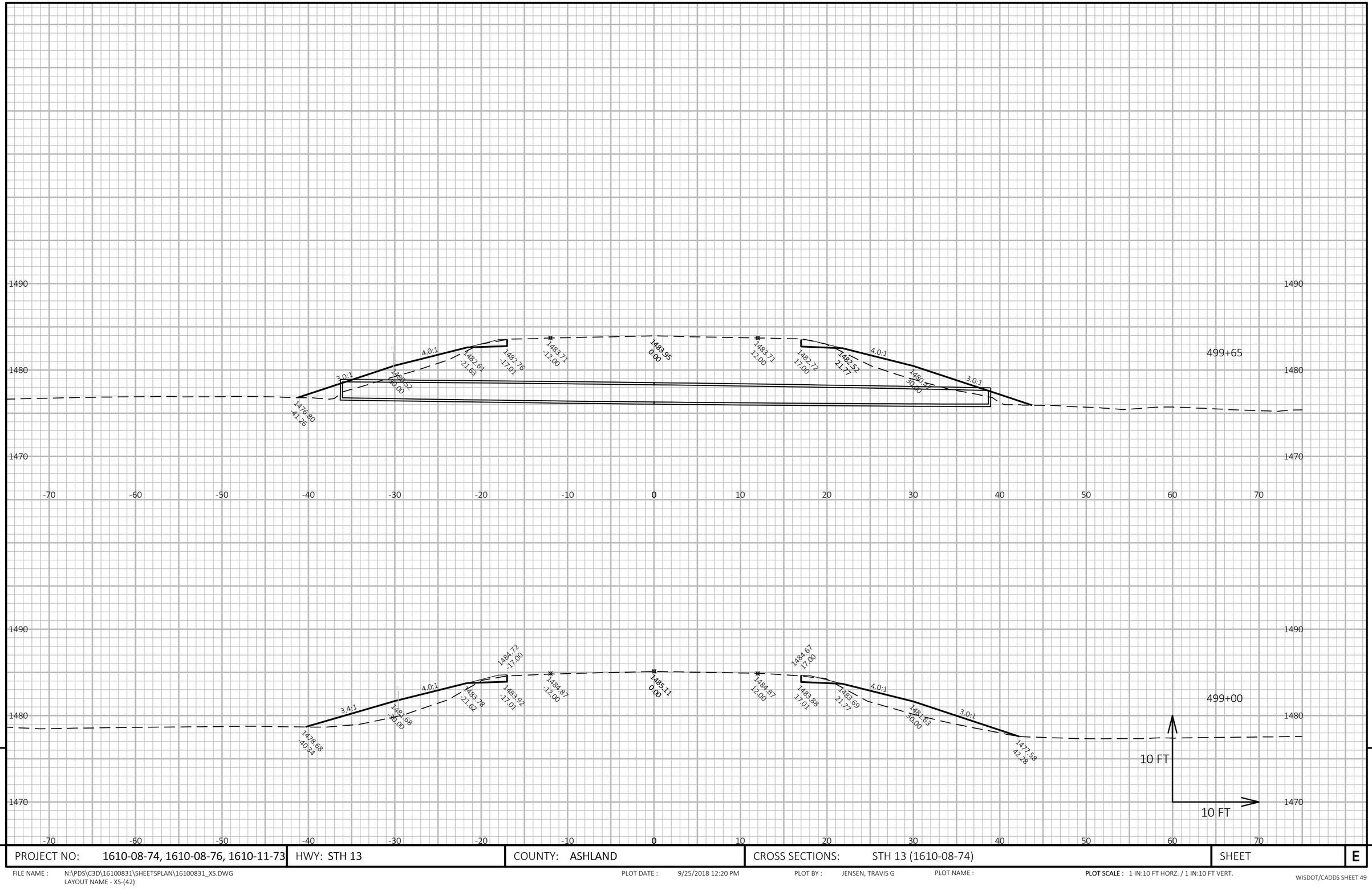
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(41)

PLOT DATE : 9/25/2018 12:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



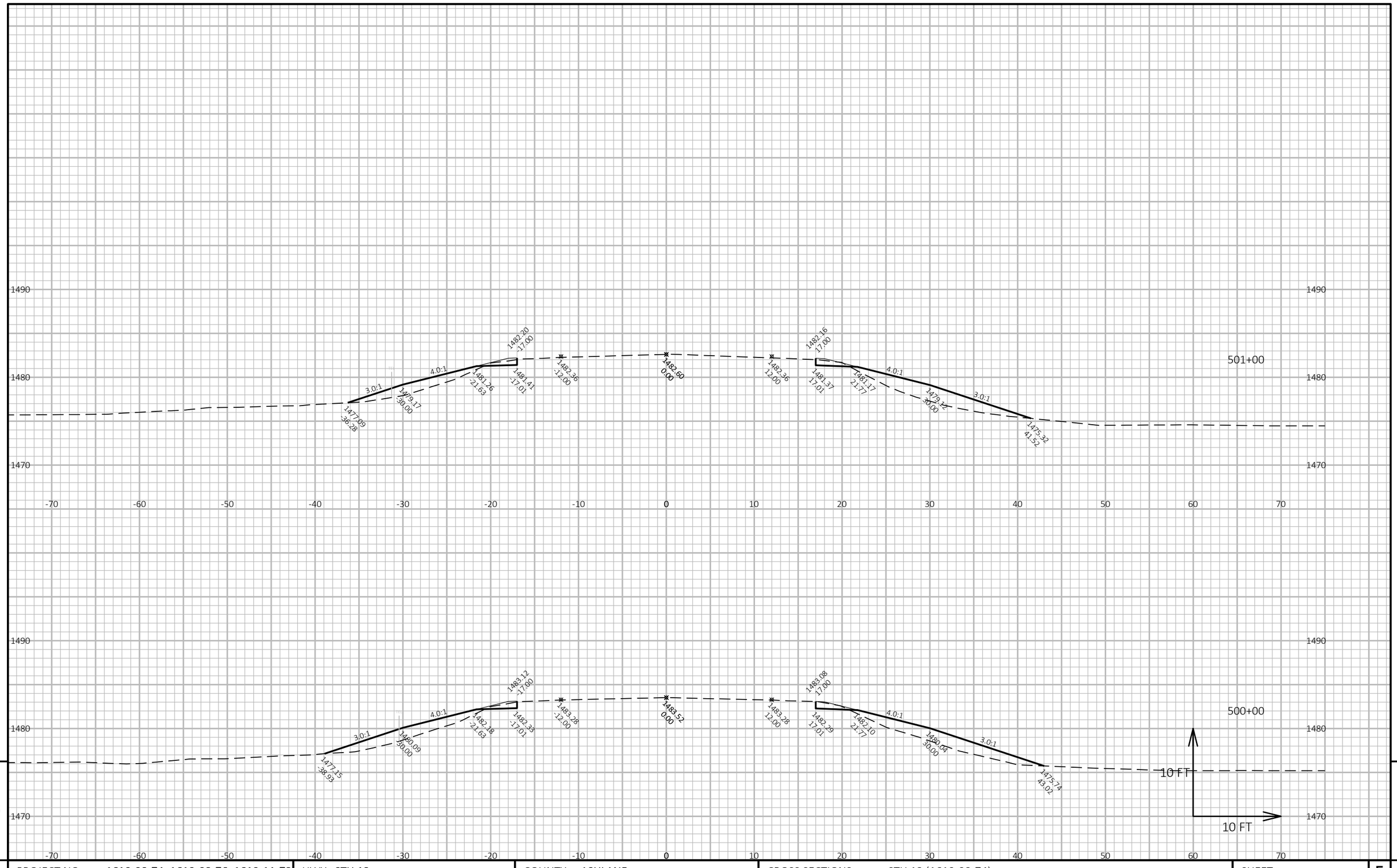
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(42)

PLOT DATE : 9/25/2018 12:20 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

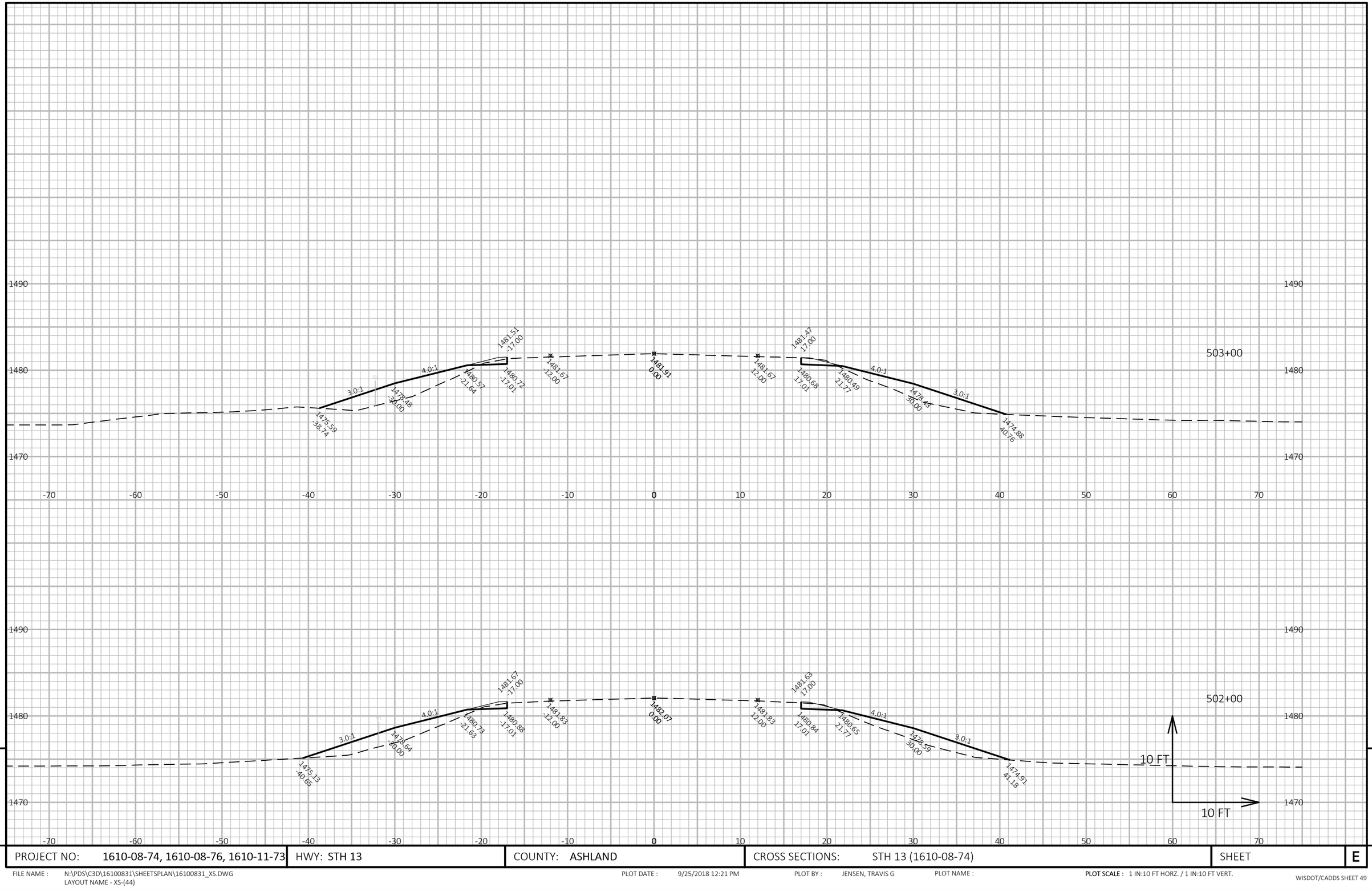
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(43)

PLOT DATE : 9/25/2018 12:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

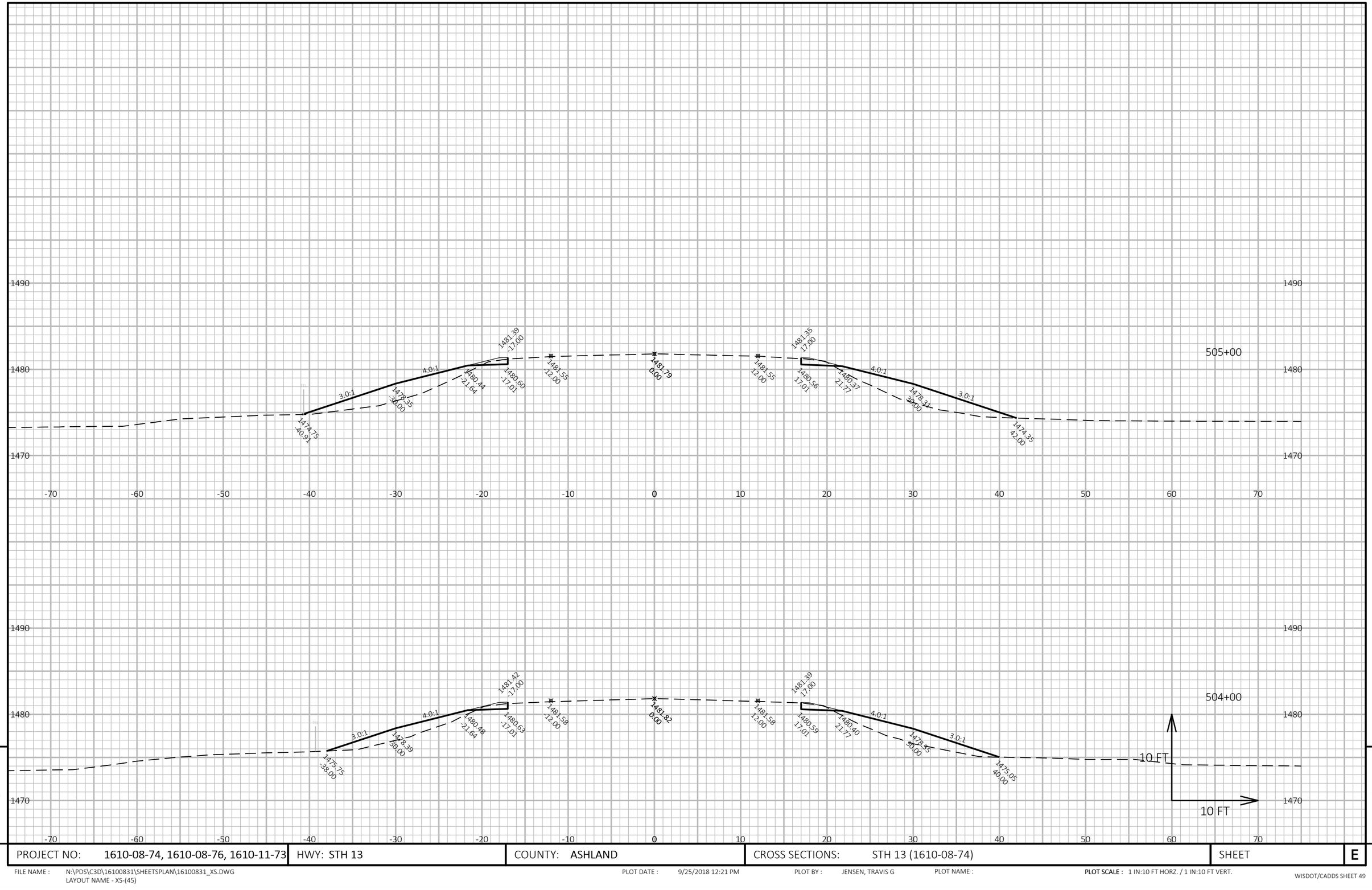


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(44)

PLOT DATE : 9/25/2018 12:21 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

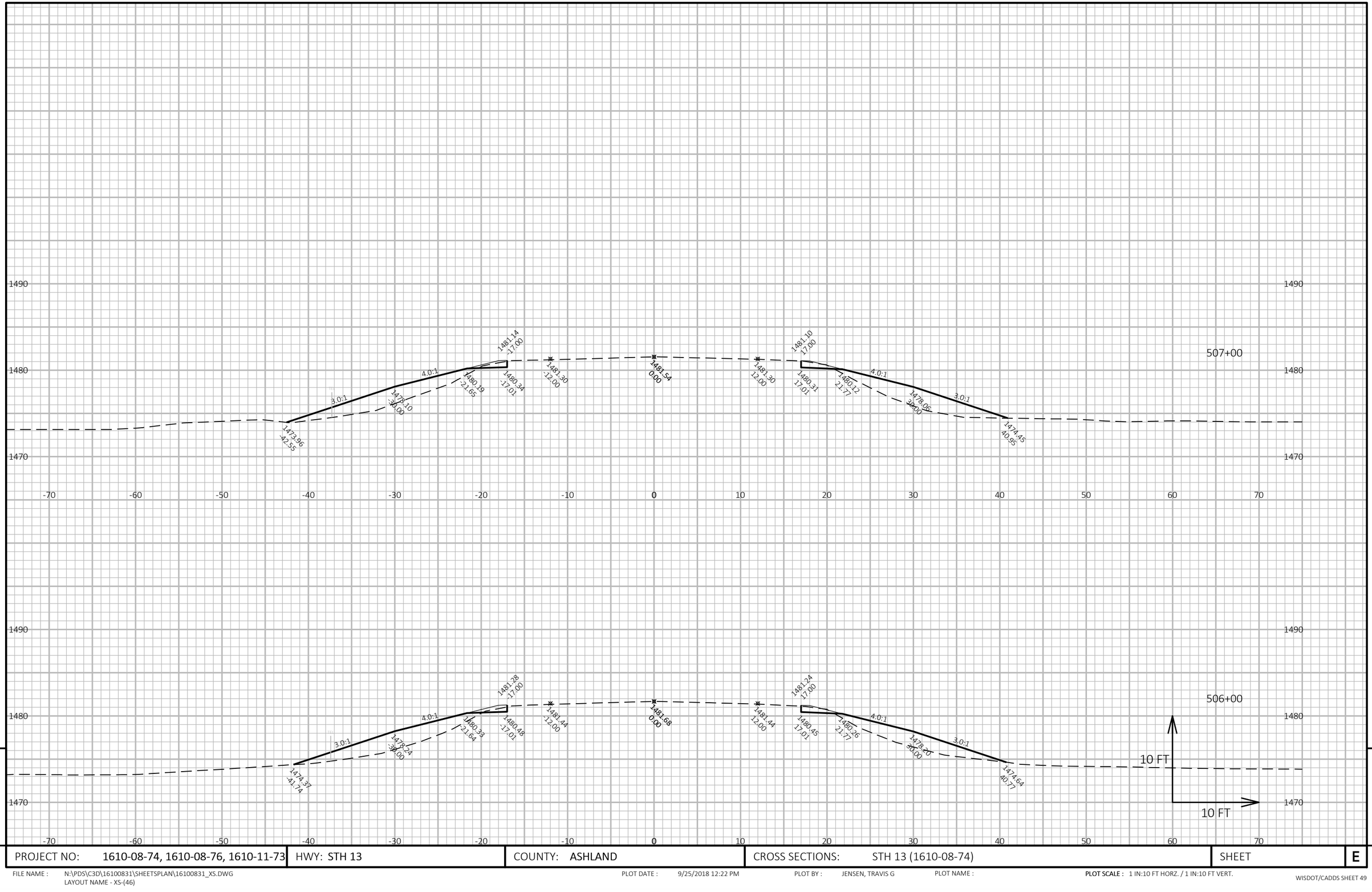


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(45)

PLOT DATE : 9/25/2018 12:21 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

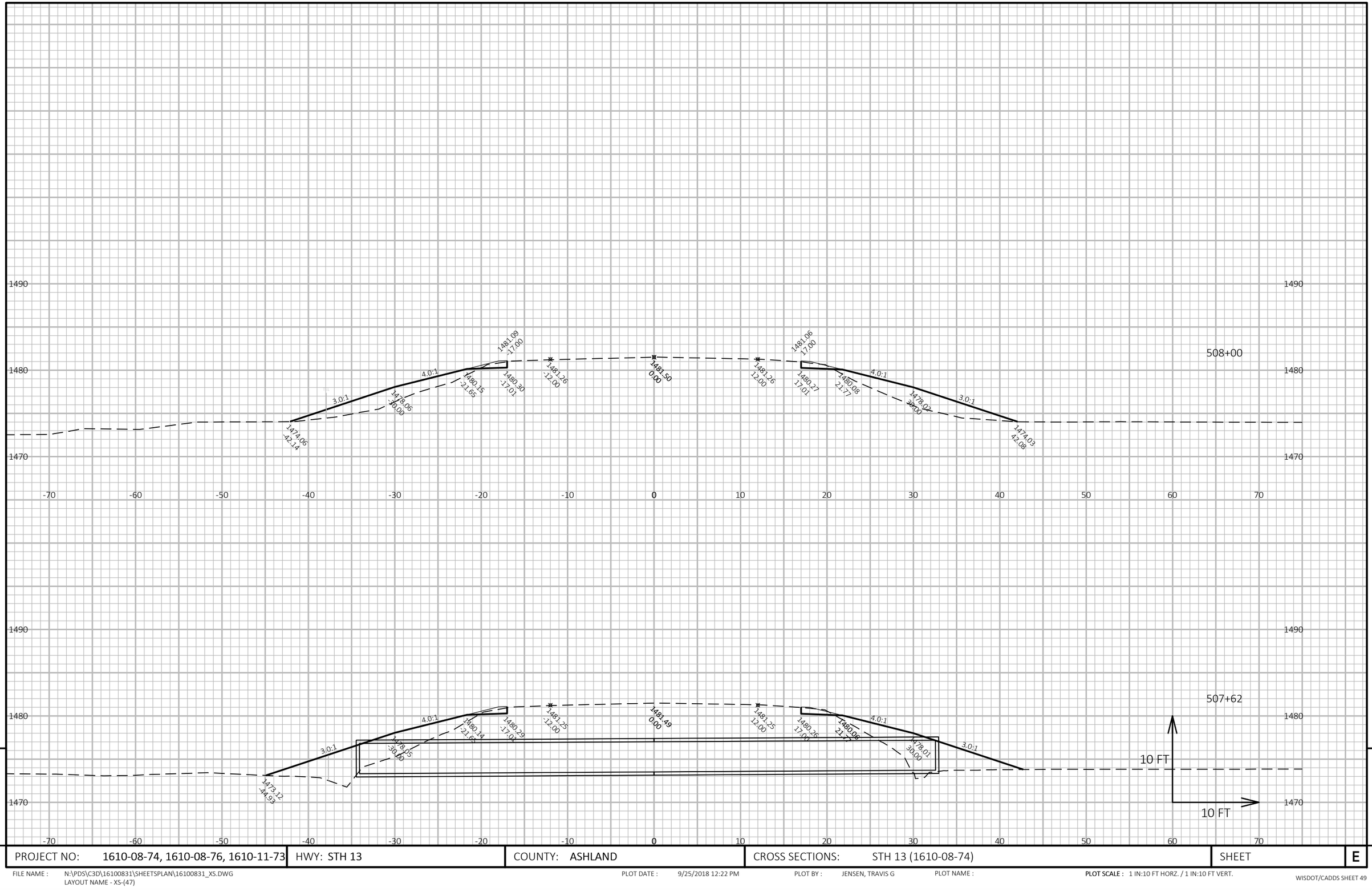


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(46)

PLOT DATE : 9/25/2018 12:22 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

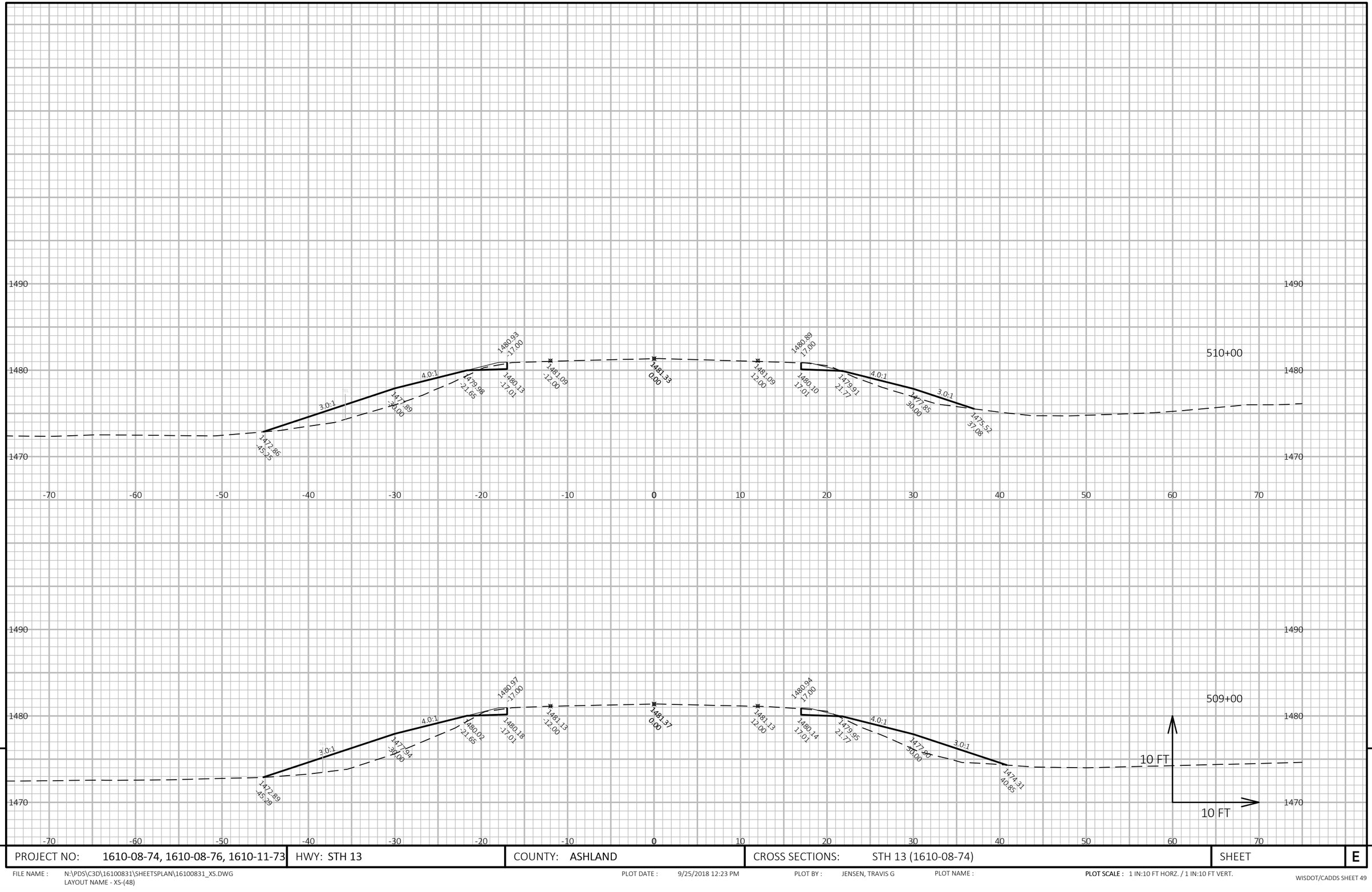
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(47)

PLOT DATE : 9/25/2018 12:22 PM

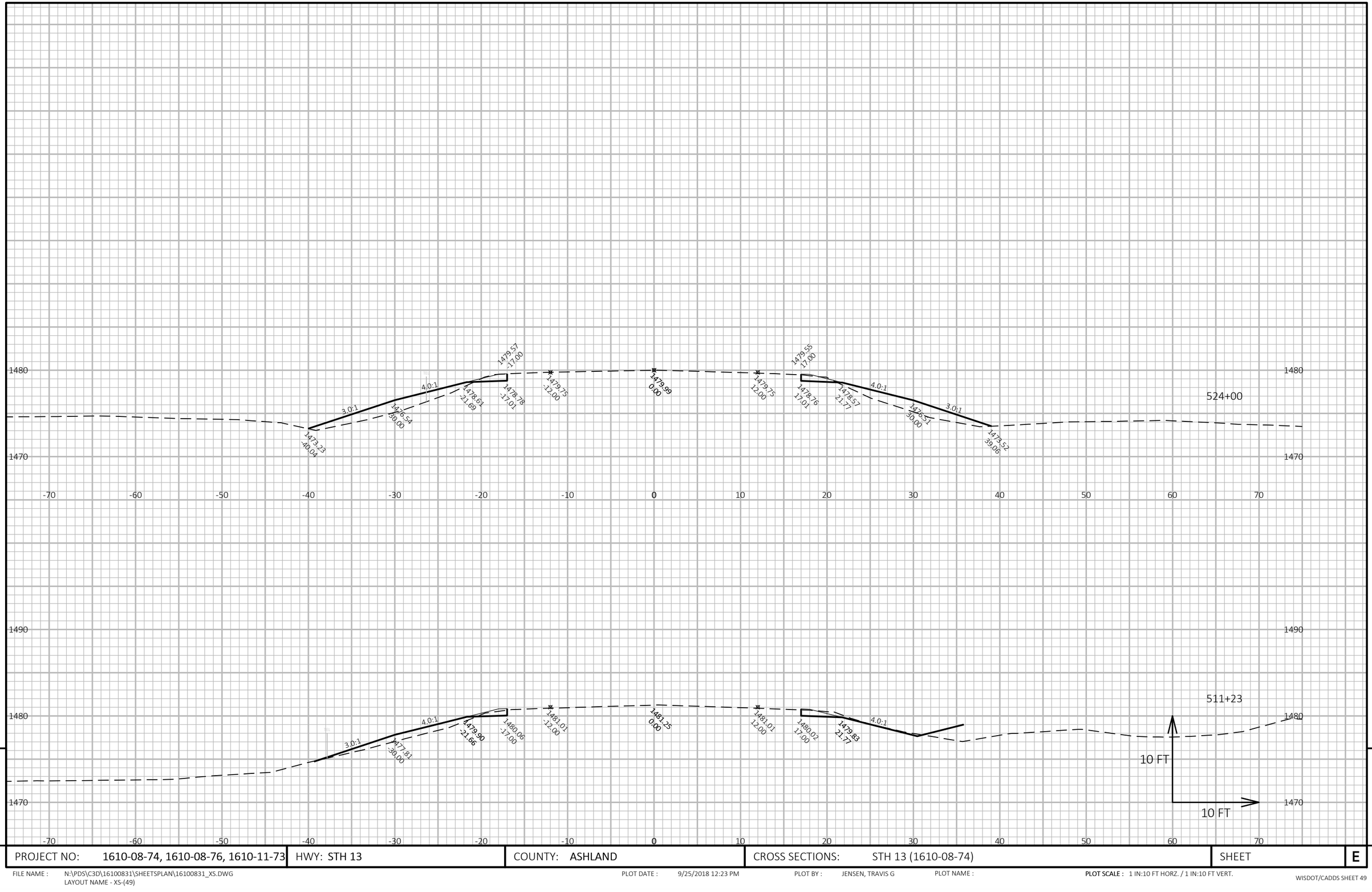
PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

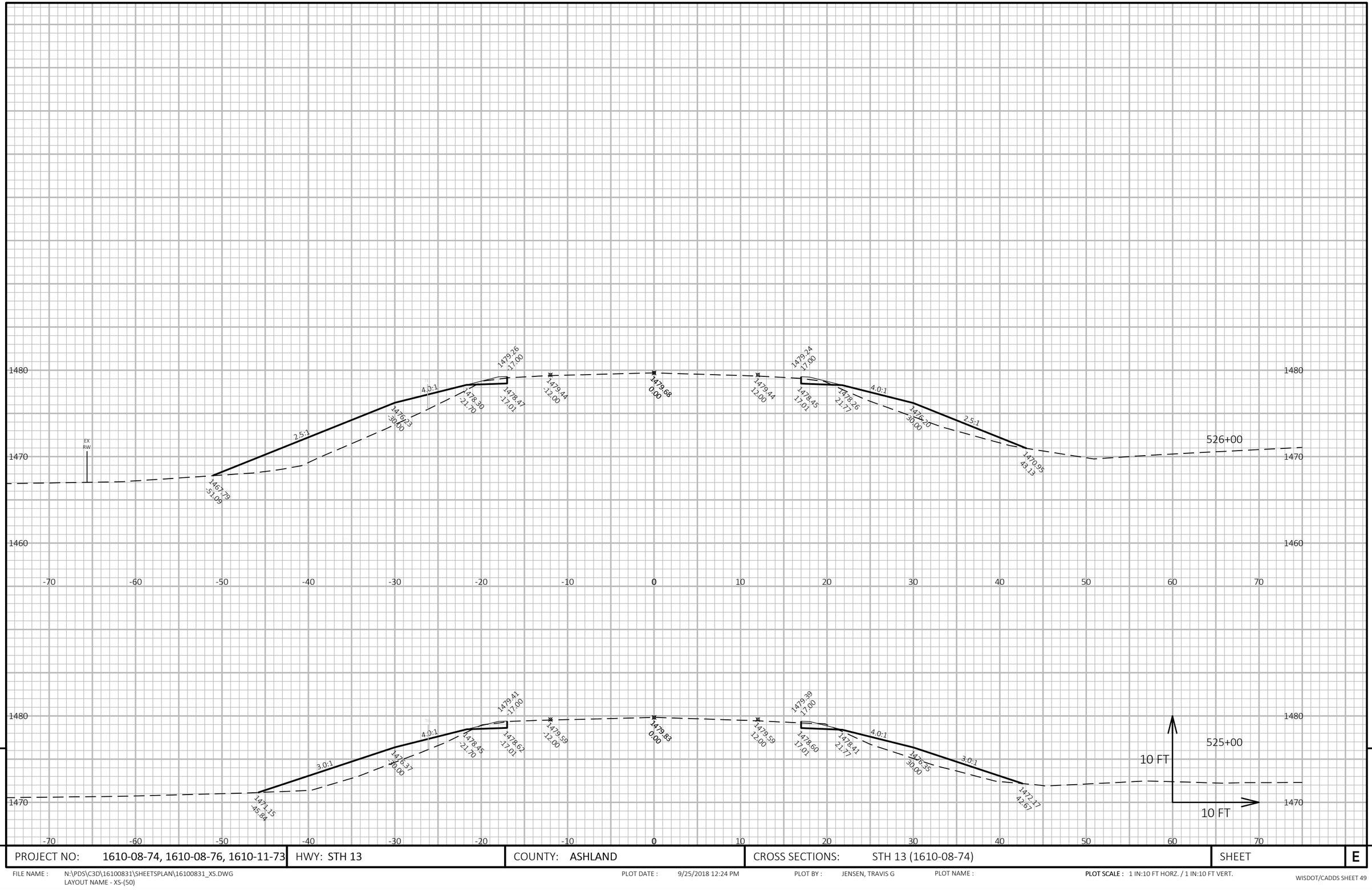
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(49)

PLOT DATE : 9/25/2018 12:23 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

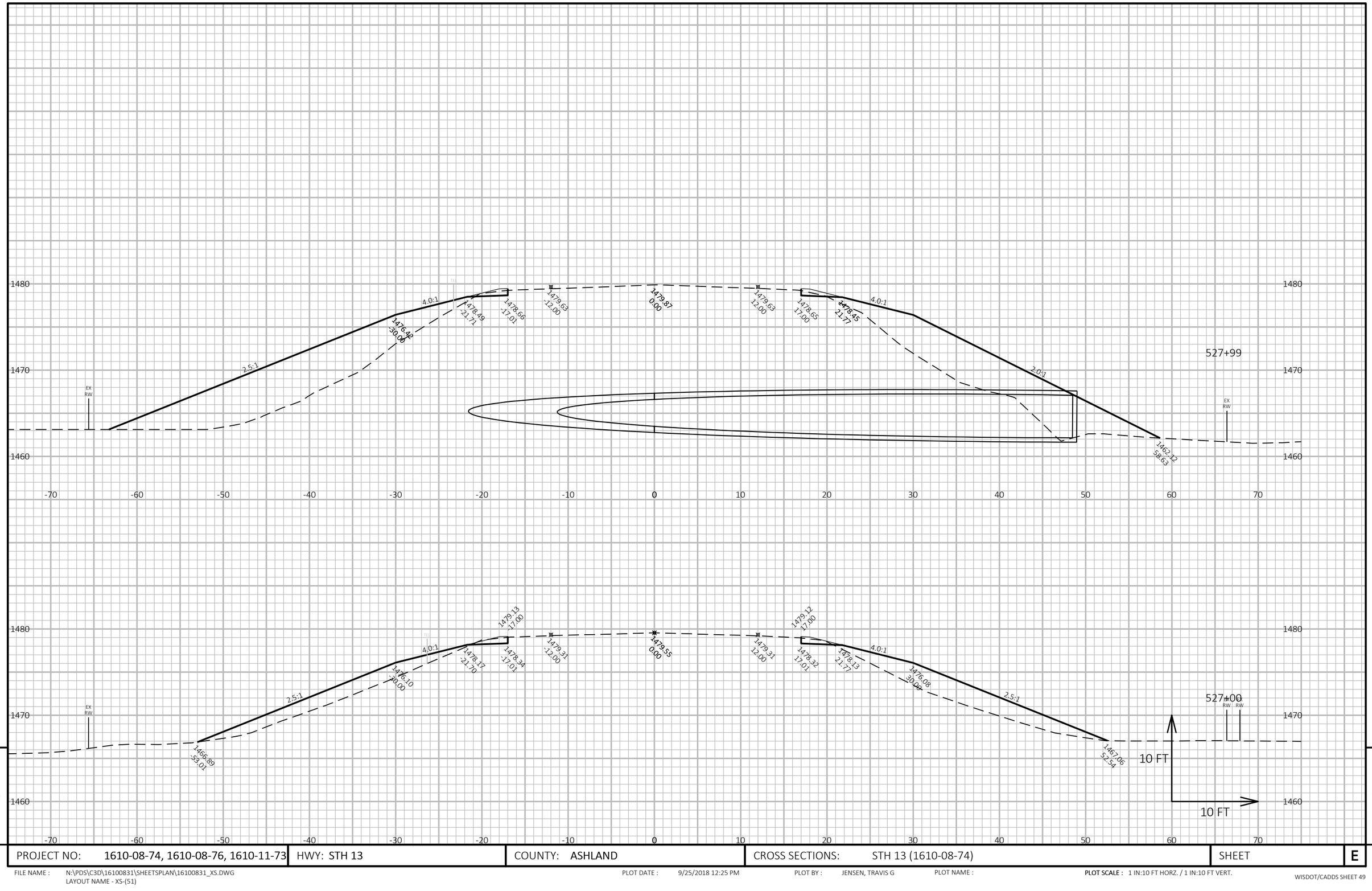


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(50)

PLOT DATE : 9/25/2018 12:24 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

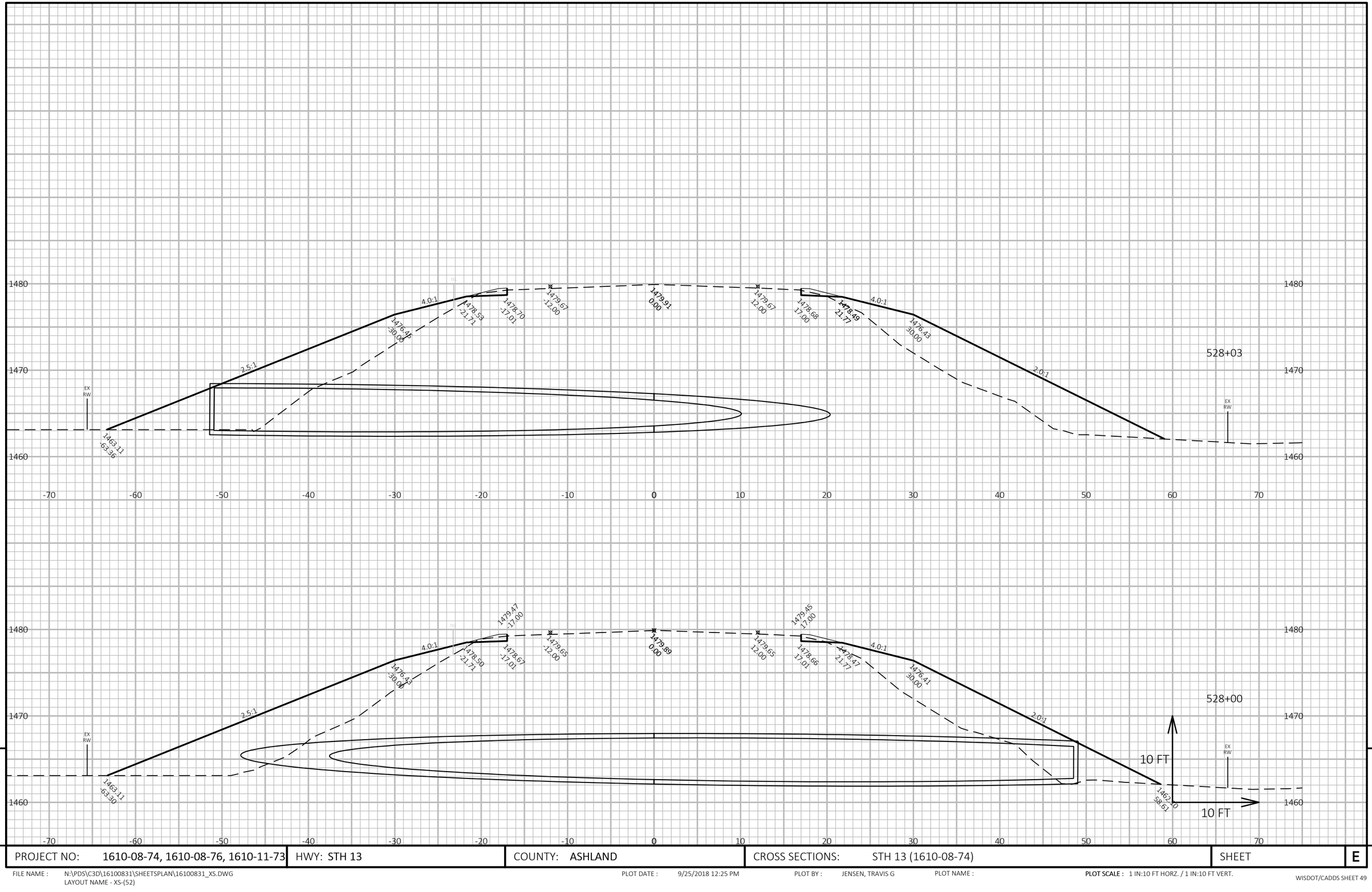
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(51)

PLOT DATE : 9/25/2018 12:25 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

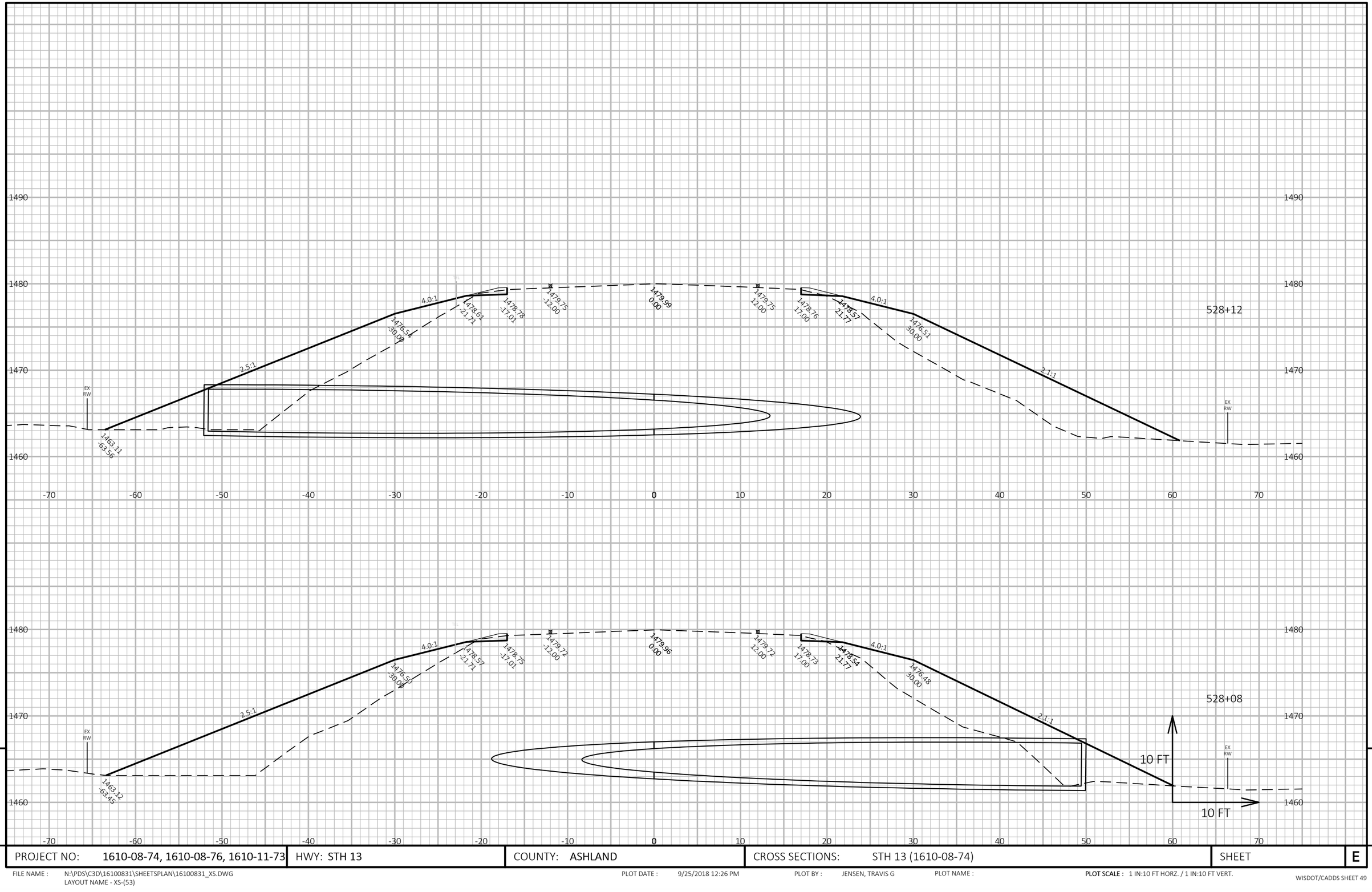
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

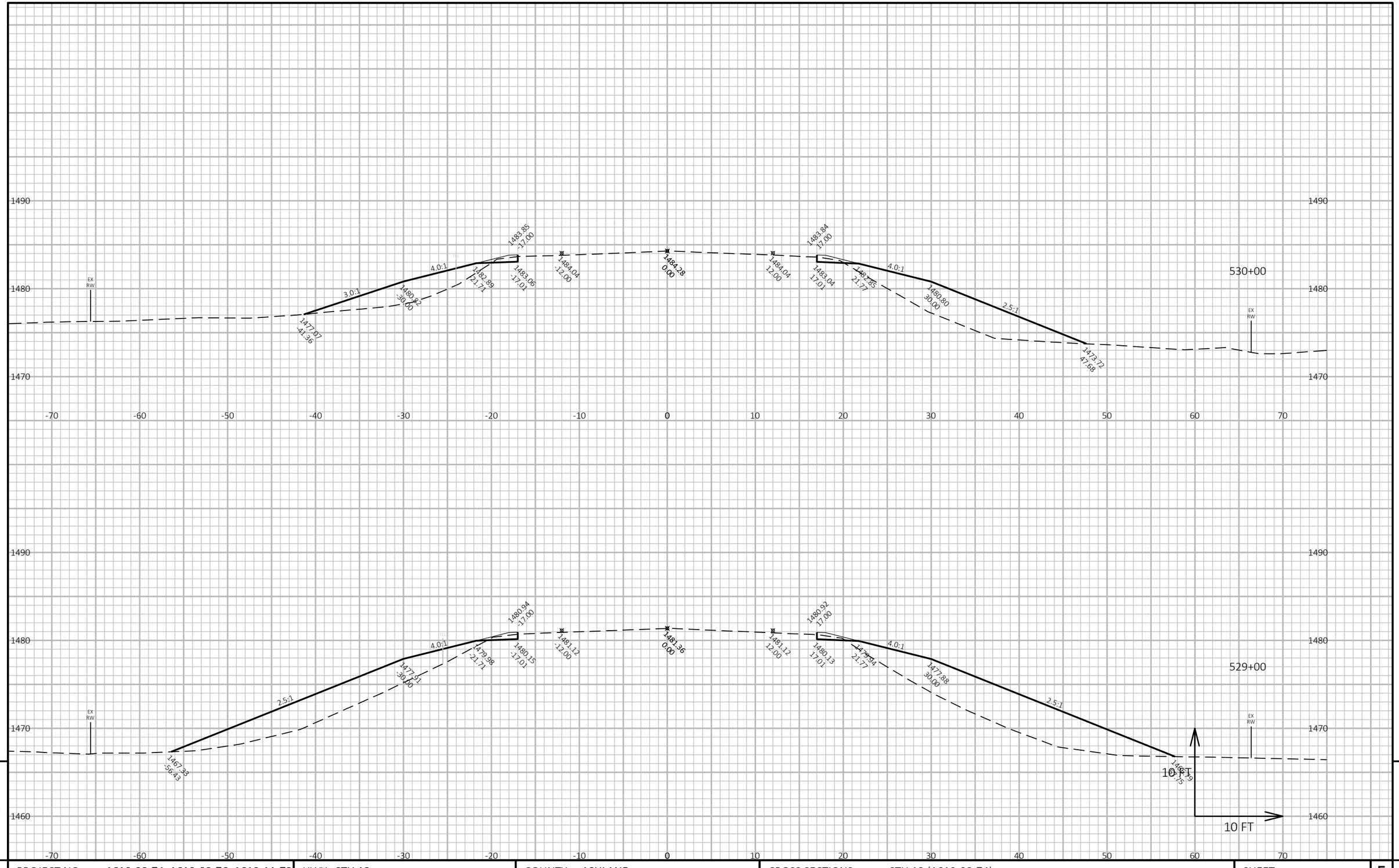
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(53)

PLOT DATE : 9/25/2018 12:26 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



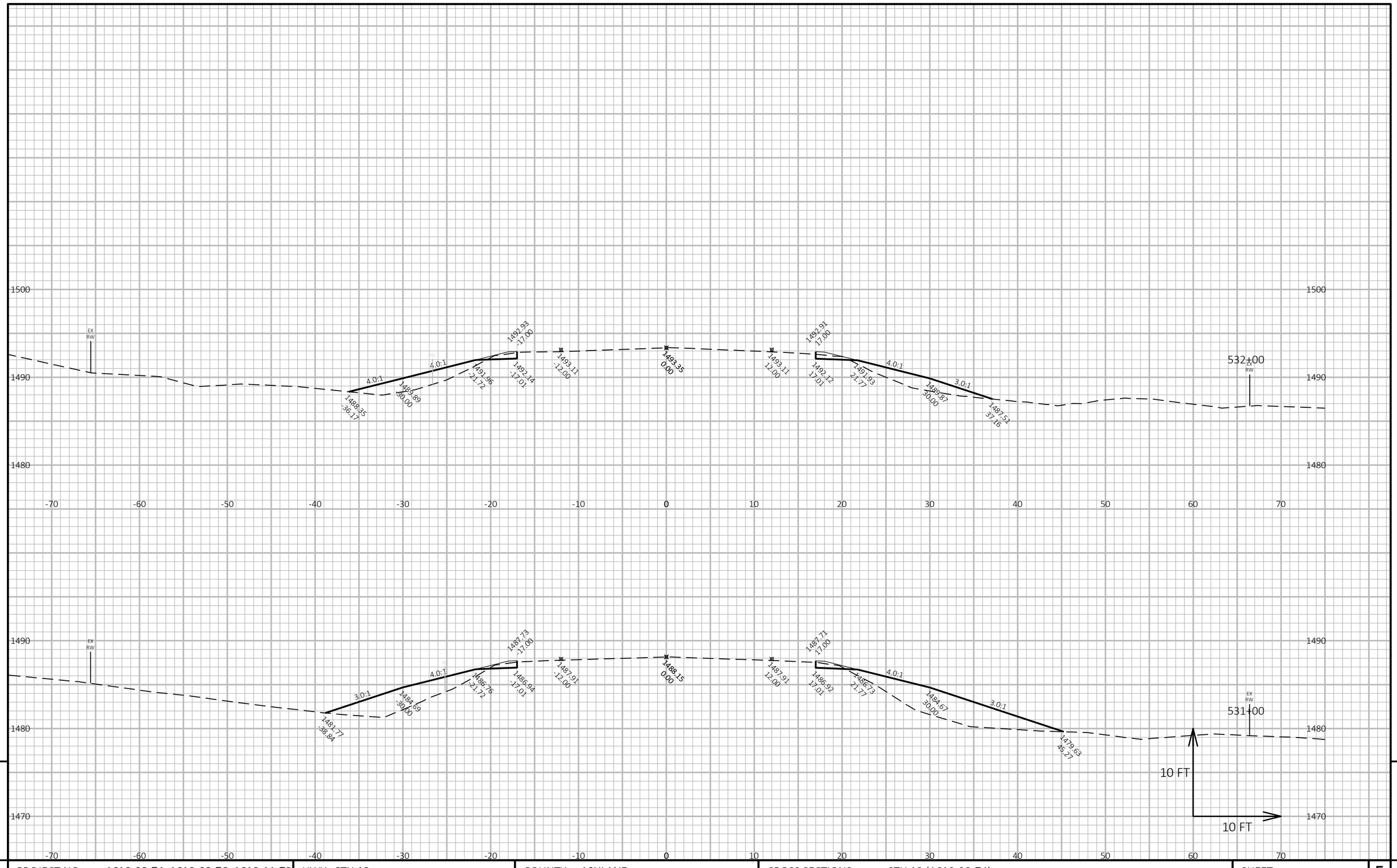
9 9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(54)

PLOT DATE : 9/25/2018 12:26 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(55)

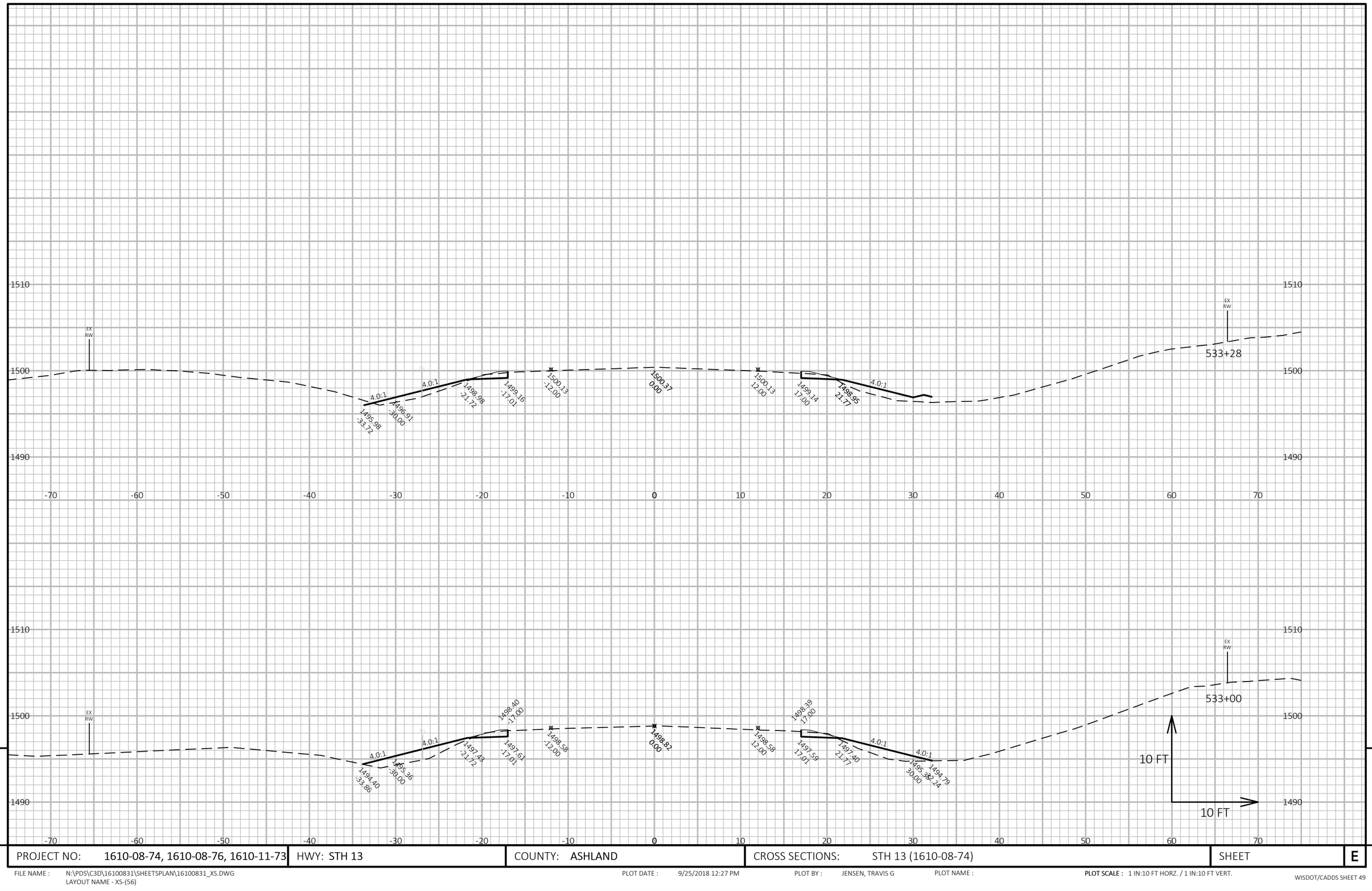
PLOT DATE : 9/25/2018 12:27 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

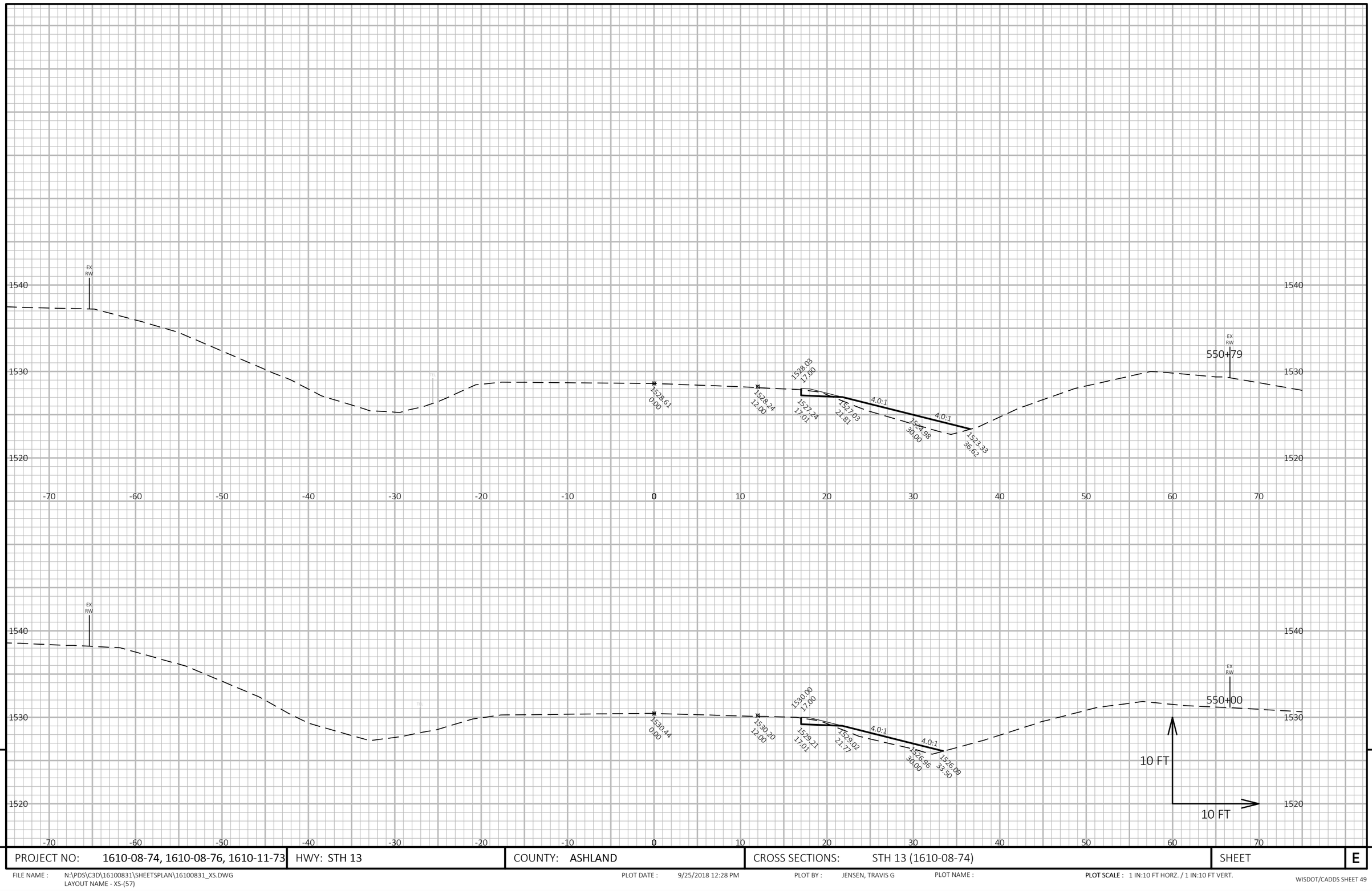


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(56)

PLOT DATE : 9/25/2018 12:27 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

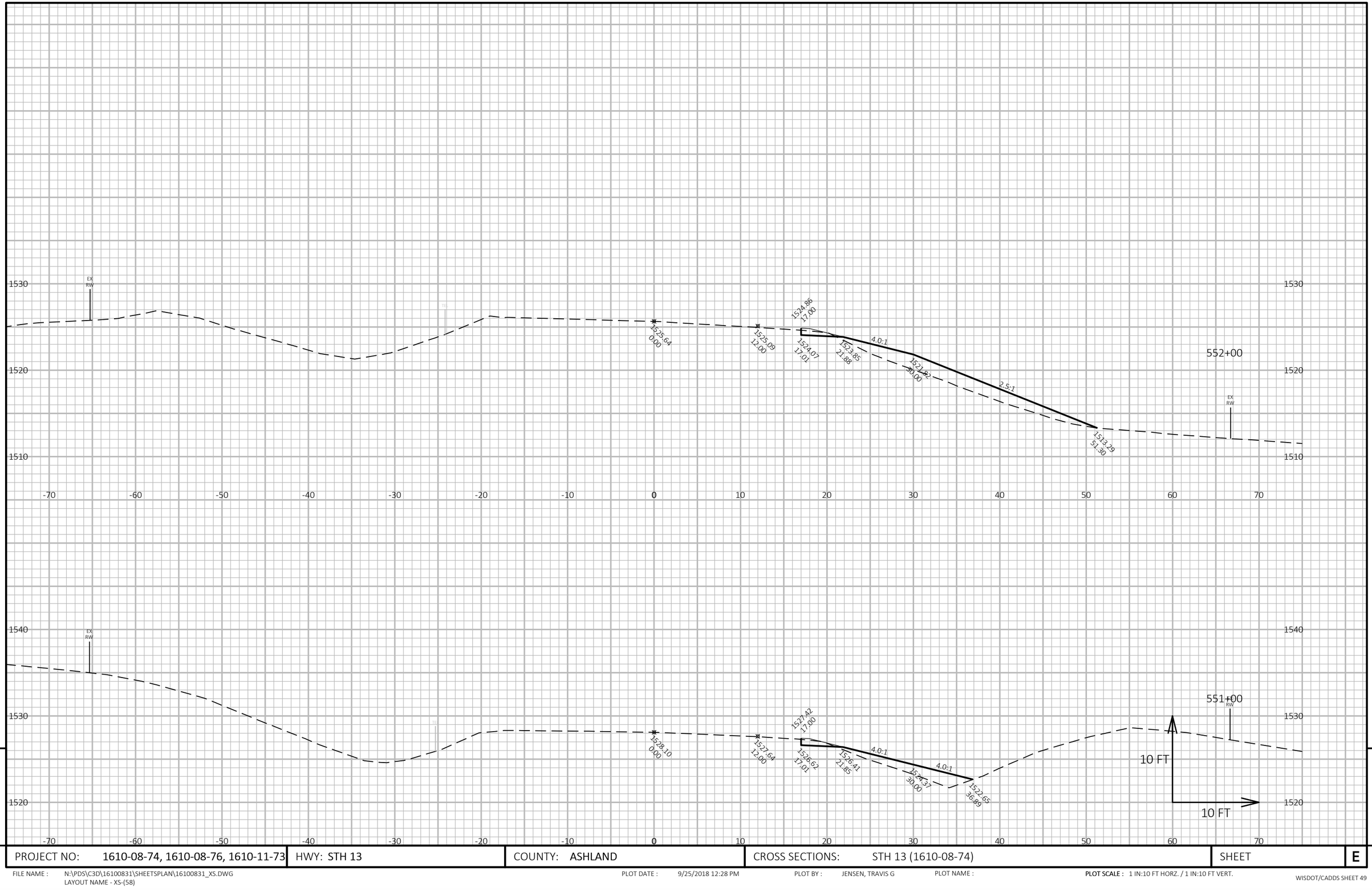
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(57)

PLOT DATE : 9/25/2018 12:28 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



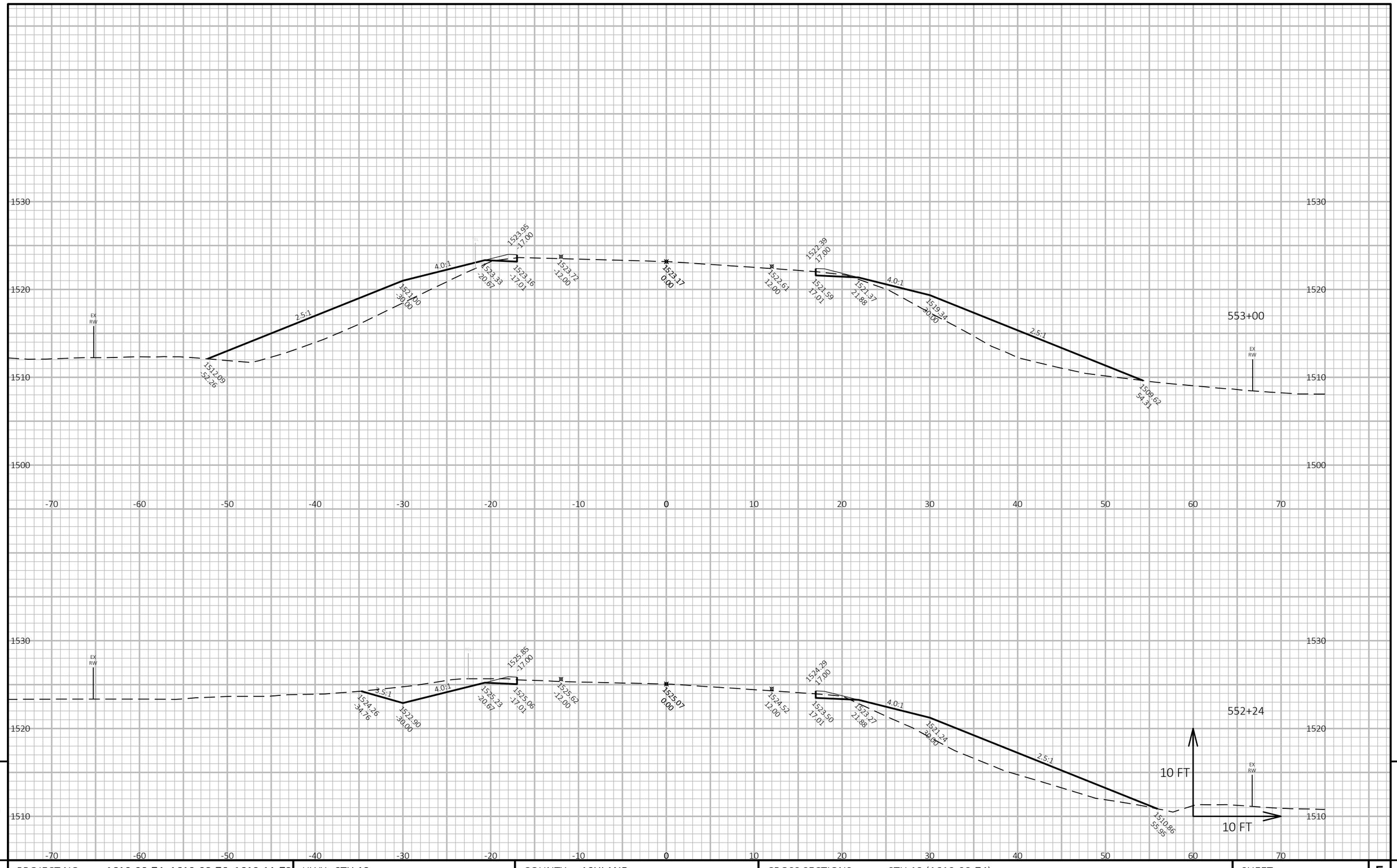
9

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(58)

PLOT DATE : 9/25/2018 12:28 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(59)

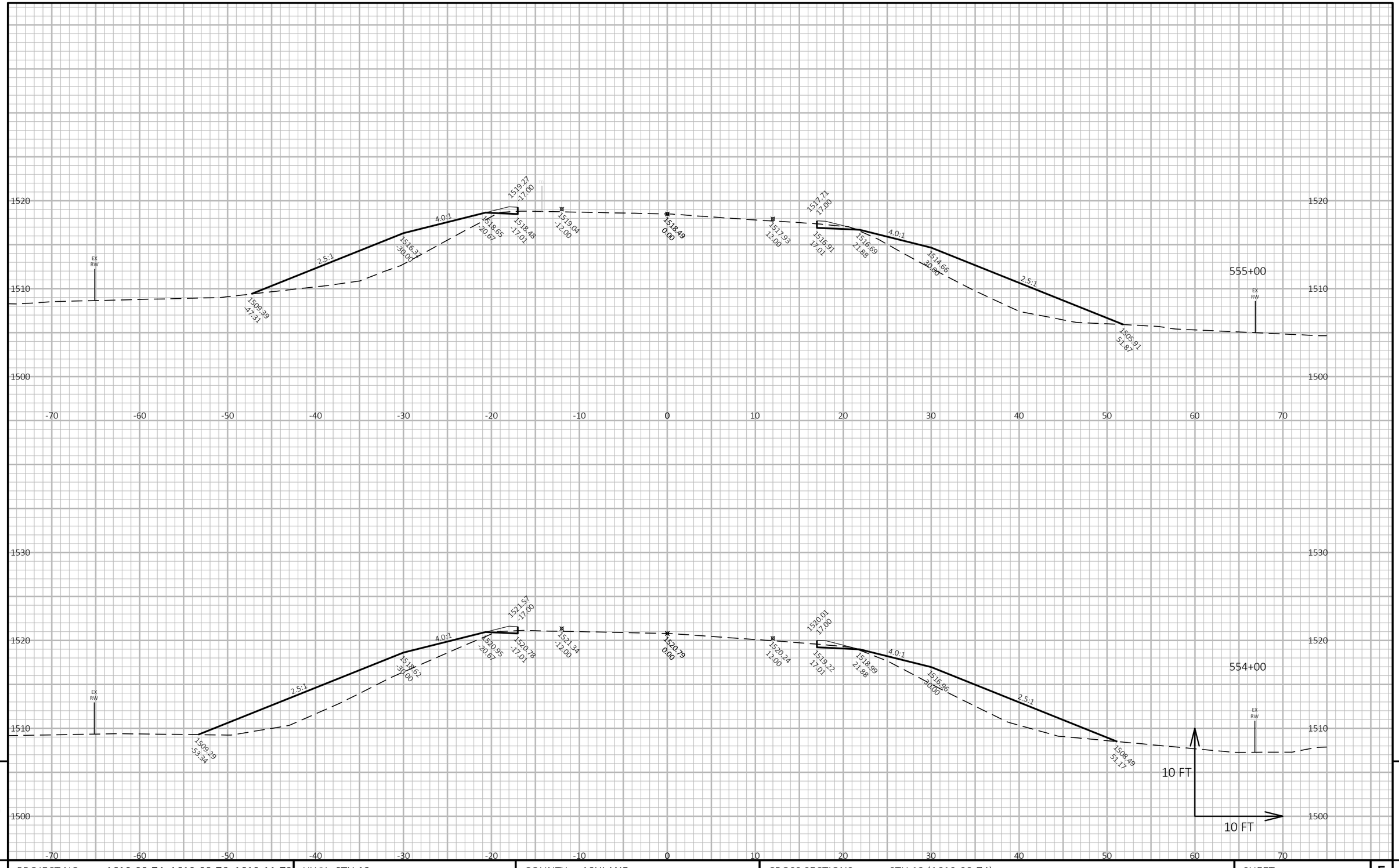
PLOT DATE : 9/25/2018 12:29 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(60)

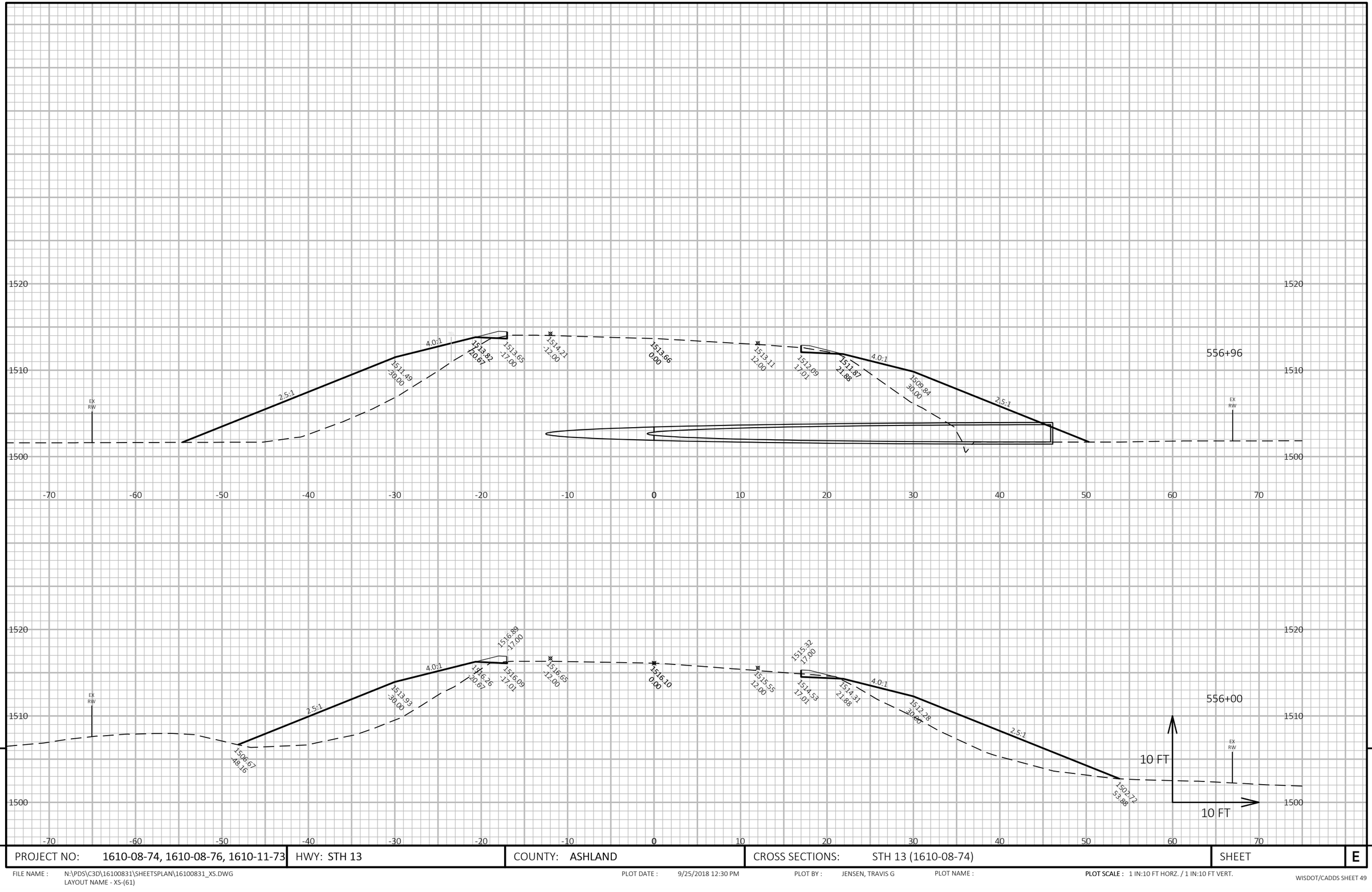
PLOT DATE : 9/25/2018 12:29 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

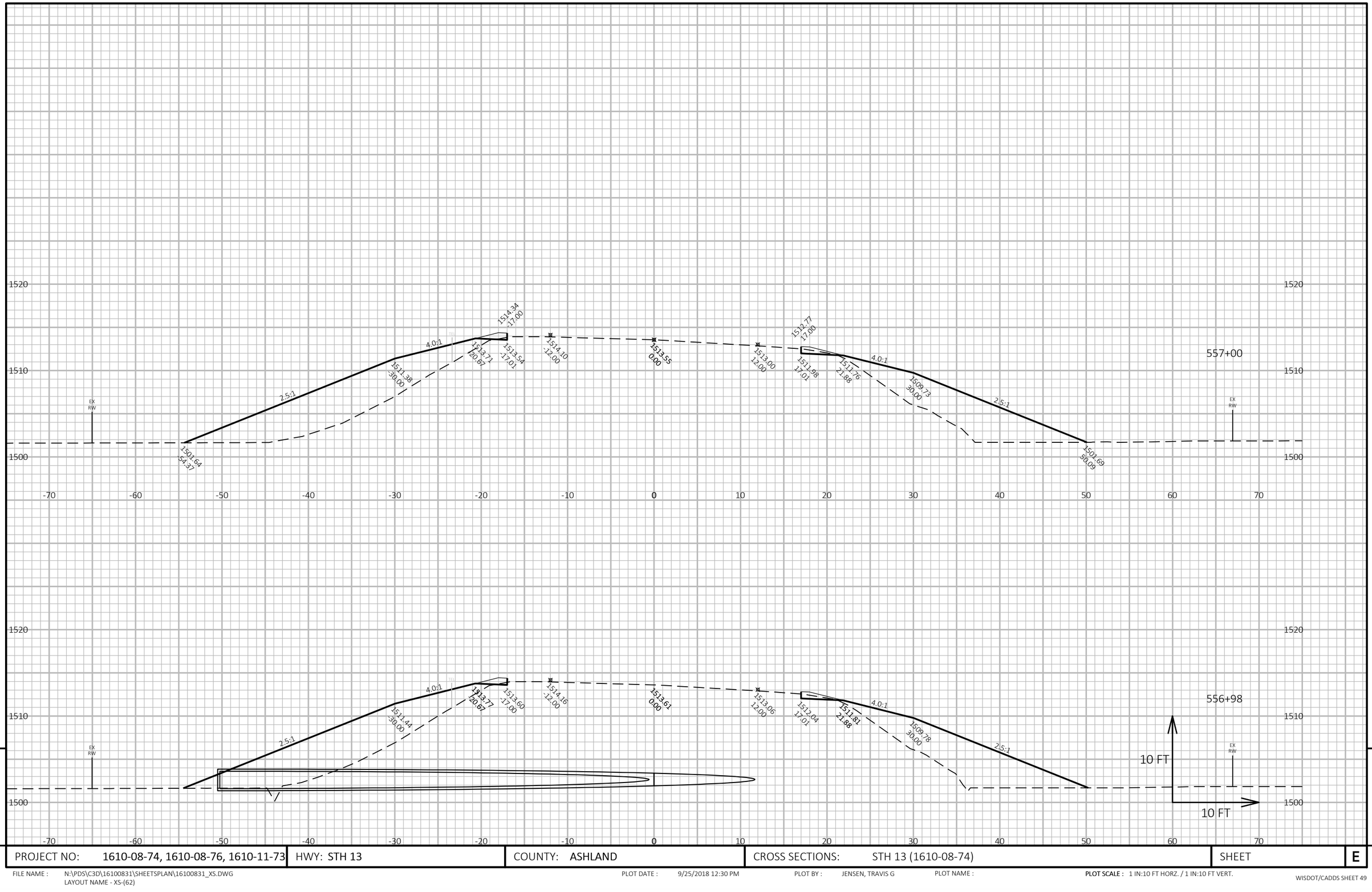
WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(61)

PLOT DATE : 9/25/2018 12:30 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

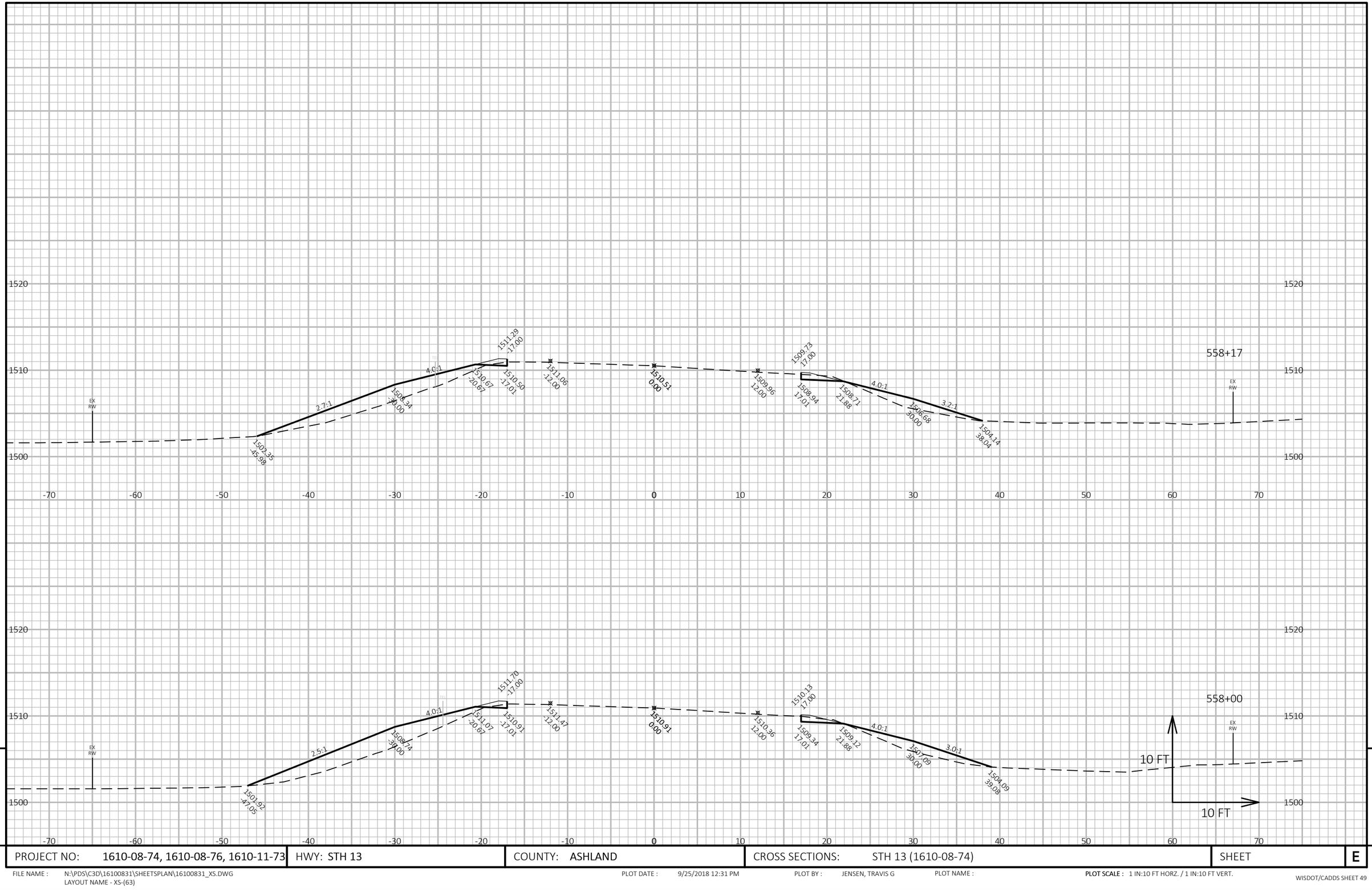
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(62)

PLOT DATE : 9/25/2018 12:30 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

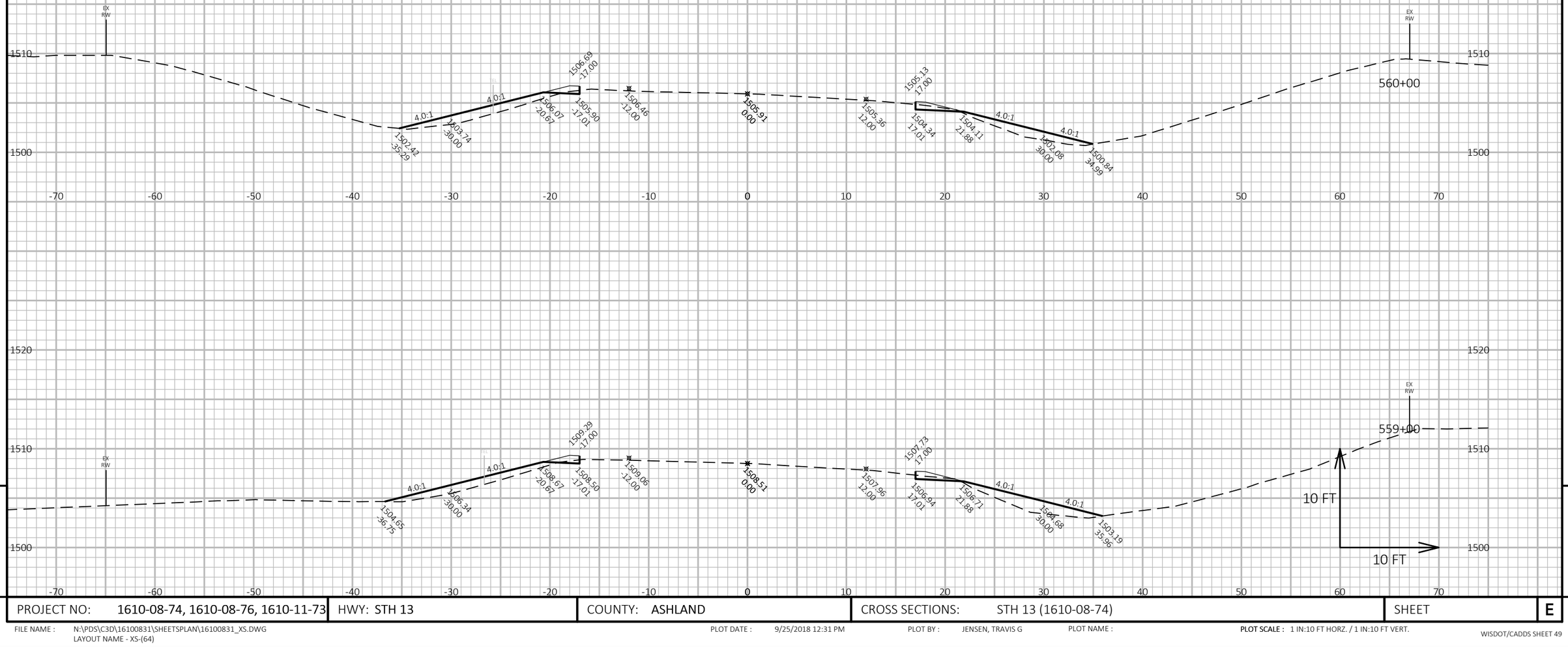
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(63)

PLOT DATE : 9/25/2018 12:31 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(64)

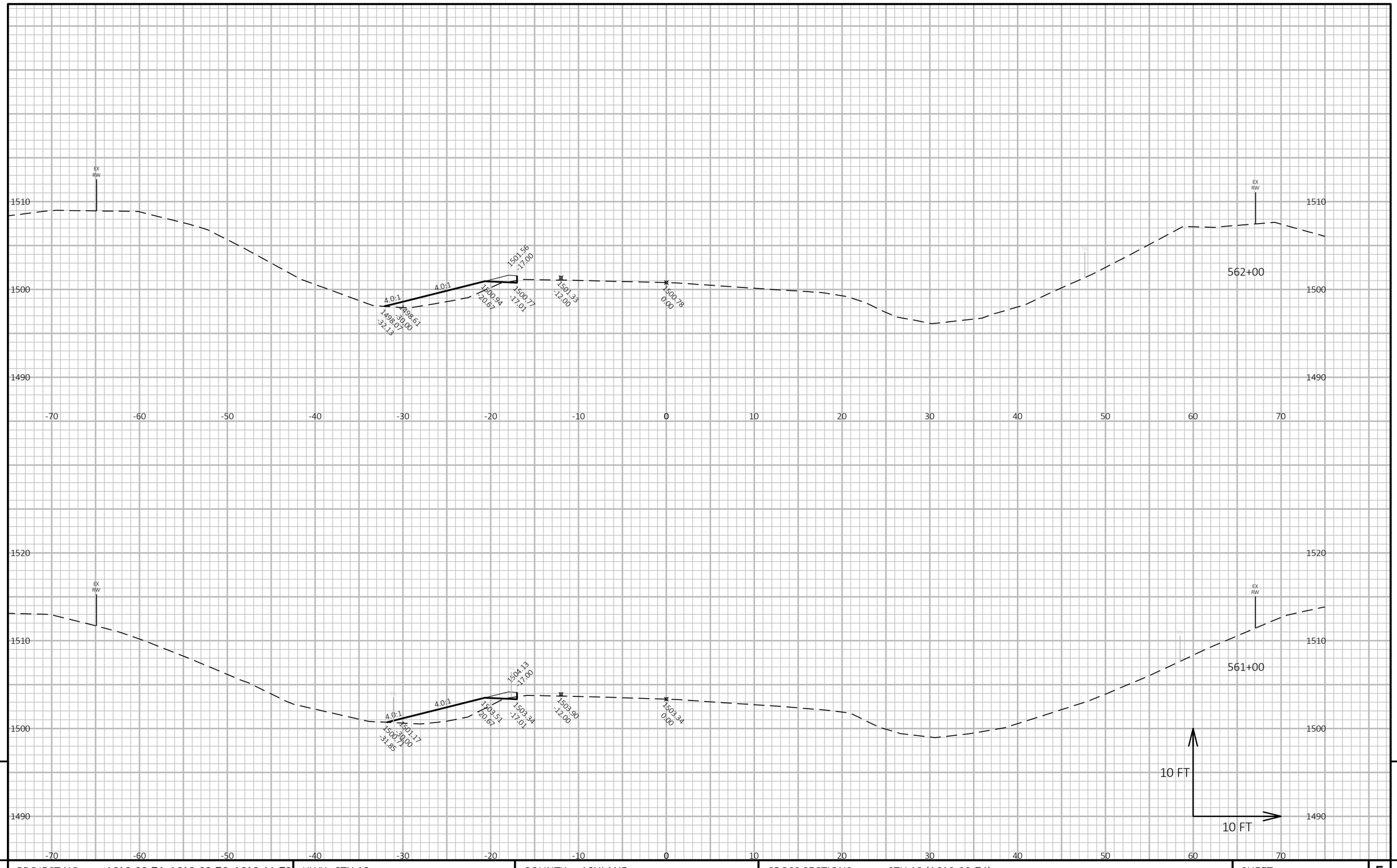
PLOT DATE : 9/25/2018 12:31 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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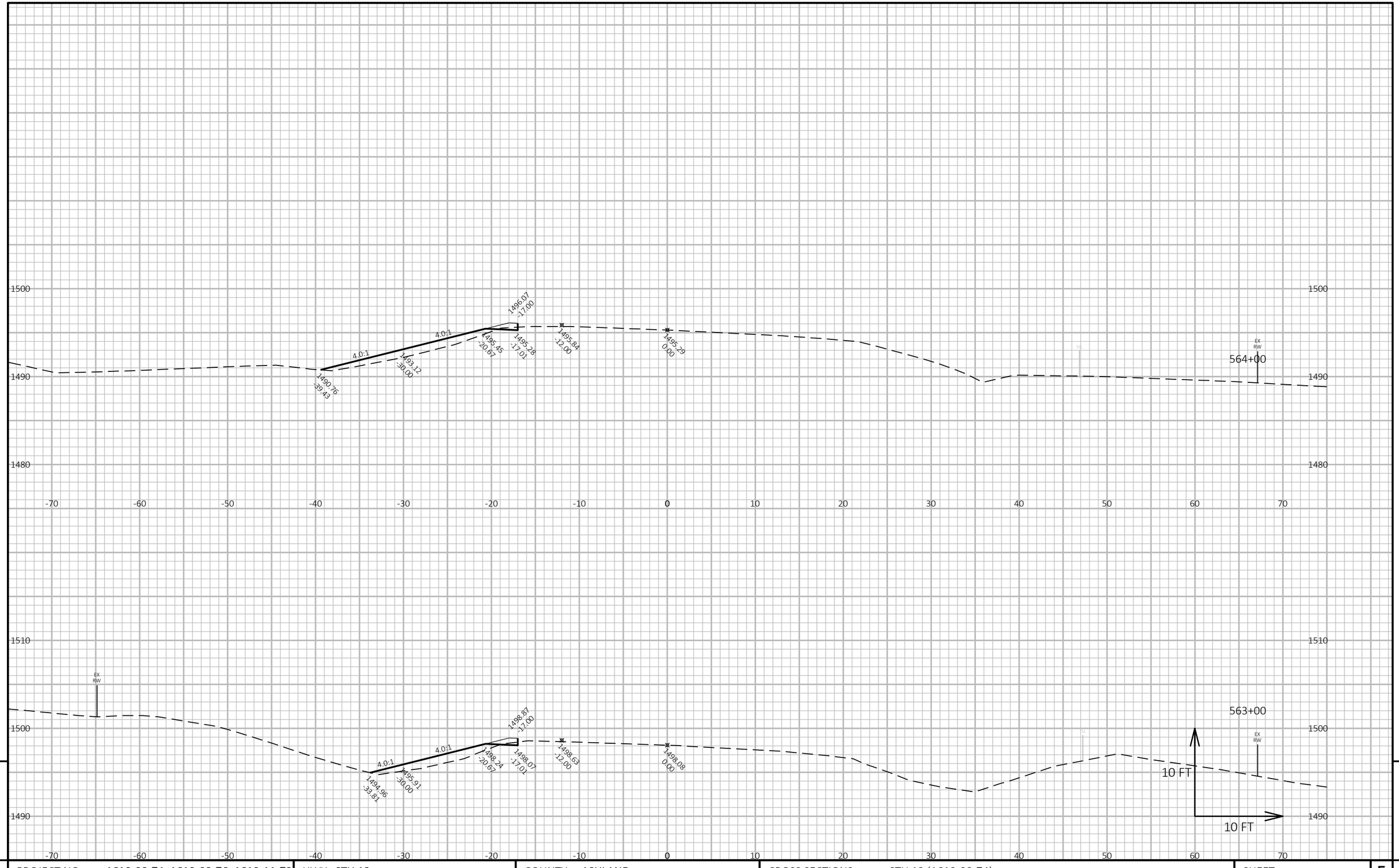


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(65)

PLOT DATE : 9/25/2018 12:32 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

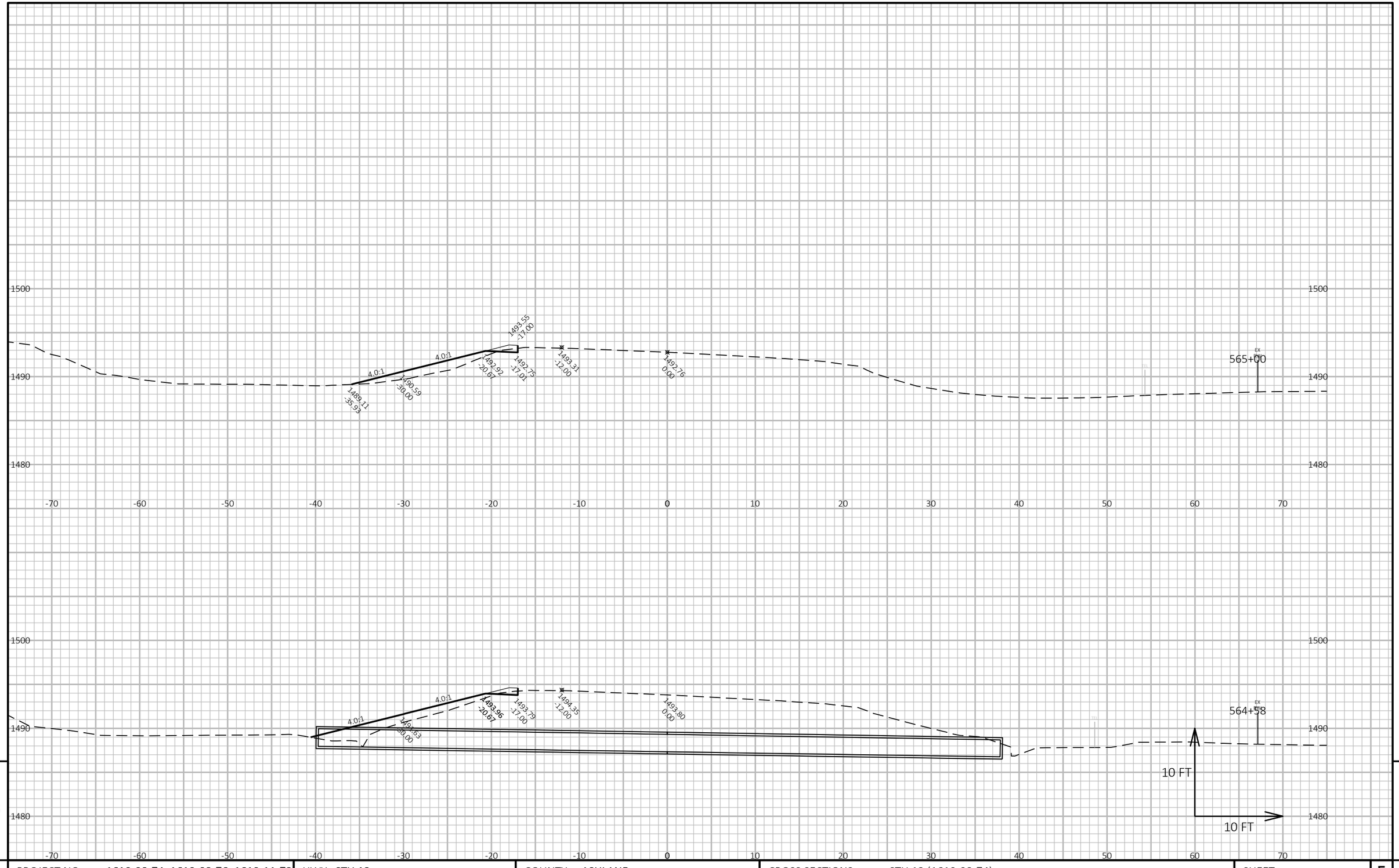
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LAYOUT NAME - XS-(66)

PLOT DATE : 9/25/2018 12:32 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

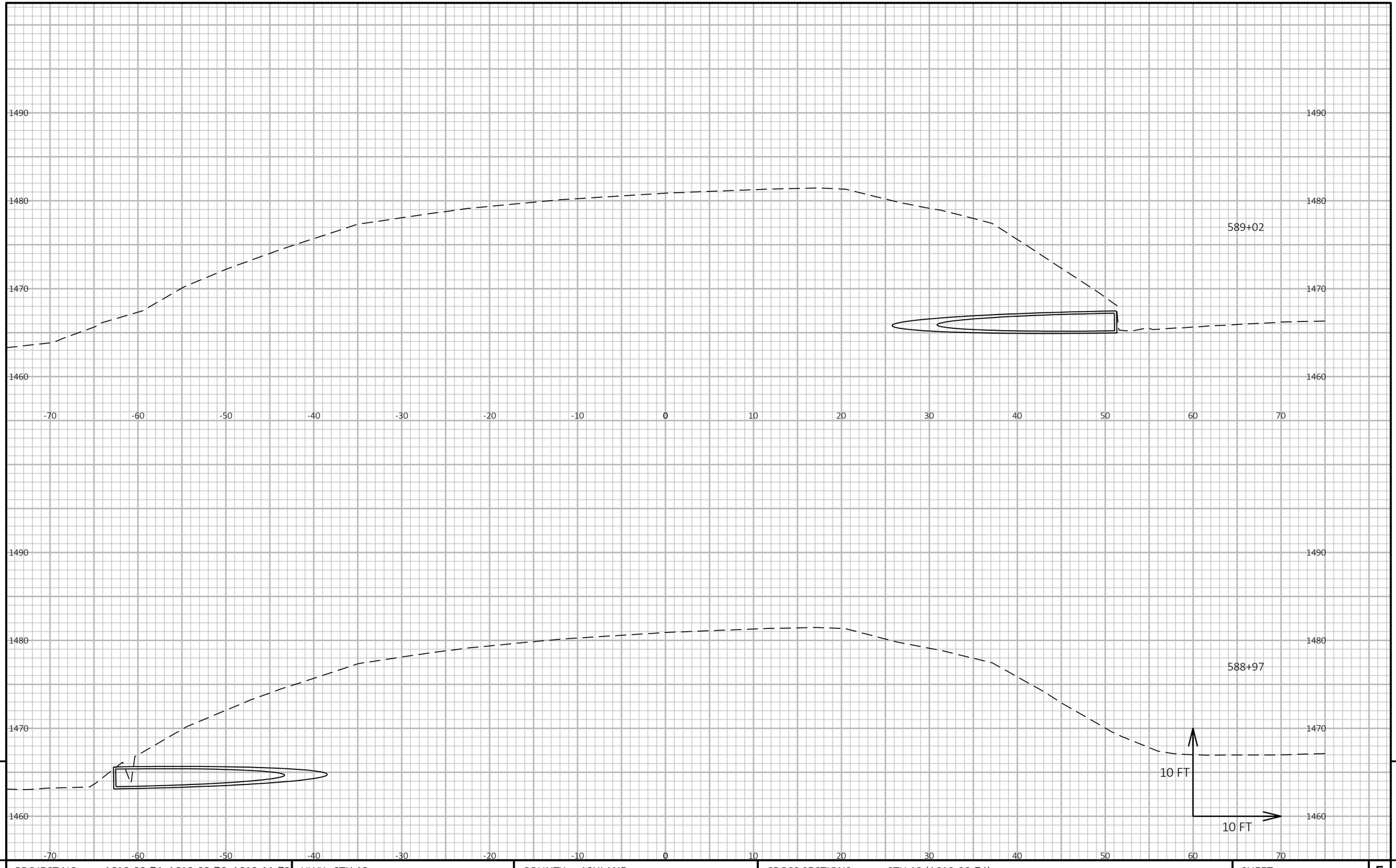
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LAYOUT NAME - XS-(67)

PLOT DATE : 9/25/2018 12:33 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

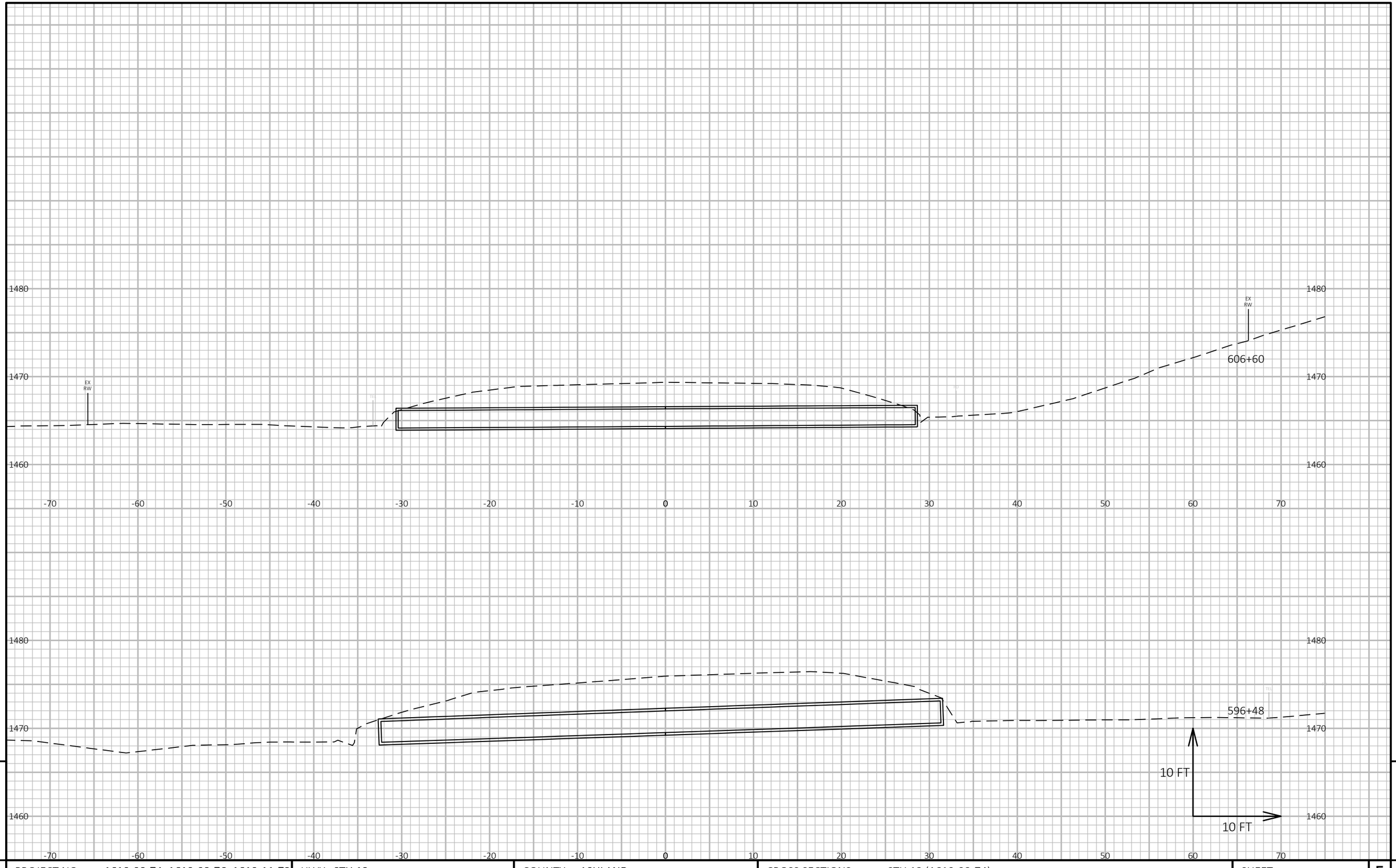
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LAYOUT NAME - XS-(68)

PLOT DATE : 9/25/2018 12:33 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

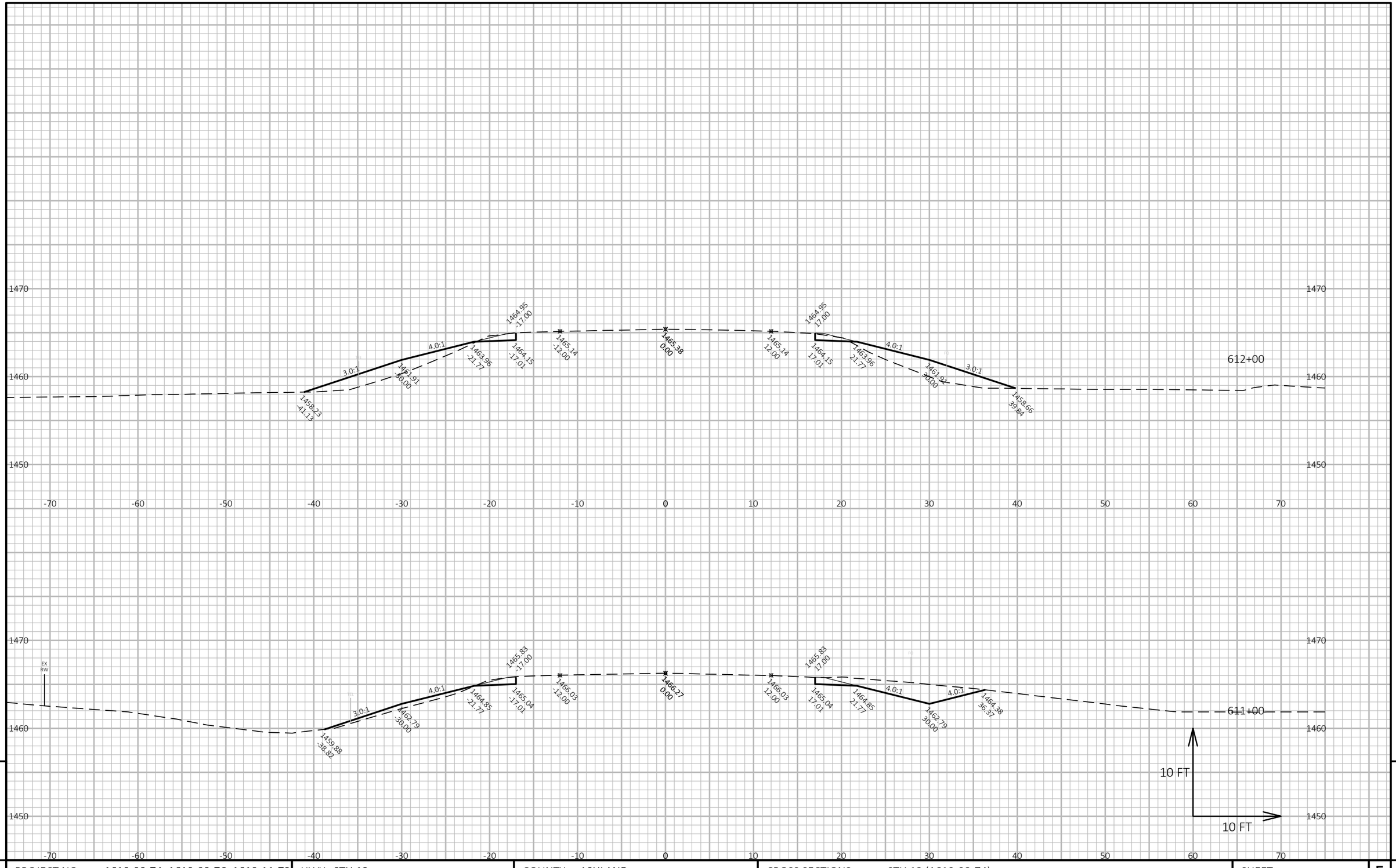
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(69)

PLOT DATE : 9/25/2018 12:33 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

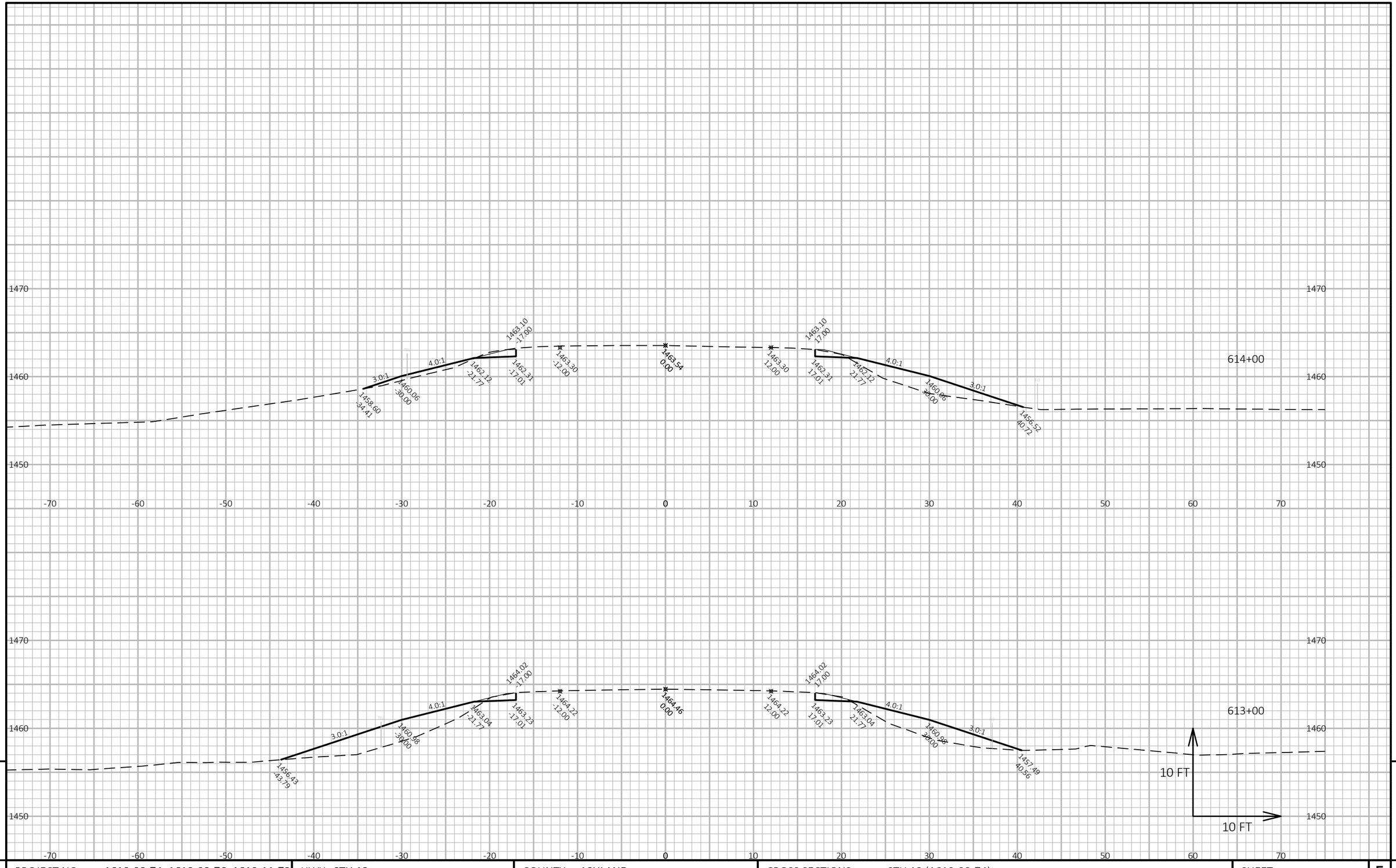
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LAYOUT NAME - XS-(70)

PLOT DATE : 9/25/2018 12:34 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

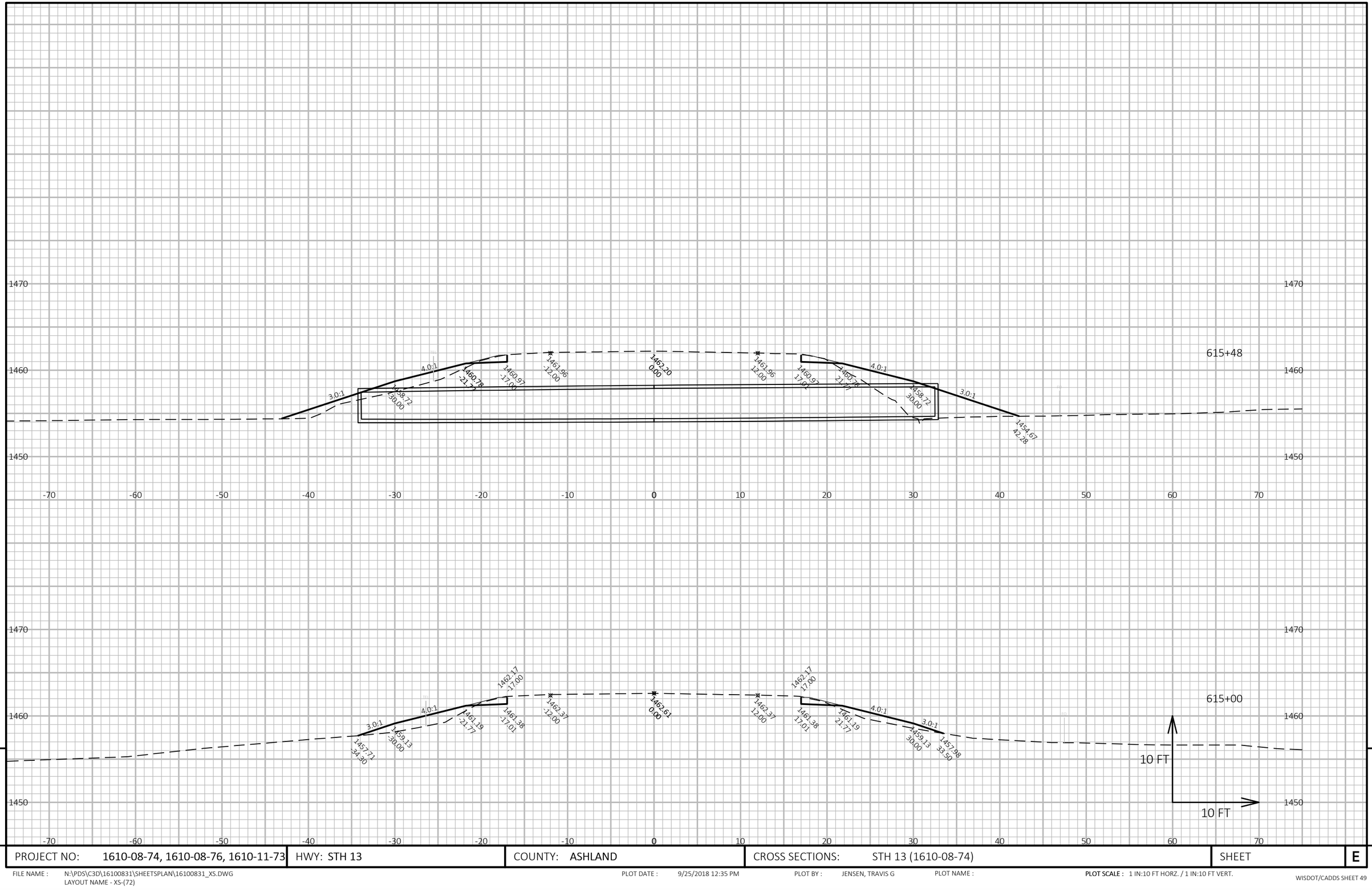
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LAYOUT NAME - XS-(71)

PLOT DATE : 9/25/2018 12:34 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

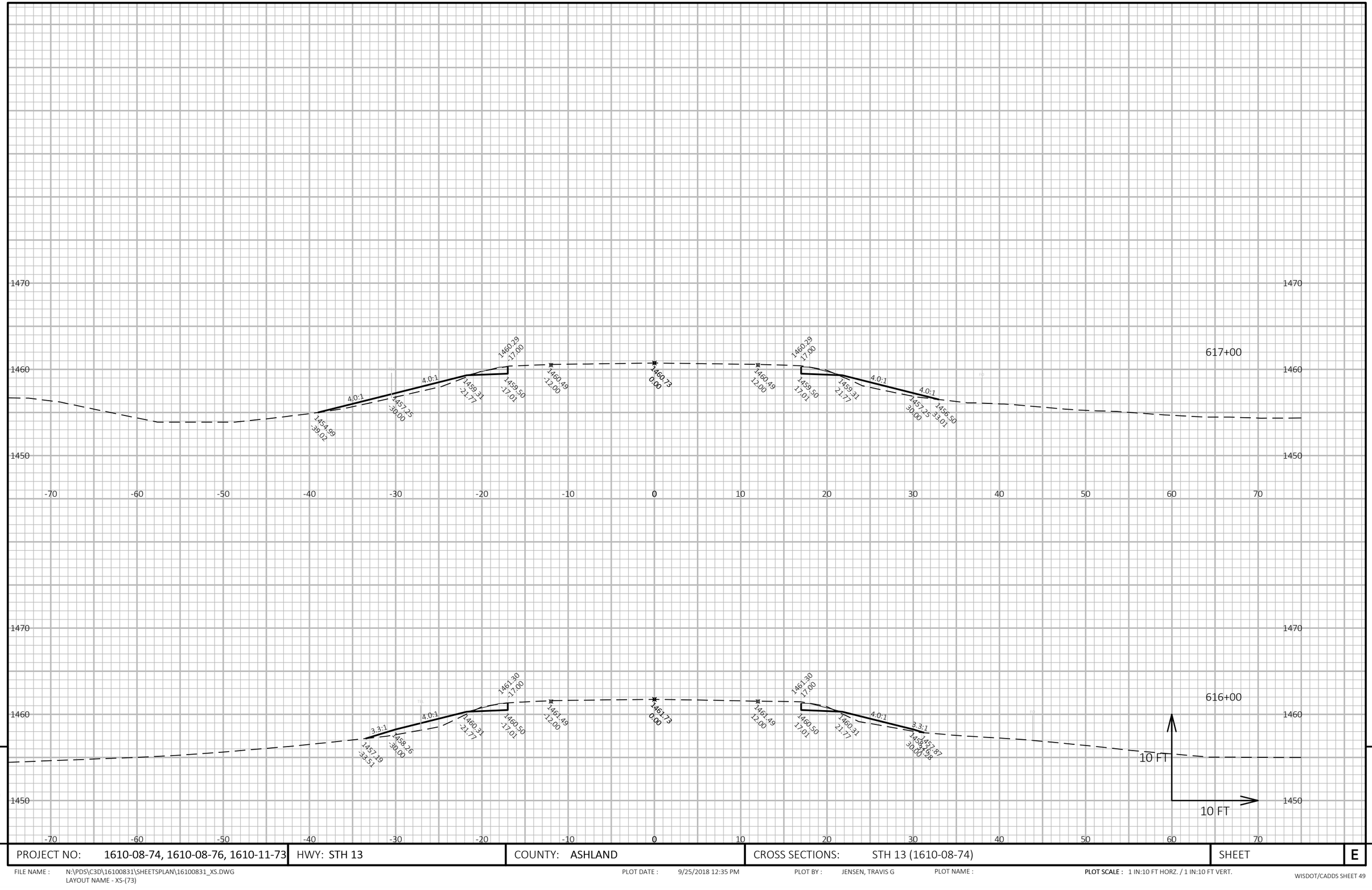
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LAYOUT NAME - XS-(72)

PLOT DATE : 9/25/2018 12:35 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

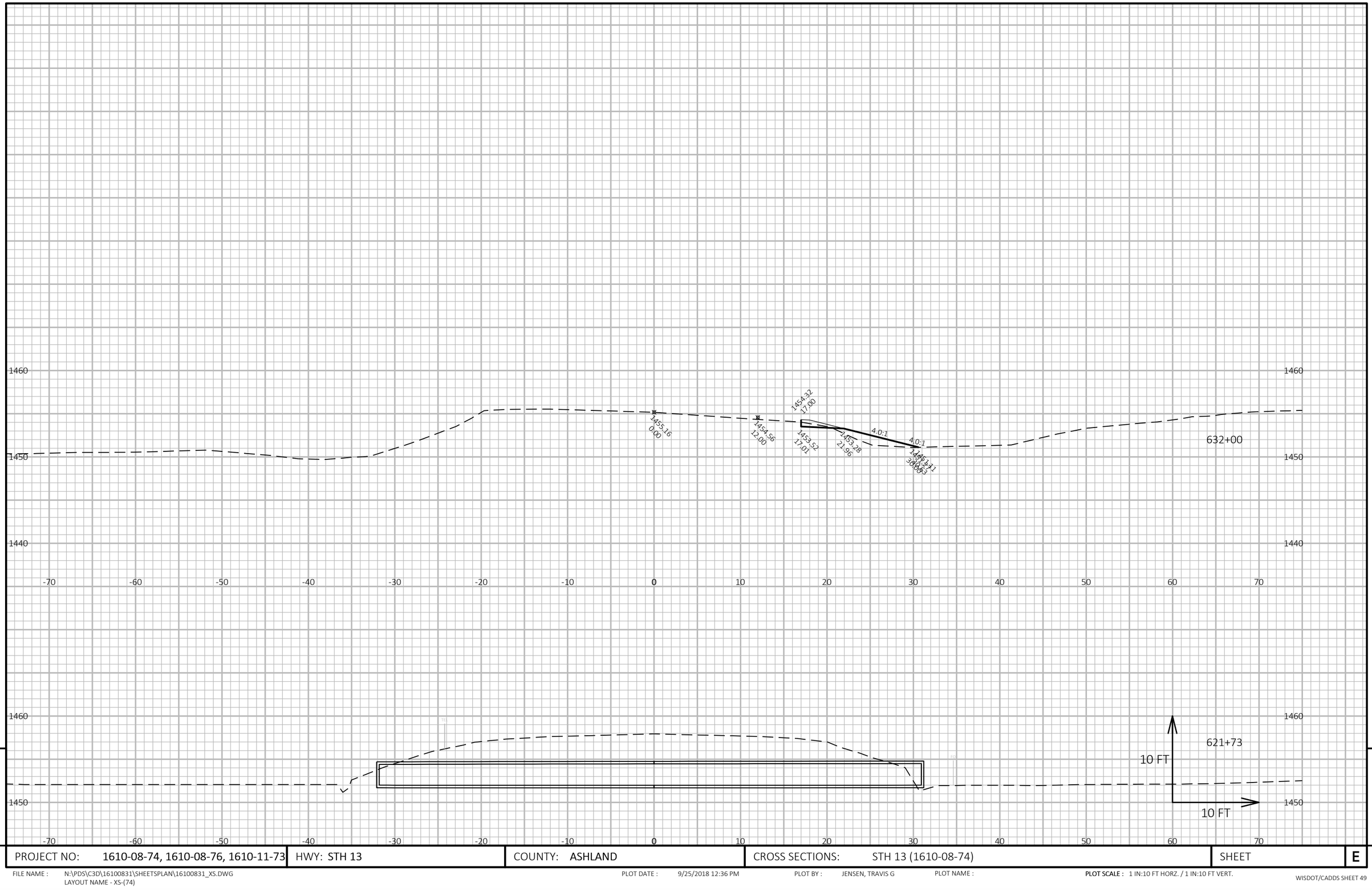


PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(73)

PLOT DATE : 9/25/2018 12:35 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

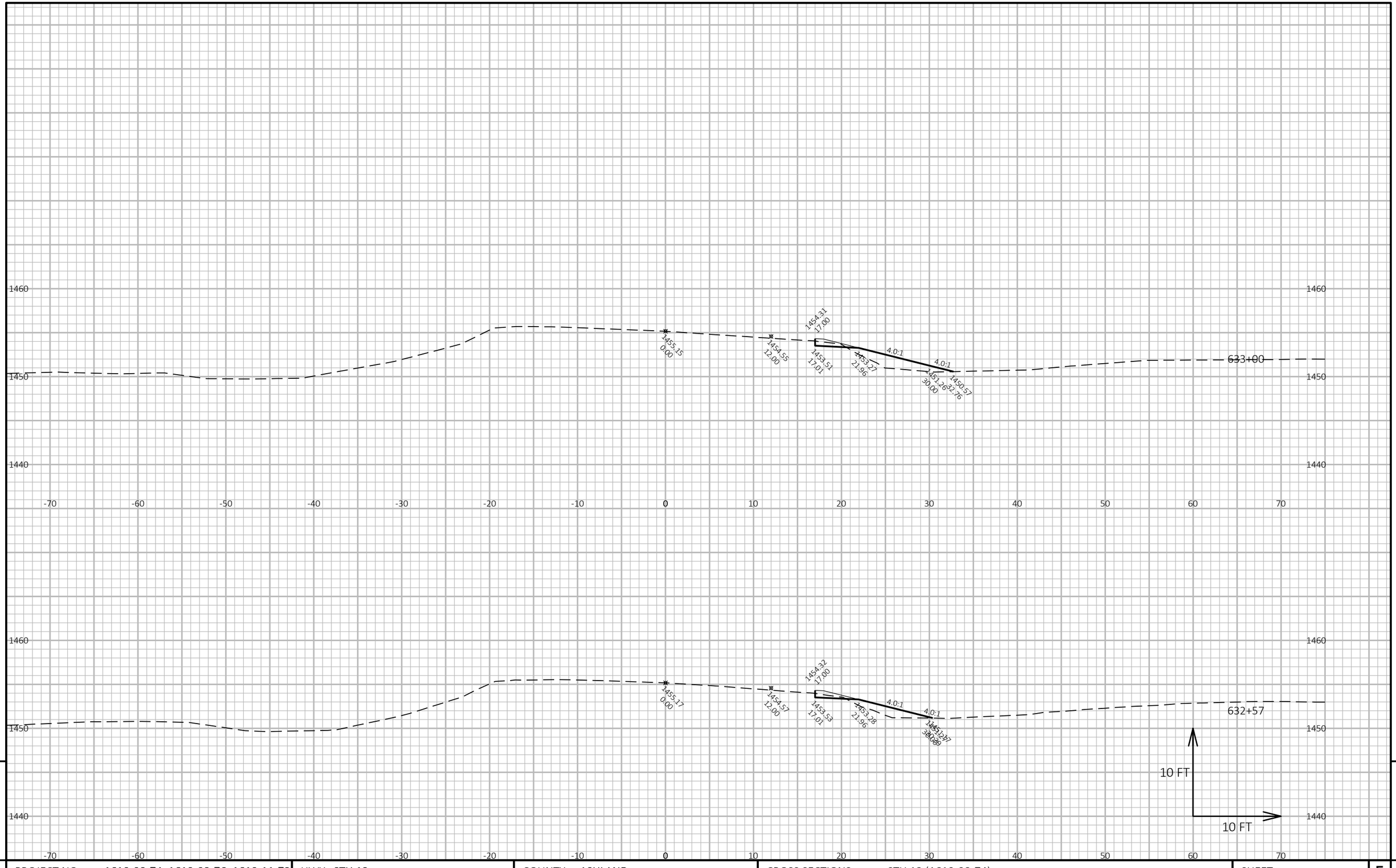
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LAYOUT NAME - XS-(74)

PLOT DATE : 9/25/2018 12:36 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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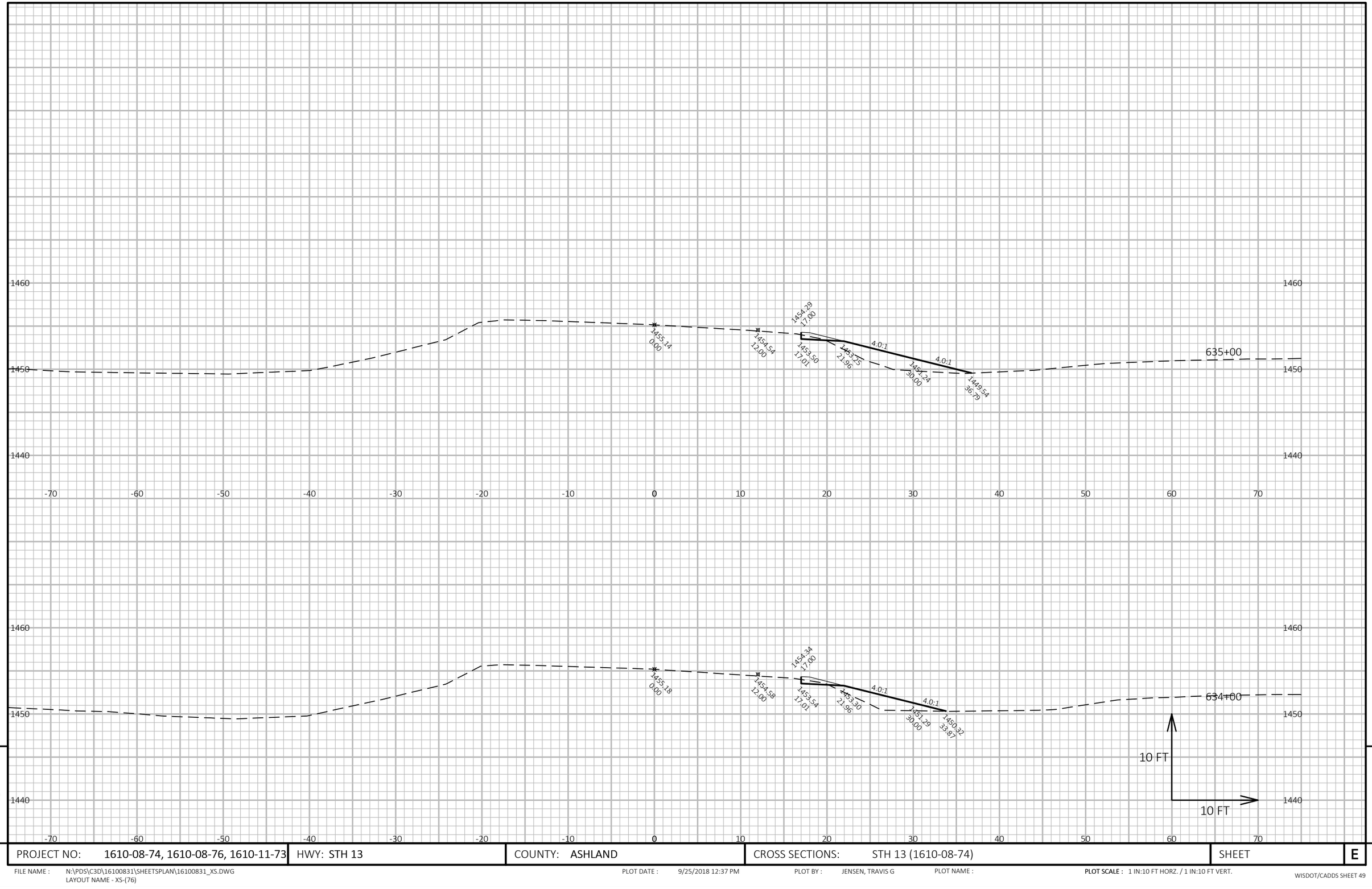
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(75)

PLOT DATE : 9/25/2018 12:36 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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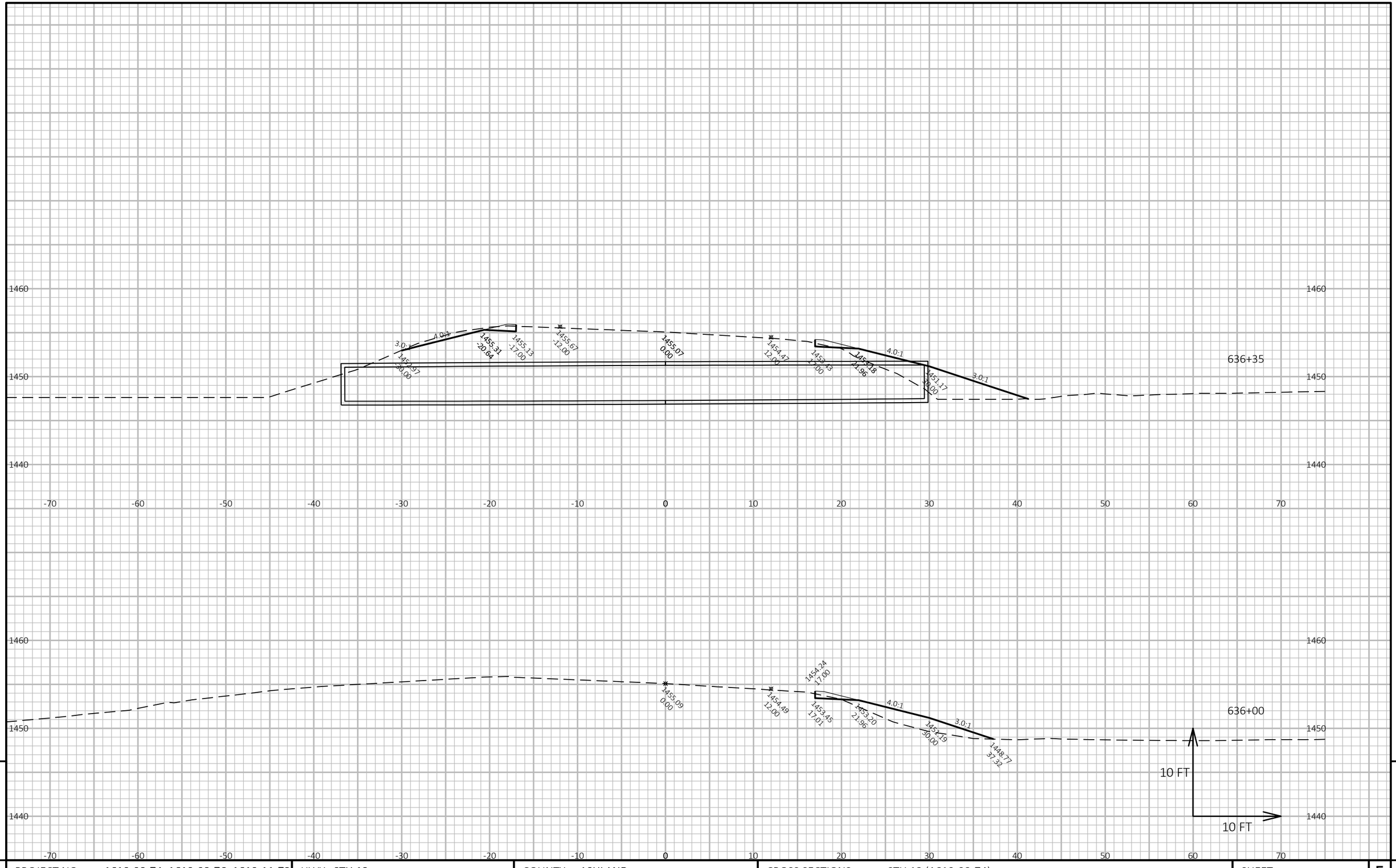
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(76)

PLOT DATE : 9/25/2018 12:37 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

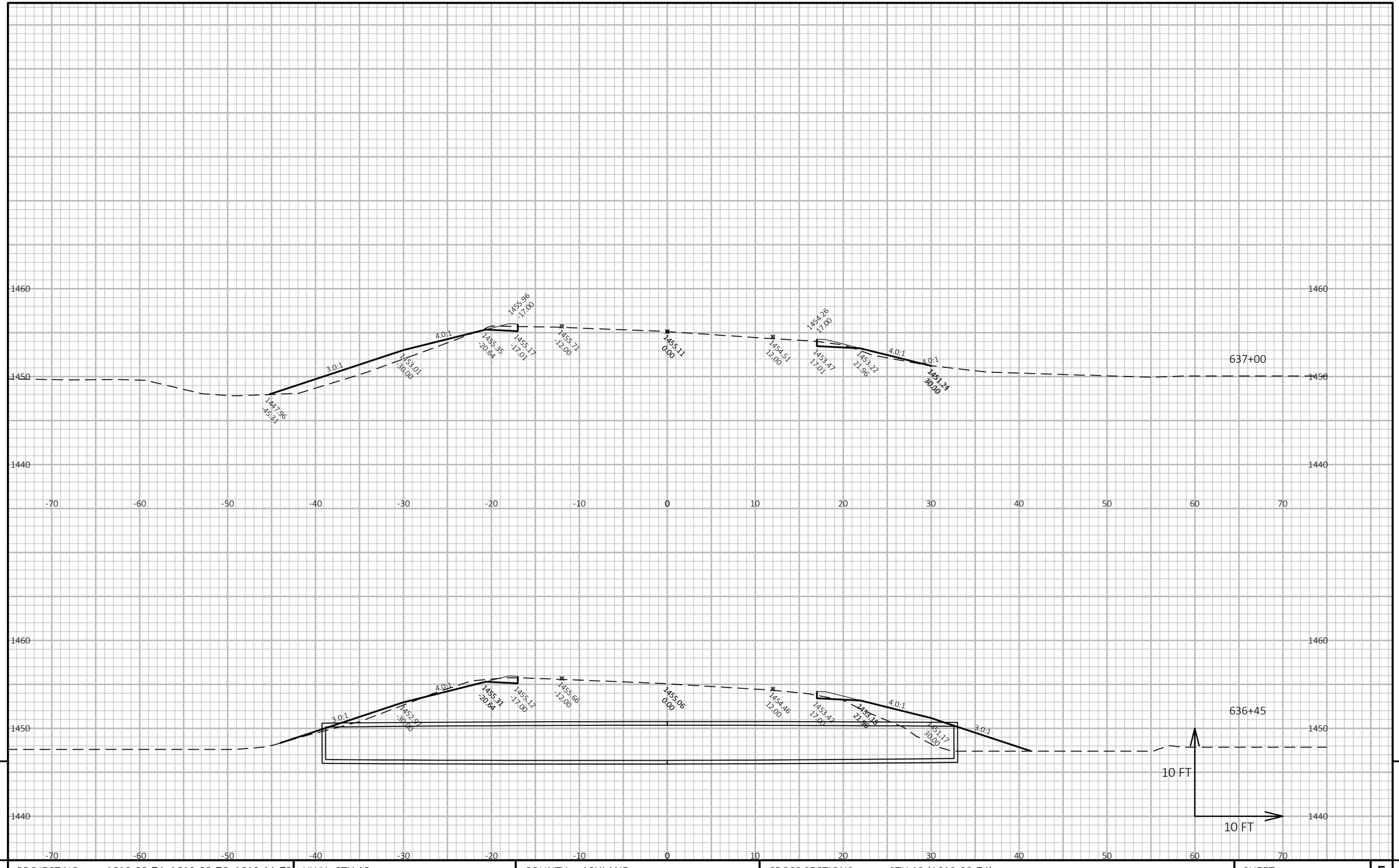
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LAYOUT NAME - XS-(77)

PLOT DATE : 9/25/2018 12:37 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

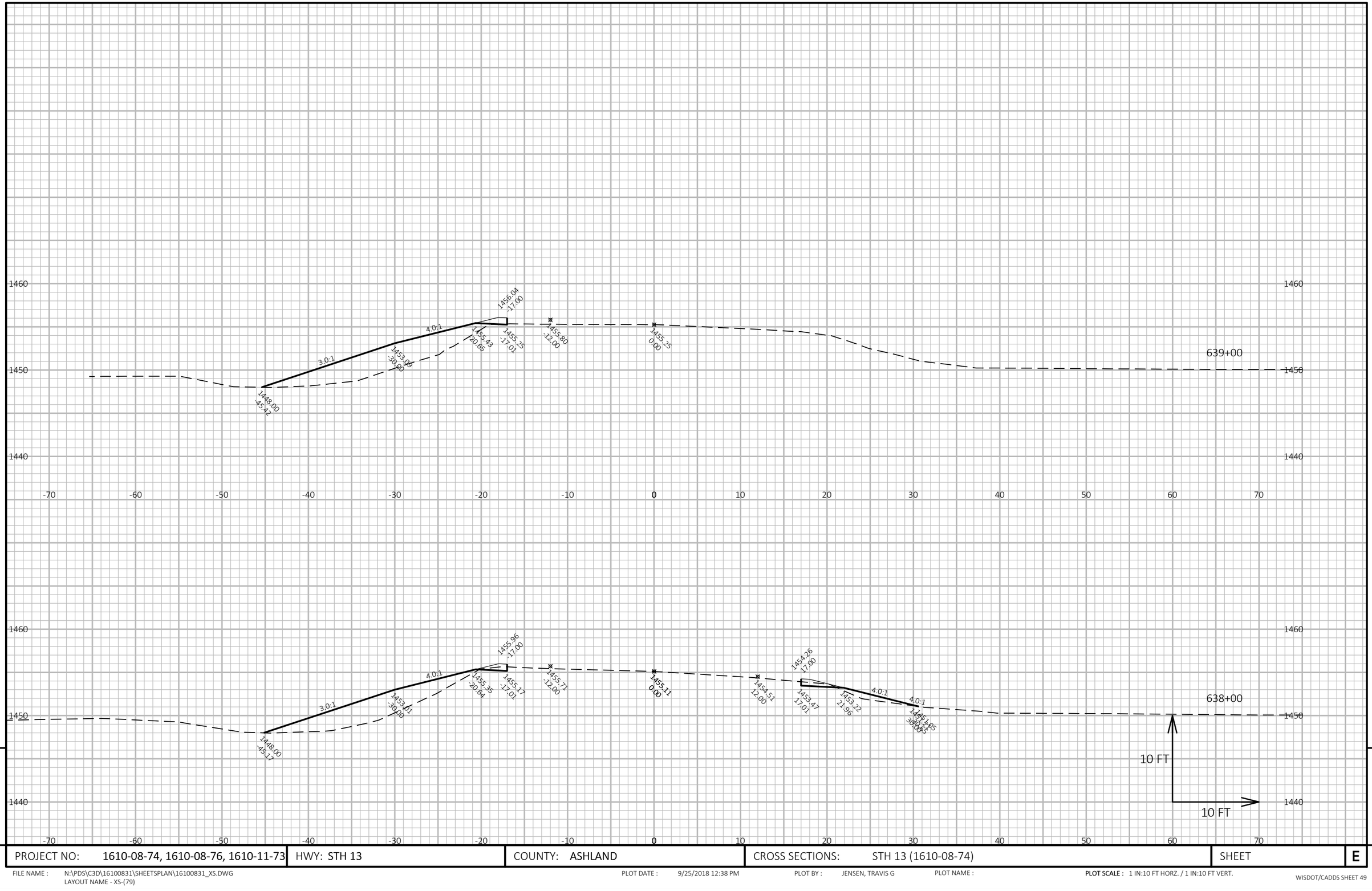
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(78)

PLOT DATE : 9/25/2018 12:38 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

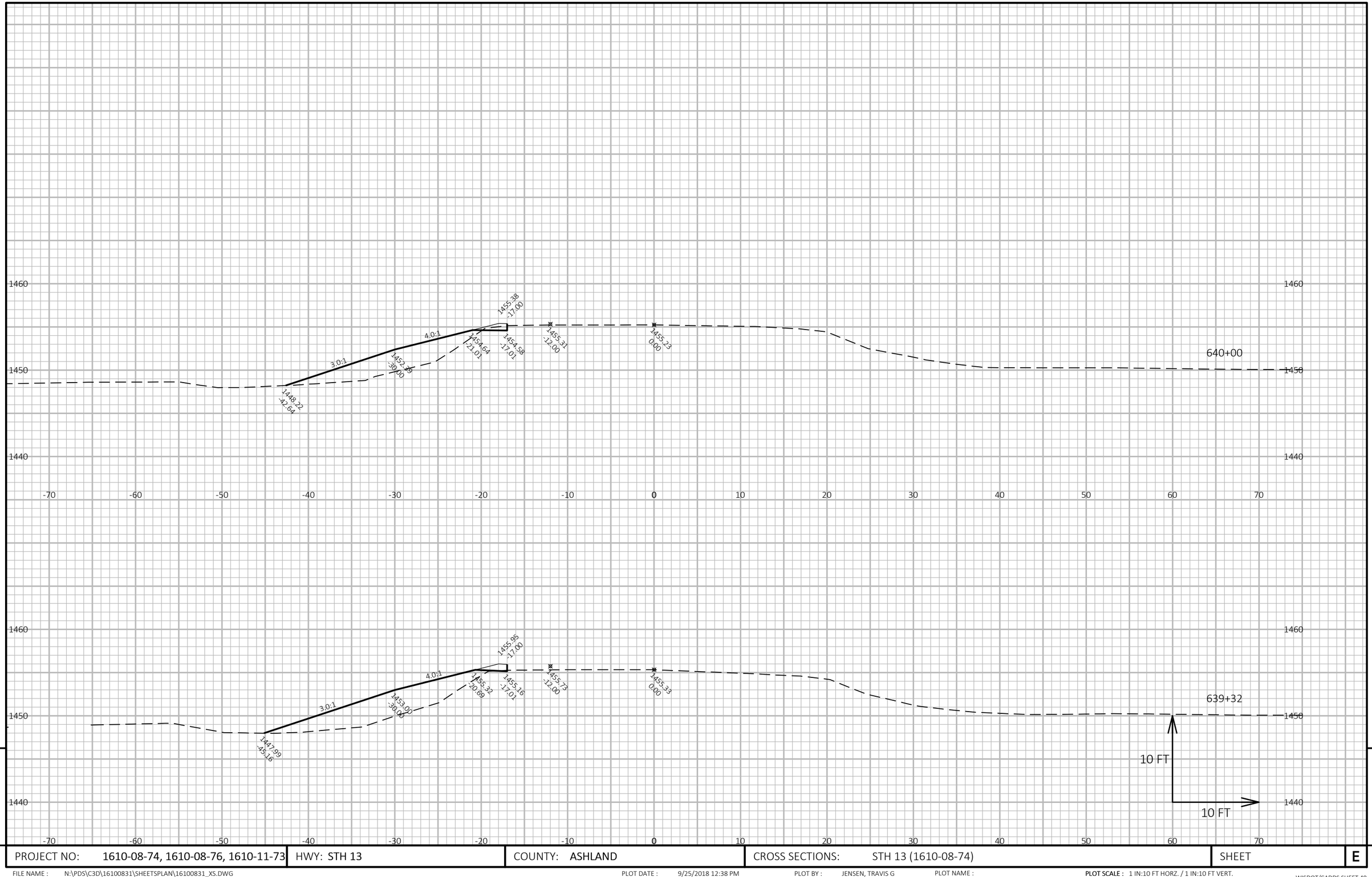
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LAYOUT NAME - XS-(79)

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PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



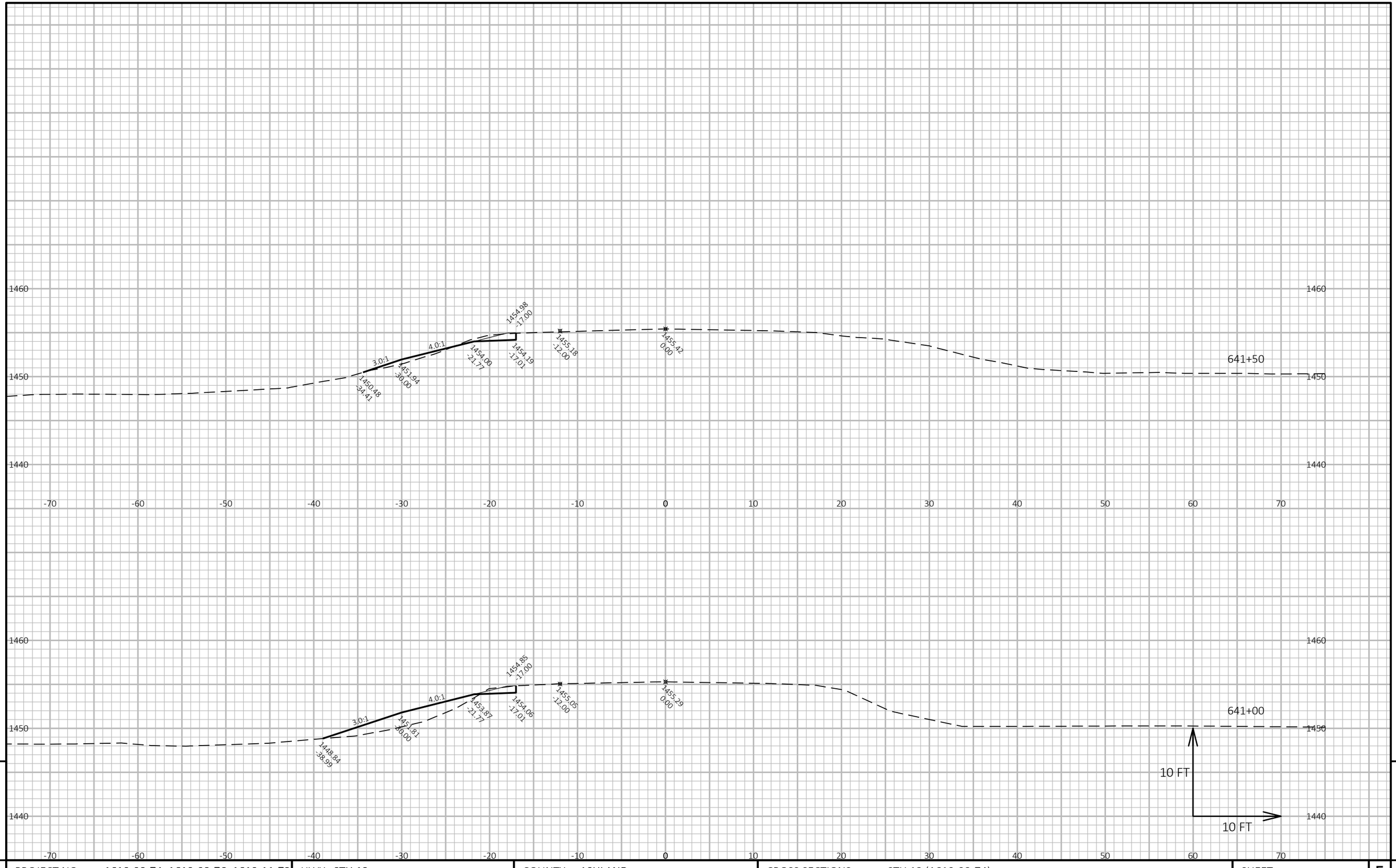
PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_XS.DWG
LAYOUT NAME - XS-(80)

PLOT DATE : 9/25/2018 12:38 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-74)	SHEET	E

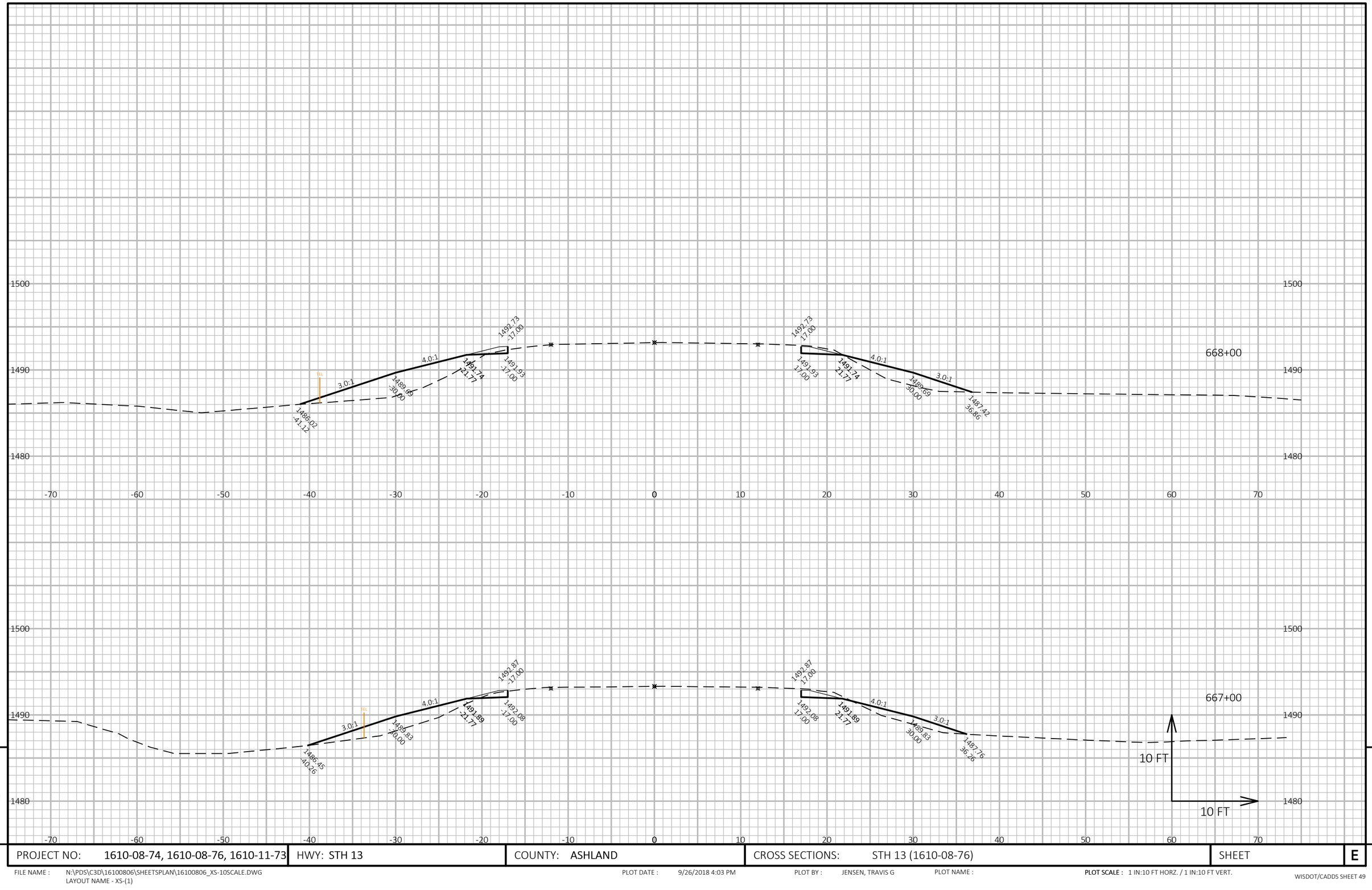
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LAYOUT NAME - XS-(81)

PLOT DATE : 9/25/2018 12:39 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

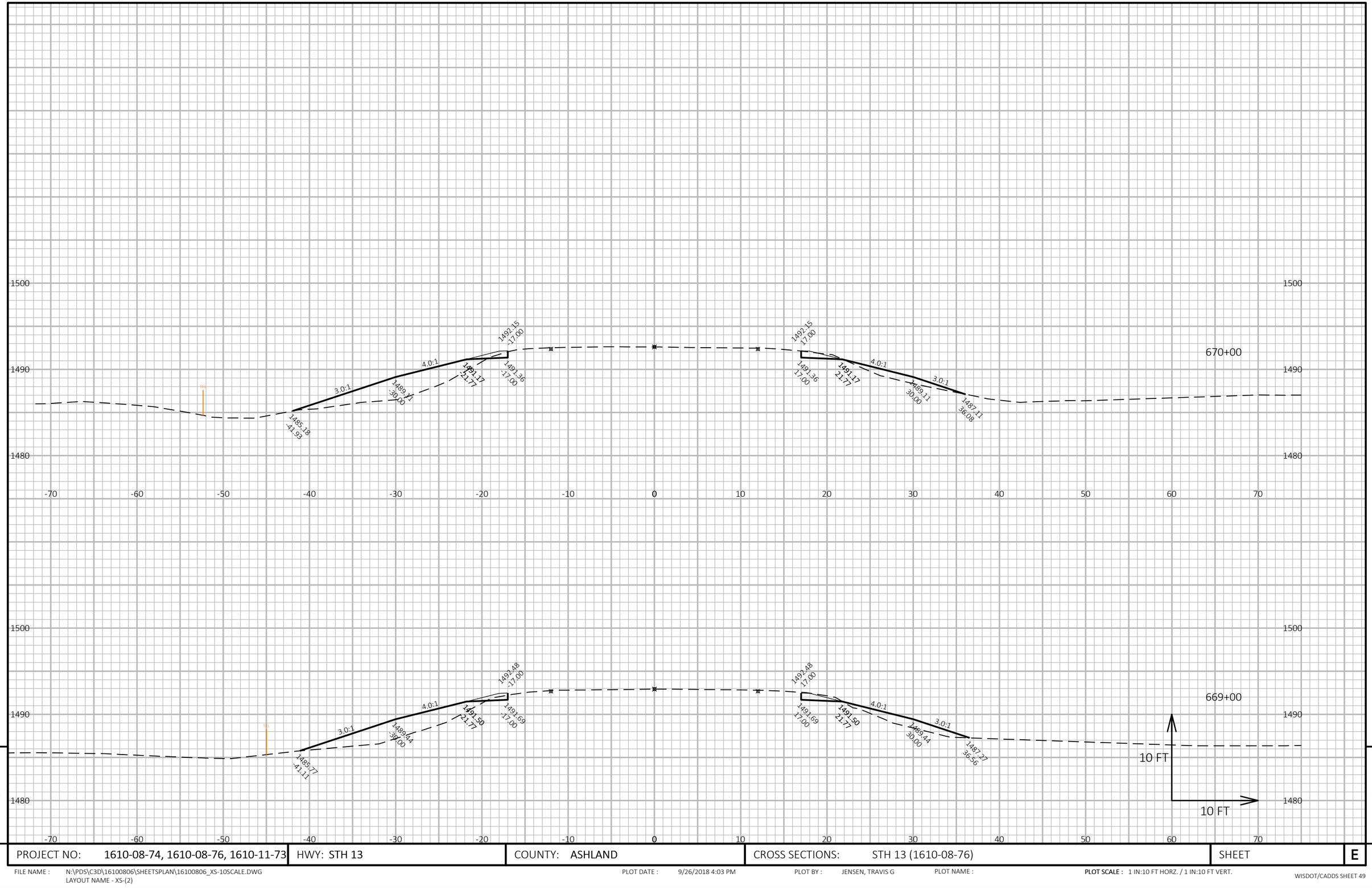
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LAYOUT NAME - XS-(1)

PLOT DATE : 9/26/2018 4:03 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(2)

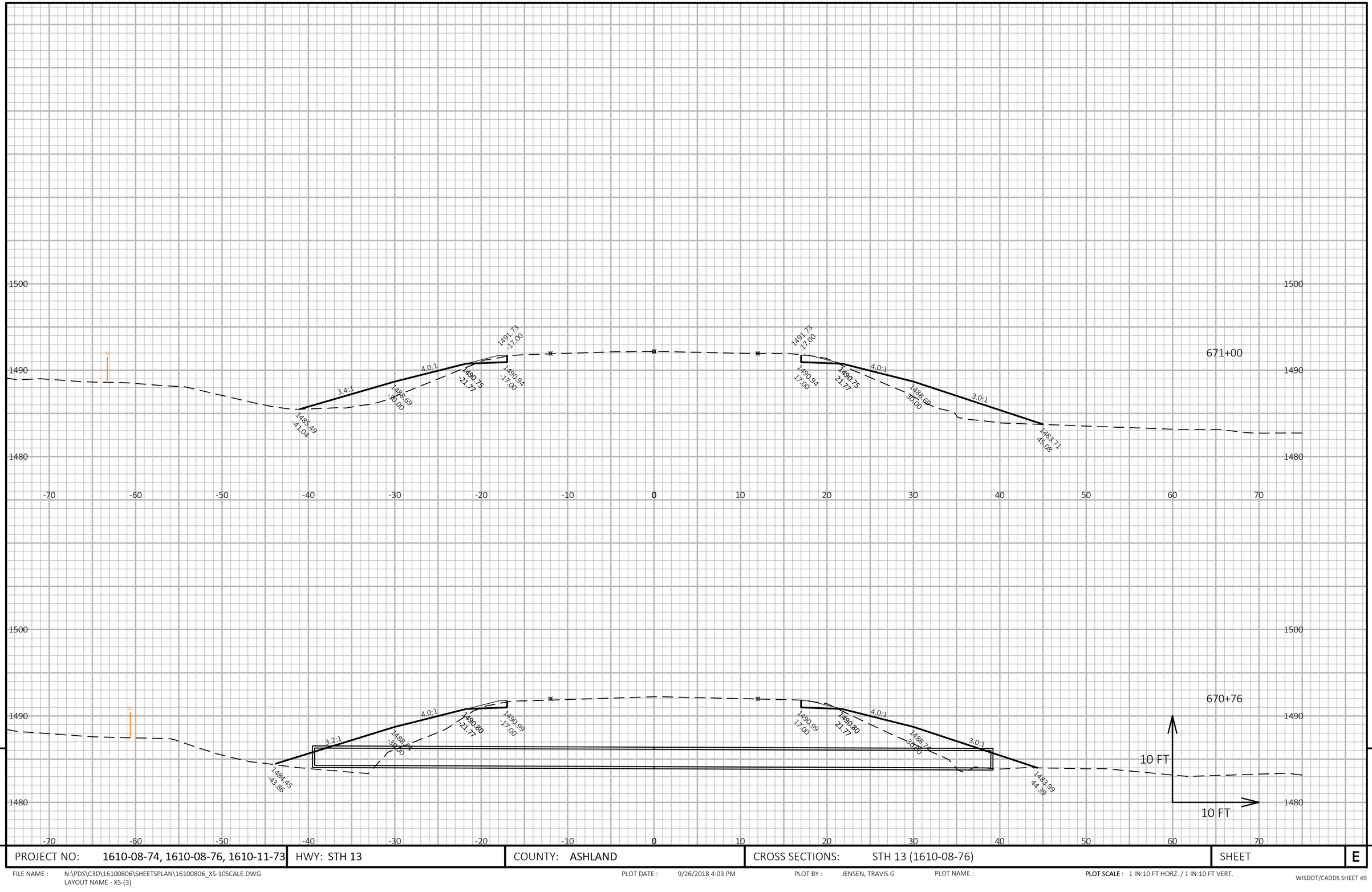
PLOT DATE : 9/26/2018 4:03 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

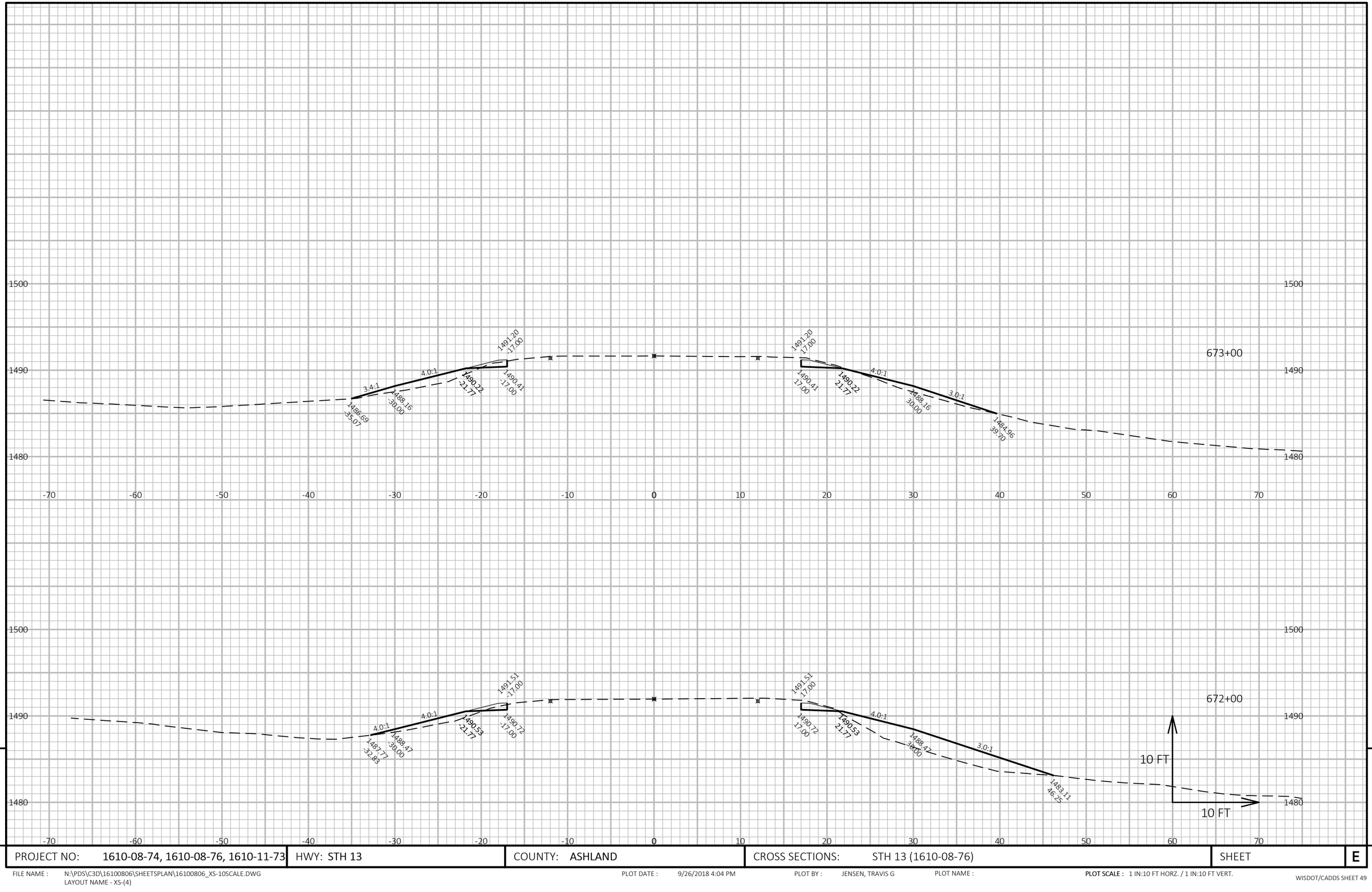
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LAYOUT NAME - XS-(3)

PLOT DATE : 9/26/2018 4:03 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

9

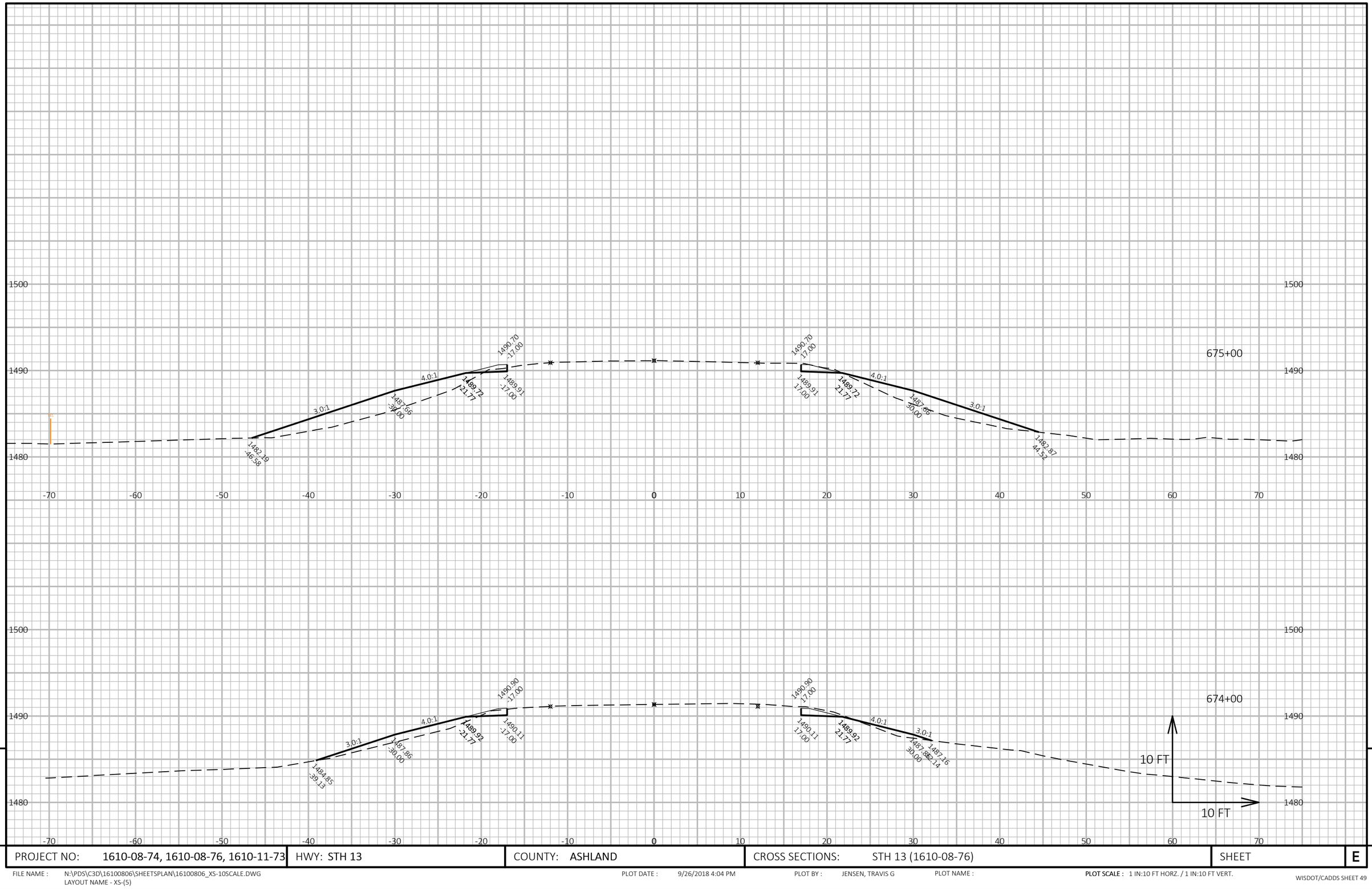
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LAYOUT NAME - XS-(4)

PLOT DATE : 9/26/2018 4:04 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

9

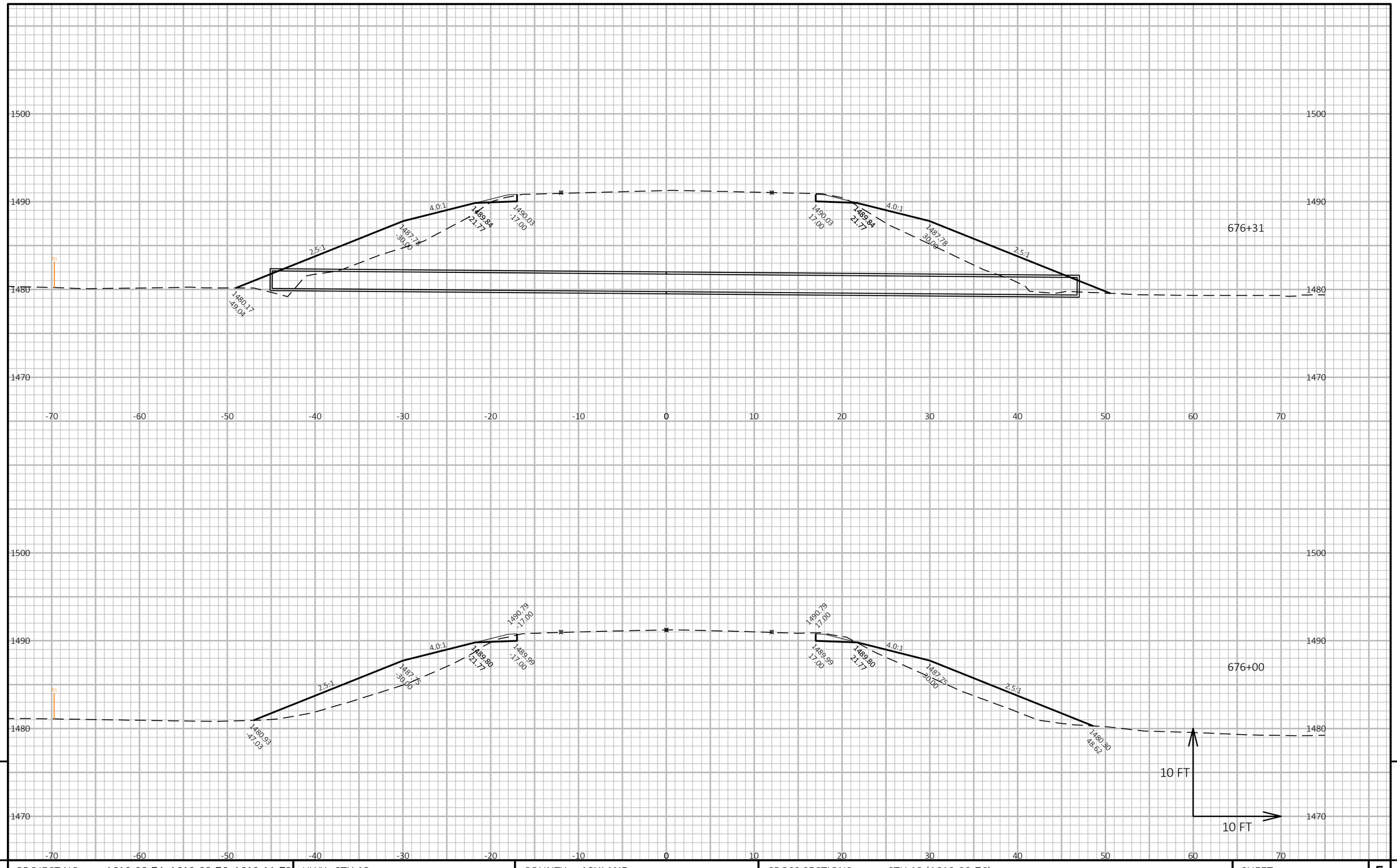
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LAYOUT NAME - XS-(5)

PLOT DATE : 9/26/2018 4:04 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

9

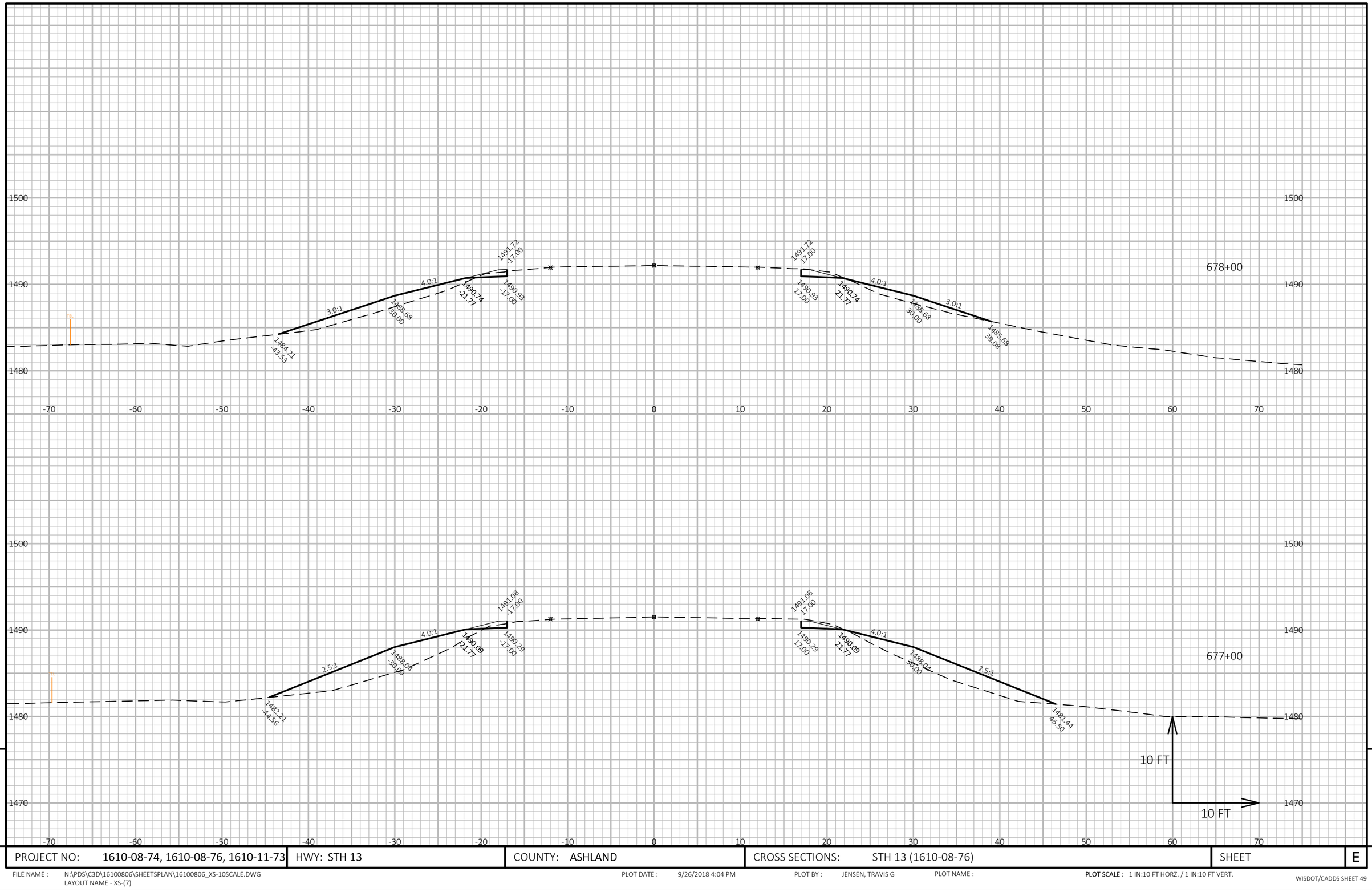
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LAYOUT NAME - XS-(6)

PLOT DATE : 9/26/2018 4:04 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

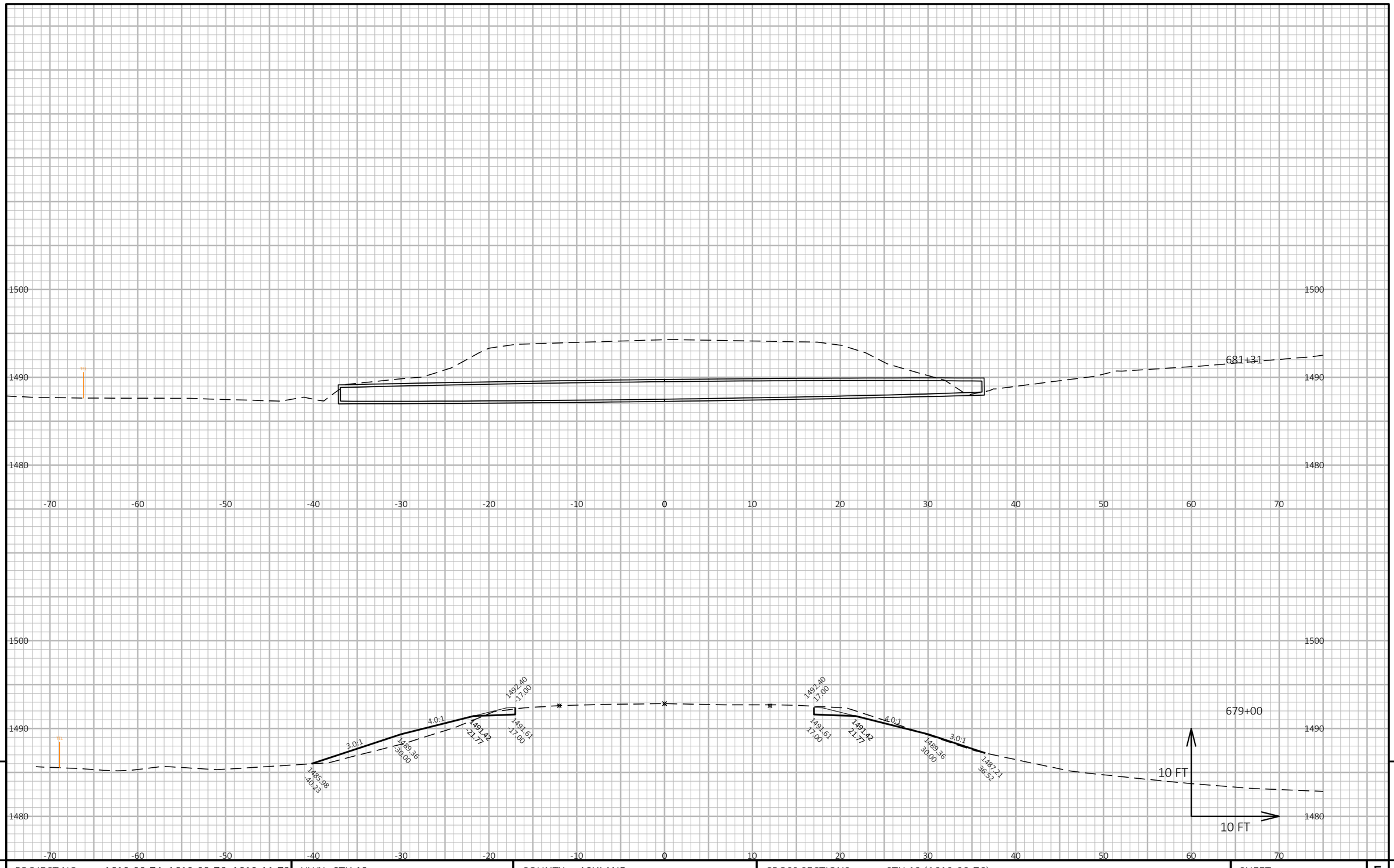
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LAYOUT NAME - XS-(7)

PLOT DATE : 9/26/2018 4:04 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

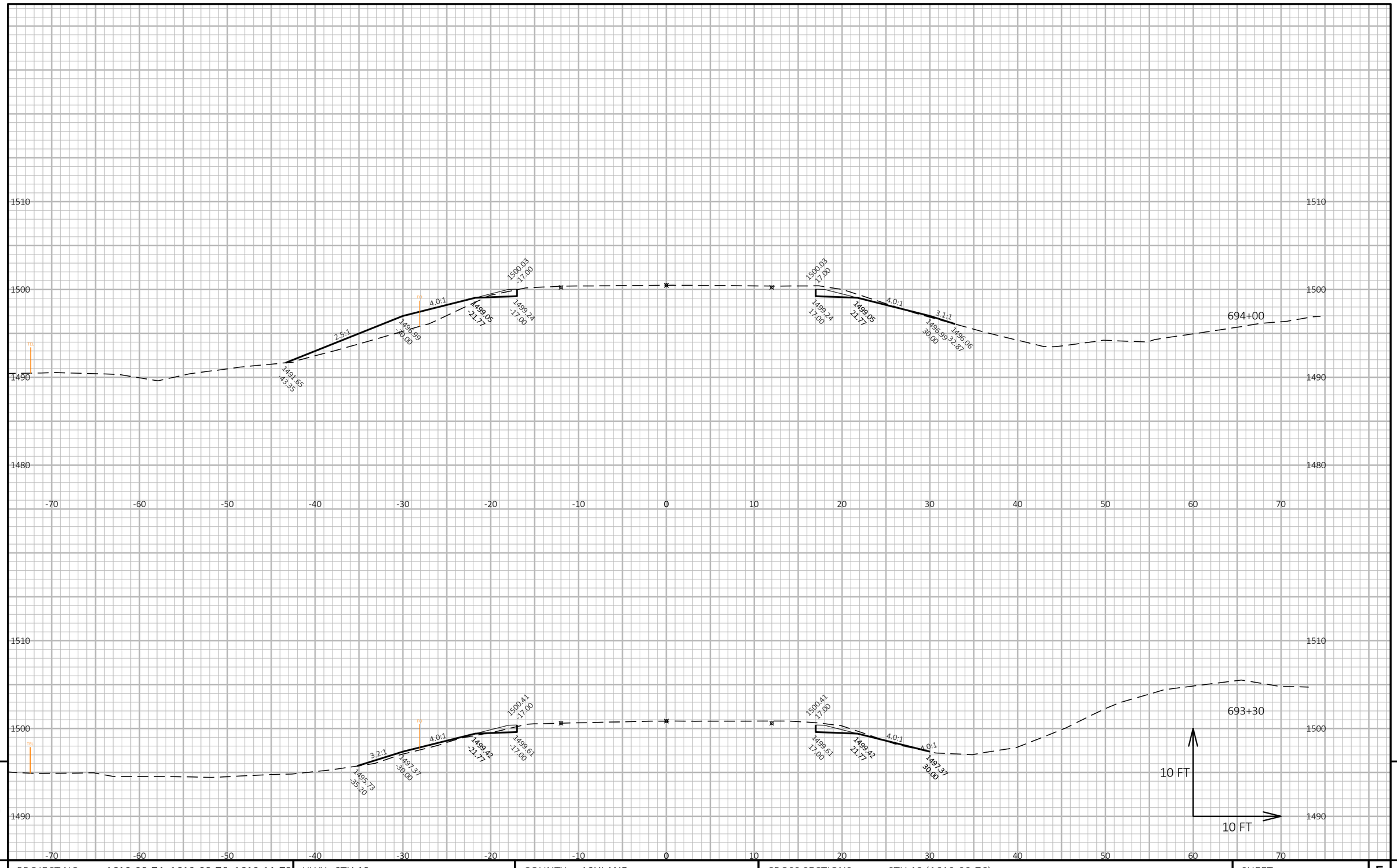
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LAYOUT NAME - XS-(8)

PLOT DATE : 9/26/2018 4:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

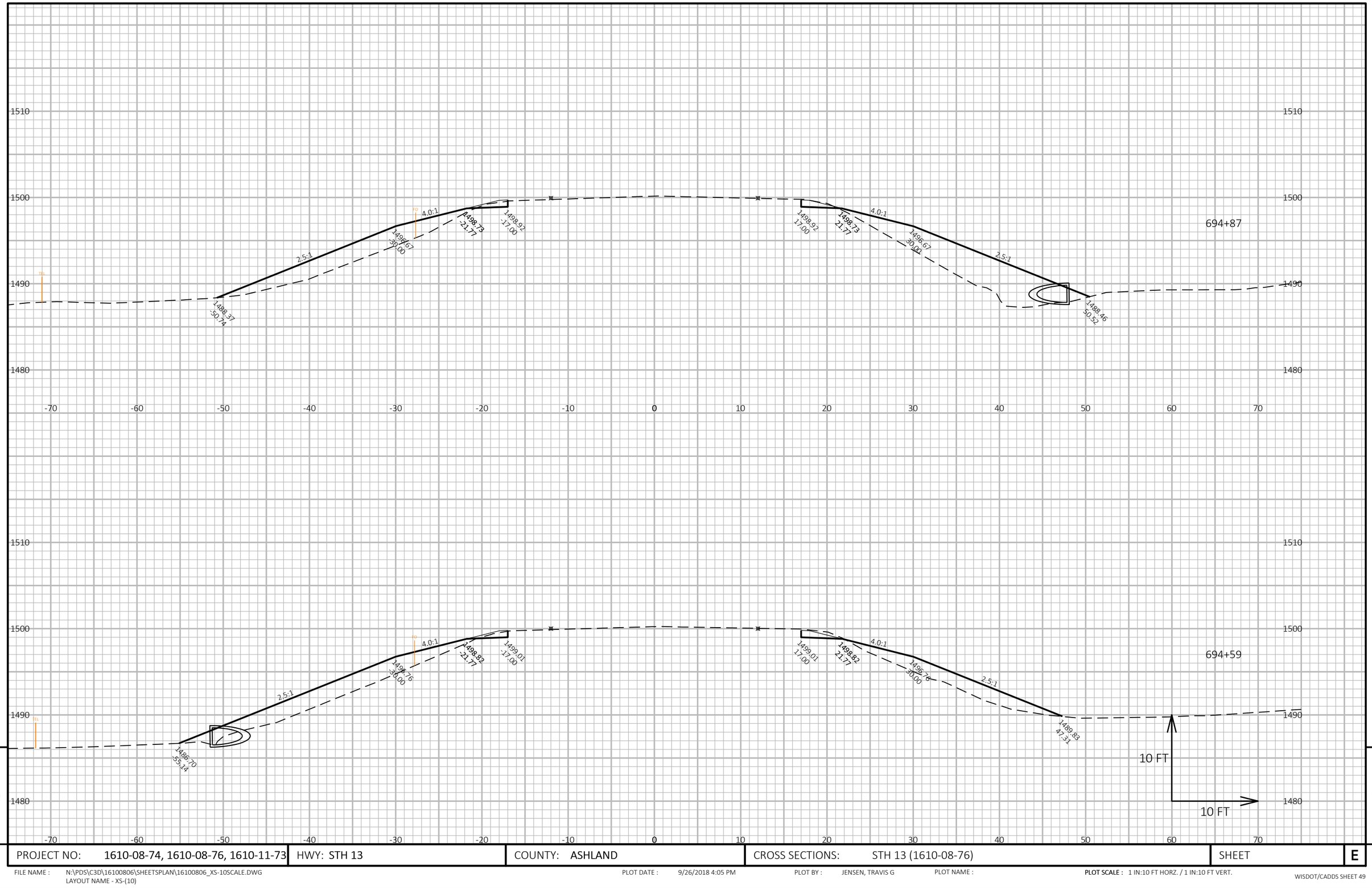
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LAYOUT NAME - XS-(9)

PLOT DATE : 9/26/2018 4:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(10)

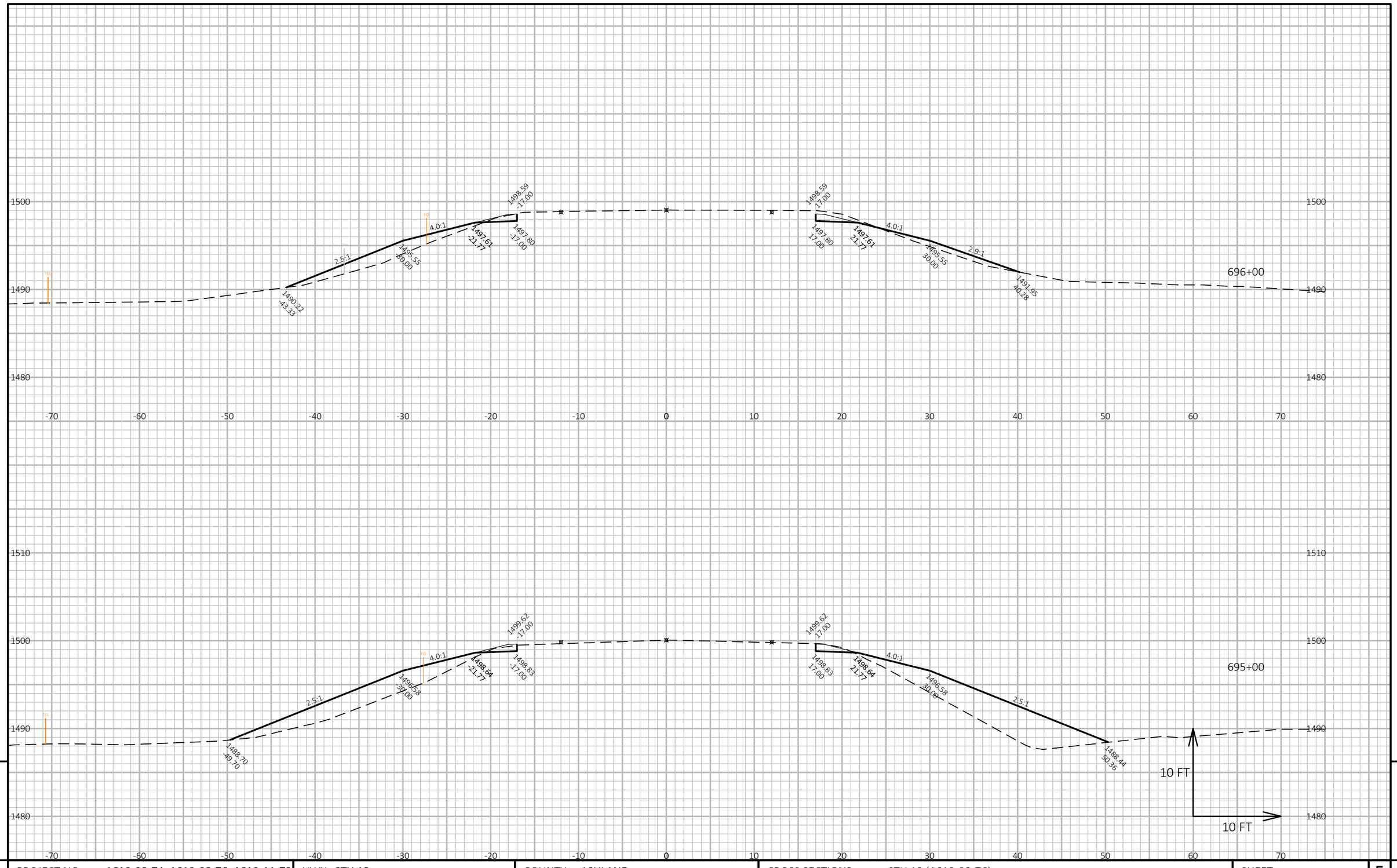
PLOT DATE : 9/26/2018 4:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

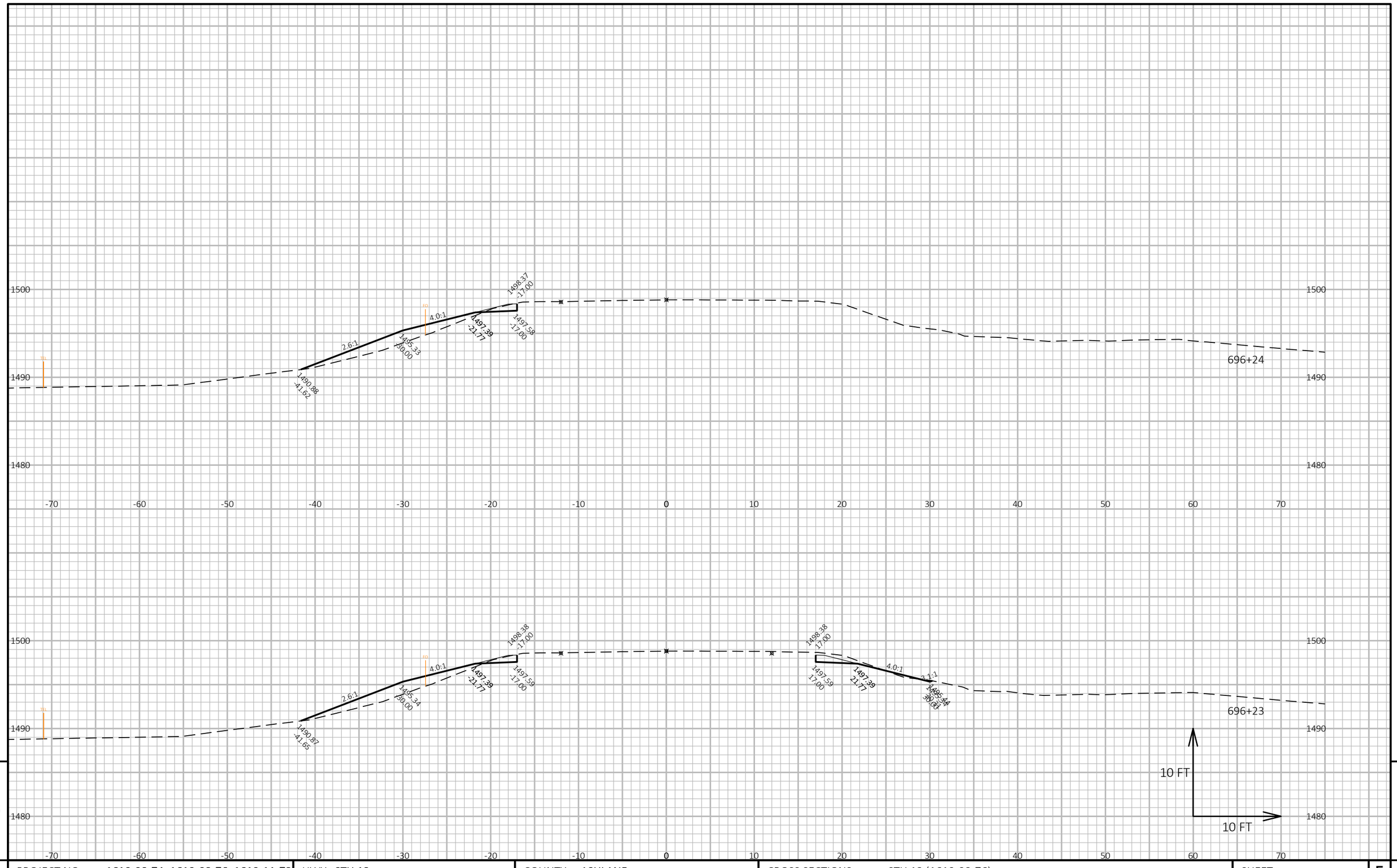
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LAYOUT NAME - XS-(11)

PLOT DATE : 9/26/2018 4:05 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

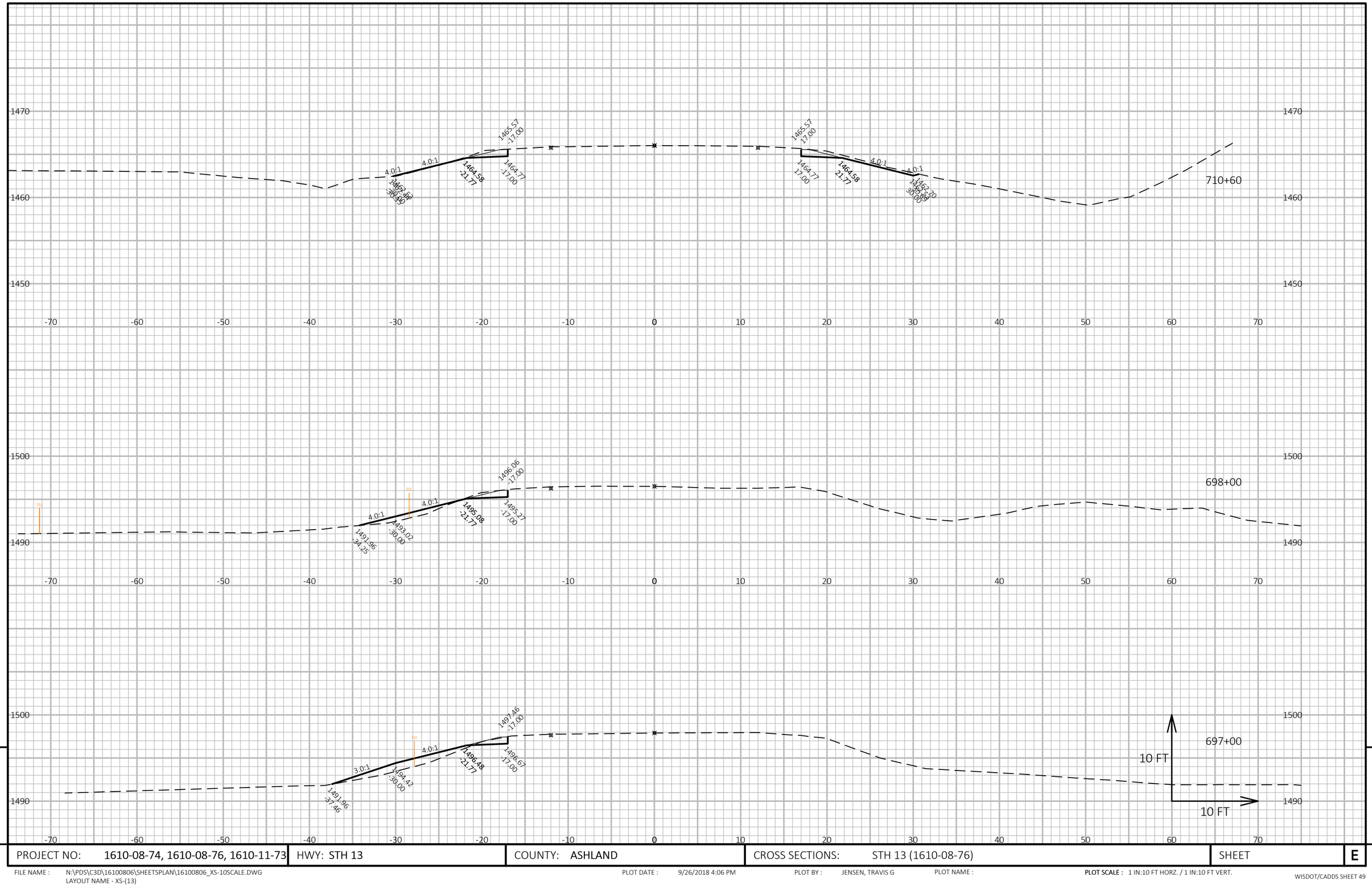
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LAYOUT NAME - XS-(12)

PLOT DATE : 9/26/2018 4:06 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(13)

PLOT DATE : 9/26/2018 4:06 PM

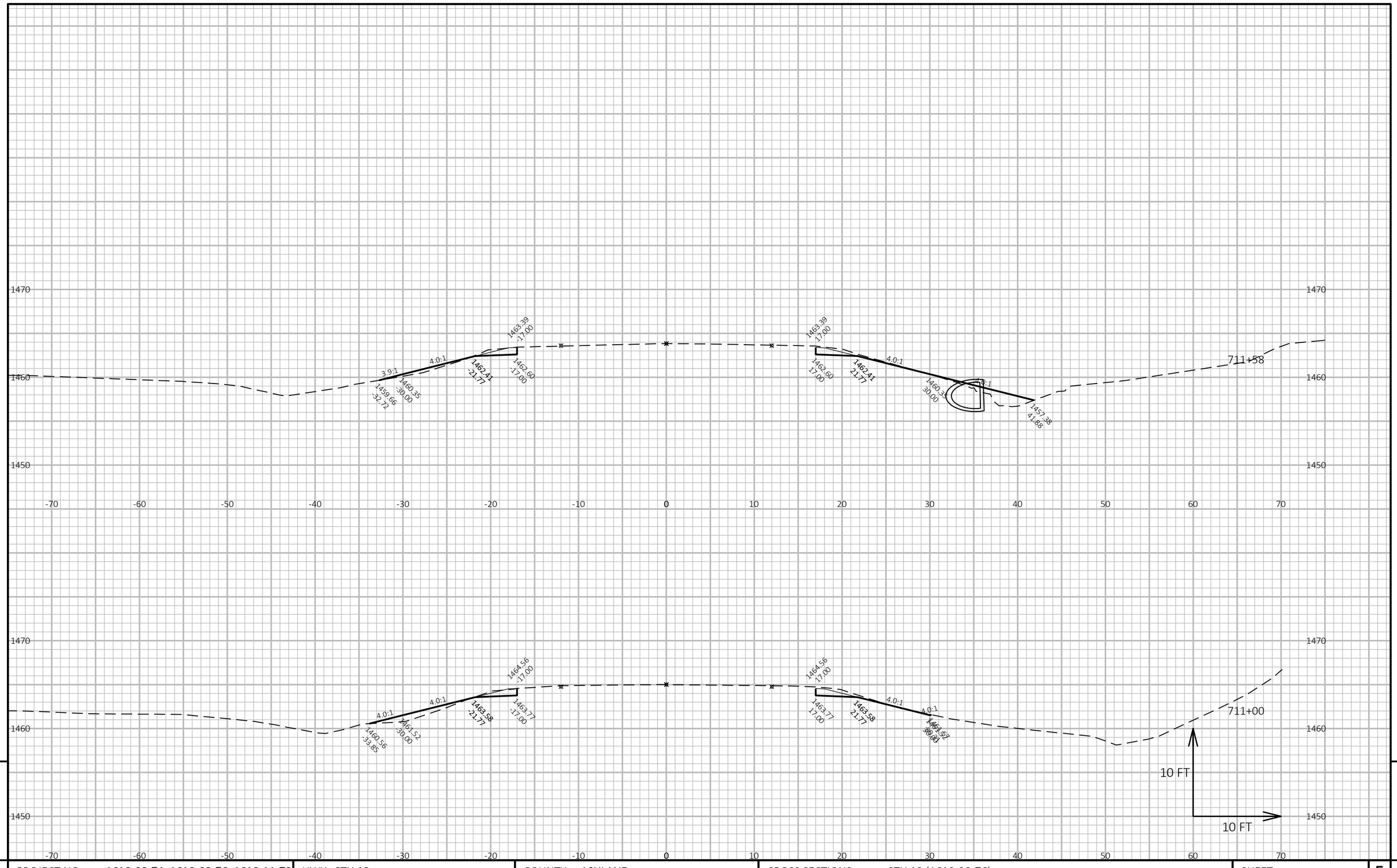
PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

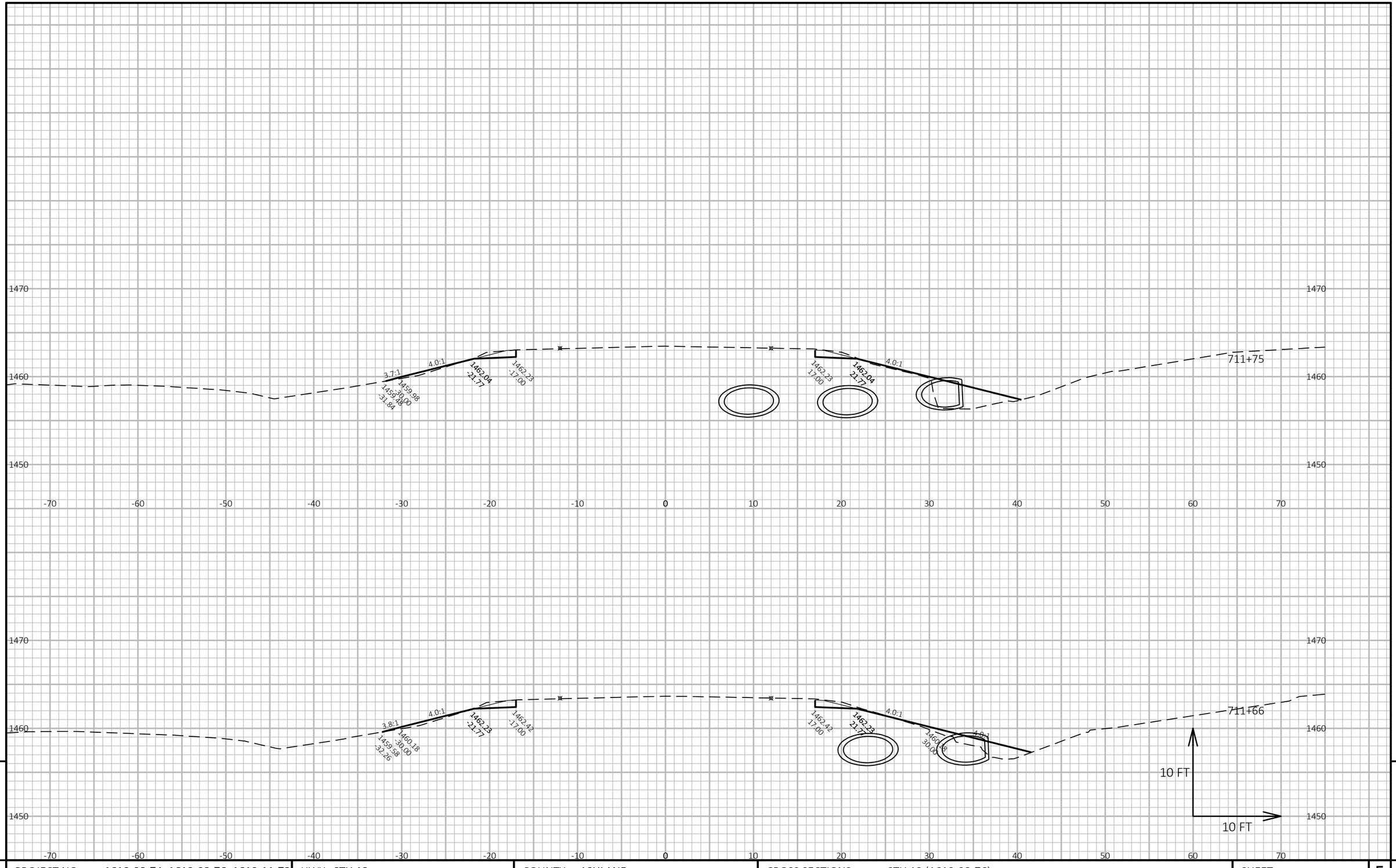
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LAYOUT NAME - XS-(14)

PLOT DATE : 9/26/2018 4:06 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

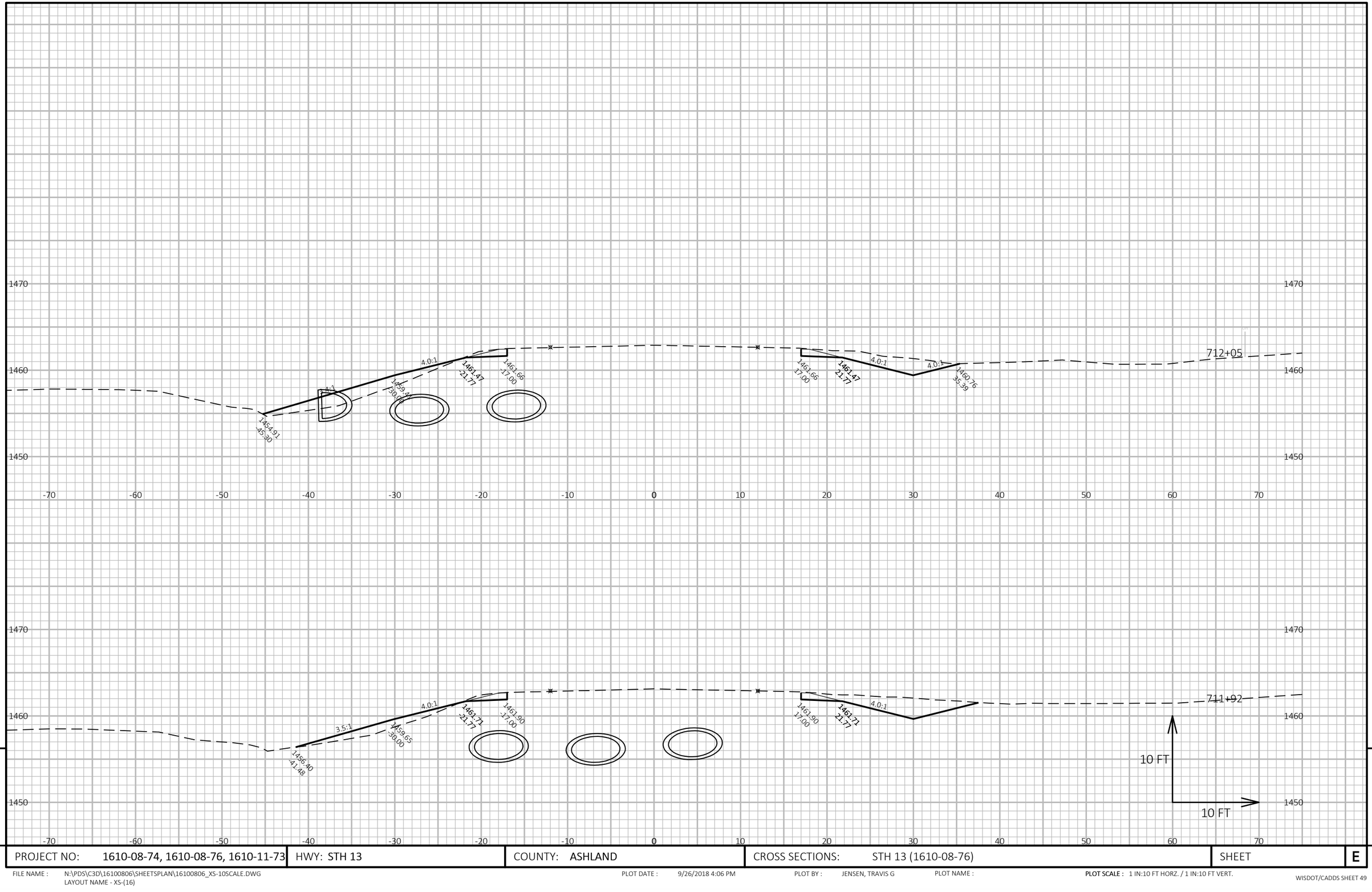
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LAYOUT NAME - XS-(15)

PLOT DATE : 9/26/2018 4:06 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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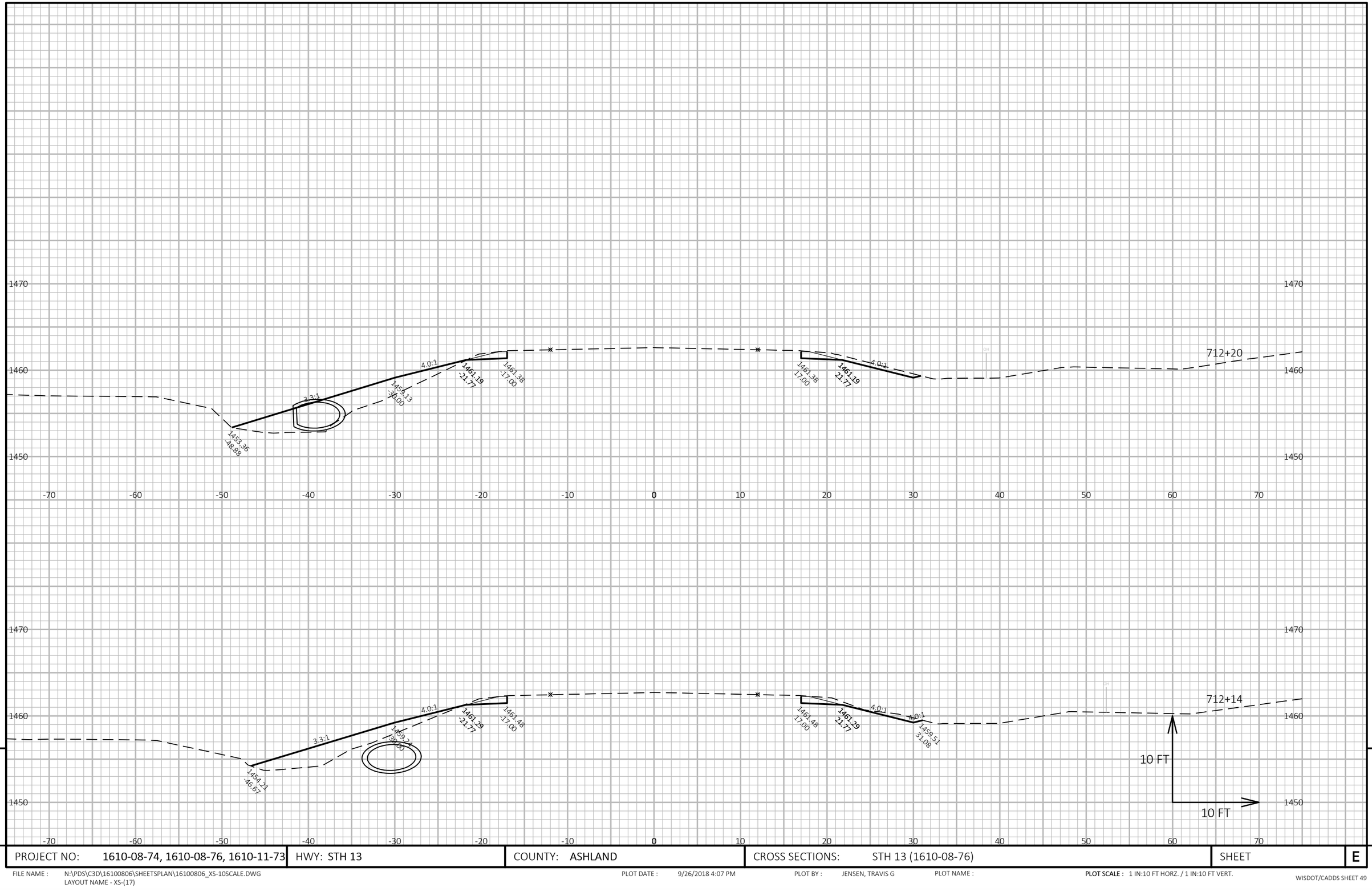
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PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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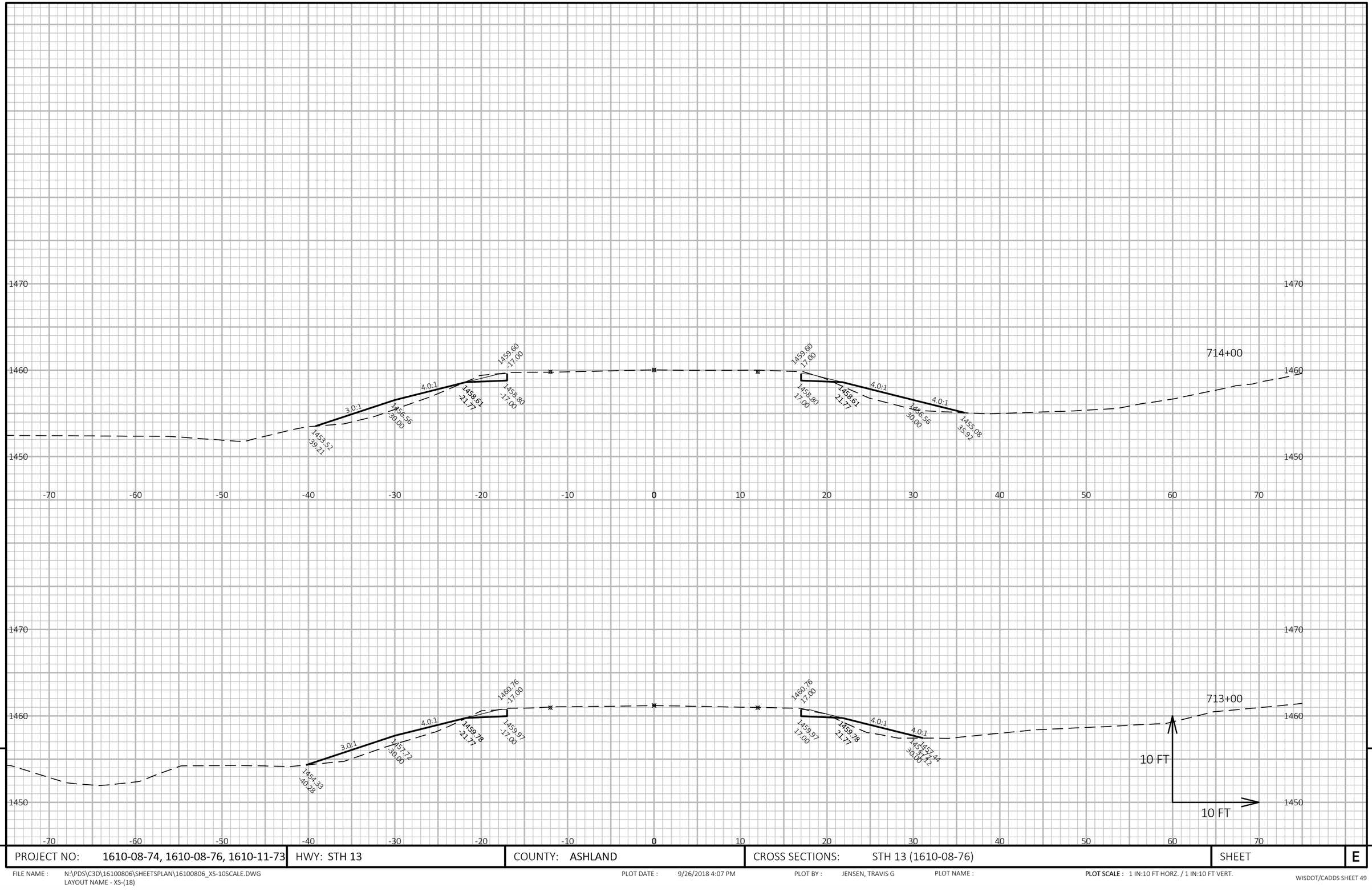
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PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

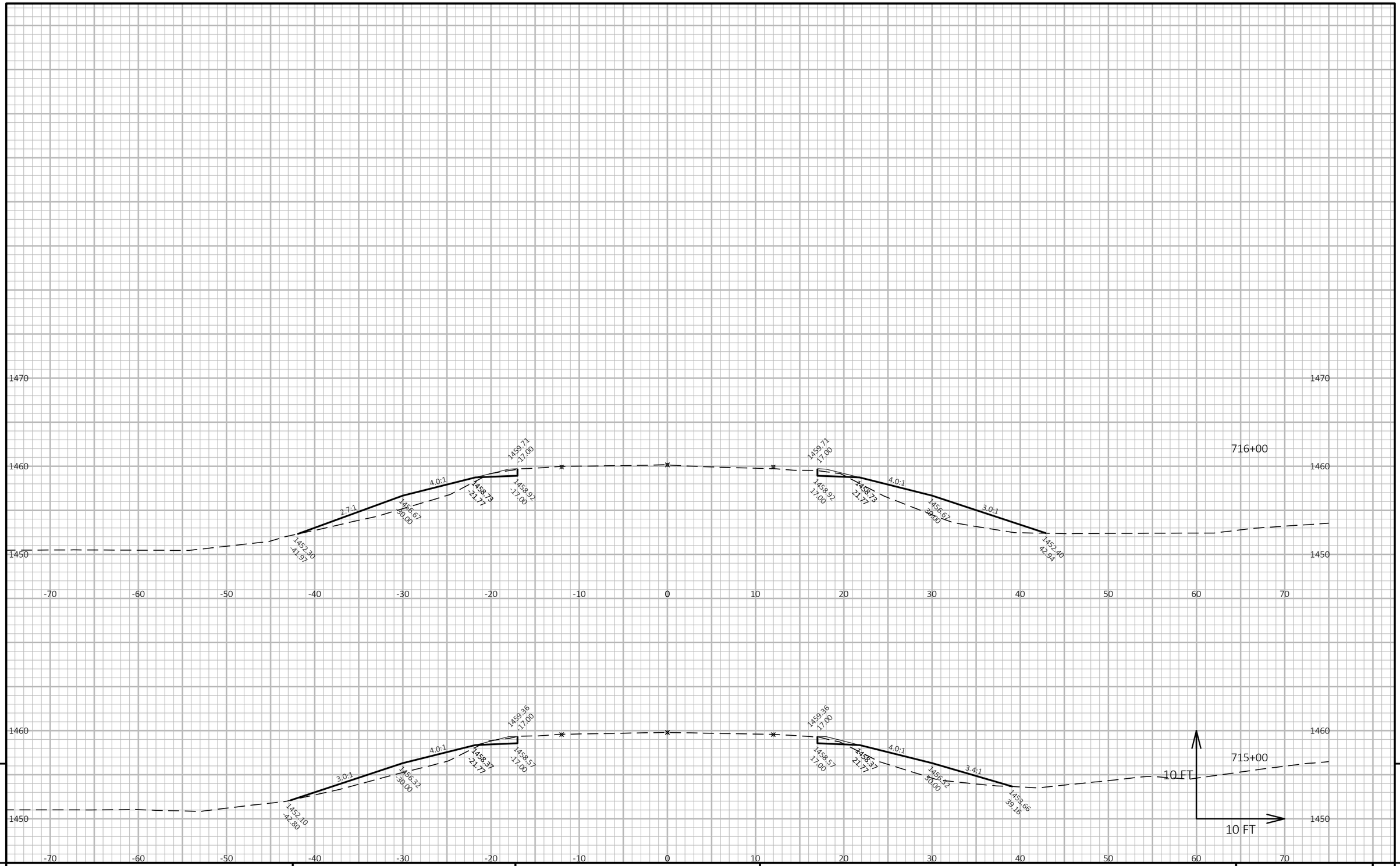
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LAYOUT NAME - XS-(18)

PLOT DATE : 9/26/2018 4:07 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

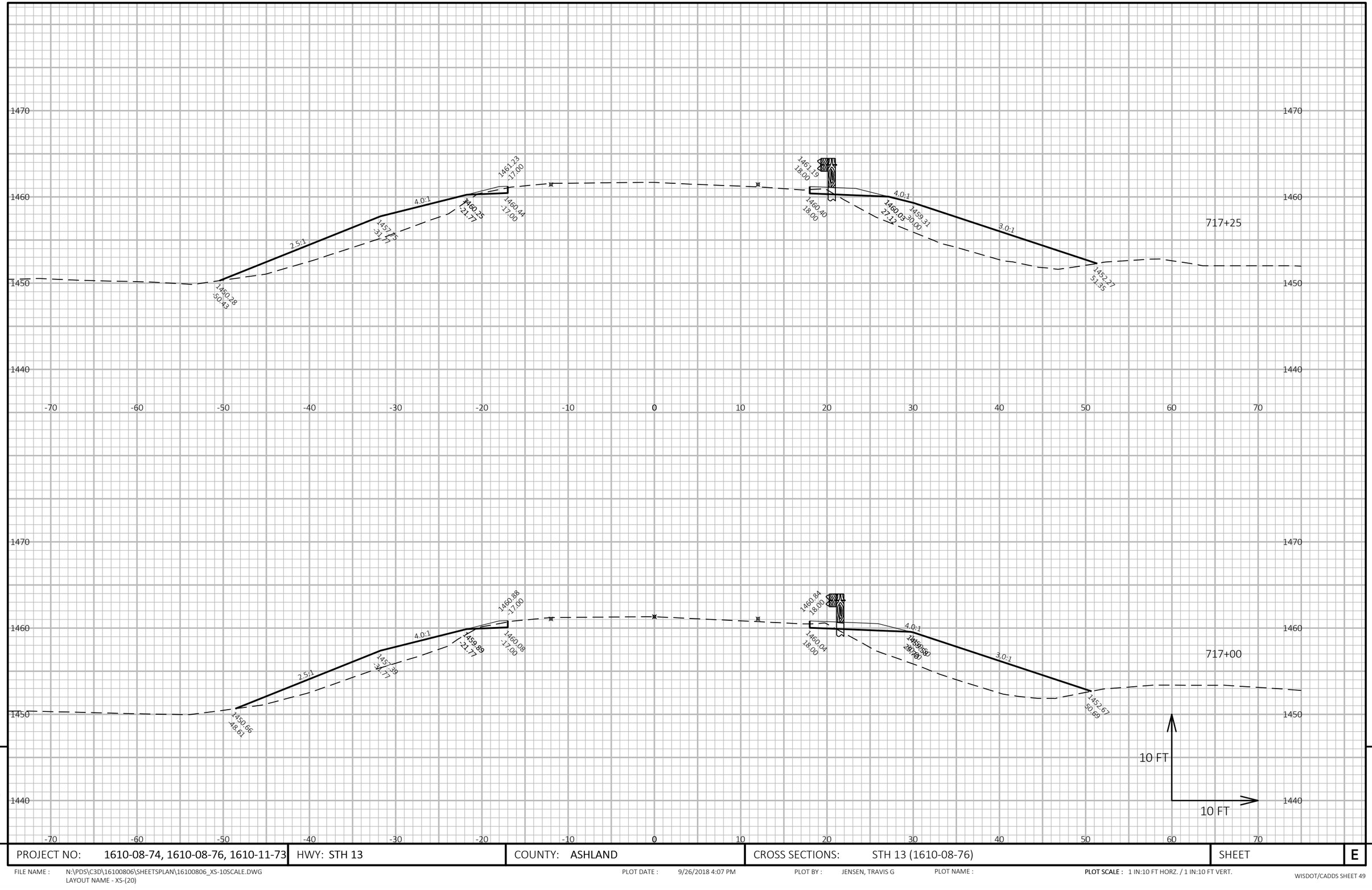
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LAYOUT NAME - XS-(19)

PLOT DATE : 9/26/2018 4:07 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

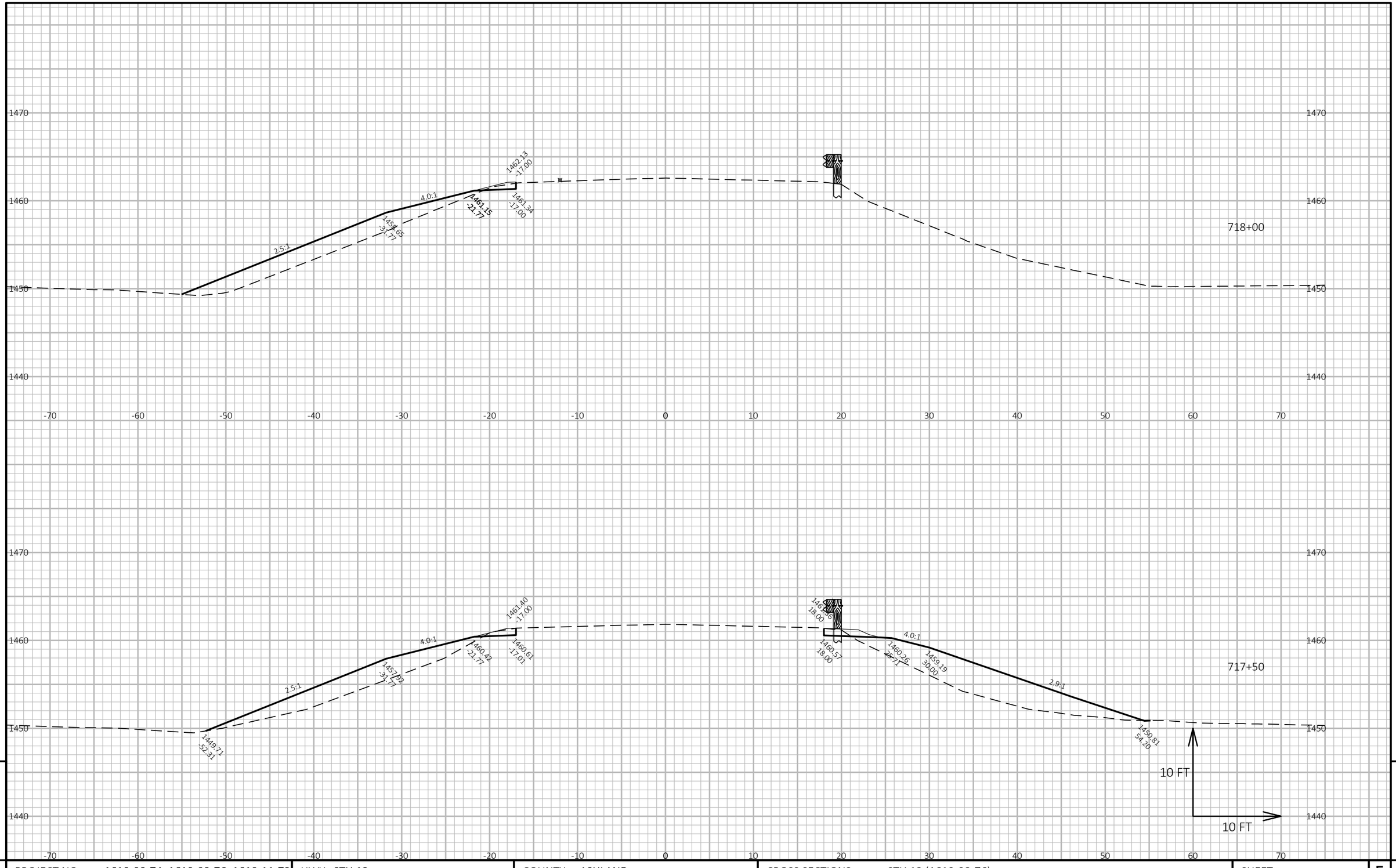
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LAYOUT NAME - XS-(20)

PLOT DATE : 9/26/2018 4:07 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

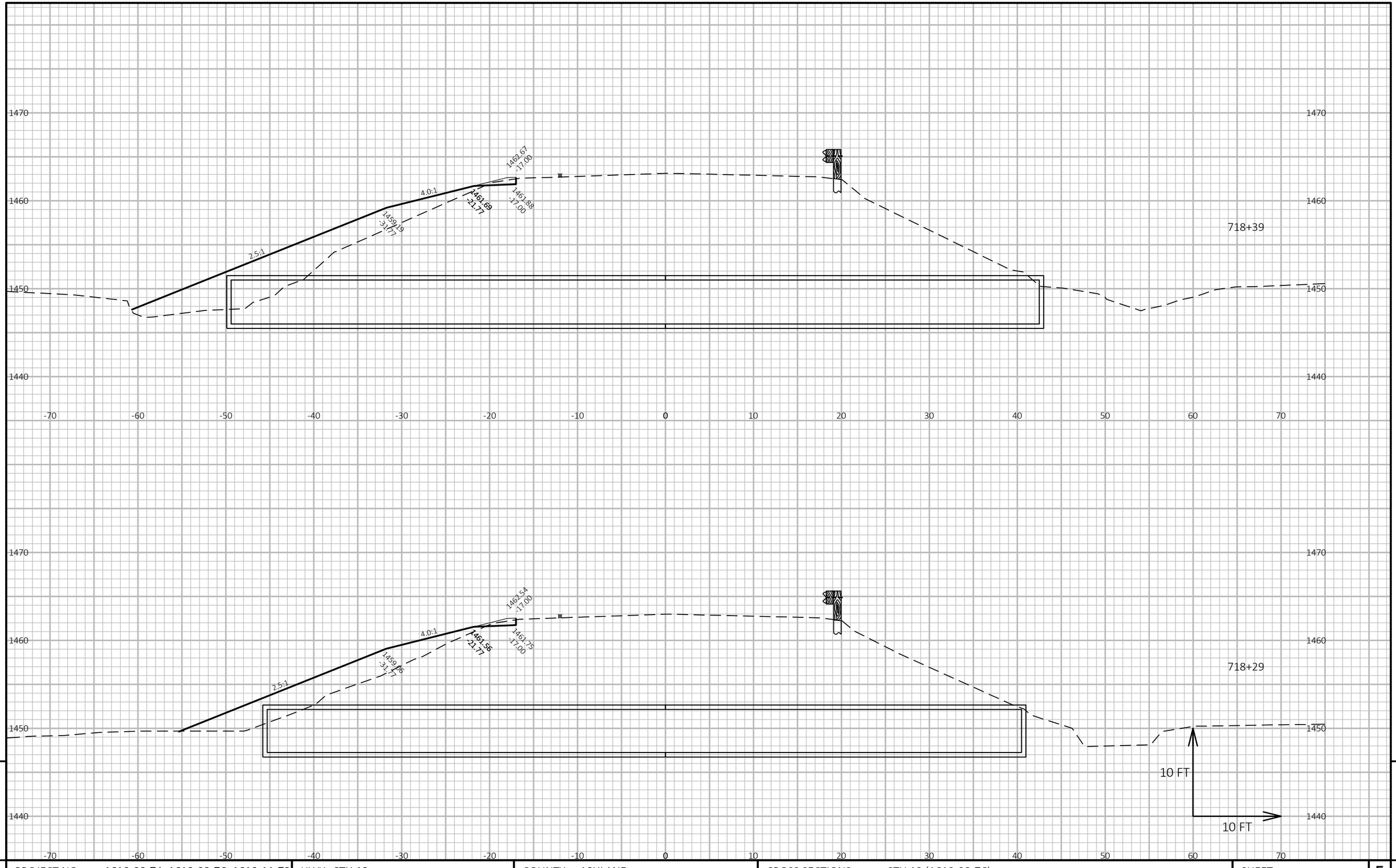
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LAYOUT NAME - XS-(21)

PLOT DATE : 9/26/2018 4:07 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

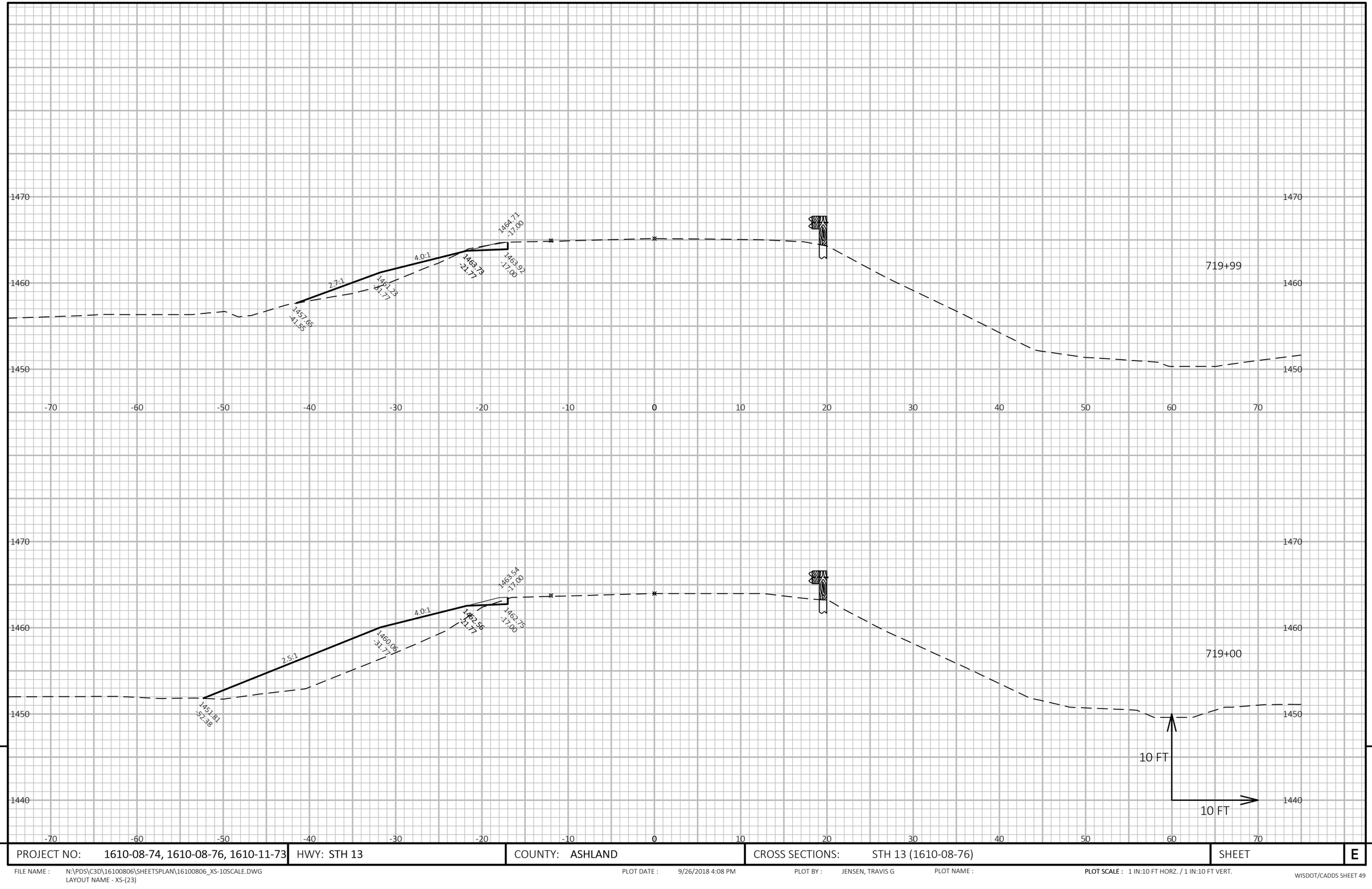
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LAYOUT NAME - XS-(22)

PLOT DATE : 9/26/2018 4:08 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

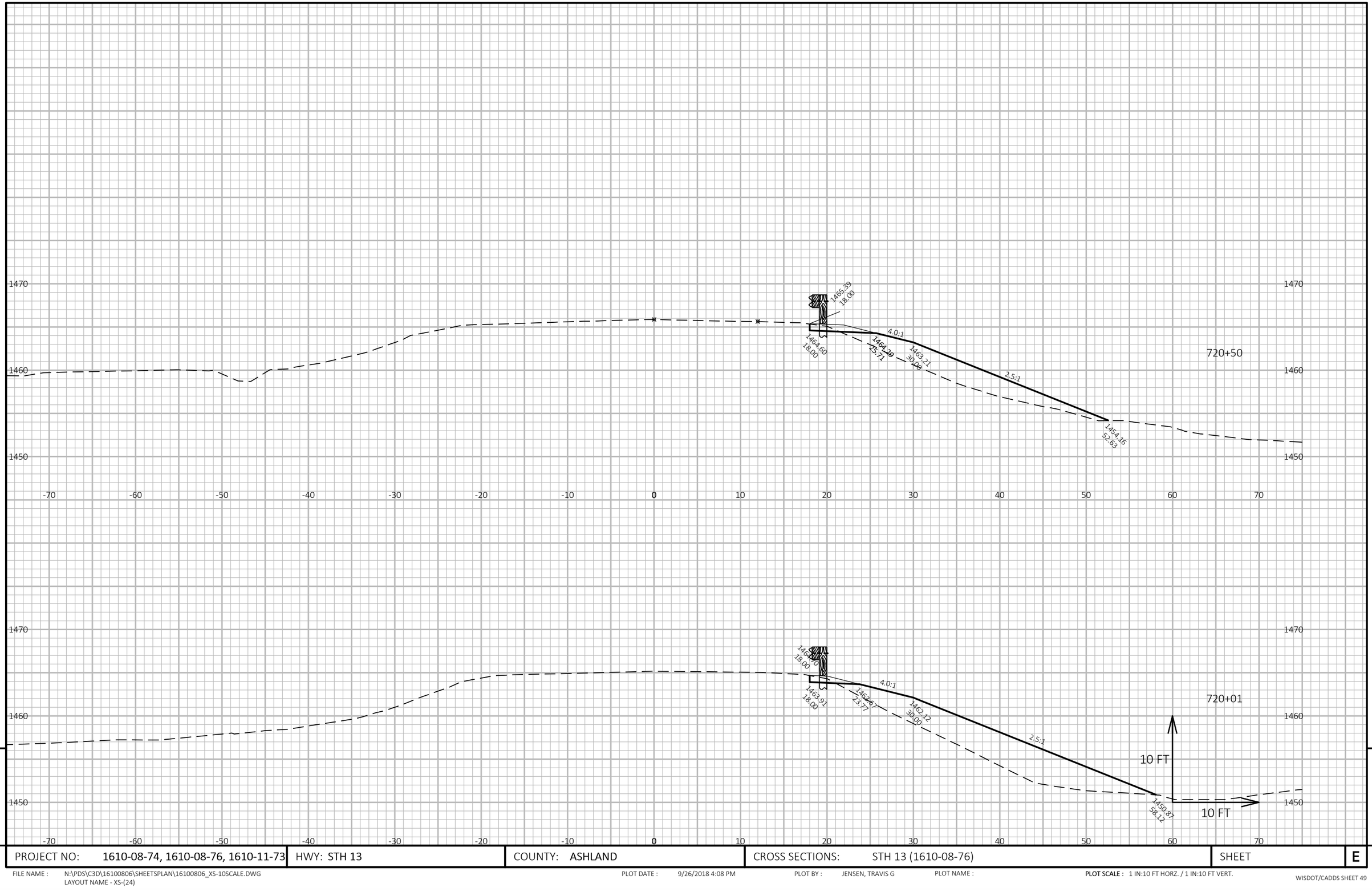
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LAYOUT NAME - XS-(23)

PLOT DATE : 9/26/2018 4:08 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

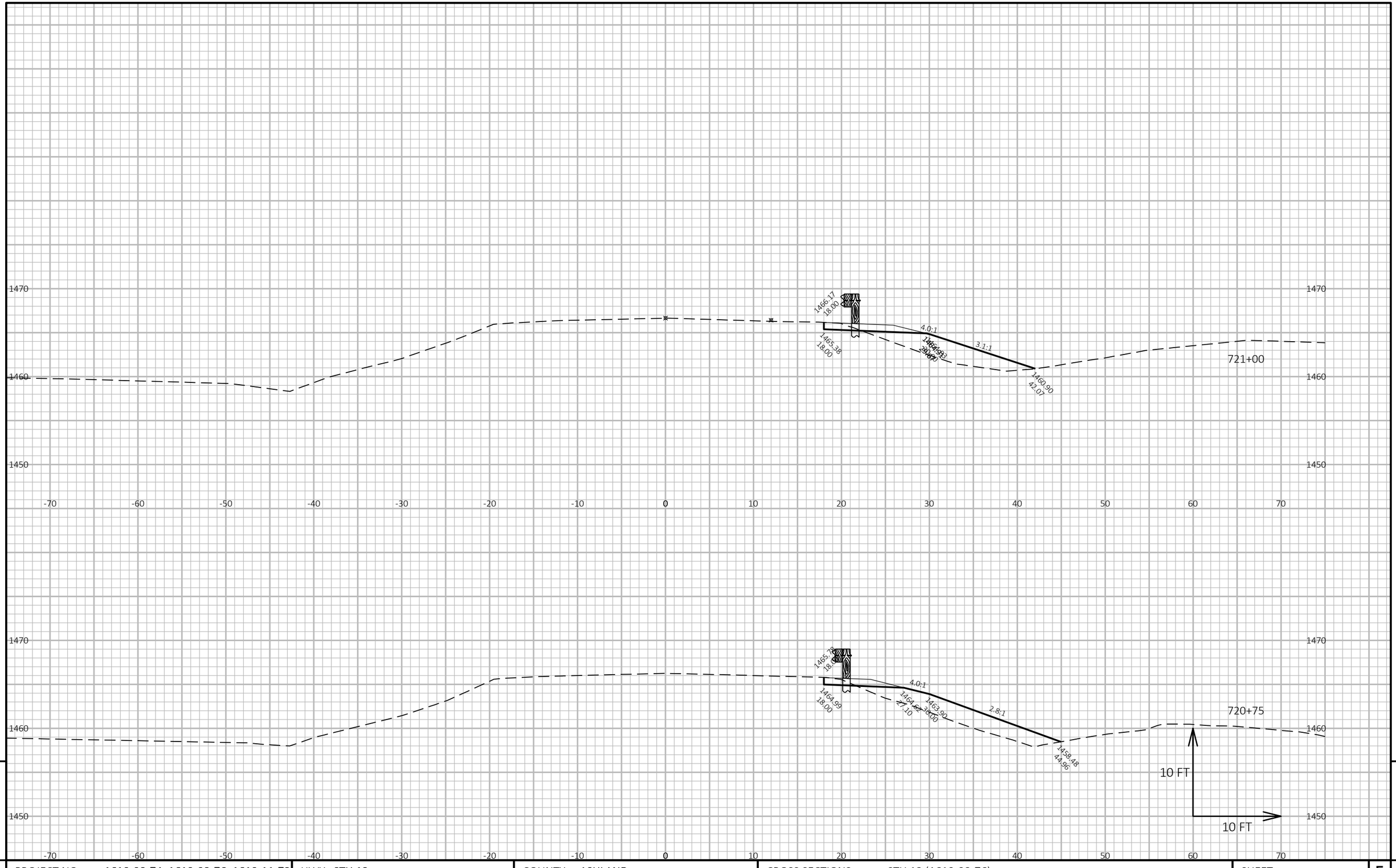
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

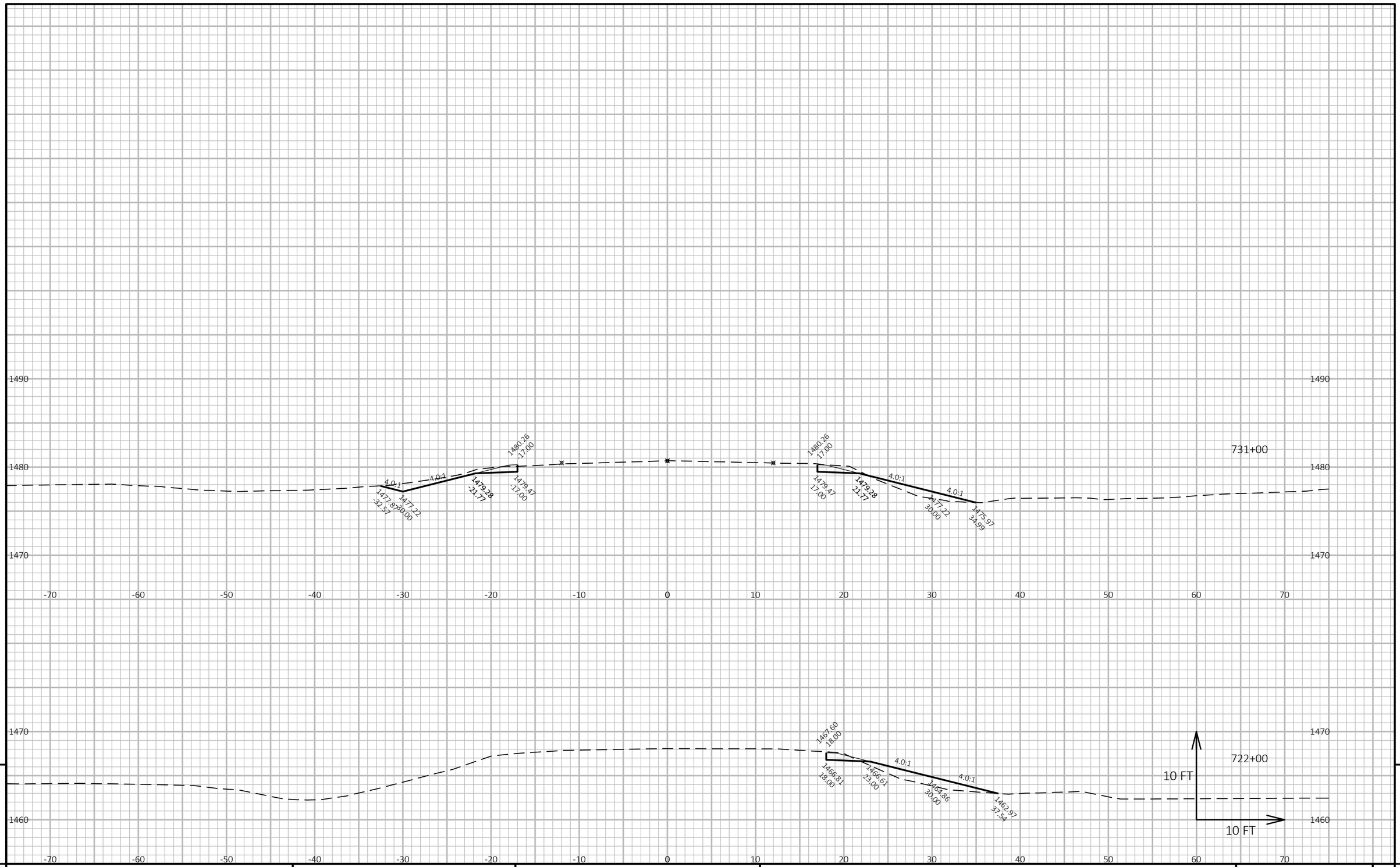
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LAYOUT NAME - XS-(25)

PLOT DATE : 9/26/2018 4:08 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

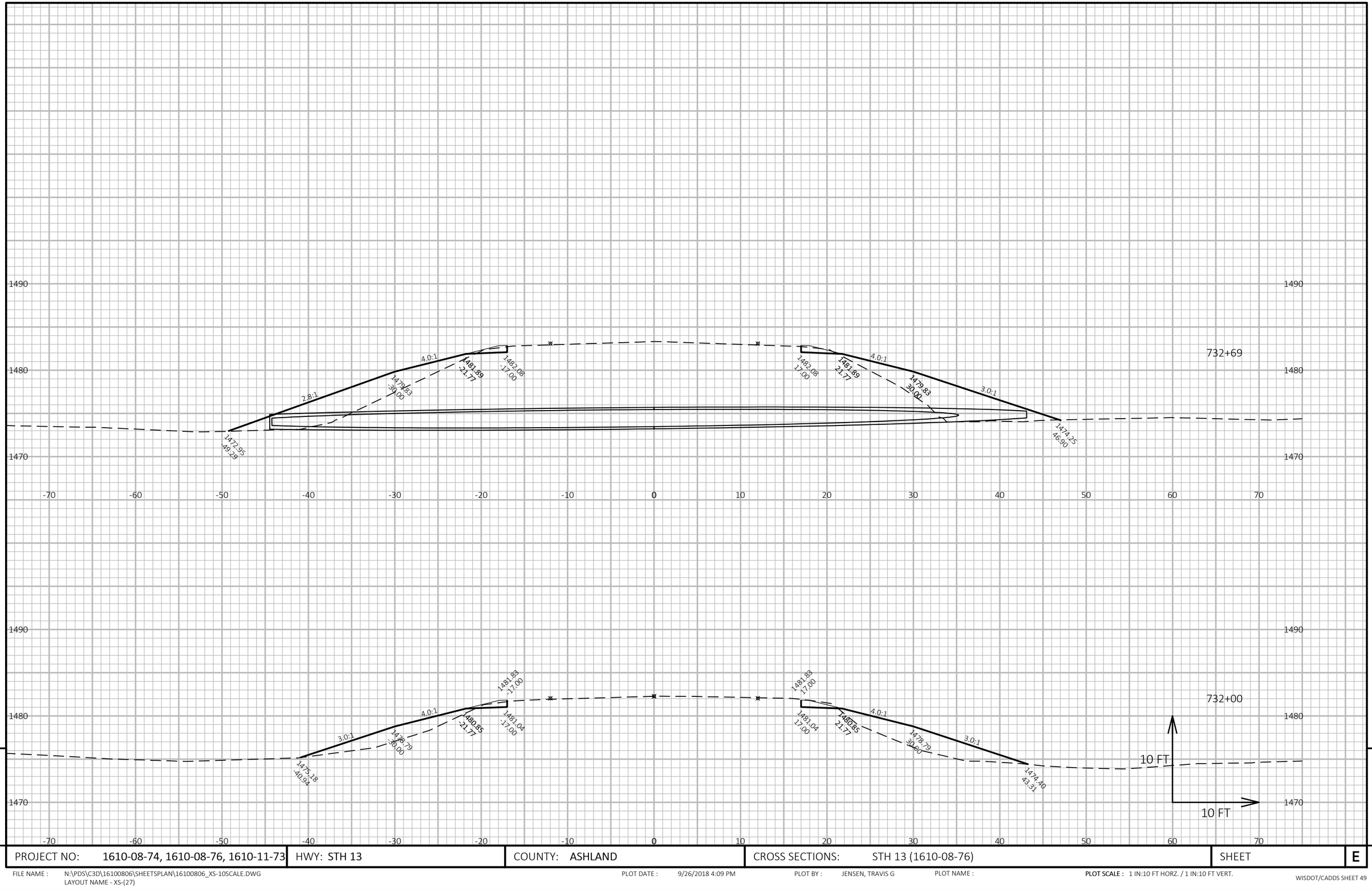
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LAYOUT NAME - XS-(26)

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PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

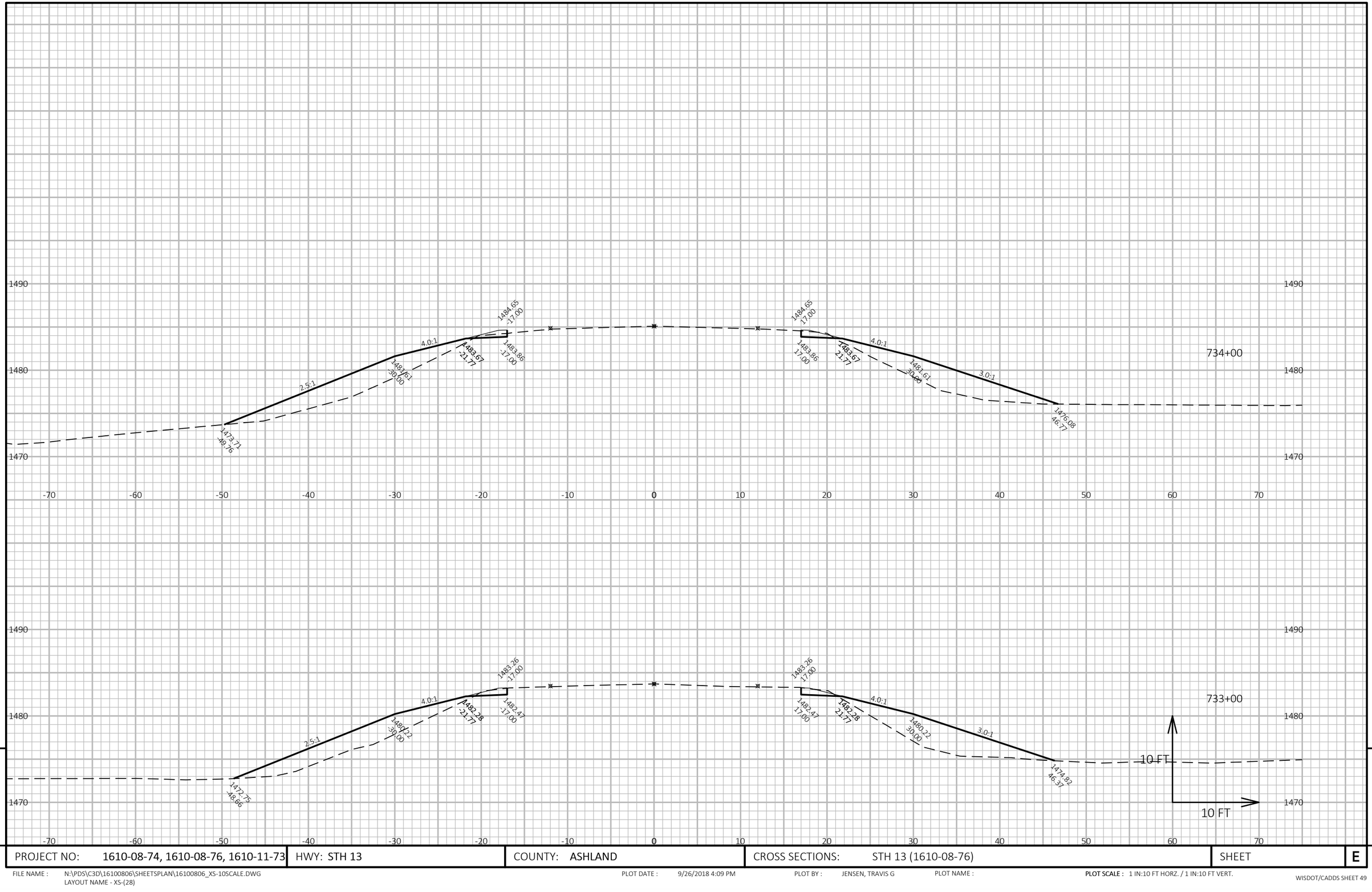


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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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LAYOUT NAME - XS-(27)

PLOT DATE : 9/26/2018 4:09 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

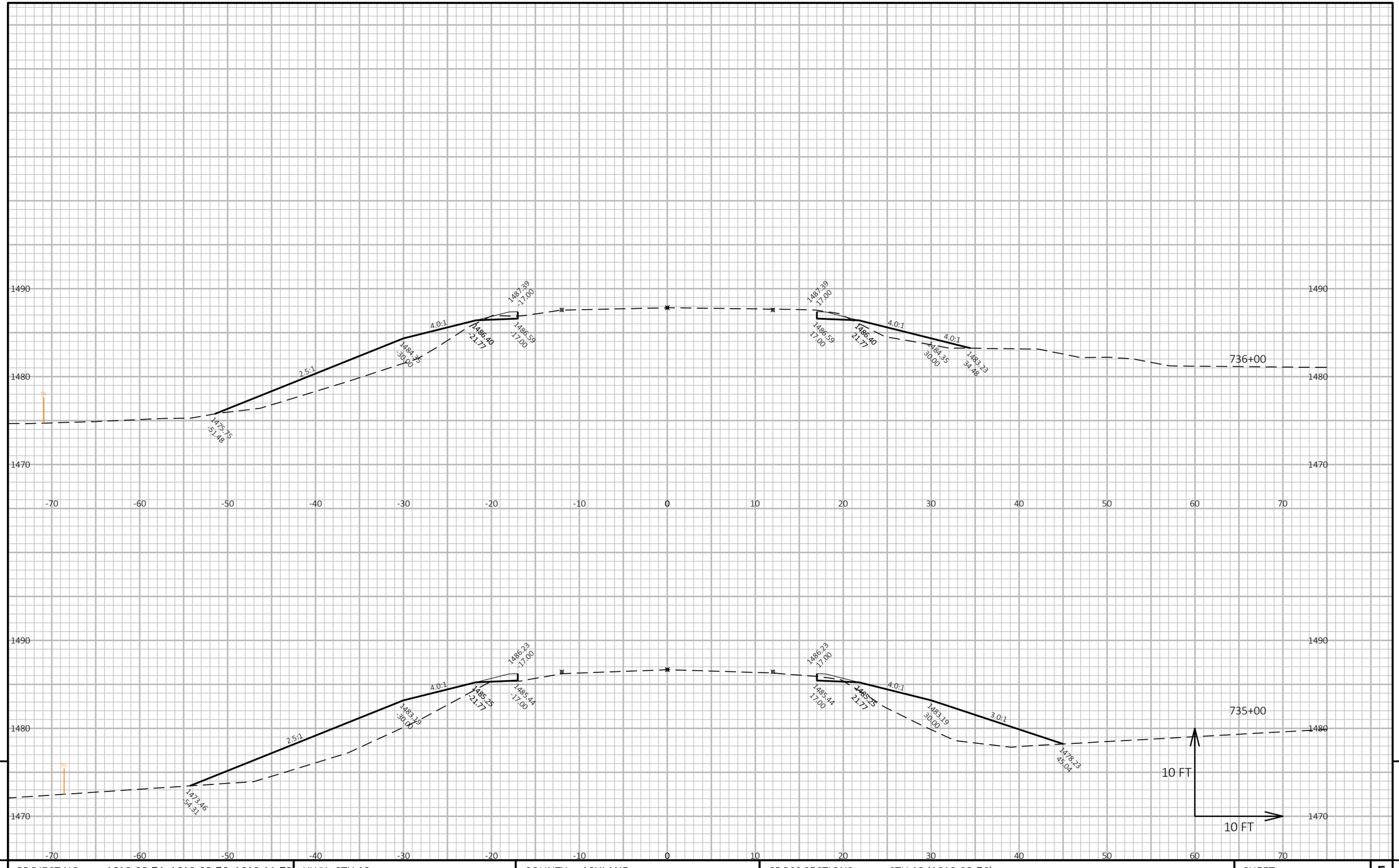
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LAYOUT NAME - XS-(28)

PLOT DATE : 9/26/2018 4:09 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

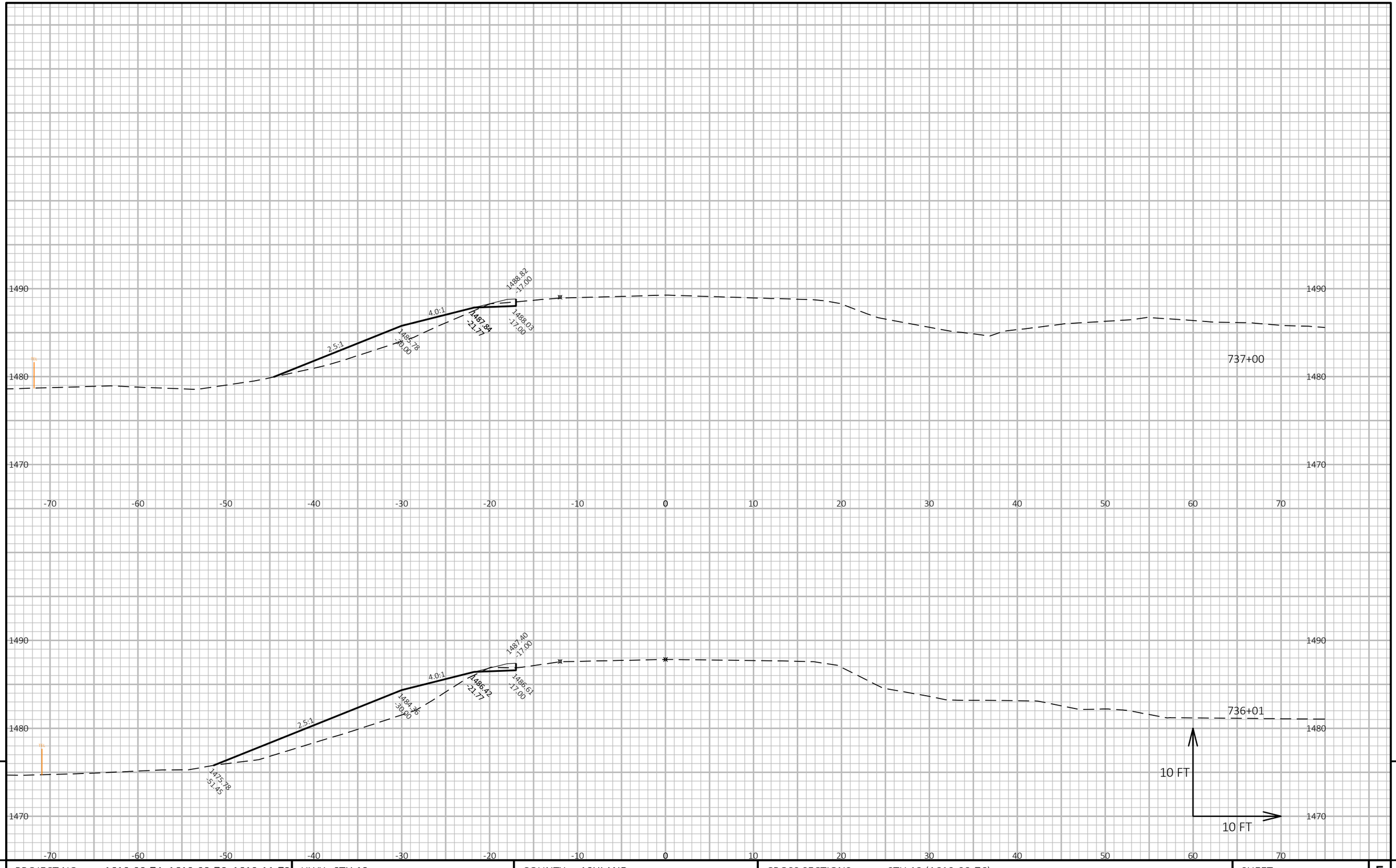
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LAYOUT NAME - XS-(29)

PLOT DATE : 9/26/2018 4:09 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

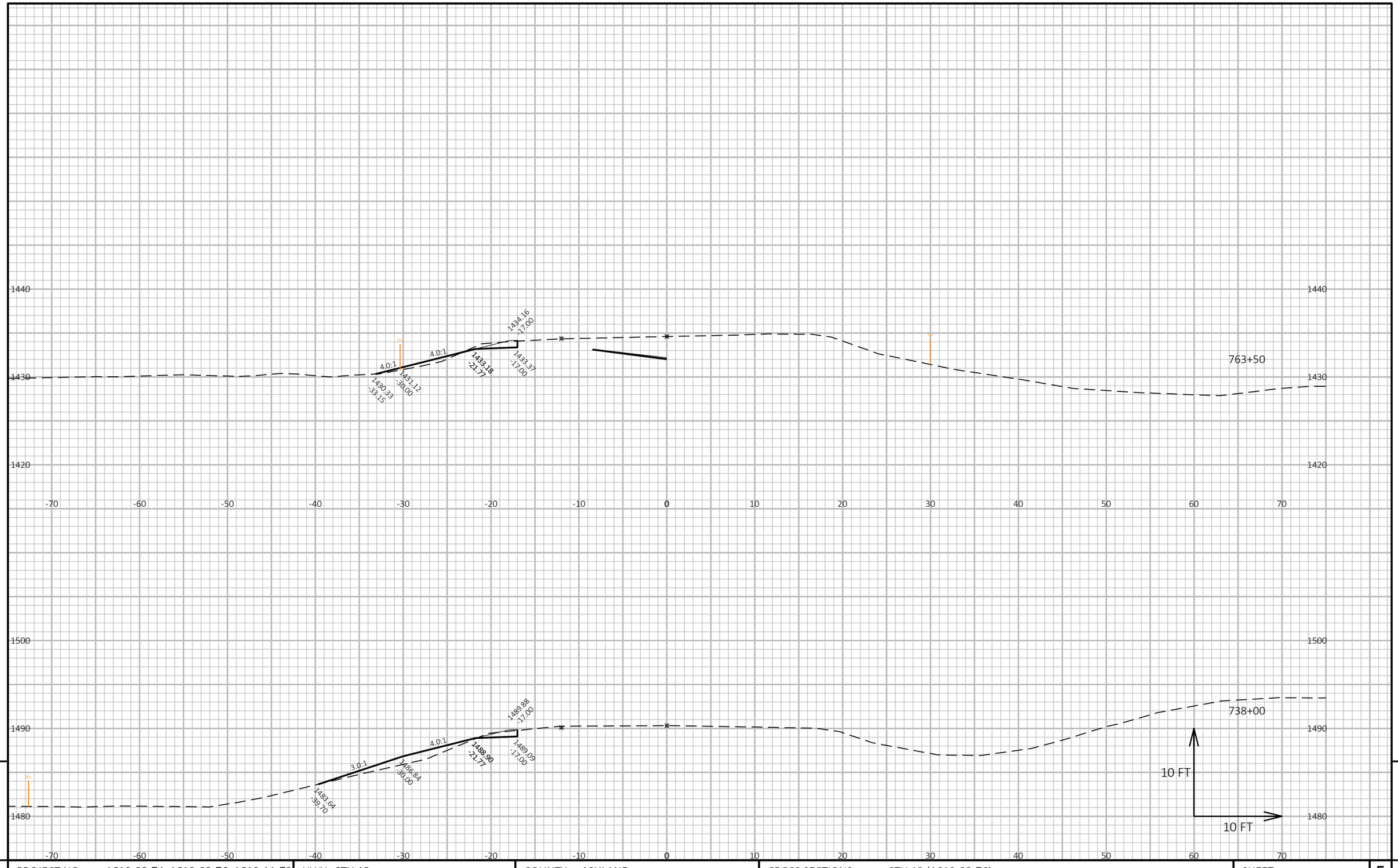
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LAYOUT NAME - XS-(30)

PLOT DATE : 9/26/2018 4:09 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

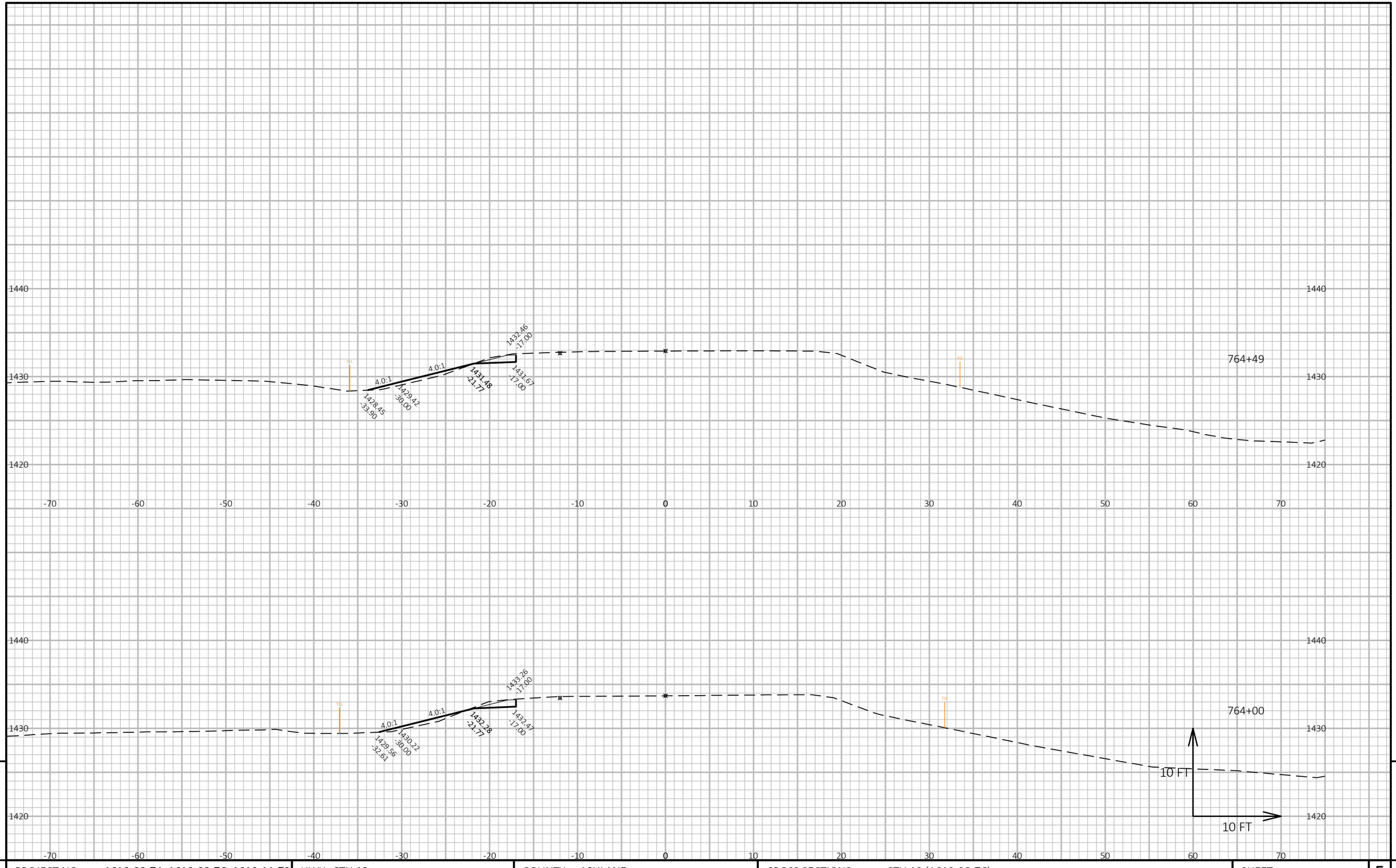
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LAYOUT NAME - XS-(31)

PLOT DATE : 9/26/2018 4:10 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

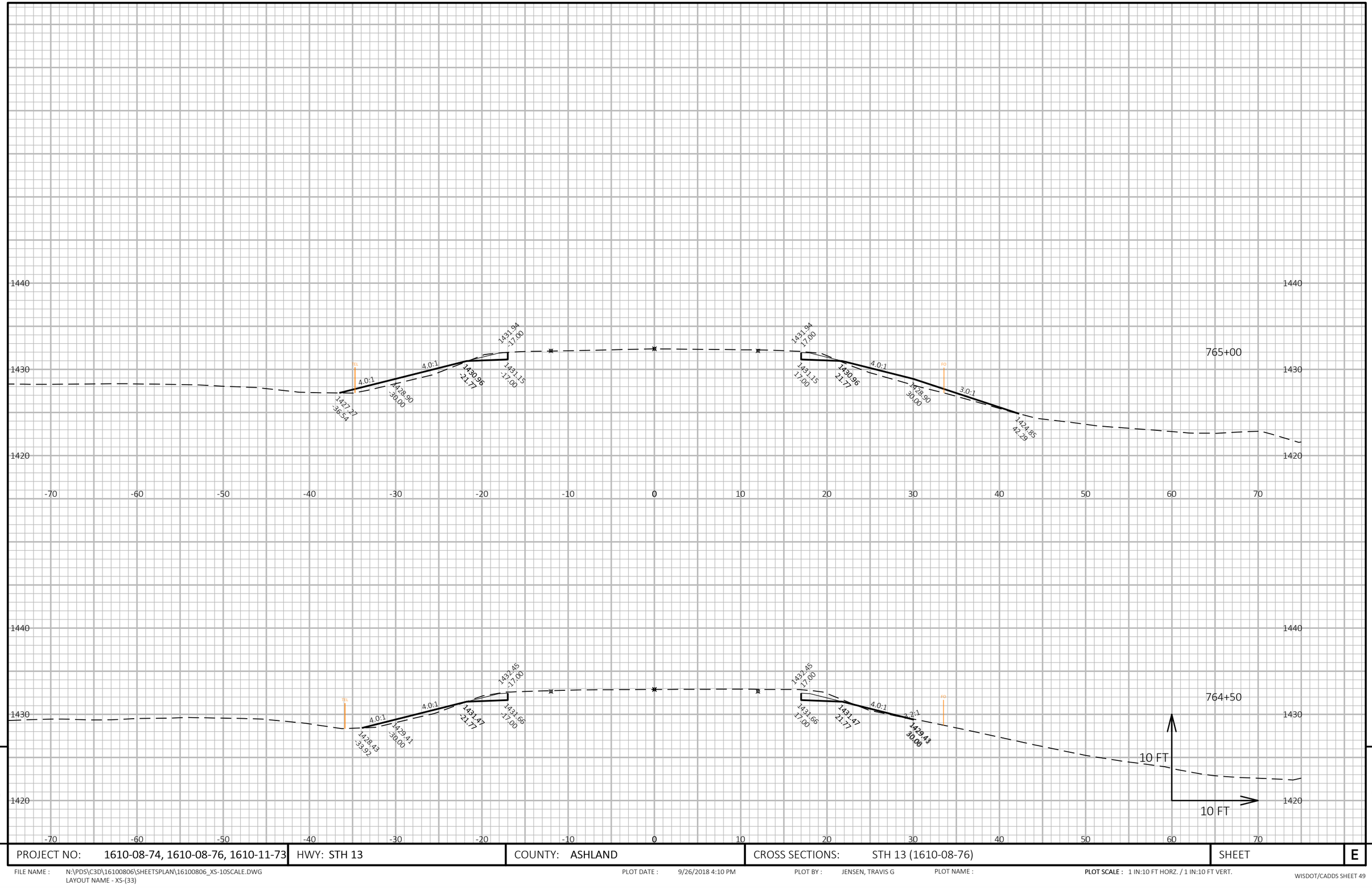
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LAYOUT NAME - XS-(32)

PLOT DATE : 9/26/2018 4:10 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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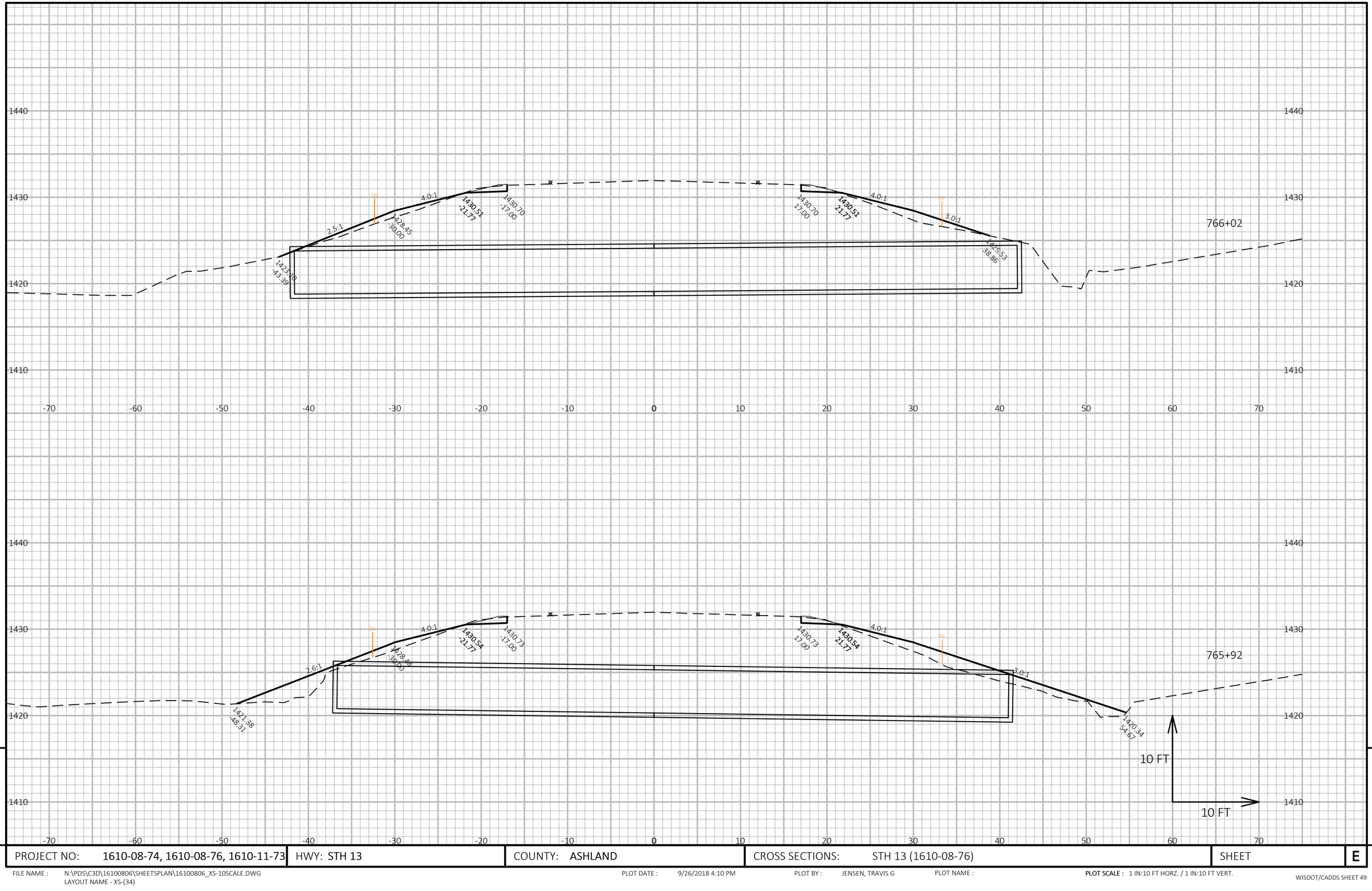
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PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

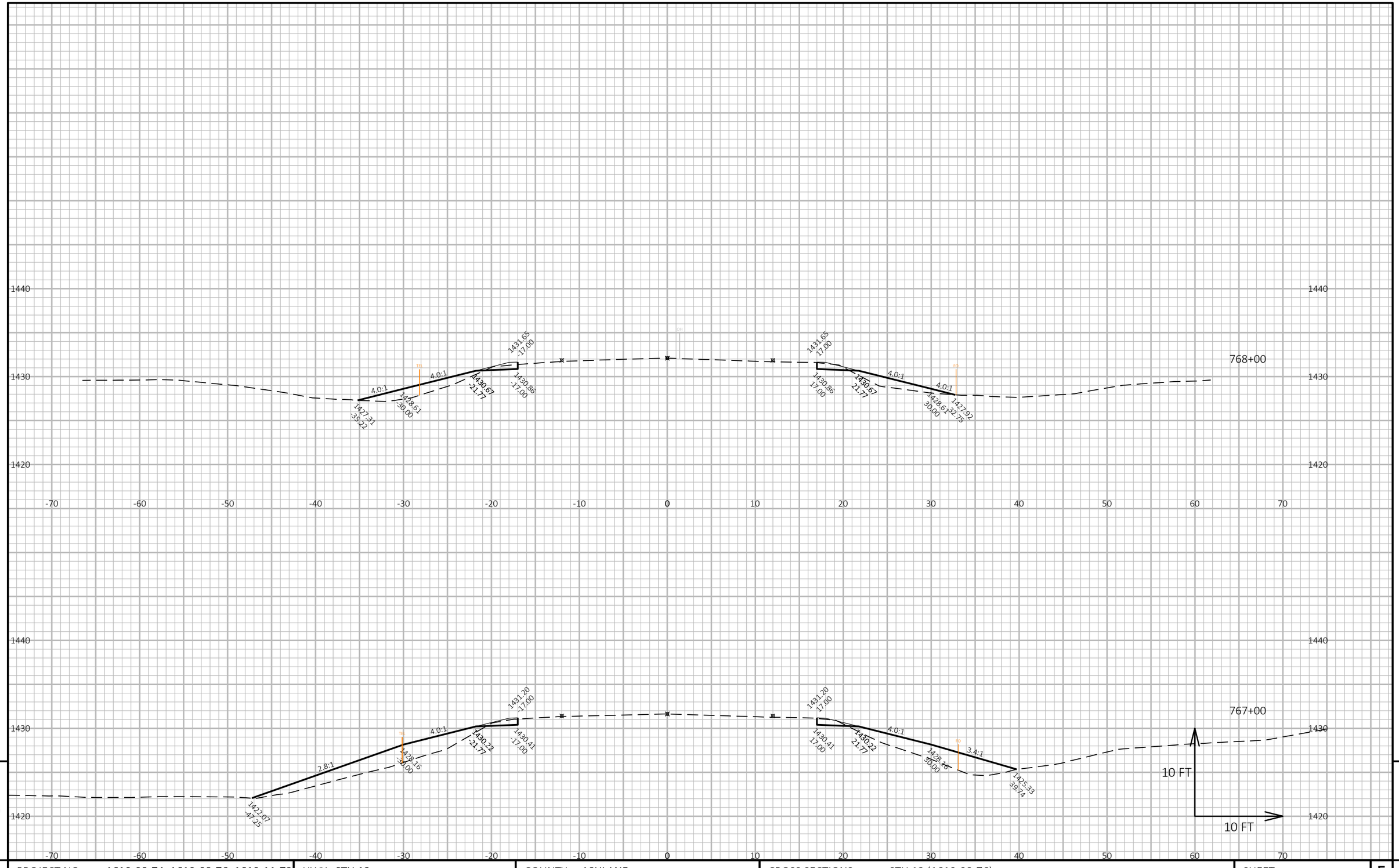
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LAYOUT NAME - XS-(34)

PLOT DATE : 9/26/2018 4:10 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

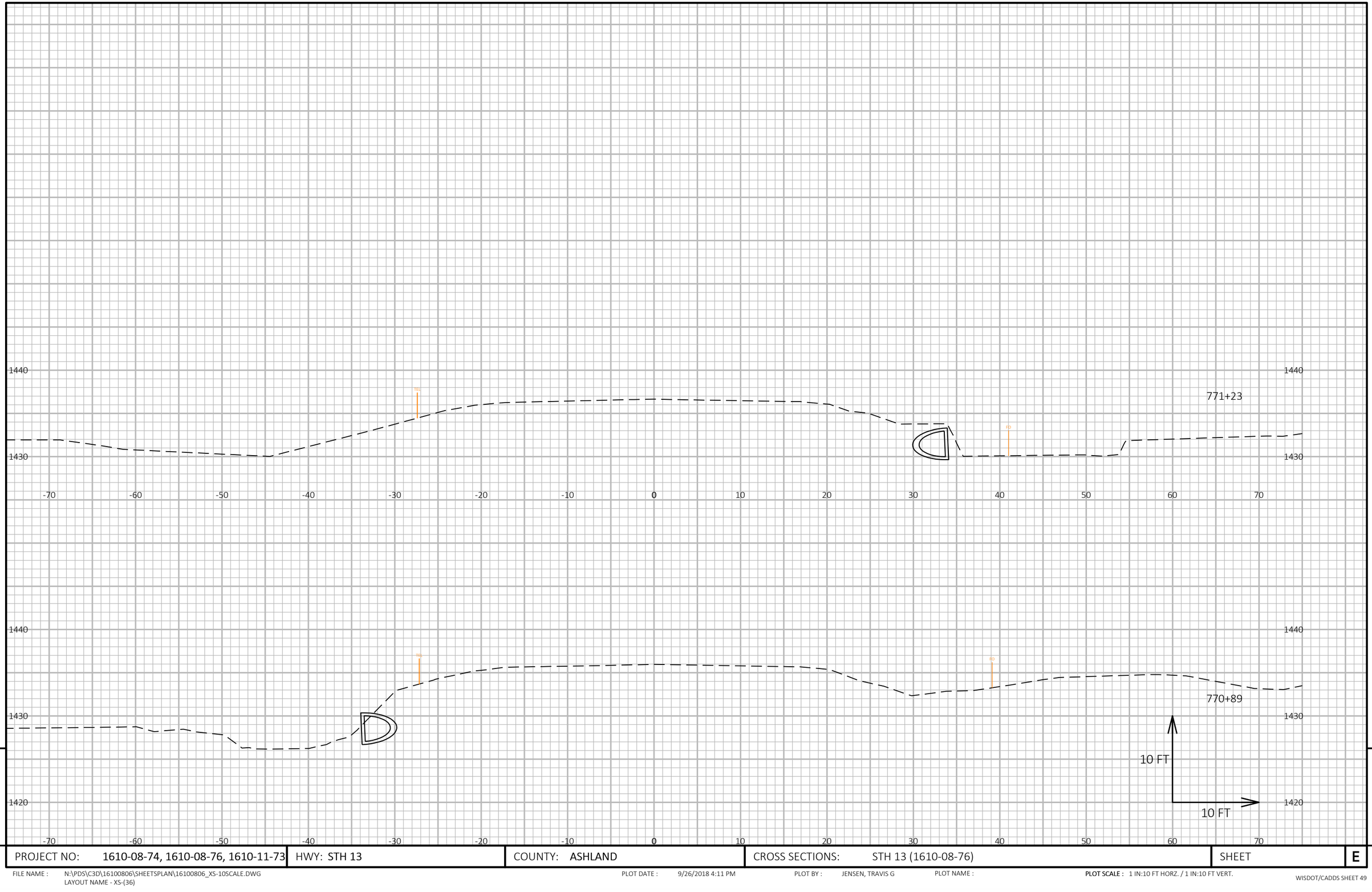
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LAYOUT NAME - XS-(35)

PLOT DATE : 9/26/2018 4:10 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

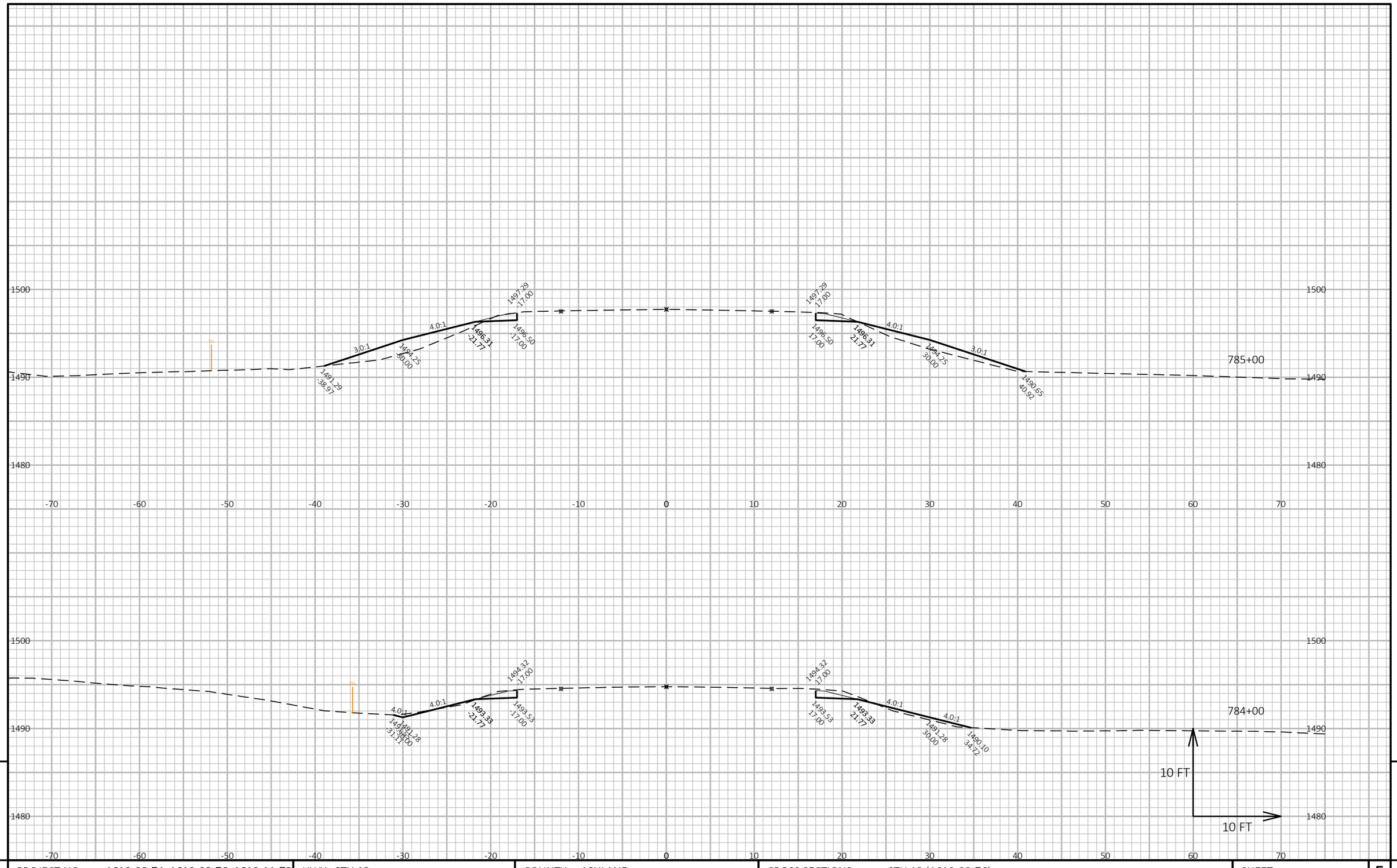
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

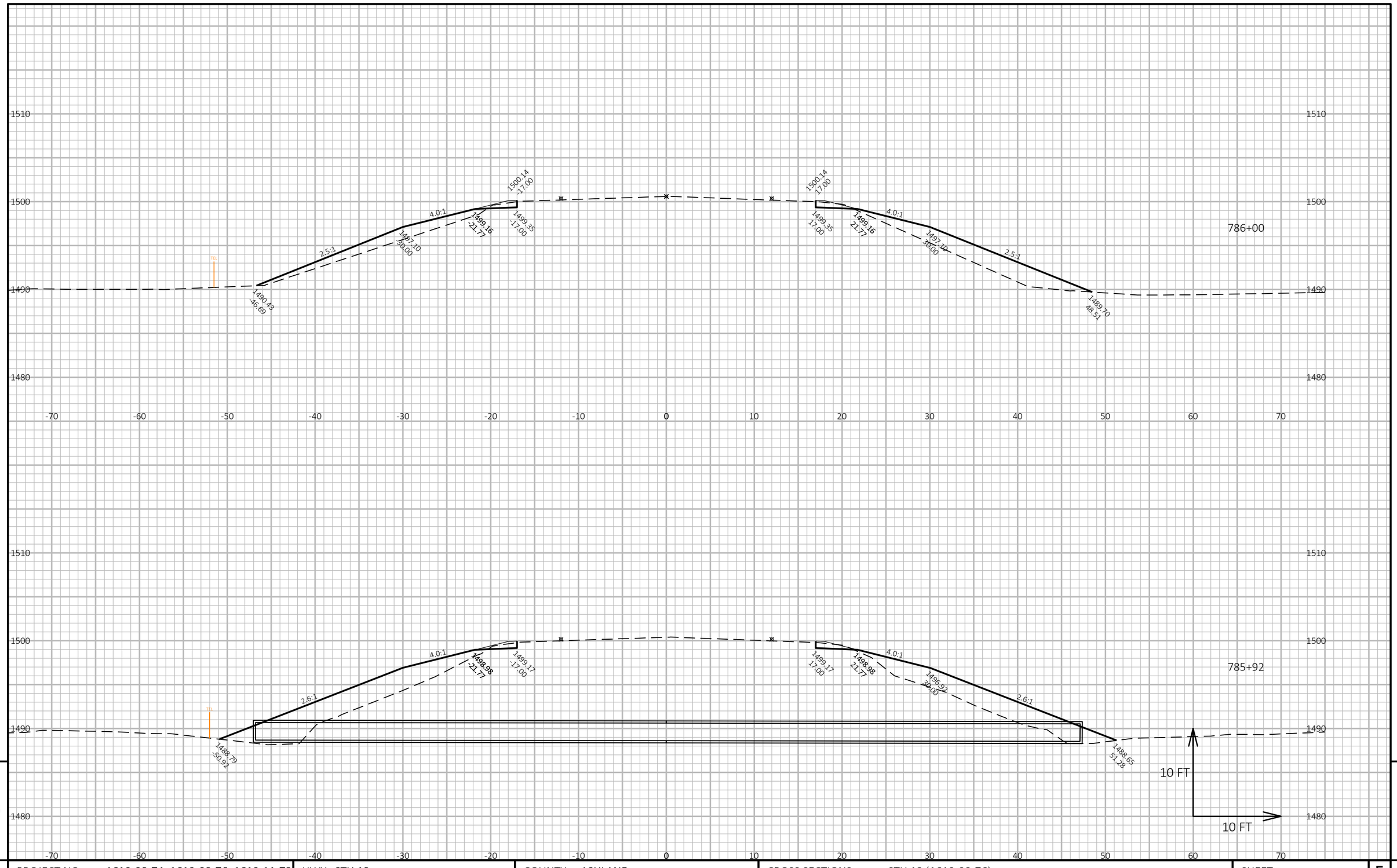
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LAYOUT NAME - XS-(37)

PLOT DATE : 9/26/2018 4:11 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

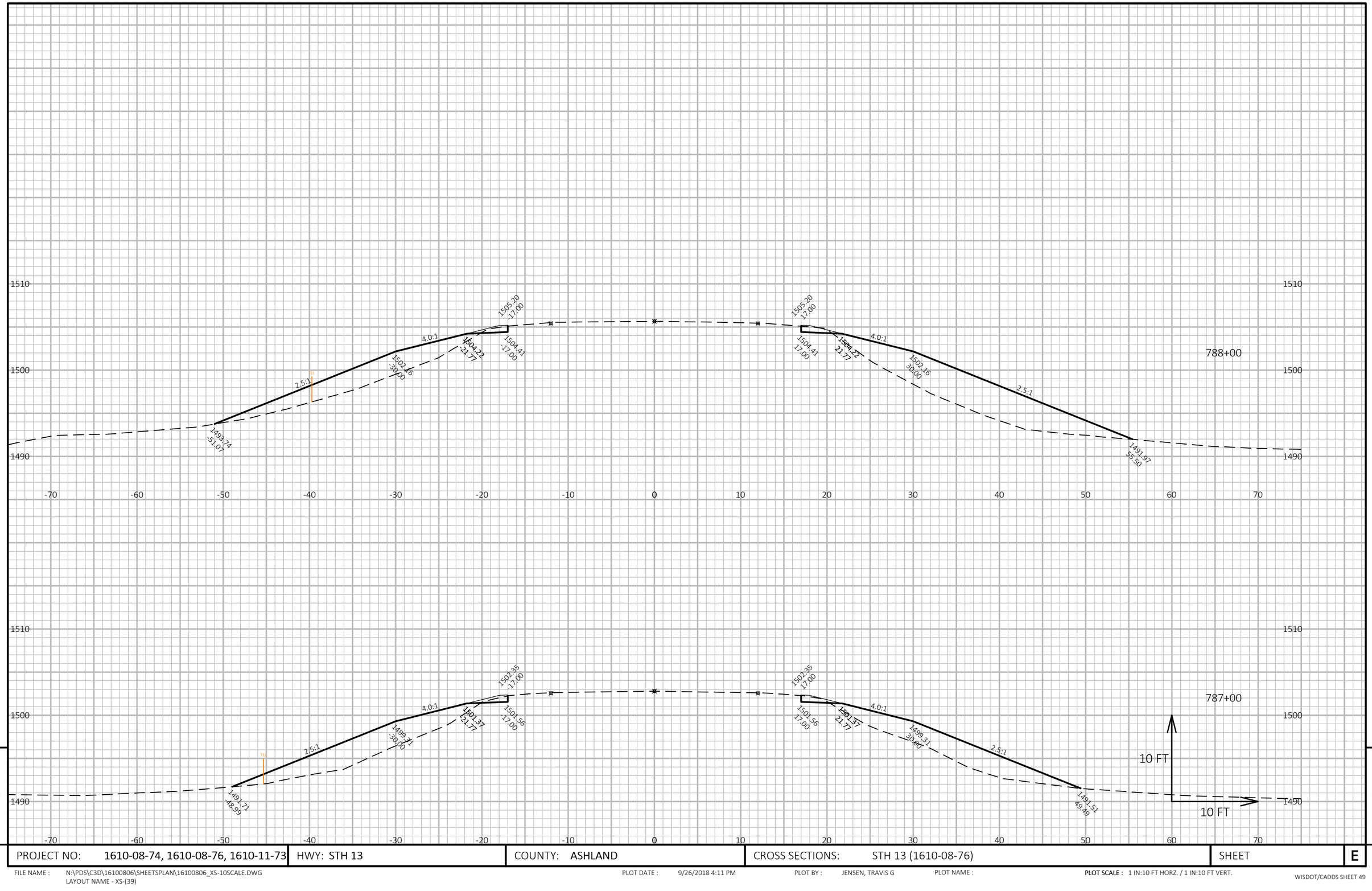
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LAYOUT NAME - XS-(38)

PLOT DATE : 9/26/2018 4:11 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(39)

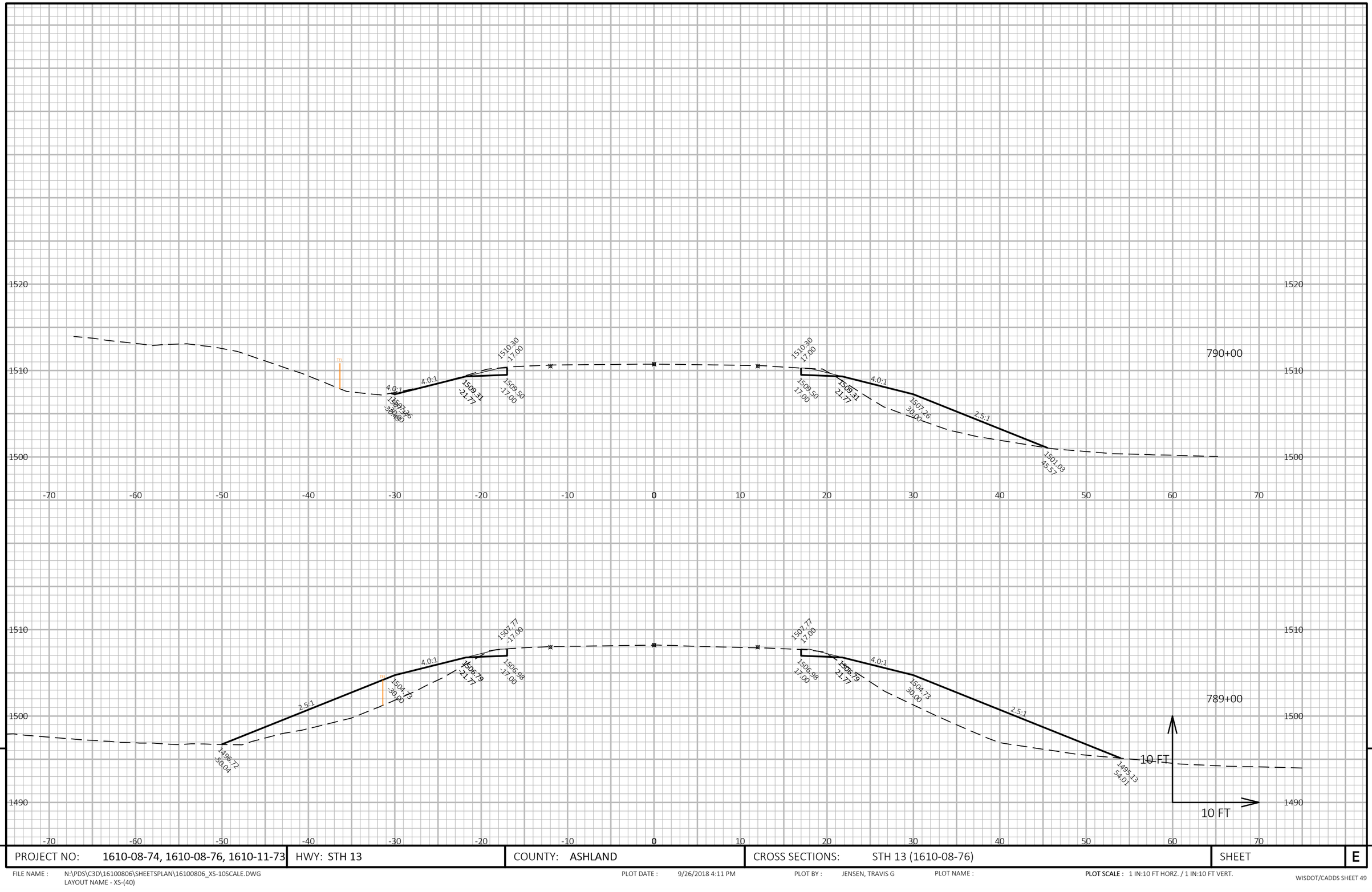
PLOT DATE : 9/26/2018 4:11 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(40)

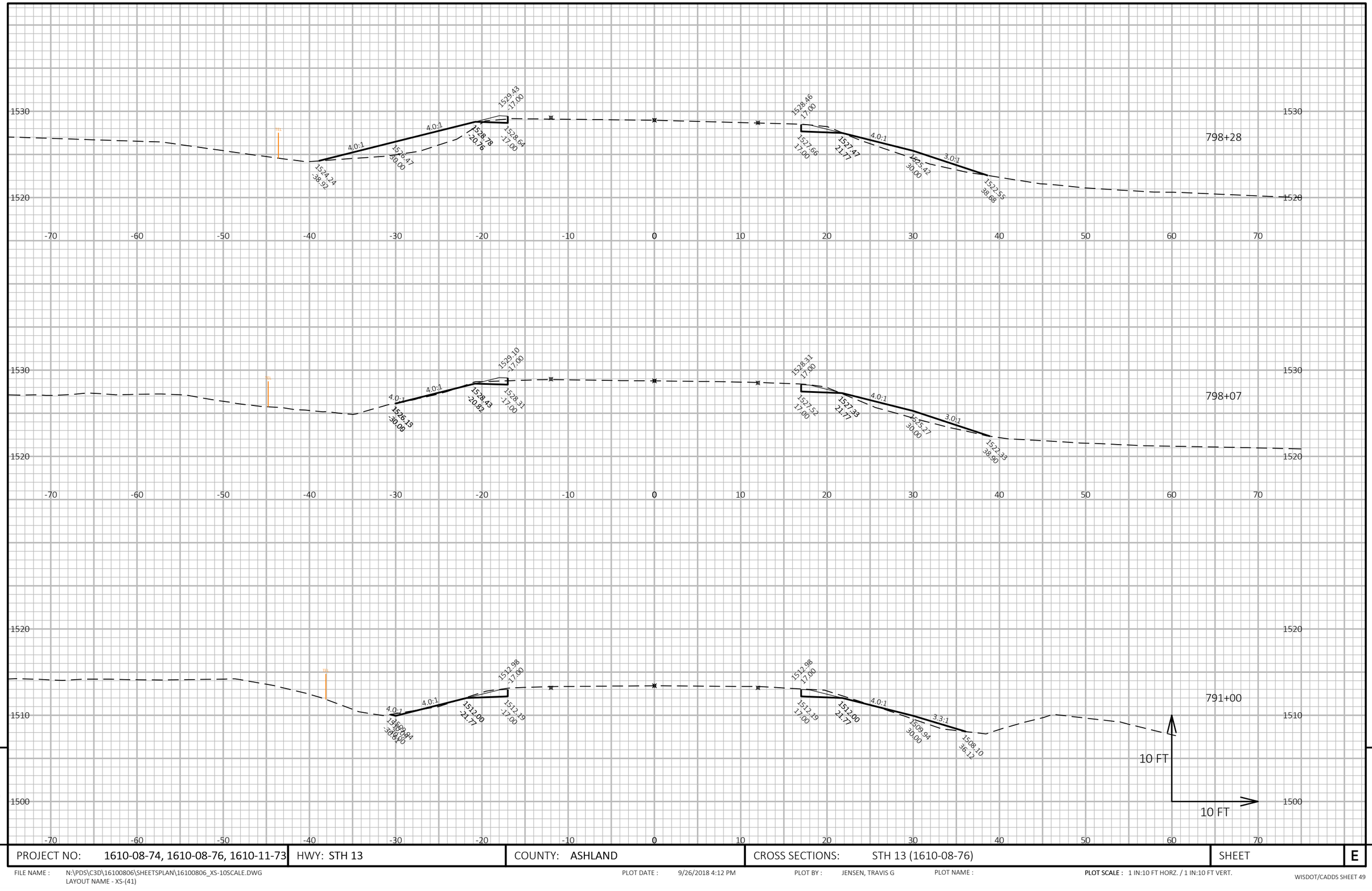
PLOT DATE : 9/26/2018 4:11 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
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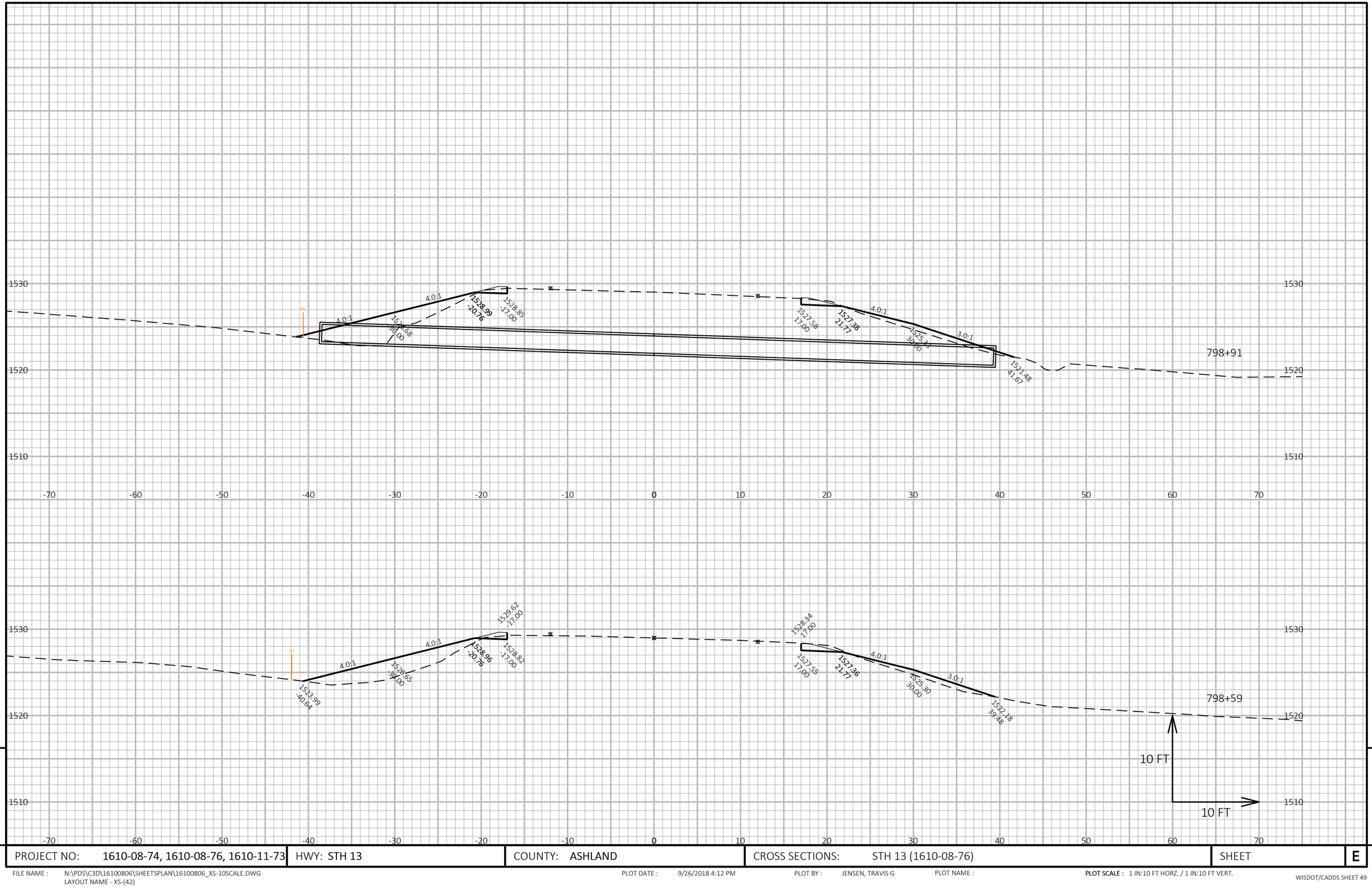
PLOT DATE : 9/26/2018 4:12 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

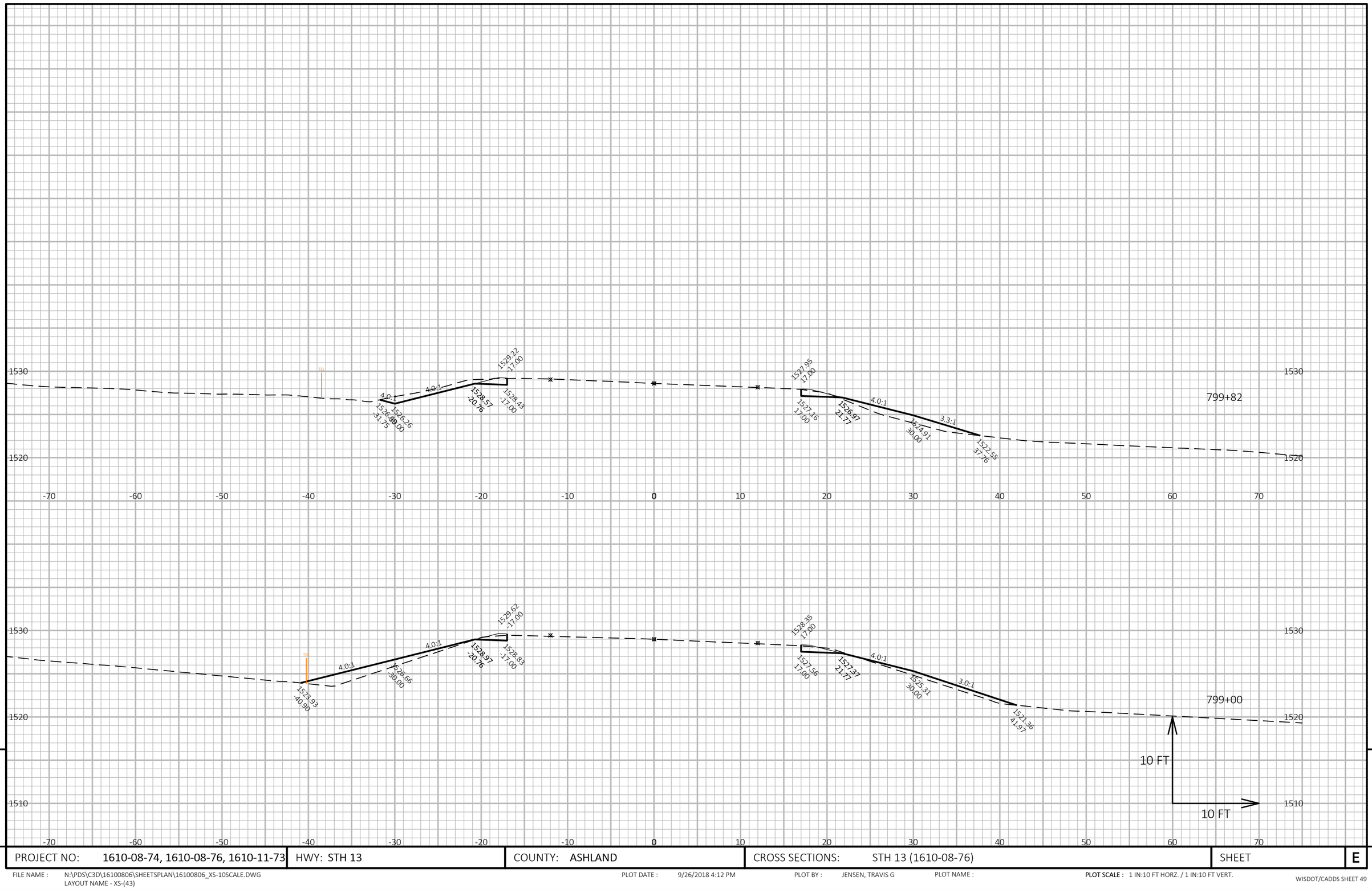
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LAYOUT NAME - XS-(42)

PLOT DATE : 9/26/2018 4:12 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

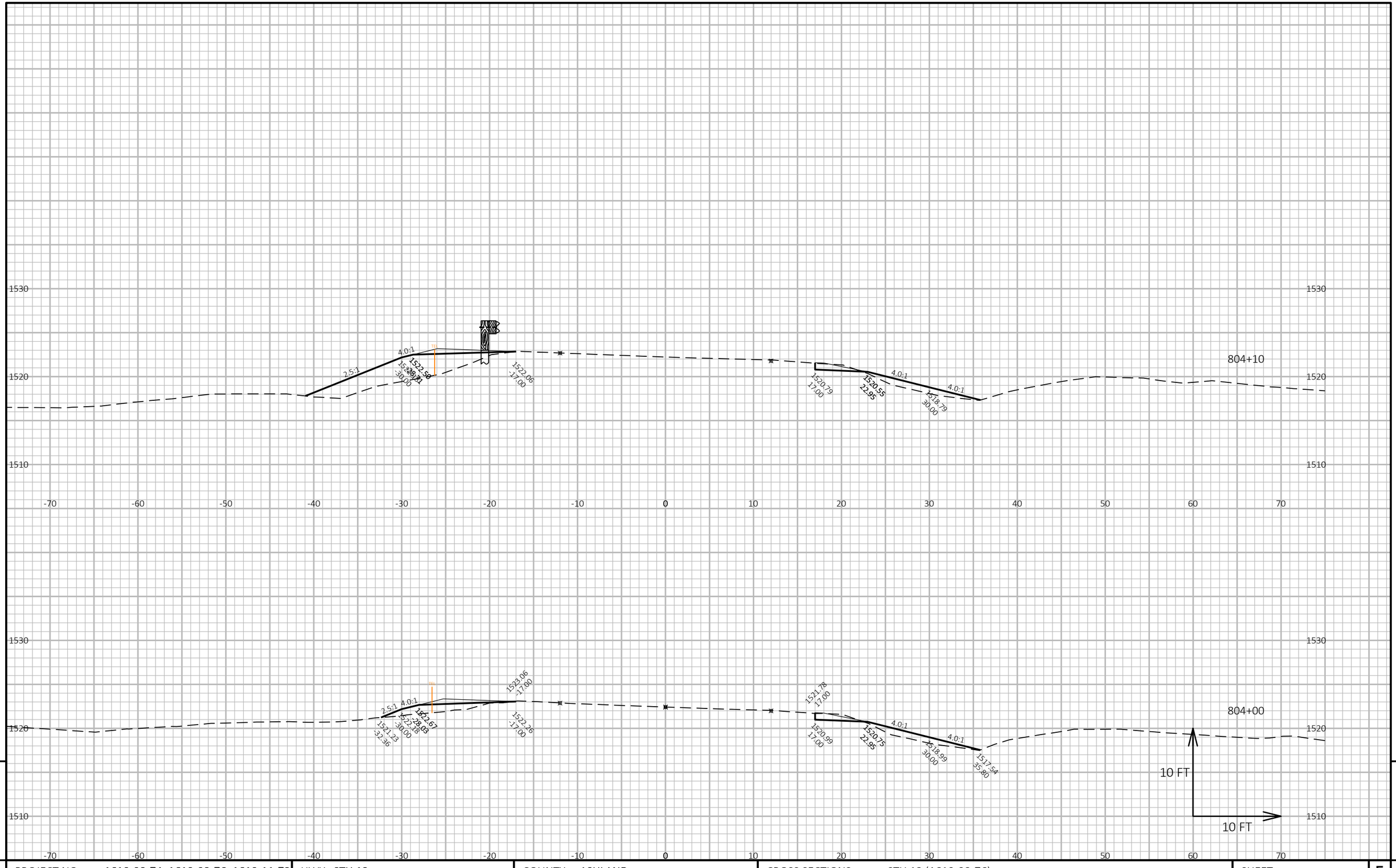
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LAYOUT NAME - XS-(43)

PLOT DATE : 9/26/2018 4:12 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

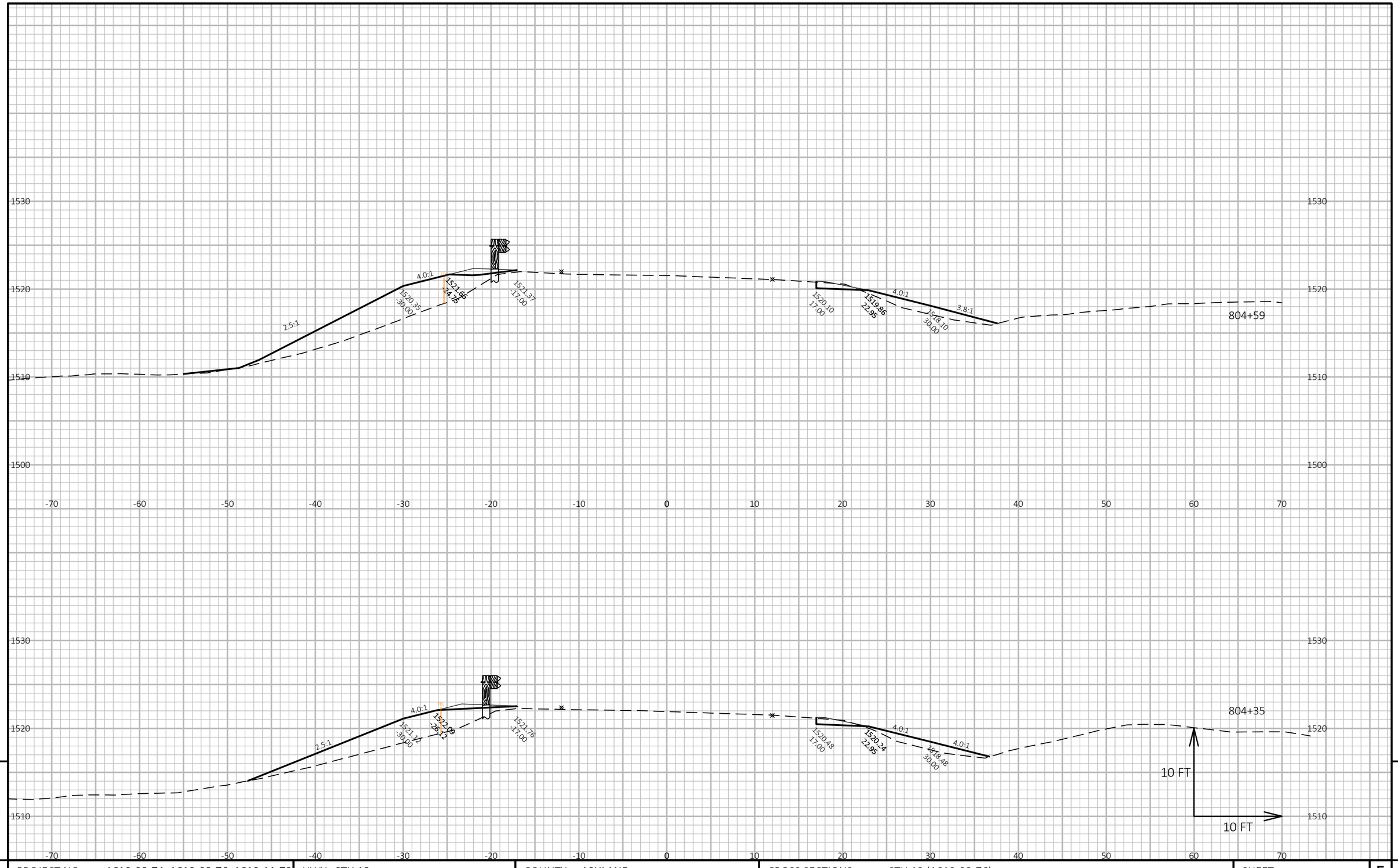
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LAYOUT NAME - XS-(44)

PLOT DATE : 9/26/2018 4:12 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

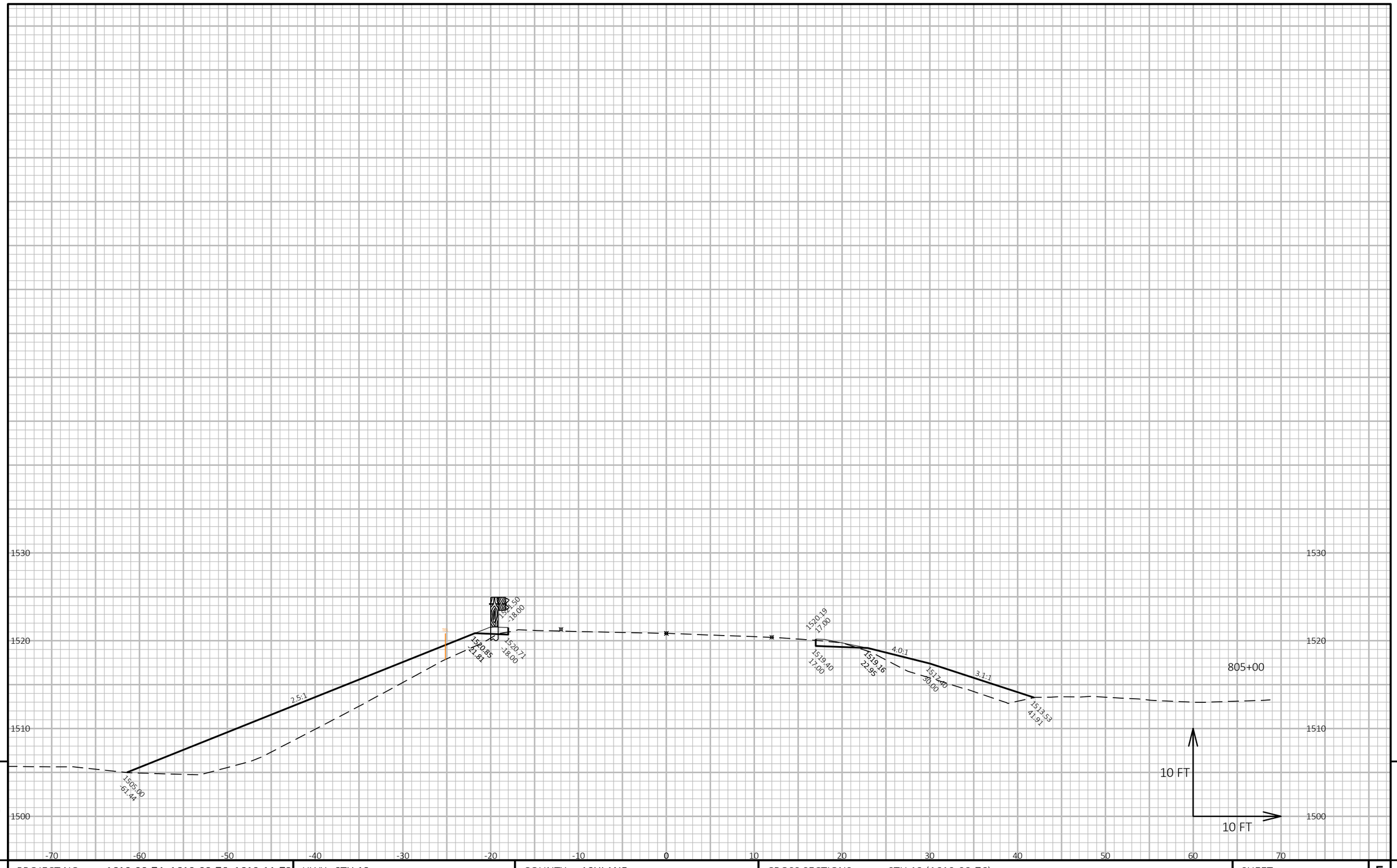
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LAYOUT NAME - XS-(45)

PLOT DATE : 9/26/2018 4:12 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

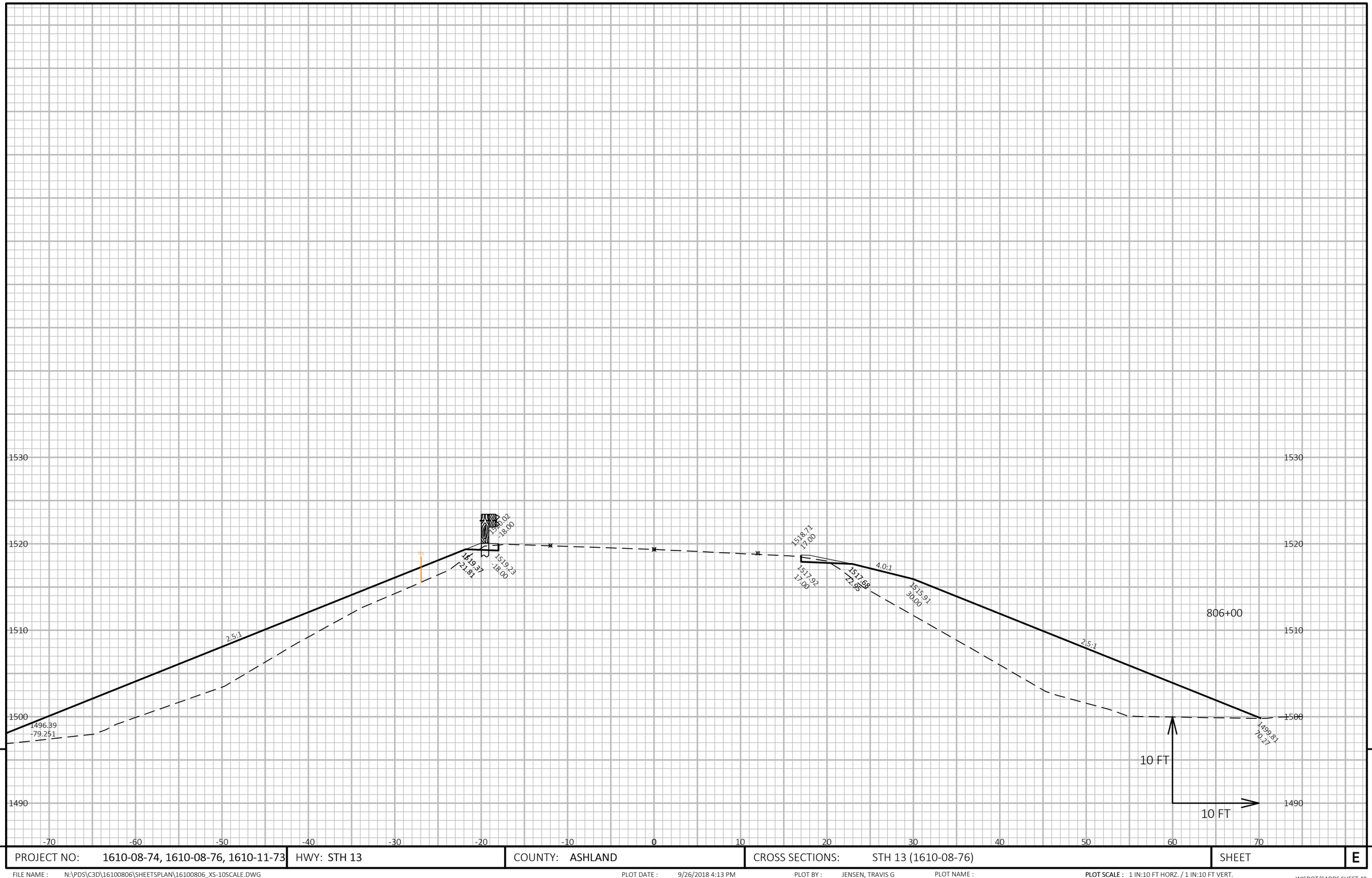
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LAYOUT NAME - XS-(46)

PLOT DATE : 9/26/2018 4:13 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(47)

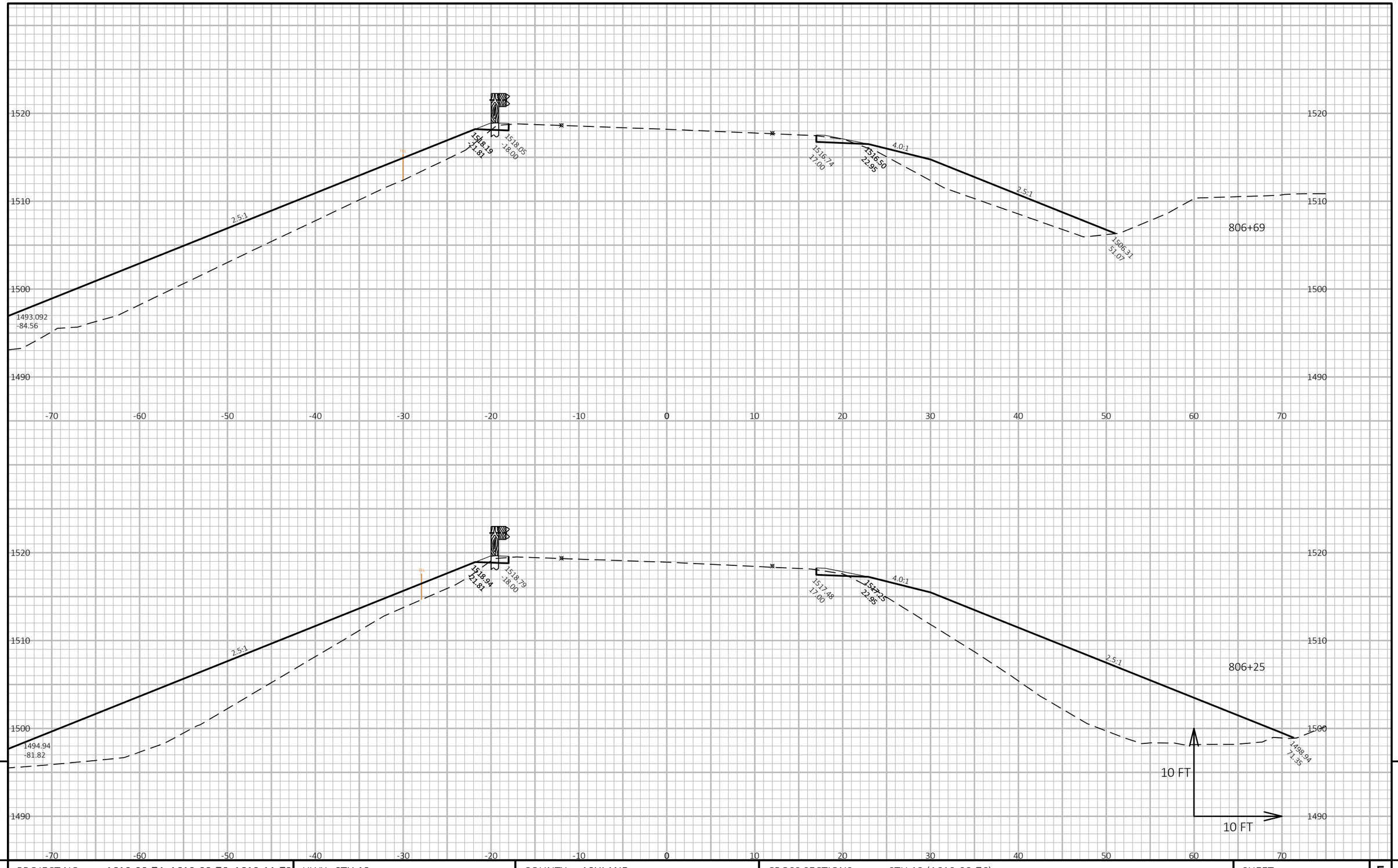
PLOT DATE : 9/26/2018 4:13 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

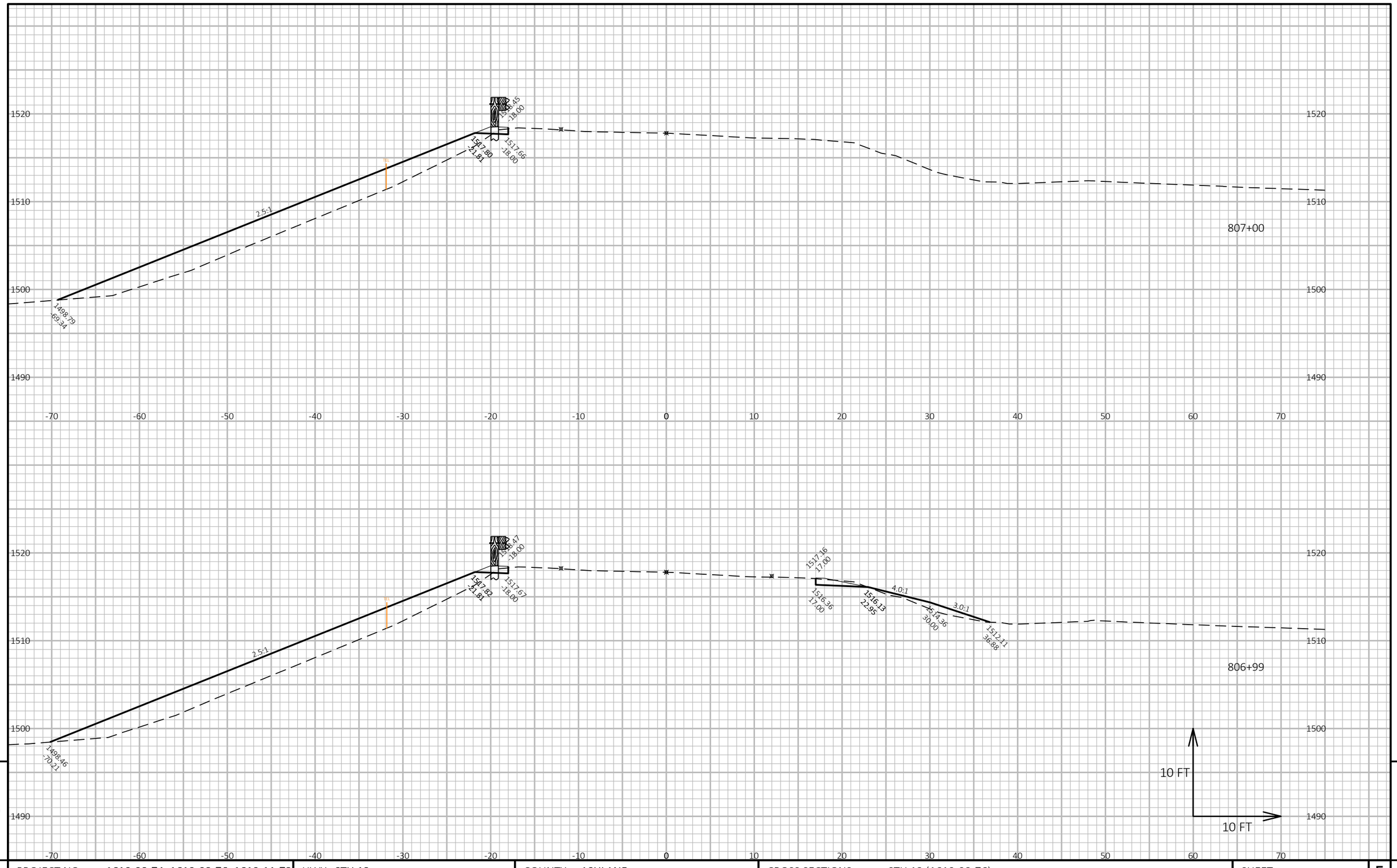
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LAYOUT NAME - XS-(48)

PLOT DATE : 9/26/2018 4:13 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(49)

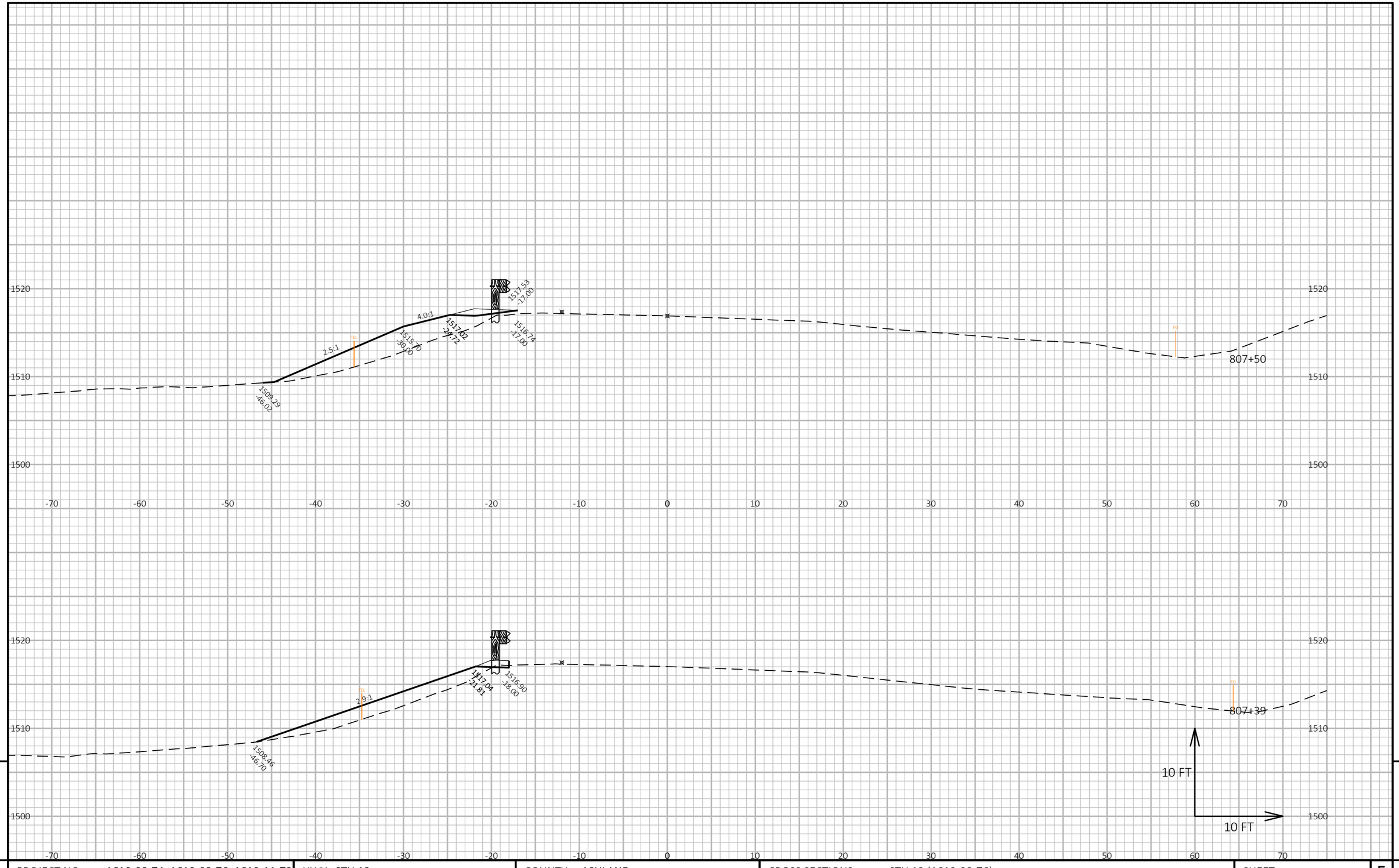
PLOT DATE : 9/26/2018 4:13 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(50)

PLOT DATE : 9/26/2018 4:13 PM

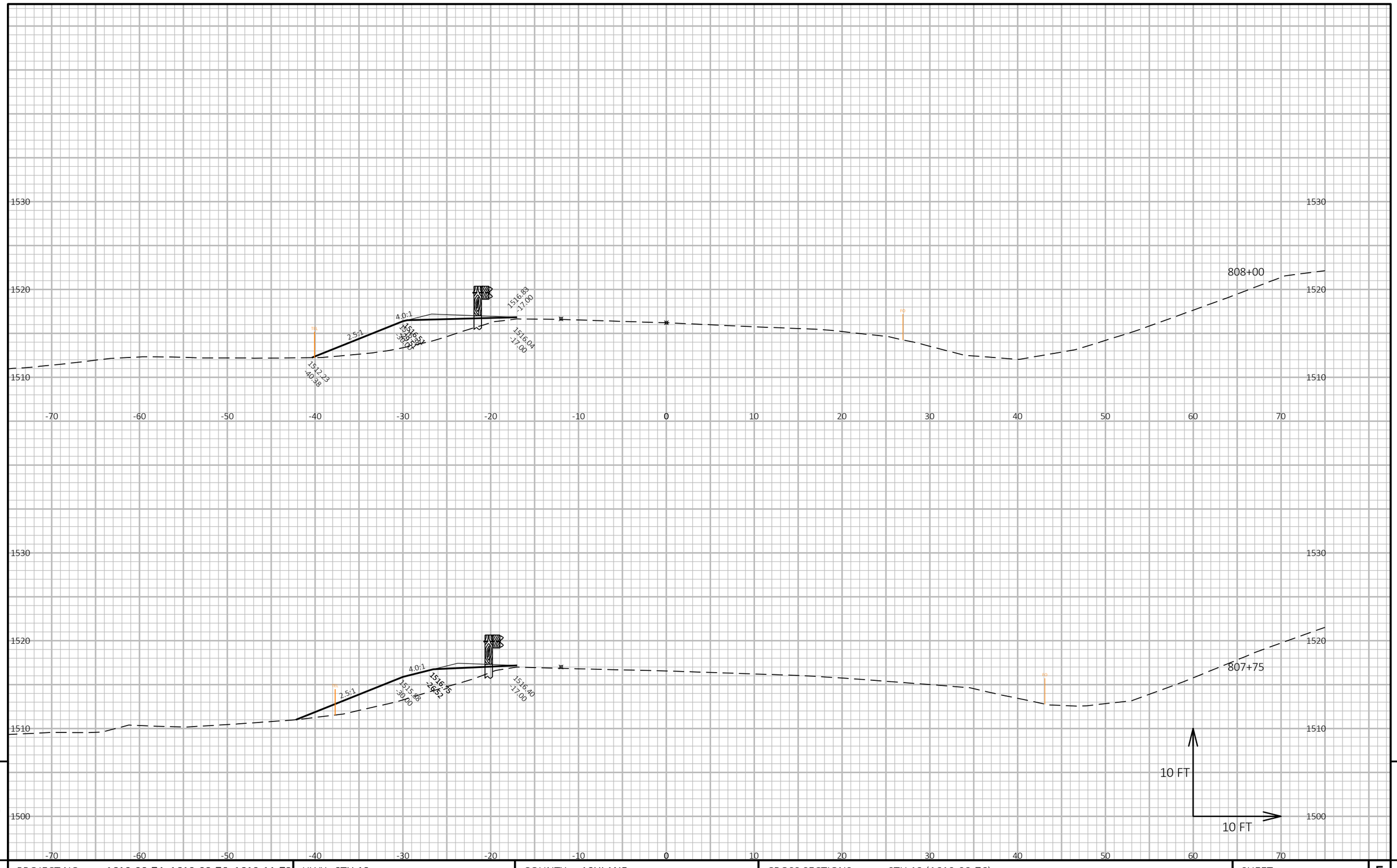
PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

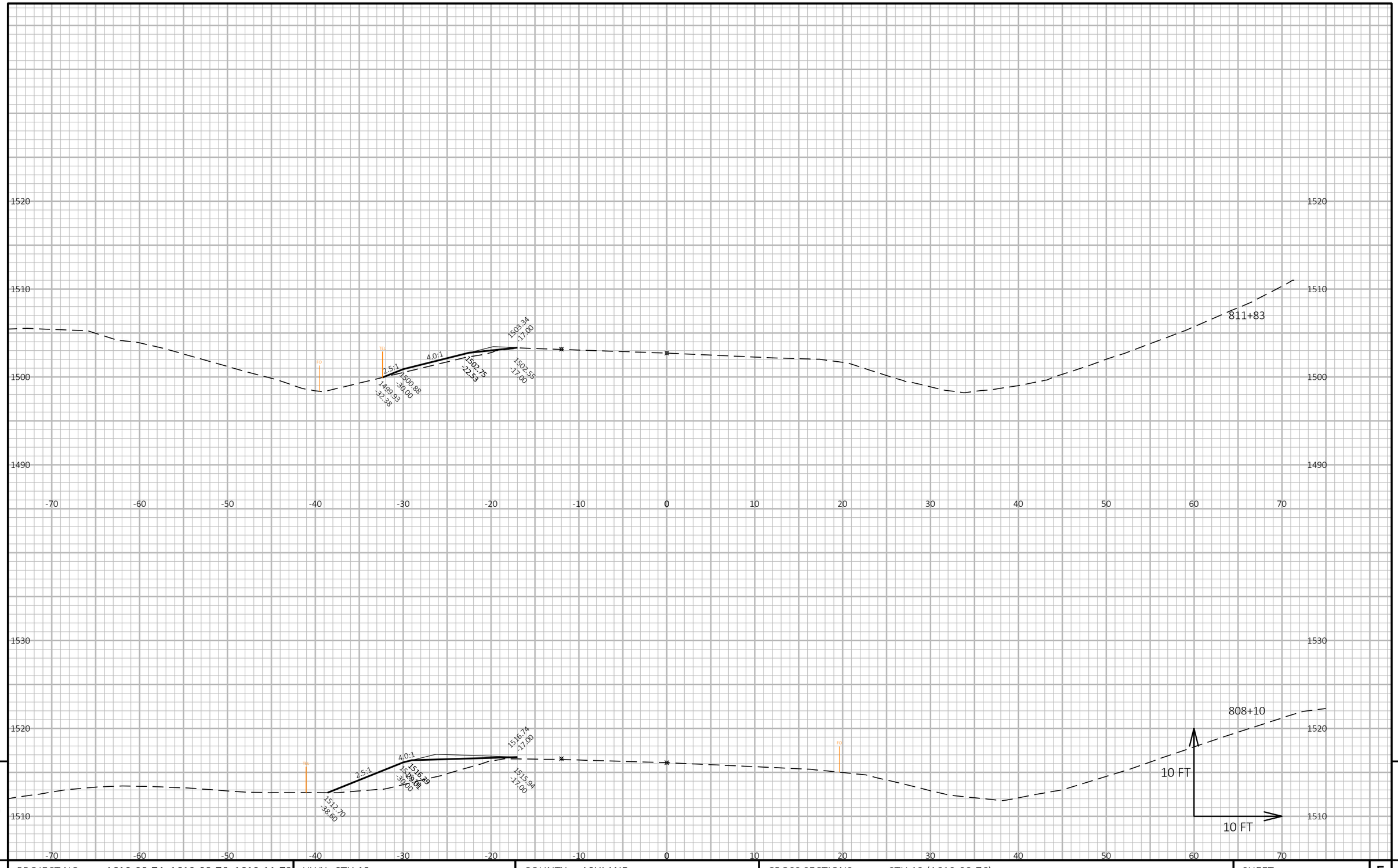
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LAYOUT NAME - XS-(51)

PLOT DATE : 9/26/2018 4:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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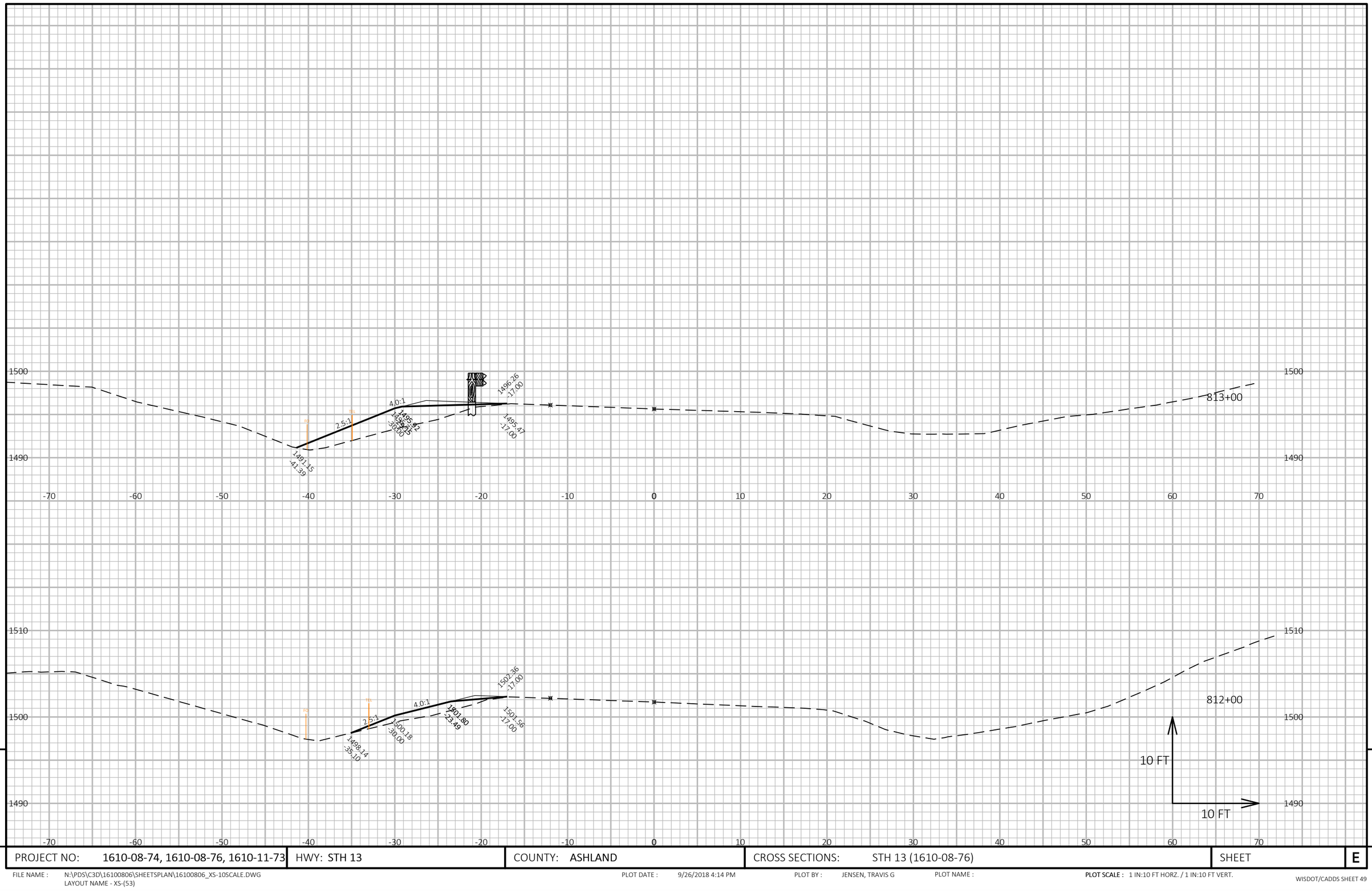
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LAYOUT NAME - XS-(52)

PLOT DATE : 9/26/2018 4:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

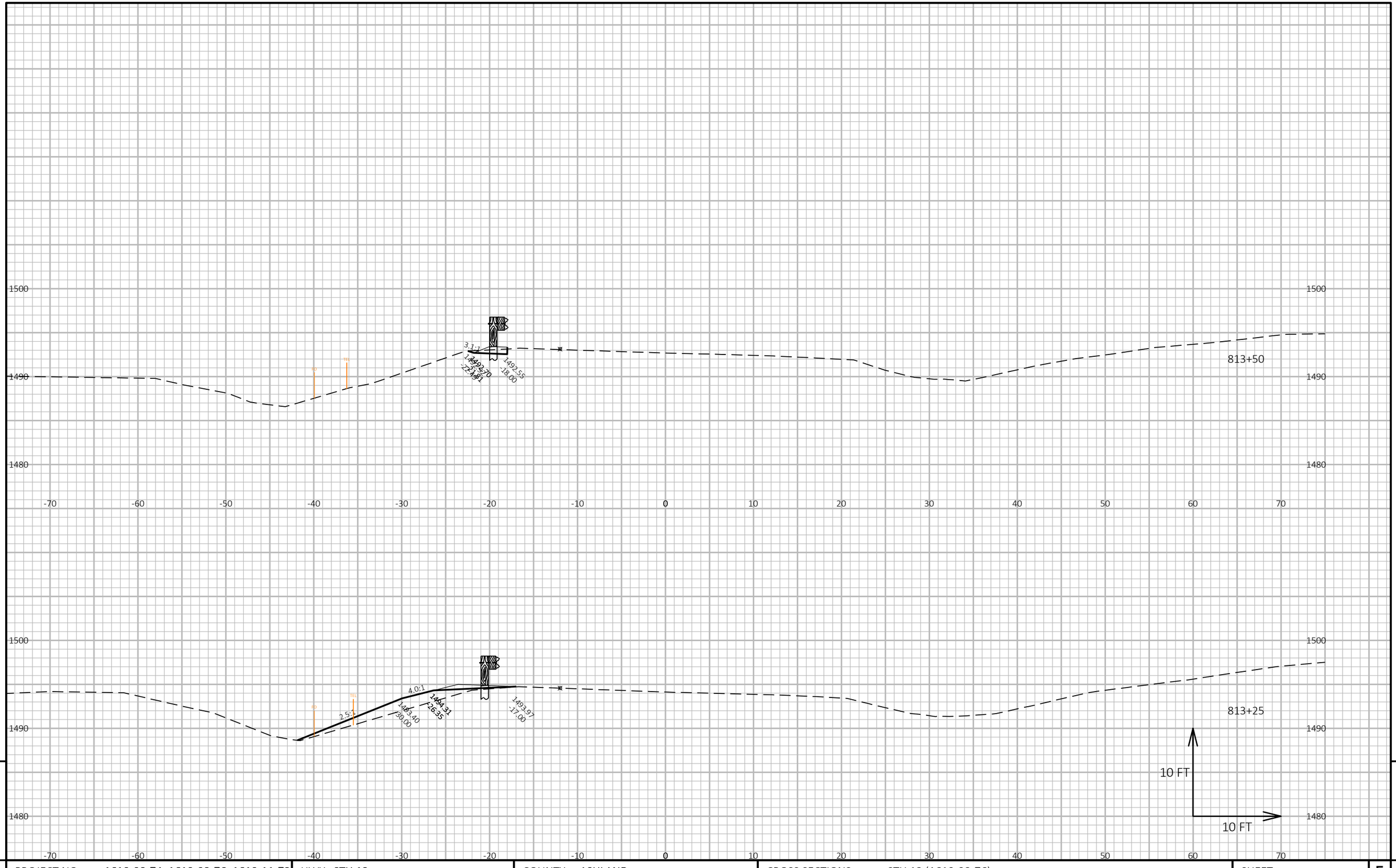
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LAYOUT NAME - XS-(53)

PLOT DATE : 9/26/2018 4:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

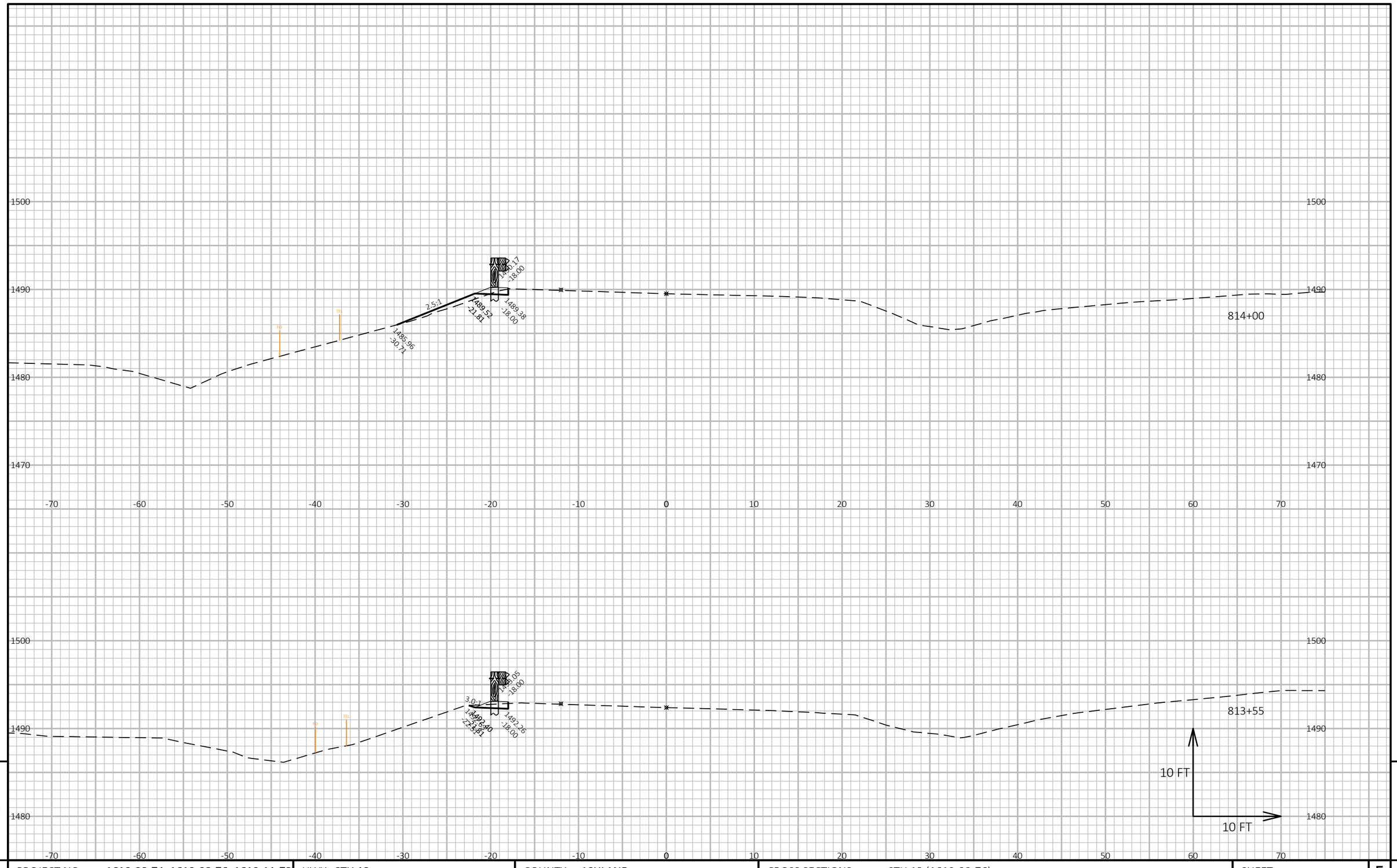
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LAYOUT NAME - XS-(54)

PLOT DATE : 9/26/2018 4:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

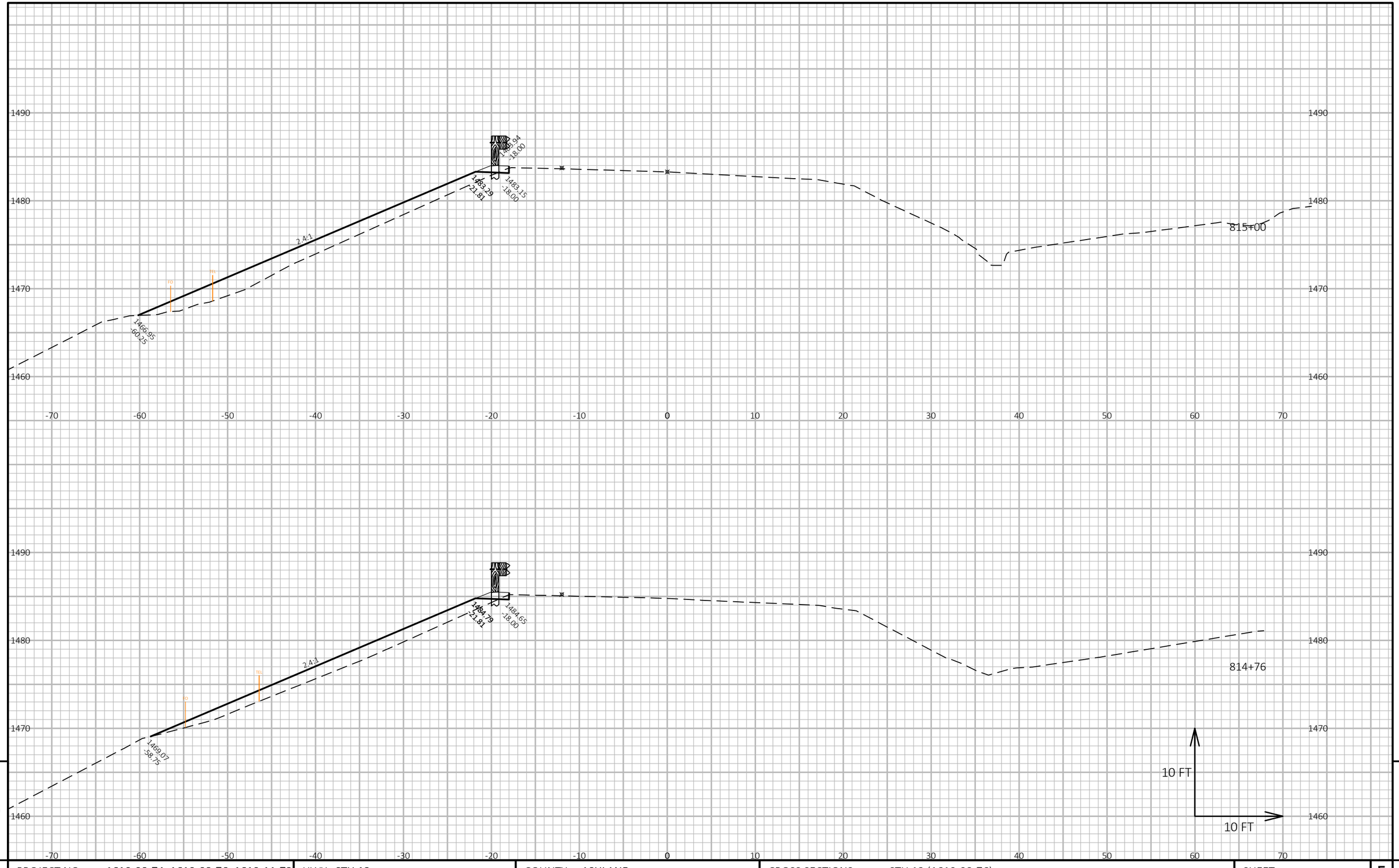
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LAYOUT NAME - XS-(55)

PLOT DATE : 9/26/2018 4:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

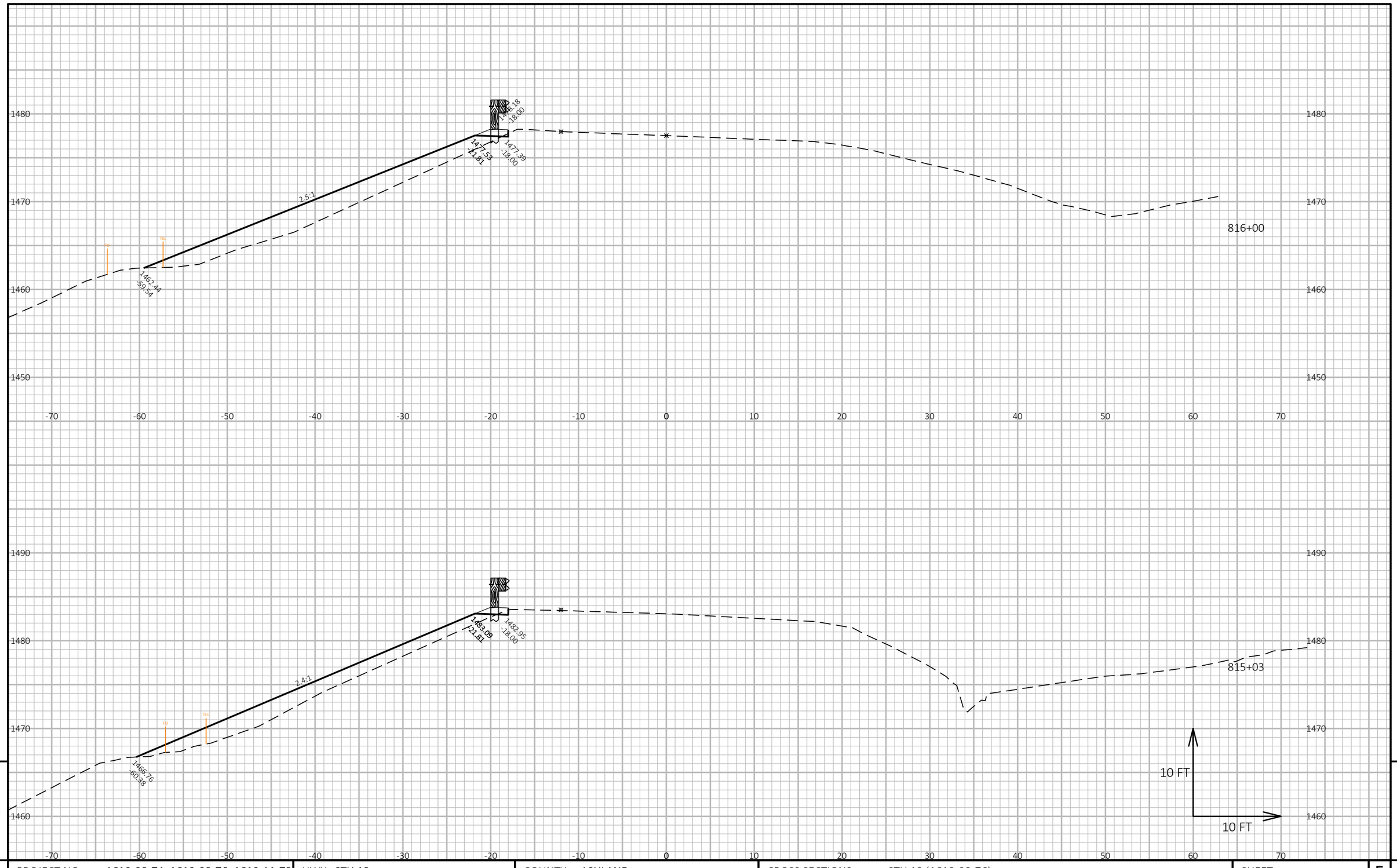
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LAYOUT NAME - XS-(56)

PLOT DATE : 9/26/2018 4:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

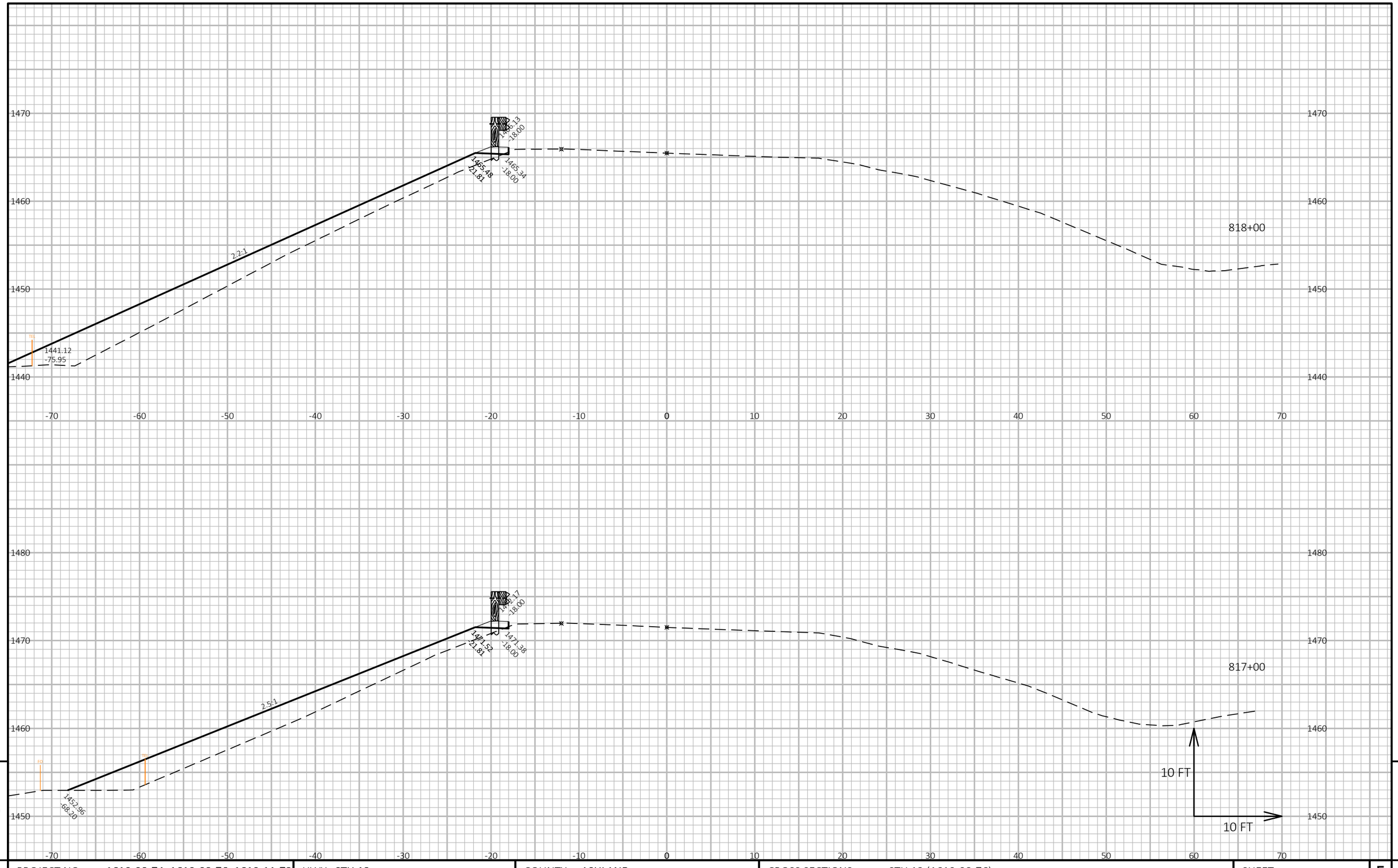
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LAYOUT NAME - XS-(57)

PLOT DATE : 9/26/2018 4:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

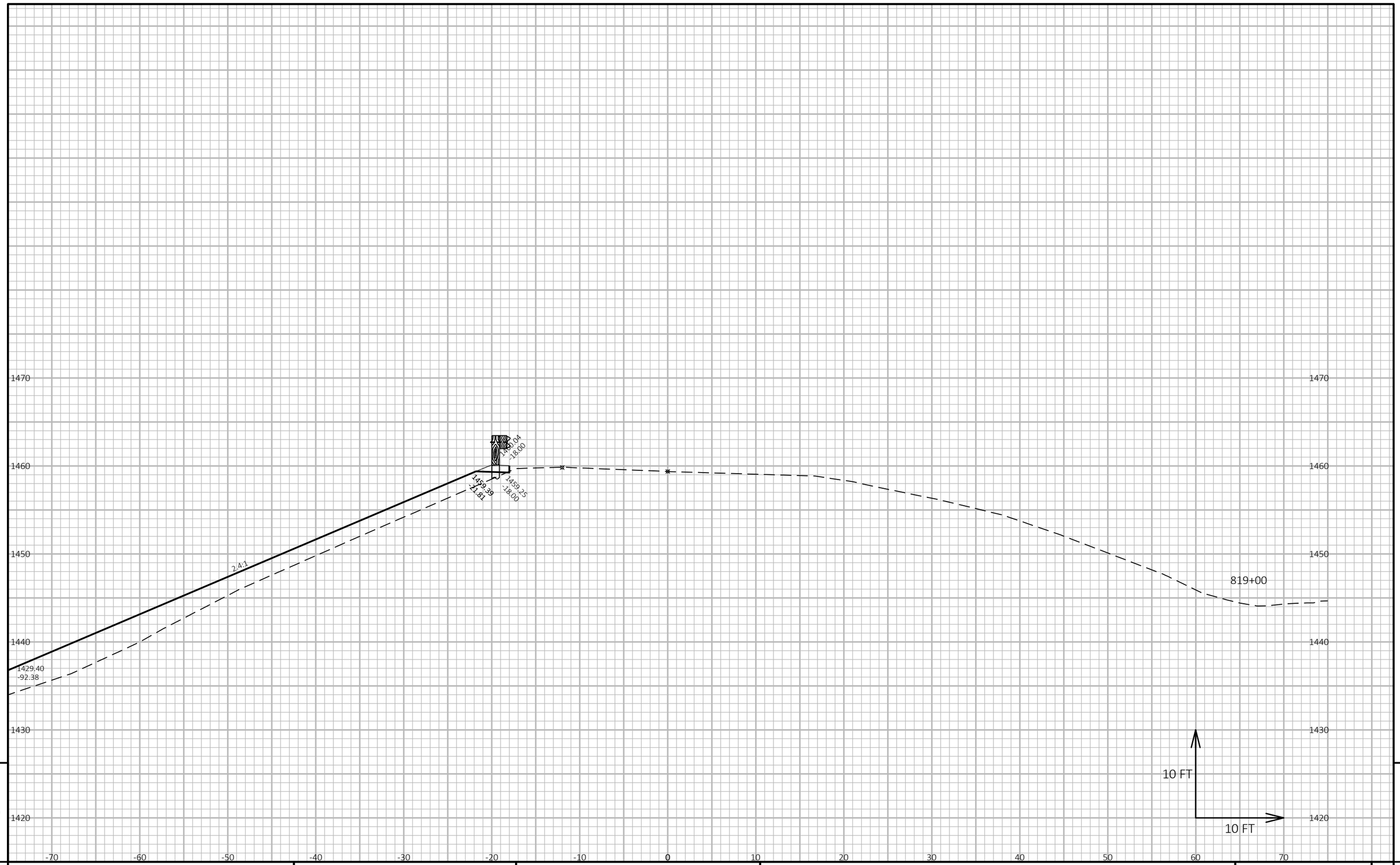
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LAYOUT NAME - XS-(58)

PLOT DATE : 9/26/2018 4:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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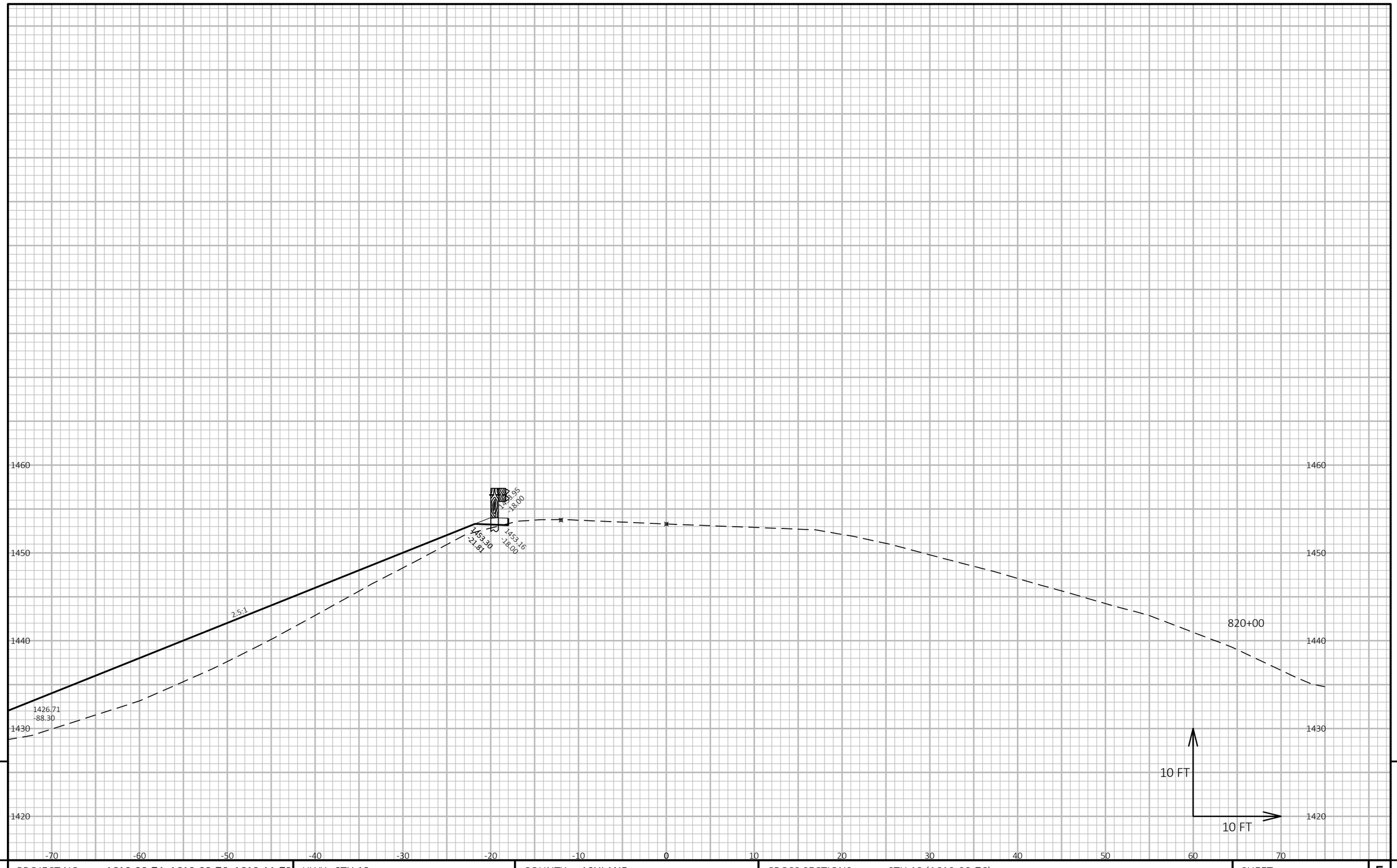
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LAYOUT NAME - XS-(59)

PLOT DATE : 9/26/2018 4:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

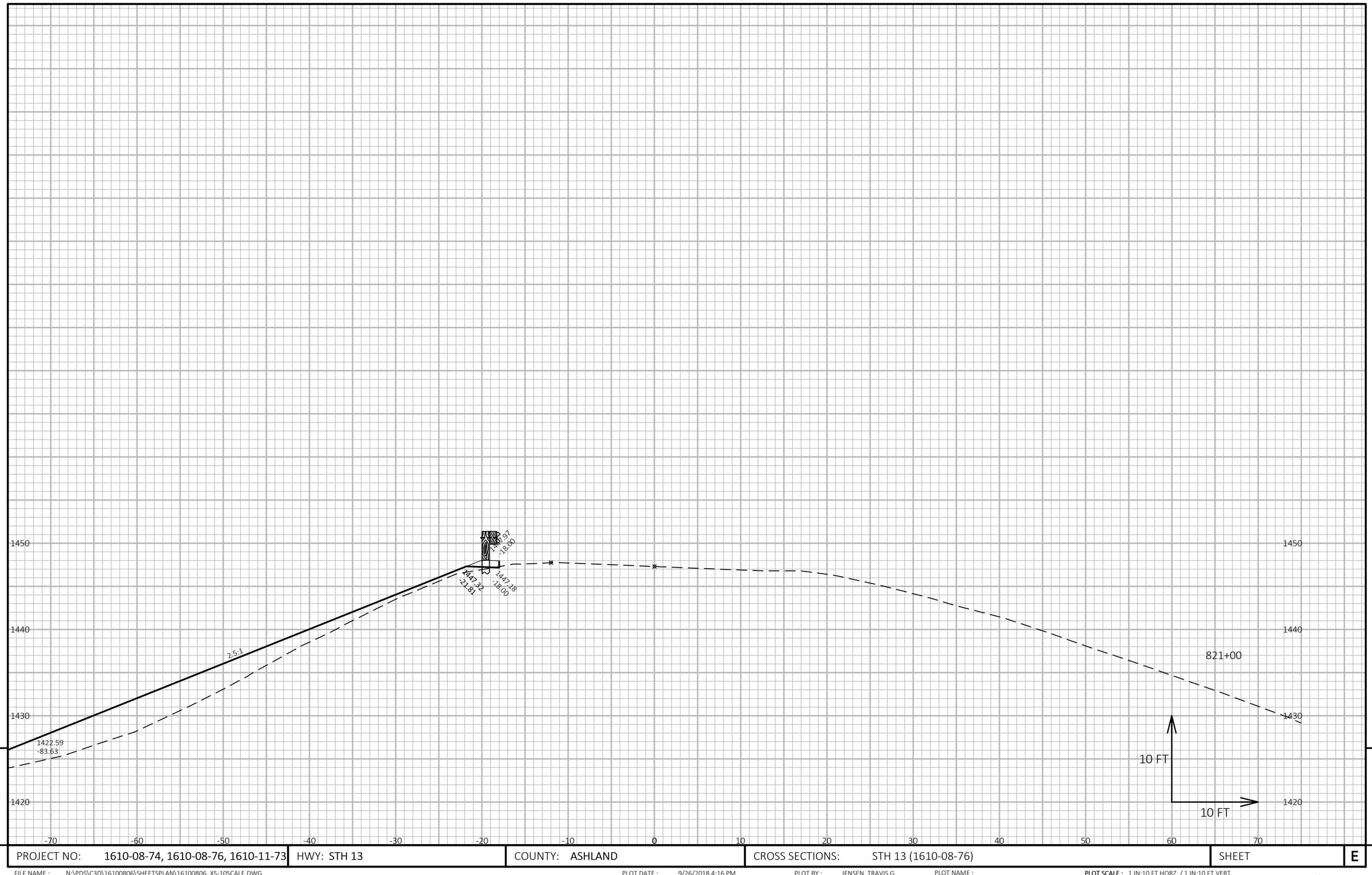
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LAYOUT NAME - XS-(60)

PLOT DATE : 9/26/2018 4:15 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

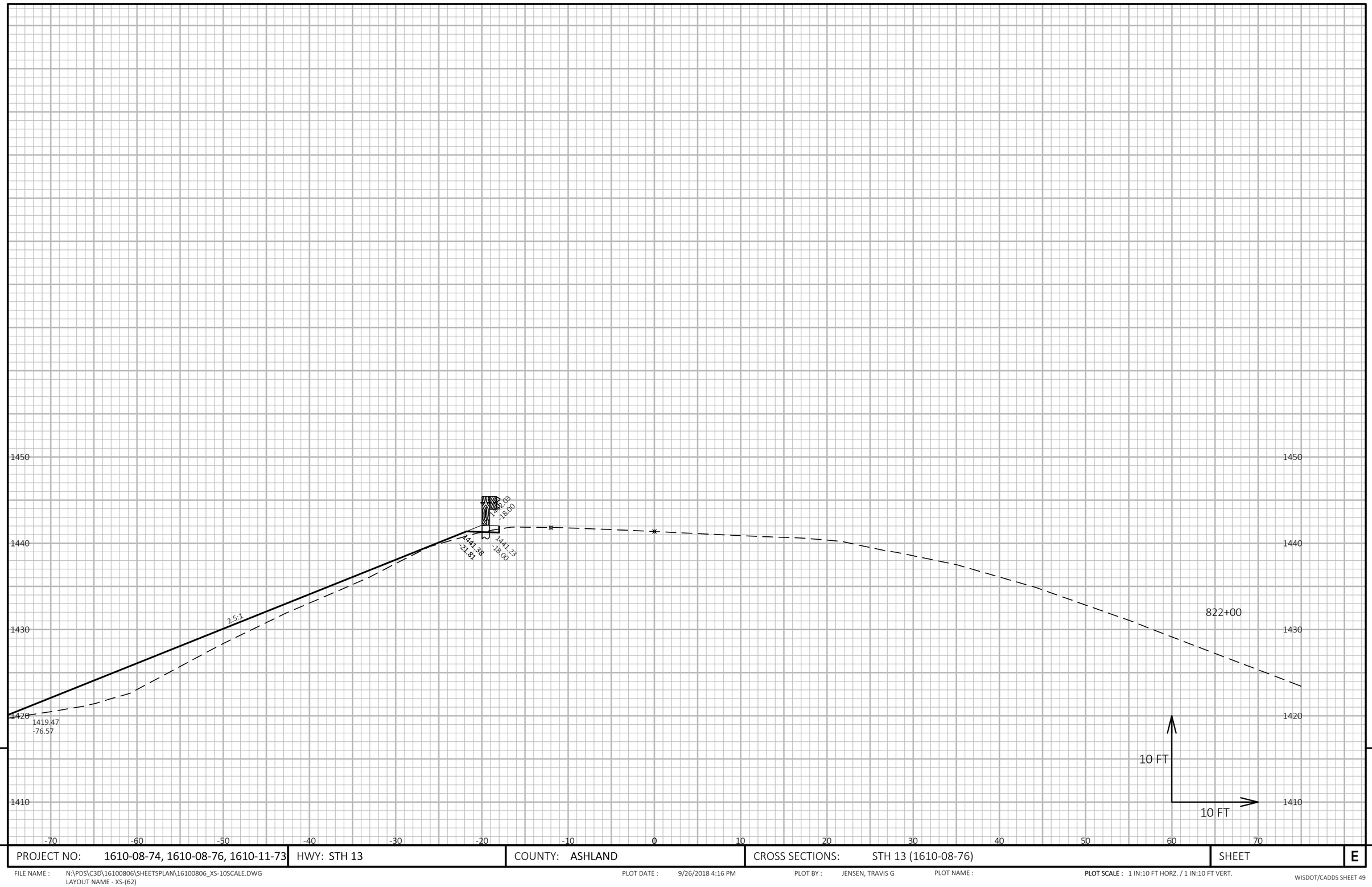
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LAYOUT NAME - XS-(61)

PLOT DATE : 9/26/2018 4:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

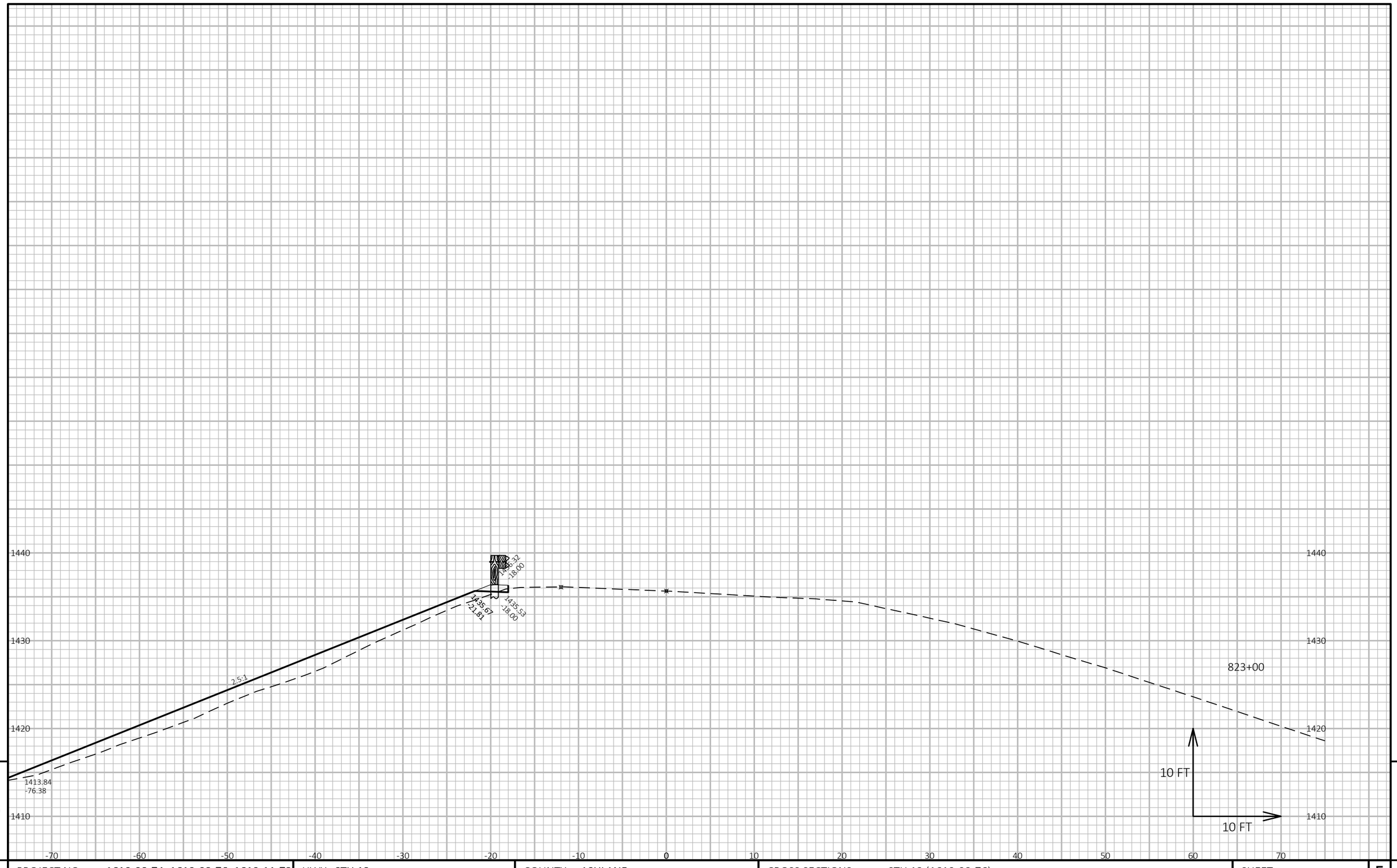
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LAYOUT NAME - XS-(62)

PLOT DATE : 9/26/2018 4:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

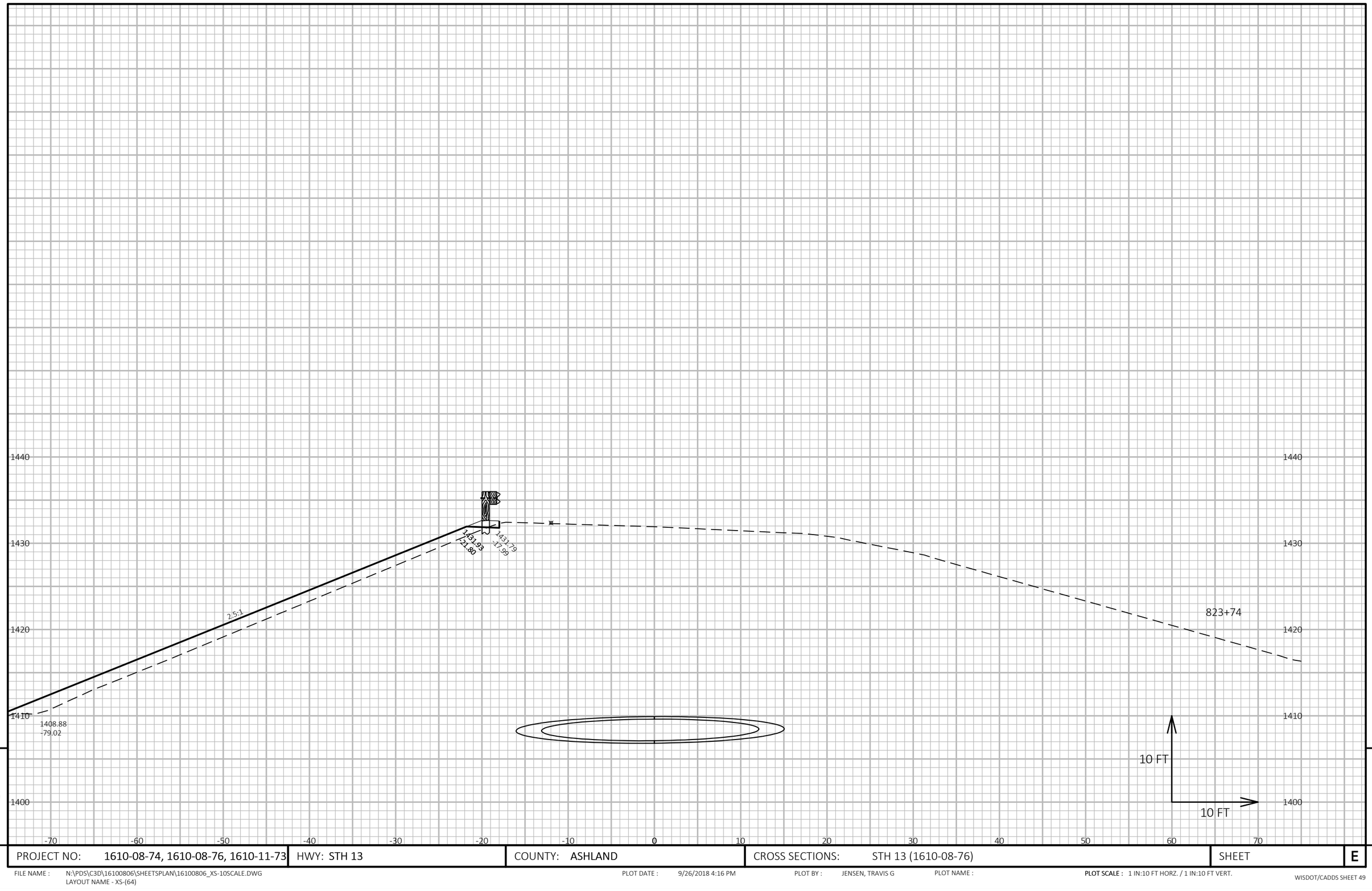
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LAYOUT NAME - XS-(63)

PLOT DATE : 9/26/2018 4:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

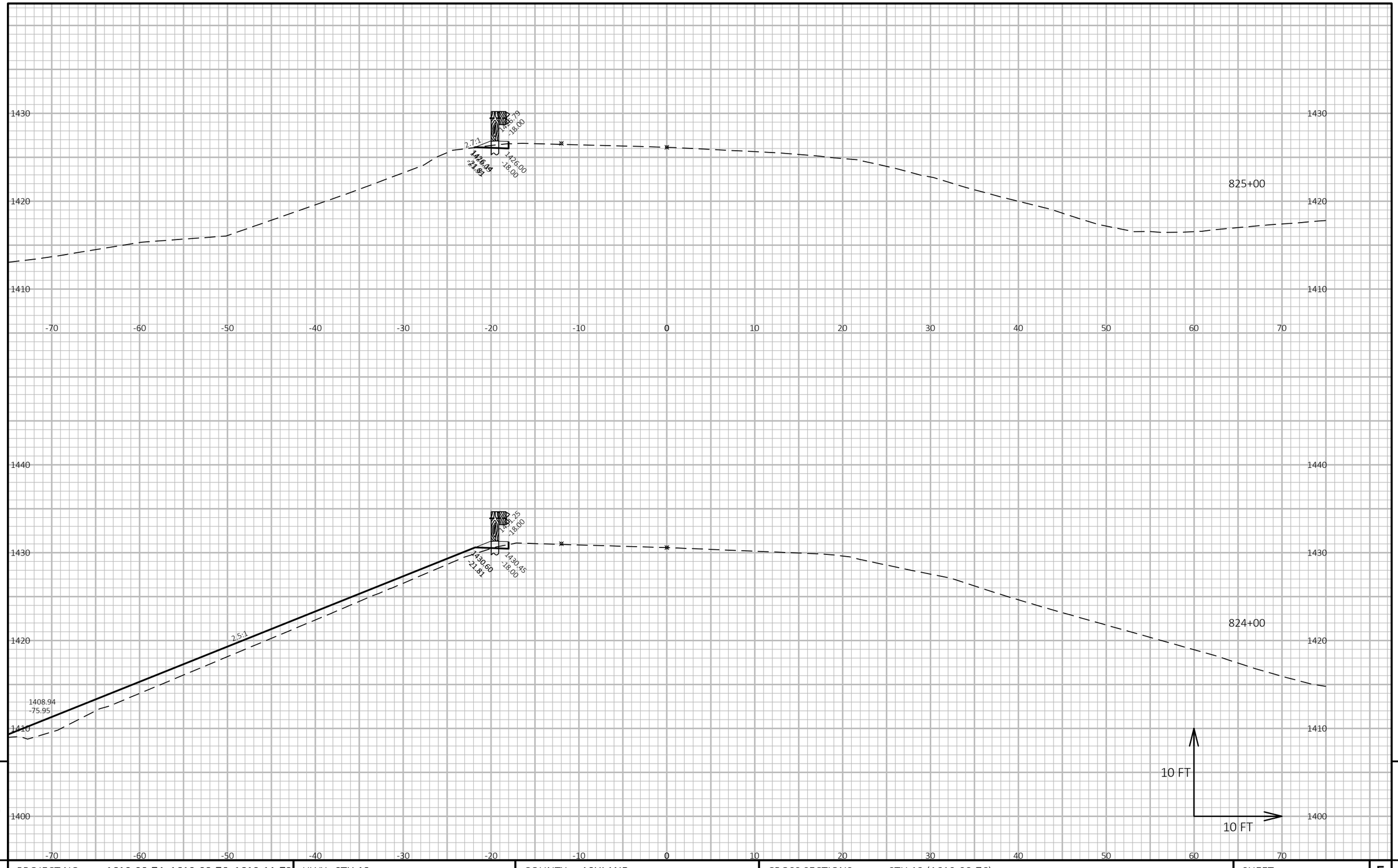
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LAYOUT NAME - XS-(64)

PLOT DATE : 9/26/2018 4:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

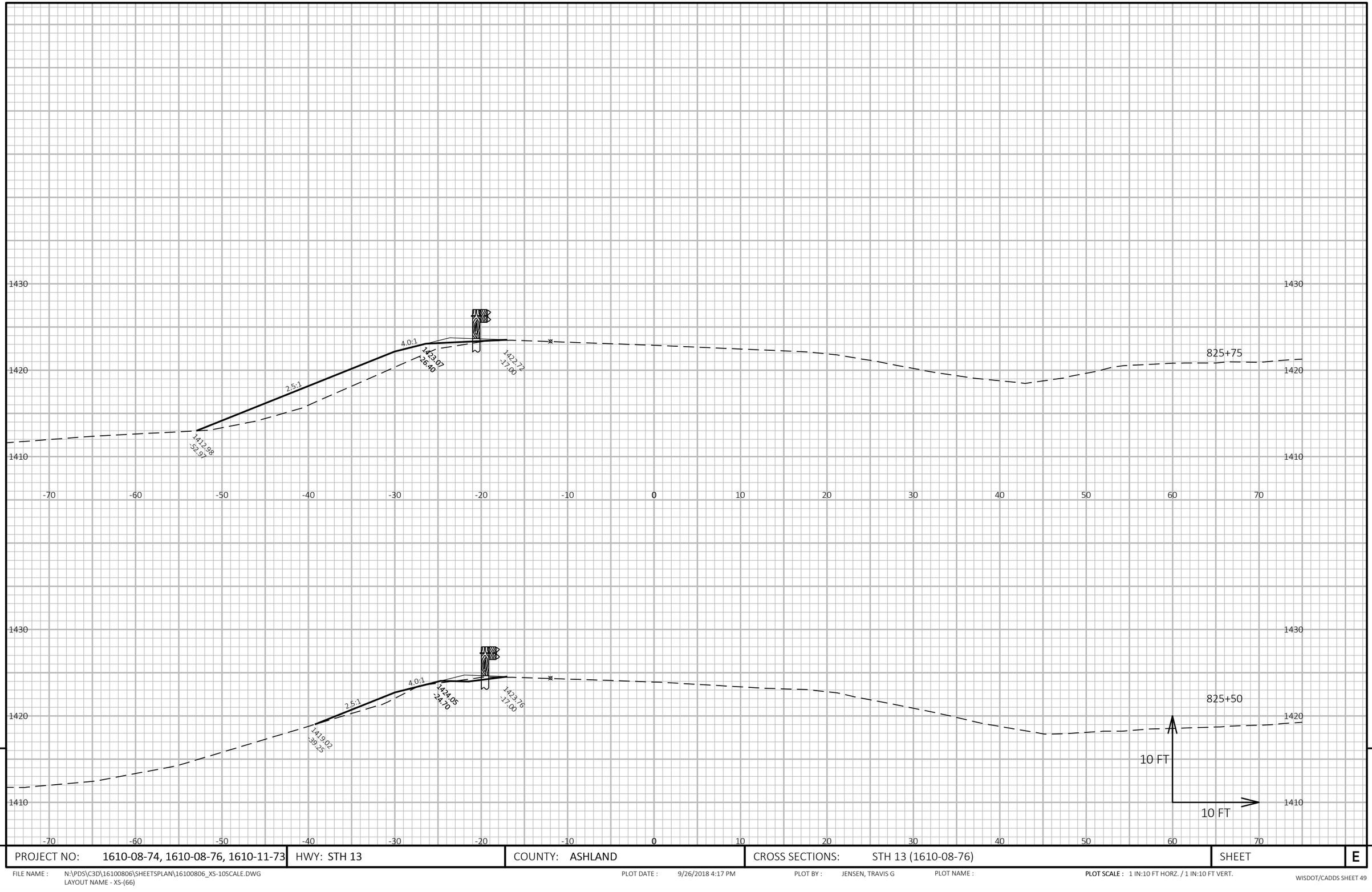
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LAYOUT NAME - XS-(65)

PLOT DATE : 9/26/2018 4:16 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

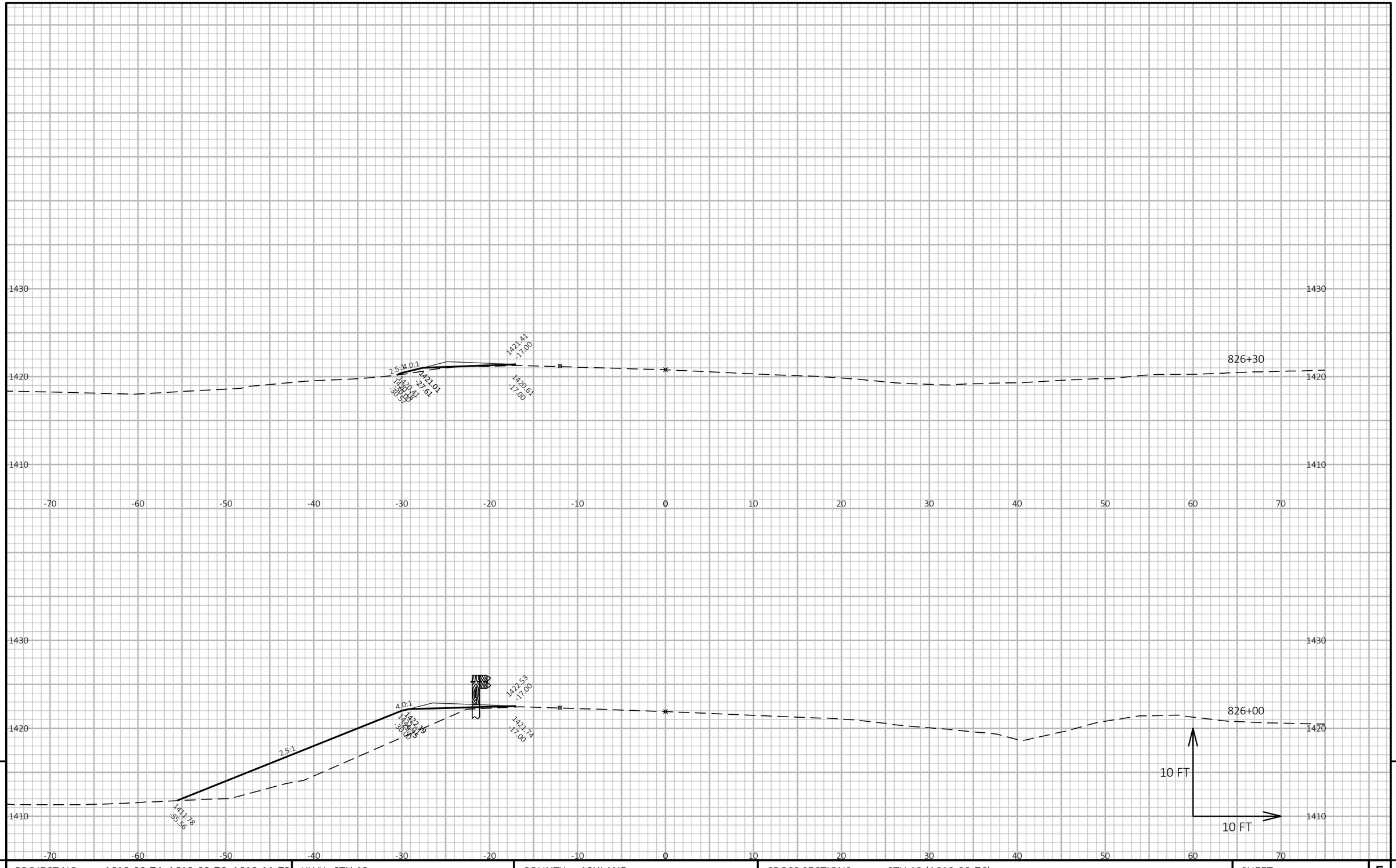
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LAYOUT NAME - XS-(66)

PLOT DATE : 9/26/2018 4:17 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

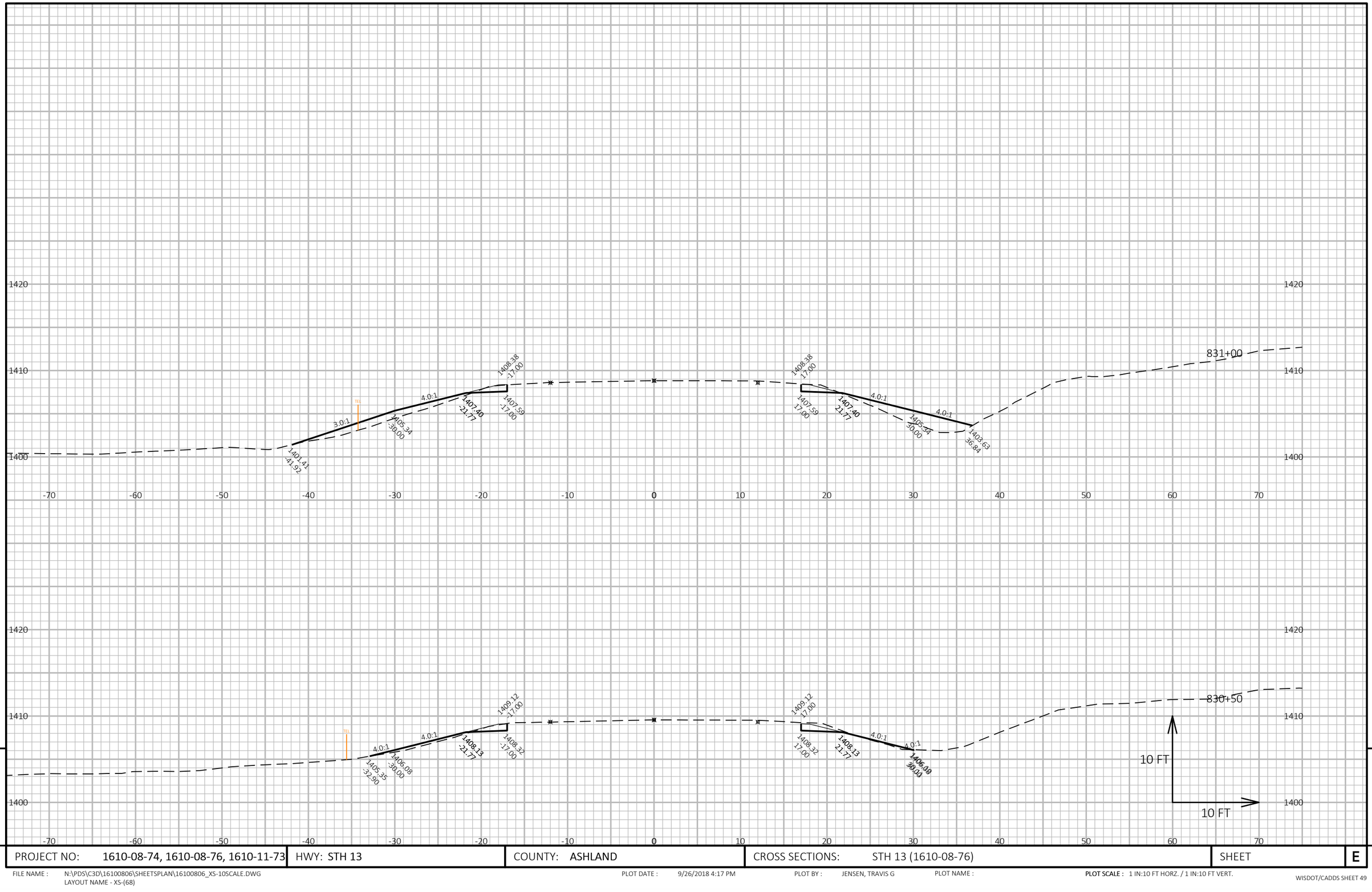
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LAYOUT NAME - XS-(67)

PLOT DATE : 9/26/2018 4:17 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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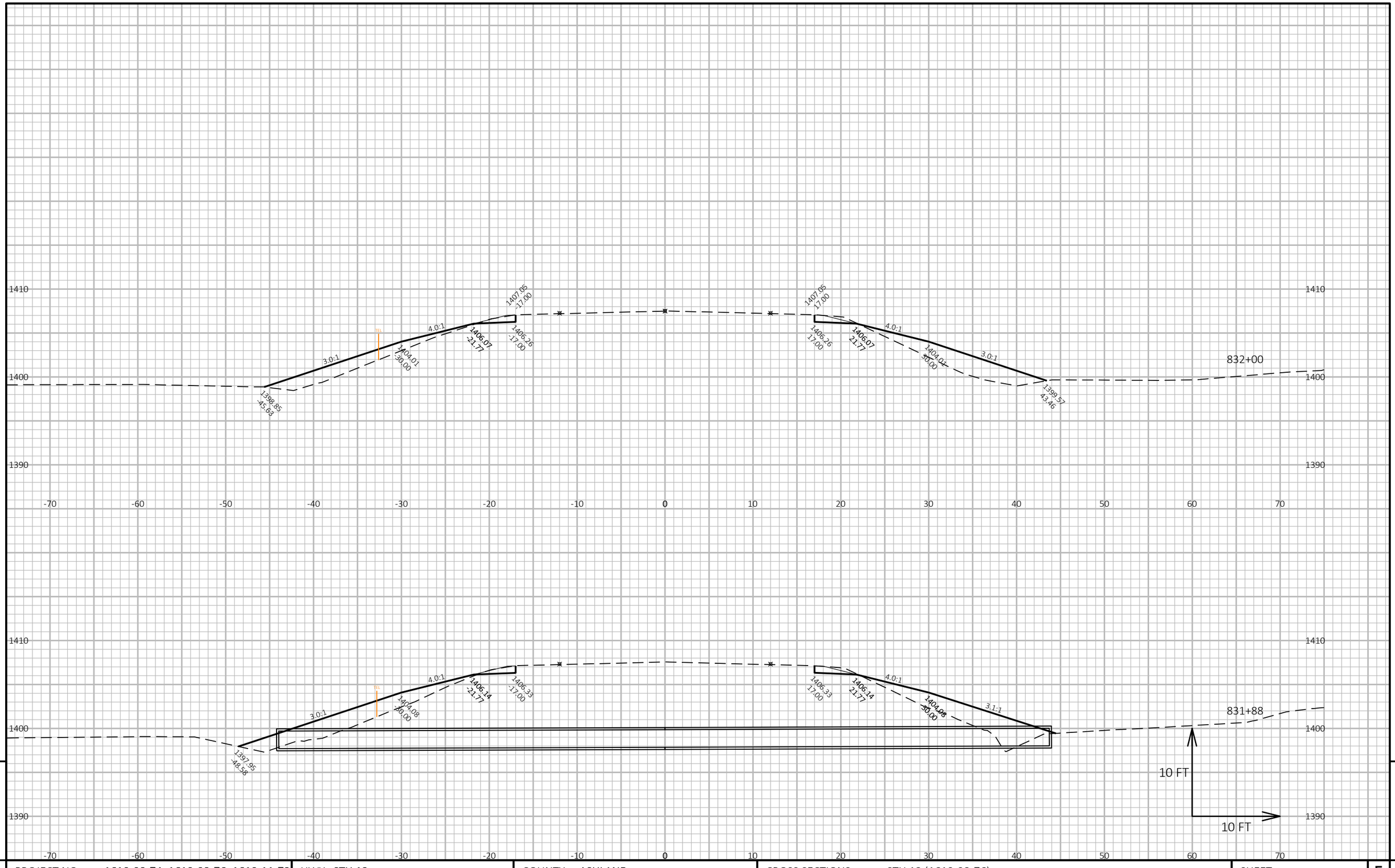
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LAYOUT NAME - XS-(68)

PLOT DATE : 9/26/2018 4:17 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

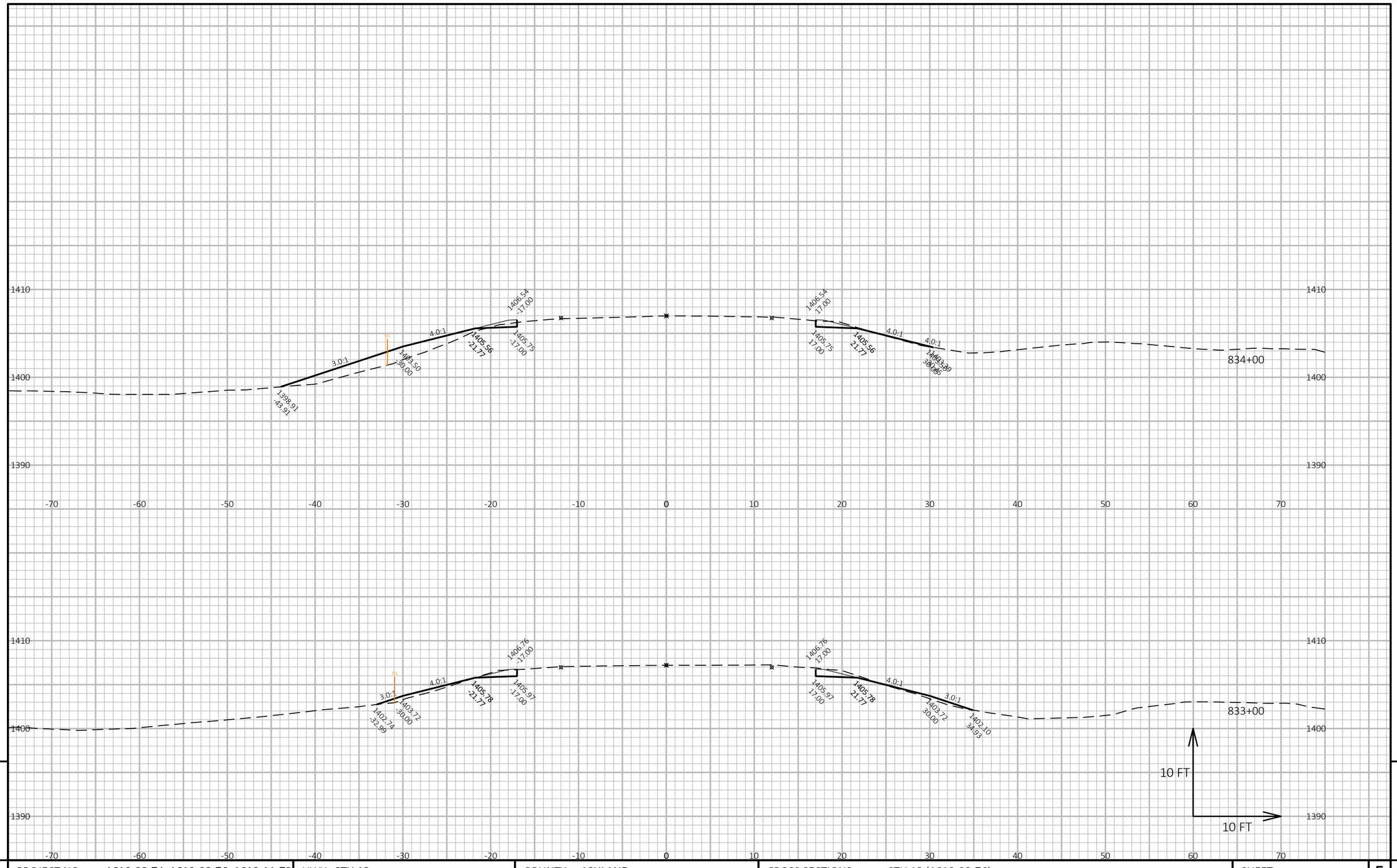
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LAYOUT NAME - XS-(69)

PLOT DATE : 9/26/2018 4:17 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

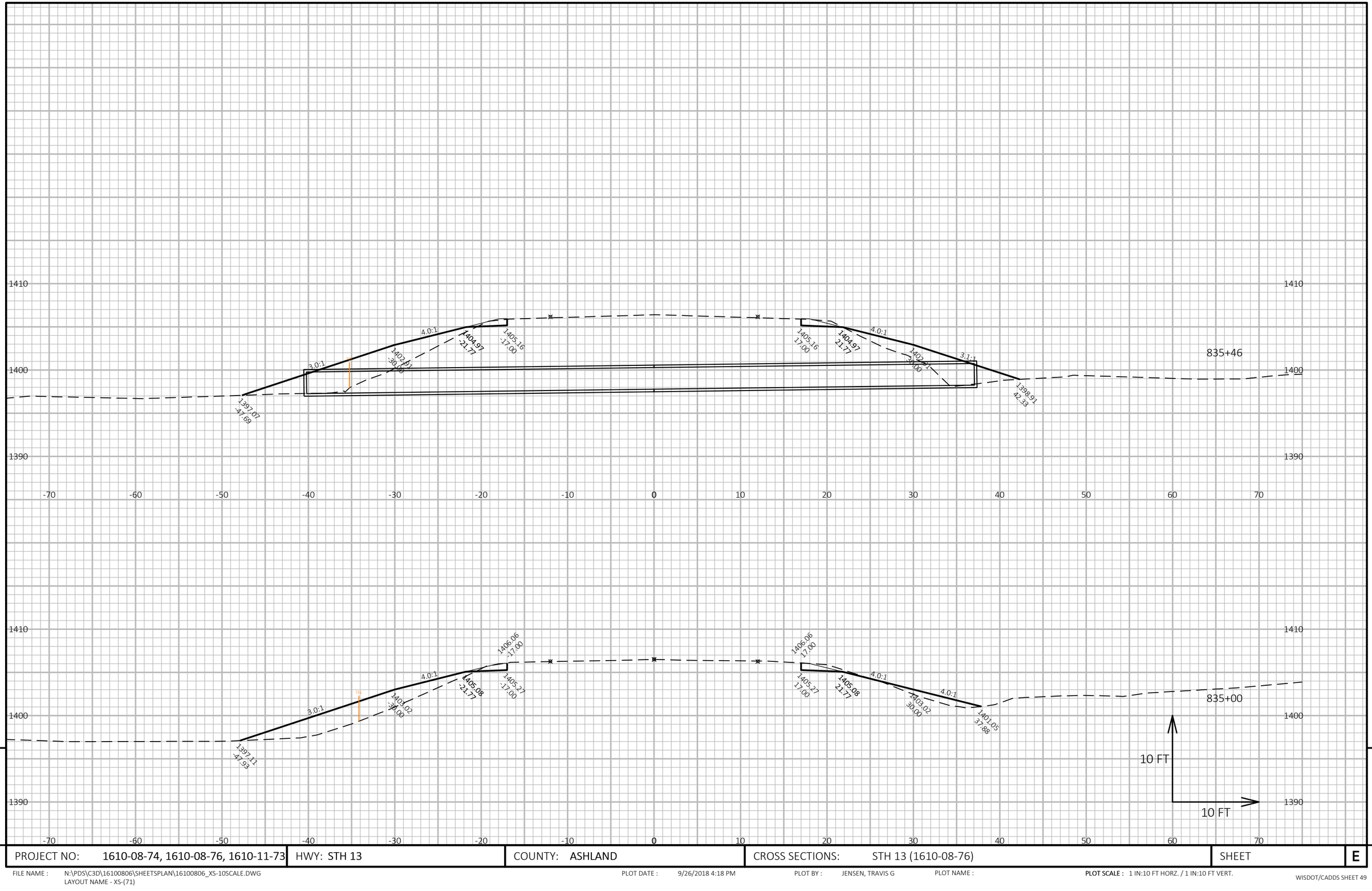
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LAYOUT NAME - XS-(70)

PLOT DATE : 9/26/2018 4:17 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(71)

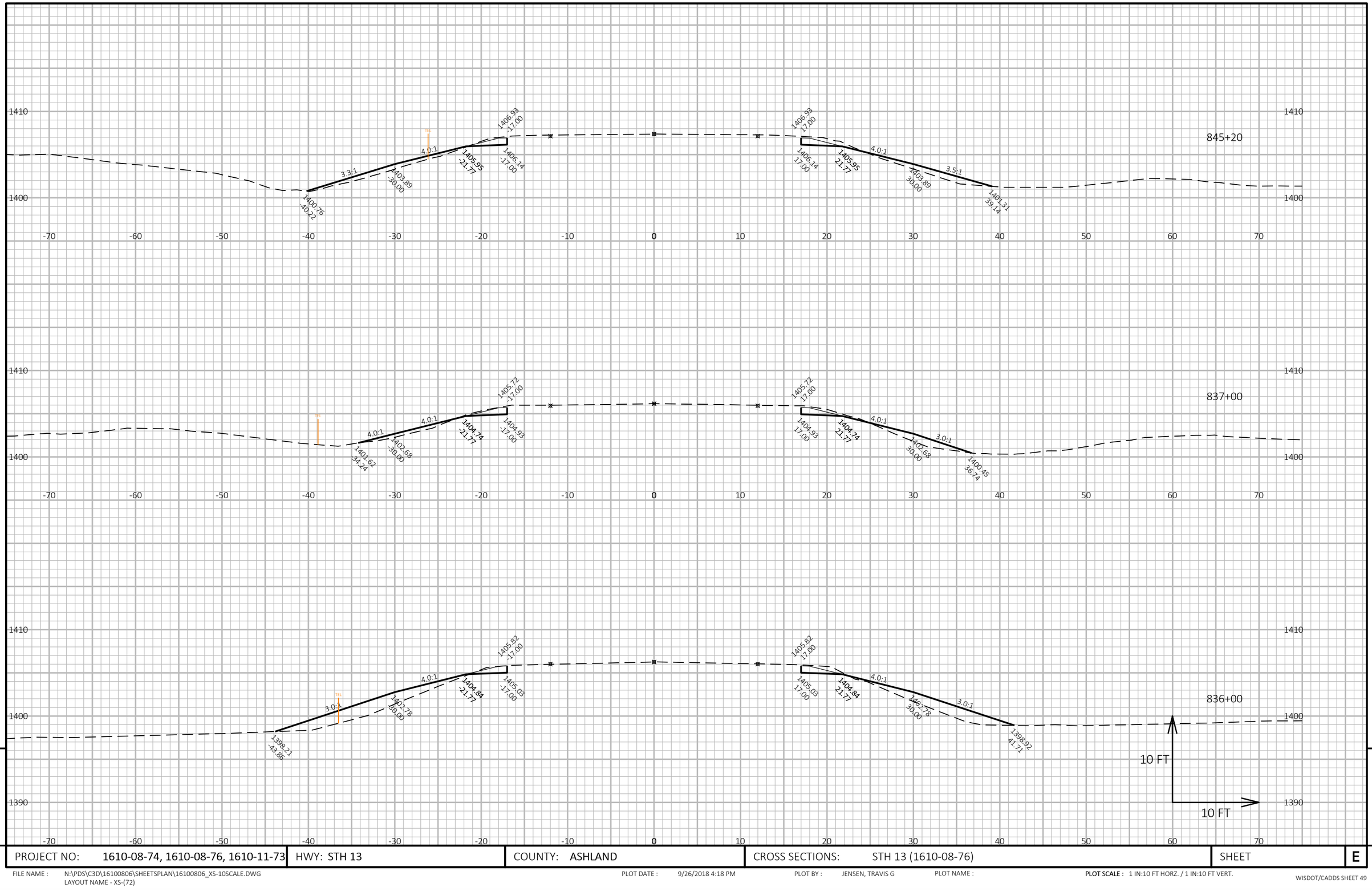
PLOT DATE : 9/26/2018 4:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

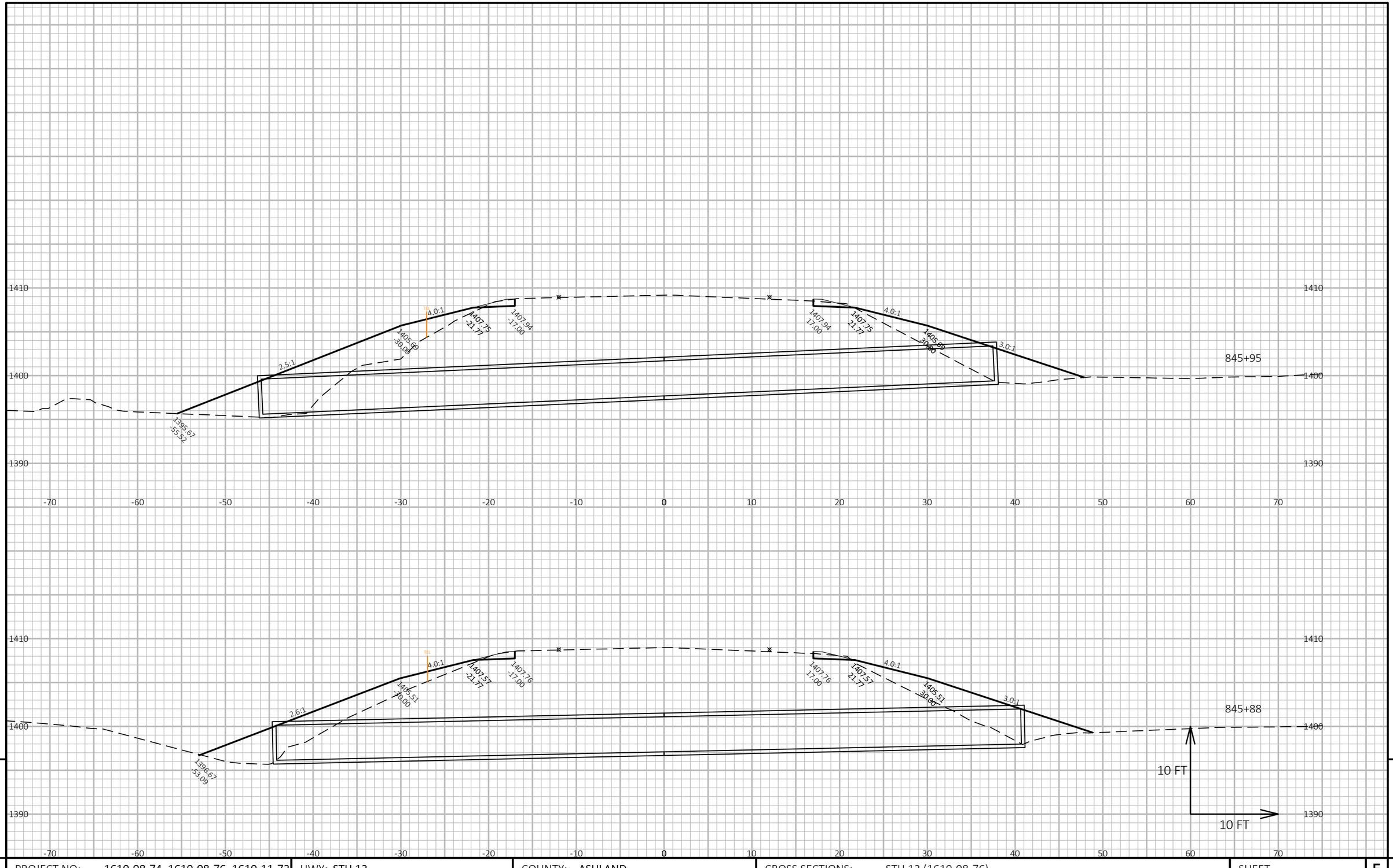
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LAYOUT NAME - XS-(72)

PLOT DATE : 9/26/2018 4:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

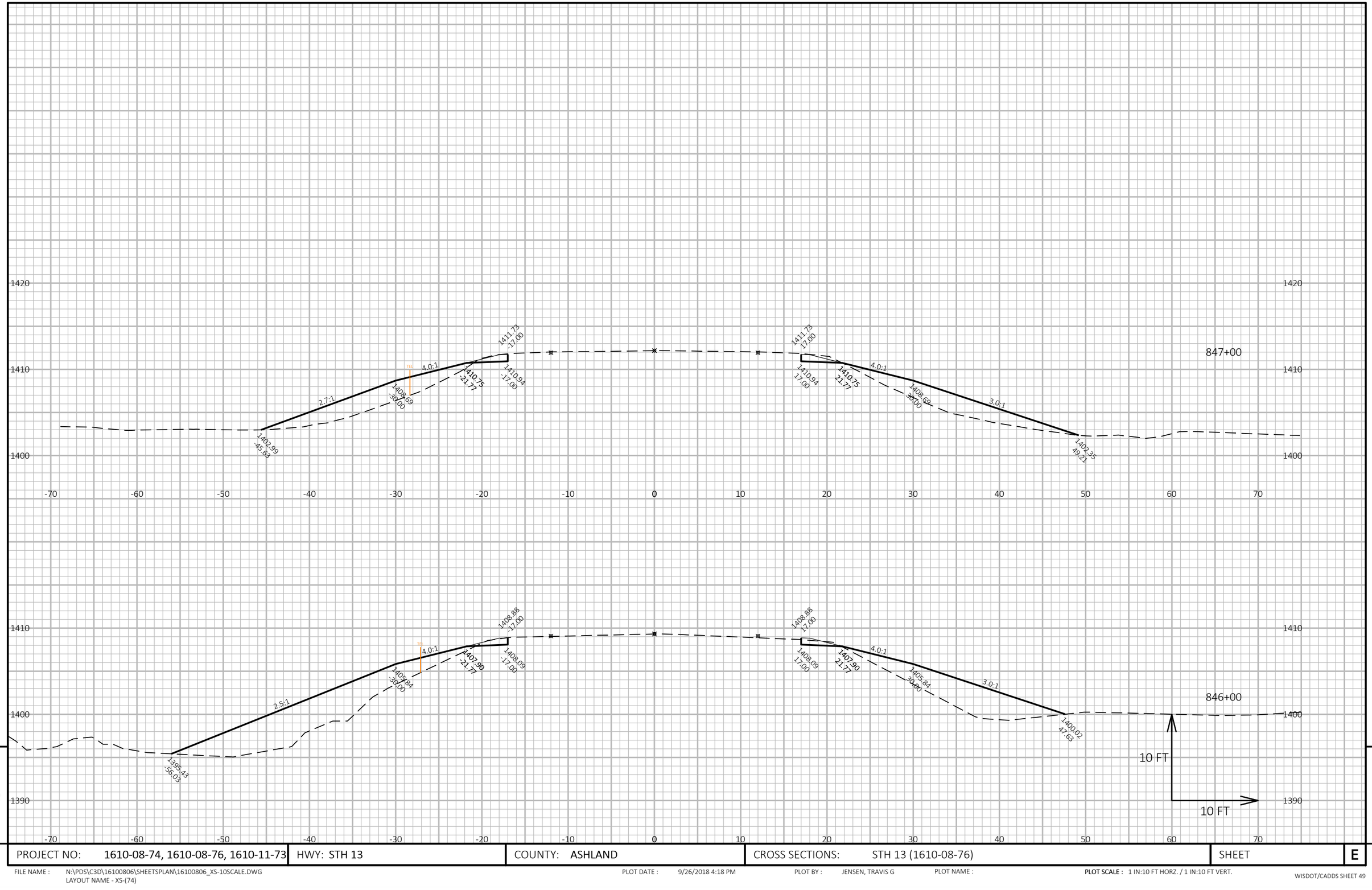
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LAYOUT NAME - XS-(73)

PLOT DATE : 9/26/2018 4:18 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

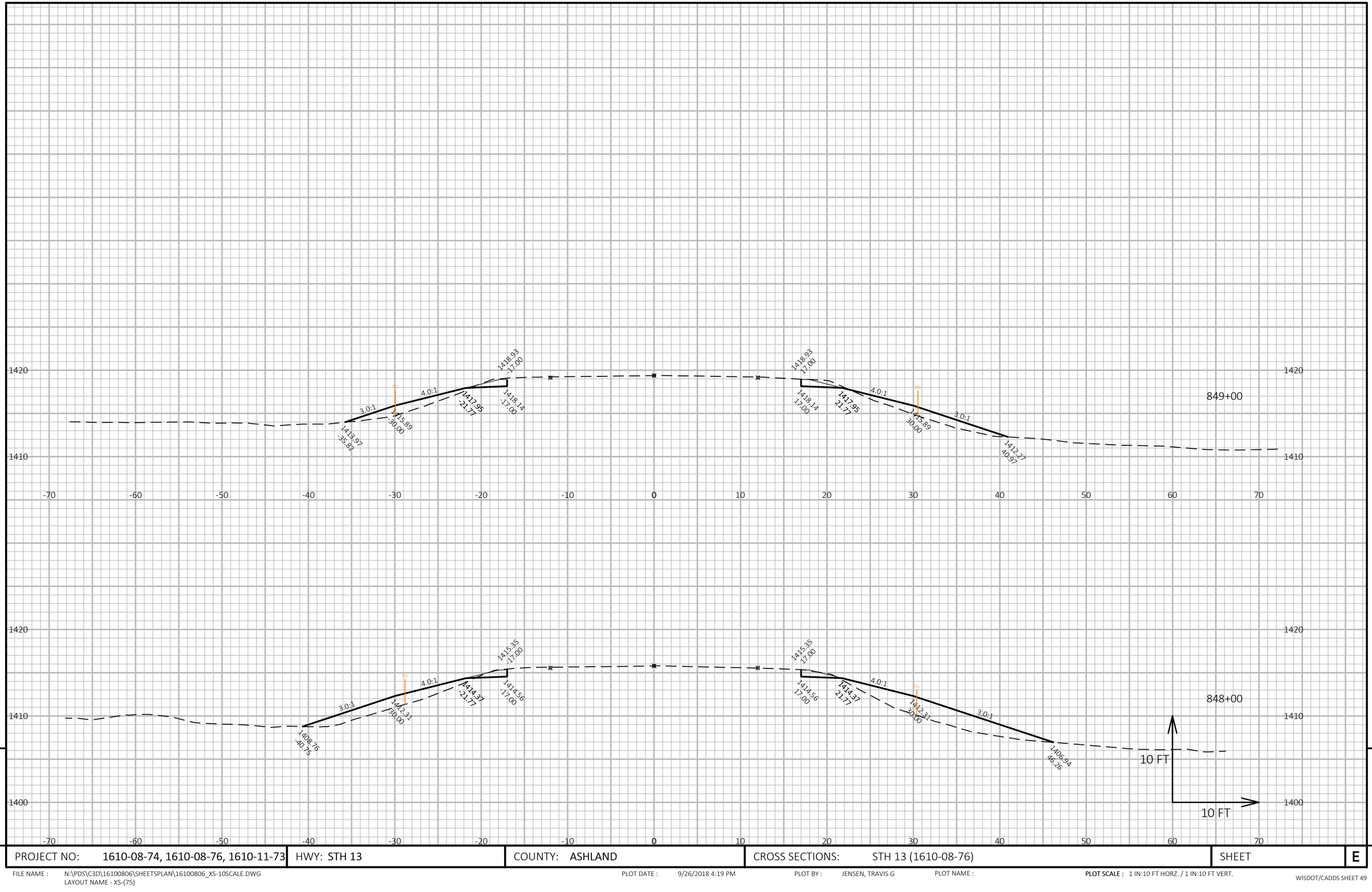
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E



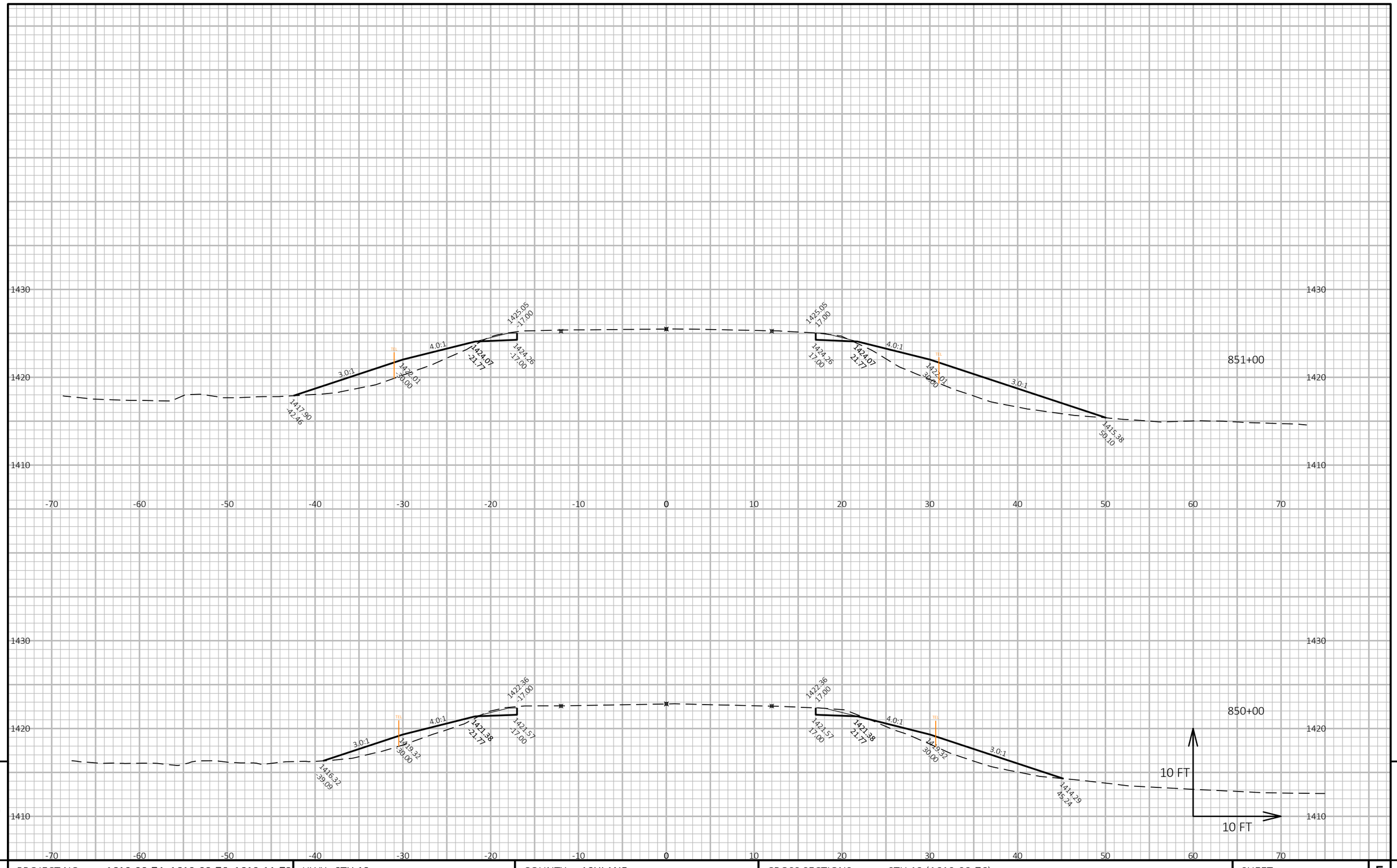
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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_XS-10SCALE.DWG
LAYOUT NAME - XS-(75)

PLOT DATE : 9/26/2018 4:19 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

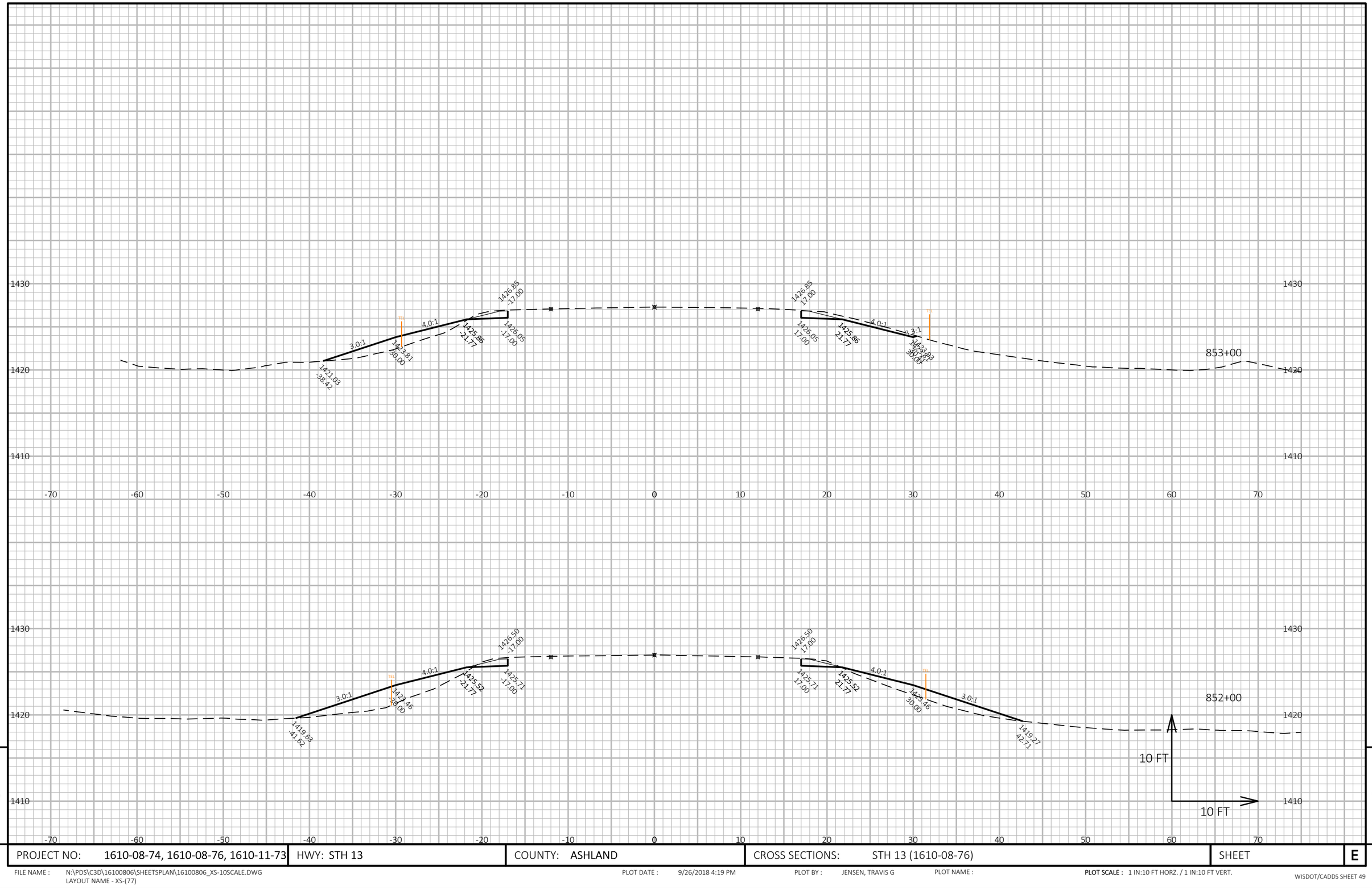
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LAYOUT NAME - XS-(76)

PLOT DATE : 9/26/2018 4:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

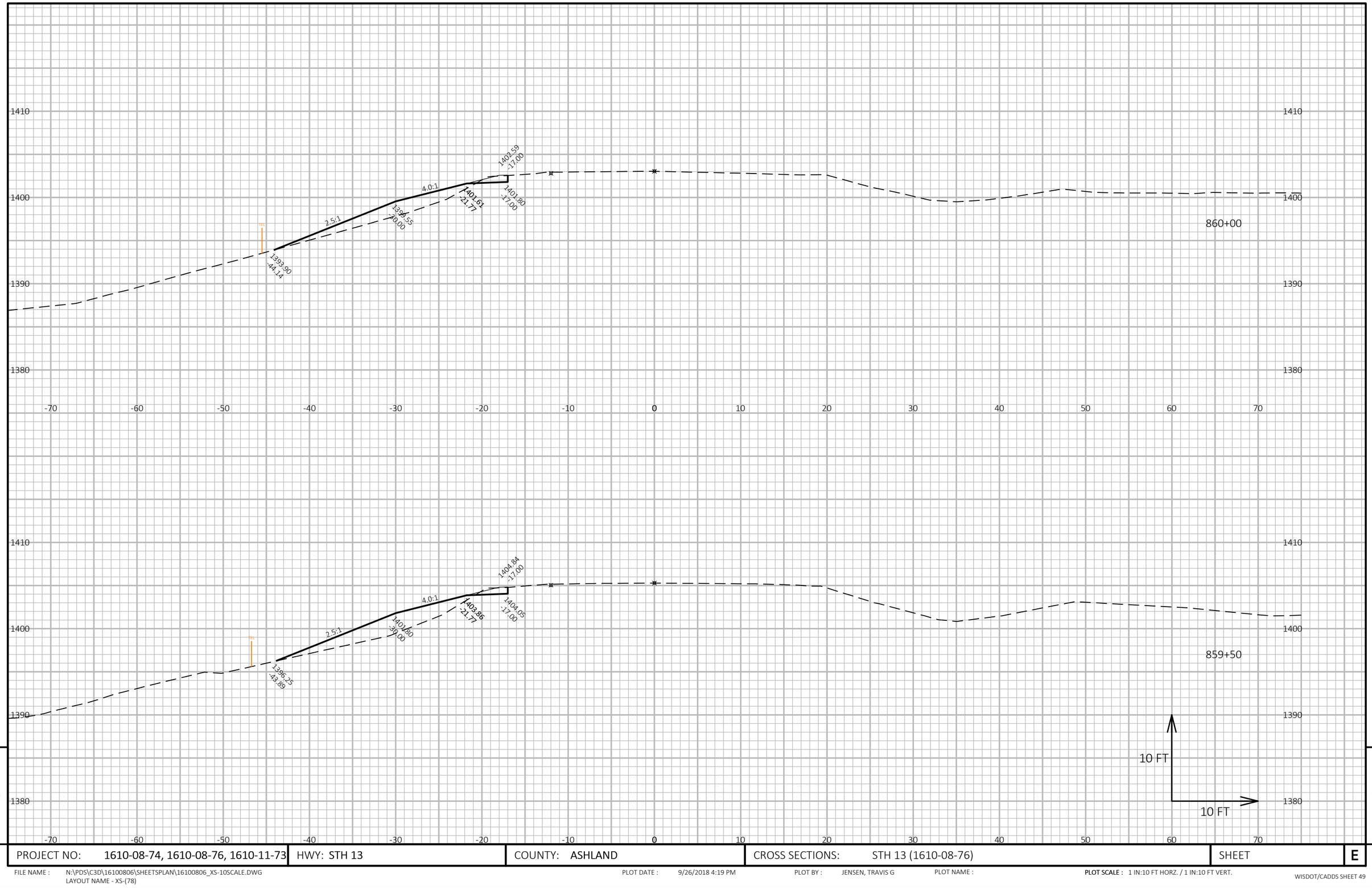
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LAYOUT NAME - XS-(77)

PLOT DATE : 9/26/2018 4:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

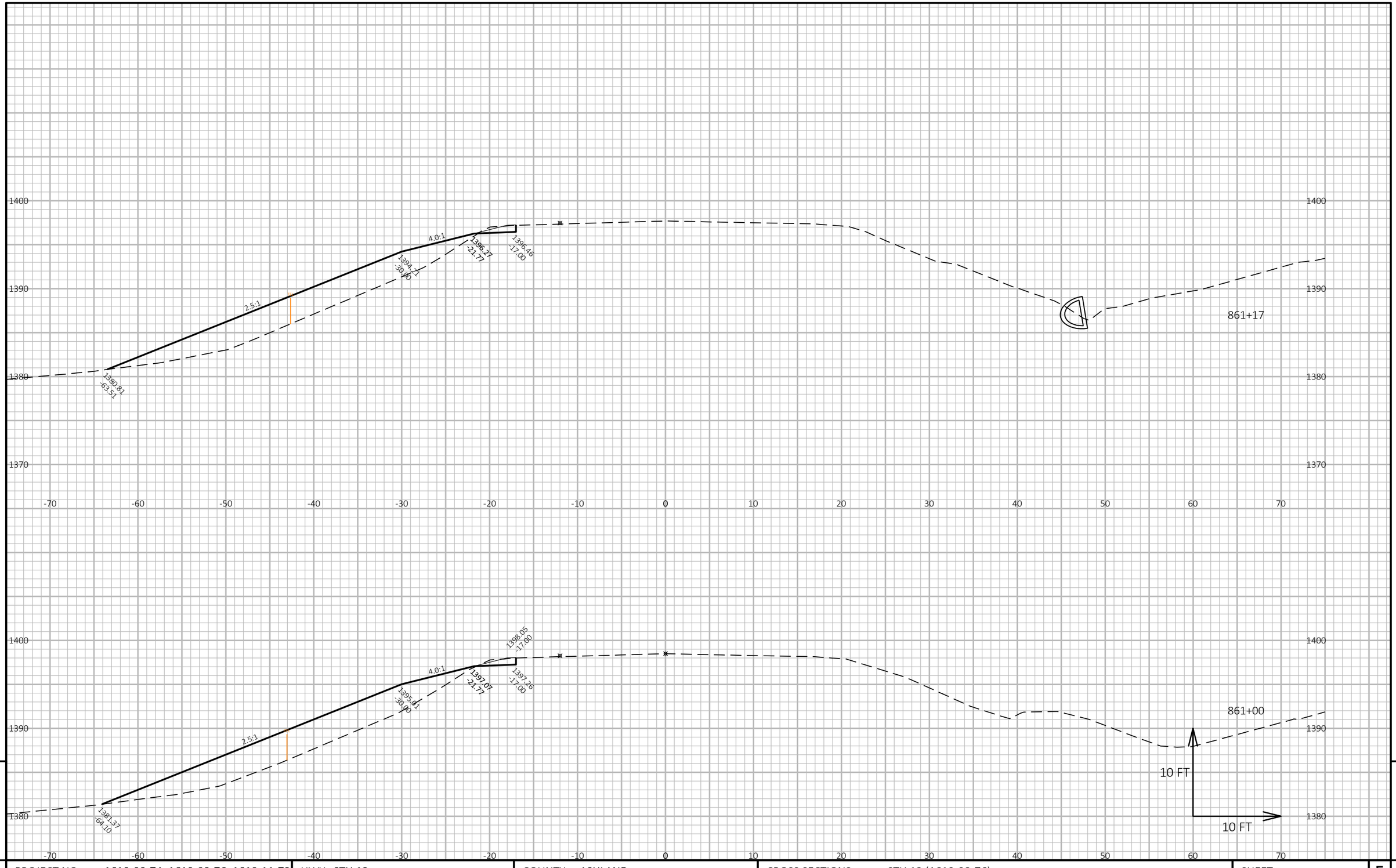
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LAYOUT NAME - XS-(78)

PLOT DATE : 9/26/2018 4:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

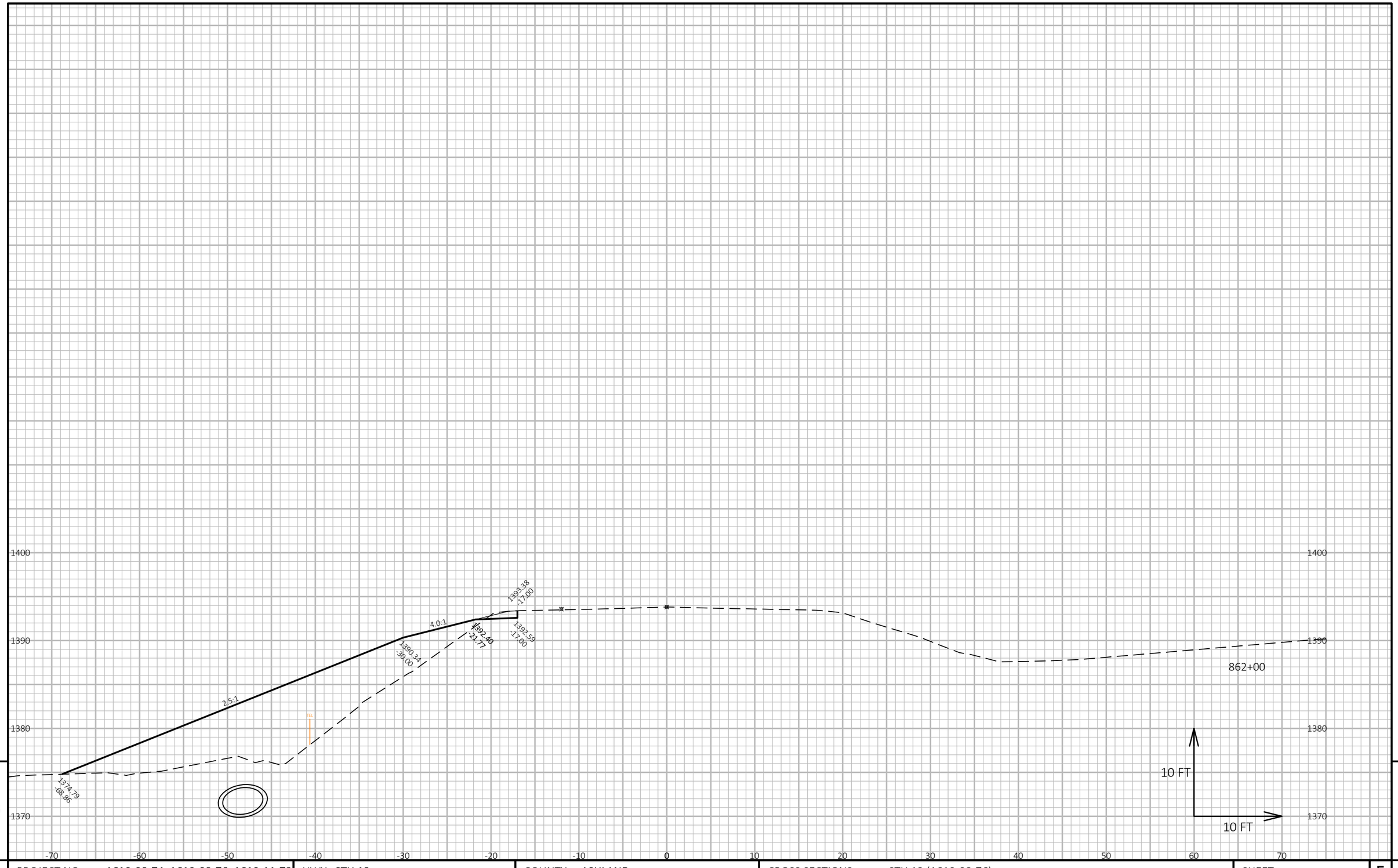
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LAYOUT NAME - XS-(79)

PLOT DATE : 9/26/2018 4:19 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

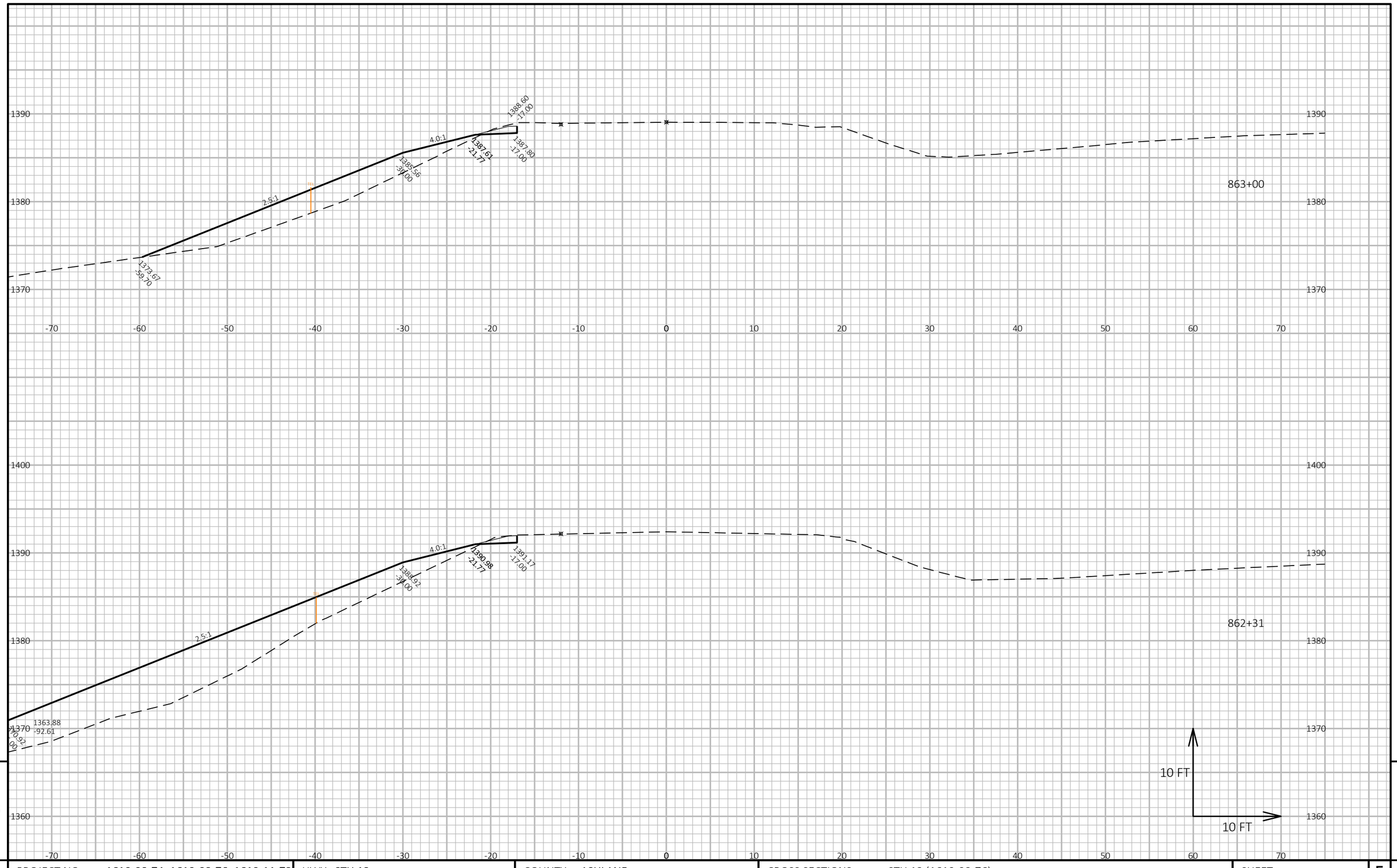
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LAYOUT NAME - XS-(80)

PLOT DATE : 9/26/2018 4:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

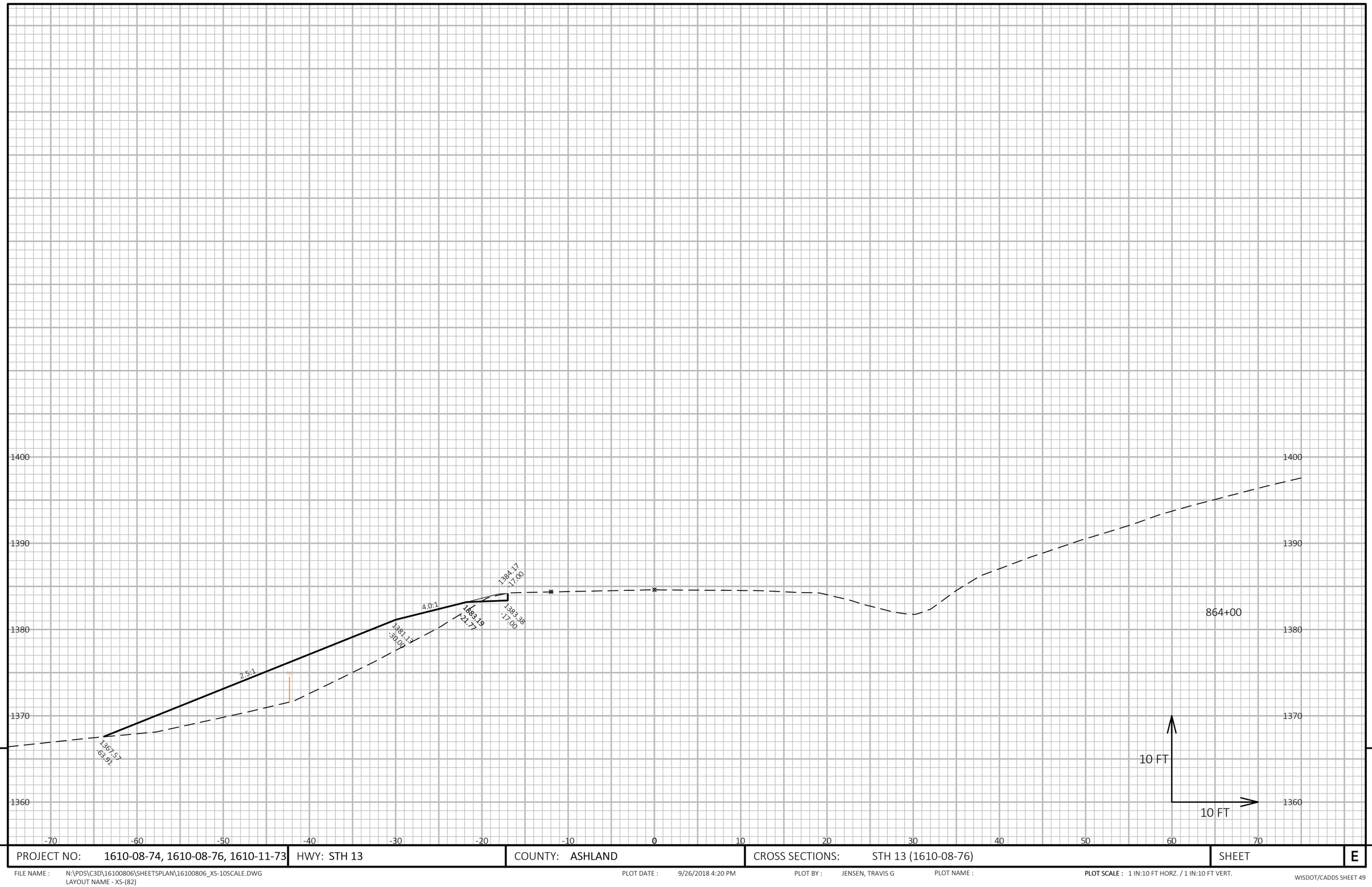
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LAYOUT NAME - XS-(81)

PLOT DATE : 9/26/2018 4:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

9

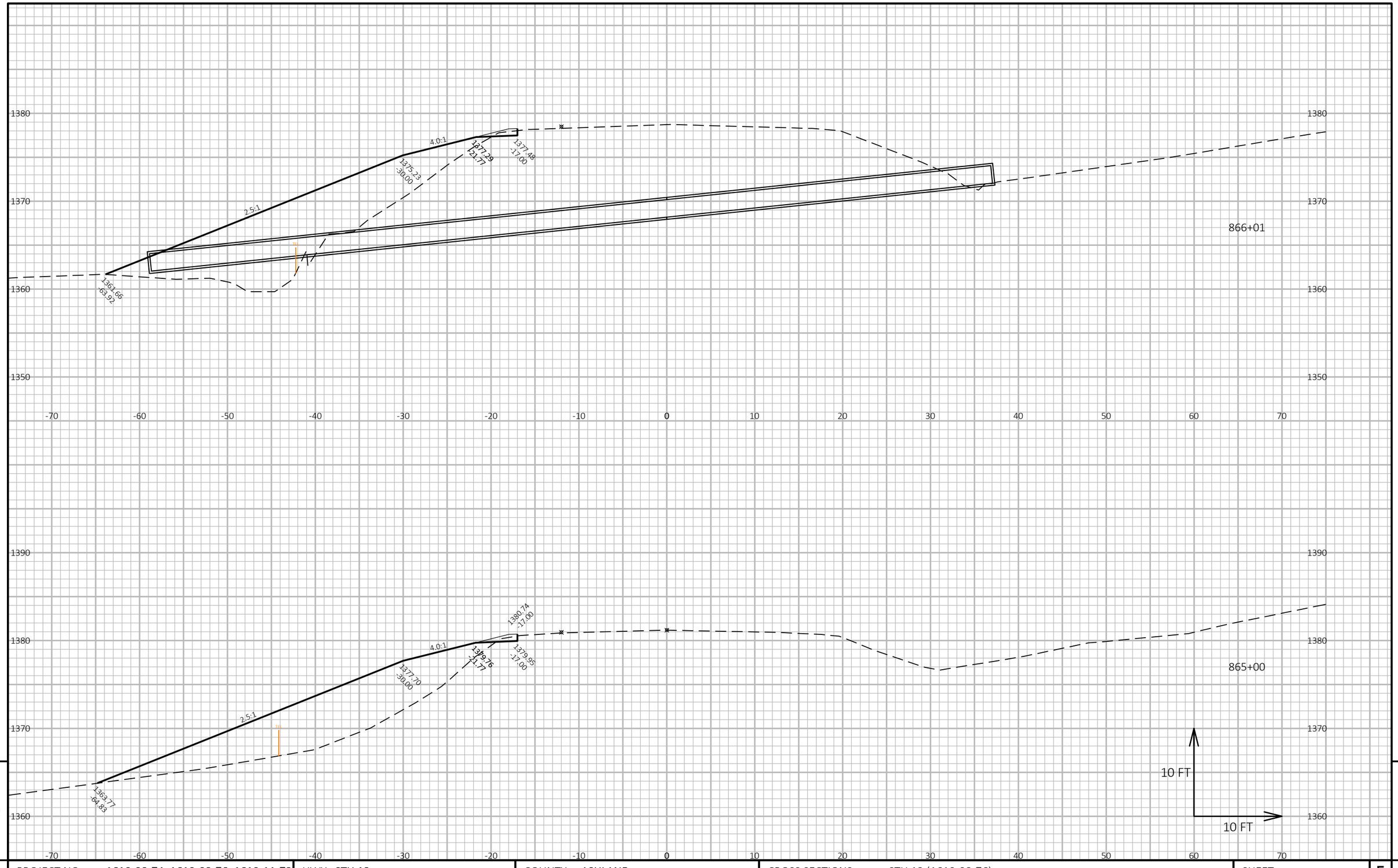
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LAYOUT NAME - XS-(82)

PLOT DATE : 9/26/2018 4:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

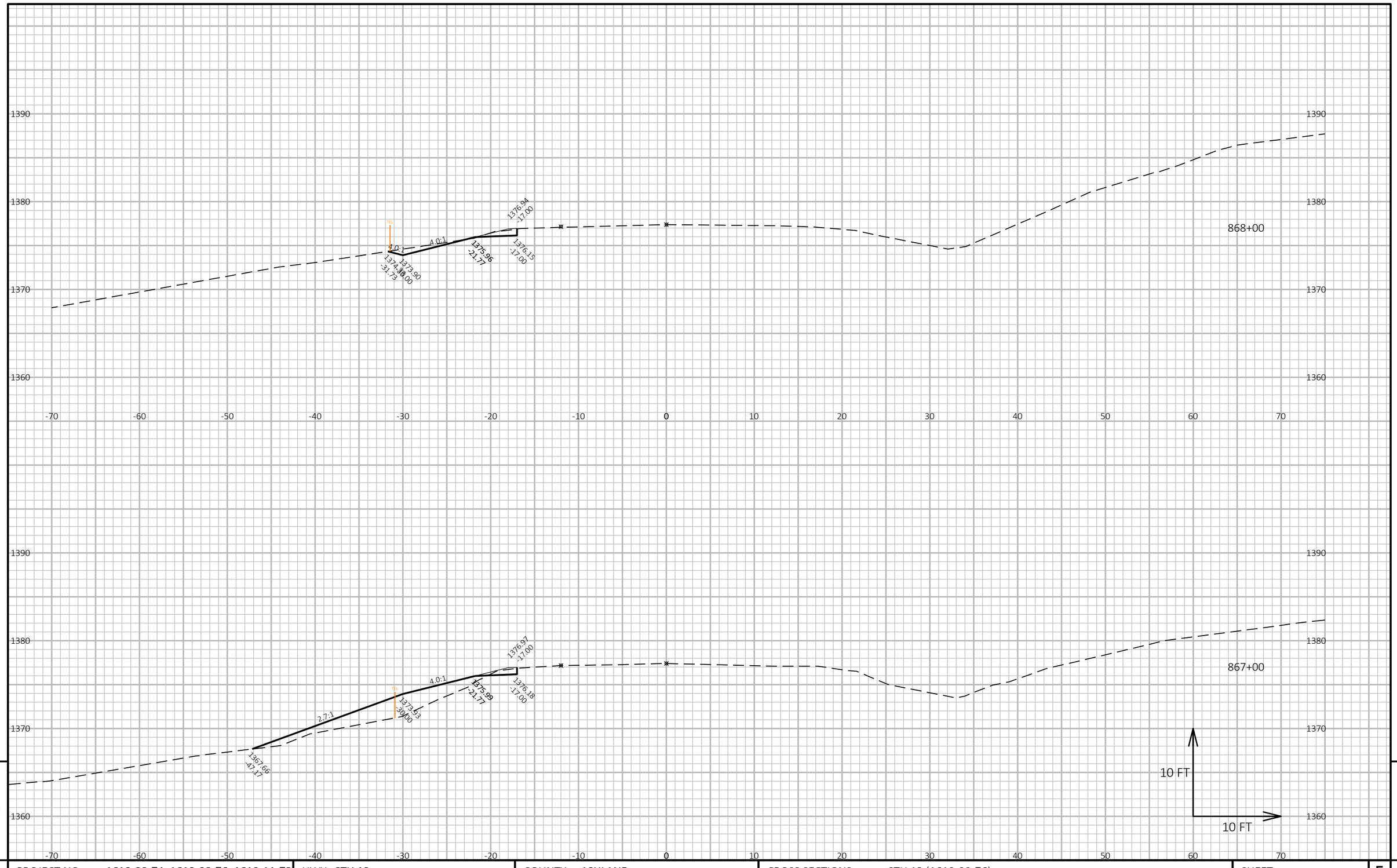
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LAYOUT NAME - XS-(83)

PLOT DATE : 9/26/2018 4:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

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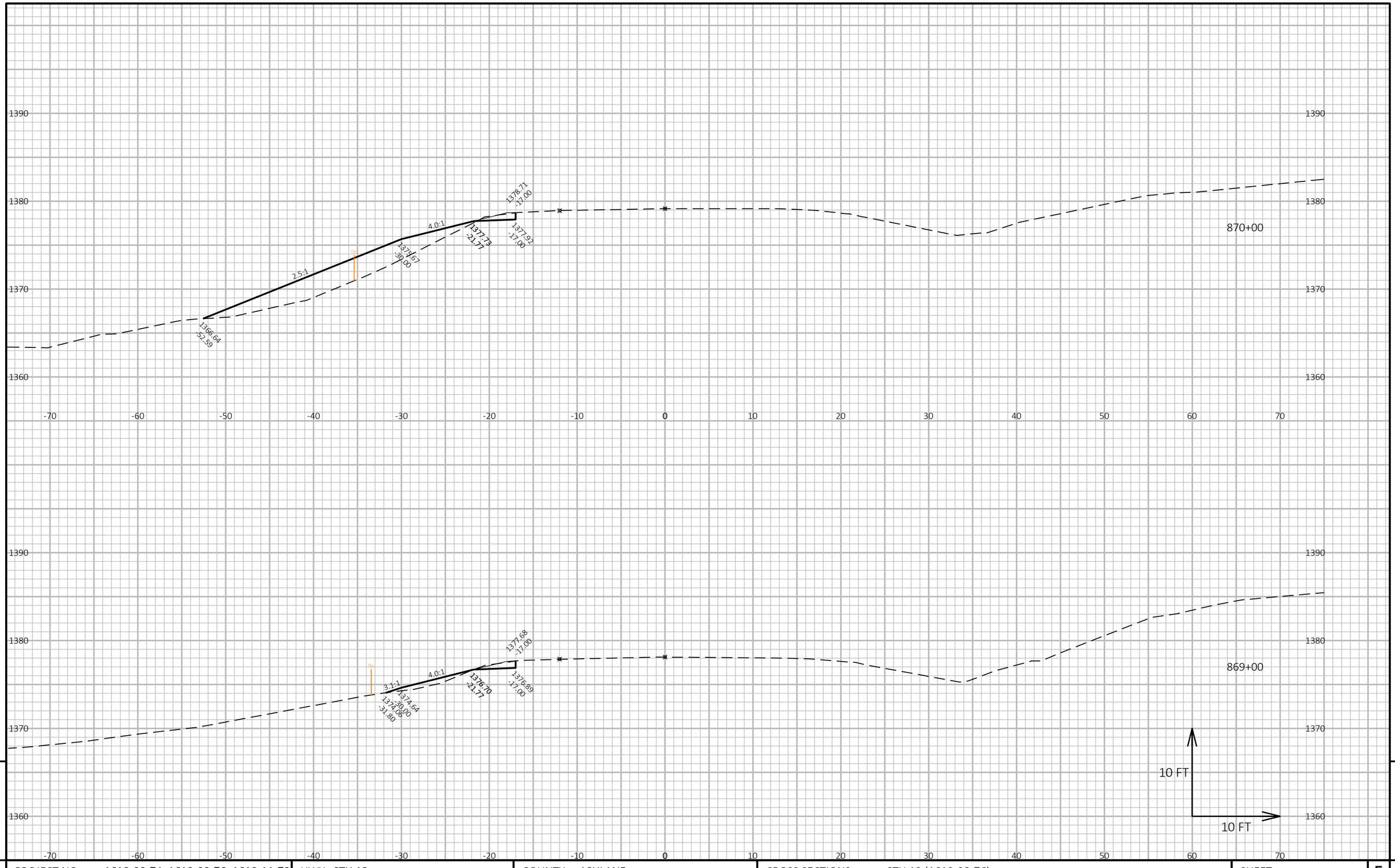
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LAYOUT NAME - XS-(84)

PLOT DATE : 9/26/2018 4:20 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

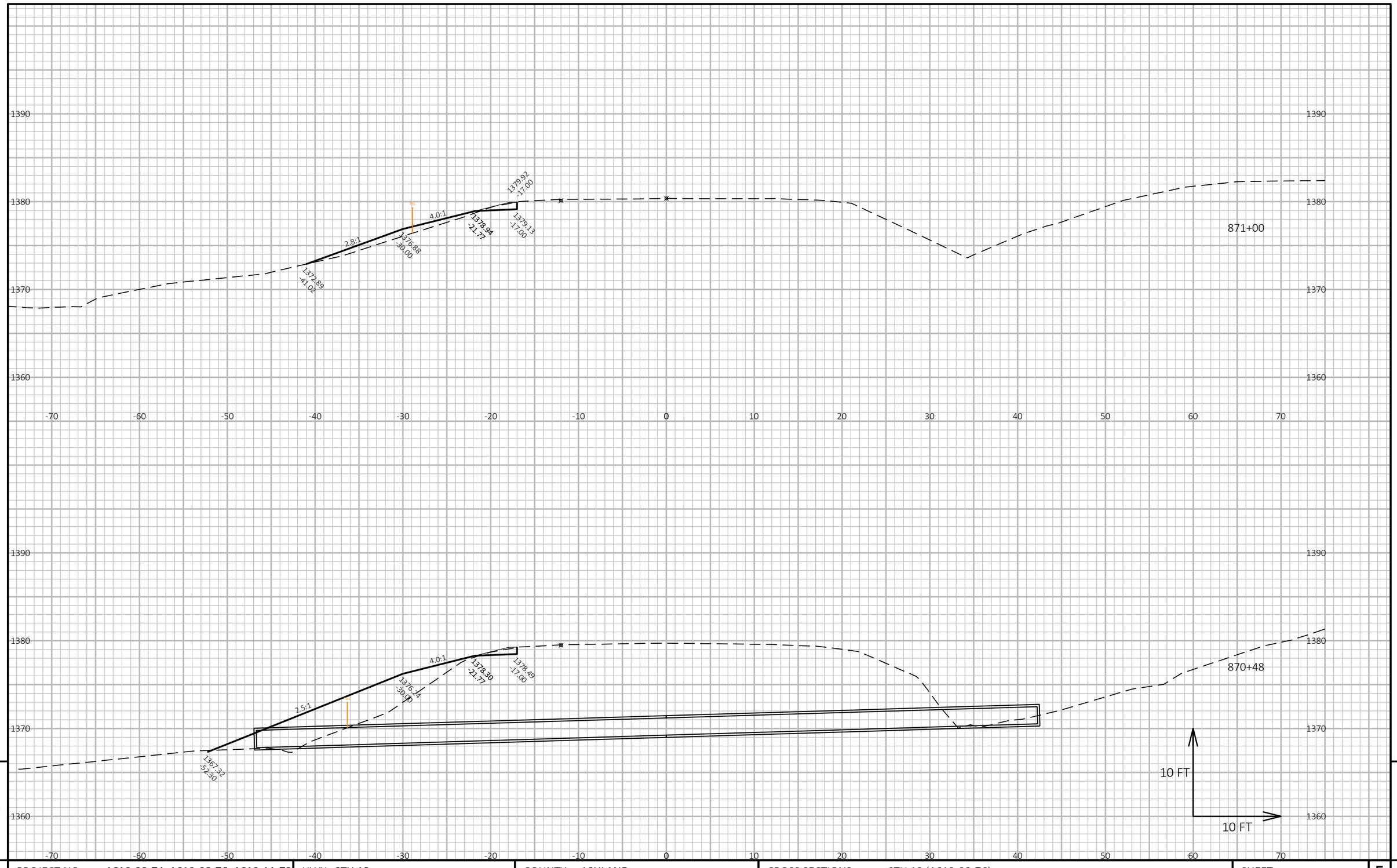
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LAYOUT NAME - XS-(85)

PLOT DATE : 9/26/2018 4:21 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

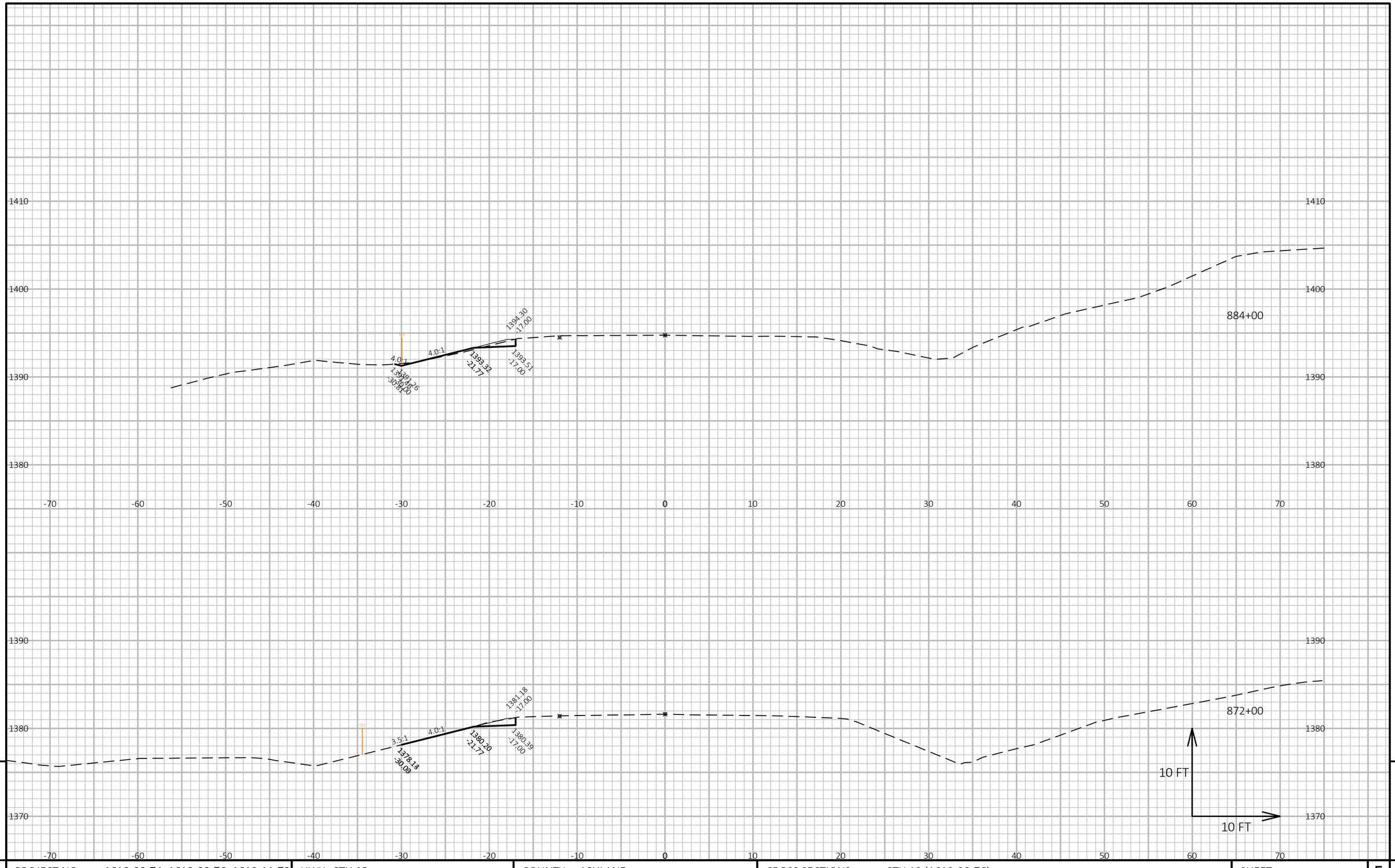
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LAYOUT NAME - XS-(86)

PLOT DATE : 9/26/2018 4:21 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

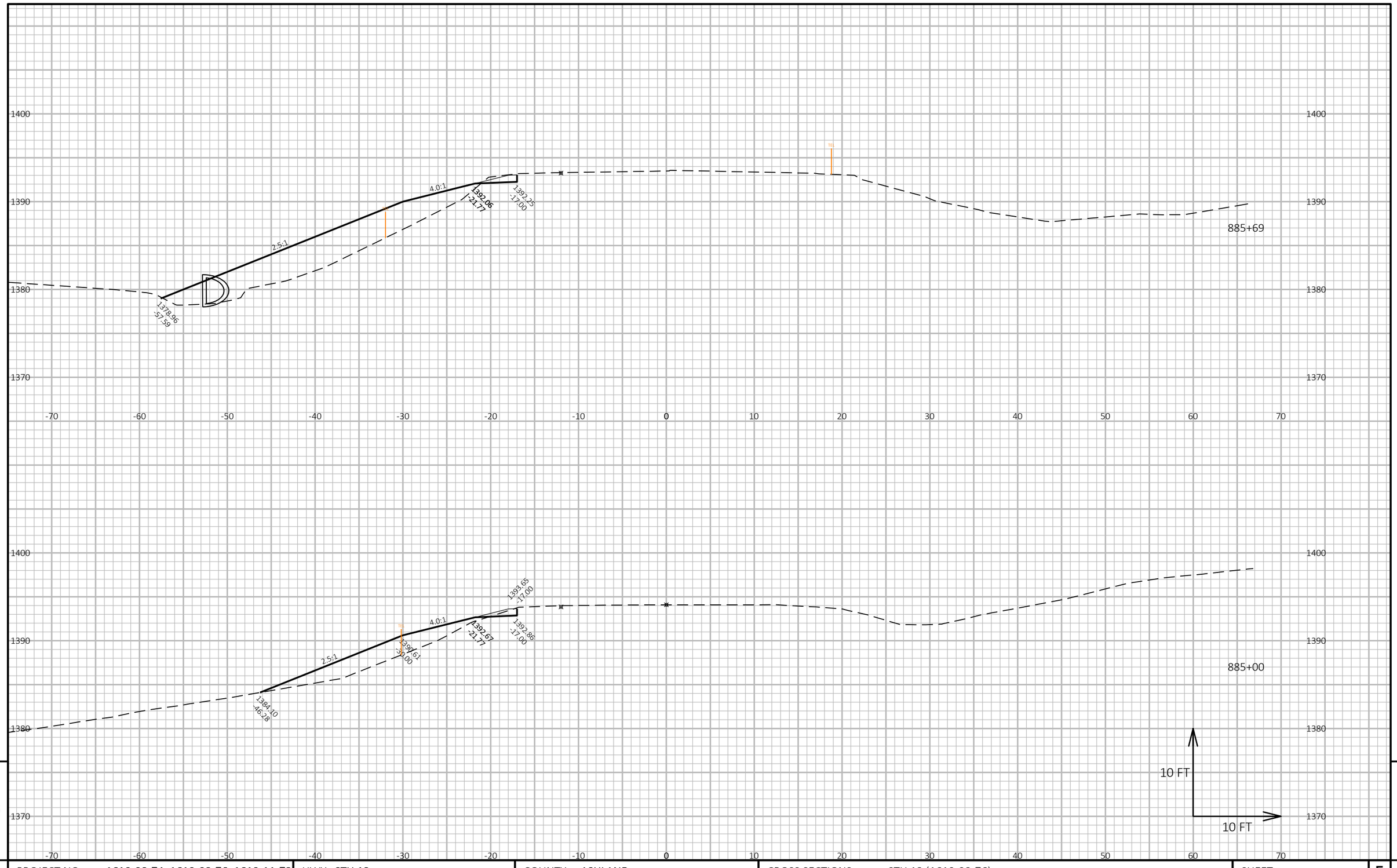
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LAYOUT NAME - XS-(87)

PLOT DATE : 9/26/2018 4:21 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

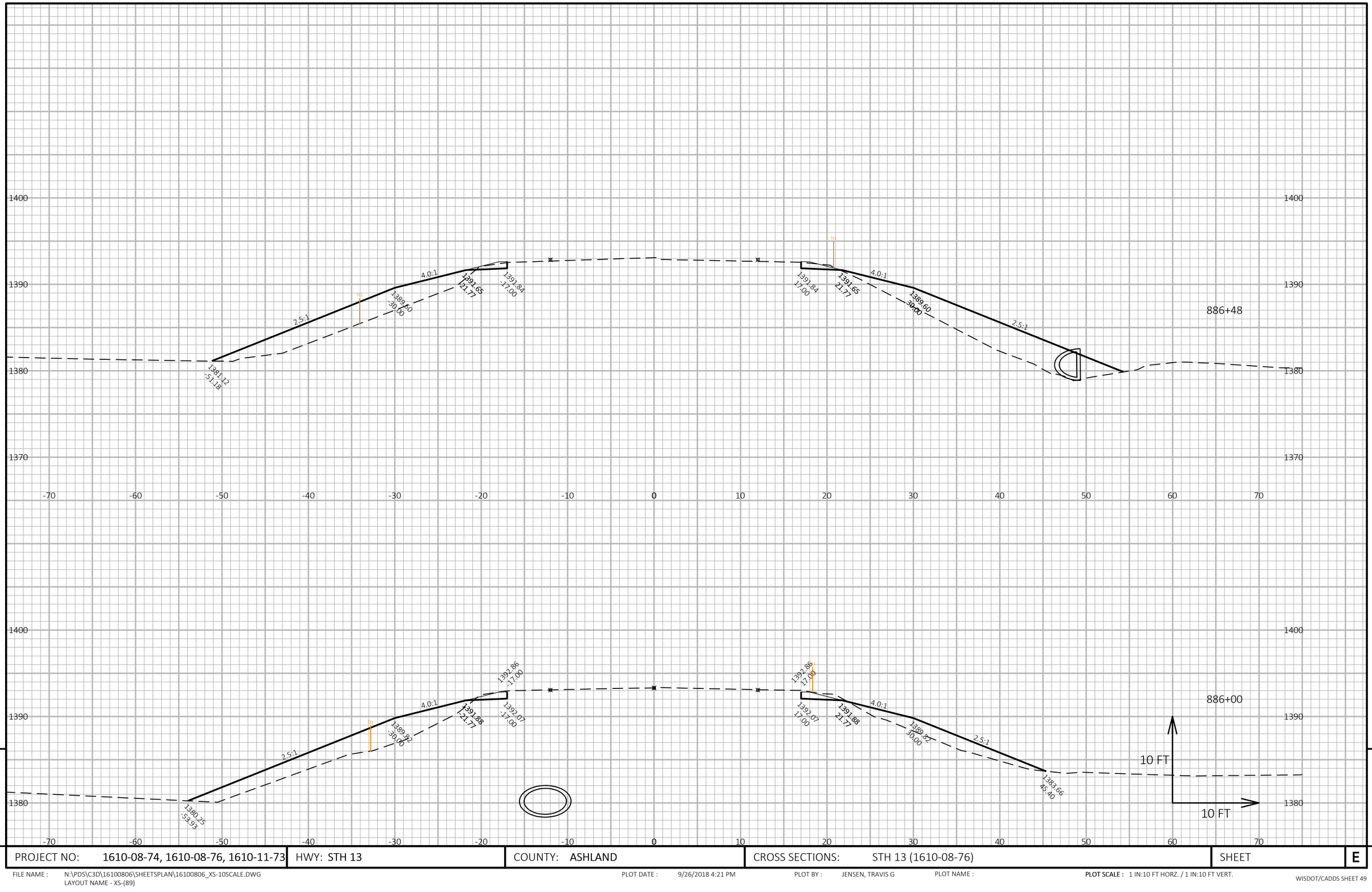
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LAYOUT NAME - XS-(88)

PLOT DATE : 9/26/2018 4:21 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET E

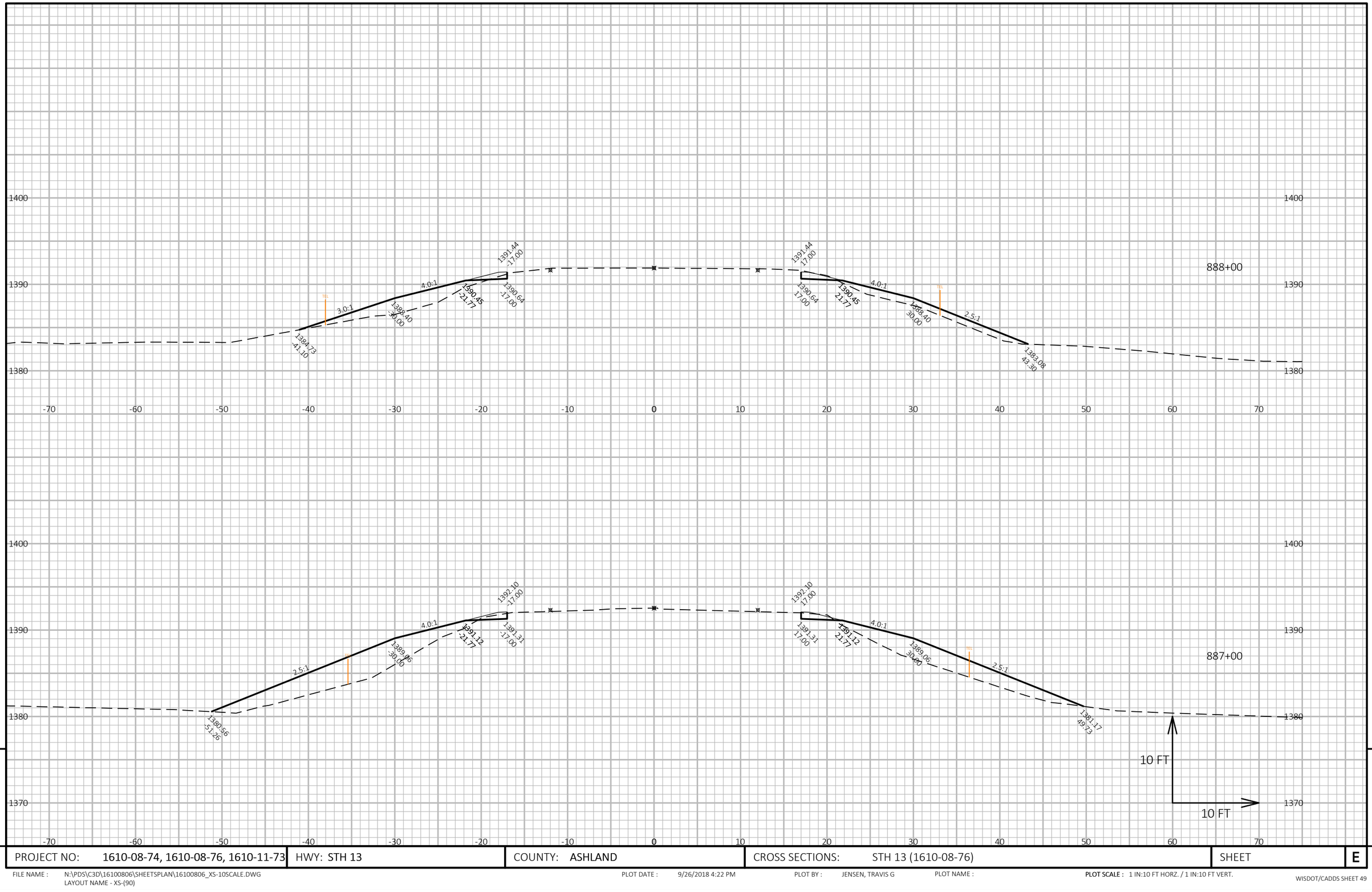
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LAYOUT NAME - XS-(89)

PLOT DATE : 9/26/2018 4:21 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1610-08-74, 1610-08-76, 1610-11-73	HWY: STH 13	COUNTY: ASHLAND	CROSS SECTIONS: STH 13 (1610-08-76)	SHEET	E

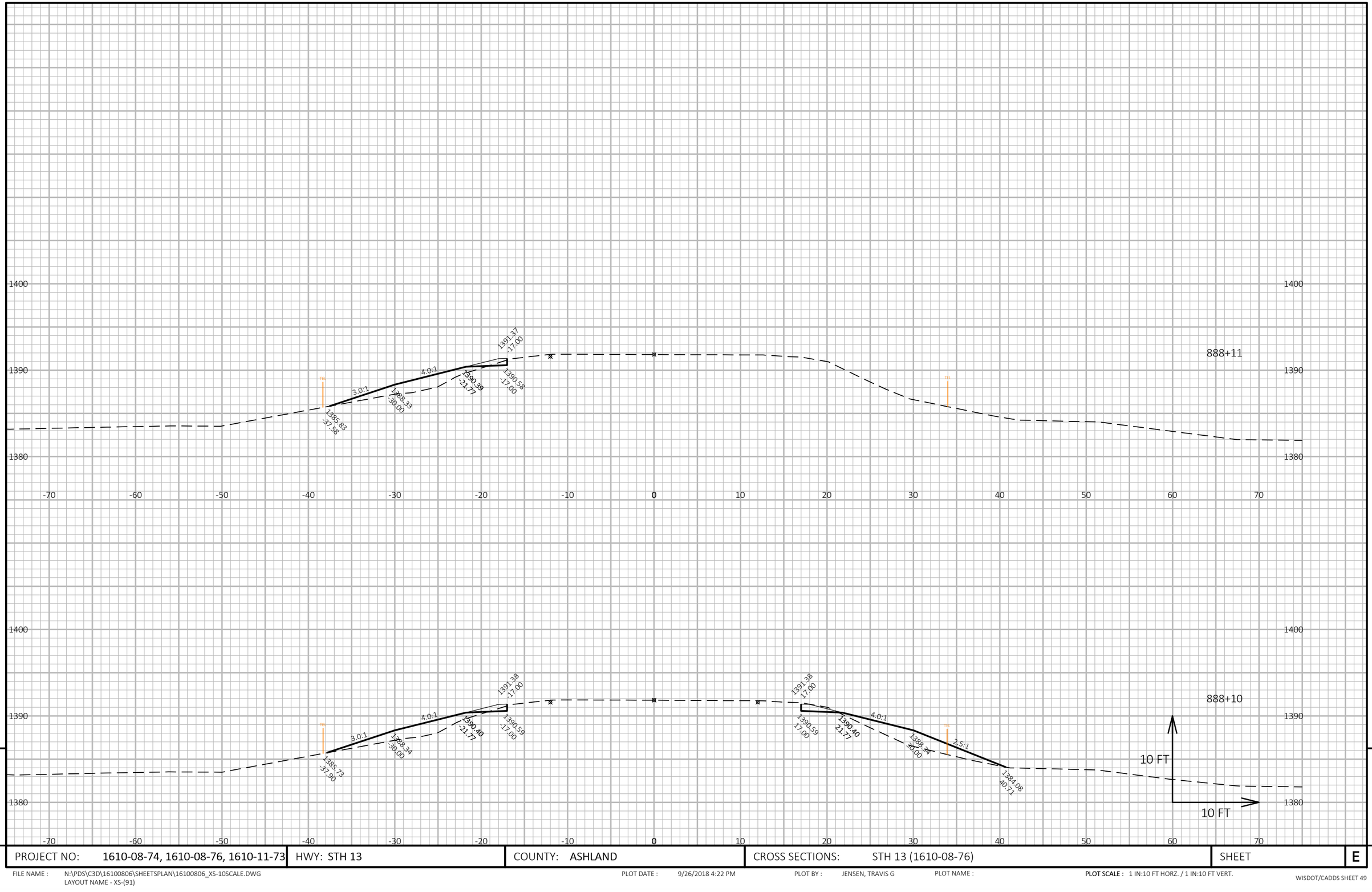
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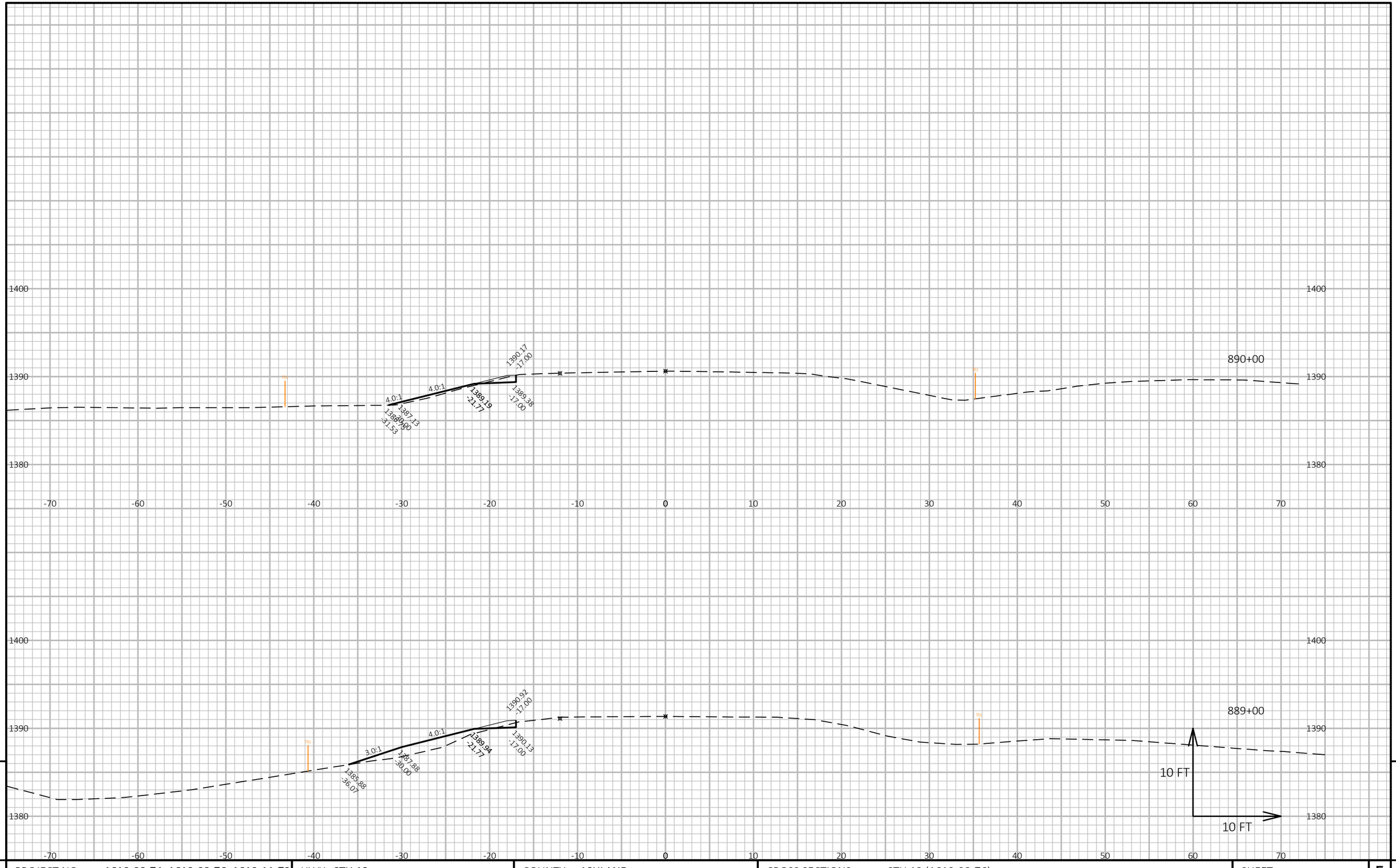
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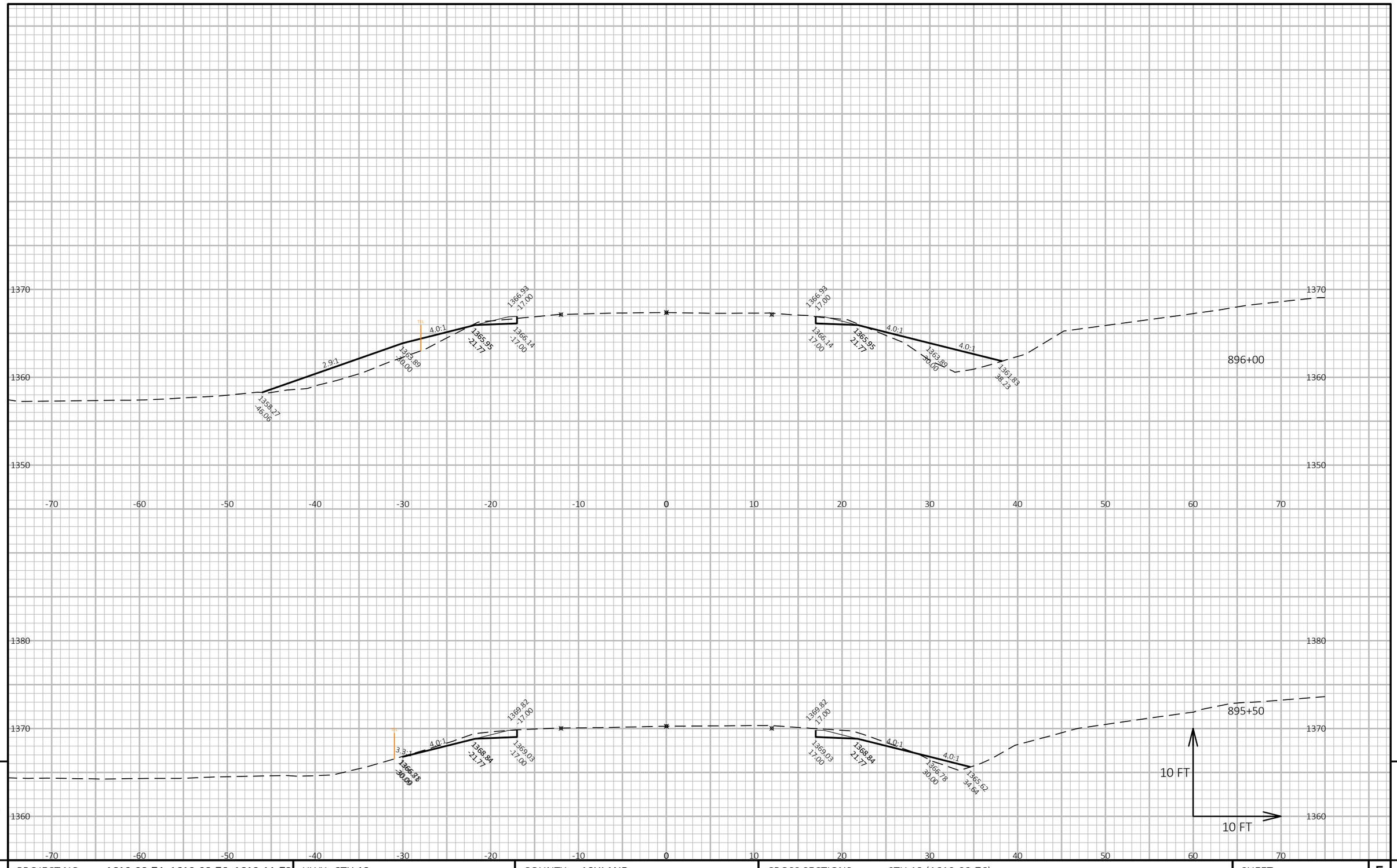
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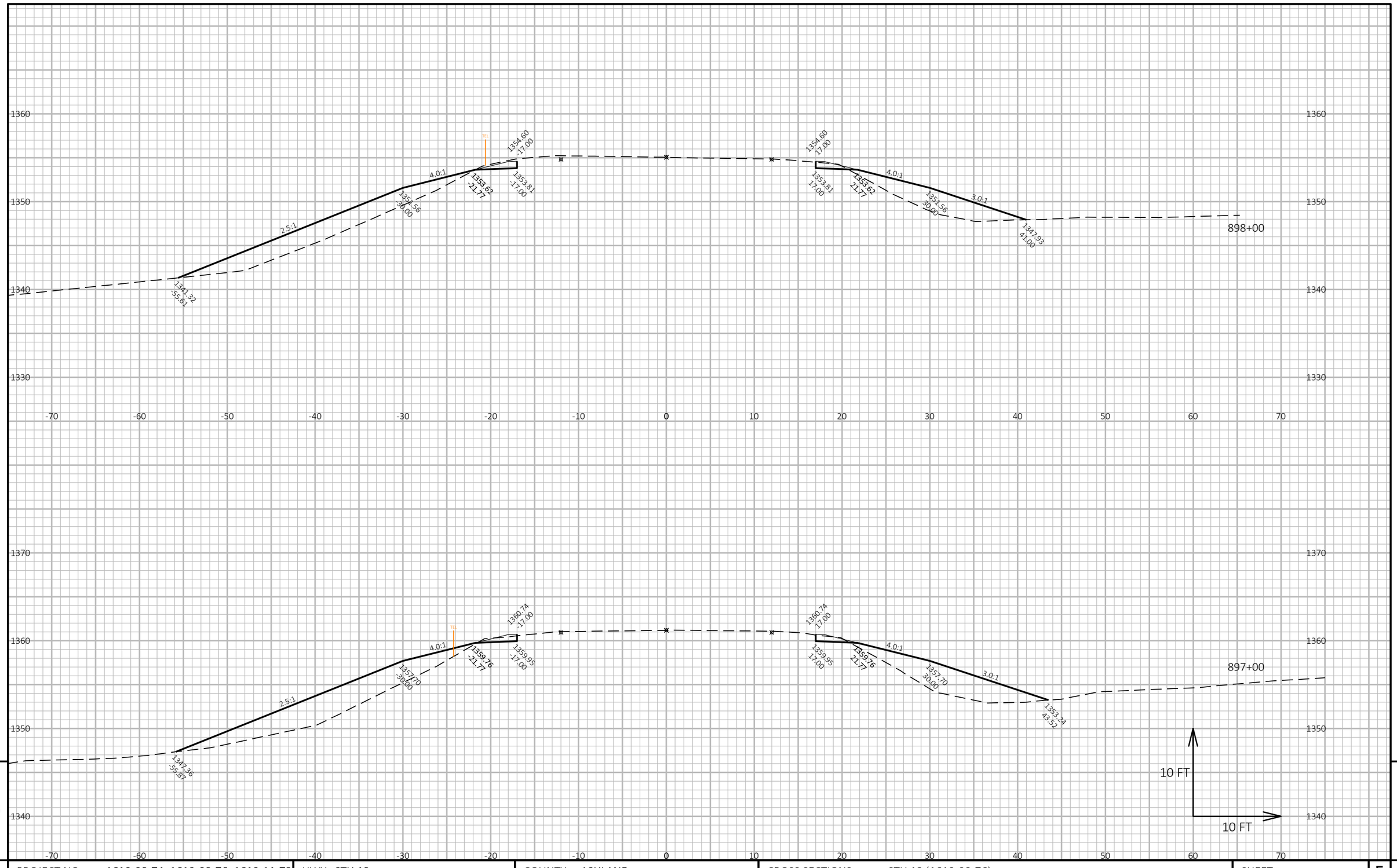
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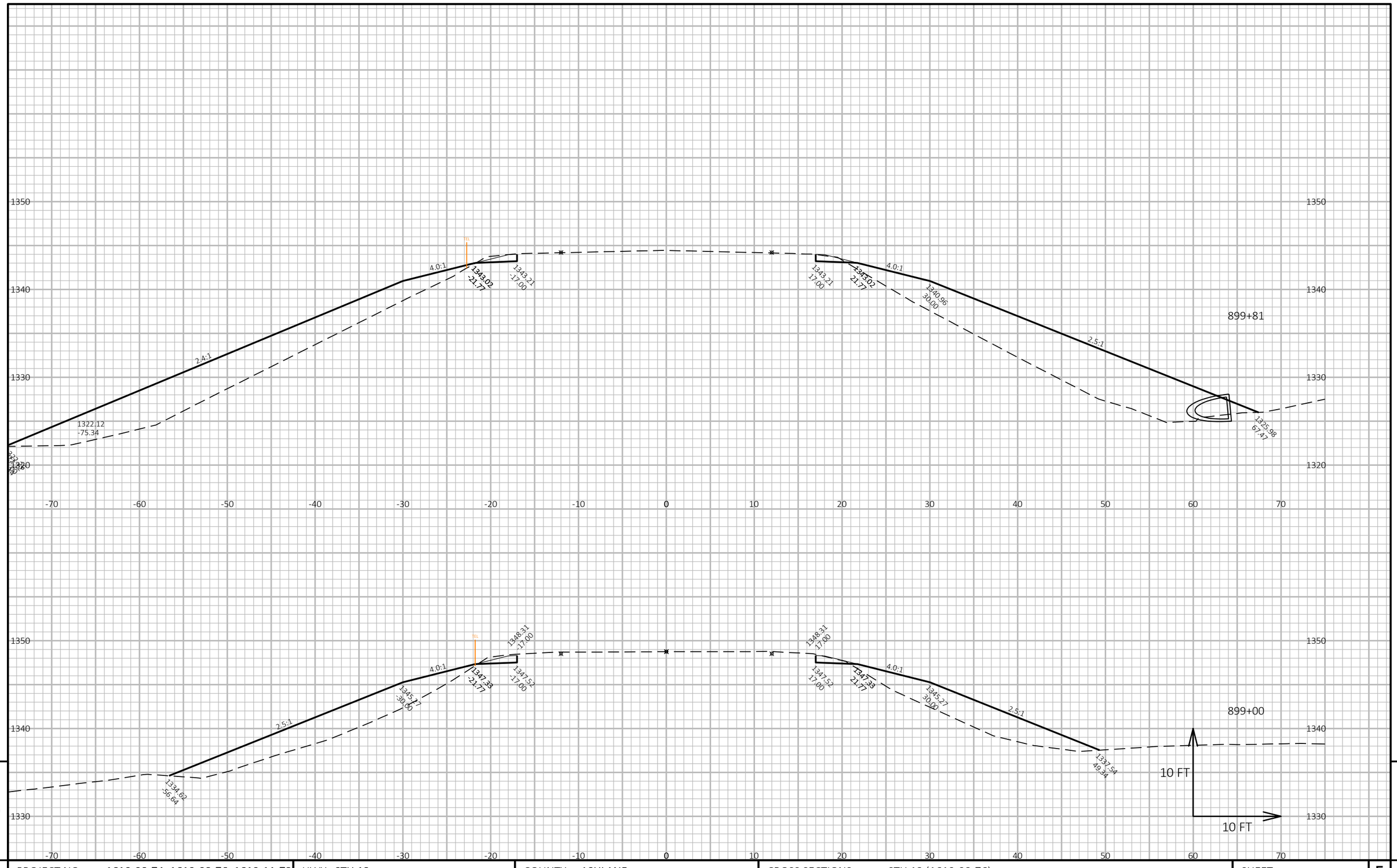
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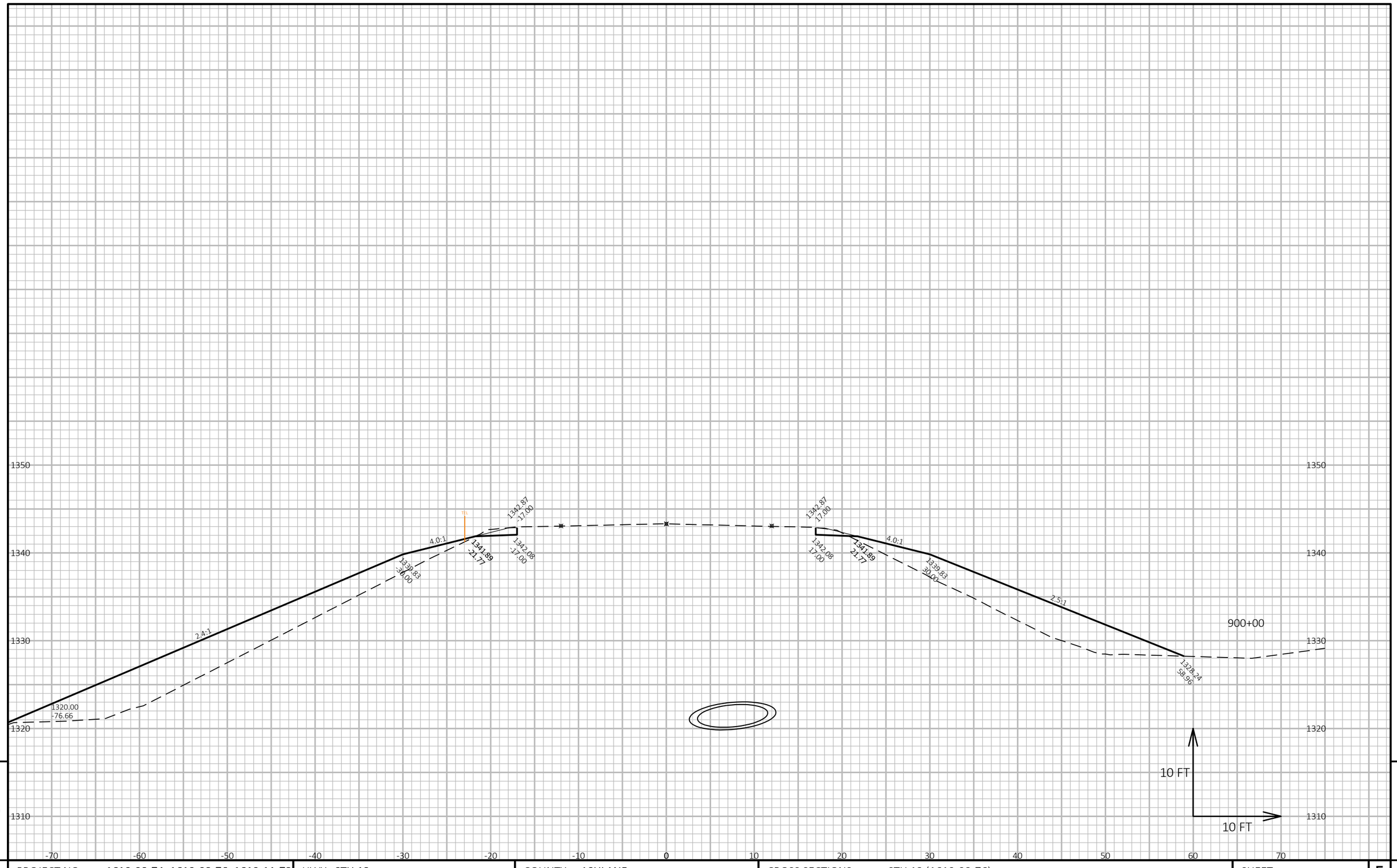
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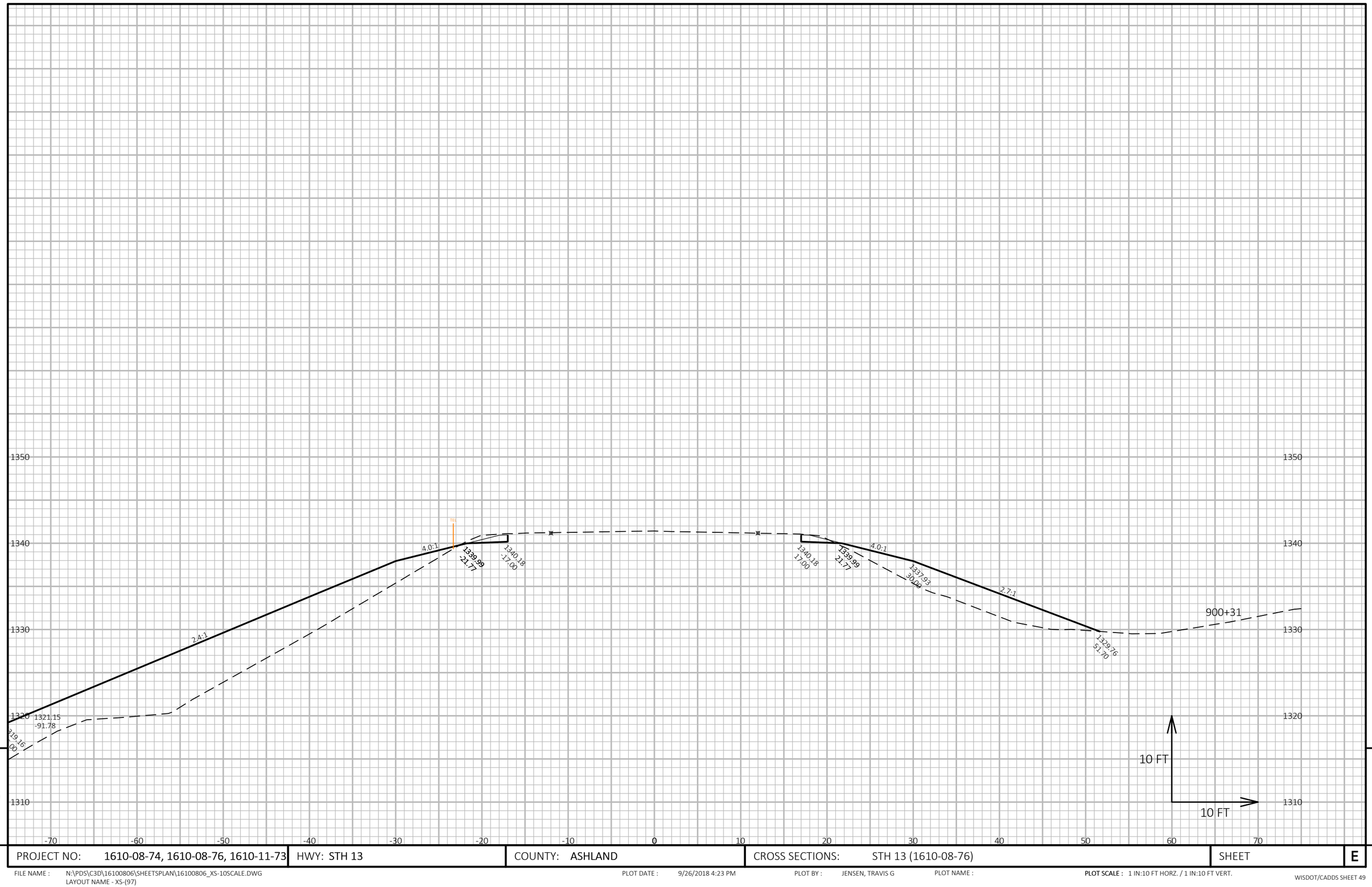
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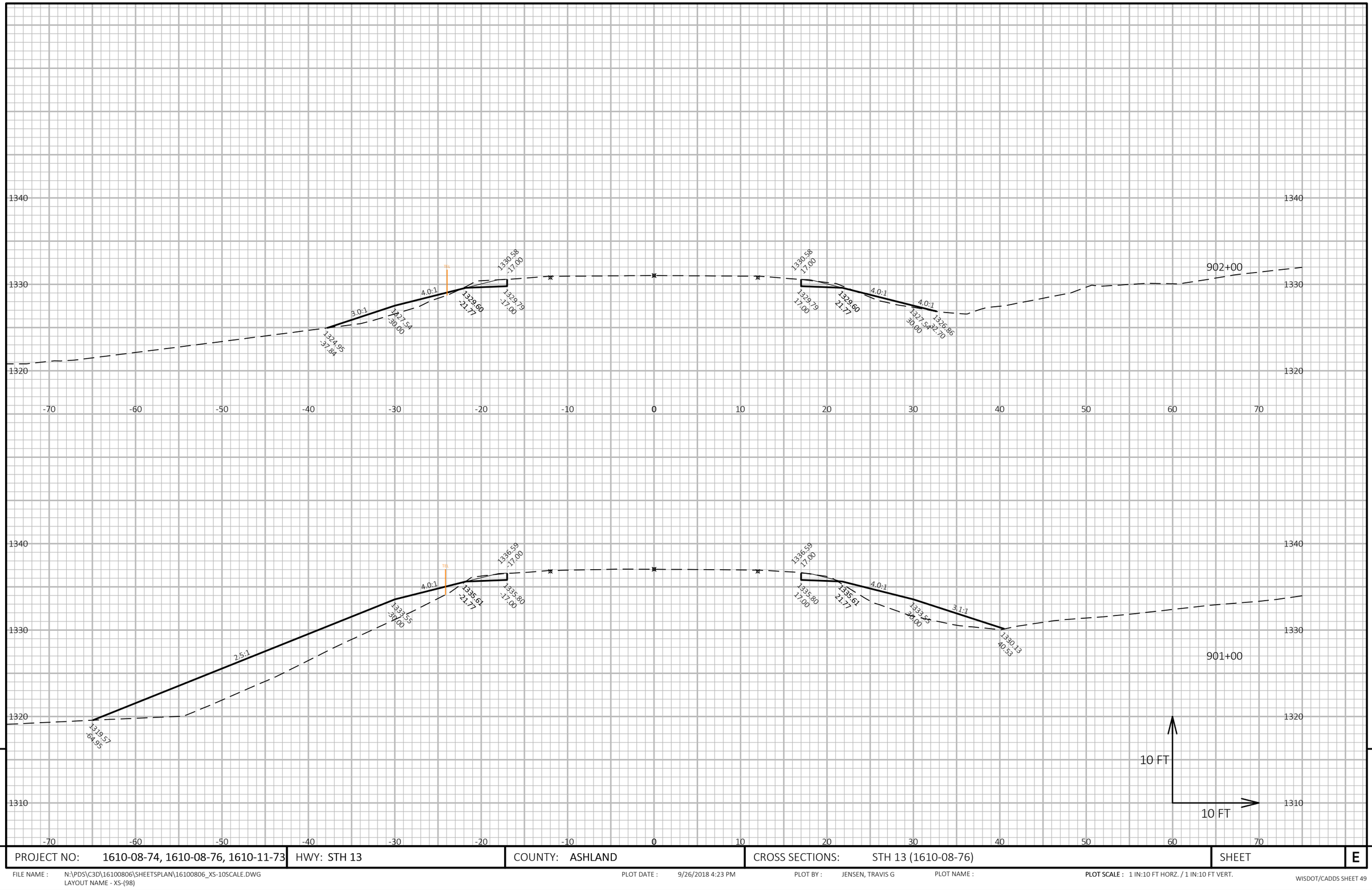
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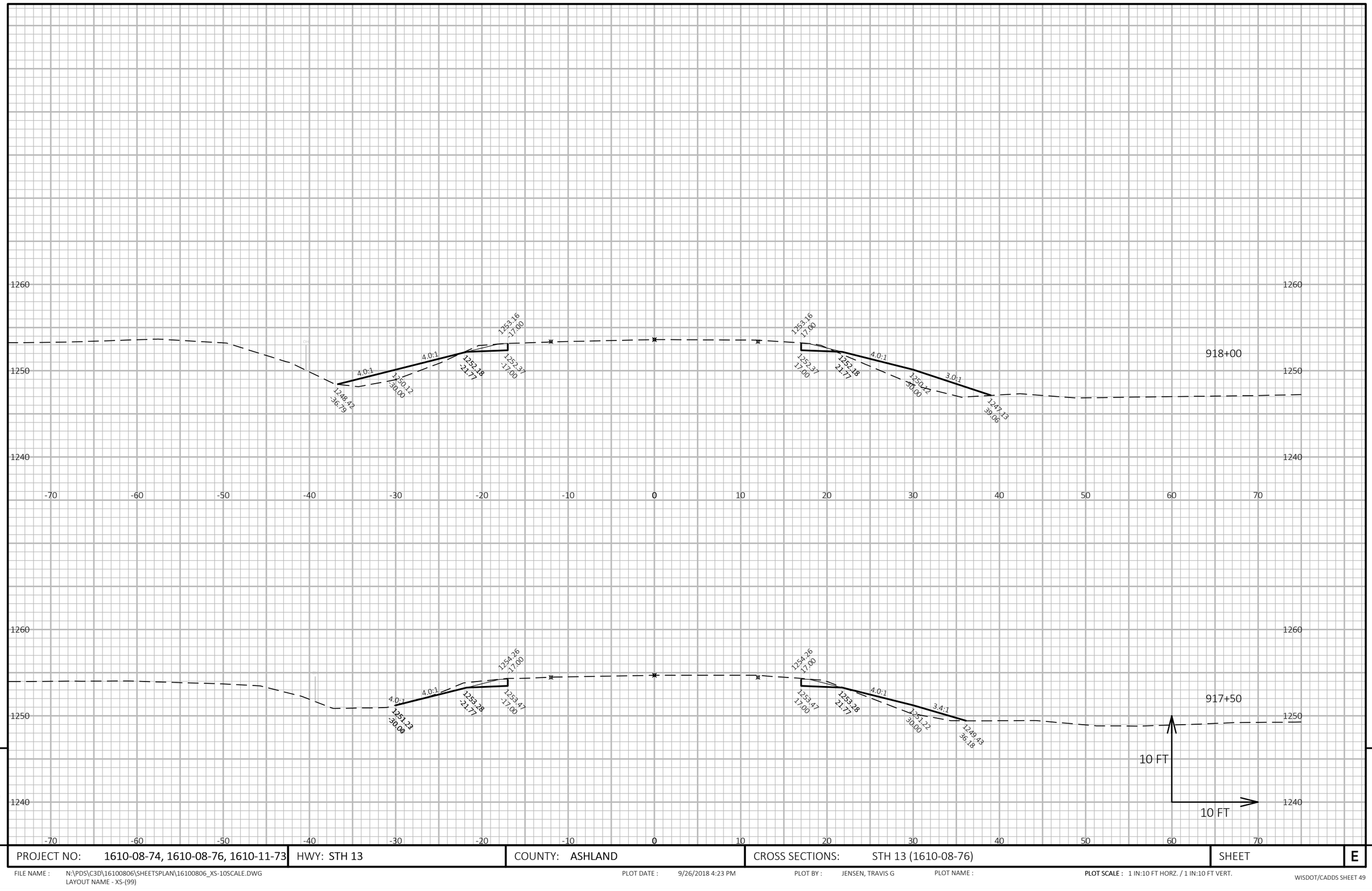
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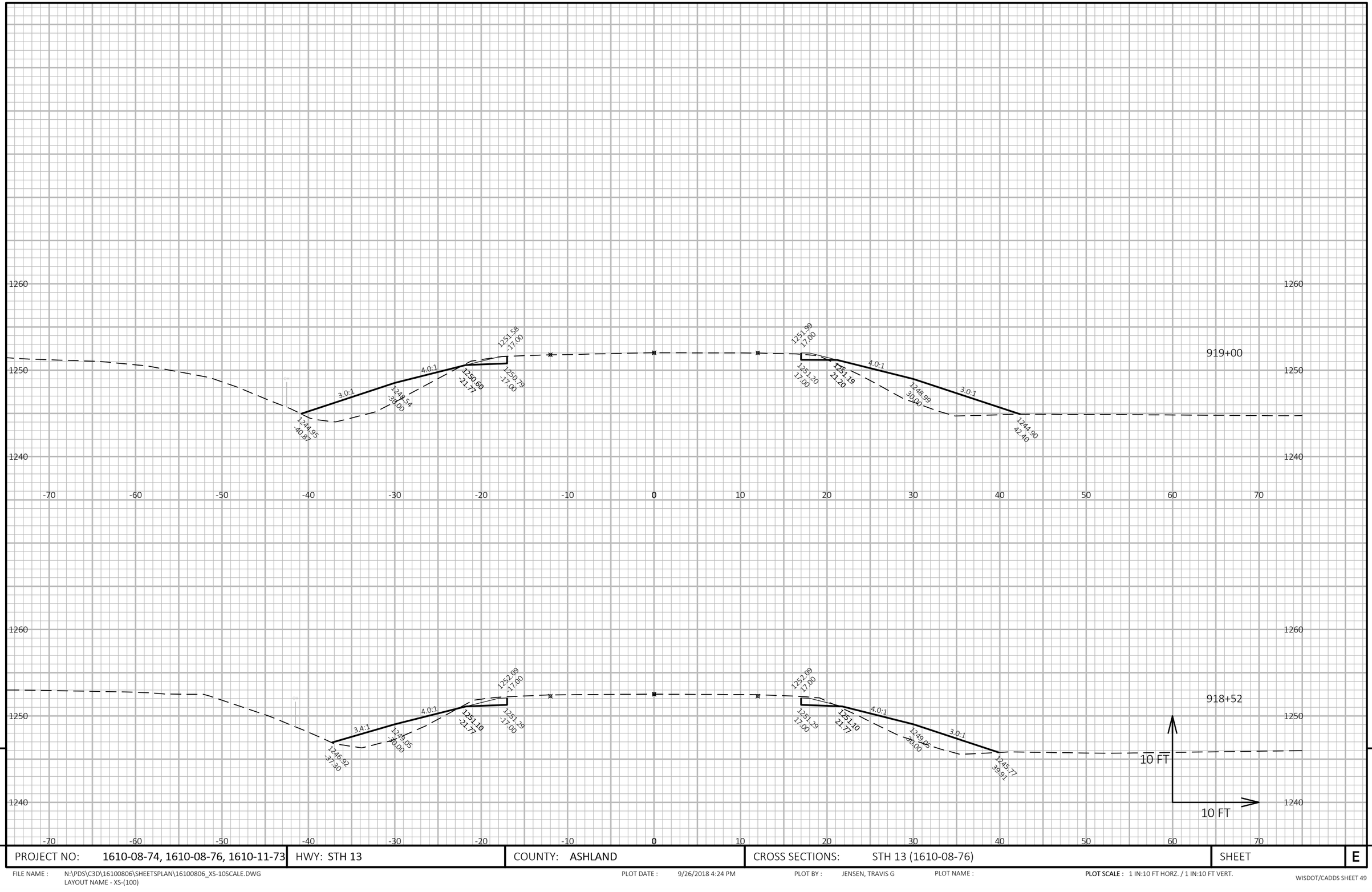
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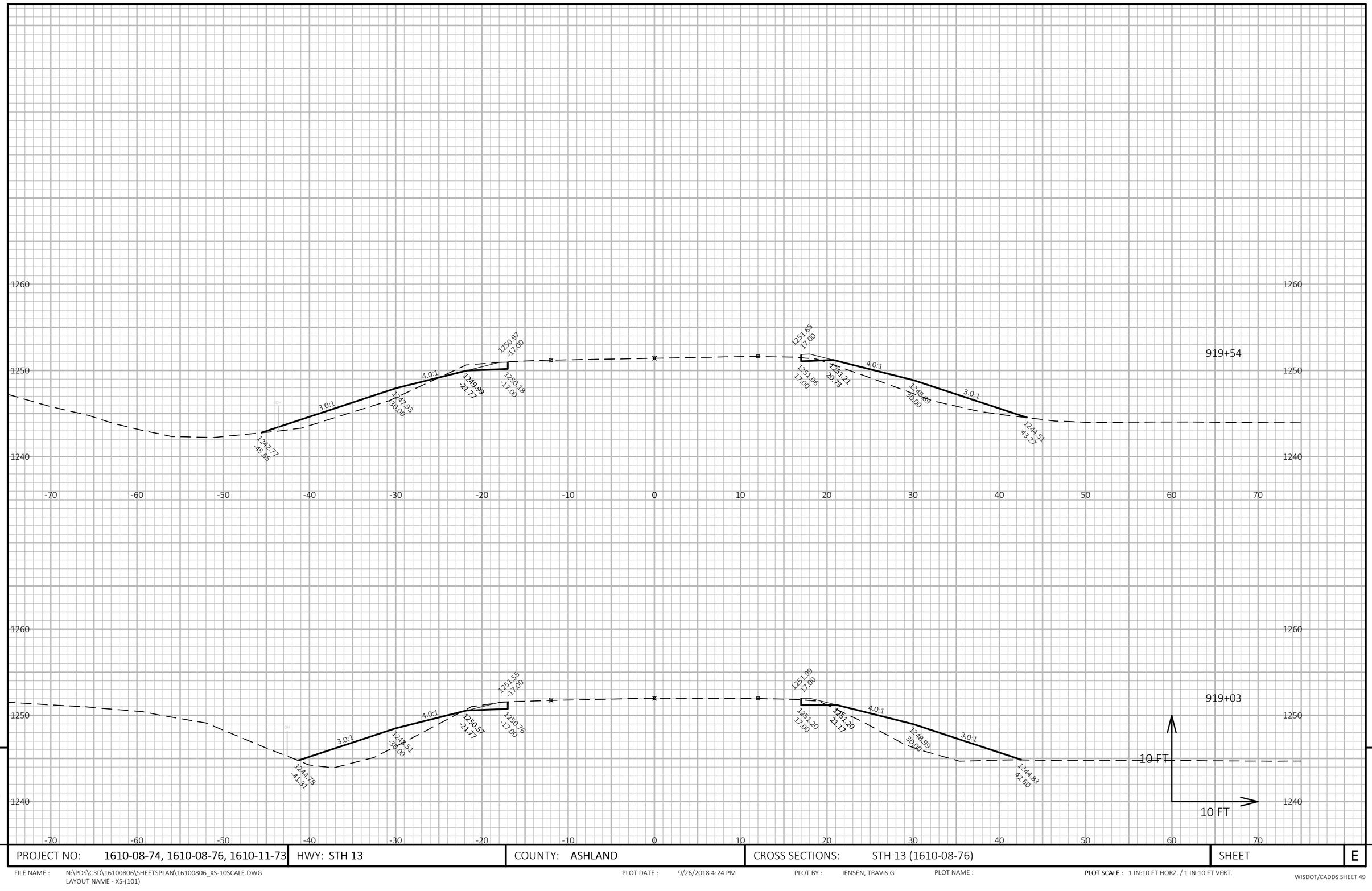
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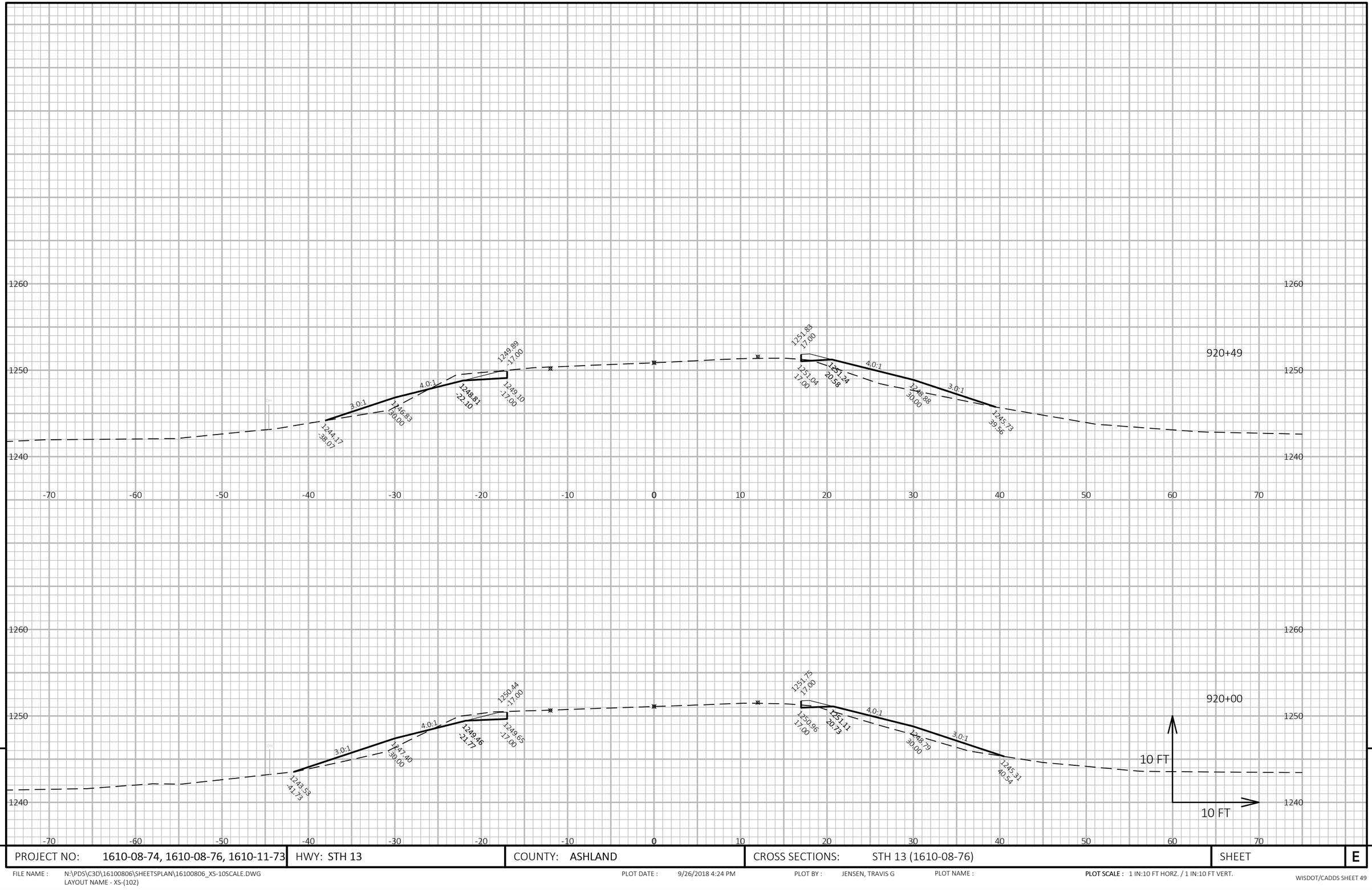
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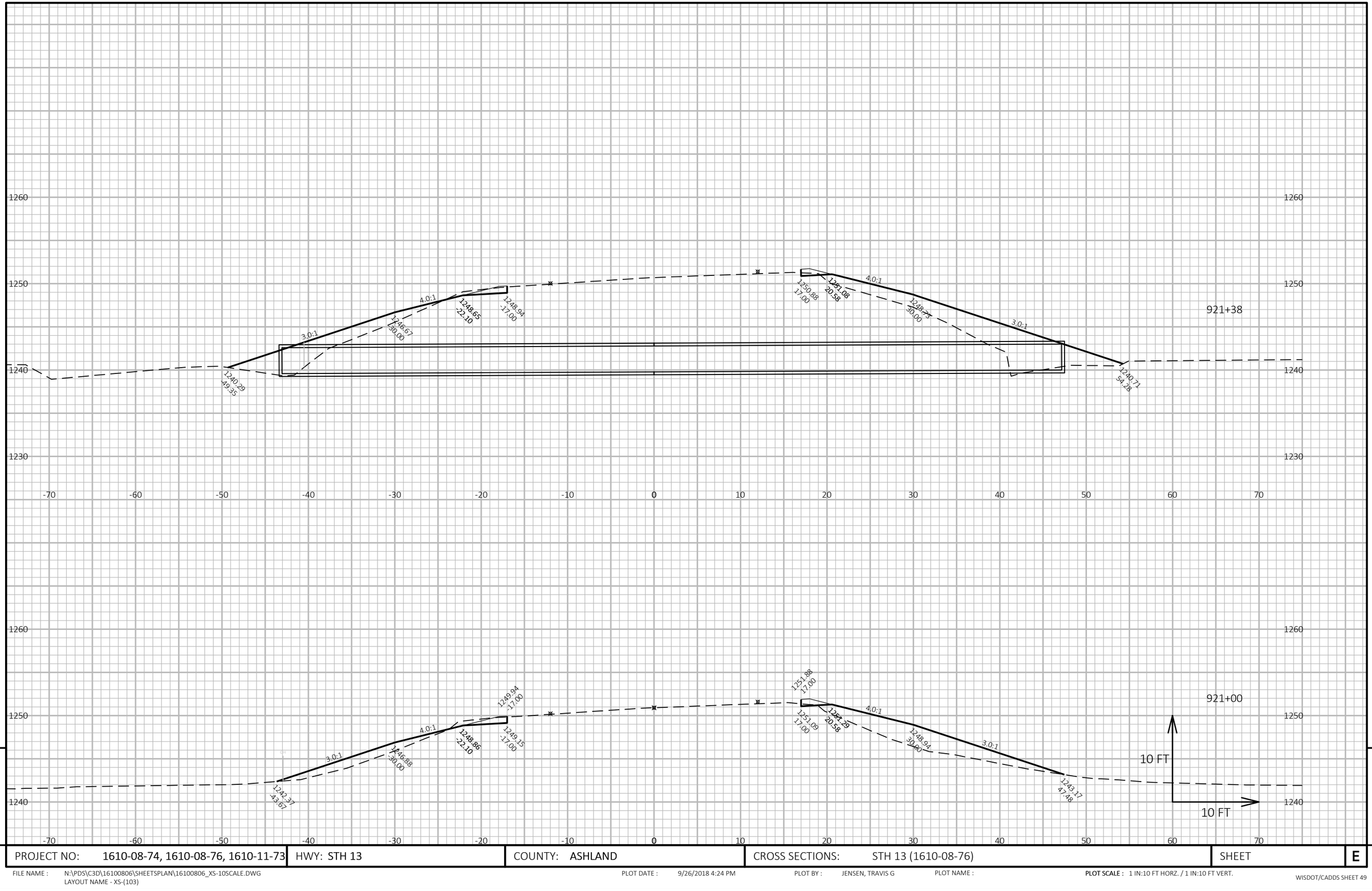


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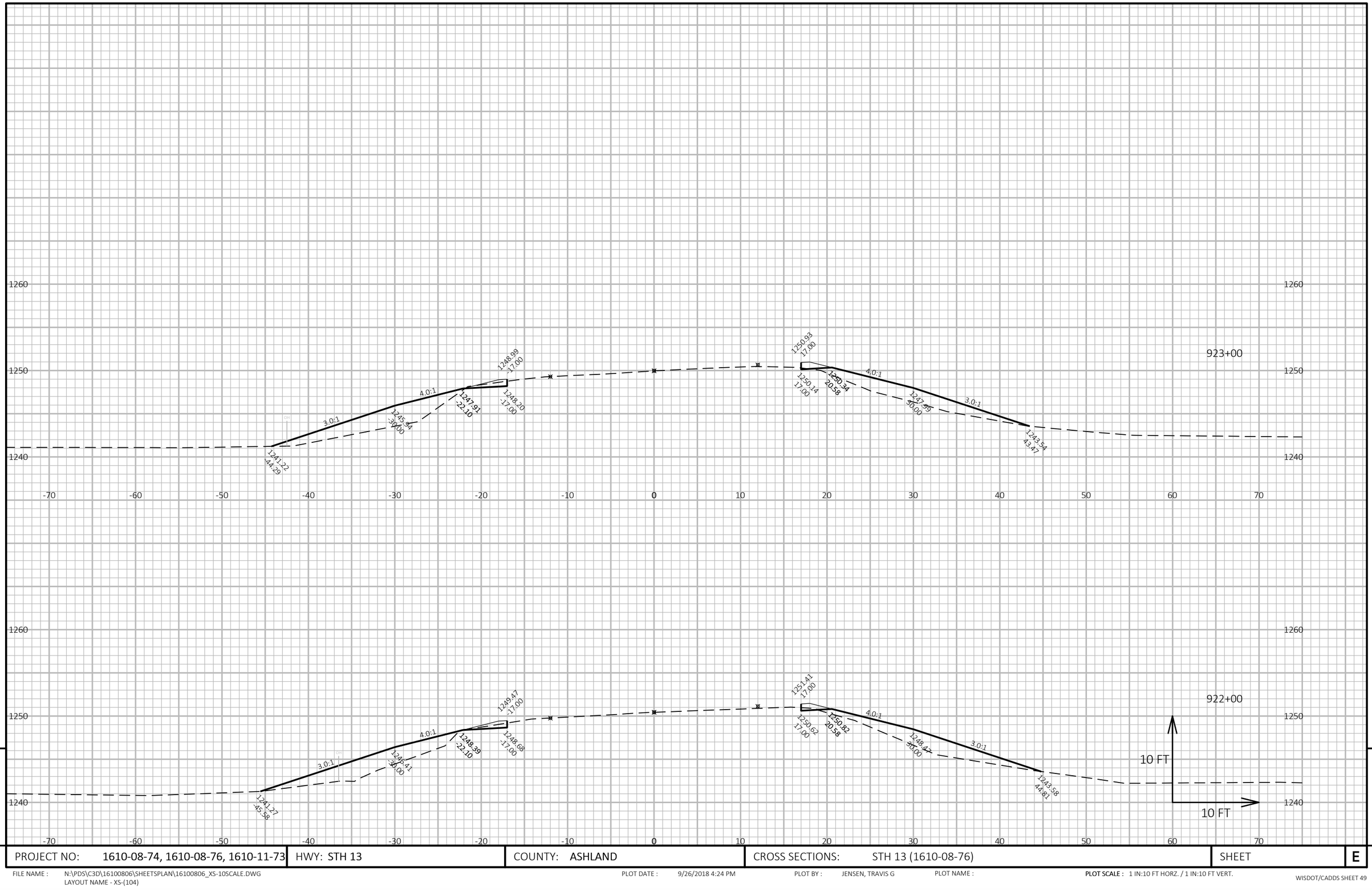
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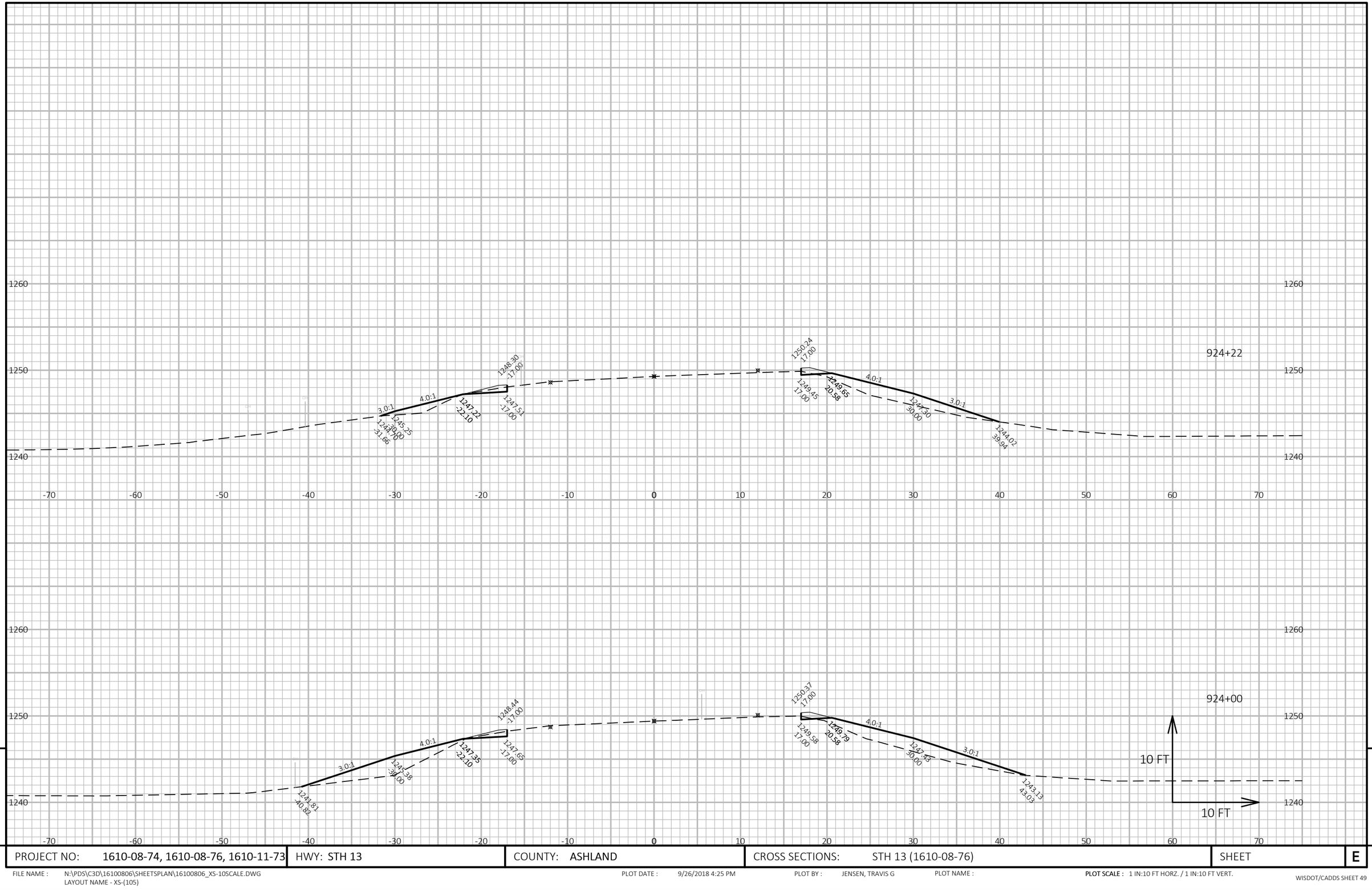


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Wetland Delineation Report

STH 13 Morse Road to Cayuga Road

Cardno Project Number: J157001M16



Prepared for
Wisconsin Department of Transportation

August 29, 2016

Cardno
Shaping the Future

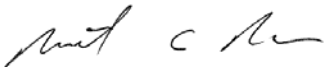
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Table of Contents

1 Introduction 5

2 Methods 7

2.1 Background Information 7

2.1.1 USGS Topographical Map 7

2.1.2 Soil Survey 7

2.1.3 Mapped Wetlands 8

2.1.4 Current, Historic, and High-Resolution Aerial Imagery 8

2.2 Investigation Methodology 8

2.2.1 Site Photographs 8

2.2.2 Delineation Data Sheets 9

2.2.3 Survey of Wetland Boundary 9

2.3 Site-specific Agency Guidance and Prior Concurrence 9

3 Results and Discussion 10

3.1 Recent Climatic Conditions and Precipitation Data 10

3.2 General Site Conditions 10

3.3 Uplands 10

3.4 Wetlands 11

3.4.1 Wet Meadow (8.6 Acres, 84% of Project Area) 11

3.4.2 Shallow Marsh (0.88 Acres, 9% of Project Area) 11

3.4.3 Wooded Swamp (0.44 Acres, 4% of Project Area) 11

3.4.4 Shrub Scrub (0.21 Acres, 2% of Project Area) 11

3.4.5 Riparian Emergent Wetland (0.13 Acres, 1% of Project Area) 11

3.4.6 Naturally Problematic and Significant Disturbed Wetlands 12

3.5 Waterways 12

3.6 Other Water Resources Identified 12

4 Summary and Conclusion 13

5 Literature Cited 14

Figures

1. Project Location
2. Topographic Map
3. Mapped Soil Units
4. Wisconsin Wetland Inventory
5. Delineated Wetlands
6. Photo Points

Appendices

A. Site Photographs

B. Wetland Determination Data Sheets – Northcentral Great Lakes Region

C. WisDOT Wetland Classification System

D. Summary of Delineated Wetlands

1 Introduction

Cardno was contracted to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Morse Road to Cayuga Road, approximately 70 feet from the centerline of both sides of the 4.5 miles long highway corridor, located in Ashland County, WI. The Wisconsin Department of Transportation (WisDOT) is proposing work within the project area that has the potential for permitting which may require a wetland delineation. This project area and associated delineation boundary are depicted in Figures 1-6.

Based on field investigations conducted by Cardno on July 11, July 25, and July 26 26, 2016, and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Cardno staff. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- Zach Waechter – Senior Project Scientist – Project Manager; Lead Field Delineator: Zach has been working in the field of wetland ecology for over four years and hold Bachelors' of Science in Soil and Land Management and Resource Management from the University of Wisconsin-Stevens Point. As Senior Project Scientist, Zach conducts environmental surveys, including wetland delineation, site characterization, land cover classification, survey of the work area for environmental considerations, pre-construction threatened and endangered species surveys, invasive species mapping, and hydrologic survey of wetland mitigation sites, with an emphasis on utility (oil, electric, transportation) sectors. He writes reports for wetland delineations, wetland mitigation site monitoring, wetland mitigation site searches, and environmental impact statements.
- Jameson Loesch – Senior Staff Scientist – Lead Field Delineator: Jameson maintains a leading role as a GIS analyst, while also providing technical support for field work. He is responsible for the acquisition/creation, management and analysis of large datasets for both small and large multi-year projects, as well as the creation of maps and figures for many of Cardno's GIS projects. With nine years of experience in spatial data analysis, Jameson often works with project managers and clients to develop custom GIS tools, which help to standardize analysis and increase efficiency. Jameson conducts FSA Slide Reviews and also takes part in field botany efforts for wetland delineations, endangered species surveys, wetland mitigation bank monitoring, botanical inventories, as well as aid in the preparation of reports.
- Robb Roos – Senior Project Scientist – Lead Field Delineator: Robb Roos has been working in the field of wetland ecology and ecological restoration for ten years. He holds a Master of Science degree in Biology with an emphasis in Restoration Ecology from Grand Valley State University. Robb has been leading wetland delineation field teams for over three years with Cardno on projects throughout the Midwest. Robb has also completed WDNR and USACE-based wetland delineation trainings and is currently certified as a Wetland Professional in Training by the Society of Wetland Scientists. Currently, Robb leads wetland delineations, habitat surveys, mitigation projects, report writing, and project management.
- Will Taylor – Staff Scientist – Field Delineator: Will has been working in the field of wetland ecology and restoration for over three years and holds a Bachelor's of Science in Conservation Biology from the University of Wisconsin-Madison. He has conducted restoration and mitigation site monitoring for over three years. Currently, Will leads and assists with wetland delineations, habitat surveys, restoration projects, and report writing.

- Ken Carlson – Staff Scientist –Field Delineator: Ken Carlson has spent three years working in the field of wetland restoration and ecology with Cardno and the past two years participating in wetland delineations and surveys. He holds a Bachelor of Science degree in Environmental Policy and Planning, Environmental Science from the University of Wisconsin – Green Bay. Other related training includes completion of the WDNR and USACE basic wetland delineation training and NASECA erosion control inspection training courses. Currently, Ken's job responsibilities include assistance in wetland delineation, conducting field surveys for threatened/endangered species and habitat, permitting, construction oversight, and environmental project management for a variety of utility projects.
- Ryan Wnuk – Assistant Staff Scientist –Field Delineator: As an Assistant Staff Scientist, Ryan is responsible for environmental permitting, construction monitoring, habitat restoration and all associated field activities for projects in the oil, electric and transportation sectors. This includes performing natural area rare, threatened, and endangered species surveys, wetland delineations, and general project related environmental compliance oversight. Ryan also actively assists senior project managers with technical report writing, project management needs and GIS data interpretation, manipulation and management. Ryan holds Bachelor Degrees in Environmental Studies and Economics from the University of Wisconsin – Madison.
- Alex Cohen – GIS Technician – GIS Analyst: Alex has several years of experience in natural resource ecology, including field work, GIS analysis, cartography, and modeling. He holds an M.S. in Computational Ecology from Purdue University and a B.S. in Biology/Psychology from Calvin College. Currently, Alex provides GPS/GIS support, data analysis/statistical capabilities, programming expertise, aerial image analyses, and mapping services. He also performs endangered species surveys and assists in the field with wetland delineations and other surveys.

2 Methods

2.1 Background Information

Sources of information that were consulted to identify potential wetlands within the project area prior to field investigation are listed below:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Ashland County, Wisconsin (Figure 3)
- WDNR Wisconsin Wetlands Inventory (WWI) Mapping (Figure 4)
- ESRI Basemap 2015 Aerial Photograph (Figures 3-5), Google Earth Historic Aerial Imagery, and Pictometry High Resolution (low elevation, plane-flown) Imagery
- WDNR Surface Water Data Viewer

These maps identify potential wetlands and wetland soil units on the site. The sole use of any of these maps to make wetland determinations is not acceptable. Descriptions of findings from the review of this background information is provided in the subsections, below.

2.1.1 USGS Topographical Map

The USGS topographic map (Figure 2) shows entire project area is generally along the southern portion of the road with undulating topography in the northern portions. Field reviewed local relief verified those findings mentioned above.

2.1.2 Soil Survey

The NRCS soil map of the project area (Figure 3) identified the 15 soil types outlined in Table 2-1, below.

Table 2-1 Mapped Soil Units within the Project Area

Symbol	Description	Hydric Soil Unit?	Acreage
5140A	**Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes**	**Yes**	**1.93**
5141A	**Lupton-Pleine-Cathro complex, 0 to 1 percent slopes**	**Yes**	**8.57**
5172B	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes	No	8.54
5172C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	No	21.29
5173D	Gogebic-Pence complex, 18 to 35 percent slopes, very stony	No	2.03
670C	Keweenaw-Pence complex, 6 to 15 percent slopes, stony	No	5.34
670E	Keweenaw-Pence complex, 15 to 45 percent slopes, stony	No	0.04
9012B	Sayner-Lindquist complex, 0 to 6 percent slopes	No	0.03
9012C	Sayner-Lindquist complex, 6 to 15 percent slopes	No	2.92
9013A	Tipler-Manitowish complex, 0 to 3 percent slopes	No	6.48
9050A	**Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded**	**Yes**	**1.47**
9051A	**Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony**	**Yes**	**8.91**
9113B	Padus-Karlin complex, 0 to 6 percent slopes	No	6.83
9155A	**Haplosaprists, Peats and Mucks, 0 to 1 percent slopes**	**Yes**	**1.61**
W	**Water**	**NA**	**0.16**
		Total:	76.15

2.1.3 Mapped Wetlands

The WWI map of the project area (Figure 4) identified the approximately 10.12 acres of wetlands outlined in the Table 2-2, below.

Table 2-2 Mapped WWI Features within the Project Area

WWI	Wetland Type	Acreage
PEMC	Freshwater Emergent Wetland	<0.001
PFO1/4Bg	Freshwater Forested/Shrub Wetland	3.81
PFO2/SS3Bg	Freshwater Forested/Shrub Wetland	3.34
PFO2Bg	Freshwater Forested/Shrub Wetland	1.84
PSS1Bg	Freshwater Forested/Shrub Wetland	0.99
R2UBH	Riverine	0.14
	Total:	10.12

2.1.4 Current, Historic, and High-Resolution Aerial Imagery

A 2015 aerial photograph, multiple years of historic imagery, and recent high-resolution imagery were reviewed in order to evaluate the property for possible wetland signatures. Based on this imagery, numerous potential wetland visual signatures were identified within the project area. All wetland signatures were field verified to determine if wetlands are present.

2.2 Investigation Methodology

The delineation of wetlands and other waters of the State were based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* Version 2.0 (Environmental Laboratory, 2012) as required by current policy.

Prior to the field work, the background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. Next, a general reconnaissance of the entire project area site was conducted to evaluate site conditions. On July 11, 25, and 26, 2016, the site was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation. Soils were examined to a depth of at least 24 inches (unless fill was encountered) to assess soil characteristics, site hydrology, and comparison to known NRCS hydric soil indicators. Complete descriptions of typical soil series can be found in the soil survey for this county.

Vegetative community boundaries were identified, mapped, and either a representative Data Point or notes on hydrology and dominant vegetation were taken within each of their limits. These community types are differentiated by color codes on the Delineated Wetlands and Waterways Figure (Figure 1).

Delineation in the field only occurred within the original project boundary (project area) provided to Cardno. This project area is depicted on all Figures that accompany this report.

2.2.1 Site Photographs

Photographs of data point, waterway, and general photo point locations are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the site. Photo naming refers to labels identified on Figure 5 Delineated Wetland and Figure 6 Photo Points.

- DP = Data Point (includes photos of these areas)
- PP = Photo Point only
- S= Stream
- W=Wetland

2.2.2 Delineation Data Sheets

The Northcentral Great Lakes Region routine wetland delineation data sheets used in the wetland delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the 2016 National Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the USDA NRCS Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA-NRCS 2010).

2.2.3 Survey of Wetland Boundary

The wetland delineation map (Figure 5) reflects the wetland boundaries described below.

Cardno GPS surveyed all data point locations and wetland boundary locations. The field data collection settings, within GPS units, use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Using the WAAS (Wide Area Augmentation System), satellite readings provide sub-meter accuracy on data point locations and wetland boundaries (generally within 1-2 feet). Cardno's GPS units acquire multiple readings per data point to increase accuracy.

Please note that while Cardno's GPS survey provides reasonably accurate spatial information regarding the wetlands delineated, it does not constitute the same accuracy as a professional land survey. The St. Paul District USACE and WDNR may require an official survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes.

2.3 Site-specific Agency Guidance and Prior Concurrence

There is no knowledge of previous wetland delineation mapping at this site.

3 Results and Discussion

3.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 30-year dataset (1971-2000) from a nearby weather station (Hurley, WI3800) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated wet precipitation conditions at the time of the delineation on July 11, July 25, and July 26, 2016. The antecedent hydrologic condition analysis is provided below:

		Long-term rainfall records							
	Month	3 yrs. In 10 less than	normal	3 yrs. In 10 more than	Actual Rainfall	Condition: Wet, Normal, Dry	Condition Value	Month Weight Value	Product of previous 2 columns
3rd Prior Month	April	1.56	2.08	2.43	3.3	Wet	3	1	3
2nd Prior Month	May	2.27	2.99	3.48	3.68	Wet	3	2	6
1st Prior Month	June	3.20	3.88	4.39	6.02	Wet	3	3	9
								Sum	18
								Antecedent Precipitation Conditions	Wet

NOTE: if sum is:		Condition Values:	
6 to 9	then prior period has been drier than normal	Dry	1
10 to 14	then prior period has been normal	Normal	2
15 to 18	then prior period has been wetter than normal	Wet	3

WETS Table Monthly Rainfall — WEATHER STATION LOCATION HURLEY, WI3800

3.2 General Site Conditions

Based on Cardno's field investigation and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area (Figure 5). Descriptions of the wetlands and waterways identified are located in Sections 3.4 and 3.5, below.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

3.3 Uplands

Most of the upland within the Project Area consist of roadside clearings within forested areas. Vegetation along roadsides often include smooth brome (Bromus inermis, FACU), Kentucky bluegrass (Poa pratensis, FAC), bracken fern (Pteridium aquilinum, FACU) and a variety of weedy forb species. The forested areas adjacent to the Project area included both deciduous coniferous trees, including sugar maple (Acer Saccharum, FACU), quaking aspen (Populus tremuloides, FAC), white spruce (Picea glauca, FACU), and balsam fir (Abies balsamea, FAC). In most cases, indicators of hydric soil and/or wetland hydrology were not observed within the upland areas.

3.4 Wetlands

In the entire project area, a total of 41 wetland complexes were identified within the survey area. Appendix D summarizes the wetland data collected within the Project Area. The full wetland delineation data sheets area included as Appendix B.

Appendix D summarizes the wetland community types identified within the Project Area. Within the table a description of the observed hydric soil, and hydrologic indictors, plant species, and wetland community type(s), based upon the WisDOT Wetland Classification (Appendix C), within the wetland complex, and associated data point. The data point listed on the table correlates to the data forms contained in Appendix B. In addition to the table, general descriptions of the wetland plant communities mapped on Figure 5 (according to the WisDOT Wetland Classification, Appendix C) are described below.

3.4.1 Wet Meadow (8.6 Acres, 84% of Project Area)

Approximately 8.6 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 84% of the total wetlands identified. While several of the fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*, FACW), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex* spp.), Canada Bluejoint (*Calamagrostis canadensis*, OBL), Rushes (*Juncus effusus* and *J. canadensis*, OBL), and Green Bulrush (*Scirpus atrovirens*).

3.4.2 Shallow Marsh (0.88 Acres, 9% of Project Area)

Approximately 0.88 acres of the Shallow Marsh Community was identified within the Project Area. This was the second most abundant wetland type which comprised approximately 9% of the total wetlands identified. This wetland community was typically dominated by Cattails (*Typha latifolia*, OBL) with sub-communities that included Common Rush (*Juncus effusus*, OBL), Green Bulrush (*Scirpus atrovirens*, OBL) and Canada Bluejoint (*Calamagrostis canadensis*, OBL). Typically standing water and/or a high water table was observed in these wetland communities.

3.4.3 Wooded Swamp (0.44 Acres, 4% of Project Area)

Approximately 0.44 acres of the Wooded Swamp Community was identified within the Project Area. This was the third most abundant wetland type which comprised about 4% of the total wetlands identified. The areas of wooded swamp were included a variety of tree, including White Spruce (*Picea glauca*, FACU), Balsam Fir (*Abies balsamea*, FAC), Quaking Aspen (*Populus tremuloides*, FAC), White Cedar (*Thuja occidentalis*, FACW), American Elm (*Ulmus americana*, FACW), and Balsam Popular (*Populus balsamifera*, FACW). Herbaceous vegetation included Bunchberry (*Cornus canadensis*, FAC), Canada Bluejoint (*Calamagrostis canadensis*, OBL), and Sedges (*Carex* spp.).

3.4.4 Shrub Scrub (0.21 Acres, 2% of Project Area)

Approximately 0.21 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 2% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*, FACW), intermixed with patches of Red Maple (*Acer rubrum*, FAC), Sandbar Willow (*Salix interior*, FACW), and White Meadow Sweet (*Spirea alba*, FACW). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*, OBL), Sensitive Fern (*Onoclea sensibilis*, FACW), and sedge species (*Carex* spp.).

3.4.5 Riparian Emergent Wetland (0.13 Acres, 1% of Project Area)

Approximately 0.13 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 1% of the

total wetlands identified. This area consisted of Canada Bluejoint (*Calamagrostis canadensis*, OBL) with patches of willow (Salix bebbiana, FACW), Jewelweed (*Impatiens capensis*, FACW), Fireweed (*Chamaenerion angustifolium*, FAC), and Arrowleaf Tearthumb (*Persicaria sagittata*, OBL).

3.4.6 Naturally Problematic and Significant Disturbed Wetlands

No areas of naturally problematic wetlands were noted. Significantly disturbed wetlands did occur within the Project Area and were noted on their respective wetland determination data forms. Significantly disturbed soils were observed where fill material from the existing road grade was present. Significantly disturbed vegetation was observed where the road right-of-way had been mowed. In both cases Cardno used their best professional judgment and the use of the resources mentioned in the methods section, above, to determine the wetland boundary.

3.5 Waterways

Cardno determined that seven waterways exist within the project area. A summary of the delineated waterways is contained in Table 3-1, below. Representative photographs of waterways are provided in Appendix A.

Table 3-1 Delineated Waterways within the Project Area

Stream ID	Waterway Name/Connecting Waterbody	OHWM Width (feet)	Substrate
S-01	Spillerberg Creek	25	Mud/Silt
S-02	Unnamed	35	Mud/Silt
S-03	Unnamed	18	Mud/Silt
S-04	Bad River	70	Gravel
S-05	Unnamed	4	Constructed
S-06	Unnamed	3	Mud/Silt
S-07	Unnamed	4	Mud/Silt

3.6 Other Water Resources Identified

No other water resources were identified within the project area. No known stormwater features were identified within close proximity to the project area based on background information review.

There is no known previous wetland delineation mapping of the project area.

4 Summary and Conclusion

Cardno was contracted by WisDOT to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Morse Road to Cayuga Road, approximately 70’ from the centerline of both sides of the 4.5 miles long highway corridor, located in Ashland County, WI.

Based on field investigations conducted by Cardno on July 11, July 25, and July 26, 2016, and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area. This report represents our best professional judgment based on our knowledge and experience.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

Environmental Laboratory. 1987. *U.S. Army Corps of Engineers' Wetland Delineation Manual*, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.

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STH 13 Morse Road to Cayuga Road

APPENDIX A

SITE PHOTOGRAPHS



Photograph DP-01-A; Representative photograph facing North



Photograph DP-01-B; Representative photograph facing North.



Photograph DP-01-B; Representative photograph facing South.



Photograph DP-02-A; Representative photograph facing North.



Photograph DP-02-B; Representative photograph facing North.



Photograph DP-02-B; Representative photograph facing South.



Photograph DP-03-A; Representative photograph facing North.



Photograph DP-03-B; Representative photograph facing East



Photograph DP-04-A; Representative photograph facing East.



Photograph DP-04-B; Representative photograph facing East.



Photograph DP-05-A; Representative photograph facing South.



Photograph DP-05-B Representative photograph facing East.



Photograph DP-06-A; Representative photograph facing Southeast.



Photograph DP-06-B; Representative photograph facing South.



Photograph DP-07-A; Representative photograph facing North.



Photograph DP-07-B; Representative photograph facing North.



Photograph DP-07-B; Representative photograph facing South.



Photograph DP-08-A; Representative photograph facing North



Photograph DP-08-B; Representative photograph facing North.



Photograph DP-08-B; Representative photograph facing South.



Photograph DP-09-A; Representative photograph facing North.



Photograph DP-09-B; Representative photograph facing North.



Photograph DP-10-A; Representative photograph facing Northeast.



Photograph DP-10-B; Representative photograph facing East.



Photograph DP-11-A; Representative photograph facing South.



Photograph DP-11-B; Representative photograph facing East.



Photograph DP-12-A; Representative photograph facing South.



Photograph DP-12-B; Representative photograph facing South.



Photograph DP-13-A; Representative photograph facing Northwest.



Photograph DP-13-B; Representative photograph facing East.



Photograph DP-14-A; Representative photograph facing Northwest.



Photograph DP-15-A; Representative photograph facing South.



Photograph DP-15-B; Representative photograph facing East.



Photograph DP-16-A; Representative photograph facing West.



Photograph DP-16-B; Representative photograph facing South.



Photograph DP-17-B; Representative photograph facing North.



Photograph DP-17-B; Representative photograph facing Northwest.



Photograph DP-18-A; Representative photograph facing North.



Photograph DP-19-A; Representative photograph facing North.



Photograph DP-19-B; Representative photograph facing Southeast.



Photograph DP-20-A; Representative photograph facing North.



Photograph DP-20-B; Representative photograph facing Northwest.



Photograph DP-21-A; Representative photograph facing South.



Photograph DP-21-B; Representative photograph facing Northwest.



Photograph DP-21-B; Representative photograph facing North.



Photograph DP-22-A; Representative photograph facing South.



Photograph DP-22-B; Representative photograph facing Northwest.



Photograph DP-23-A; Representative photograph facing East.



Photograph DP-23-B; Representative photograph facing Northwest.



Photograph DP-24-A; Representative photograph facing Northeast.



Photograph DP-24-B; Representative photograph facing Northwest.



Photograph DP-25-A; Representative photograph facing North.



Photograph DP-25-B; Representative photograph facing Northwest.



Photograph DP-26-A; Representative photograph facing East.



Photograph DP-26-B; Representative photograph facing Southwest



Photograph DP-27-A; Representative photograph facing North.



Photograph DP-27-B; Representative photograph facing Southeast.



Photograph DP-28-A; Representative photograph facing North.



Photograph DP-28-B; Representative photograph facing Southeast.



Photograph DP-29-A; Representative photograph facing East.



Photograph DP-29-B; Representative photograph facing Southeast.



Photograph DP-30-A; Representative photograph facing North.



Photograph DP-30-B; Representative photograph facing Northwest.



Photograph DP-31-A; Representative photograph facing North.



Photograph DP-31-B; Representative photograph facing Northwest.



Photograph DP-32-A; Representative photograph facing Northeast.



Photograph DP-32-B; Representative photograph facing South.



Photograph DP-33-A; Representative photograph facing North.



Photograph DP-33-B; Representative photograph facing South.



Photograph DP-34-A; Representative photograph facing East.



Photograph DP-34-B; Representative photograph facing South.



Photograph DP-35-A; Representative photograph facing West.



Photograph DP-35-B; Representative photograph facing South.



Photograph DP-36-A; Representative photograph facing West.



Photograph DP-36-B; Representative photograph facing Northwest.



Photograph DP-37-A; Representative photograph facing West.



Photograph DP-37-B; Representative photograph facing North.



Photograph DP-38-A; Representative photograph facing West.



Photograph DP-38-B; Representative photograph facing Northwest.



Photograph DP-39-B; Representative photograph facing North.



Photograph DP-40-A; Representative photograph facing North.



Photograph DP-40-B; Representative photograph facing North.



Photograph DP-41-A; Representative photograph facing North.



Photograph DP-41-B; Representative photograph facing North.



Photograph DP-42-A; Representative photograph facing North.



Photograph DP-42-B; Representative photograph facing North.



Photograph DP-43-A; Representative photograph facing West.



Photograph DP-43-B; Representative photograph facing Southeast.



Photograph DP-44-A; Representative photograph facing South.



Photograph DP-45-A; Representative photograph facing South.



Photograph DP-46-A; Representative photograph facing South.



Photograph DP-47-A; Representative photograph facing East.



Photograph DP-48-A; Representative photograph facing South.



Photograph DP-49-A; Representative photograph facing South.



Photograph DP-50-A; Representative photograph facing West.



Photograph DP-51-A; Representative photograph facing South.



Photograph DP-52-A; Representative photograph facing South.



Photograph DP-53-A; Representative photograph facing South.



Photograph DP-54-A; Representative photograph facing West.



Photograph DP-55-A; Representative photograph facing South.



Photograph DP-56-A; Representative photograph facing South.



Photograph DP-57-A; Representative photograph facing North.



Photograph DP-58-A; Representative photograph facing Southeast.



Photograph DP-59-A; Representative photograph facing Southeast.



Photograph DP-60-A; Representative photograph facing Southeast.



Photograph DP-61-A; Representative photograph facing Southeast.



Photograph DP-62-A; Representative photograph facing South.



Photograph DP-63-A; Representative photograph facing North.



Photograph PP-01: Upland; Representative photograph facing North



Photograph PP-1: Upland; Representative photograph facing South.



Photograph PP-02: W-02-B; Wooded Swamp; Representative photograph facing North.



Photograph PP-02: W-02-B; Wooded Swamp; Representative photograph facing South.



Photograph PP-03: W-02-B; Shrub Scrub; Representative photograph facing East.



Photograph PP-04: W-01-B; Wet Meadow; Representative photograph facing East.



Photograph PP-05: Upland Roadside; Representative photograph facing North.



Photograph PP-06: W-03-B; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-06: W-03-B; Shrub scrub; Representative photograph facing Southeast.



Photograph PP-07: W-03-B; Shrub scrub; Representative photograph facing Southeast.



Photograph PP-07: W-03-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-08: Upland Roadside; Representative photograph facing North.



Photograph PP-09: W-01-A; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-10: Upland Roadside; Representative photograph facing Northeast.



Photograph PP-011: W-02-A; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-12: Upland Roadside; Representative photograph facing Southeast.



Photograph PP-13: W-03-A; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-14: W-04-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-15: W-04-A; Wet Meadow; Representative photograph facing North.



Photograph PP-16: W-05-A; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-17: W-06-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-18: W-07-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-18: W-07-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-19: W-08-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-20: W-09-A; Wet Meadow; Representative photograph facing North.



Photograph PP-21: W-10-A; Shallow Marsh; Representative photograph facing East.



Photograph PP-22: W-11-A; Shallow Marsh; Representative photograph facing North.



Photograph PP-23: W-12-A; Representative photograph facing Southeast.



Photograph PP-24: W-13-A; Wet Meadow; Representative photograph facing North.



Photograph PP-25: W-07-B; Wet Meadow; Representative photograph facing South.



Photograph PP-26: W-07-B; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-27: W-06-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-28: W-08-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-29: W-09-B; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-30: W-10-B; Wet Meadow; Representative photograph facing South.



Photograph PP-31: W-12-B; Wet Meadow; Representative photograph facing South.



Photograph PP-32: Upland Roadside; Representative photograph facing North.



Photograph PP-33: Upland Roadside; Representative photograph facing South.



Photograph PP-34: W-14-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-35: W-15-A; Wet Meadow; Representative photograph facing South.



Photograph PP-36: W-16-A; Shallow Marsh; Representative photograph facing West.



Photograph PP-37: W-17-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-38: W-18-A; Riparian Emergent Wetland; Representative photograph facing Northwest.



Photograph PP-39: W-19-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-40: W-20-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-41: W-21-A; Wet Meadow; Representative photograph facing South.



Photograph PP-42: W-22-A; Representative photograph facing South.



Photograph PP-43: W-23-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-44: W-24-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-45: W-25-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-46: W-25-A; Shallow Marsh; Representative photograph facing Southeast.



Photograph PP-47: W-26-A; Shallow Marsh; Representative photograph facing Northwest.



Photograph PP-48: W-14-B; Wet Meadow; Representative photograph facing West.



Photograph PP-49: UPLAND; Representative photograph facing North.



Photograph PP-50: W-15-B; Wet meadow; Representative photograph facing Southwest.



Photograph S-01-P01: Cross stream; Representative photograph facing South.



Photograph S-01-P01: Upstream; Representative photograph facing East.



Photograph S-01-P01: Upstream; Representative photograph facing West.



Photograph S-01-P02: Representative photograph facing Northwest.



Photograph S-02-P01: Representative photograph facing Southwest.



Photograph S-02-P01: Representative photograph facing West.



Photograph S-023P01: Downstream; Representative photograph facing South.



Photograph S-03-P01: Upstream; Representative photograph facing South.



Photograph S-03-P01: Cross Stream; Representative photograph facing South.



Photograph S-03-P02: Representative photograph facing West.



Photograph S-04-P01: Upstream; Representative photograph facing East.



Photograph S-04-P01: Cross Stream; Representative photograph facing South.



Photograph S-04-P01: Downstream; Representative photograph facing West.



Photograph S-05-P01: Upstream; Representative photograph facing West.



Photograph S-05-P01: Cross Stream; Representative photograph facing North.



Photograph S-06-P01: Representative photograph facing North.



Photograph S-07-P01; Representative photograph facing Northeast.

STH 13 Morse Road to Cayuga Road

APPENDIX B

WETLAND DETERMINATION DATA SHEETS

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.203800 Long: -90.626809 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus repens*	15	Yes	FACU
2. *Pteridium aquilinum*	10	Yes	FACU
3. *Trientalis borealis*	5	No	FAC
4. *Maianthemum canadense*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	35 (A)		135 (B)
Prevalence Index = B/A =			3.86

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/2	100					Loamy Sand	
16-24"	7.5YR 5/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.196475 Long: -90.625451 Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal. Appears that the soil from 0-24" is fill material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	N/A
Water Table Present?	Yes X	No ____	Depth (inches):	7"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex stricta*	70	Yes	OBL
2. *Solidago altissima*	15	No	FACU
3. *Agrostis gigantea*	5	No	FACW
4. *Leucanthemum vulgare*	2	No	UPL
5. *Populus deltoides*	2	No	FAC
6. *Ranunculus pensylvanicus*	1	No	OBL
7. *Spiraea alba*	1	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	96	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	71	x 1 =	71
FACW species	11	x 2 =	22
FAC species	17	x 3 =	51
FACU species	15	x 4 =	60
UPL species	2	x 5 =	10
Column Totals:	116 (A)		214 (B)
Prevalence Index = B/A =			1.84

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17"	7.5YR 3/1	100					Sand	Fill
17-24"	7.5YR 2.5/1	100					Loam	Fill
24-30"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

0-24" appears to be filled matieral. Soil should be considered hydric based off best professional judgement.

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.203856 Long: -90.626792 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Iris versicolor*	5	No	OBL
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		35 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	7.5YR 2.5/2	100					Mucky Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.196559 Long: -90.625512 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	50	Yes	FACU
2. *Carex stricta*	15	Yes	OBL
3. *Poa pratensis*	15	Yes	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Eurybia macrophylla*	5	No	UPL
6. *Lotus corniculatus*	5	No	FACU
7. *Alnus incana*	2	No	FACW
8. *Ranunculus acris*	2	No	FAC
9. *Leucanthemum vulgare*	2	No	UPL
10. *Fragaria virginiana*	2	No	FACU
11. *Achillea millefolium*	2	No	FACU
12. *Trifolium pratense*	1	No	FACU
13.			
14			
15			
16			
17			
18			
19			
20			
	111	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	2	x 2 =	4
FAC species	2	x 3 =	6
FACU species	85	x 4 =	340
UPL species	7	x 5 =	35
Column Totals:	111 (A)		400 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.206486 Long: -90.630183 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Corylus cornuta*	10	Yes	FACU
2. *Rubus idaeus*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	40	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Cornus canadensis*	10	No	FAC
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	90 (A)		345 (B)
Prevalence Index = B/A =			3.83

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/4	100					Sand	
14-24"	5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse to Cayuga Rd | City/County: Glidden/Ashland | Sampling Date: 7/11/2016

Applicant/Owner: WisDOT | State: WI | Sampling Point: DP-03-B

Investigator(s): Robb Roos, Logan Hawley | Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 46.196089 | Long: -90.625389 | Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded | NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	3"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	10	Yes	FAC
2. *Ulmus americana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Spiraea alba*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Carex stricta*	20	Yes	OBL
3. *Solidago altissima*	2	No	FACU
4. *Salix interior*	1	No	FACW
5. *Thalictrum dasycarpum*	1	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	94	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	57	x 2 =	114
FAC species	10	x 3 =	30
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	159 (A)		242 (B)
Prevalence Index = B/A =			1.52

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	5YR 3/2	90	5YR 4/4	10	C	M	Sandy Loam	
10-15"	2.5YR 3/3	75	5YR 4/4	25	C	M	Sand	
15-24"	5YR 2.5/1	100					Mucky Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.206533 Long: -90.630170 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Juniperus virginiana*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Equisetum arvense*	20	Yes	FAC
3. *Cornus canadensis*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	55	x 3 =	165
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	145 (A)		325 (B)
Prevalence Index = B/A =			2.24

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 2.5/2	100					Mucky Sand	
10-24"	5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd | City/County: Glidden/Ashland | Sampling Date: 7/11/2016

Applicant/Owner: WisDOT | State: WI | Sampling Point: DP-04-B

Investigator(s): Robb Roos, Logan Hawley | Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 46.195981 | Long: -90.625384 | Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes | NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	70	Yes	FACU
2. *Thuja occidentalis*	10	No	FACW
3. *Ulmus americana*	5	No	FACW
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	65	Yes	FACW
2. *Amaranthus caudatus*	10	No	UPL
3. *Abies balsamea*	5	No	FAC
4.			
5.			
6.			
7.			
	80	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	20	Yes	OBL
2. *Carex grayi*	15	Yes	FACW
3. *Rubus pubescens*	15	Yes	FACW
4. *Maianthemum canadense*	5	No	FACU
5. *Poa palustris*	5	No	FACW
6. *Cornus canadensis*	5	No	FAC
7. *Prunus virginiana*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	115	x 2 =	230
FAC species	10	x 3 =	30
FACU species	77	x 4 =	308
UPL species	10	x 5 =	50
Column Totals:	232 (A)		638 (B)
Prevalence Index = B/A =			2.75

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	5YR 3/2	90	5YR 4/4	10	C	M	Sandy Loam	
10-15"	2.5YR 3/3	75	5YR 4/4	25	C	M	Sand	
15-24"	5YR 2.5/1	100					Mucky Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.208535 Long: -90.633812 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Populus tremula*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremula*	20	Yes	FAC
2. *Abies balsamea*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	35	Yes	UPL
2. *Pteridium aquilinum*	15	Yes	FACU
3. *Cornus canadensis*	10	No	FAC
4. *Clintonia borealis*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	15	x 4 =	60
UPL species	35	x 5 =	175
Column Totals:	145 (A)		520 (B)
Prevalence Index = B/A =			3.59

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Loamy Sand	
10-14"	7.5YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.195702 Long: -90.625367 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	70	Yes	FACU
2. *Abies balsamea*	5	No	FAC
3. *Populus tremuloides*	2	No	FAC
4.			
5.			
6.			
7.			
	77	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2. *Picea glauca*	2	No	FACU
3. *Amaranthus caudatus*	2	No	UPL
4. *Populus balsamifera*	1	No	FACW
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Cornus canadensis*	65	Yes	FAC
2. *trientalis borealis*	15	No	FAC
3. *Maianthemum canadense*	5	No	FACU
4. *Rubus pubescens*	1	No	FACW
5. *Hieracium aurantiacum*	1	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	87	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	12	x 2 =	24
FAC species	87	x 3 =	261
FACU species	77	x 4 =	308
UPL species	3	x 5 =	15
Column Totals:	179 (A)		608 (B)
Prevalence Index = B/A =			3.40

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	5YR 3/1	100					Loamy Sand	
14-24"	5YR 4/2	95	5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.208499 Long: -90.633740 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	35	Yes	FAC
2. *Populus balsamifera*	20	Yes	FACW
3. *Betula papyrifera*	5	No	FACU
4.			
5.			
6.			
7.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Prunus serotina*	15	Yes	FACU
2. *Alnus incana*	10	Yes	FACW
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	90	Yes	OBL
2. *Calamagrostis canadensis*	40	Yes	OBL
3. *Cornus canadensis*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	135	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	130	x 1 =	130
FACW species	30	x 2 =	60
FAC species	45	x 3 =	135
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	225 (A)		405 (B)
Prevalence Index = B/A =			1.80

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Sandy Clay	
6-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.195539 Long: -90.625426 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	60	Yes	FACU
2. *Acer rubrum*	10	No	FAC
3. *Ulmus americana*	5	No	FACW
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Picea glauca*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	15	Yes	FACU
2. *Cornus canadensis*	5	Yes	FAC
3. *Poa pratensis*	2	No	FACU
4. *Populus balsamifera*	1	No	FACW
5. *Acer rubrum*	1	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	24	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	6	x 2 =	12
FAC species	16	x 3 =	48
FACU species	107	x 4 =	428
UPL species	0	x 5 =	0
Column Totals:	129 (A)		488 (B)
Prevalence Index = B/A =			3.78

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	5YR 2.5/2	100					Loamy Sand	
6-14"	5YR 4/4	100					Sand	
14-24"	5YR 4/3	95	5YR 4/4	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.210424 Long: -90.637339 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Lotus corniculatus*	20	Yes	FACU
3. *Poa pratensis*	20	Yes	FACU
4. *Pteridium aquilinum*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	90 (A)		240 (B)
Prevalence Index = B/A =			2.67

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

X Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Loamy Sand	
6-18"	5YR 4/4	100					Sand	Fine sand
18-24"	5YR 3/4	100					Sand	Fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.198069 Long: -90.625618 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-B

Carex gracilima is likely misspelled

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Prunus serotina*	3	No	FACU
3.			
4.			
5.			
6.			
7.			
	33	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Prunus serotina*	15	Yes	FACU
2. *Populus tremuloides*	10	Yes	FAC
3. *Amelanchier sanguinea*	5	No	UPL
4. *Spiraea alba*	5	No	FACW
5. *Abies balsamea*	5	No	FAC
6. *Acer rubrum*	2	No	FAC
7.			
	42	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	15	Yes	FAC
2. *Hieracium caespitosum*	15	Yes	UPL
3. *Pteridium aquilinum*	10	No	FACU
4. *Carex gracilima*	10	No	UPL
5. *Hieracium aurantiacum*	10	No	UPL
6. *Leucanthemum vulgare*	5	No	UPL
7. *Solidago petiolaris*	5	No	UPL
8. *Poa pratensis*	5	No	FACU
9. *Sonchus arvensis*	2	No	FACU
10. *Acer rubrum*	2	No	FAC
11. *Vaccinium angustifolium*	2	No	FACU
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	81	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	64	x 3 =	192
FACU species	37	x 4 =	148
UPL species	50	x 5 =	250
Column Totals:	156 (A)		600 (B)
Prevalence Index = B/A =			3.85

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	5YR 4/4	100					Sand	
12-24"	5YR 5/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210473 Long: -90.637364 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		170 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/1	100					Mucky Sand	
6-24"	5YR 4/3	100					Sand	Fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198146 Long: -90.625665 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2. *Symphyotrichum tradescantii*	15	Yes	FACW
3. *Agrostis gigantea*	10	Yes	FACW
4. *Phalaris arundinacea*	10	Yes	FACW
5. *Iris virginica*	10	Yes	OBL
6. *Salix petiolaris*	5	No	FACW
7. *Salix discolor*	5	No	FACW
8. *Poa pratensis*	5	No	FACU
9. *Acer rubrum*	5	No	FAC
10. *Phleum pratense*	3	No	FACU
11. *Rubus pubescens*	3	No	FACW
12. *Alnus incana*	2	No	FACW
13. *Calamagrostis canadensis*	2	No	OBL
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	65	x 2 =	130
FAC species	5	x 3 =	15
FACU species	8	x 4 =	32
UPL species	0	x 5 =	0
Column Totals:	90 (A)		189 (B)
Prevalence Index = B/A =			2.10

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	5YR 4/2	95	5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210960 Long: -90.638193 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex utriculata*	25	Yes	OBL
2. *Carex crinita*	20	Yes	OBL
3. *Glyceria canadensis*	10	No	OBL
4. *Calamagrostis canadensis*	10	No	OBL
5. *Persicaria sagittata*	10	No	OBL
6. *Carex stipata*	5	No	OBL
7. *Glyceria grandis*	5	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
16-24"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198402 Long: -90.625558 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	10	Yes	FACU
2. *Abies balsamea*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	40	Yes	FACW
2. *Alnus incana*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex tuckermanii*	25	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Alnus incana*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	100	x 2 =	200
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	140 (A)		280 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 2/1	100					Muck	
14-20"	10YR 4/1	95	10YR 4/4	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.210894 Long: -90.638223 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	40	Yes	UPL
2. *Rubus pubescens*	15	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4. *Equisetum arvense*	5	No	FAC
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	40	x 5 =	200
Column Totals:	75 (A)		295 (B)
Prevalence Index = B/A =			3.93

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198499 Long: -90.625631 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	60	Yes	OBL
2. *Scirpus atrocinctus*	3	No	OBL
3. *Calamagrostis canadensis*	2	No	OBL
4. *Comarum palustre*	2	No	OBL
5. *Carex crinita*	1	No	OBL
6. *Carex tuckermanii*	1	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	69	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	69	x 1 =	69
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	69 (A)		69 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/2	100					Muck	
12-24"	10YR 2/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.212360 Long: -90.640878 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Solidago gigantea*	10	No	FACW
3. *Ranunculus acris*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		190 (B)
Prevalence Index = B/A =			2.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	95	7.5YR 4/4	5	C	M	Sandy Loam	
10-24"	5YR 4/4	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:
8" duff layer.

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.201514 Long: -90.625860 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	10	Yes	FAC
2. *Populus tremuloides*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	25	Yes	FACW
2. *Spiraea alba*	15	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4. *Salix bebbiana*	10	No	FACW
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	35	Yes	FACW
2. *Calamagrostis canadensis*	35	Yes	OBL
3. *Rubus pubescens*	10	No	FACW
4. *Glyceria grandis*	10	No	OBL
5. *Equisetum arvense*	5	No	FAC
6. *Salix interior*	5	No	FACW
7. *Populus tremuloides*	5	No	FAC
8. *Eurybia macrophylla*	2	No	UPL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	100	x 2 =	200
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	182 (A)		360 (B)
Prevalence Index = B/A =			1.98

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 3/2	100					Sandy loam	
10-24"	10YR 4/2	95	10YR 4/6	5	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.212375 Long: -90.640850 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Maianthemum canadense*	10	No	FACU
5. *Acer rubrum*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	35	x 5 =	175
Column Totals:	70 (A)		310 (B)
Prevalence Index = B/A =			4.43

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 3/2	100					Loam	
13-24"	7.5YR 4/3	70	7.5YR 5/2	30	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Summit Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.201513 Long: -90.625919 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Leucanthemum vulgare*	10	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Erigeron canadensis*	5	No	FACU
5. *Plantago lanceolata*	5	No	FACU
6. *Poa pratensis*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column Totals:	90 (A)		370 (B)
Prevalence Index = B/A =			4.11

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/3	100					Sand	
2-16"	7.5YR 3/4	75	7.5YR 3/3	25	C	M	Sand	Mixed Matrix
16-24"	7.5YR 2.5/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.213182 Long: -90.642189 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	30	Yes	OBL
2. *Calamagrostis canadensis*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	40	x 2 =	80
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		155 (B)
Prevalence Index = B/A =			1.63

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 2.5/1	100					Muck	
16-24"	5YR 4/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.201159 Long: -90.625795 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	5	Yes	FAC
2. *Larix laricina*	2	Yes	FACW
3. *Prunus virginiana*	2	Yes	FACU
4.			
5.			
6.			
7.			
	9	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	10	Yes	FACW
2. *Populus tremuloides*	2	No	FAC
3. *Acer rubrum*	2	No	FAC
4.			
5.			
6.			
7.			
	14	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Euthamia graminifolia*	25	Yes	FAC
2. *Cornus canadensis*	25	Yes	FAC
3. *Rubus pubescens*	15	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Doellingeria umbellata*	5	No	FACW
6. *Juncus effusus*	5	No	OBL
7. *Typha angustifolia*	2	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	7	x 1 =	7
FACW species	37	x 2 =	74
FAC species	59	x 3 =	177
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	105 (A)		266 (B)
Prevalence Index = B/A =			2.53

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/2	100					Loam	
8-14"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Clay Loam	
14-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.213147 Long: -90.642193 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Acer rubrum*	20	Yes	FAC
2. *Lonicera canadensis*	15	Yes	FACU
3. *Cornus racemosa*	10	No	FAC
4. *Rubus idaeus*	10	No	FAC
5.			
6.			
7.			
	55	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus pubescens*	20	Yes	FACW
2. *Cornus canadensis*	10	Yes	FAC
3. *Athyrium filix-femina*	10	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	50	x 3 =	150
FACU species	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	95 (A)		300 (B)
Prevalence Index = B/A =			3.16

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	5YR 4/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.201150 Long: -90.625873 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Achillea millefolium*	30	Yes	FACU
3. *Gaultheria procumbens*	15	No	FACU
4. *Rubus idaeus*	15	No	FAC
5. *Hieracium caespitosum*	2	No	UPL
6. *Lotus corniculatus*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	144	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	127	x 4 =	508
UPL species	2	x 5 =	10
Column Totals:	144 (A)		563 (B)
Prevalence Index = B/A =			3.91

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 2/2	100					Sandy Loam	
1-18"	7.5YR 5/4	100					Sand	
18-24"	5YR 2.5/2	30	7.5YR 5/4	70		M	Sand	Mixed Matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-15-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.214357 Long: -90.644315 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Acer saccharum*	5	No	FACU
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	70 (A)		90 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/1	100					Loam	
3-6"	7.5YR 4/4	100					Sand	
6-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.200090 Long: -90.625763 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	35	Yes	FACW
2. *Ranunculus acris*	25	Yes	FAC
3. *Prunella vulgaris*	10	No	FAC
4. *Equisetum arvense*	10	No	FAC
5. *Iris versicolor*	10	No	OBL
6. *Euthamia graminifolia*	5	No	FAC
7. *Scirpus cyperinus*	5	No	OBL
8. *Acer rubrum*	5	No	FAC
9. *Pteridium aquilinum*	5	No	FACU
10. *Arenaria stricta*	2	No	UPL
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	112	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	50	x 2 =	100
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	2	x 5 =	10
Column Totals:	127 (A)		310 (B)
Prevalence Index = B/A =			2.44

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/1	100					Loamy Sand	
6-8"	10YR 3/1	90	5G 3/2	10	D	M	Loamy Sand	
8-24"	10YR 5/2	90	7.5YR 5/8	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-16-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.215188 Long: -90.645881 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Symphyotrichum lanceolatum*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		170 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Loam	
8-14"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loam	
14-20"	7.5YR 2.5/1	100					Loam	
20-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.200114 Long: -90.625840 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	25	Yes	FACU
2. *Potentilla simplex*	20	Yes	FACU
3. *Eurybia macrophylla*	20	Yes	UPL
4. *Achillea millefolium*	15	No	FACU
5. *Danthonia spicata*	5	No	UPL
6. *Pteridium aquilinum*	5	No	FACU
7. *Hieracium caespitosum*	5	No	UPL
8. *Prunella vulgaris*	2	No	FAC
9. *Acer rubrum*	2	No	FAC
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	4	x 3 =	12
FACU species	65	x 4 =	260
UPL species	30	x 5 =	150
Column Totals:	99 (A)		422 (B)
Prevalence Index = B/A =			4.26

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Loamy Sand	
3-26"	7.5YR 3/4	100					Sand	
26-36"	10YR 2/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-17-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.215175 Long: -90.645806 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	90	Yes	FACU
2. *Leucanthemum vulgare*	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Loam	
12-24"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.244601 Long: -90.677780 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	15	Yes	FACW
2. *Spiraea alba*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	50	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Juncus effusus*	5	No	OBL
5. *Rubus pubescens*	5	No	FACW
6. *Eurybia macrophylla*	5	No	UPL
7. *Asclepias incarnata*	2	No	OBL
8. *Phalaris arundinacea*	2	No	FACW
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	67	x 1 =	67
FACW species	42	x 2 =	84
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	114 (A)		176 (B)
Prevalence Index = B/A =			1.54

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/3	100					Peat	
6-10"	10YR 3/3	100					andy Clay Loa	
10-16"	10YR 2/2	90	10YR 4/2	10	D	M	andy Clay Loa	
16-24"	10YR 5/2	80	10YR 2/1	15		M	Sand	Mixed Matrix
			10YR 6/8	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-18-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.217743 Long: -90.650500 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Solidago gigantea*	20	Yes	FACW
3. *Poa pratensis*	10	No	FACU
4. *Eurybia macrophylla*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	5	x 5 =	25
Column Totals:	95 (A)		345 (B)
Prevalence Index = B/A =			3.63

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Sandy Loam	
12-24"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-18-B

Investigator(s): Zach Waechter Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.244578 Long: -90.677817 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Lotus corniculatus*	5	No	FACU
4. *Onoclea sensibilis*	5	No	FACW
5. *Taraxacum officinale*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	87	x 4 =	348
UPL species	0	x 5 =	0
Column Totals:	92 (A)		358 (B)
Prevalence Index = B/A =			3.89

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22"	10YR 3/4	100					Sandy Loam	Gravely
22-24"	10YR 4/3	98	10YR 6/8	2	C	M	Clay	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-19-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.217814 Long: -90.650567 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Solidago canadensis*	5	No	FACU
4. *Carex stipata*	5	No	OBL
5. *Carex bebbii*	5	No	OBL
6. *Carex crinita*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Loamy Sand	Mixed W/ Gravel Fill
8-30"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-19-B

Investigator(s): Zach Waechter Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.244229 Long: -90.677208 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	40	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Onoclea sensibilis*	15	No	FACW
4. *Calamagrostis canadensis*	15	No	OBL
5. *Symphyotrichum lanceolatum*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		145 (B)
Prevalence Index = B/A =			1.45

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Mucky Loam	Gravely
4-10"	10YR 2/2	100					Sandy Loam	Gravely
10-20"	10YR 2/2	100					Sand	
20-24"	10YR 3/4	80	10YR 2/2	20	RM	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-20-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.220757 Long: -90.656052 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	60	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Carex bebbii*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		75 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-20-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.244213 Long: -90.677343 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	50	Yes	FACU
2. *Fragaria virginiana*	25	Yes	FACU
3. *Danthonia spicata*	10	No	UPL
4. *Leucanthemum vulgare*	10	No	UPL
5. *Achillea millefolium*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	77	x 4 =	308
UPL species	20	x 5 =	100
Column Totals:	97 (A)		408 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Loamy Sand	
4-10"	10YR 3/4	100					Sand	
10-24"	10YR 3/6	100					Sand	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-21-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.223110 Long: -90.660183 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	15"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Poa pratensis*	10	No	FACU
3. *Eurybia macrophylla*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sand	
4-20"	7.5YR 3/4	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-21-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.242997 Long: -90.675650 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	85	Yes	FACW
2. *Cornus racemosa*	5	No	FAC
3. *Salix interior*	5	No	FACW
4. *Salix bebbiana*	5	No	FACW
5.			
6.			
7.			
	100	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Impatiens capensis*	10	Yes	FACW
3. *Thalictrum dasycarpum*	5	No	FACW
4. *Rubus pubescens*	5	No	FACW
5. *Calamagrostis canadensis*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	115	x 2 =	230
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		270 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 2/2	100					Peat	
10-12"	10YR 2/2	100					Silt	
12-24"	10YR 3/3	100					Silt	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-22-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.223078 Long: -90.660099 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 2.5/2	100					Peat	
9-12"	7.5YR 4/3						Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- X 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-22-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.242961 Long: -90.675702 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	45	Yes	OBL
2. *Onoclea sensibilis*	15	No	FACW
3. *Calamagrostis canadensis*	15	No	OBL
4. *Impatiens capensis*	10	No	FACW
5. *Symphyotrichum lanceolatum*	5	No	FACW
6. *Scirpus atrovirens*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		135 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 2/2	100					Peat	
1-6"	10YR 2/2	100					Loamy Sand	
6-20"	10YR 2/2	95	10YR 5/6	5	C	M	Loamy Sand	Gravely
20-24"	10YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-23-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.224861 Long: -90.663395 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	18"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus repens*	40	Yes	FACU
2. *Rubus pubescens*	20	Yes	FACW
3. *Solidago canadensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	70 (A)		240 (B)
Prevalence Index = B/A =			3.43

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/3	100					Sand	
18-24"	7.5YR 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-23-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.242924 Long: -90.675769 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Ambrosia artemisiifolia*	15	Yes	FACU
3. *Rubus idaeus*	10	No	FAC
4. *Hieracium caespitosum*	10	No	UPL
5. *Achillea millefolium*	5	No	FACU
6. *Taraxacum officinale*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	62	x 4 =	248
UPL species	10	x 5 =	50
Column Totals:	82 (A)		328 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/3	100					Sand	Gravely
8-16"	10YR 3/6	100					Sand	Gravely
16-24"	7.5YR 4/6	100					Sand	Coarse

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-24-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.224947 Long: -90.663386 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	50	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Juncus effusus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Mucky Loam	
8-24"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-24-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.243843 Long: -90.677307 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Cornus racemosa*	5	Yes	FAC
2. *Alnus incana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	20	Yes	OBL
2. *Persicaria sagittata*	15	Yes	OBL
3. *Carex crinita*	10	No	OBL
4. *Doellingeria umbellata*	10	No	FACW
5. *Solidago gigantea*	10	No	FACW
6. *Euthamia graminifolia*	5	No	FAC
7. *Calamagrostis canadensis*	5	No	OBL
8. *Carex lacustris*	5	No	OBL
9. *Symphyotrichum puniceum*	5	No	OBL
10. *Impatiens capensis*	2	No	FACW
11. *Juncus effusus*	2	No	OBL
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	62	x 1 =	62
FACW species	27	x 2 =	54
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	99 (A)		146 (B)
Prevalence Index = B/A =			1.47

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100					Mucky Loam	
6-24"	10YR 2/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-25-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.227111 Long: -90.667304 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	30	Yes	FACU
2. *Agrostis gigantea*	15	Yes	FACW
3. *Pteridium aquilinum*	15	Yes	FACU
4. *Prunella vulgaris*	5	No	FAC
5. *Achillea millefolium*	5	No	FACU
6. *Solidago canadensis*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	75 (A)		265 (B)
Prevalence Index = B/A =			3.53

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	7.5YR 2.5/1	100					Sand	
2-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-25-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 5% Lat: 46.243845 Long: -90.677251 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	70	Yes	FACU
2. *Rubus idaeus*	20	No	FAC
3. *Solidago canadensis*	15	No	FACU
4. *Onoclea sensibilis*	5	No	FACW
5. *Poa pratensis*	5	No	FACU
6. *Scirpus atrovirens*	5	No	OBL
7. *Euthamia graminifolia*	5	No	FAC
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	125	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	125 (A)		450 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Loamy Sand	
4-26"	10YR 3/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-26-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.227133 Long: -90.667240 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Phalaris arundinacea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		65 (B)
Prevalence Index = B/A =			1.18

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Muck	
6-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-26-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.243125 Long: -90.676415 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	Un	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)	X	Water-Stained Leaves (B9)
X	High Water Table (A2)	____	Aquatic Fauna (B13)
X	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	____	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	____	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mat or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopograpic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	2	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	70	Yes	OBL
2. *Scirpus atrovirens*	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	87 (A)		89 (B)
Prevalence Index = B/A =			1.02

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 3/4	100					Peat	
3-10"	10YR 2/1	100					Silty Clay	
10-12"	10YR 2/1	100					Sandy Clay	
12-24"	10YR 5/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-27-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.227739 Long: -90.668132 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	40	Yes	UPL
2. *Onoclea sensibilis*	20	Yes	FACW
3. *Agrostis gigantea*	10	No	FACW
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	75 (A)		270 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Loamy Sand	
4-24"	5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-27-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.243143 Long: -90.676352 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2. *Ribes oxyacanthoides*	5	Yes	FACU
3. *Picea mariana*	2	No	FACW
4. *Alnus incana*	2	No	FACW
5.			
6.			
7.			
	24	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	60	Yes	FACW
2. *Scirpus atrovirens*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	79	x 2 =	158
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	109 (A)		203 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Silty Clay Loam	
4-10"	7.5YR 4/2	60	7.5YR 5/8	10	C	M	Sandy Clay Loam	Mixed Matrix
	10YR 2/1	20						Mixed Matrix
10-18"	10YR 3/4	90	10YR 5/1	10	D	M	Silty Clay	
18-24"	10YR 2/2	90	10YR 5/1	10	D	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-28-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.227766 Long: -90.668081 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	30	Yes	OBL
2. *Juncus effusus*	20	Yes	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		80 (B)
Prevalence Index = B/A =			1.14

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/2	100					Muck	
8-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-28-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.243181 Long: -90.676328 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Ambrosia artemisiifolia*	30	Yes	FACU
2. *Poa Pratensis*	25	Yes	FACU
3. *Phleum pratense*	15	No	FACU
4. *Leucanthemum vulgare*	5	No	UPL
5. *Hieracium caespitosum*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	10	x 5 =	50
Column Totals:	80 (A)		330 (B)
Prevalence Index = B/A =			4.13

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/3	100					Sandy Loam	
2-8"	10YR 3/4	100					Loamy Sand	Gravely
8-20"	10YR 4/3	100					Sand	Gravely
20-24"	10YR 4/3	80	10YR 2/1	20	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-29-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.229788 Long: -90.669600 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Comarum palustre*	30	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Juncus effusus*	15	Yes	OBL
4. *Carex lacustris*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		95 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/3	100					Sand	Sand W/Gravel Fill
18-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-29-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.241841 Long: -90.674831 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____ No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	20	Yes	OBL
2. *Rubus idaeus*	15	Yes	FAC
3. *Carex bebbii*	10	Yes	OBL
4. *Scirpus atrovirens*	10	Yes	OBL
5. *Juncus effusus*	10	Yes	OBL
6. *Calamagrostis canadensis*	10	Yes	OBL
7. *Euthamia graminifolia*	5	No	FAC
8. *Scirpus cyperinus*	5	No	OBL
9. *Equisetum arvense*	5	No	FAC
10. *Hieracium aurantiacum*	5	No	UPL
11. *Corylus americana*	2	No	FACU
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	2	x 4 =	8
UPL species	5	x 5 =	25
Column Totals:	97 (A)		173 (B)
Prevalence Index = B/A =			1.78

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Sandy Clay Loam	
4-16"	10YR 2/2	95	7.5YR 5/8	5	C	M	Sandy Loam	
16-24"	10YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-30-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.229801 Long: -90.669637 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Rubus pubescens*	5	No	FACW
3. *Onoclea sensibilis*	5	No	FACW
4. *Geranium maculatum*	5	No	FACU
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		300 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Loamy Sand	
6-24"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-30-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.241784 Long: -90.674747 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Apocynum androsaemifolium*	15	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	80	Yes	FAC
2. *Pteridium aquilinum*	15	No	FACU
3. *Eurybia macrophylla*	5	No	UPL
4. *Cirsium vulgare*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	17	x 4 =	68
UPL species	20	x 5 =	100
Column Totals:	117 (A)		408 (B)
Prevalence Index = B/A =			3.49

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/4	100					Sandy Loam	
4-8"	7.5YR 4/6	100					Sand	
8-18"	7.5YR 2.5/3	100					Sandy Loam	
18-24"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 4% Lat: 46.231602 Long: -90.670002 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	30	Yes	FACU
2. *Trifolium hybridum*	20	Yes	FACU
3. *Lotus corniculatus*	10	No	FACU
4. *Rubus pubescens*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		260 (B)
Prevalence Index = B/A =			3.71

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sandy Loam	
4-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-31-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.240400 Long: -90.672983 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus canadensis*	50	Yes	OBL
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Glyceria grandis*	5	No	OBL
5. *Solidago gigantea*	5	No	FACW
6. *Onoclea sensibilis*	2	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	7	x 2 =	14
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		99 (B)
Prevalence Index = B/A =			1.08

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	95	7.5YR 4/6	5	C	M	Silt Loam	
4-18"	7.5YR 3/3	95	7.5YR 4/4	5	C	M	andy Clay Loa	
18-24"	7.5YR 4/6	95	7.5YR 5/6	5	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.231603 Long: -90.669958 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Juncus effusus*	15	Yes	OBL
4. *Phalaris arundinacea*	5	No	FACW
5. *Carex crinita*	5	No	OBL
6. *Aster lanceolatus*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Symphyotrichum lanceolatum > Aster lanceolati	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		95 (B)
Prevalence Index = B/A =			1.12

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/3	100					Sand	
5-24"	7.5YR 4/2	95	7.5YR 4/4	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-32-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.238311 Long: -90.670937 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Festuca arundinacea*	25	Yes	FACU
2. *Lotus corniculatus*	20	Yes	FACU
3. *Ambrosia artemisiifolia*	15	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Hieracium aurantiacum*	10	No	UPL
6. *Plantago lanceolata*	10	No	FACU
7. *Fragaria virginiana*	5	No	FACU
8. *Leucanthemum vulgare*	2	No	UPL
9. *Taraxacum officinale*	2	No	FACU
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	87	x 4 =	348
UPL species	12	x 5 =	60
Column Totals:	99 (A)		408 (B)
Prevalence Index = B/A =			4.12

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/4	100					Sandy Loam	Gravely
6-32"	7.5YR 3/4	100					Sand	
32-36"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 12% Lat: 46.238710 Long: -90.669958 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No x
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia sericea*	45	Yes	FACU
2. *Rubus pubescens*	10	No	FACW
3. *Lotus corniculatus*	10	No	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Trifolium hybridum*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		300 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 2.5/2	100					Sandy Loam	
7-18"	7.5YR 4/3	100					Loamy Sand	
18-24"	7.5YR 4/3	95	7.5YR 5/6	5			Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-33-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.238277 Long: -90.670986 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Typha latifolia*	10	Yes	OBL
3. *Carex crinita*	10	Yes	OBL
4. *Calamagrostis canadensis*	10	Yes	OBL
5. *Juncus effusus*	10	Yes	OBL
6. *Carex bebbii*	5	No	OBL
7. *Juncus canadensis*	5	No	OBL
8. *Scirpus atrovirens*	2	No	OBL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	52	x 1 =	52
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		132 (B)
Prevalence Index = B/A =			1.43

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 2/1	100					Silt Loam	
3-12"	10YR 2/2	95	10YR 5/6	5	C	M	Sandy Clay	
12-18"	10YR 2/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.238720 Long: -90.670797 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Carex crinita*	15	No	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		90 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-34-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 5% Lat: 46.237025 Long: -90.670590 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	25	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Scirpus atrovirens*	15	Yes	OBL
4. *Phalaris arundinacea*	15	Yes	FACW
5. *Juncus canadensis*	5	No	OBL
6. *Carex crinita*	5	No	OBL
7. *Carex bebbii*	5	No	OBL
8. *Euthamia graminifolia*	5	No	FAC
9. *Lotus corniculatus*	2	No	FACU
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	97 (A)		148 (B)
Prevalence Index = B/A =			1.53

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100					Sandy Clay Loam	
6-14"	10YR 2/2	90	10YR 6/8	10	C	M	Sandy Clay Loam	
14-22"	10YR 2/2	80	5YR 4/6	20	RM	M	Sandy Clay	
22-24"	7.5YR 3/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 60% Lat: 46.234085 Long: -90.670428 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: R2UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Solidago canadensis*	20	Yes	FACU
3. *Eurybia macrophylla*	5	No	UPL
4. *Bromus inermis*	5	No	UPL
5. *Achillea millefolium*	1	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	71	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	61	x 4 =	244
UPL species	10	x 5 =	50
Column Totals:	71 (A)		294 (B)
Prevalence Index = B/A =			4.14

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/2	100					Sandy Loam	
14-24"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-35-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.237038 Long: -90.670525 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Achillea millefolium*	35	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Rubus idaeus*	15	No	FAC
4. *Lotus corniculatus*	10	No	FACU
5. *Plantago lanceolata*	10	No	FACU
6. *Fragaria virginiana*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)
Prevalence Index = B/A =			3.84

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/4	100					Sandy Loam	Gravely
18-24"	7.5YR 3/2	100					Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.231435 Long: -90.670341 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	70	Yes	OBL
2. *Scirpus cyperinus*	15	No	OBL
3. *Agrostis gigantea*	5	No	FACW
4. *Poa palustris*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		105 (B)
Prevalence Index = B/A =			1.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-36-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.195717 Long: -90.625821 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	4"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	60	Yes	FAC
2. *Populus tremuloides*	10	No	FAC
3. *Ulmus americana*	10	No	FACW
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Acer saccharum*	5	No	FACU
3. *Spiraea alba*	2	No	FACW
4.			
5.			
6.			
7.			
	42	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria laxa*	50	Yes	OBL
2. *Equisetum arvense*	25	Yes	FAC
3. *Solidago gigantea*	10	No	FACW
4. *Carex bebbii*	5	No	OBL
5. *Rubus pubescens*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	62	x 2 =	124
FAC species	95	x 3 =	285
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	217 (A)		484 (B)
Prevalence Index = B/A =			2.23

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/1	100					Silt Loam	
6-14"	10YR 3/2	95	10YR 5/4	5	C	M	Silt Loam	
14-24"	10YR 3/4	95	10YR 5/6	5	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.231427 Long: -90.670363 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	40	Yes	FACU
2. *Poa pratensis*	15	Yes	FACU
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Solidago canadensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	75 (A)		315 (B)
Prevalence Index = B/A =			4.20

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Sandy Loam	
10-24"	7.5YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-37-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.195744 Long: -90.625745 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes X No ____ Depth (inches): >16"

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Danthonia spicata*	10	No	UPL
3. *Elytrigia repens*	10	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Leucanthemum vulgare*	1	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Elymus repens > Elytrigia repens.	91	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	11	x 5 =	55
Column Totals:	91 (A)		375 (B)
Prevalence Index = B/A =			4.12

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	
6-32"	7.5YR 3/3	100					Sand	
32-36"	5YR 3/4	95	7.5YR 4/6	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- X Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.229703 Long: -90.669981 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Eurybia macrophylla*	10	No	UPL
3. *Poa pratensis*	10	No	FACU
4. *Apocynum androsaemifolium*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	15	x 5 =	75
Column Totals:	85 (A)		355 (B)
Prevalence Index = B/A =			4.18

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-38-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.196198 Long: -90.625919 Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	5	Yes	FACW
2. *Alnus incana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	50	Yes	OBL
2. *Carex stricta*	35	Yes	OBL
3. *Thalictrum dasycarpum*	5	No	FACW
4. *Symphyotrichum lanceolatum*	5	No	FACW
5. *Eutrochium purpureum*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	20	x 2 =	40
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	107 (A)		131 (B)
Prevalence Index = B/A =			1.22

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/1	98	10YR 5/6	2	C	M	Clay Loam	
12-26"	10YR 2/1	100					Silty Clay	
26-36"	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.229683 Long: -90.669916 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes X No ____ Depth (inches): 6"

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	15	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Onoclea sensibilis*	5	No	FACW
4. *Carex bebbii*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	40 (A)		45 (B)
Prevalence Index = B/A =			1.13

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	
20-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-39-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.200922 Long: -90.626214 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2. *Salix interior*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	30	Yes	OBL
2. *Spiraea alba*	20	Yes	FACW
3. *Calamagrostis canadensis*	20	Yes	OBL
4. *Typha latifolia*	10	No	OBL
5. *Carex bebbii*	5	No	OBL
6. *Onoclea sensibilis*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		155 (B)
Prevalence Index = B/A =			1.41

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 4/3	100					Silt Loam	
4-12"	10YR 3/2	90	10YR 4/2	10	D	M	Silt Loam	
12-18"	10YR 3/1	100					Silty Clay Loam	
18-30"	10YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.227904 Long: -90.668726 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex bebbii*	40	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3. *Carex striata*	10	No	OBL
4. *Juncus effusus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		70 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-40-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.200947 Long: -90.626163 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-B

Use NWPL2013v1 Accepted Name(s)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Festuca arundinacea*	10	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7. *Eurybia macrophylla*	5	No	UPL
8. *Lotus corniculatus*	2	No	FACU
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	132	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	122	x 4 =	488
UPL species	10	x 5 =	50
Column Totals:	132 (A)		538 (B)
Prevalence Index = B/A =			4.08

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/3	100					Sandy Loam	
12-20"	7.5YR 3/3	95	7.5YR 4/6	5	C	M	Sandy Clay Loam	
20-24"	7.5YR 3/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.227907 Long: -90.668687 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	25	Yes	UPL
2. *Pteridium aquilinum*	10	Yes	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Solidago canadensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	25	x 5 =	125
Column Totals:	45 (A)		205 (B)
Prevalence Index = B/A =			4.56

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-41-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.198154 Long: -90.625993 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	15	Yes	FACU
2. *Abies balsamea*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Typha latifolia*	15	No	OBL
3. *Eleocharis mamillata*	15	No	OBL
4. *Scirpus atrovirens*	10	No	OBL
5. *Euthamia graminifolia*	10	No	FAC
6. *Glyceria laxa*	5	No	OBL
7. *Spiraea alba*	5	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	125 (A)		215 (B)
Prevalence Index = B/A =			1.72

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/1	100					Silt Loam	
4-8"	10YR 5/1	100					Sand	
8-12"	10YR 5/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
12-24"	10YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.225064 Long: -90.664196 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phleum pratense*	20	Yes	FACU
2. *Tridens flavus*	15	Yes	UPL
3. *Corylus americana*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5. *Rubus pubescens*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	55 (A)		225 (B)
Prevalence Index = B/A =			4.09

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Sandy Loam	
8-24"	7.5YR 4/3	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-42-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.198232 Long: -90.625936 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	50	Yes	FACU
2. *Poa pratensis*	25	Yes	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Elytrigia repens*	5	No	FACU
5. *Tridens flavus*	5	No	UPL
6. *Trifolium pratense*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Elymus repens > Elytrigia repens.	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.225034 Long: -90.664311 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3. *Rubus idaeus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-43-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.240429 Long: -90.672923 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-B

Use NWPL2013v1 Accepted Name(s)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	40	Yes	FACU
2. *Festuca arundinacea*	30	Yes	FACU
3. *Poa pratensis*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5. *Taraxacum officinale*	5	No	FACU
6. *Ambrosia artemisiifolia*	5	No	FACU
7. *Plantago lanceolata*	5	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy Loam	
3-20"	7.5YR 3/4	100					Sand	
20-24"	7.5YR 4/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): none

Slope (%): Lat: 46.222701 Long: -90.660109 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ___	**within a Wetland?**	Yes x No ___
Wetland Hydrology Present?	Yes X	No ___	If yes, optional Wetland Site ID:	___

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): surface

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Impatiens capensis*	10	No	FACW
3. *Salix bebbiana*	10	No	FACW
4. *Chamaenerion angustifolium*	5	No	FAC
5. *Persicaria sagittata*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		100 (B)
Prevalence Index = B/A =			1.43

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.222744 Long: -90.660065 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Tridens flavus*	30	Yes	UPL
2. *Poa pratensis*	15	Yes	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	40	x 5 =	200
Column Totals:	70 (A)		320 (B)
Prevalence Index = B/A =			4.57

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Loamy Sand	
3-24"	7.5YR 3/4	98	7.5YR 4/6	2	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.221013 Long: -90.657017 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Pteridium aquilinum*	15	No	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/3	100					Loam	
16-24"	7.5YR 4/4	100					Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.221042 Long: -90.656953 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	20	Yes	OBL
2. *Carex crinita*	15	Yes	OBL
3. *Carex bebbii*	10	No	OBL
4. *Poa palustris*	5	No	FACW
5. *Lythrum salicaria*	5	No	OBL
6. *Eutrochium purpureum*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		75 (B)
Prevalence Index = B/A =			1.25

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 5/2	80	7.5YR 5/4	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.219370 Long: -90.653896 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	45	Yes	FACU
2. *Tridens flavus*	20	Yes	UPL
3. *Poa pratensis*	15	No	FACU
4. *Lotus corniculatus*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	20	x 5 =	100
Column Totals:	90 (A)		380 (B)
Prevalence Index = B/A =			4.22

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Sandy Loam	
18-24"	5YR 4/4	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.219332 Long: -90.654002 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Persicaria sagittata*	10	No	OBL
4. *Carex striata*	10	No	OBL
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		140 (B)
Prevalence Index = B/A =			1.75

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Mucky Loam	
3-16"	7.5YR 5/2	75	7.5YR 5/4	25	C	M	Loam	
16-24"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): none

Slope (%): Lat: 46.215765 Long: -90.647524 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes ____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	40	Yes	OBL
2. *Calamagrostis canadensis*	15	Yes	OBL
3. *Poa palustris*	10	No	FACW
4. *Rubus idaeus*	10	No	FAC
5. *Solidago gigantea*	10	No	FACW
6. *Carex crinita*	10	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		135 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.215776 Long: -90.647426 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	30	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Phleum pratense*	20	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Eurybia macrophylla*	10	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column Totals:	90 (A)		370 (B)
Prevalence Index = B/A =			4.11

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Sandy Loam	
6-18"	7.5YR 3/4	100					Sandy Loam	
18-24"	7.5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.213873 Long: -90.644247 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Carex crinita*	15	No	OBL
3. *Juncus effusus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		80 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.213869 Long: -90.644204 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes ____ No X Depth (inches): ____

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Phleum pratense*	10	No	FACU
3. *Fragaria virginiana*	5	No	FACU
4. *Hieracium caespitosum*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	5	x 5 =	25
Column Totals:	80 (A)		325 (B)
Prevalence Index = B/A =			4.06

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 2.5/2	100					Sandy Loam	
5-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.212441 Long: -90.641411 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	35	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Onoclea sensibilis*	2	No	FACW
4. *Poa palustris*	2	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	54	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	4	x 2 =	8
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	54 (A)		58 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.212349 Long: -90.641414 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	35	Yes	UPL
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	50	x 5 =	250
Column Totals:	65 (A)		305 (B)
Prevalence Index = B/A =			4.69

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.210306 Long: -90.637583 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Elymus repens*	20	Yes	FACU
3. *Solidago canadensis*	15	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Pteridium aquilinum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5yr 3/2	100					Loam	
7-24"	7.5yr 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210277 Long: -90.637581 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	45	Yes	OBL
2. *Calamagrostis canadensis*	15	No	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Phalaris arundinacea*	10	No	FACW
5. *Carex bebbii*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		105 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/1	100					Muck	
6-24"	7.5YR 4/2	98	7.5YR 5/6	2	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.209453 Long: -90.636059 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex bebbii*	40	Yes	OBL
2. *Scirpus cyperinus*	20	Yes	OBL
3. *Tridens flavus*	10	No	UPL
4. *Poa palustris*	5	No	FACW
5. *Poa pratensis*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	80 (A)		140 (B)
Prevalence Index = B/A =			1.75

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/2	95	7.5YR 6/8	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.209407 Long: -90.636082 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Fragaria virginiana*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	80 (A)		340 (B)
Prevalence Index = B/A =			4.25

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Clay Loam	
6-24"	7.5YR 4/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.208038 Long: -90.633554 Datum: NAD83

Soil Map Unit Name: 9155A - Haplosaprists, Peats and Mucks, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	50	Yes	FACU
2. *Poa pratensis*	15	No	FACU
3. *Fragaria virginiana*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.207984 Long: -90.633544 Datum: NAD83

Soil Map Unit Name: 9155A - Haplosaprists, Peats and Mucks, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		70 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	7.5YR 2.5/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.203402 Long: -90.626901 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Hieracium caespitosum*	5	No	UPL
3. *Rubus alumnus*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	90 (A)		365 (B)
Prevalence Index = B/A =			4.06

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	10YR 2/1	100					Loam	
20-24"	10YR 5/1	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.203429 Long: -90.626934 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	20	Yes	OBL
2. *Calamagrostis canadensis*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		30 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 2.5/1	100					Muck	
16-24"	7.5YR 2.5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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STH 13 Morse Road to Cayuga Road

APPENDIX C

WISDOT WETLAND CLASSIFICATION SYSTEM

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Table 1C. Wetland Type Classification for the Wisconsin Wetland Mitigation Bank.

Cir39 Classification	Wetland Type Bank Site *	Examples of Vegetational Community Types
1A Seasonally flooded basin or flat	Riparian wetland (RPF) (wooded)	Floodplain Forest (includes Bottomland Hardwood forests **), Riparian Shrub Carr and Alder Thickets
1B Seasonally flooded basin or flat	Riparian wetland (RPE) (emergent)	Riparian Wet and Sedge Meadows, Bars and Mudflats
2 Inland fresh meadow	Wet Meadow (M)	Wet Meadow, Wet/Wet Mesic Prairie, Sedge Meadow, Vernal pools, (also includes Fens **)
3 Inland shallow fresh marsh	Shallow Marsh (SM)	Emergent Aquatic
4 Inland deep fresh marsh	Deep Marsh (DM)	Emergent and Submergent Aquatic
5 Inland open fresh water	Aquatic Bed (AB)	Submergent Aquatic, Aquatic Bed (depth less than 3 Meters)
6 Shrub swamp	Shrub Scrub (SS)	Shrub Carr, Alder Thicket
7 Wooded swamp	Wooded Swamp (WS) (Forested Wetland)	Wet/Wet-Mesic Deciduous Forests White Cedar Swamps
8 Bog	Bog (Bog)	Open Bog, Forested Bog

* Wetland types used for purposes of this bank system.
These should be refered to by name or by acronym (e.g. RPF, SM, AB, etc.)

** Red flag wetlands

STH 13 Morse Road to Cayuga Road

APPENDIX D

SUMMARY OF DELINEATED WETLANDS

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Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-01-A	0.02	Wet Meadow	0.02	DP-02-A	A2, A3, D2, D5	S1	The wet meadow community is dominated by *Carex lacustris*
W-01-B	0.03	Wet Meadow	0.03	DP-01-B	A2, A3, D2, D4, D5	A3	The wet meadow community is dominated by *Abies balsamea, Alnus incana,* and *Carex stricta*
W-02-A	0.23	Wooded Swamp	0.23	DP-04-A	A2, A3, D2, D5	S1	The wooded swamp community is dominated by *Salix bebbiana, Calamagrostis canadensis,* and *Equisetum arvense.*
W-02-B	0.15	Wooded Swamp	0.13	DP-05-B, DP-06-B	A2, A3, D2	A12	The wooded swamp community is dominated by *Picea glauca, Alnus incana, Pteridium*
		Shrub Scrub	0.02	DP-03-B	A2, A3, D3, D5	F6	The shrub scrub community is dominated by *Abies balsamea, Ulmus americana, Alnus*
W-03-A	0.01	Wet Meadow	0.01	DP-08-A	A2, A3, D2, D5	S1	The wet meadow community is dominated by *Phalaris arundinacea*
W-03-B	0.26	Wet Meadow	0.15	DP-08-B	D2, D5	S5	The wet meadow community is dominated by *Symphyotrichum tradescantii, Spiraea alba, Phalaris arundinacea,* and *Agrostis gigantea*
		Shrub Scrub	0.10	DP-09-B	A1, A2, A3, D2, D5	A2, A3, A12	The shrub scrub community is dominated by *Picea glauca, Abies balsamea, Salix interior,*
		Shallow Marsh	0.02	DP-10-B	A2, A3, D2, D4, D5	A2	The shallow marsh community is dominated by *Typha latifolia*
W-04-A	0.35	Wet Meadow	0.35	DP-09-A	D2, D5	S5	The wet meadow community is dominated by *Carex utriculata* and *Carex crinita*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-04-B	0.06	Wet Meadow	0.06	DP-11-B	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Abies balsamea, Populus tremuloides, Alnus incana, Spiraea alba, Impatiens capensis* , and *Calamagrostis canadensis*
W-05-A	0.08	Shrub Scrub	0.08	DP-13-A	A2, A3, D2, D5	A2	The shrub scrub community is dominated by *Alnus incana, Acer rubrum, Typha latifolia,* and *Calamagrostis canadensis*
W-05-B	0.23	Wet Meadow	0.23	DP-13-B, DP-15-B	A2, A3, D2, D5	A11, F3	The wet meadow community is dominated by *Abies balsamea, Larix laricina, Prunus virginiana, Spiraea alba, Phalaris arundinacea, Euthamia graminifolia, Ranunculus acris,* and *Cornus canadensis*
W-06-A	0.13	Wet Meadow	0.13	DP-16-A	D2, D5	A11, F3	The wet meadow community is dominated by *Phalaris arundinacea*
W-06-B	0.35	Wet Meadow	0.35	DP-17-B	A1, A2, A3, B9, D2, D5	A3	The wet meadow community is dominated by *Salix bebbiana, Spiraea alba,* and *Scirpus atrovirens*
W-07-A	1.03	Wet Meadow	1.03	DP-19-A	D2, D5	A1	The wet meadow community is dominated by *Calamagrostis canadensis*
W-07-B	1.99	Wet Meadow	1.98	DP-22-B	A1, A2, A3, B9, D2, D5	A2	The wet meadow community is dominated by *Salix interior* and *Carex lacustris*
		Shrub Scrub	0.01	DP-21-B	A1, A2, A3, B9, D2, D5	A2	The shrub scrub community is dominated by *Alnus incana, Carex lacustris,* and *Impatiens capensis*
W-08-A	0.17	Wet Meadow	0.17	DP-22-A	D2, D5	A2, S3	The wet meadow community is dominated by *Phalaris arundinacea*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-08-B	0.52	Wet Meadow	0.52	DP-24-B	A2, A3, B9, D2, D5	F1	The wet meadow community is dominated by *Cornus racemosa, Alnus incana, Glyceria*
W-09-A	0.16	Wet Meadow	0.16	DP-24-A	C1, D2, D5	F1	The wet meadow community is dominated by *Glyceria canadensis* and *Calamagrostis canadensis*
W-09-B	0.34	Wet Meadow	0.31	DP-27-B	A2, A3, D2, D5	A11, F3	The wet meadow community is dominated by *Spiraea alba, Ribes oxyacanthoides, Onoclea sensibilis,* and *Scirpus atrovirens*
		Shallow Marsh	0.03	DP-26-B	A1, A2, A3, B9, D2, D5	A2, A11, F1	The shallow marsh community is dominated by *Typha latifolia*
W-10-A	0.03	Shallow Marsh	0.03	DP-26-A	A1, A2, A3, D2, D5	A3	The shallow marsh community is dominated by *Carex lacustris* and *Scirpus atrovirens*
W-10-B	0.39	Wet Meadow	0.39	DP-31-B	A1, A2, A3, B9, D2, D5	F6	The wet meadow community is dominated by *Juncus canadensis* and *Calamagrostis canadensis*
W-11-A	0.09	Shallow Marsh	0.09	DP-28-A	A1, A2, A3, D2, D5	A2	The shallow marsh community is dominated by *Typha latifolia* and *Juncus effusus*
W-11-B	0.02	Wet Meadow	0.02	DP-33-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Phalaris arundinacea, Typha latifolia, Carex crinita, Calamagrostis canadensis,* and *Juncus effusus*
W-12-A	0.07	Wet Meadow	0.07	DP-29-A	A2, A3, D2, D5	A2	The wet meadow community is dominated by *Comarum palustre* and *Solidago gigantea*
W-12-B	0.12	Wet Meadow	0.12	DP-34-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Juncus effusus, Solidago gigantea, Scirpus*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-13-A	0.05	Wet Meadow	0.05	DP-32-A	A1, A2,A3 D2, D5	S5	The wet meadow community is dominated by *Calamagrostis canadensis, Scirpus atrovirens* and *Juncus effusus*
W-13-B	0.08	Wet Meadow	0.00	DP-38-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Spiraea alba, Alnus incana, Calamagrostis canadensis* , and *Carex stricta*
		Wooded Swamp	0.08	DP-36-B	A2, A3, D2, D5	F6	The wooded swamp community is dominated by *Abies balsamea, Alnus incana, Glyceria laxa* , and *Equisetum arvense*
W-14-A	0.23	Wet Meadow	0.23	DP-36-A	A2, A3, D2, D5	F3	The wet meadow community is dominated by *Carex crinita*
W-14-B	0.27	Wet Meadow	0.27	DP-39-B	A1, A2, A3, B9, D2, D5	F1	The wet meadow community is dominated by *Alnus incana, Salix interior, Scirpus atrovirens, Spiraea alba,* and *Calamagrostis canadensis*
W-15-A	0.10	Wet Meadow	0.10	DP-39-A	A3, D2, D5	F3	The wet meadow community is dominated by *Scirpus atrovirens* and *Juncus effusus*
W-15-B	0.18	Wet Meadow	0.18	DP-41-B	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Juniperus virginiana, Abies balsamea,* and *Calamagrostis canadensis*
W-16-A	0.10	Shallow Marsh	0.10	DP-40-A	A1, A2, A3, D2, D5	A2	The shallow marsh community is dominated by *Carex bebbii* and *Typha latifolia*
W-17-A	0.15	Wet Meadow	0.15	DP-43-A	A2, A3, D2, D5	A2	The wet meadow community is dominated by *Calamagrostis canadensis*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-18-A	0.13	Riparian Emergent Wetland	0.13	DP-44-A	A3, D2, D5	F3	The riparian emergent wetland community is dominated by *Calamagrostis canadensis*
W-19-A	0.22	Wet Meadow	0.22	DP-47-A	A1, A2, A3, D2, D5	F3	The wet meadow community is dominated by *Typha latifolia* and *Carex crinita*
W-20-A	0.36	Wet Meadow	0.36	DP-49-A	A3, D2, D5	A11, F1, F3	The wet meadow community is dominated by *Phalaris arundinacea* and *Onoclea sensibilis*
W-21-A	0.14	Wet Meadow	0.14	DP-50-A	A3, D2, D5	F3	The wet meadow community is dominated by *Scirpus cyperinus* and *Calamagrostis canadensis*
W-22-A	0.02	Wet Meadow	0.02	DP-52-A	A1, A2, A3, D2, D5	A1	The wet meadow community is dominated by *Calamagrostis canadensis*
W-23-A	0.47	Wet Meadow	0.47	DP-54-A	A2, A3, D2, D5	F3	The wet meadow community is dominated by *Calamagrostis canadensis* and *Scirpus atrovirens*
W-24-A	0.07	Wet Meadow	0.07	DP-57-A	A1, A2, A3, D2, D5	A2, A11, F3	The wet meadow community is dominated by *Scirpus cyperinus*
W-25-A	0.69	Wet Meadow	0.24	DP-58-A	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Carex bebbii* and *Scirpus cyperinus*
		Shallow Marsh	0.45	DP-61-A	A1, A2, A3, D2, D5	A1	The shallow marsh community is dominated by *Calamagrostis canadensis* and *Typha latifolia*
W-26-A	0.17	Shallow Marsh	0.17	DP-63-A	A1, A2, A3, D2, D5	A1, A2	The shallow marsh community is dominated by *Typha latifolia* and *Calamagrostis canadensis*

STH 13 Morse Road to Cayuga Road

FIGURE 1

Project Location

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Project Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

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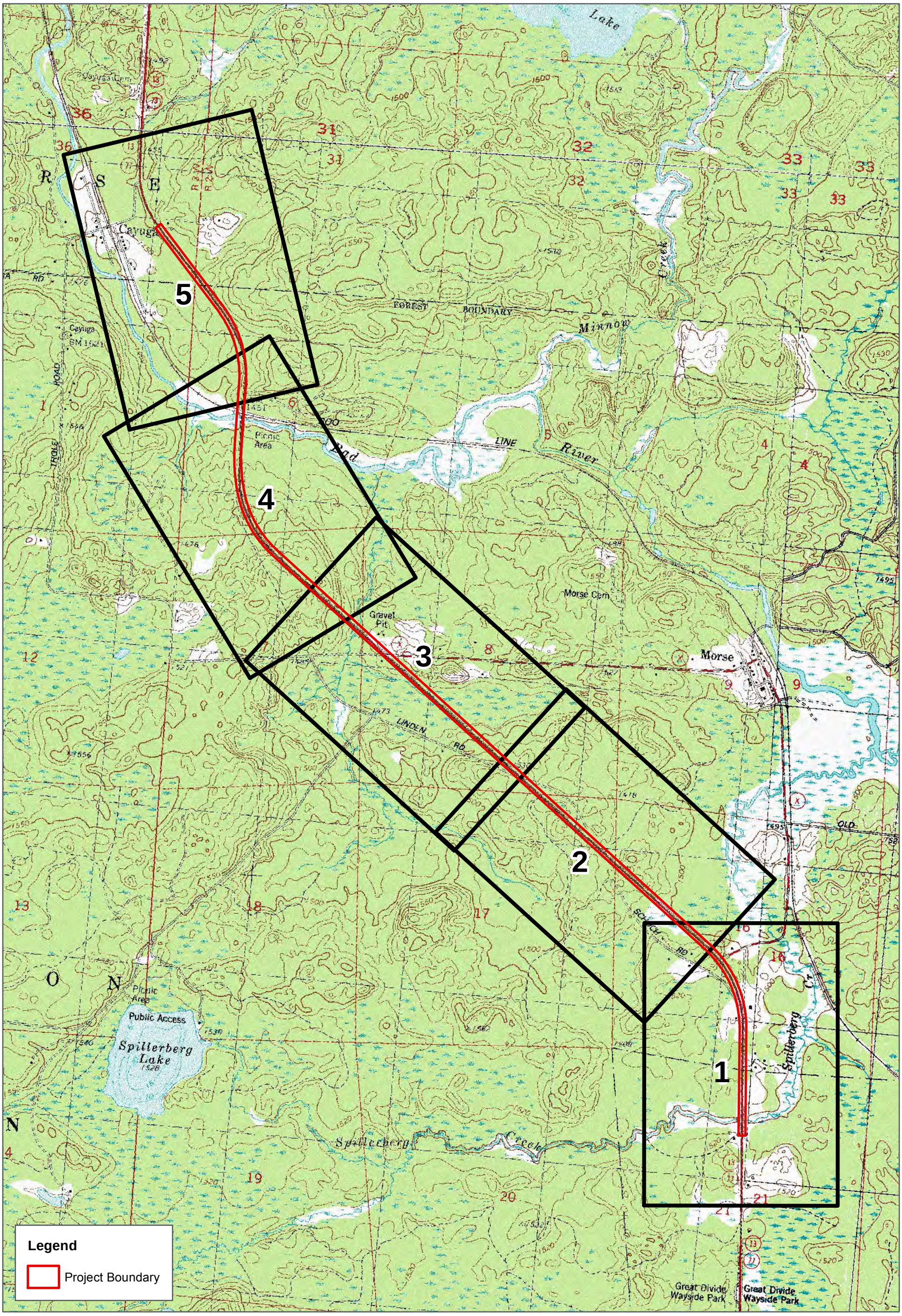
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 2

Topographic Map

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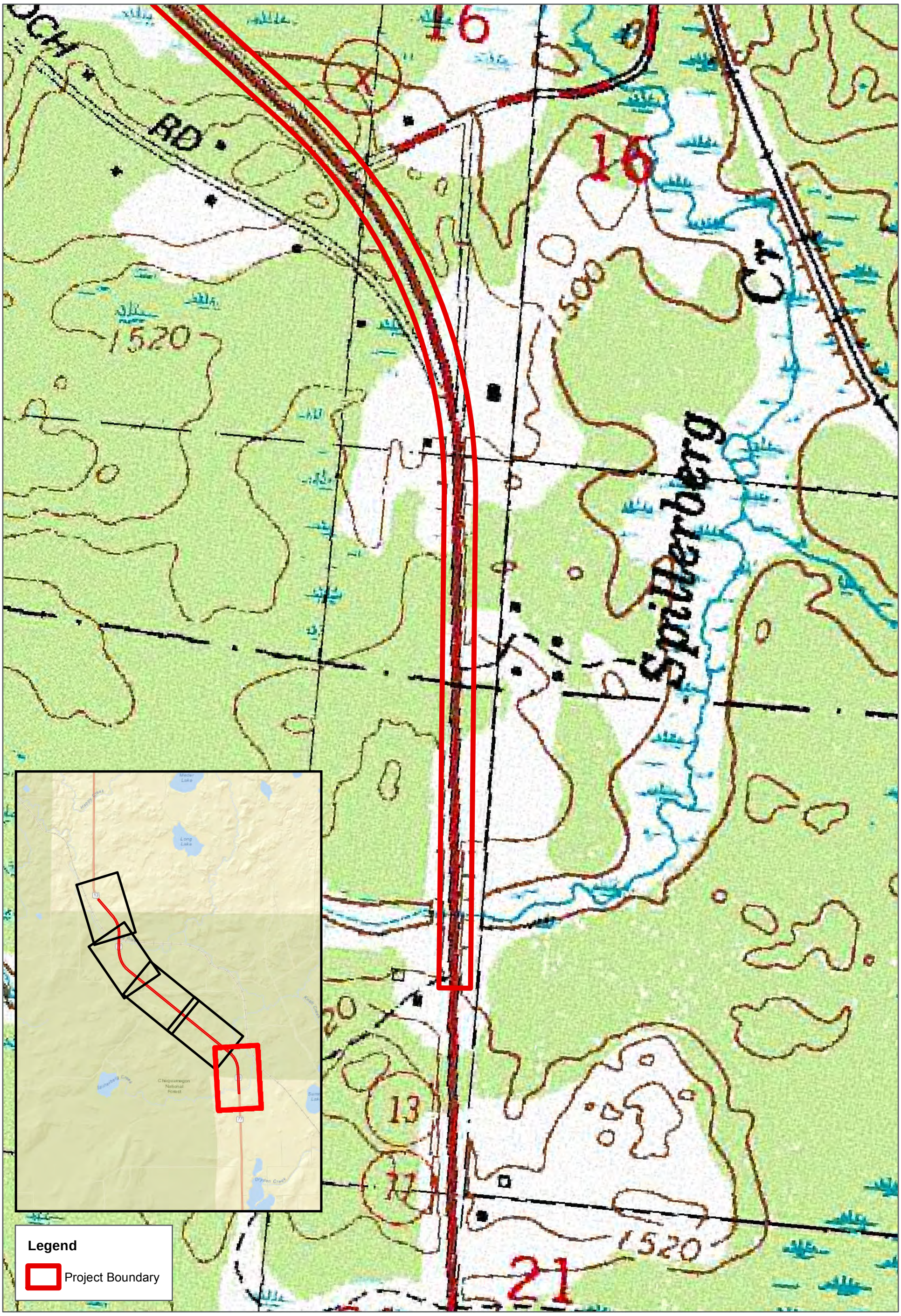
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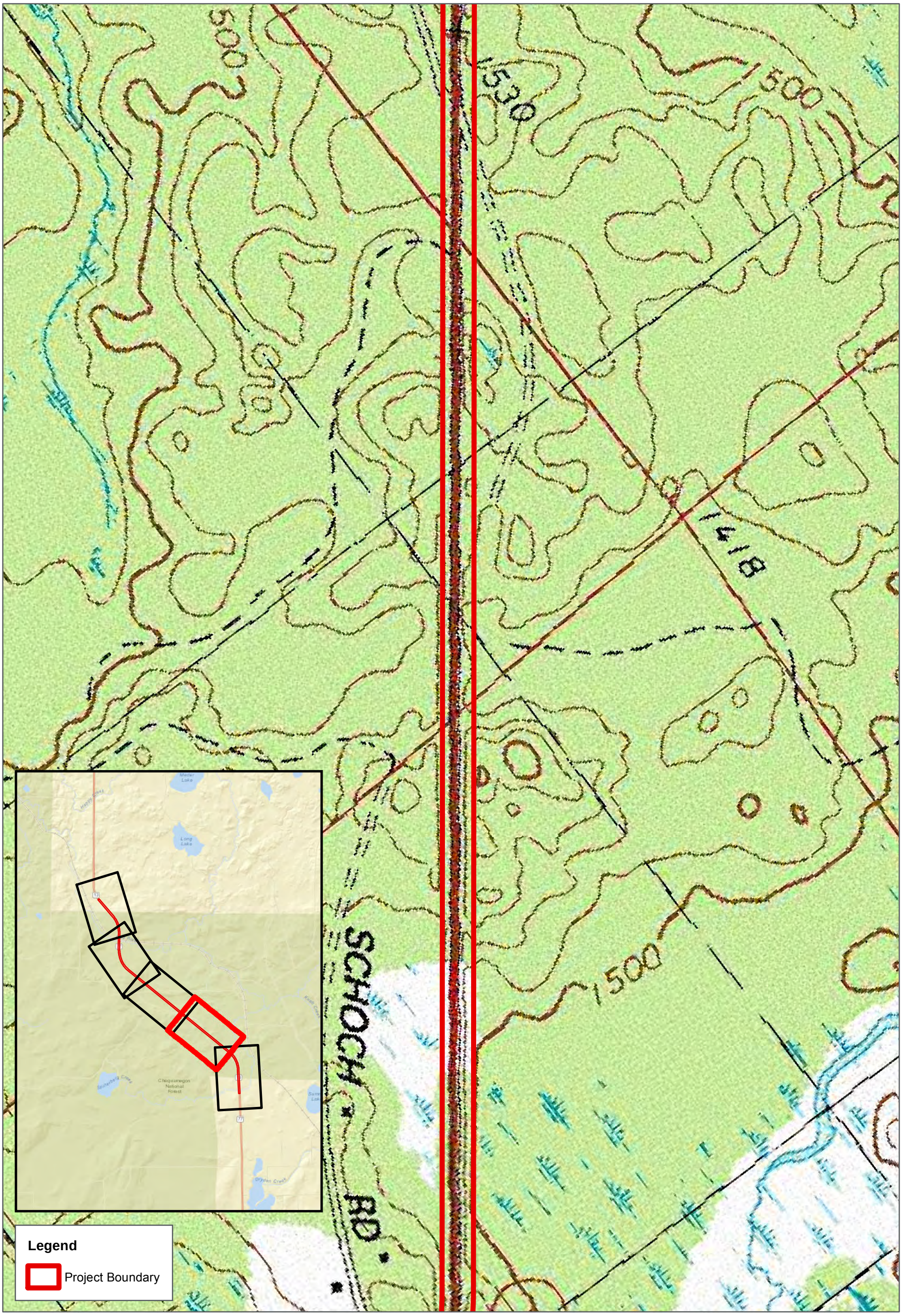
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Ashland County, Wisconsin

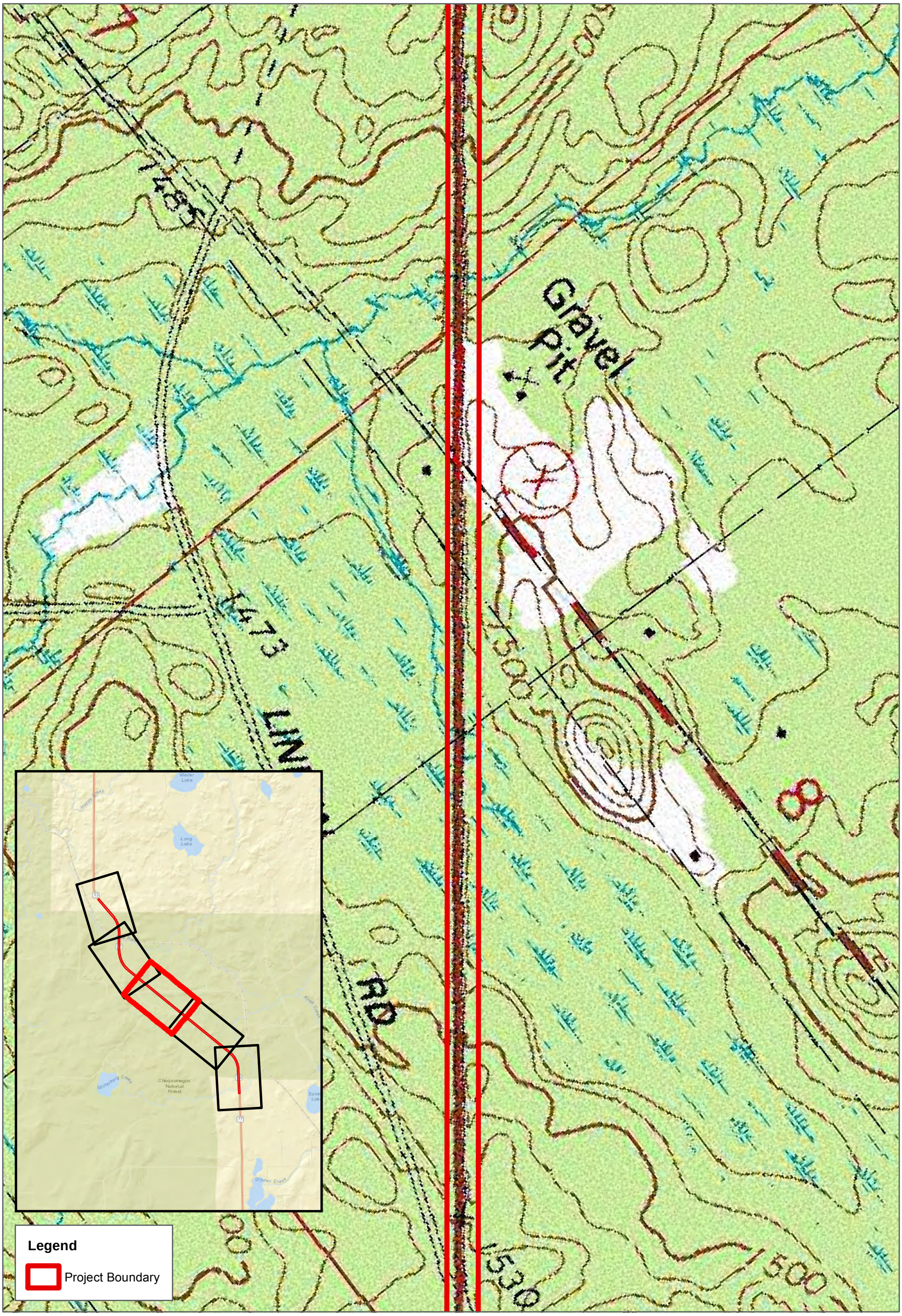
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GIS Analyst: Alex Cohen



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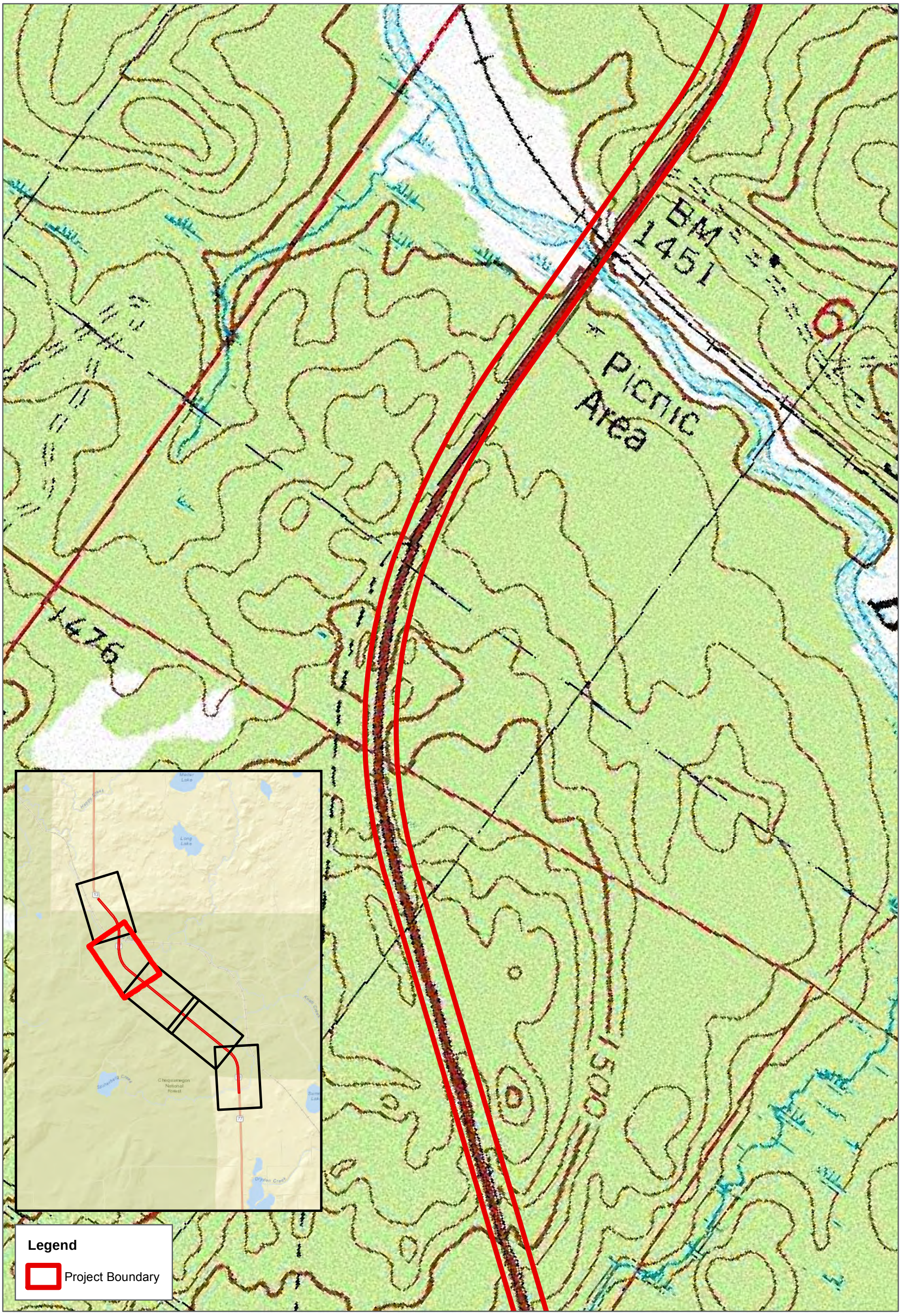
0 250 500 Feet

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GIS Analyst: Alex Cohen



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Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

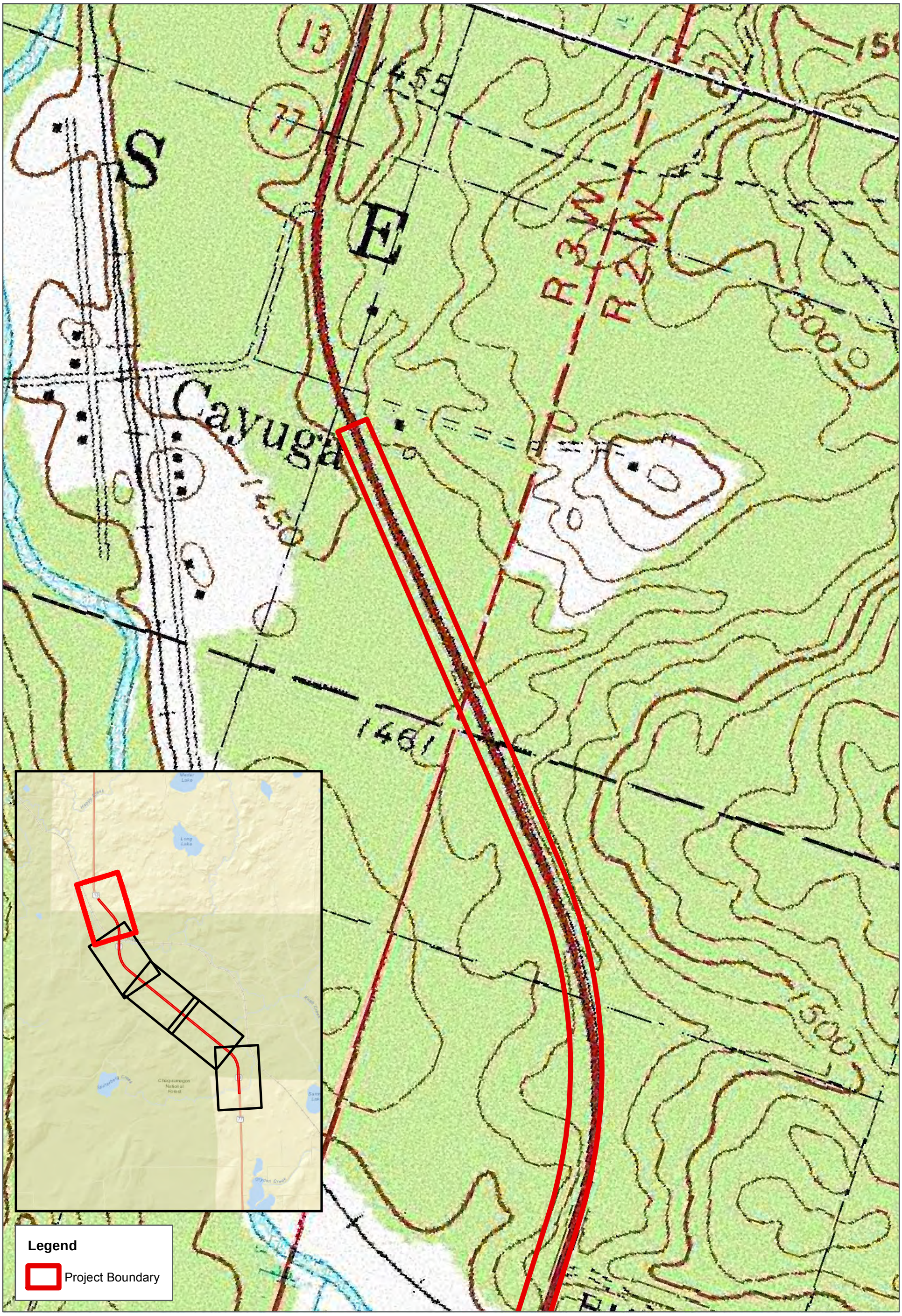
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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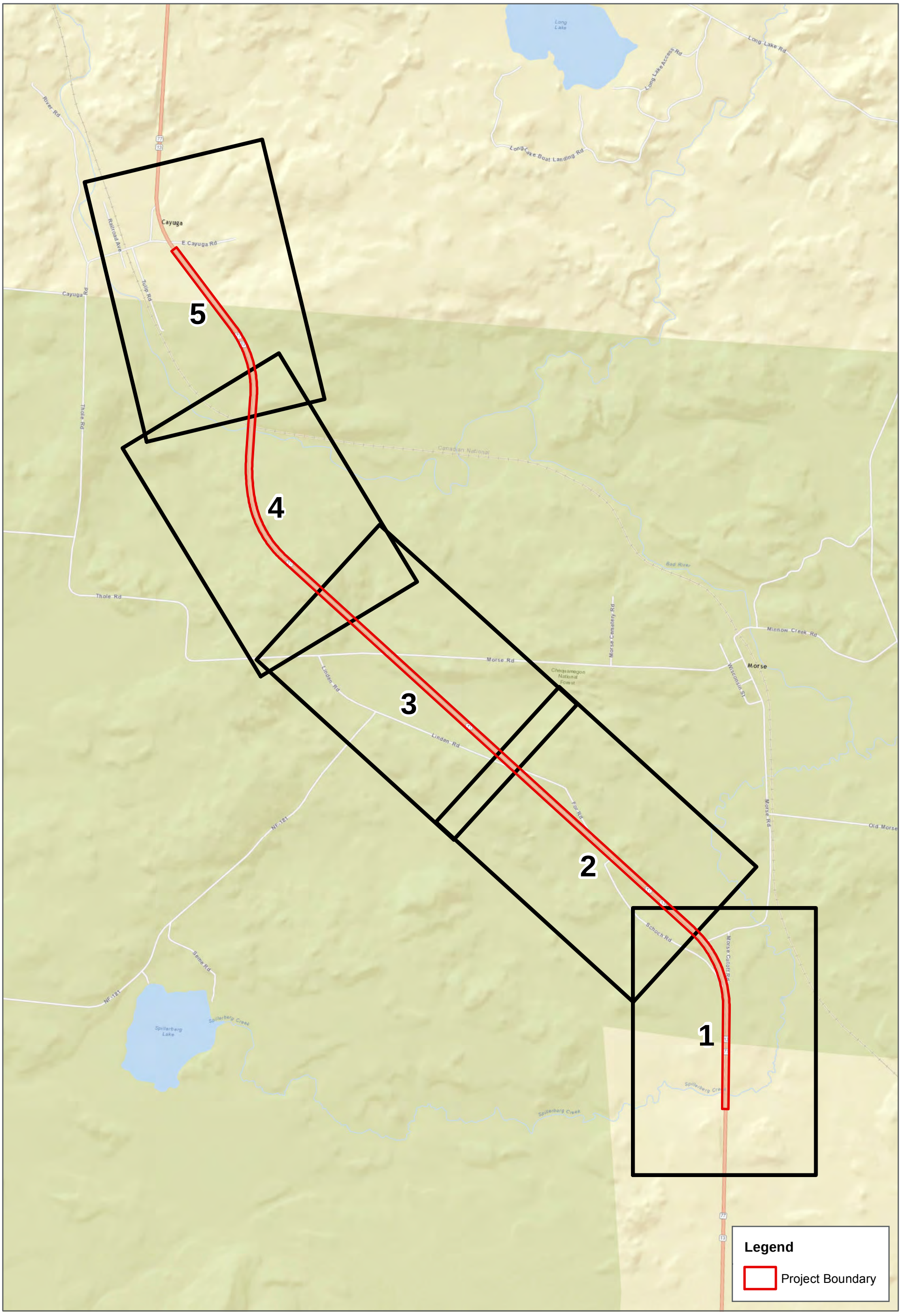
GIS Analyst: Alex Cohen

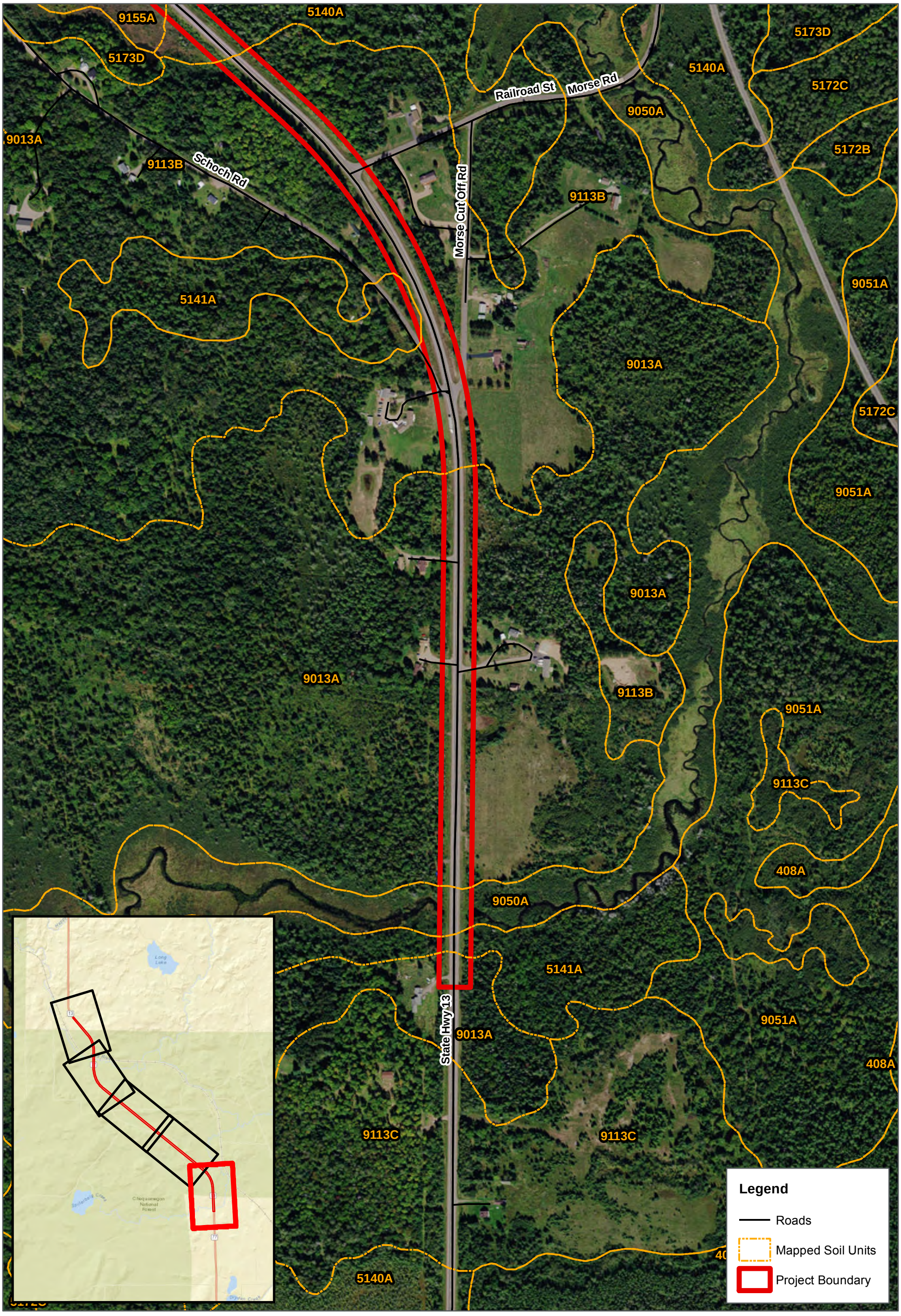
STH 13 Morse Road to Cayuga Road

FIGURE 3

Mapped Soil Units

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Long Lake
Long Lake Rd
Long Lake Access Rd
Long Lake Boat Landing Rd
River Rd
Cayuga
E Cayuga Rd
Railroad Ave
Tulip Rd
Cayuga Rd
Thiele Rd
5
4
3
2
1
Canadian National
Bad River
Morse Cemetery Rd
Minnow Creek Rd
Morse
Morse Rd
Wisconsin St
Chequamegon National Forest
Thole Rd
Linden Rd
For Rd
Old Morse
NF-181
Schoch Rd
Morse Cutoff Rd
Serne Rd
Spillerberg Lake
Spillerberg Creek
77
13
Legend
Project Boundary
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Mapped Soil Units
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin
0 1,250 2,500 Feet
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



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Mapped Soil Units

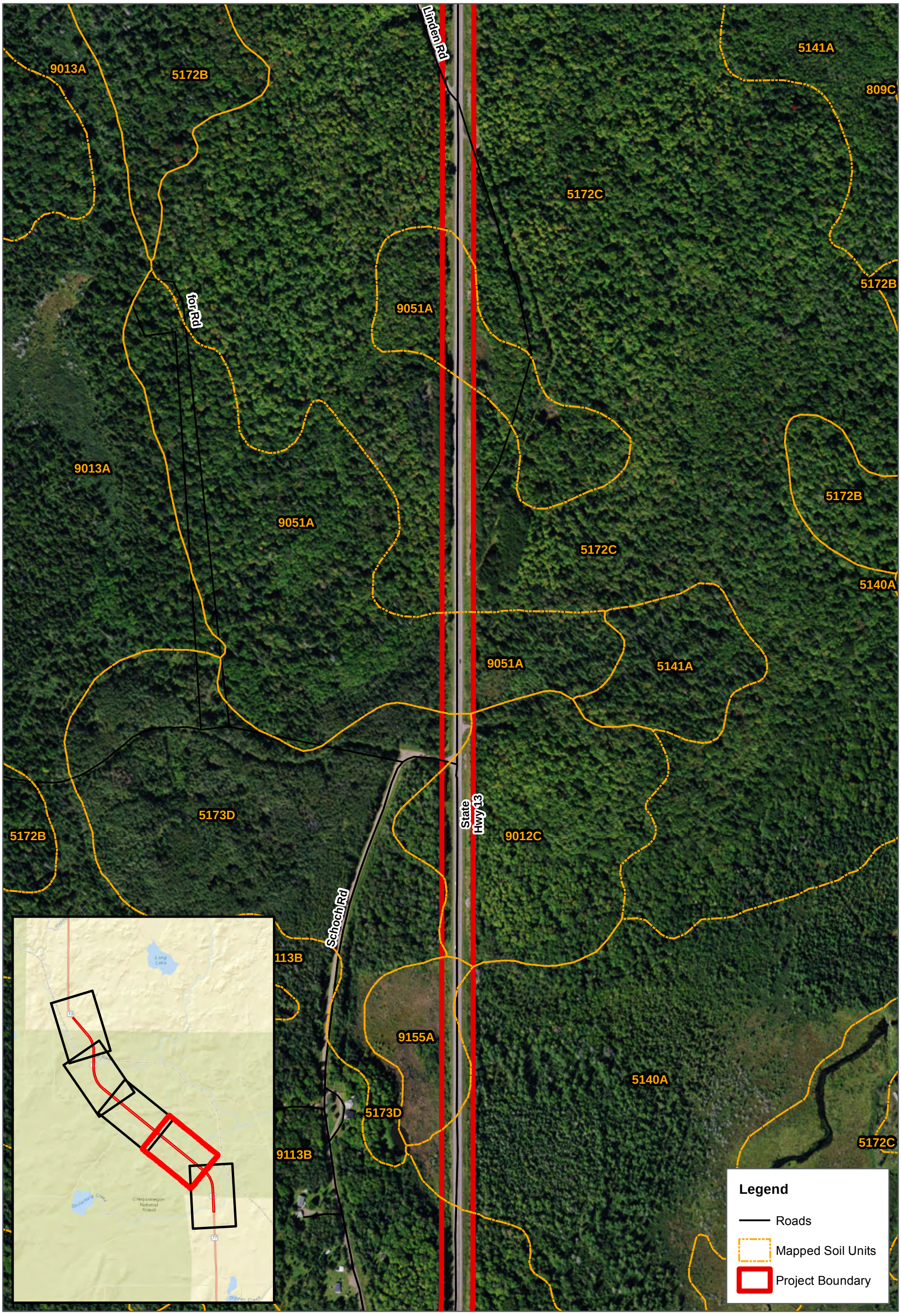
STH 13: Morse Rd - Cayuga Rd
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0 250 500 Feet

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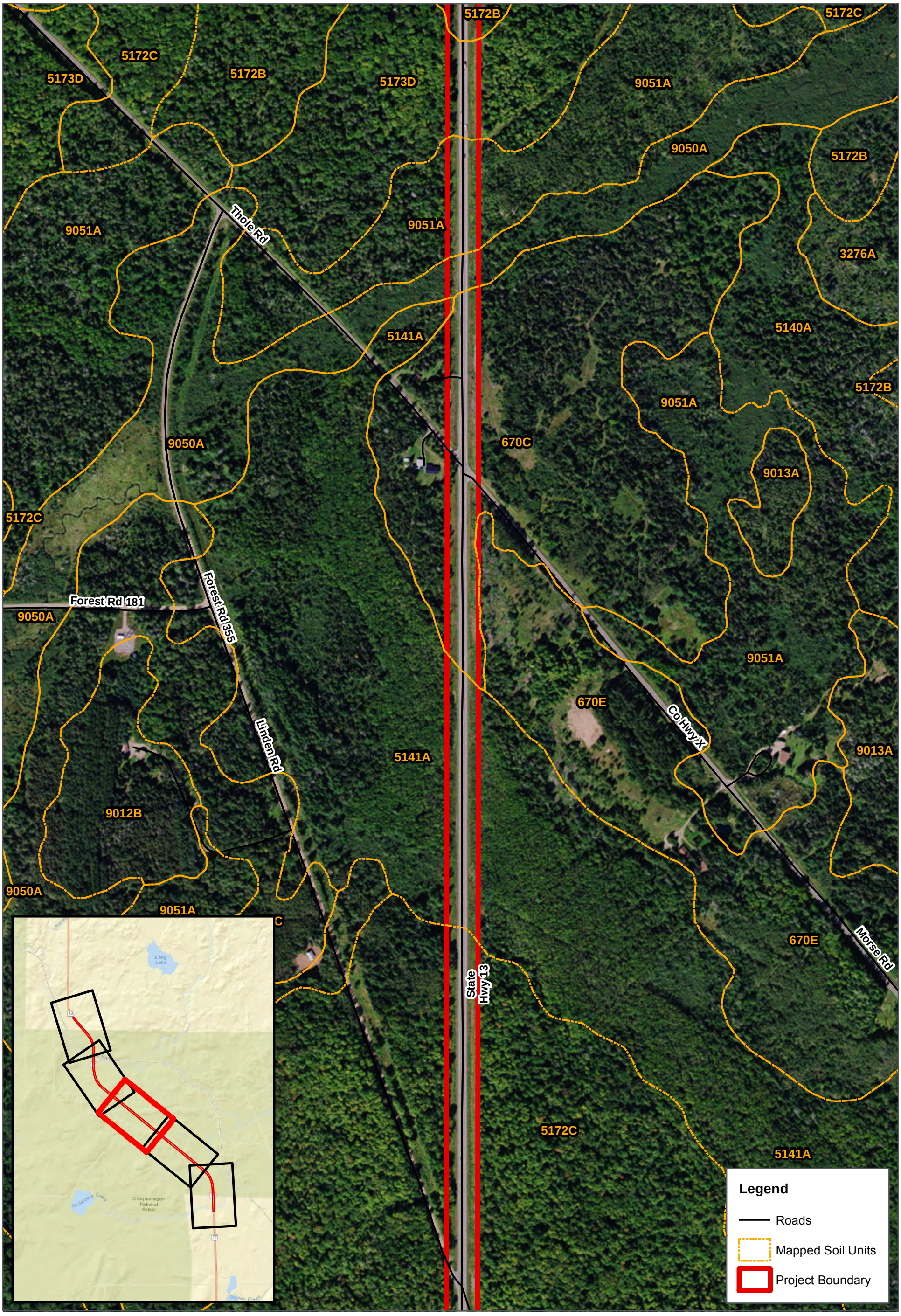
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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Mapped Soil Units

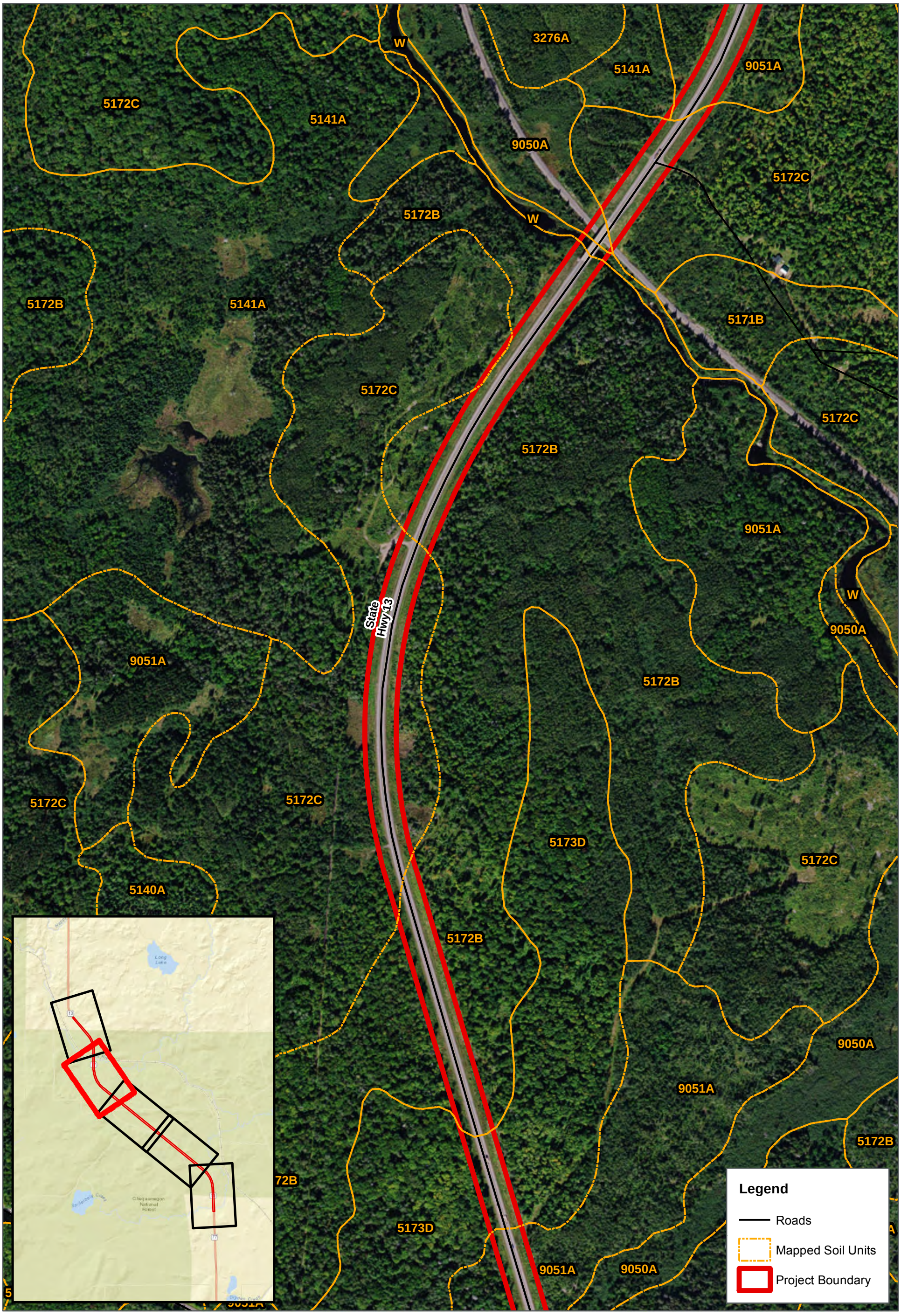
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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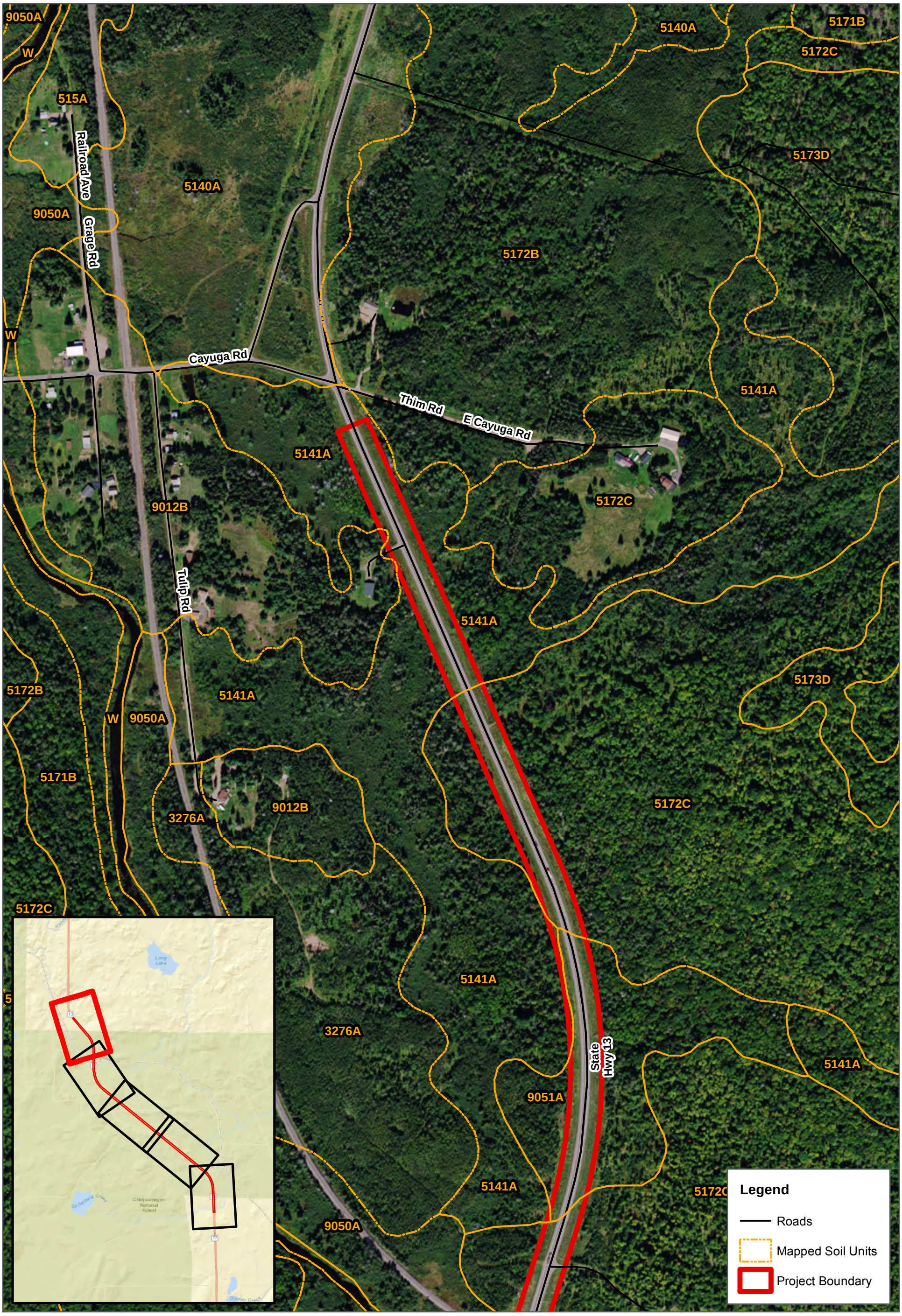
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
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0 250 500 Feet

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GIS Analyst: Alex Cohen



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Mapped Soil Units

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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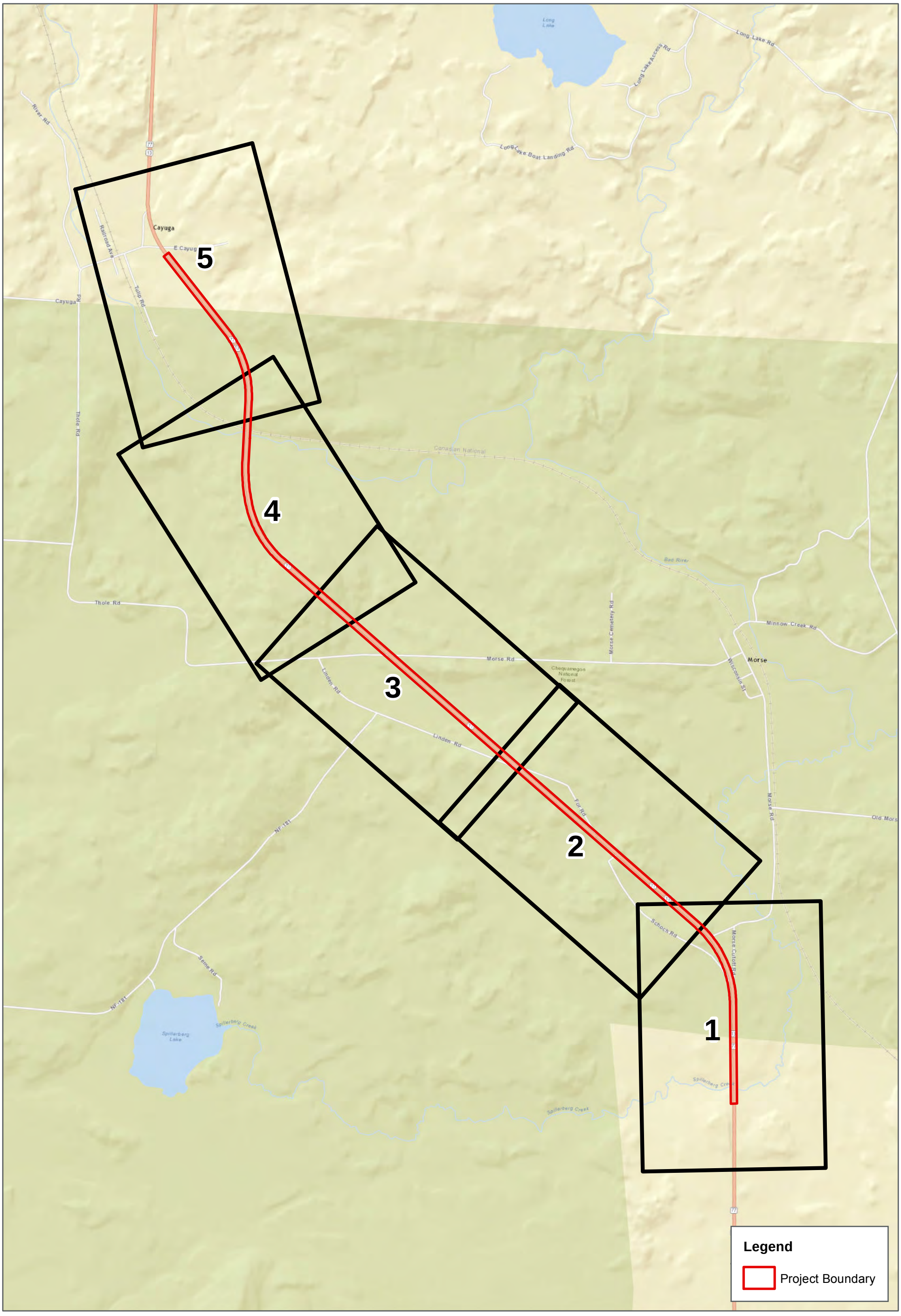
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 4

Wisconsin Wetland Inventory

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Wisconsin Wetland Inventory

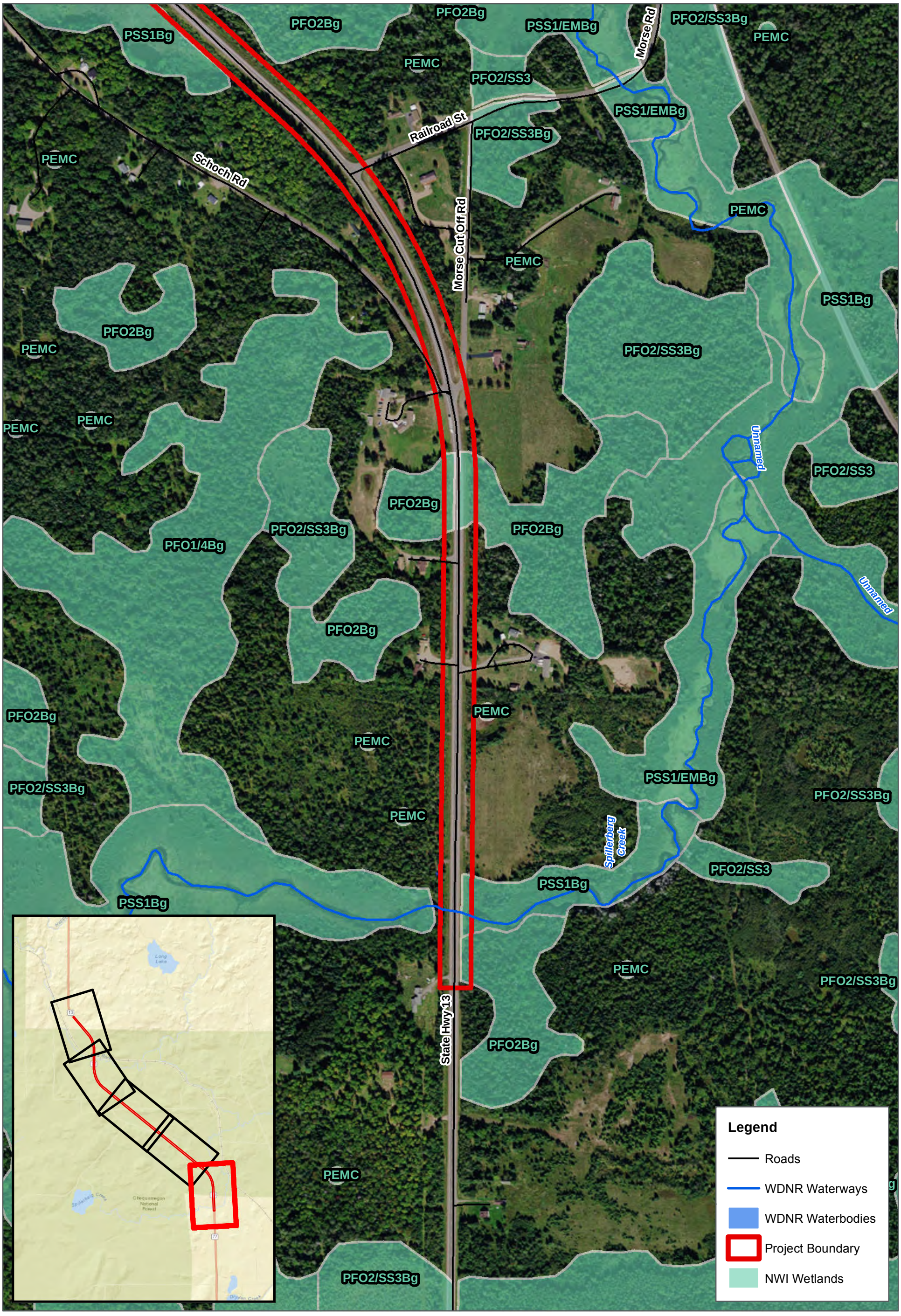
STH 13: Morse Rd - Cayuga Rd
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Ashland County, Wisconsin

0 1,250 2,500 Feet

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GIS Analyst: Alex Cohen



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Wisconsin Wetland Inventory

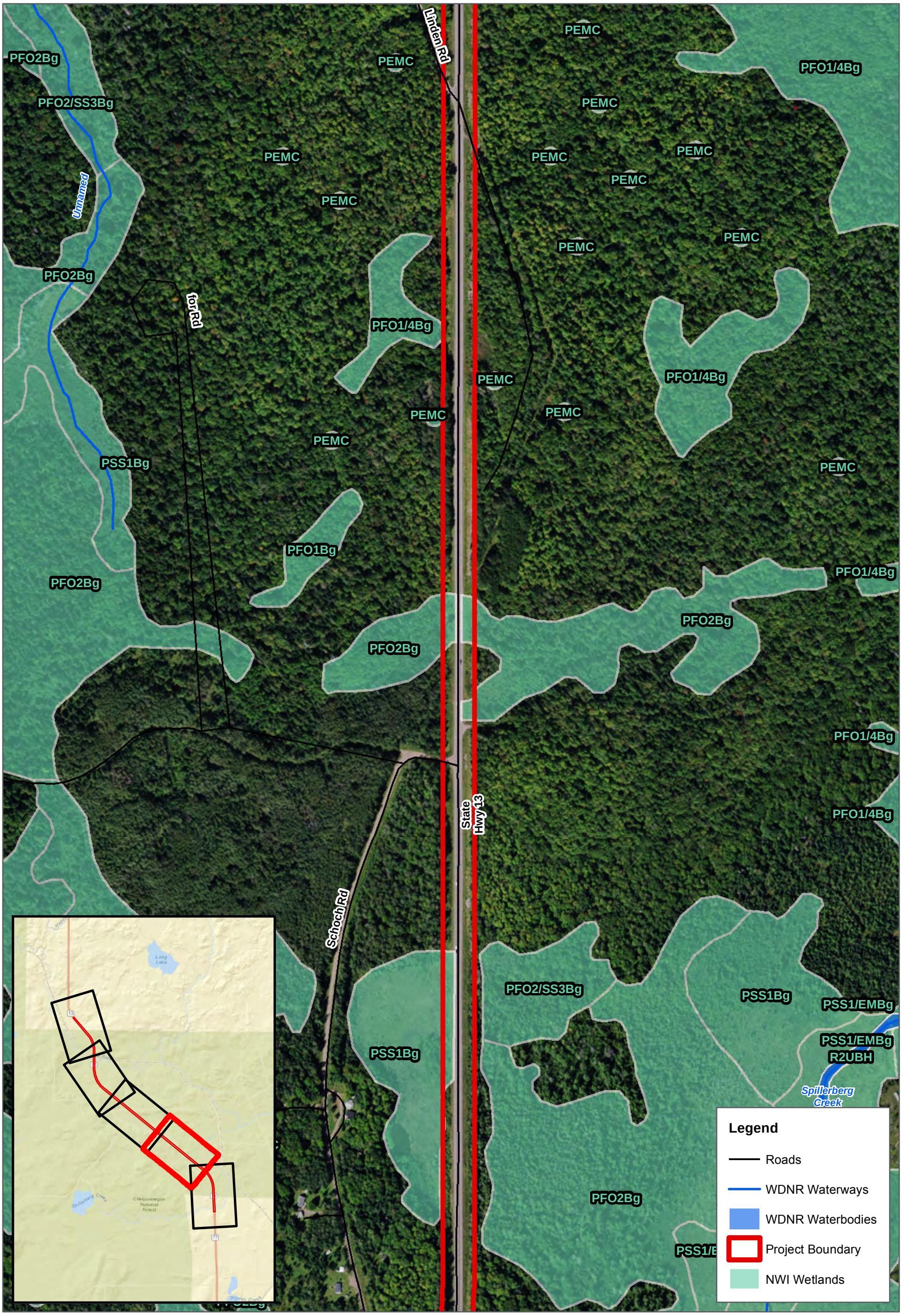
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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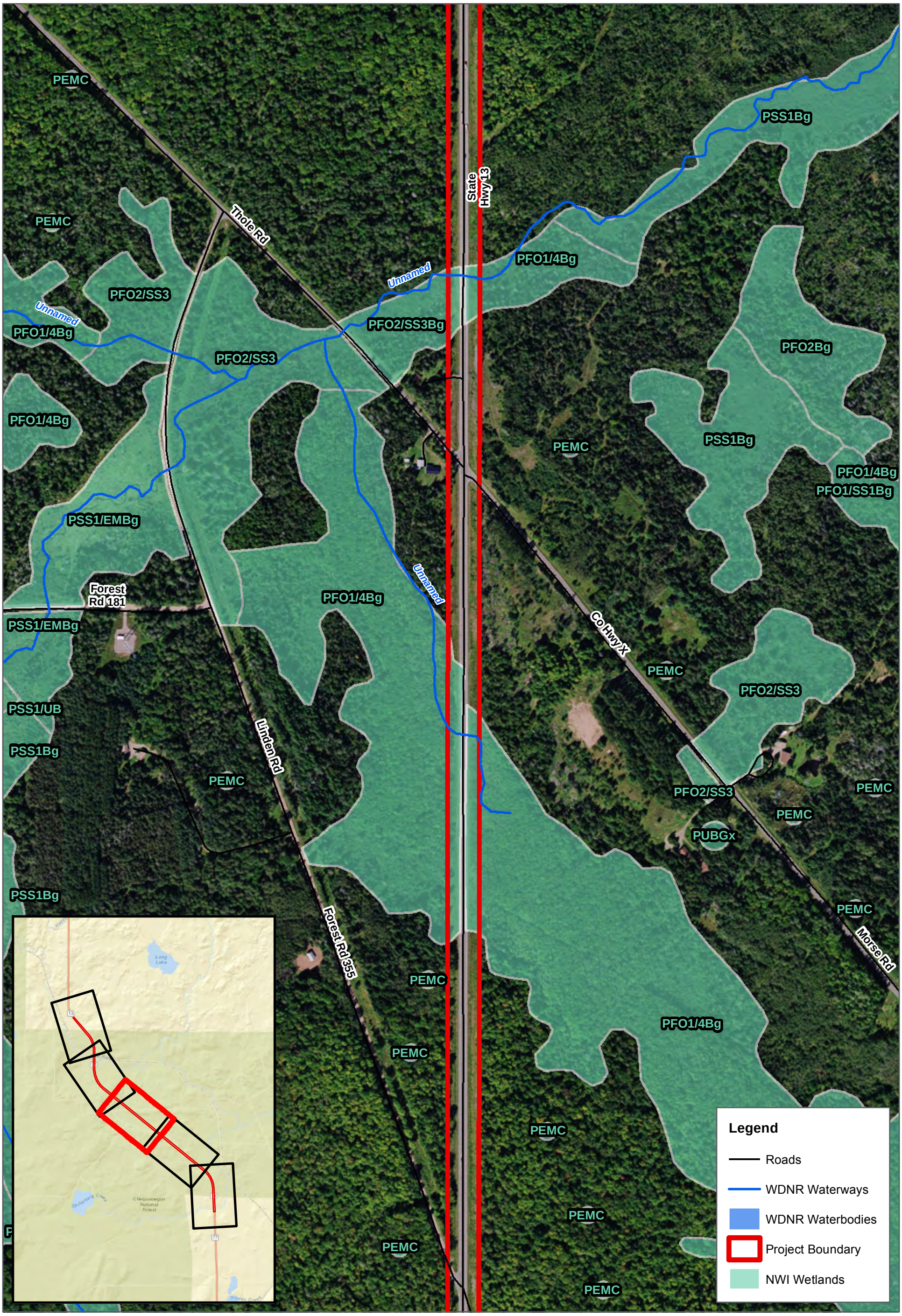
STH 13: Morse Rd - Cayuga Rd
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Ashland County, Wisconsin

0 250 500 Feet

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Wisconsin Wetland Inventory

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

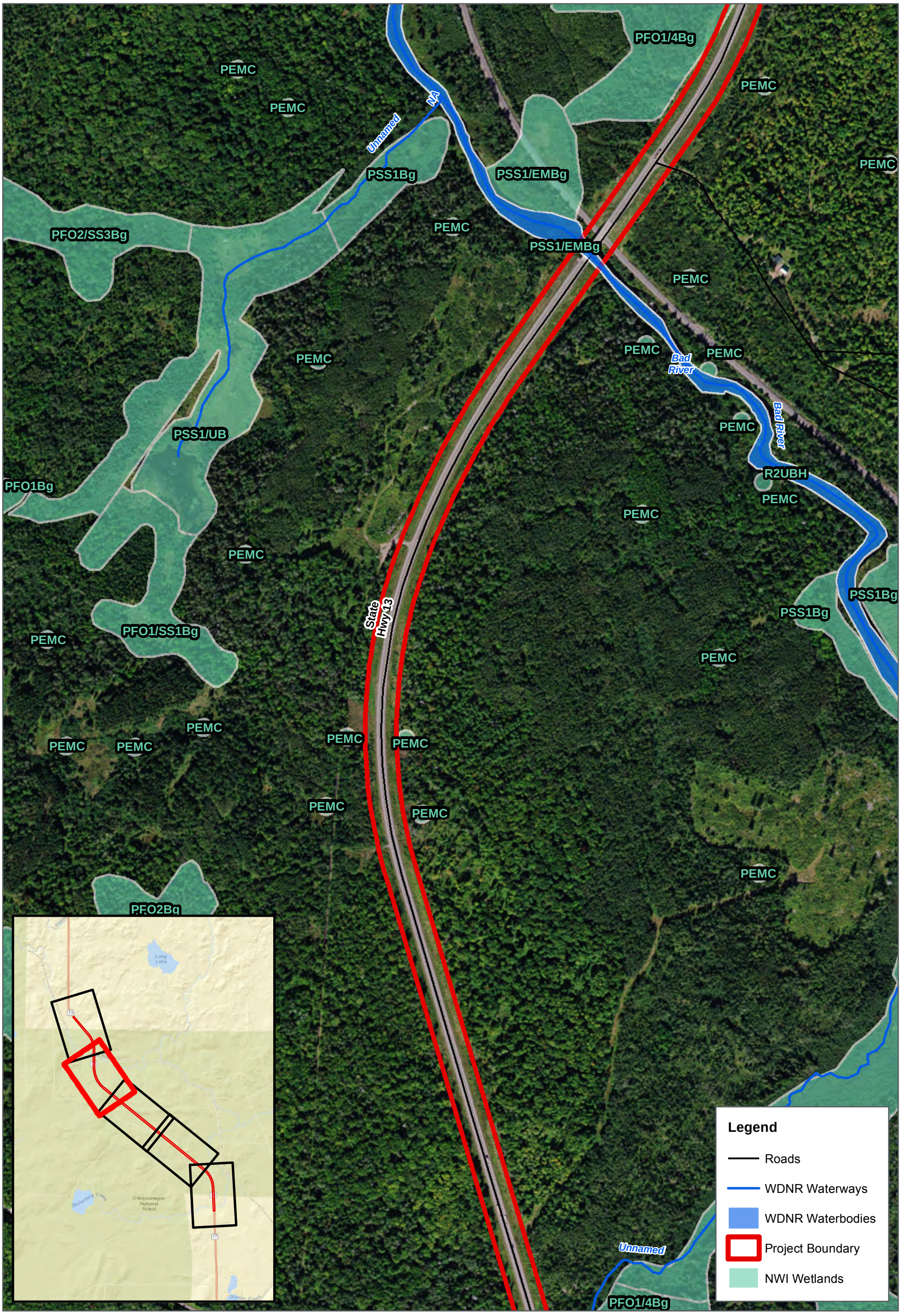
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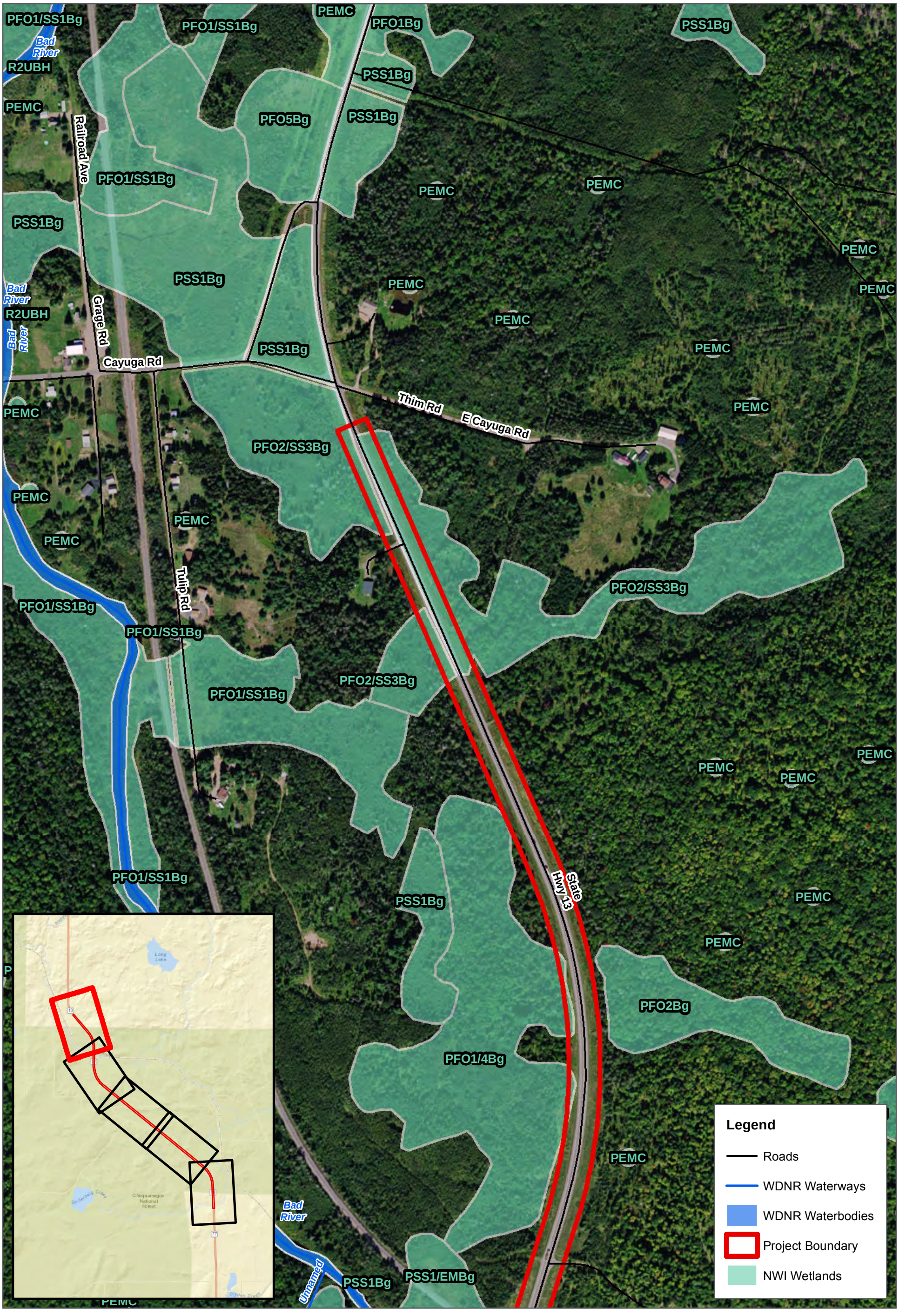
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
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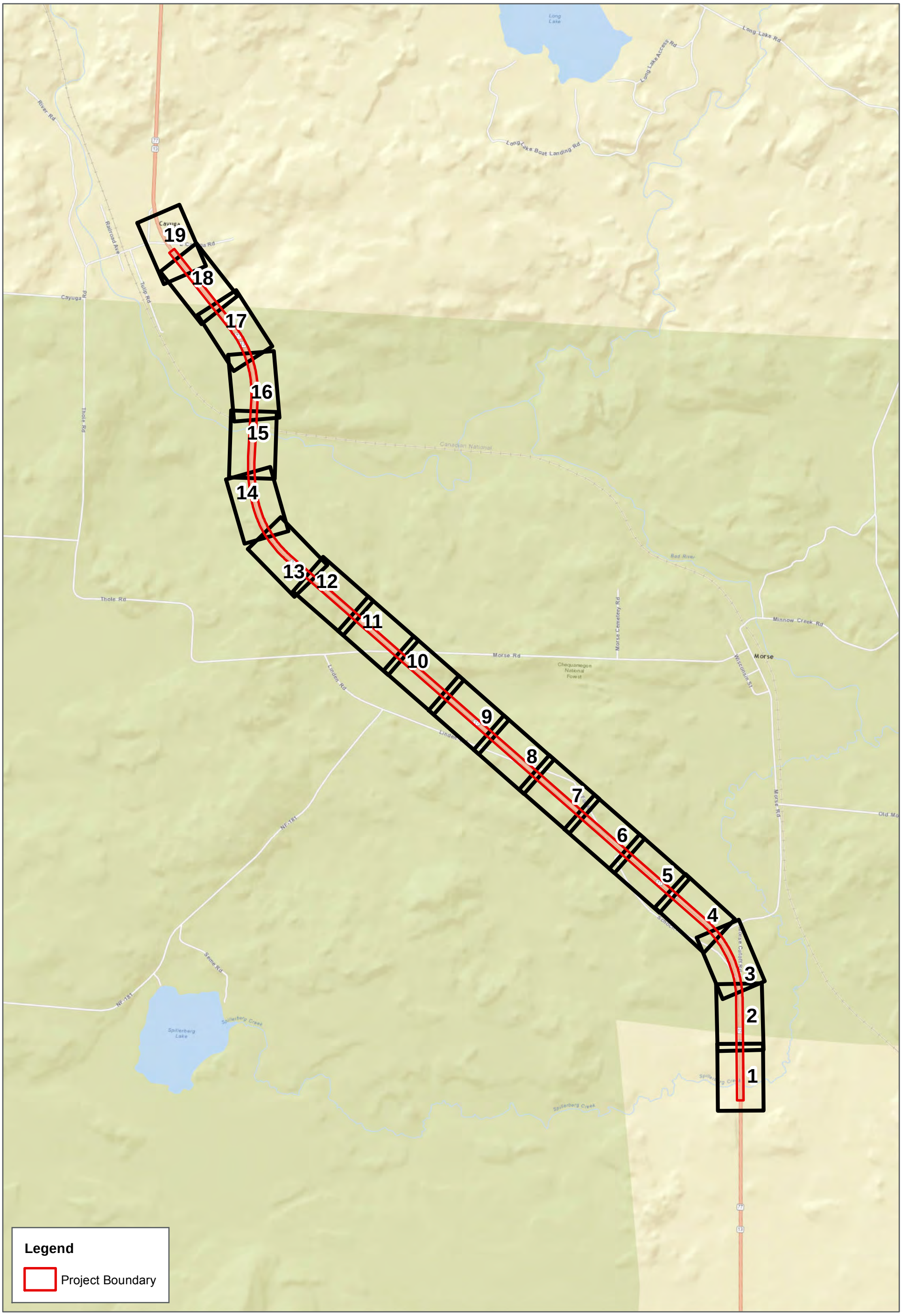
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 5

Delineated Wetlands and Waterways

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Delineated Wetlands and Waterways

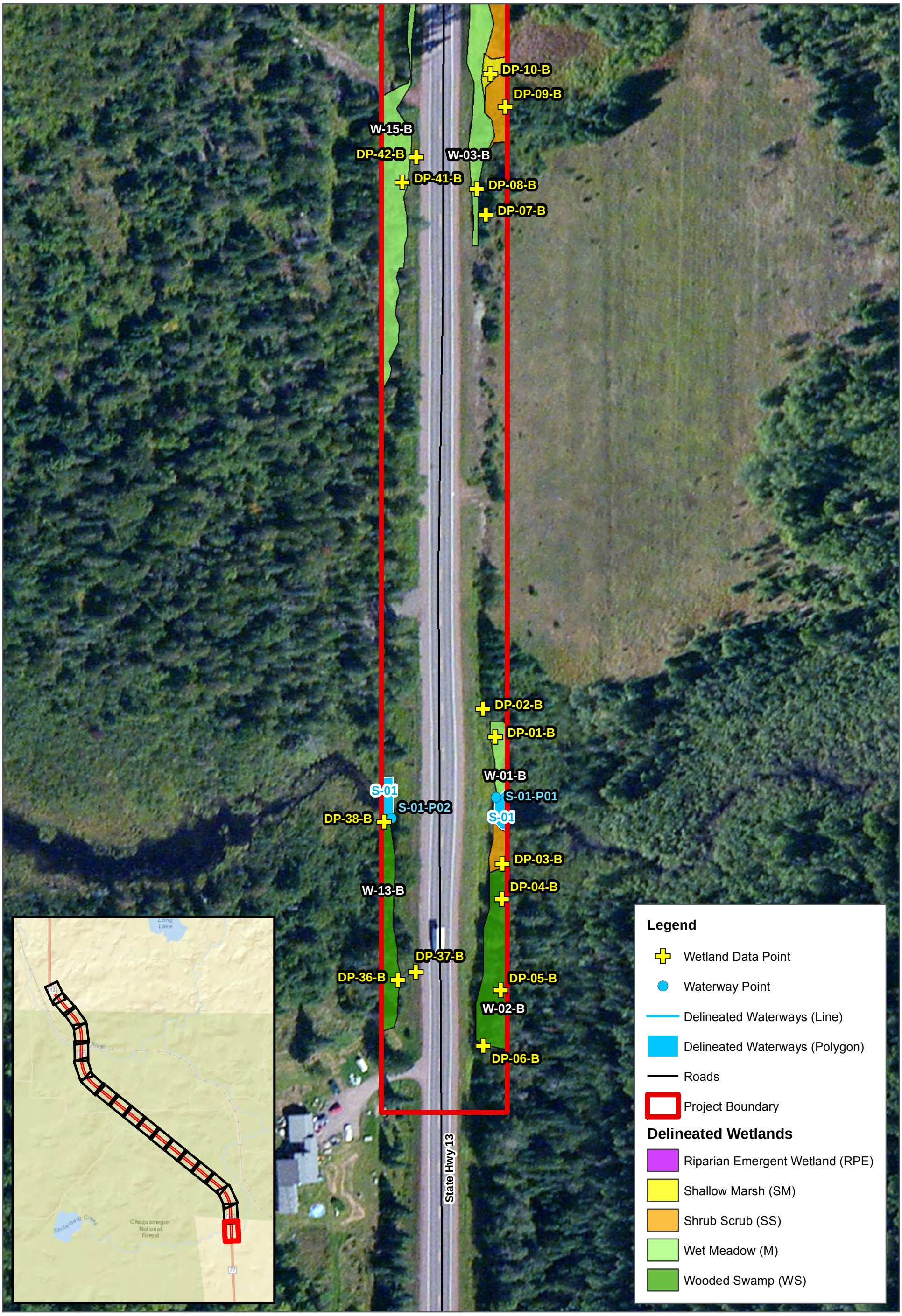
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Delineated Wetlands and Waterways

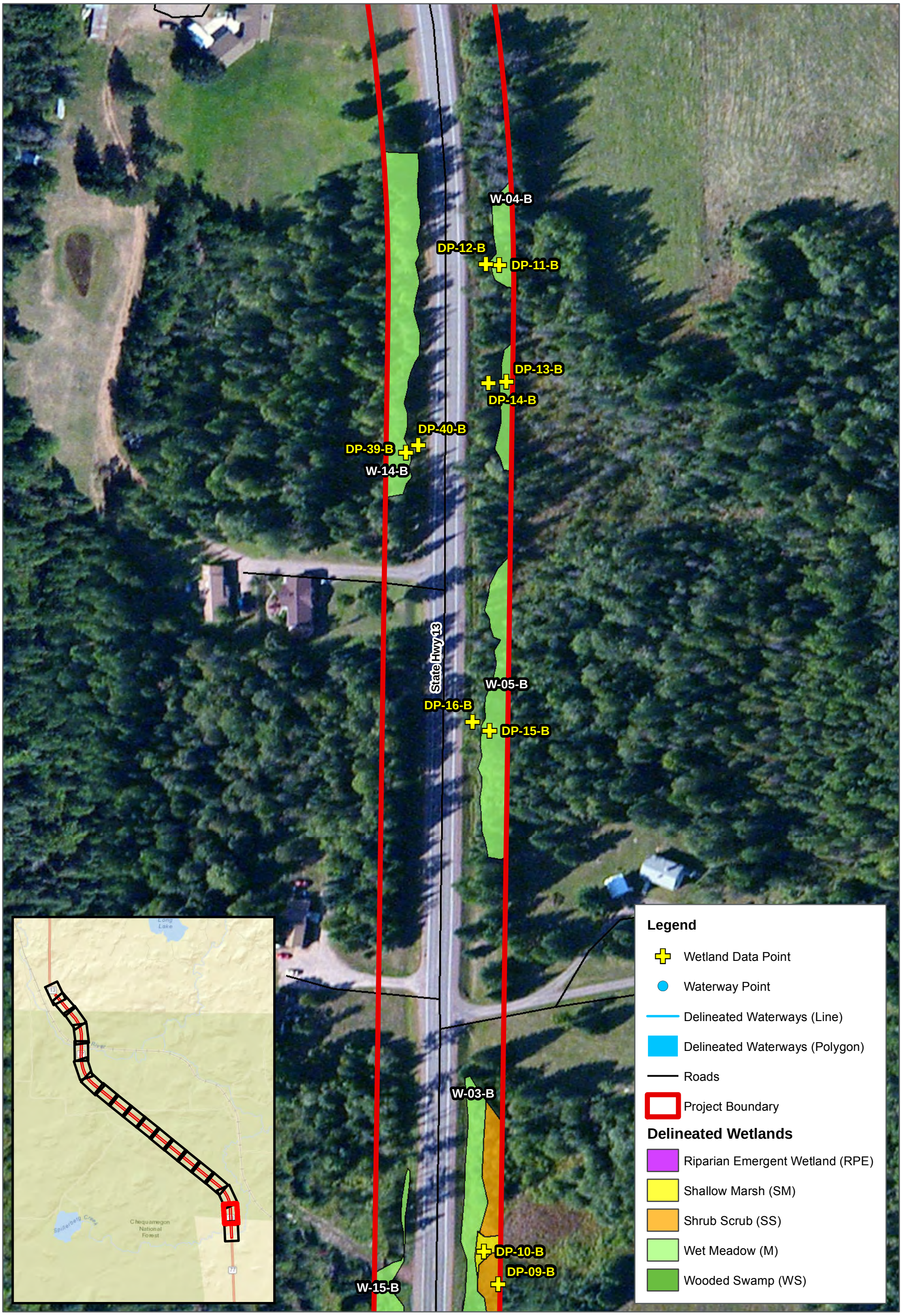
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

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Delineated Wetlands and Waterways

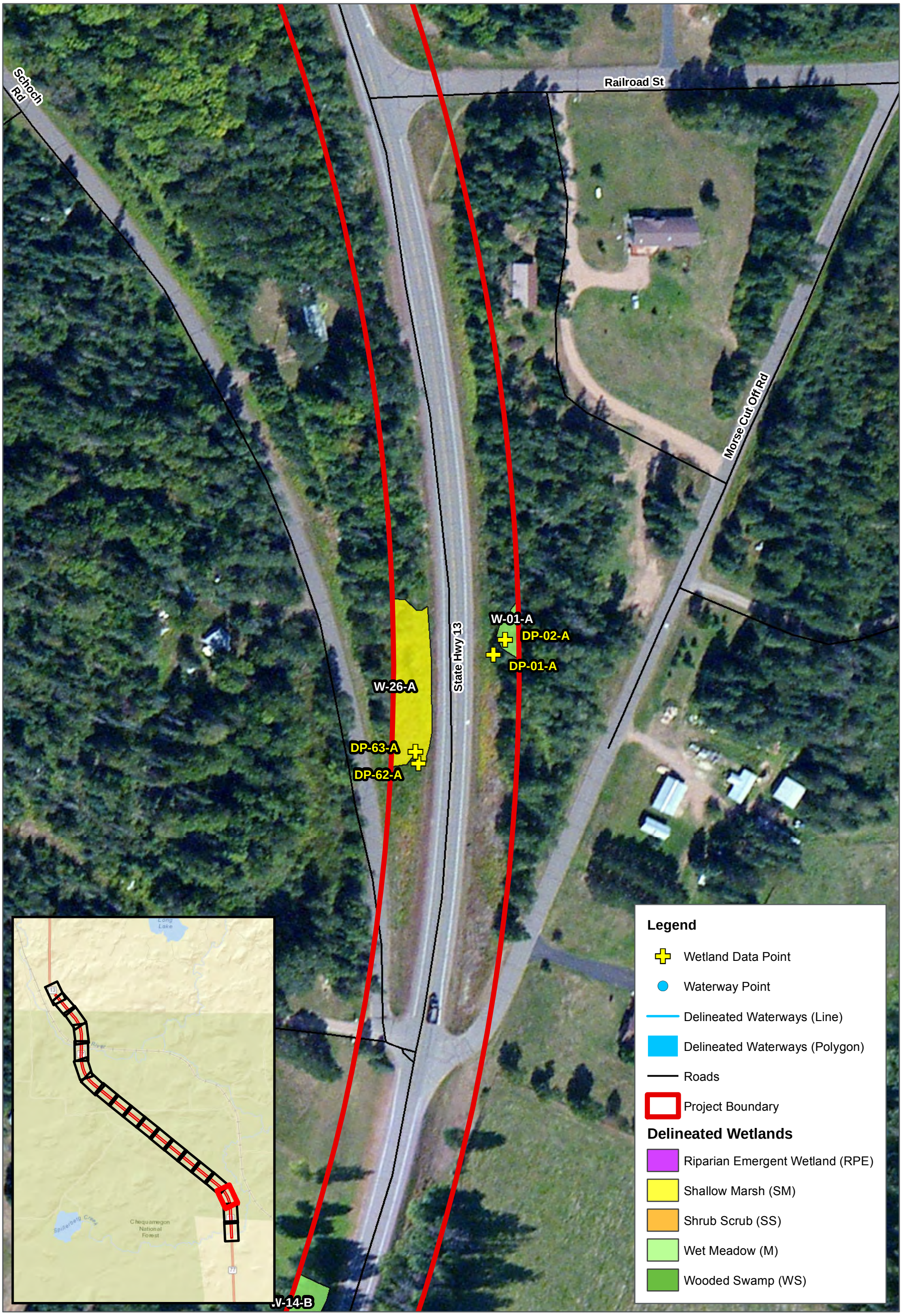
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M16

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Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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GIS Analyst: Alex Cohen

W-25-A

W-02-A

DP-04-A

DP-03-A

State Hwy 13

Railroad St

Schoc



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
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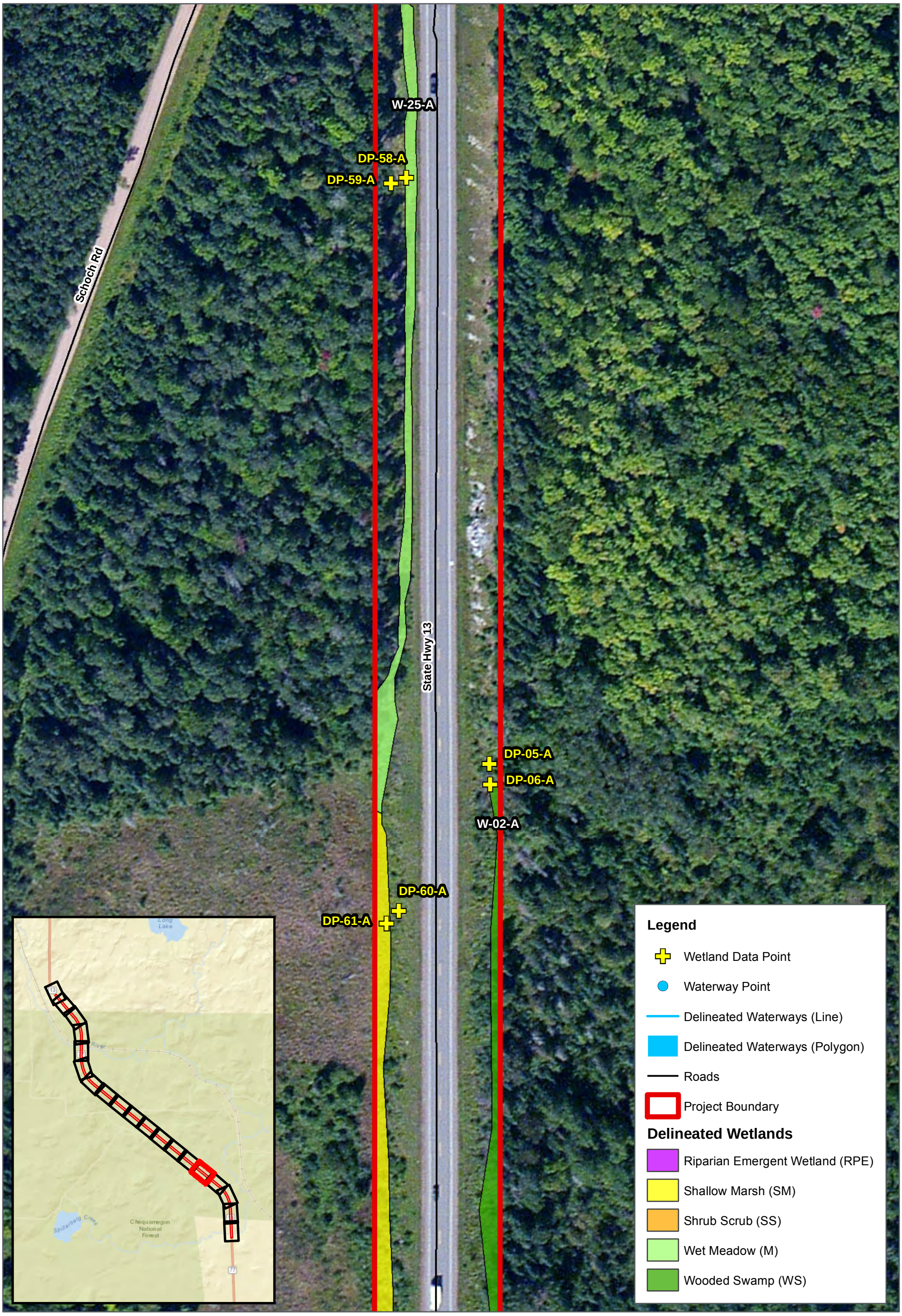
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Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

W-23-A
W-04-A
State Hwy 13
DP-09-A
DP-10-A
W-03-A
DP-08-A
DP-56-A
DP-57-A
DP-07-A
W-24-A
W-25-A
Long Lake
Spitzerberg Creek
Chequamegon National Forest
77

Legend

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GIS Analyst: Alex Cohen

DP-15-A
W-22-A
DP-52-A
DP-53-A
State Hwy 13
DP-13-A
DP-14-A
W-05-A
W-23-A
DP-54-A
DP-55-A
DP-11-A
DP-12-A
W-04-A



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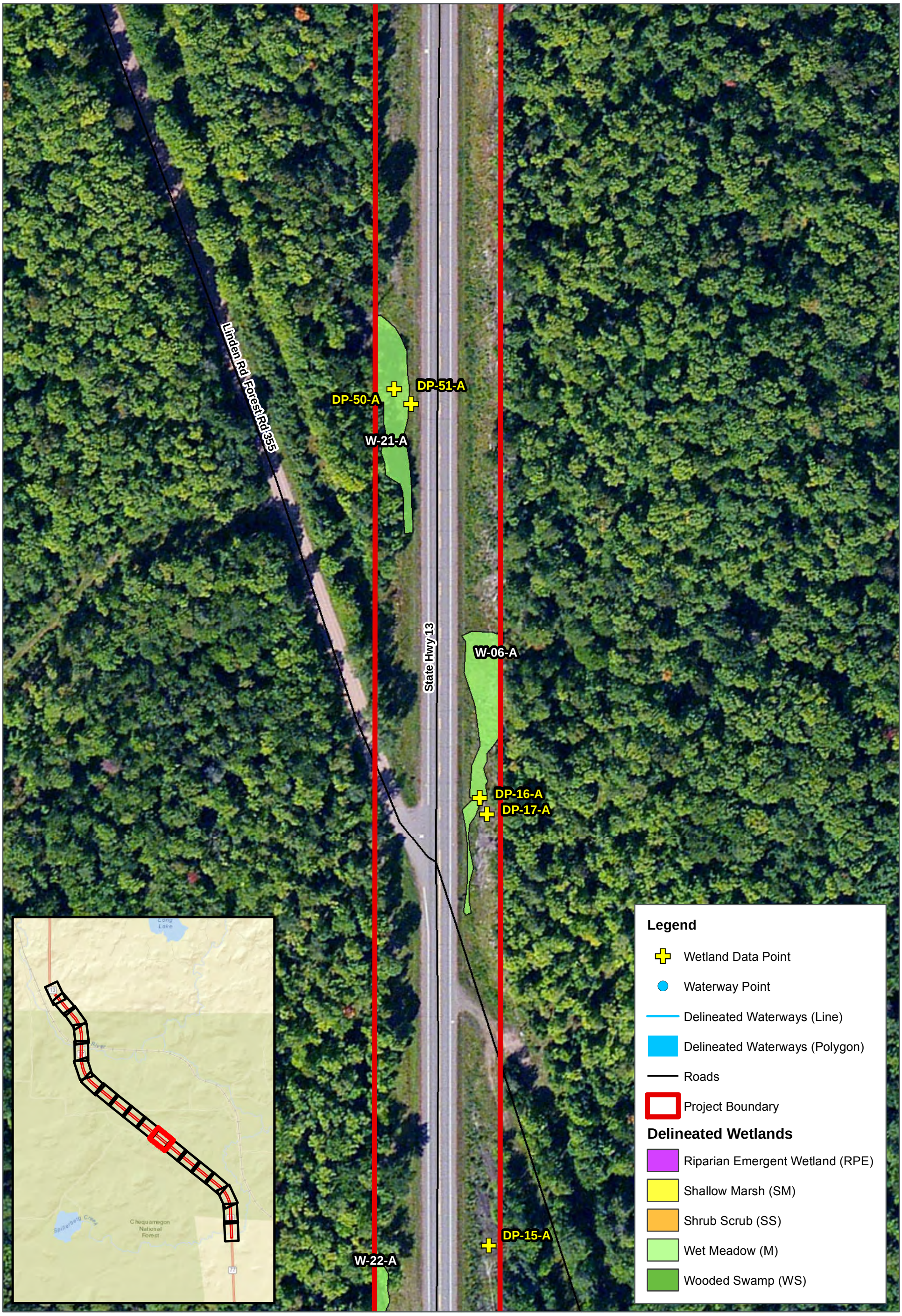
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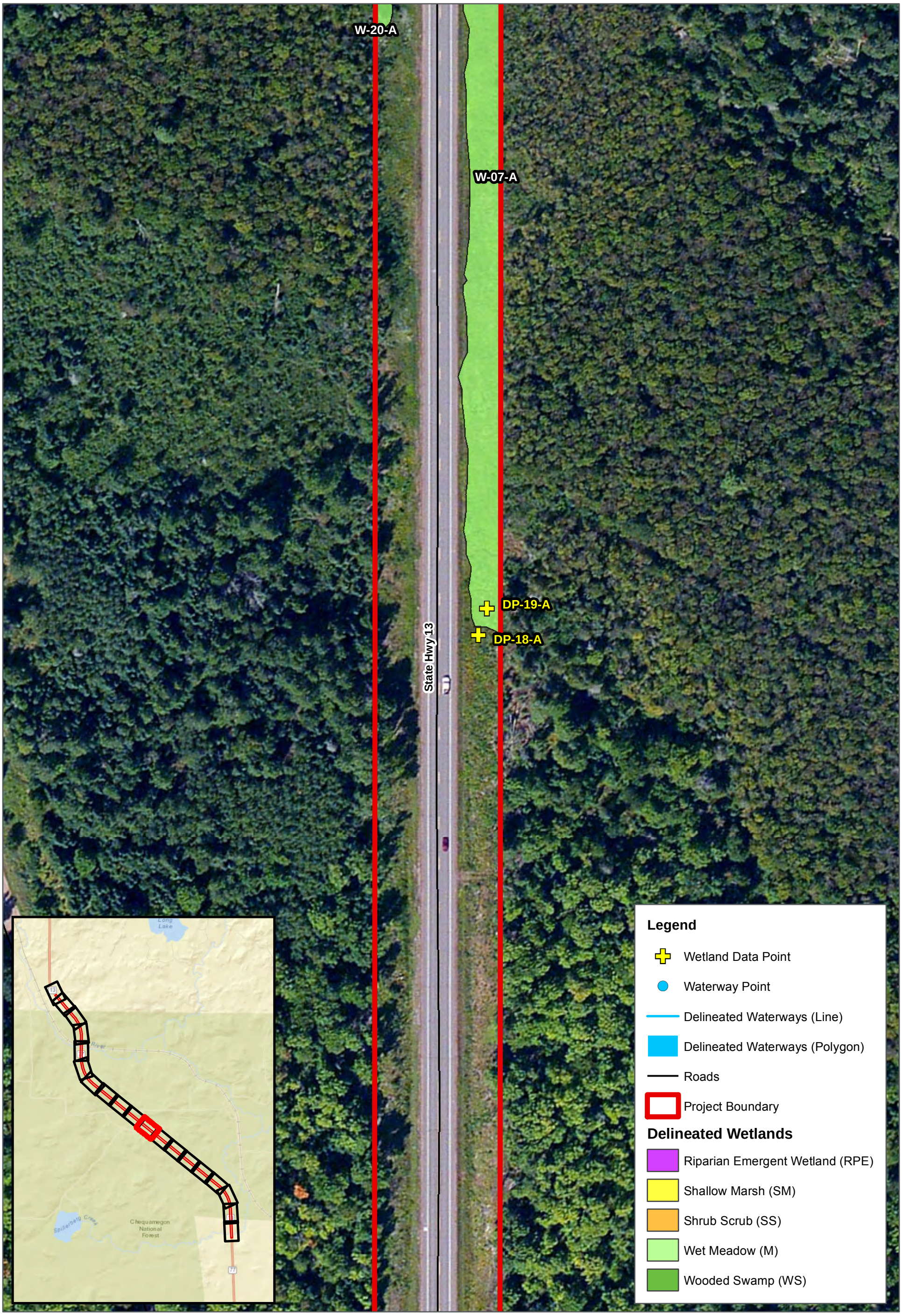
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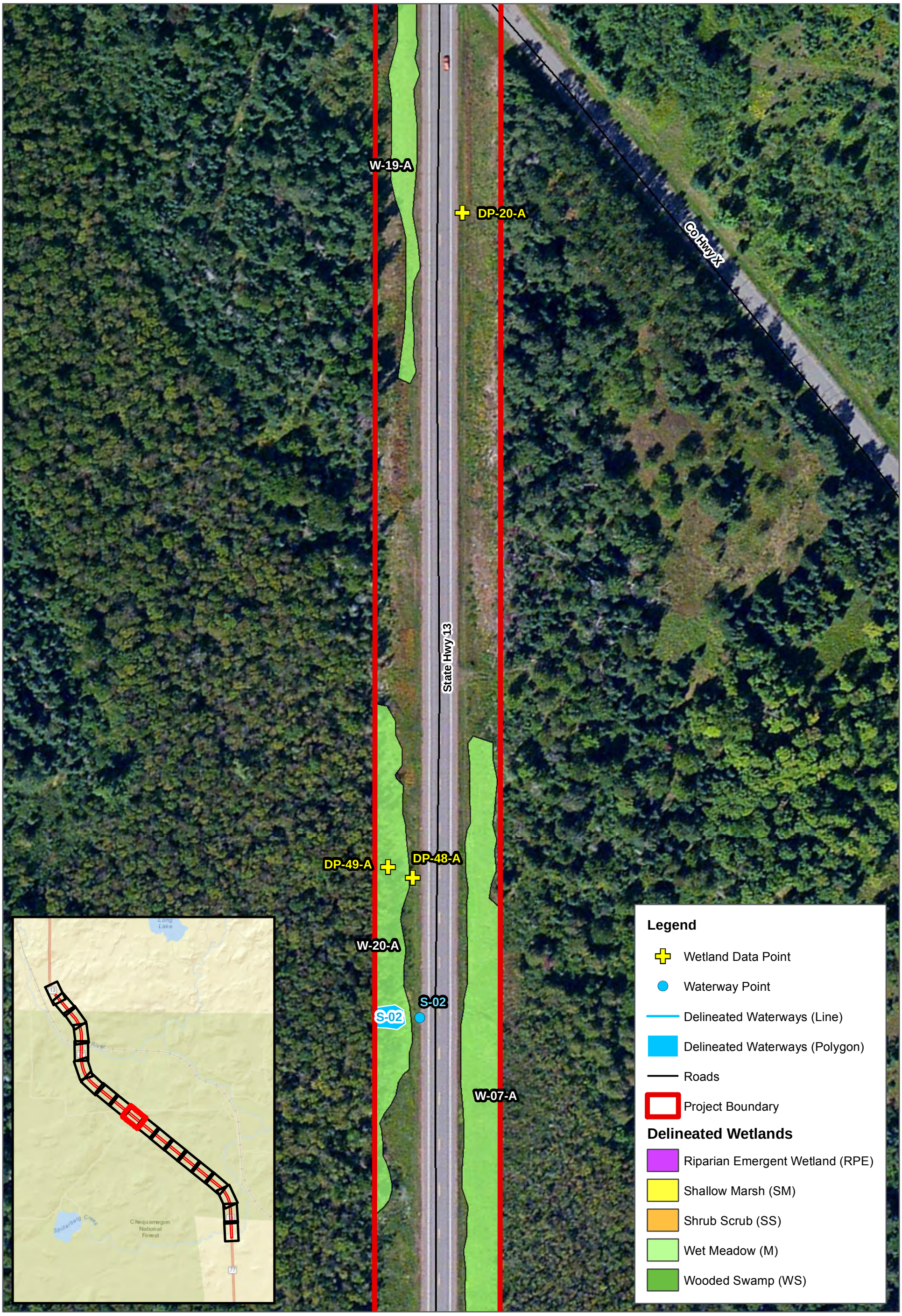
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GIS Analyst: Alex Cohen

DP-21-A
DP-22-A
DP-45-A
DP-44-A
W-08-A
S-03-P02
S-03
S-03-P01
W-18-A
State Hwy 13
Thole Rd
DP-46-A
DP-47-A
W-19-A
Co Hwy X
Chequamegon National Forest

Legend

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W-17-A
DP-43-A
DP-42-A
DP-24-A
DP-23-A
W-09-A
State Hwy 13



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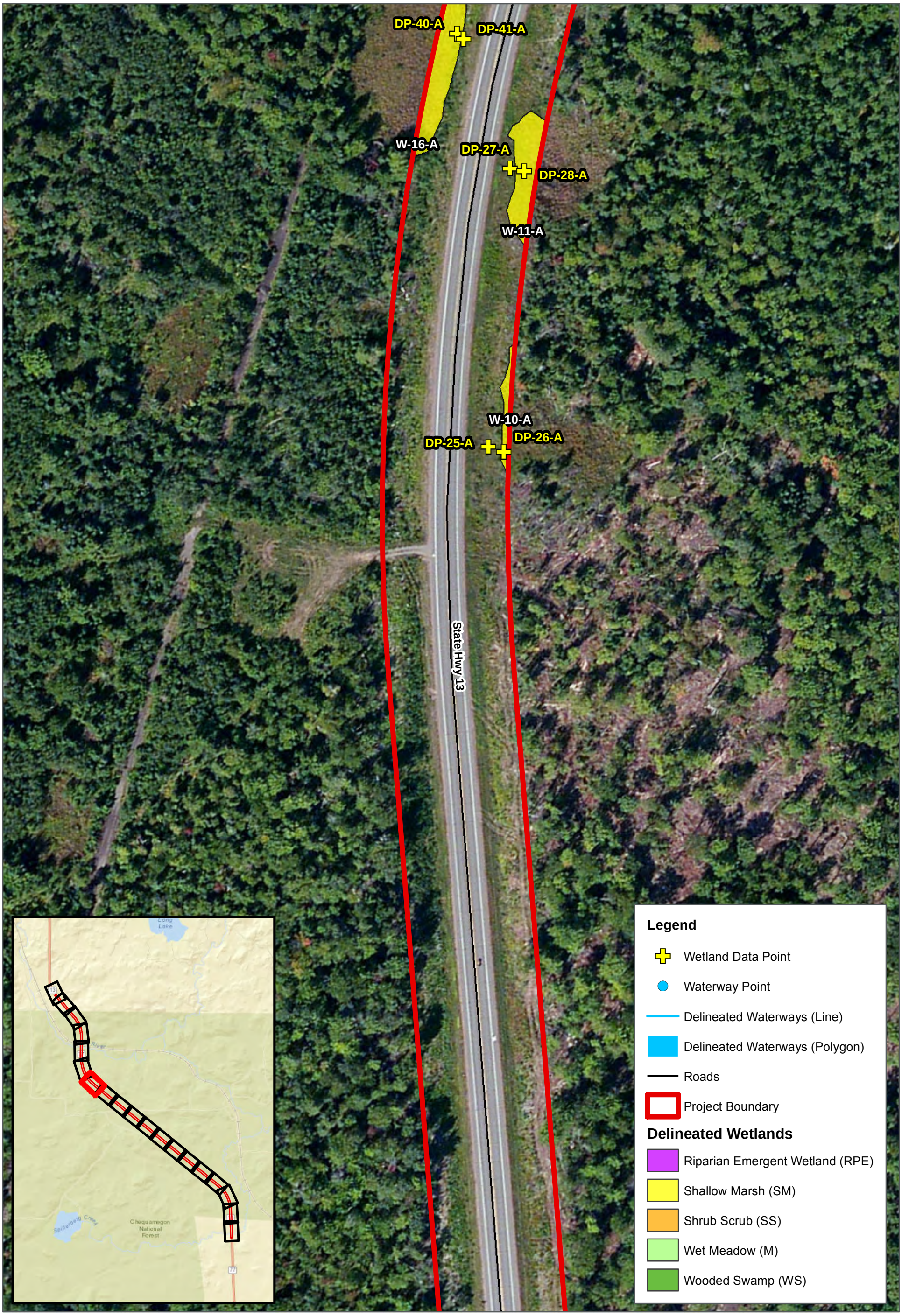
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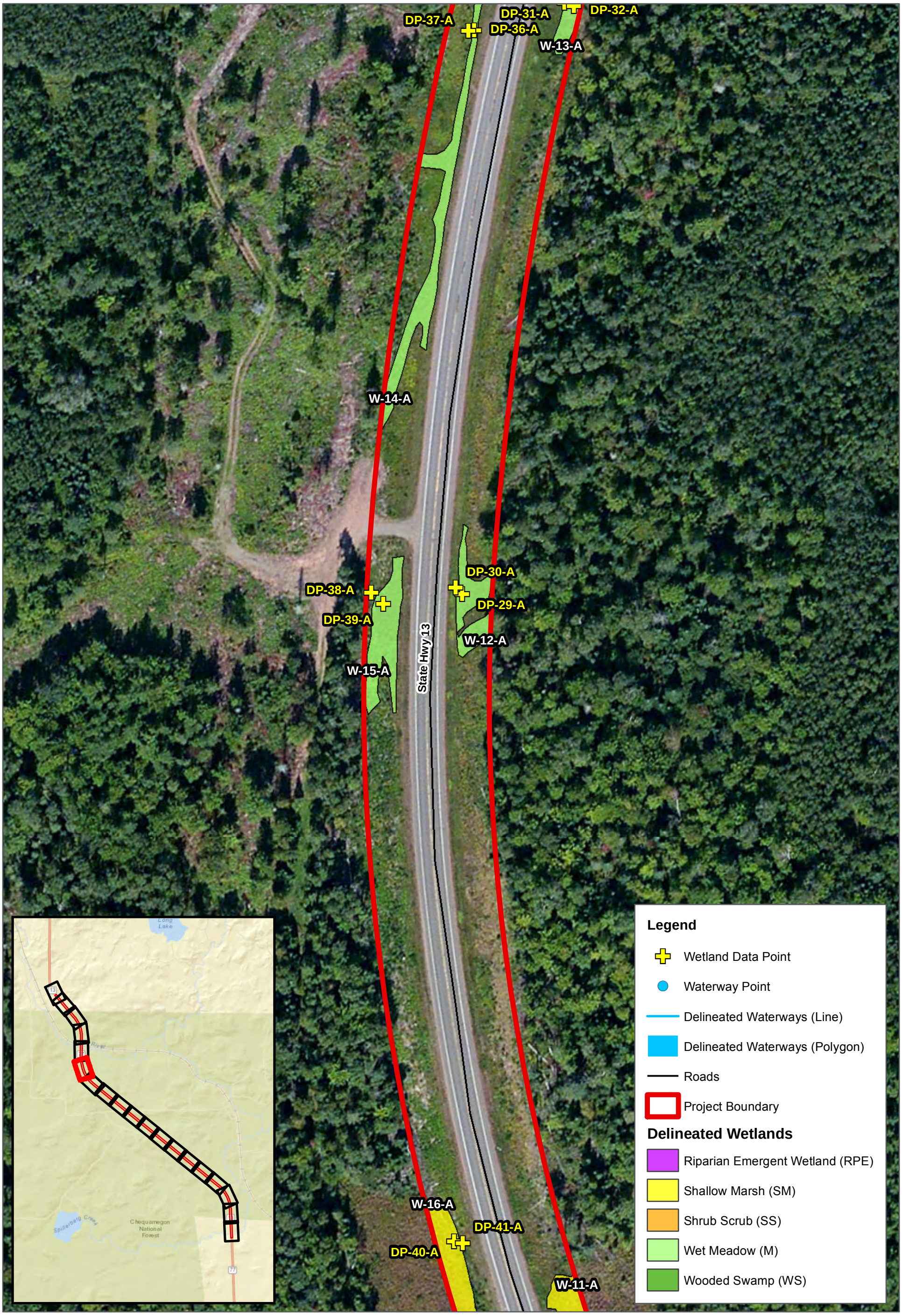
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GIS Analyst: Alex Cohen

S-04

DP-35-A

State Hwy 13

W-14-A

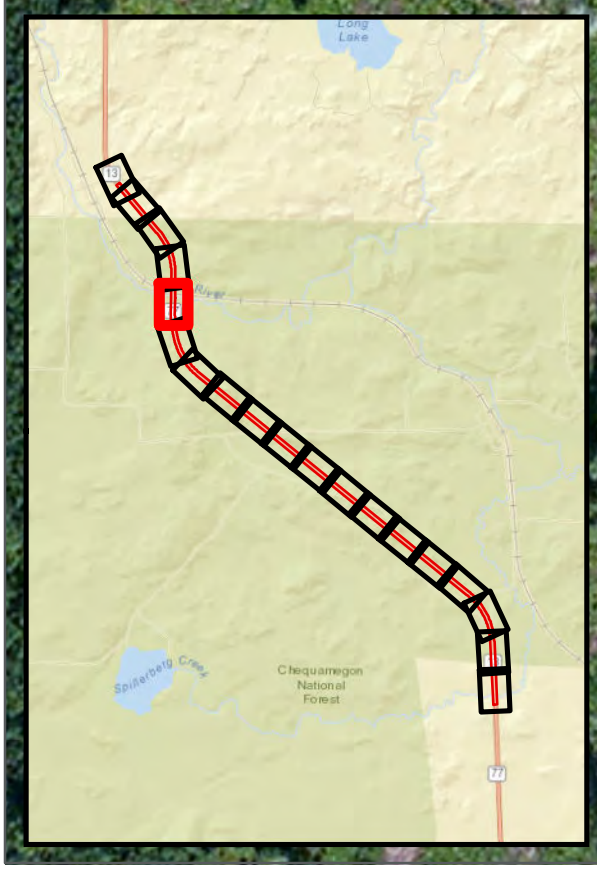
W-13-A

DP-31-A

DP-32-A

DP-36-A

DP-37-A



Legend

- Wetland Data Point
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- Roads
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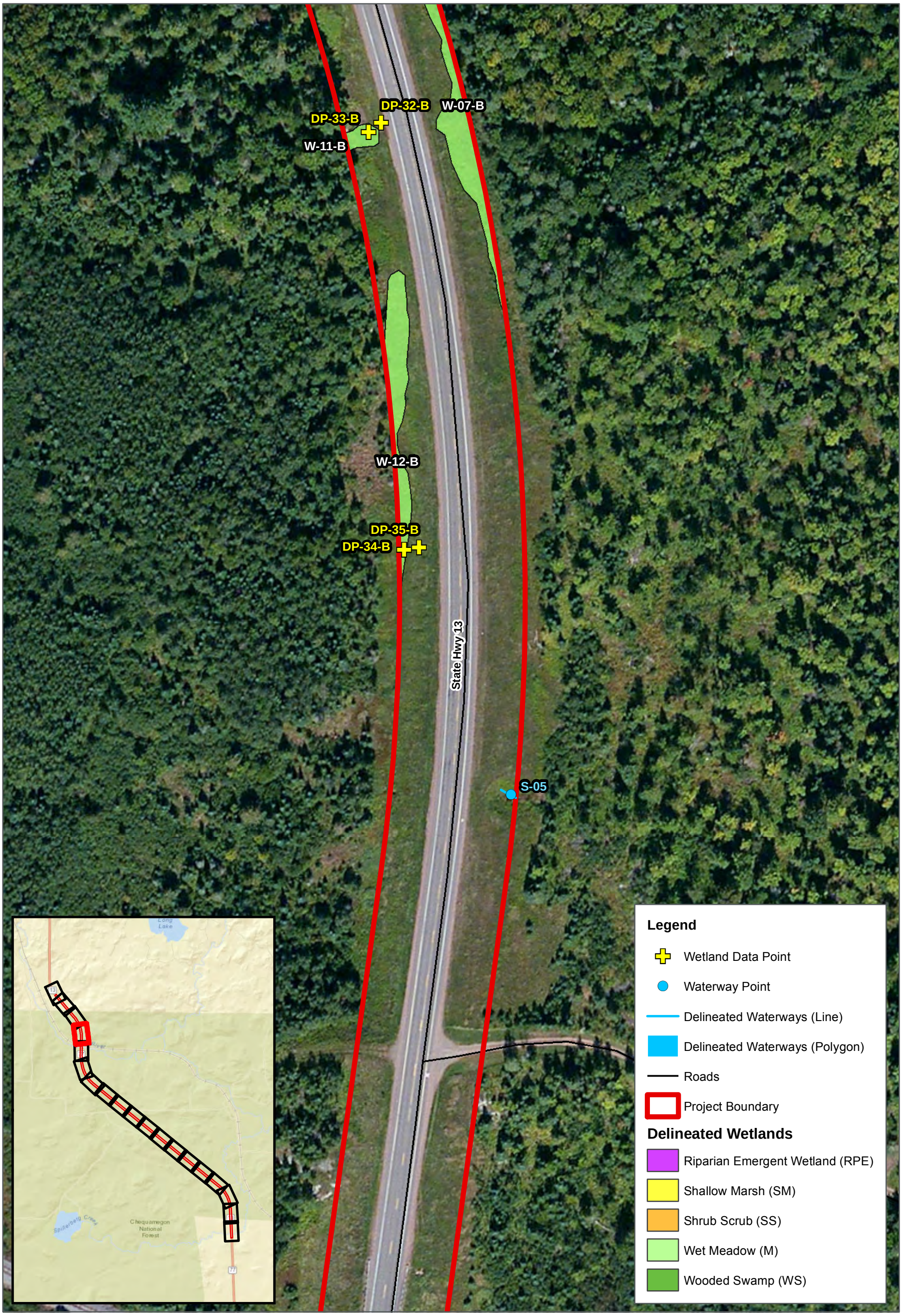
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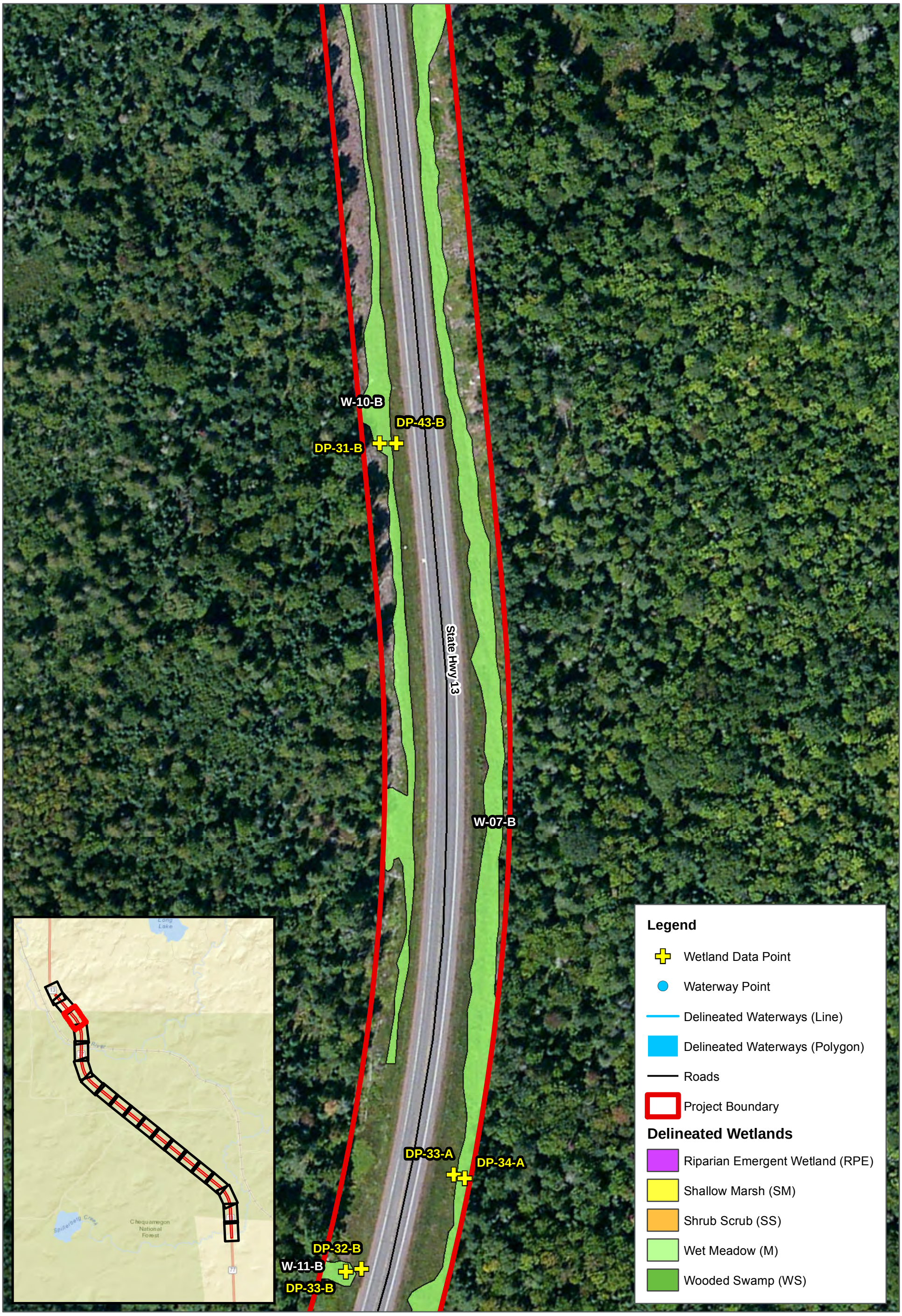
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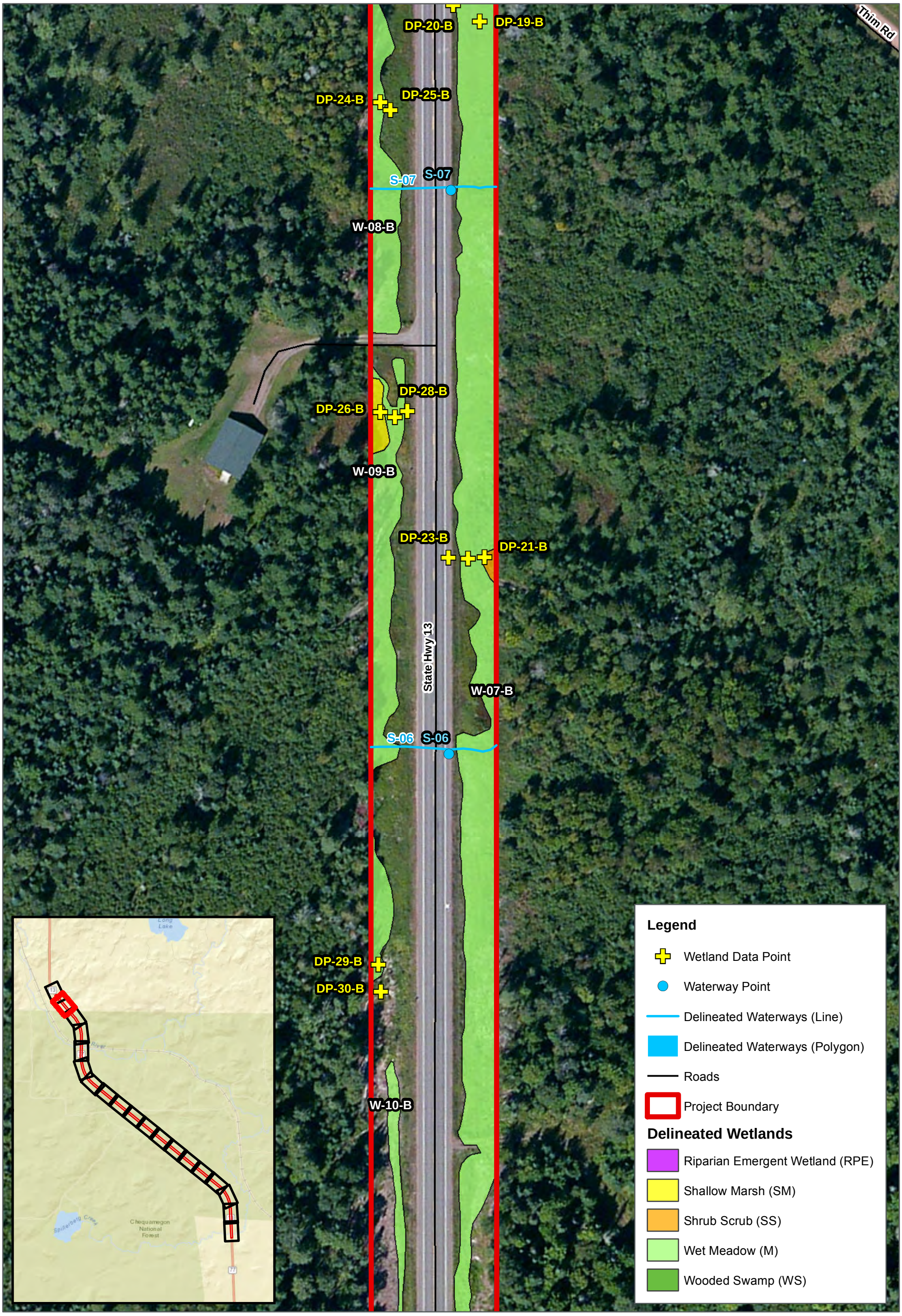
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Cayuga Rd

State Hwy 13

E Cayuga Rd

Thim Rd

W-06-B

DP-17-B

DP-18-B

W-08-B

DP-20-B

DP-19-B

DP-24-B

DP-25-B

S-07

S-07

W-07-B

W-09-B



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- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

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Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

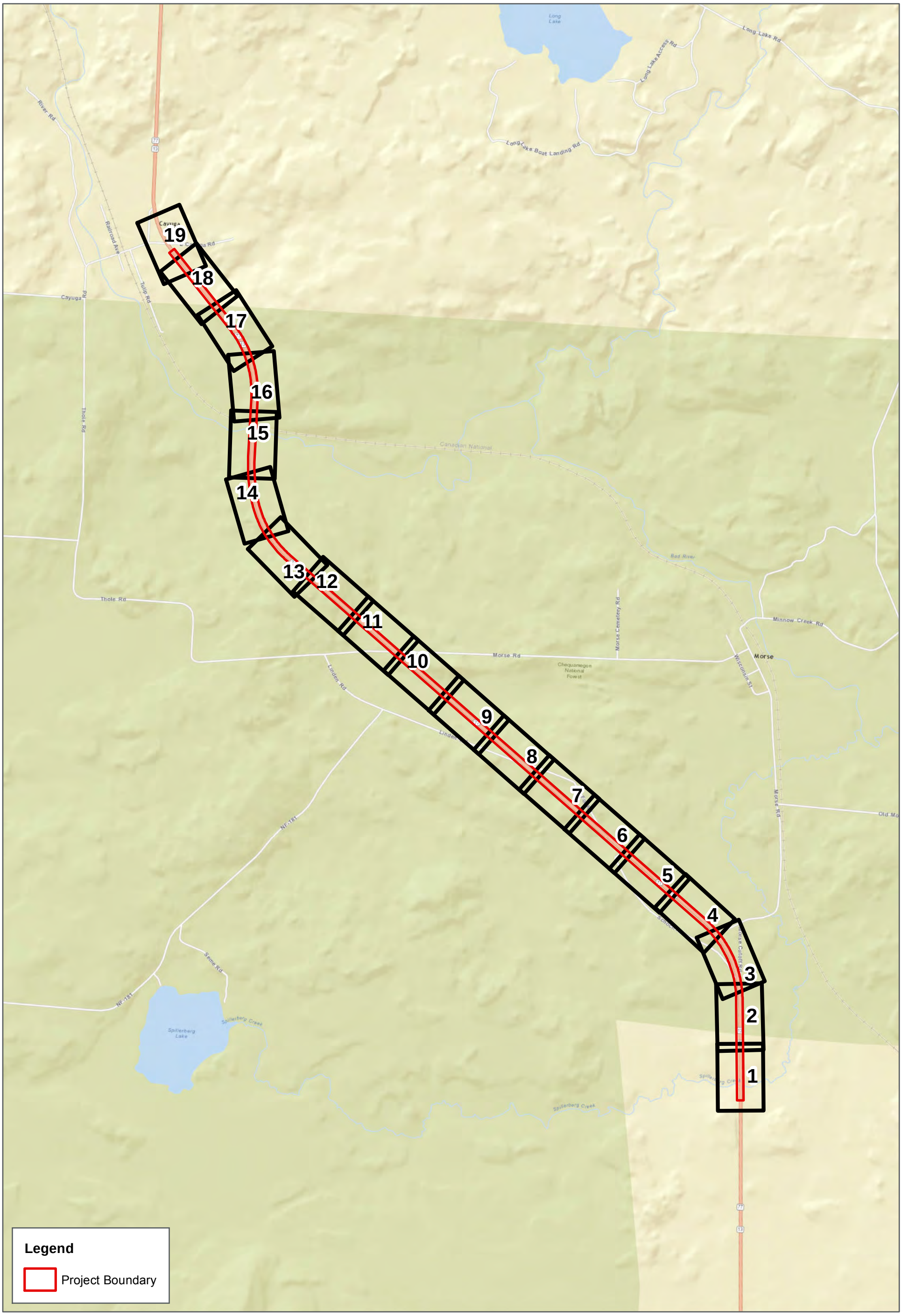
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 6

Photo Points

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Photo Points

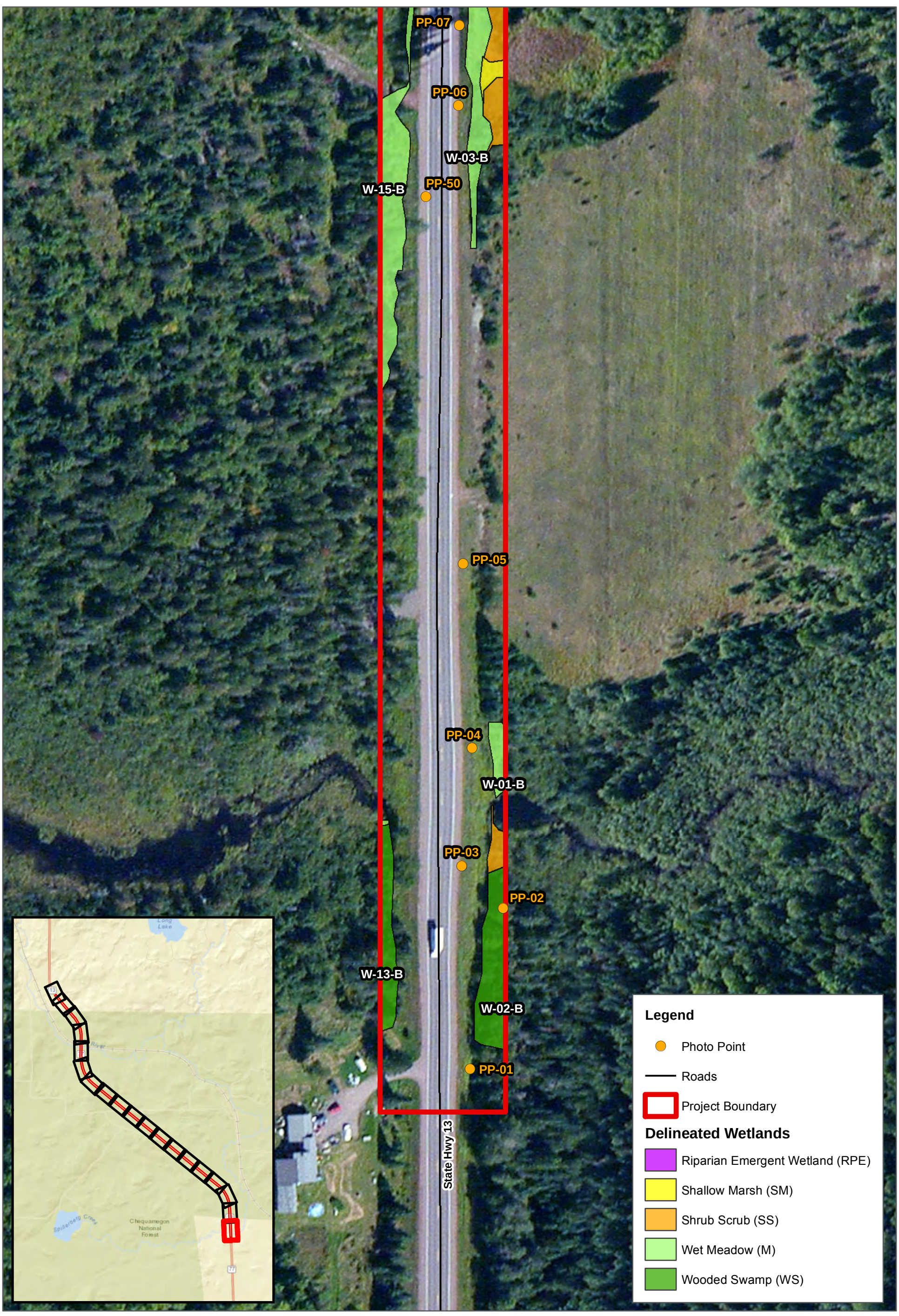
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,000 2,000 Feet

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Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Photo Points

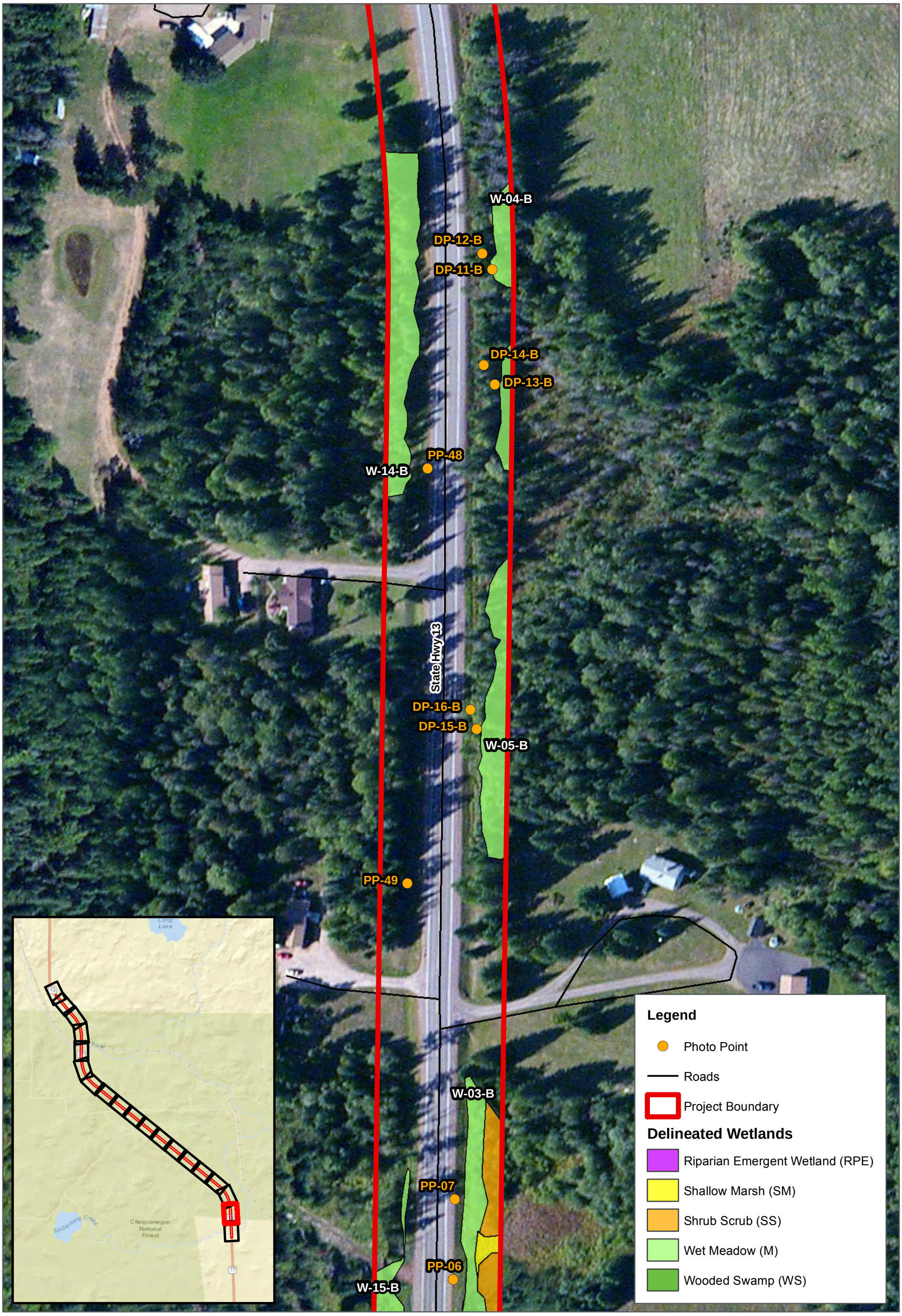
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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GIS Analyst: Alex Cohen



N
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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Schoch Rd

Railroad St

PP-10

Morse Cut Off Rd

W-01-A

PP-09

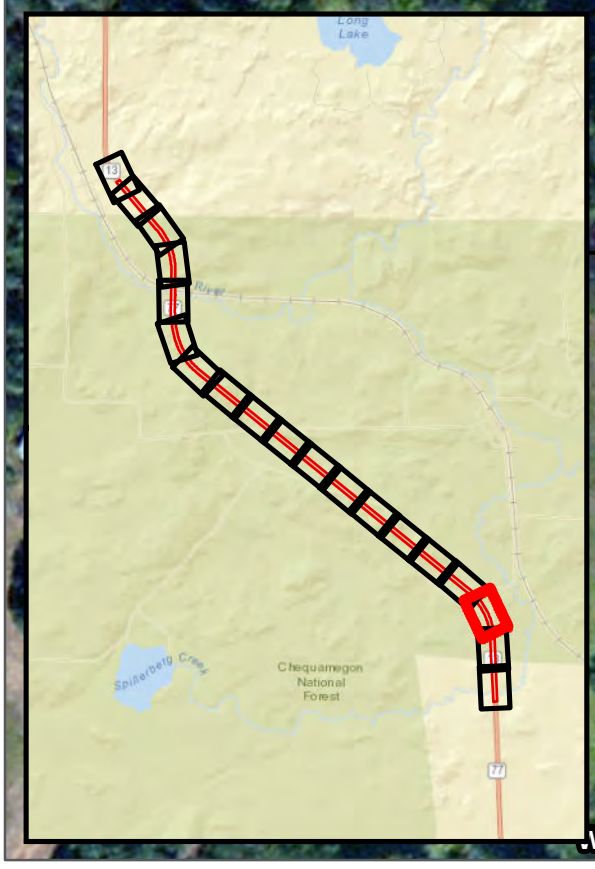
State Hwy 13

W-26-A

PP-47

PP-08

W-14-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

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Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

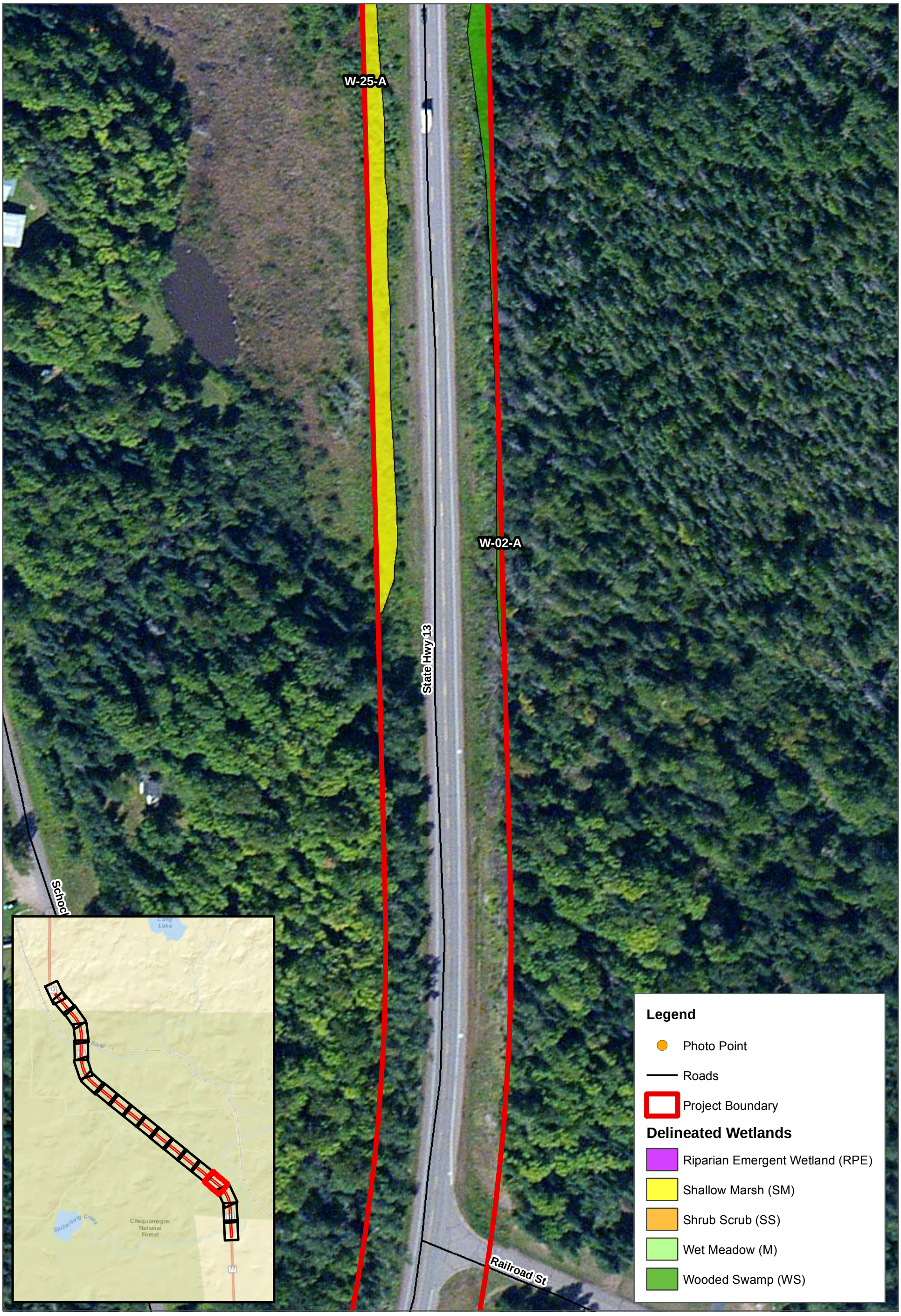
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GIS Analyst: Alex Cohen



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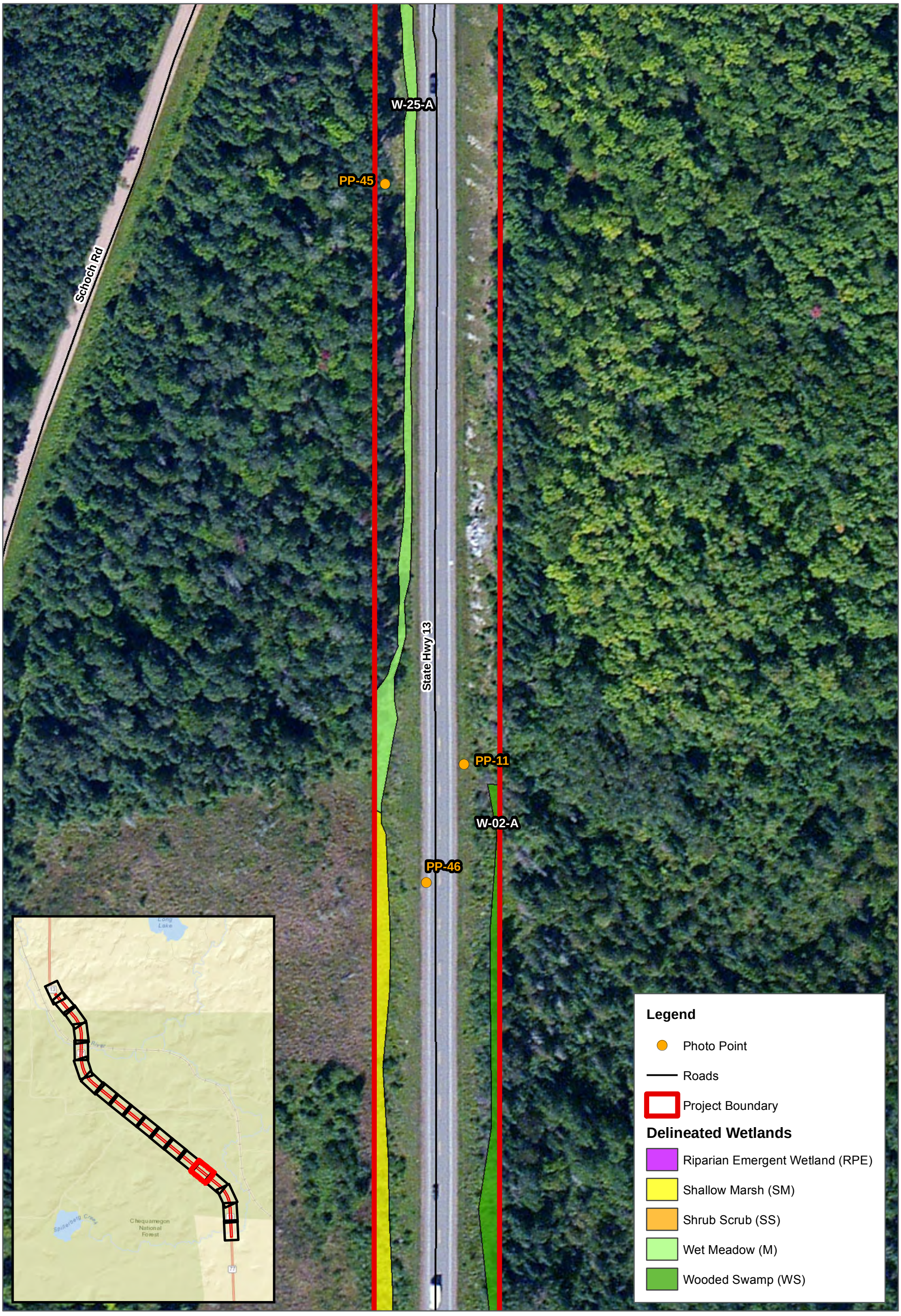
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

PP-15
PP-14
W-23-A
State Hwy 13
W-04-A
PP-13
W-03-A
PP-44
W-24-A
PP-12
W-25-A
Long Lake
Chequamegon National Forest
Spitzberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

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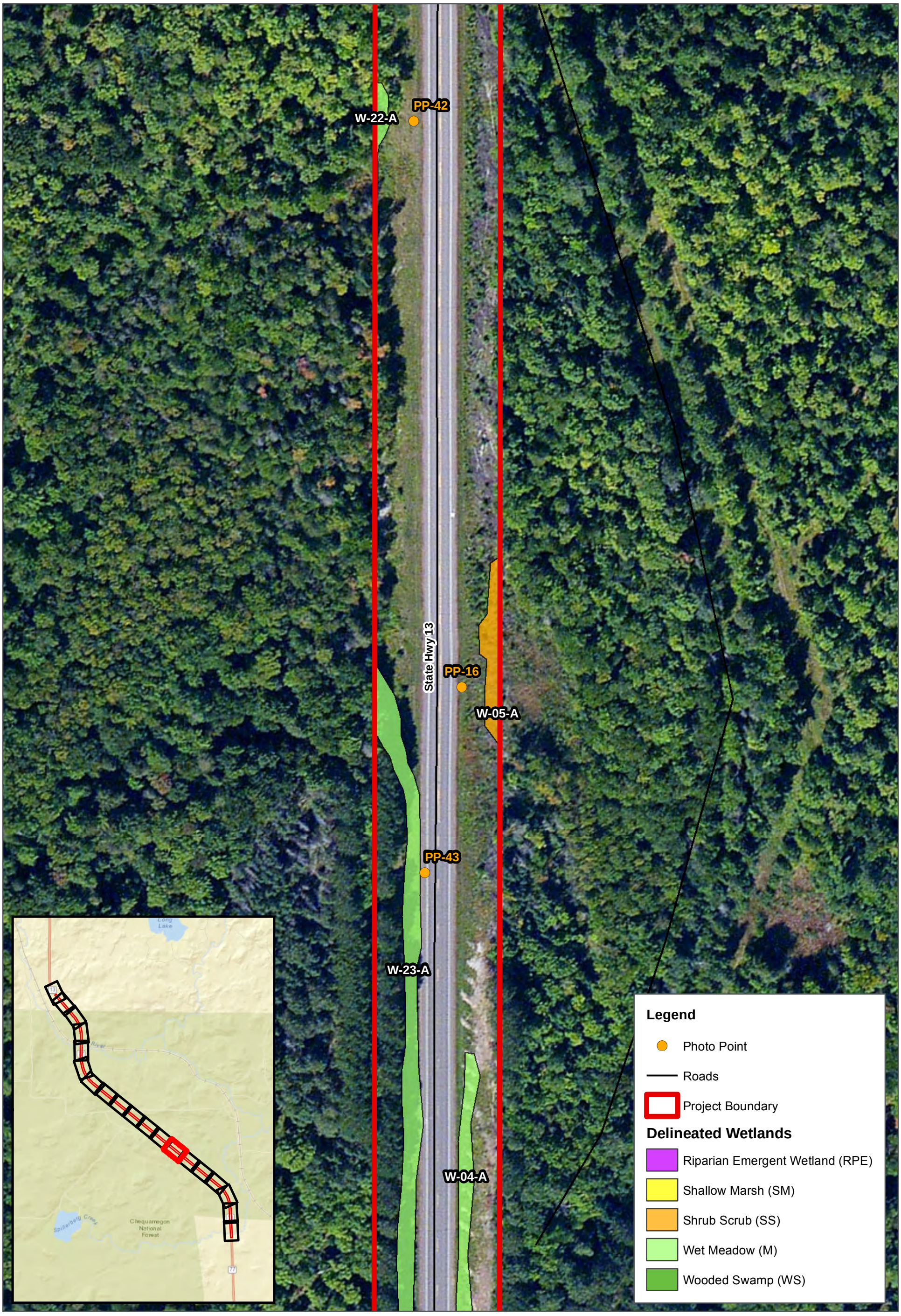
Photo Points

STH 13: Morse Rd - Cayuga Rd
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Ashland County, Wisconsin

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N W E S

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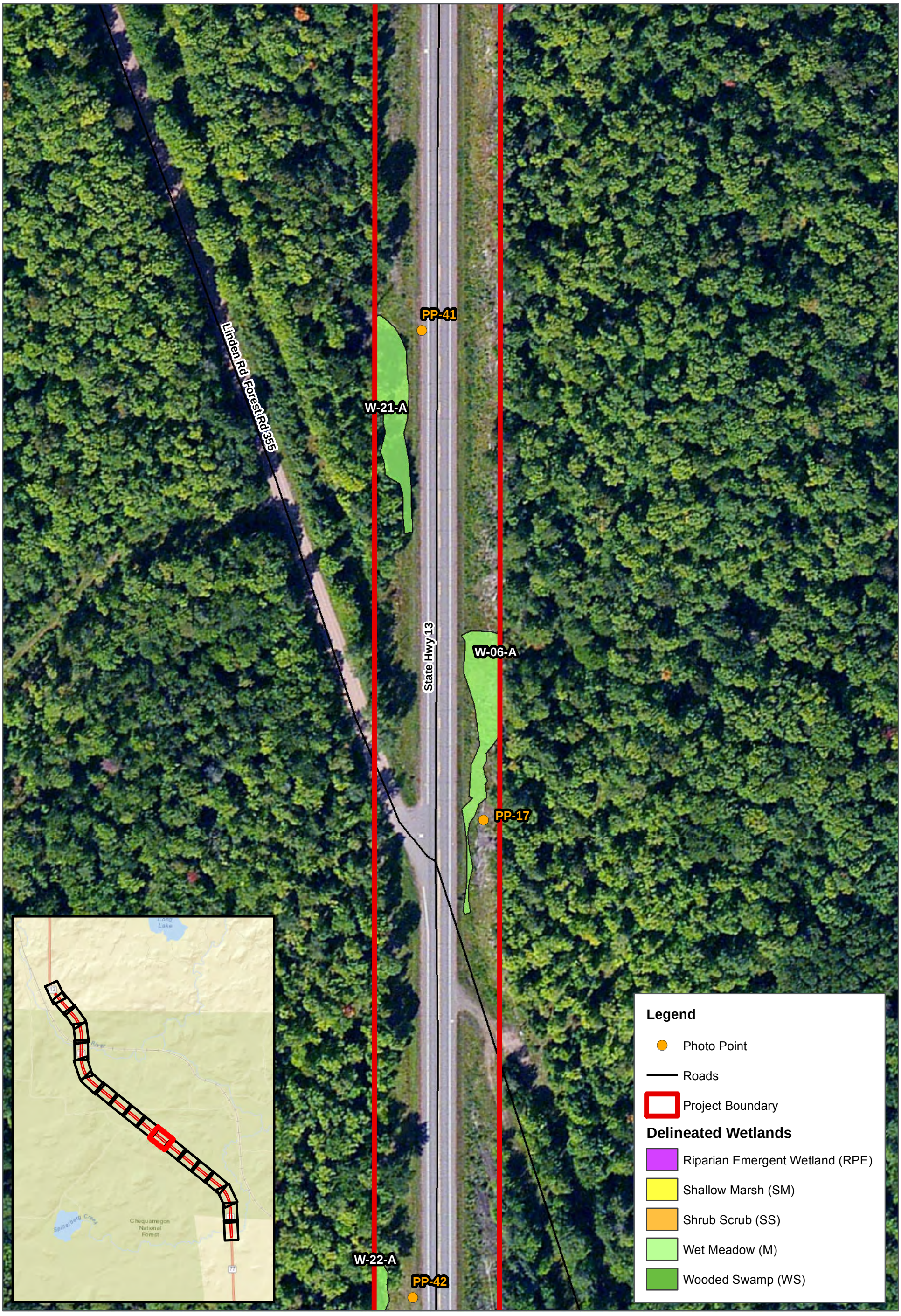
Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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STH 13: Morse Rd - Cayuga Rd
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Ashland County, Wisconsin

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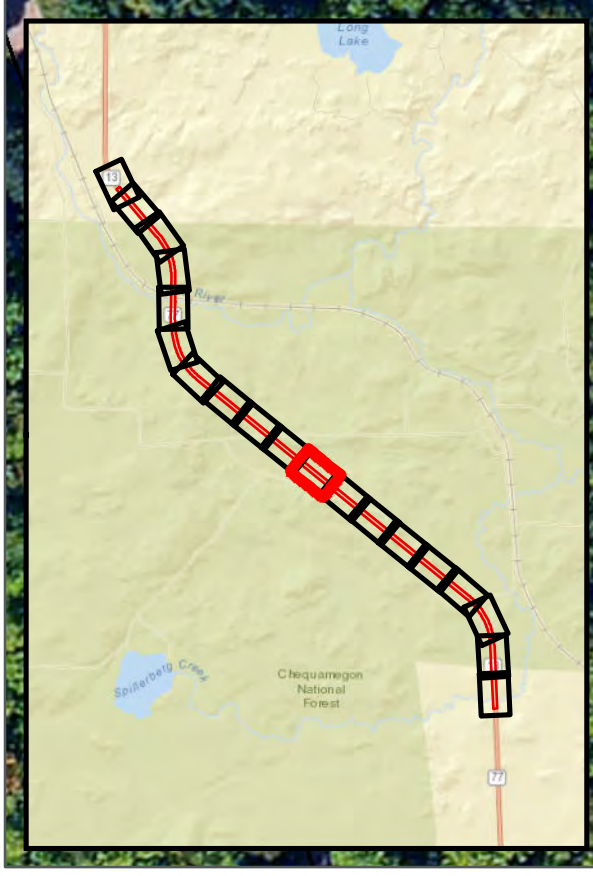
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-20-A

W-07-A

State Hwy 13



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-19-A

Co Hwy X

State Hwy 13

PP-40

W-20-A

PP-18

W-07-A



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

PP-19

W-08-A

W-18-A

PP-38

State Hwy 13

Thole Rd

Long Lake

Chequamegon National Forest

Spitzbergh Creek

PP-39

W-19-A

Co Hwy X

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

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Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

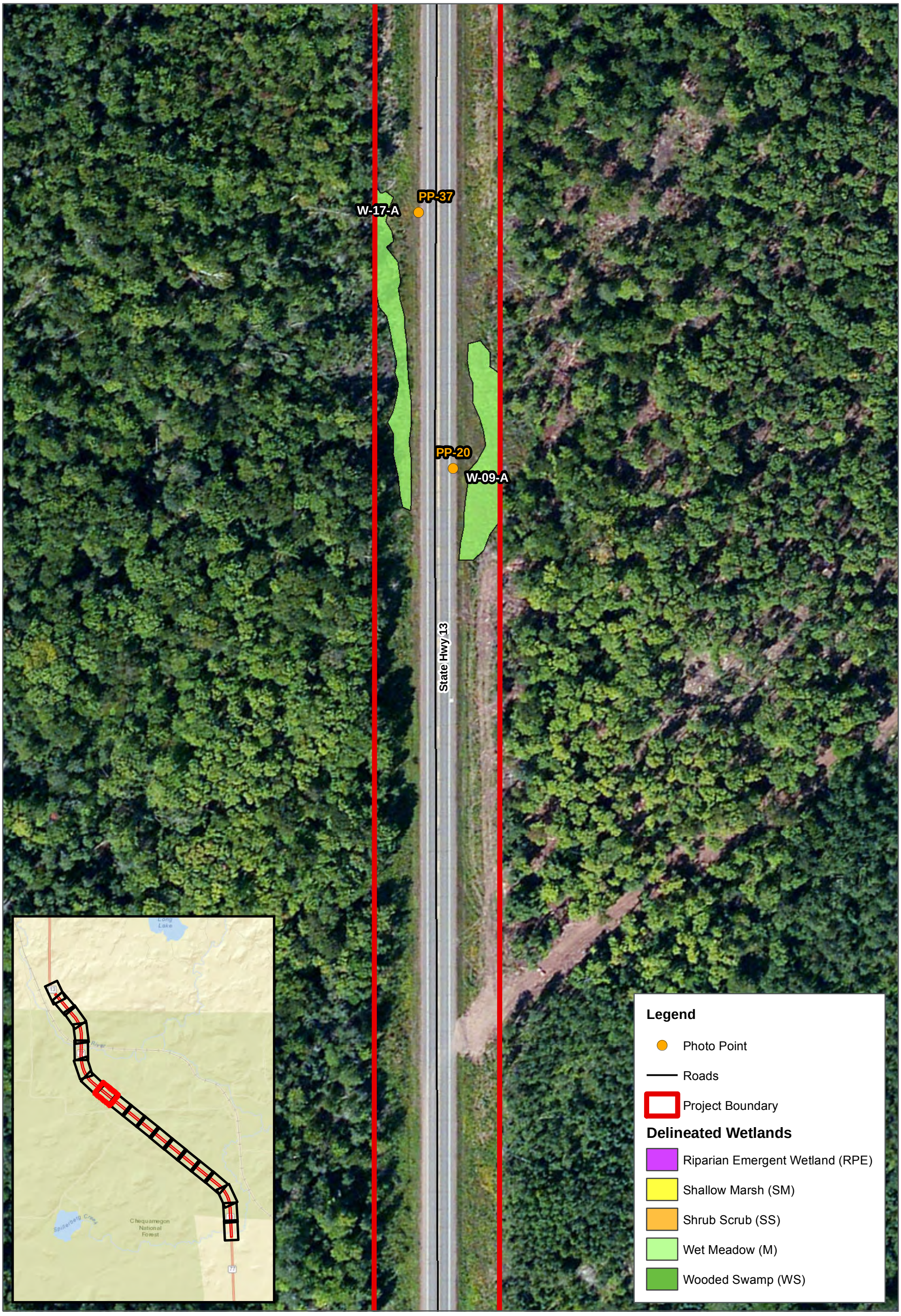
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GIS Analyst: Alex Cohen



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Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-36

W-16-A

PP-22

W-11-A

PP-21

W-10-A

State Hwy 13



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
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Photo Points

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Ashland County, Wisconsin

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-34
PP-24
W-13-A
W-14-A
PP-35
PP-23
W-12-A
W-15-A
State Hwy 13
PP-36
W-16-A
W-11-A
Long Lake
Chequamegon National Forest
Spitzberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
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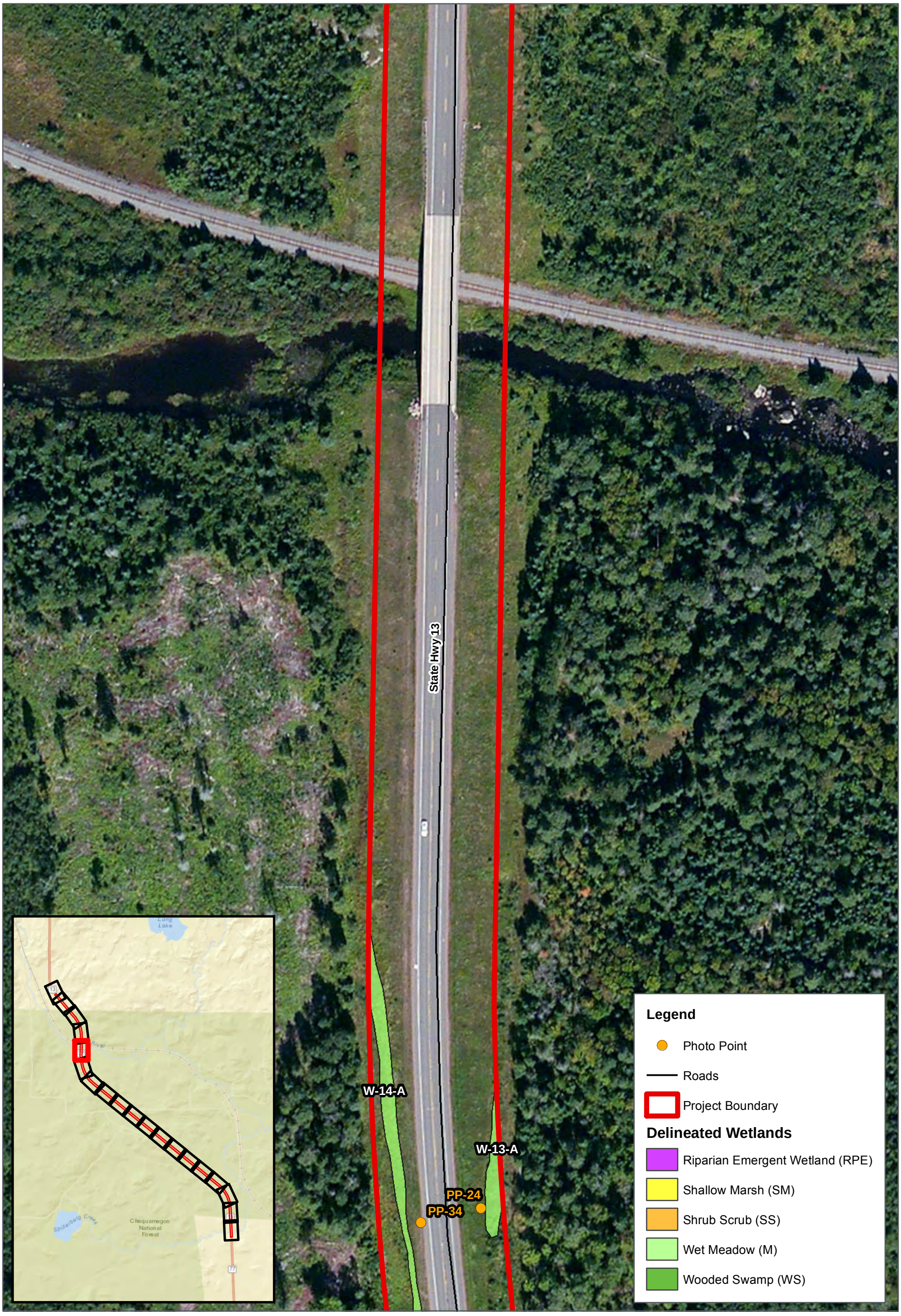
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GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

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Wisconsin Department of Transportation
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GIS Analyst: Alex Cohen

PP-25
W-07-B
W-11-B
W-12-B
PP-31
State Hwy 13
PP-32
PP-33
Long Lake
Chequamegon National Forest
Spitlerberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W E
S

Project No. J157001M16

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Photo Points

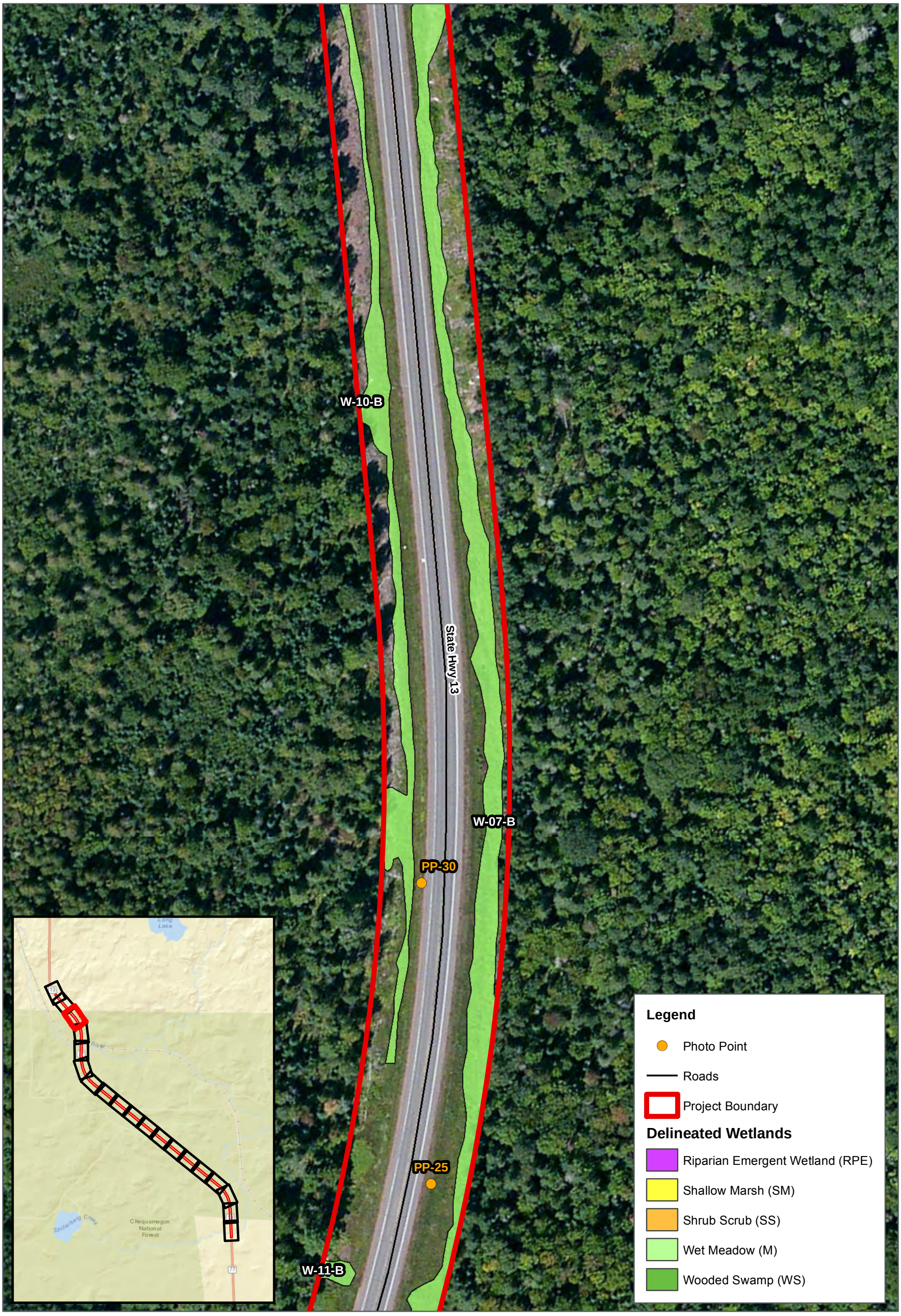
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

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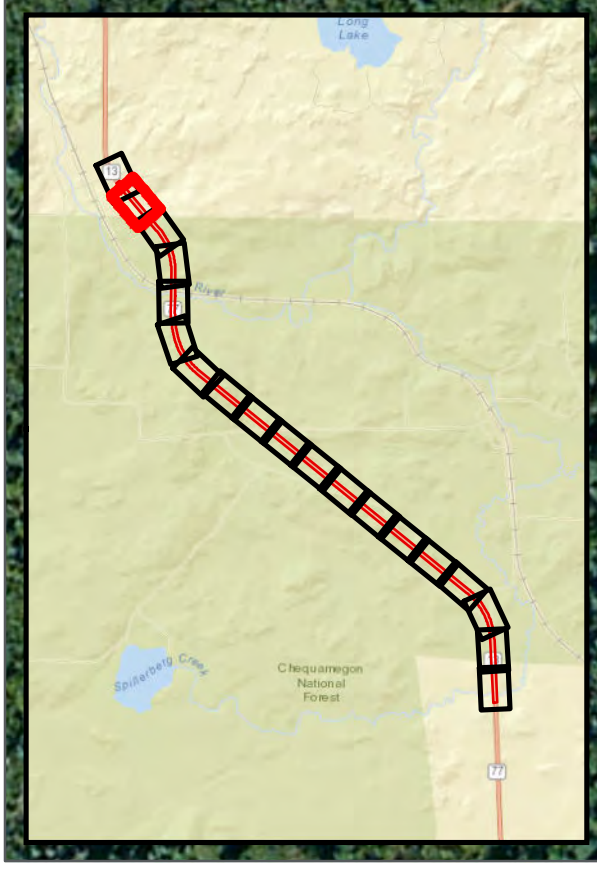
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GIS Analyst: Alex Cohen

DP-20-B
DP-19-B
Thim Rd
W-08-B
W-09-B
DP-21-B
PP-26
State Hwy 13
W-07-B
PP-29
W-10-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
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- Wet Meadow (M)
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Cayuga Rd

State Hwy 13

E Cayuga Rd

Thim Rd

W-06-B

PP-27

DP-17-B

PP-28

W-08-B

DP-20-B

DP-19-B

W-07-B

W-09-B



Legend

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GIS Analyst: Alex Cohen

Wetland Delineation Report

STH 13 Cayuga Rd to Jefferson Ave

Cardno Project Number: J157001M17



Prepared for
Wisconsin Department of Transportation

August 29, 2016

Cardno
Shaping the Future

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Table of Contents

1 Introduction 5

2 Methods 7

2.1 Background Information 7

2.1.1 USGS Topographical Map 7

2.1.2 Soil Survey 7

2.1.3 Mapped Wetlands 8

2.1.4 Current, Historic, and High-Resolution Aerial Imagery 8

2.2 Investigation Methodology 8

2.2.1 Site Photographs 8

2.2.2 Delineation Data Sheets 9

2.2.3 Survey of Wetland Boundary 9

2.3 Site-specific Agency Guidance and Prior Concurrence 9

3 Results and Discussion 10

3.1 Recent Climatic Conditions and Precipitation Data 10

3.2 General Site Conditions 10

3.3 Uplands 10

3.4 Wetlands 11

3.4.1 Wet Meadow (13.03 Acres, 66% of Project Area) 11

3.4.2 Wooded Swamp (2.28 Acres, 12% of Project Area) 11

3.4.3 Riparian Emergent Wetland (2.05 Acres, 10% of Project Area) 11

3.4.4 Shrub Scrub (1.37 Acres, 7% of Project Area) 11

3.4.5 Riparian Wooded Wetland (0.84 Acres, 4% of Project Area) 11

3.4.6 Shallow Marsh (0.08 Acres, Less than 1% of Project Area) 12

3.4.7 Naturally Problematic and Significant Disturbed Wetlands 12

3.5 Waterways 12

3.6 Other Water Resources Identified 13

4 Summary and Conclusion 14

5 Literature Cited 15

Figures

1. Project Location
2. Topographic Map
3. Mapped Soil Units
4. Wisconsin Wetland Inventory
5. Delineated Wetlands
6. Photo Points

Appendices

A. Site Photographs

B. Wetland Delineation Data Sheets – Northcentral Great Lakes Region

C. WisDOT Wetland Classification System

D. Summary of Delineated Wetlands

1 Introduction

Cardno was contracted to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Cayuga Road to Jefferson Ave, approximately 100 feet from the centerline of both sides of the 5.5 miles highway corridor, located in Ashland County, WI. The Wisconsin Department of Transportation (WisDOT) is proposing work within the project area that has the potential for permitting which may require a wetland delineation. This project area and associated delineation boundary are depicted in Figures 1-6.

Based on field investigations conducted by Cardno on July 27 and July 28, 2016 and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Cardno staff. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- Zach Waechter – Senior Project Scientist – Project Manager; Lead Field Delineator: Zach has been working in the field of wetland ecology for over four years and hold Bachelors' of Science in Soil and Land Management and Resource Management from the University of Wisconsin-Stevens Point. As Senior Project Scientist, Zach conducts environmental surveys, including wetland delineation, site characterization, land cover classification, survey of the work area for environmental considerations, pre-construction threatened and endangered species surveys, invasive species mapping, and hydrologic survey of wetland mitigation sites, with an emphasis on utility (oil, electric, transportation) sectors. He writes reports for wetland delineations, wetland mitigation site monitoring, wetland mitigation site searches, and environmental impact statements.
- Jameson Loesch – Senior Staff Scientist – Lead Field Delineator: Jameson maintains a leading role as a GIS analyst, while also providing technical support for field work. He is responsible for the acquisition/creation, management and analysis of large datasets for both small and large multi-year projects, as well as the creation of maps and figures for many of Cardno's GIS projects. With nine years of experience in spatial data analysis, Jameson often works with project managers and clients to develop custom GIS tools, which help to standardize analysis and increase efficiency. Jameson conducts FSA Slide Reviews and also takes part in field botany efforts for wetland delineations, endangered species surveys, wetland mitigation bank monitoring, botanical inventories, as well as aid in the preparation of reports.
- Robb Roos – Senior Project Scientist – Lead Field Delineator: Robb Roos has been working in the field of wetland ecology and ecological restoration for ten years. He holds a Master of Science degree in Biology with an emphasis in Restoration Ecology from Grand Valley State University. Robb has been leading wetland delineation field teams for over three years with Cardno on projects throughout the Midwest. Robb has also completed WDNR and USACE-based wetland delineation trainings and is currently certified as a Wetland Professional in Training by the Society of Wetland Scientists. Currently, Robb leads wetland delineations, habitat surveys, mitigation projects, report writing, and project management.
- Will Taylor – Staff Scientist – Field Delineator: Will has been working in the field of wetland ecology and restoration for over three years and holds a Bachelor's of Science in Conservation Biology from the University of Wisconsin-Madison. He has conducted restoration and mitigation site monitoring for over three years. Currently, Will leads and assists with wetland delineations, habitat surveys, restoration projects, and report writing.

- Ken Carlson – Staff Scientist –Field Delineator: Ken Carlson has spent three years working in the field of wetland restoration and ecology with Cardno and the past two years participating in wetland delineations and surveys. He holds a Bachelor of Science degree in Environmental Policy and Planning/Environmental Science from the University of Wisconsin – Green Bay. Other related training includes completion of the WDNR and USACE basic wetland delineation training and NASECA erosion control inspection training courses. Currently, Ken's job responsibilities include assistance in wetland delineation, conducting field surveys for threatened/endangered species and habitat, permitting, construction oversight, and environmental project management for a variety of utility projects.
- Ryan Wnuk – Assistant Staff Scientist – Field Delineator: As an Assistant Staff Scientist, Ryan is responsible for environmental permitting, construction monitoring, habitat restoration and all associated field activities for projects in the oil, electric and transportation sectors. This includes performing natural area rare, threatened, and endangered species surveys, wetland delineations, and general project related environmental compliance oversight. Ryan also actively assists senior project managers with technical report writing, project management needs and GIS data interpretation, manipulation and management. Ryan holds Bachelor Degrees in Environmental Studies and Economics from the University of Wisconsin – Madison.
- Alex Cohen – GIS Technician – GIS Analyst: Alex has several years of experience in natural resource ecology, including field work, GIS analysis, cartography, and modelling. He holds an M.S. in Computational Ecology from Purdue University and a B.S. in Biology/Psychology from Calvin College. Currently, Alex provides GPS/GIS support, data analysis/statistical capabilities, programming expertise, aerial image analyses, and mapping services. He also performs endangered species surveys and assists in the field with wetland delineations and other surveys.

2 Methods

2.1 Background Information

Sources of information that were consulted to identify potential wetlands within the project area prior to field investigation are listed below:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Ashland County, Wisconsin (Figure 3)
- WDNR Wisconsin Wetlands Inventory (WWI) Mapping (Figure 4)
- ESRI Basemap 2015 Aerial Photograph (Figures 3-5), Google Earth Historic Aerial Imagery, and Pictometry High Resolution (low elevation, plane-flown) Imagery
- WDNR Surface Water Data Viewer

These maps identify potential wetlands and wetland soil units on the site. The sole use of any of these maps to make wetland determinations is not acceptable. Descriptions of findings from the review of this background information is provided in the subsections, below.

2.1.1 USGS Topographical Map

The USGS topographic map (Figure 2) shows entire project area is located along the southern portion of the road with undulating topography in the northern portions. Field reviewed local relief verified those findings mentioned above.

2.1.2 Soil Survey

The NRCS soil map of the project area (Figure 3) identified the 14 soil types outlined in Table 2-1, below.

Table 2-1 Mapped Soil Units within the Project Area

Symbol	Description	Hydric Soil Unit?	Acres within Project Area
2030	Udorthents and Udipsamments, cut or fill	No	4.98
5140A	**Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes**	**Yes**	**8.34**
5141A	**Lupton-Pleine-Cathro complex, 0 to 1 percent slopes**	**Yes**	**4.38**
5170A	**Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes**	**Yes**	**4.01**
5171B	Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	No	29.22
5172B	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes	No	1.18
5172C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	No	34.00
5351C	Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky	No	2.93
5351D	Gogebic silt loam, 18 to 35 percent slopes, very stony, rocky	No	1.21
5374A	**Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded**	**Yes**	**1.78**
670C	Keweenaw-Pence complex, 6 to 15 percent slopes, stony	No	5.34
809C	Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony	No	32.47
809D	Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony	No	8.84
917B	Annalake fine sandy loam, 2 to 6 percent slopes	No	4.77
		Total	143.45

2.1.3 Mapped Wetlands

The WWI map of the project area (Figure 4) identified the approximately 10.53 acres of wetlands outlined in the table below.

Table 2-2 Mapped WWI Features within the Project Area

WWI	Wetland Type	Acres within Project Area
PEMA	Freshwater Emergent Wetland	0.25
PEMC	Freshwater Emergent Wetland	1.31
PFO1/4Bg	Freshwater Forested/Shrub Wetland	0.10
PFO1Bg	Freshwater Forested/Shrub Wetland	1.29
PFO2/SS3Bg	Freshwater Forested/Shrub Wetland	2.40
PFO5Bg	Freshwater Forested/Shrub Wetland	1.05
PSS1Bg	Freshwater Forested/Shrub Wetland	4.13
	Total	10.53

2.1.4 Current, Historic, and High-Resolution Aerial Imagery

A 2015 aerial photograph, multiple years of historic imagery, and recent high-resolution imagery were reviewed in order to evaluate the property for possible wetland signatures. Based on this imagery, numerous potential wetland visual signatures (saturation, inundation, vegetation stress) were identified within the project area. All wetland signatures were field verified to determine if wetlands are present.

2.2 Investigation Methodology

The delineation of wetlands and other waters of the State were based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* Version 2.0 (Environmental Laboratory, 2012) as required by current policy.

Prior to the field work, the background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. Next, a general reconnaissance of the entire project area site was conducted to evaluate site conditions. On July 27, and July 28, 2016, the site was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation. Soils were examined to a depth of at least 24 inches (unless fill was encountered) to assess soil characteristics, site hydrology, and comparison to known NRCS hydric soil indicators. Complete descriptions of typical soil series can be found in the soil survey for this county.

Vegetative community boundaries were identified, mapped, and either a representative Data Point or notes on hydrology and dominant vegetation were taken within each of their limits. These community types are differentiated by color codes on the Delineated Wetlands and Waterways Figure (Figure 1).

Delineation in the field only occurred within the original project boundary (project area) provided to Cardno. This project area is depicted on all Figures that accompany this report.

2.2.1 Site Photographs

Photographs of data point, waterway, and general photo point locations are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the site. Photo naming refers to labels identified on Figure 5 Delineated Wetland and Figure 6 Photo Points.

- DP = Data Point (includes photos of these areas)
- PP = Photo Point only
- S = Stream
- W = Wetland

2.2.2 Delineation Data Sheets

The Northcentral Great Lakes Region routine wetland delineation data sheets used in the wetland delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the 2016 National Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the USDA NRCS Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA-NRCS 2010).

2.2.3 Survey of Wetland Boundary

The wetland delineation map (Figure 5) reflects the wetland boundaries described below.

Cardno GPS surveyed all data point locations and wetland boundary locations. The field data collection settings, within GPS units, use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Using the WAAS (Wide Area Augmentation System), satellite readings provide sub-meter accuracy on data point locations and wetland boundaries (generally within 1-2 feet). Cardno's GPS units acquire multiple readings per data point to increase accuracy.

Please note that while Cardno's GPS survey provides reasonably accurate spatial information regarding the wetlands delineated, it does not constitute the same accuracy as a professional land survey. The St. Paul District USACE and WDNR may require an official survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes.

2.3 Site-specific Agency Guidance and Prior Concurrence

There is no knowledge of previous wetland delineation mapping at this site.

3 Results and Discussion

3.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 30-year dataset (1971-2000) from a nearby weather station (Hurley, WI3800) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated wet precipitation conditions at the time of the delineation on July 27 and July 28, 2016. The antecedent hydrologic condition analysis is provided below:

		Long-term rainfall records							
	Month	3 yrs. In 10 less than	normal	3 yrs. In 10 more than	Actual Rainfall	Condition: Wet, Normal, Dry	Condition Value	Month Weight Value	Product of previous 2 columns
3rd Prior Month	April	1.56	2.08	2.43	3.3	Wet	3	1	3
2nd Prior Month	May	2.27	2.99	3.48	3.68	Wet	3	2	6
1st Prior Month	June	3.20	3.88	4.39	6.02	Wet	3	3	9
								Sum	18
								Antecedent Precipitation Conditions	Wet

NOTE: if sum is:		Condition Values:	
6 to 9	then prior period has been drier than normal	Dry	1
10 to 14	then prior period has been normal	Normal	2
15 to 18	then prior period has been wetter than normal	Wet	3

WETS Table Monthly Rainfall — WEATHER STATION LOCATION HURLEY, WI3800

3.2 General Site Conditions

Based on this field investigation, and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area (Figure 5). Descriptions of the wetlands and waterways identified are located in Sections 3.4 and 3.5, below.

It should be noted that the project area received an estimated 8-10” of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

3.3 Uplands

Most of the upland within the Project Area consist of roadside clearings within forested areas. Vegetation along roadsides often include smooth brome (*Bromus inermis*, FACU), Kentucky bluegrass (*Poa pratensis*, FAC), bracken fern (*Pteridium aquilinum*, FACU) and a variety of weedy forb species. The forested areas adjacent to the Project area included both deciduous coniferous trees, including sugar maple (*Acer saccharum*, FACU), quaking aspen (*Populus tremuloides*, FAC), white spruce (*Picea glauca*, FACU), and balsam fir (*Abies balsamea*, FAC). In most cases, indicators of hydric soil and/or wetland hydrology were not observed within the upland areas.

3.4 Wetlands

In the entire project area, a total of 56 wetland complexes were identified within the survey area. Appendix D summarizes the wetland data collected within the Project Area. The full wetland delineation data sheets area included as Appendix B.

Appendix D summarizes the wetland community types identified within the Project Area. Within the table a description of the observed hydric soil, and hydrologic indictors, plant species, and wetland community type(s), based upon the WisDOT Wetland Classification (Appendix C), within the wetland complex, and associated data point. The data point listed on the table correlates to the data forms contained in Appendix B. In addition to the table, general descriptions of the wetland plant communities mapped on Figure 5 (according to the WisDOT Wetland Classification, Appendix C) are described below.

3.4.1 Wet Meadow (13.03 Acres, 66% of Project Area)

Approximately 13.03 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 66% of the total wetlands identified. While several of the Fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*, FACW), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex spp*.), Canada Bluejoint (*Calamagrostis canadensis*, OBL), Rushes (*Juncus effusus* and *Juncus canadensis*, OBL), Green Bulrush (*Scirpus atrovirens*), and Giant Goldenrod (*Solidago gigantea*).

3.4.2 Wooded Swamp (2.28 Acres, 12% of Project Area)

Approximately 2.28 acres of the Wooded Swamp Community was identified within the Project Area. This was the second most abundant wetland type which comprised about 12% of the total wetlands identified. The areas of wooded swamp were included a variety of trees, including Balsam Fir (*Abies balsamea*, FAC), Quaking Aspen (*Populus tremuloides*, FAC), Black Ash (*Fraxinus nigra*, FACW)**,** Red Maple (*Acer rubrum*, FAC), American Elm (*Ulmus americana*, FACW), and Balsam Popular (*Populus balsamifera*, FACW). Herbaceous vegetation included Canada Bluejoint (*Calamagrostis canadensis*, OBL), Manna Grass (*Glyceria canadensis*, OBL), and Sedges (*Carex spp*.).

3.4.3 Riparian Emergent Wetland (2.05 Acres, 10% of Project Area)

Approximately 2.05 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the third most abundant wetland type which comprised approximately 10% of the total wetlands identified. This area generally consisted of Canada Bluejoint (*Calamagrostis canadensis*, OBL) and Reed Canary Grass (*Phalaris arundinacea*, FACW) with patches of Common Rush (*Juncus effusus*) and sedges (*Carex spp*., FACW).

3.4.4 Shrub Scrub (1.37 Acres, 7% of Project Area)

Approximately 1.37 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 7% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*, FACW), and Dogwood (*Cornus spp*., FACW) intermixed with patches of Quaking Aspen (*Populus tremuloides*, FAC). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*, OBL), Reed Canary Grass (*Phalaris arundinacea*, FACW), Sensitive Fern (*Onoclea sensibilis*, FACW), and sedge species (*Carex spp*.).

3.4.5 Riparian Wooded Wetland (0.84 Acres, 4% of Project Area)

Approximately 0.84 acres of the Riparian Wooded Wetland Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 4% of the total wetlands identified. This area was generally dominated by Balsam Fir (*Abies balsamea*, FAC) and Black

Ash (*Fraxinus nigra*, FACW) with areas of Speckled Alder (*Alnus incana*, FACW) Jewelweed (*Impatiens capensis,* FACW) and Sedges (*Carex spp*., FACW).

3.4.6 Shallow Marsh (0.08 Acres, Less than 1% of Project Area)

Approximately 0.08 acres of the Shallow Marsh Community was identified within the Project Area. This was the least abundant wetland type which comprised approximately less than 1% of the total wetlands identified. This wetland community was dominated by Broadleaf Arrowhead (*Sagittaria latifolia*, OBL) and (*Calamagrostis canadensis*, OBL). Standing water was observed in this wetland community

3.4.7 Naturally Problematic and Significant Disturbed Wetlands

No areas of naturally problematic wetlands were noted. Significantly disturbed wetlands did occur within the Project Area and were noted on their respective wetland determination data forms. Significantly disturbed soils were observed where fill material from the existing road grade was present. Significantly disturbed vegetation was observed where the road right-of-way had been mowed. In both cases Cardno used their best professional judgment and the use of the resources mentioned in the methods section, above, to determine the wetland boundary.

3.5 Waterways

Cardno determined that 15 waterways exist within the existing project area. A summary of the delineated waterways is contained in Table 3-1. Representative photographs of waterways are provided in Appendix A.

Table 3-1 Delineated Waterways within the Project Area

Stream ID	Waterway Name/Connecting Waterbody	OHWM Width (feet)	Substrate
S-01	Unnamed	20	Mud/Silt
S-02	Unnamed	4	Gravel
S-03	Happy Creek	15	Mud/Silt
S-04	Unnamed	3	Mud/Silt
S-05	Unnamed	5-20	Mud/Silt
S-06	Unnamed	2-12	Mud/Silt
S-07	Unnamed	2.5	Mud/Silt
S-08	Unnamed	1	Mud/Silt
S-09	Tafelski Creek	6	Mud/Silt
S-10	Unnamed	4	Sand
S-11	Unnamed	9	Mud/Silt
S-12	Unnamed	5	Gravel
S-13	Unnamed	4	Mud/Silt
S-14	Unnamed	15	Boulder
S-15	Unnamed	3	Mud/Silt

3.6 Other Water Resources Identified

No other water resources were identified within the project area. No known stormwater features were identified within close proximity to the project area based on background information review.

There is no known previous wetland delineation mapping of the project area.

4 Summary and Conclusion

Cardno was contracted by WisDOT to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Cayuga Road to Jefferson Avenue, approximately 100’ from the centerline of both sides of the 5.5 miles long highway corridor, located in Ashland County, WI.

Based on field investigations conducted by Cardno on July 27, and July 28, 2016 and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area. This report represents our best professional judgment based on our knowledge and experience.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

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STH 13 Cayuga Road to Jefferson Ave

APPENDIX A

SITE PHOTOGRAPHS



Photograph DP-01-A: Representative photograph facing South.



Photograph DP-01-B: Representative photograph facing West.



Photograph DP-02-A: Representative photograph facing North.



Photograph DP-02-B: Representative photograph facing North.



Photograph DP-03-A: Representative photograph facing South.



Photograph DP-04-A: Representative photograph facing West.



Photograph DP-04-B: Representative photograph facing North.



Photograph DP-05-A: Representative photograph facing North.



Photograph DP-05-B: Representative photograph facing North.



Photograph DP-06-A: Representative photograph facing Southwest.



Photograph DP-06-B: Representative photograph facing West.



Photograph DP-07-A: Representative photograph facing Northeast.



Photograph DP-07-B: Representative photograph facing West.



Photograph DP-08-A: Representative photograph facing Northeast.



Photograph DP-08-B: Representative photograph facing South.



Photograph DP-09-A: Representative photograph facing Southeast.



Photograph DP-09-B: Representative photograph facing East.



Photograph DP-10-A: Representative photograph facing South.



Photograph DP-10-B: Representative photograph facing North.



Photograph DP-11-A: Representative photograph facing South.



Photograph DP-11-B: Representative photograph facing West.



Photograph DP-12-A: Representative photograph facing Southwest.



Photograph DP-12-B: Representative photograph facing East.



Photograph DP-13-A: Representative photograph facing Northeast.



Photograph DP-13-B: Representative photograph facing Northeast.



Photograph DP-14-A: Representative photograph facing East.



Photograph DP-14-B: Representative photograph facing North.



Photograph DP-15-A: Representative photograph facing Southwest.



Photograph DP-15-B: Representative photograph facing North.



Photograph DP-16-A: Representative photograph facing South.



Photograph DP-16-B: Representative photograph facing East.



Photograph DP-17-A: Representative photograph facing Southwest.



Photograph DP-17-B: Representative photograph facing South.



Photograph DP-18-A: Representative photograph facing Southwest.



Photograph DP-18-B: Representative photograph facing North.



Photograph DP-19-A: Representative photograph facing West.



Photograph DP-19-B: Representative photograph facing North.



Photograph DP-20-A: Representative photograph facing South.



Photograph DP-20-B: Representative photograph facing North.



Photograph DP-21-A: Representative photograph facing South.



Photograph DP-21-B: Representative photograph facing North.



Photograph DP-22-A: Representative photograph facing Northeast.



Photograph DP-22-B: Representative photograph facing North.



Photograph DP-23-A: Representative photograph facing South.



Photograph DP-23-B: Representative photograph facing North.



Photograph DP-24-B: Representative photograph facing North.



Photograph DP-25-A: Representative photograph facing South.



Photograph DP-25-B: Representative photograph facing East.



Photograph DP-26-A: Representative photograph facing North.



Photograph DP-26-B: Representative photograph facing East.



Photograph DP-27-A: Representative photograph facing North.



Photograph DP-27-B: Representative photograph facing North.



Photograph DP-28-A: Representative photograph facing North.



Photograph DP-28-B: Representative photograph facing North.



Photograph DP-29-A: Representative photograph facing North.



Photograph DP-29-B: Representative photograph facing North.



Photograph DP-30-B: Representative photograph facing East.



Photograph PDP-31-A: Representative photograph facing Southeast.



Photograph DP-31-B: Representative photograph facing North.



Photograph DP-32-A: Representative photograph facing North.



Photograph DP-32-B: Representative photograph facing West.



Photograph DP-33-A: Representative photograph facing South.



Photograph DP-33-B: Representative photograph facing East.



Photograph DP-34-A: Representative photograph facing South.



Photograph DP-34-B: Representative photograph facing North.



Photograph DP-35-A: Representative photograph facing North.



Photograph DP-35-B: Representative photograph facing North.



Photograph DP-36-A: Representative photograph facing South.



Photograph DP-33-B: Representative photograph facing North.



Photograph DP-37-A: Representative photograph facing South.



Photograph DP-37-B: Representative photograph facing East.



Photograph DP-38-A: Representative photograph facing South.



Photograph DP-38-B: Representative photograph facing North.



Photograph DP-39-A: Representative photograph facing West.



Photograph DP-39-B: Representative photograph facing North.



Photograph DP-40-A: Representative photograph facing South.



Photograph DP-40-B: Representative photograph facing South.



Photograph DP-41-A: Representative photograph facing West.



Photograph DP-41-B: Representative photograph facing East.



Photograph DP-42-A: Representative photograph facing West.



Photograph DP-42-B: Representative photograph facing East.



Photograph DP-43-A: Representative photograph facing West.



Photograph DP-43-B: Representative photograph facing North.



Photograph DP-44-A: Representative photograph facing West.



Photograph DP-44-B: Representative photograph facing North.



Photograph DP-45-A: Representative photograph facing South.



Photograph DP-45-B: Representative photograph facing North.



Photograph DP-46-A: Representative photograph facing South.



Photograph DP-46-B: Representative photograph facing North.



Photograph DP-47-A: Representative photograph facing South.



Photograph DP-47-B: Representative photograph facing Southeast.



Photograph DP-48-A: Representative photograph facing West.



Photograph DP-48-B: Representative photograph facing Northeast.



Photograph DP-49-A: Representative photograph facing South.



Photograph DP-49-B: Representative photograph facing North.



Photograph DP-50-A: Representative photograph facing West.



Photograph DP-50-B: Representative photograph facing South.



Photograph DP-51A: Representative photograph facing South.



Photograph DP-51-B: Representative photograph facing South.



Photograph DP-52-A: Representative photograph facing West.



Photograph DP-52-B: Representative photograph facing West.



Photograph DP-53-A: Representative photograph facing North.



Photograph DP-53-B: Representative photograph facing Southeast.



Photograph DP-54-A: Representative photograph facing West.



Photograph DP-54-B: Representative photograph facing Northeast.



Photograph DP-55-A: Representative photograph facing Northwest.



Photograph DP-55-B: Representative photograph facing Northeast.



Photograph DP-56-A: Representative photograph facing West.



Photograph DP-56-B: Representative photograph facing Northeast.



Photograph DP-57-A: Representative photograph facing South.



Photograph DP-57-B: Representative photograph facing East.



Photograph DP-58-A: Representative photograph facing South.



Photograph DP-58-B: Representative photograph facing Southwest.



Photograph DP-59-A: Representative photograph facing North.



Photograph DP-59-B: Representative photograph facing Northeast.



Photograph DP-60-A: Representative photograph facing West.



Photograph DP-60-B: Representative photograph facing Northwest.



Photograph WP-61-A: Representative photograph facing South.



Photograph DP-61-B: Representative photograph facing south.



Photograph DP-62-A: Representative photograph facing East.



Photograph DP-62-B: Representative photograph facing Southwest.



Photograph DP-63-A: Representative photograph facing East.



Photograph DP-63-B: Representative photograph facing North.



Photograph DP-64-A: Representative photograph facing North.



Photograph DP-64-B: Representative photograph facing North.



Photograph DP-65-A: Representative photograph facing North.



Photograph DP-65-B: Representative photograph facing North.



Photograph DP-66-A: Representative photograph facing North.



Photograph DP-66-B: Representative photograph facing North.



Photograph DP-67-A: Representative photograph facing North.



Photograph DP-67-B: Representative photograph facing Southwest.



Photograph DP-68-A: Representative photograph facing North.



Photograph DP-68-B: Representative photograph facing Southwest.



Photograph DP-69-A: Representative photograph facing South.



Photograph DP-70-A: Representative photograph facing West.



Photograph DP-71-A: Representative photograph facing Northwest.



Photograph DP-72-A: Representative photograph facing North.

Photograph DP-68-A: Representative photograph facing North.



Photograph PP-01: W-01-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-02: W-01-B; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-03: W-02-B; Wet Meadow; Representative photograph facing North.



Photograph PP-04: W-02-B; Shrub Scrub; Representative photograph facing Northwest.



Photograph PP-05: W-03-B; Wet Meadow; Representative photograph facing South.



Photograph PP-06: W-03-B; Wooded Swamp; Representative photograph facing East.



Photograph PP-07: W-04-B; Wet Meadow; Representative photograph facing North.



Photograph PP-08: W-04-B; Wooded Swamp; Representative photograph facing East.



Photograph PP-09: W-04-B; Shallow Marsh; Representative photograph facing North.



Photograph PP-10: W-05-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-11: W-05-B; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-12: W-06-B; Wet Meadow; Representative photograph facing East.



Photograph PP-13: W-07-B; Riparian Emergent Wetland; Representative photograph facing Northeast.



Photograph PP-14: W-08-B; Wet Meadow; Representative photograph facing East.



Photograph PP-15: W-09-B; Wet Meadow; Representative photograph facing North.



Photograph PP-16: W-10-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-17: W-11-B; Wet Meadow; Representative photograph facing North.



Photograph PP-18: W-12-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-19: W-12-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-20: W-13-B; Riparian Wooded Wetland; Representative photograph facing Northeast.



Photograph PP-21: W-14-B; Riparian Emergent Wetland; Representative photograph facing Northeast.



Photograph PP-22: W-16-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-23: W-15-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-24: W-17-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-25: W-17-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-26: W-18-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-27: W-19-B; Wet Meadow; Representative photograph facing North.



Photograph PP-28: W-19-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-29: W-20-B; Wet Meadow; Representative photograph facing East.



Photograph PP-30: W-21-B; Wet Meadow; Representative photograph facing South.



Photograph PP-31: W-21-B; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-32: W-22-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-33: W-23-B; Riparian Emergent Wetland; Representative photograph facing South.



Photograph PP-34: W-23-B; Riparian Wooded Wetland; Representative photograph facing South.



Photograph PP-35: W-24-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-36: W-24-B; Shrub Scrub; Representative photograph facing Southeast.



Photograph PP-37: W-25-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-38: W-26-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-39: W-27-B; Shrub Scrub; Representative photograph facing Southeast.



Photograph PP-40: W-27-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-41: W-01-A; Wooded Swamp; Representative photograph facing Northwest.



Photograph PP-42: W-01-A; Wet Meadow; Representative photograph facing South.



Photograph PP-43: W-01-A; Wooded Swamp; Representative photograph facing West.



Photograph PP-44: W-02-A; Wet Meadow and Stream; Representative photograph facing South.



Photograph PP-45: W-03-A; Wet Meadow; Representative photograph facing West.



Photograph PP-46: W-04-A; Riparian Emergent Wetland; Representative photograph facing Southwest.



Photograph PP-47: W-05-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-48: W-06-A; Wet Meadow; Representative photograph facing West.



Photograph PP-49: W-07-A; Wooded Swamp; Representative photograph facing West.



Photograph PP-50: W-07-A; Wet Meadow; Representative photograph facing West.



Photograph PP-51: W-08-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-52: W-08-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-53: W-08-A; Wet Meadow; Representative photograph facing West.



Photograph PP-54: W-09-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-55: W-10-A; Riparian Wooded Wetland; Representative photograph facing Southwest.



Photograph PP-56: W-11-A; Wet Meadow; Representative photograph facing West.



Photograph PP-57: W-12-A; Wet Meadow; Representative photograph facing West.



Photograph PP-58: W-13-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-59: W-13-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-60: W-14-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-61: W-14-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-62: W-15-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-63: W-15-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-64: W-16-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-65: W-16-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-66: W-16-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-67: W-17-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-68: W-18-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-69: W-18-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-70: W-19-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-71: W-20-A; Riparian Emergent Wetland; Representative photograph facing Northwest.



Photograph PP-72: W-21-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-73: W-22-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-74: W-23-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-75: W-24-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-76: W-24-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-77: W-25-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-78: W-25-A; Wooded Swamp; Representative photograph facing North.



Photograph PP-79: W-26-A; Wooded Swamp; Representative photograph facing Northwest.



Photograph PP-80: W-26-A; Wet Meadow; Representative photograph facing North.



Photograph PP-81: W-27-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-82: W-28-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-83: W-29-A; Wet Meadow; Representative photograph facing Northwest.



Photograph S-01-P01: Representative photograph facing Northeast.



Photograph S-01-P02: Representative photograph facing West.



Photograph S-02-P01: Representative photograph facing South.



Photograph S-02-P02: Representative photograph facing North.



Photograph S-03-P01: Representative photograph facing West.



Photograph S-03-P02: Representative photograph facing Southwest.



Photograph S-05-P01: Representative photograph facing North.



Photograph S-06-P01: Representative photograph facing West.



Photograph S-06-P02: Representative photograph facing West.



Photograph S-07-P01: Representative photograph facing East.



Photograph S-07-P02: Representative photograph facing West.



Photograph S-08-P01: Representative photograph facing Southwest.



Photograph S-09-P01: Representative photograph facing Southeast.



Photograph S-09-P02: Representative photograph facing West.



Photograph S-10-P01: Representative photograph facing Northeast.



Photograph S-11-P01: Representative photograph facing South.



Photograph S-11-P02: Representative photograph facing East.



Photograph S-12-P01: Representative photograph facing West.



Photograph S-13-P01: Representative photograph facing North.



Photograph S-14-P01: Representative photograph facing West.



Photograph S-15-P01: Representative photograph facing East.

STH 13 Cayuga Road to Jefferson Ave

APPENDIX B

WETLAND DETERMINATION DATA SHEETS

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.320140 Long: -90.661103 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Agrostis gigantea*	25	Yes	FACW
2. *Poa pratensis*	20	Yes	FACU
3. *Solidago gigantea*	15	Yes	FACW
4. *Lotus corniculatus*	5	No	FACU
5. *Melilotus officinalis*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	85 (A)		230 (B)
Prevalence Index = B/A =			2.71

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sand	
4-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Delineation (Cayuga to Jefferson) City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.246112 Long: -90.678969 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	14"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago gigantea*	40	Yes	FACW
2. *Fragaria virginiana*	15	Yes	FACU
3. *Apocynum androsaemifolium*	15	Yes	UPL
4. *Thalictrum dasycarpum*	5	No	FACW
5. *Rubus idaeus*	5	No	FAC
6. *Populus tremuloides*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	7	x 3 =	21
FACU species	15	x 4 =	60
UPL species	15	x 5 =	75
Column Totals:	82 (A)		246 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Silt Loam	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.320084 Long: -90.661174 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Onoclea sensibilis*	15	No	FACW
4. *Solidago gigantea*	10	No	FACW
5. *Symphyotrichum novae-angliae*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		140 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	Gravely
6-20"	7.5YR 3/3	100					andy Clay Loa	
20-30"	10YR 2/1	100					Peat	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Delineation (Cayuga to Jefferson) City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.246179 Long: -90.679036 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Solidago gigantea*	10	Yes	FACW
3. *Carex lacustris*	10	Yes	OBL
4. *Juncus effusus*	10	Yes	OBL
5. *Persicaria sagittata*	5	No	OBL
6. *Alnus incana*	5	No	FACW
7. *Eutrochium purpureum*	5	No	FAC
8. *Euthamia graminifolia*	5	No	FAC
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		165 (B)
Prevalence Index = B/A =			1.83

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.320001 Long: -90.661408 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Agrostis gigantea*	25	Yes	FACW
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Solidago gigantea*	15	Yes	FACW
4. *Lotus corniculatus*	5	No	FACU
5. *Melilotus alba*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	85 (A)		175 (B)
Prevalence Index = B/A =			2.06

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sand	
4-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.247706 Long: -90.679444 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	40	Yes	FACW
2. *Spiraea alba*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Glyceria grandis*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		225 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.320328 Long: -90.661232 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Populus tremuloides*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	20	Yes	FAC
2. *Populus tremuloides*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	5	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		245 (B)
Prevalence Index = B/A =			2.88

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/1	100					Muck	
18-24"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 8% Lat: 46.249632 Long: -90.679679 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Fragaria virginiana*	15	Yes	FACU
3. *Rubus pubescens*	10	No	FACW
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	60 (A)		130 (B)
Prevalence Index = B/A =			2.17

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	
18-24"	7.5YR 4/3	98	7.5YR 5/6	2	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.311608 Long: -90.669914 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	15	Yes	
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	65	Yes	FACU
2. *Eurybia macrophylla*	15	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Plantago lanceolata*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 3/3	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	
24-36"	7.5YR 3/1	85	7.5YR 4/6	15	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.249656 Long: -90.679596 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	65	Yes	OBL
2. *Euthamia graminifolia*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		135 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.311654 Long: -90.669924 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	70	Yes	OBL
2. *Poa palustris*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		80 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-20"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.249572 Long: -90.679450 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	5"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Cornus racemosa*	45	Yes	FAC
2. *Alnus incana*	45	Yes	FACW
3. *Salix petiolaris*	5	No	FACW
4. *Spiraea alba*	2	No	FACW
5. *Cornus alba*	2	No	FACW
6.			
7.			
	99	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	25	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	54	x 2 =	108
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	124 (A)		268 (B)
Prevalence Index = B/A =			2.16

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"							Peat	
20-36"	10YR 3/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.303938 Long: -90.678146 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No X	Depth (inches): >16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	5	No	OBL
3. *Equisetum arvense*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		60 (B)
Prevalence Index = B/A =			1.20

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
12-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.251967 Long: -90.679620 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	10"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	70	Yes	FACU
2. *Eurybia macrophylla*	60	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Solidago canadensis*	5	No	FACU
6. *Lotus corniculatus*	5	No	FACU
7. *Populus tremuloides*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	162	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	90	x 4 =	360
UPL species	70	x 5 =	350
Column Totals:	162 (A)		716 (B)
Prevalence Index = B/A =			4.42

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy loam	
4-20"	7.5YR 3/4	100					Loamy Sand	
20-28"	7.5YR 3/4	100					Sandy Clay	
28-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.303900 Long: -90.678088 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Lotus corniculatus*	10	No	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Poa pratensis*	5	No	FACU
6. *Fragaria virginiana*	5	No	FACU
7. *Hieracium aurantiacum*	5	No	UPL
8. *Achillea millefolium*	2	No	FACU
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	32	x 4 =	128
UPL species	5	x 5 =	25
Column Totals:	87 (A)		228 (B)
Prevalence Index = B/A =			2.62

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 3/2	100					Sandy Loam	
20-32"	7.5YR 3/4	95	7.5YR 4/6	10	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.251869 Long: -90.679590 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	9"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Glyceria canadensis*	15	No	OBL
4. *Carex stricta*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		95 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
9-24"	7.5Yr 5/2	80	7.5YR 6/8	20	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.303104 Long: -90.679020 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	35	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Juncus effusus*	10	No	OBL
4. *Poa palustris*	2	No	FACW
5. *Agrostis gigantea*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	59	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	4	x 2 =	8
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	59 (A)		63 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Muck	
3-8"	7.5YR 3/2	95	7.5YR 5/6	5	C	M	Loamy Sand	
8-24"	7.5YR 4/4	85	7.5YR 6/8	15	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.251882 Long: -90.679458 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	35	Yes	FAC
2. *Populus tremuloides*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Athyrium filix-femina*	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	50	x 2 =	100
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	165 (A)		335 (B)
Prevalence Index = B/A =			2.03

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	95	7.5YR 5/2	5	D	M	Sandy Loam	
9-24"	7.5YR 4/1	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.303094 Long: -90.678957 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	40	Yes	UPL
2. *Poa pratensis*	25	Yes	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Pteridium aquilinum*	10	No	FACU
5. *Agrostis gigantea*	5	No	FACW
6. *Hieracium aurantiacum*	2	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	45	x 4 =	180
UPL species	42	x 5 =	210
Column Totals:	97 (A)		415 (B)
Prevalence Index = B/A =			4.28

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	Gravely
4-18"	7.5YR 3/4	100					Loamy Sand	
18-26"	7.5YR 3/4	100					Loamy Sand	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.255004 Long: -90.679711 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Danthonia spicata*	20	Yes	UPL
3. *Fragaria virginiana*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	20	x 5 =	100
Column Totals:	65 (A)		190 (B)
Prevalence Index = B/A =			2.92

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Loamy Sand	
7-20"	7.5YR 3/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
20-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.302271 Long: -90.679801 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	65	Yes	FACU
2. *Eurybia macrophylla*	15	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Plantago lanceolata*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 3/3	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	
24-36"	7.5YR 3/1	85	7.5YR 4/6	15	C	M	Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255085 Long: -90.679615 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	30	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Symphyotrichum puniceum*	10	No	OBL
5. *Solidago gigantea*	5	No	FACW
6. *Juncus effusus*	5	No	OBL
7. *Salix bebbiana*	5	No	FACW
8. *Hieracium aurantiacum*	2	No	UPL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	92 (A)		110 (B)
Prevalence Index = B/A =			1.20

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/2	95	10YR 3/6	5	C	M	Sandy Clay	
10-18"	7.5YR 3/3	95	7.5YR 4/6	5	C	M	Sandy Clay	
18-28"	7.5YR 4/3	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.302305 Long: -90.679839 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Euthamia graminifolia*	5	No	FAC
4. *Onoclea sensibilis*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		80 (B)
Prevalence Index = B/A =			1.23

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
14-24"	7.5YR 2.5/1	70	7.5YR 4/2	25	D	M	Sandy Clay Loam	
			7.5YR 4/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.254902 Long: -90.679490 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No X	Depth (inches):	2"
Water Table Present?	Yes X	No X	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	35	Yes	FAC
2. *Abies balsamea*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	55	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	20	Yes	FAC
2. *Abies balsamea*	5	No	FAC
3. *Ilex verticillata*	5	No	FACW
4. *Ulmus americana*	5	No	FACW
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex crinita*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		310 (B)
Prevalence Index = B/A =			2.21

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 4"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.301164 Long: -90.681105 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Scirpus cyperinus*	15	No	OBL
3. *Osmunda claytoniana*	10	No	FAC
4. *Onoclea sensibilis*	5	No	FACW
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		120 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy Loam	
7-20"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
20-24"	7.5YR 5/2	95	7.5YR 6/8	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255910 Long: -90.679562 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Sagittaria latifolia*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Iris versicolor*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.301215 Long: -90.681099 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Clintonia borealis is likely misspelled

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Clintonia borealis*	35	Yes	UPL
2. *Pteridium aquilinum*	20	Yes	FACU
3. *Apocynum androsaemifolium*	15	No	UPL
4. *Poa pratensis*	15	No	FACU
5. *Hieracium aurantiacum*	5	No	UPL
6. *Equisetum arvense*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	35	x 4 =	140
UPL species	55	x 5 =	275
Column Totals:	92 (A)		421 (B)
Prevalence Index = B/A =			4.58

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Clay Loam	
6-18"	7.5YR 3/3	100					Sandy Loam	
18-32"	7.5YR 3/3	85	7.5YR 4/6	15	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.258073 Long: -90.679730 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Hieracium aurantiacum*	20	Yes	UPL
2. *Fragaria virginiana*	15	Yes	FACU
3. *Poa pratensis*	15	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Eurybia macrophylla*	10	No	UPL
6. *Equisetum hyemale*	5	No	FAC
7. *Solidago canadensis*	5	No	FACU
8. *Symphyotrichum novae-angliae*	5	No	FACW
9. *Leucanthemum vulgare*	2	No	UPL
10. *Populus tremuloides*	2	No	FAC
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	7	x 3 =	21
FACU species	45	x 4 =	180
UPL species	32	x 5 =	160
Column Totals:	89 (A)		371 (B)
Prevalence Index = B/A =			4.17

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy loam	
3-30"	5Y 4/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.300648 Long: -90.681858 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	50	Yes	FACW
2. *Ulmus americana*	25	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	10	Yes	FACW
2. *Ulmus americana*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	25	Yes	OBL
2. *Persicaria sagittata*	15	No	OBL
3. *Carex bebbii*	10	No	OBL
4. *Impatiens capensis*	10	No	FACW
5. *Glyceria canadensis*	10	No	OBL
6. *Phalaris arundinacea*	5	No	FACW
7. *Equisetum arvense*	5	No	FAC
8. *Onoclea sensibilis*	2	No	FACW
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	112	x 2 =	224
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	187 (A)		329 (B)
Prevalence Index = B/A =			1.76

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/1	100					Mucky Peat	
4-16"	10YR 2/1	100					Silty Clay	
16-22"	7.5YR 4/4	85	7.5YR 4/6	15	C	M	Sandy Clay Loam	
22-32"	7.5YR 4/4	75	7.5YR 4/6	20	C	M	Sandy Clay Loam	7.5YR 4/1 5% D M

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.258089 Long: -90.679592 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria canadensis*	15	Yes	OBL
3. *Euthamia graminifolia*	10	No	FAC
4. *Solidago gigantea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		105 (B)
Prevalence Index = B/A =			1.40

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	95	7.5YR 5/6	5	C	M	Loamy Sand	
10-18"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loamy Sand	
18-24"	10YR 5/2	100					Clay Loam	
24-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.300607 Long: -90.681736 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Persicaria sagittata*	5	No	OBL
3. *Solidago gigantea*	5	No	FACW
4. *Glyceria grandis*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		160 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5Yr 3/2	100					Sandy loam	
5-22"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
22-24"	7.5YR 2.5/1	100					Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.258000 Long: -90.679492 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	20	Yes	FAC
2. *Fraxinus nigra*	15	Yes	FACW
3. *Ulmus americana*	10	Yes	FACW
4.			
5.			
6.			
7.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Elymus canadensis*	30	Yes	FACU
3. *Onoclea sensibilis*	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	95	x 2 =	190
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	175 (A)		400 (B)
Prevalence Index = B/A =			2.29

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	100					Muck	
16-24"	10YR 5/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.300549 Long: -90.681706 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	45	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	35	Yes	FACU
2. *Phalaris arundinacea*	10	Yes	FACW
3. *Rubus pubescens*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		350 (B)
Prevalence Index = B/A =			3.68

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-24"	7.5YR 4/3	100					Loamy Sand	Gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.263446 Long: -90.679720 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Hieracium aurantiacum*	5	No	UPL
4. *Rubus idaeus*	5	No	FAC
5. *Gaultheria procumbens*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	65	x 4 =	260
UPL species	25	x 5 =	125
Column Totals:	95 (A)		400 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy loam	
5-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-18-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.299589 Long: -90.682743 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Solidago canadensis*	15	Yes	FACU
3. *Agrostis gigantea*	10	No	FACW
4. *Hieracium aurantiacum*	10	No	UPL
5. *Symphyotrichum novae-angliae*	10	No	FACW
6. *Prunella vulgaris*	5	No	FAC
7. *Danthonia spicata*	2	No	UPL
8. *Equisetum arvense*	2	No	FAC
9. *Leucanthemum vulgare*	2	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	7	x 3 =	21
FACU species	50	x 4 =	200
UPL species	14	x 5 =	70
Column Totals:	91 (A)		331 (B)
Prevalence Index = B/A =			3.64

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/1	100					Sandy Clay Loam	
10-24"	5YR 4/3	95	7.5YR 4/6	5	C	M	Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-18-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.263414 Long: -90.679650 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): >16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Carex bebbii*	25	Yes	OBL
3. *Glyceria grandis*	10	No	OBL
4. *Juncus canadensis*	10	No	OBL
5. *Solidago gigantea*	10	No	FACW
6. *Rubus idaeus*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		110 (B)
Prevalence Index = B/A =			1.22

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	95	7.5YR 4/6	10	C	M	Sandy Loam	
6-17"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
17-24"	10YR 5/2	90	10YR 6/8	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-19-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.299610 Long: -90.682776 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	3	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	3	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	65	Yes	FACW
2. *Onoclea sensibilis*	25	Yes	FACW
3. *Solidago gigantea*	10	No	FACW
4. *Juncus effusus*	5	No	OBL
5. *Symphyotrichum lanceolatum*	5	No	FACW
6. *Equisetum arvense*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	115	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	108	x 2 =	216
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	118 (A)		236 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/2	100					Sandy Loam	Gravely
7-15"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Clay Loam	
15-24"	7.5YR 4/3	98	7.5YR 4/6	2	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-19-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.269358 Long: -90.679708 Datum: NAD83

Soil Map Unit Name: 5374A - Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	40	Yes	FAC
2. *Hieracium aurantiacum*	20	Yes	UPL
3. *Solidago gigantea*	15	No	FACW
4. *Cirsium vulgare*	5	No	FACU
5. *Populus tremuloides*	2	No	FAC
6. *Taraxacum officinale*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	84	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	42	x 3 =	126
FACU species	7	x 4 =	28
UPL species	20	x 5 =	100
Column Totals:	84 (A)		284 (B)
Prevalence Index = B/A =			3.38

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/1	100					Silt Loam	
7-14"	10YR 4/2	95	10YR 4/6	5	C	M	Loamy Sand	
14-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-20-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299688 Long: -90.682709 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2. *Cornus alba*	10	No	FACW
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	50	Yes	FACW
2. *Carex bebbii*	5	No	OBL
3. *Typha latifolia*	5	No	OBL
4. *Solidago gigantea*	5	No	FACW
5. *Euthamia graminifolia*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	125	x 2 =	250
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		275 (B)
Prevalence Index = B/A =			1.96

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/1	100					Muck	
18-24"	10YR 2/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-20-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.269440 Long: -90.679688 Datum: NAD83

Soil Map Unit Name: 5374A - Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	30	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5. *Juncus effusus*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		95 (B)
Prevalence Index = B/A =			1.36

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	
14-24"	7.5YR 5/2	90	7.5YR 6/8	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-21-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299774 Long: -90.682795 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	15	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3. *Salix Bebbiana*	5	No	FACW
4. *Cornus alba*	5	No	FACW
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	40	Yes	FACW
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Typha latifolia*	15	No	OBL
4. *Eutrochium purpureum*	5	No	FAC
5. *Onoclea sensibilis*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	140	x 2 =	280
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		310 (B)
Prevalence Index = B/A =			1.94

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	10YR 2/1	100					Muck	
30-36"	10YR 2/2	100					Mucky Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-21-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.270637 Long: -90.679785 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	40	Yes	FACU
2. *Pteridium aquilinum*	30	Yes	FACU
3. *Hieracium aurantiacum*	25	No	UPL
4. *Lotus corniculatus*	10	No	FACU
5. *Poa pratensis*	5	No	FACU
6. *Danthonia spicata*	5	No	UPL
7. *Gaultheria procumbens*	5	No	FACU
8. *Carex bebbii*	2	No	OBL
9. *Achillea millefolium*	2	No	FACU
10. *Phleum pratense*	2	No	FACU
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	126	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	94	x 4 =	376
UPL species	30	x 5 =	150
Column Totals:	126 (A)		528 (B)
Prevalence Index = B/A =			4.19

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/1	100					Loamy Sand	
3-24"	5YR 4/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-22-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.298076 Long: -90.684362 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	2	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	60	Yes	UPL
2. *Pteridium aquilinum*	20	No	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Poa palustris*	5	No	FACW
5. *Onoclea sensibilis*	5	No	FACW
6. *Equisetum arvense*	5	No	FAC
7. *Maianthemum canadense*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	7	x 3 =	21
FACU species	32	x 4 =	128
UPL species	60	x 5 =	300
Column Totals:	109 (A)		469 (B)
Prevalence Index = B/A =			4.30

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Sandy Loam	
8-24"	5YR 3/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-22-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.270621 Long: -90.679668 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	5	No	OBL
3. *Carex bebbii*	2	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	47	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	47	x 1 =	47
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	47 (A)		47 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-23-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.298064 Long: -90.684461 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	5"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Carex lacustris*	5	No	OBL
4. *Solidago gigantea*	5	No	FACW
5. *Equisetum arvense*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	25	x 2 =	50
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		90 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
16-24"	7.5YR 4/1	90	7.5YR 6/8	10	C	M	Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-23-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.274026 Long: -90.679854 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Ulmus americana*	2	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Lotus corniculatus*	15	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Pteridium aquilinum*	10	No	FACU
6. *Achillea millefolium*	2	No	FACU
7. *Trifolium repens*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	69	x 4 =	276
UPL species	30	x 5 =	150
Column Totals:	101 (A)		430 (B)
Prevalence Index = B/A =			4.26

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-24-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.294486 Long: -90.685848 Datum: NAD83

Soil Map Unit Name: 5351C - Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	15	Yes	FACU
2. *Fraxinus nigra*	10	Yes	FACW
3. *Quercus ellipsoidalis*	10	Yes	UPL
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	10	Yes	FACU
2. *Solidago canadensis*	5	Yes	FACU
3. *Eurybia macrophylla*	5	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	15	x 5 =	75
Column Totals:	55 (A)		215 (B)
Prevalence Index = B/A =			3.91

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-24-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.274015 Long: -90.679755 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Carex bebbii*	30	Yes	OBL
3. *Scirpus atrovirens*	15	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-25-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.293208 Long: -90.685887 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	15	Yes	FACU
2. *Fraxinus nigra*	5	Yes	FACW
3. *Quercus ellipsoidalis*	5	Yes	UPL
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	10	Yes	OBL
2. *Solidago canadensis*	5	Yes	FACU
3. *Eurybia macrophylla*	5	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	10	x 5 =	50
Column Totals:	45 (A)		150 (B)
Prevalence Index = B/A =			3.33

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-25-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.276651 Long: -90.679774 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	25	Yes	FAC
2. *Agrostis gigantea*	15	Yes	FACW
3. *Hieracium aurantiacum*	15	Yes	UPL
4. *Pteridium aquilinum*	15	Yes	FACU
5. *Apocynum cannabinum*	10	No	FAC
6. *Populus tremuloides*	5	No	FAC
7. *Taraxacum officinale*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	87	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	17	x 4 =	68
UPL species	15	x 5 =	75
Column Totals:	87 (A)		293 (B)
Prevalence Index = B/A =			3.37

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	7.5YR 3/2	100					Sandy Loam	
2-14"	7.5YR 3/3	100					andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-26-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.293249 Long: -90.685984 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	5"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	50	Yes	FACW
2. *Fraxinus nigra*	25	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	2	No	
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	70	Yes	FACW
2. *Carex crinita*	20	No	OBL
3. *Calamagrostis canadensis*	15	No	OBL
4. *Euthamia graminifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	145	x 2 =	290
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	185 (A)		340 (B)
Prevalence Index = B/A =			1.84

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100					Sandy Loam	
6-18"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	
18-28"	10YR 4/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-26-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.276720 Long: -90.679807 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	5"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Scirpus atrovirens*	5	No	OBL
4. *Carex bebbii*	5	No	OBL
5. *Poa palustris*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	72	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	72 (A)		74 (B)
Prevalence Index = B/A =			1.03

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 5/2	95	10YR 5/6	5	C	M	Loamy Sand	
6-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-27-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.290128 Long: -90.684886 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	50	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Solidago canadensis*	5	No	FACU
4. *Eurybia macrophylla*	2	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	2	x 5 =	10
Column Totals:	67 (A)		100 (B)
Prevalence Index = B/A =			1.49

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-27-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.277348 Long: -90.679906 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	95	Yes	FACU
2. *Hieracium aurantiacum*	10	No	UPL
3. *Eurybia macrophylla*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	15	x 5 =	75
Column Totals:	110 (A)		455 (B)
Prevalence Index = B/A =			4.14

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-13"	7.5YR 3/2	100					Loamy Sand	
13-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-28-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.290216 Long: -90.684864 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Quercus rubra*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Cornus canadensis*	20	Yes	FAC
2. *Hieracium aurantiacum*	15	Yes	UPL
3. *Rubus idaeus*	10	Yes	FAC
4. *Equisetum arvense*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	10	x 4 =	40
UPL species	15	x 5 =	75
Column Totals:	60 (A)		220 (B)
Prevalence Index = B/A =			3.67

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-28-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.277343 Long: -90.679873 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Juncus canadensis*	5	No	OBL
5. *Poa palustris*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	52	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	22	x 2 =	44
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	52 (A)		74 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11"	7.5YR 4/2	90	7.5YR 5/8	10	C	M	Sandy loam	
11-16"	7.5YR 5/2	80	7.5YR 6/8	15	C	M	andy Clay Loa	
			7.5YR 6/2	5	D	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-29-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.287708 Long: -90.683551 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	50	Yes	FACU
2. *Solidago canadensis*	20	Yes	FACU
3. *Elymus repens*	20	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Achillea millefolium*	5	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7. *Hypericum perforatum*	5	No	UPL
8. *Equisetum arvense*	2	No	FAC
9. *Eurybia macrophylla*	2	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	119	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	105	x 4 =	420
UPL species	12	x 5 =	60
Column Totals:	119 (A)		486 (B)
Prevalence Index = B/A =			4.08

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/3	100					Silt Loam	
4-24"	5YR 4/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-29-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.279136 Long: -90.679907 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 13"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
.

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	90	Yes	FACU
2. *Lotus corniculatus*	5	No	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Danthonia spicata*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	5	x 5 =	25
Column Totals:	105 (A)		425 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-10"	5Y 4/3	98	7.5YR 4/6	2	C	M	Loamy Sand	
10-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-30-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.287735 Long: -90.683618 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	90	Yes	FACW
2. *Solidago gigantea*	2	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	92	x 2 =	184
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		184 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-30-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.279199 Long: -90.679669 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	40	Yes	FACW
2. *Betula alleghaniensis*	35	Yes	FAC
3. *Abies balsamea*	10	No	FAC
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	20	Yes	FACW
2. *Ilex verticillata*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex crinita*	15	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	80	x 2 =	160
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	180 (A)		350 (B)
Prevalence Index = B/A =			1.94

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	70	7.5YR 6/8	20	C	M	Loam	
			7.5YR 5/2	10	D	M	Loam	
16-24"	5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.285370 Long: -90.682486 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	40	Yes	FACU
2. *Doellingeria umbellata*	15	No	FACW
3. *Carex pensylvanica*	10	No	UPL
4. *Rubus idaeus*	5	No	FAC
5. *Apocynum androsaemifolium*	5	No	UPL
6. *Fragaria virginiana*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	42	x 4 =	168
UPL species	15	x 5 =	75
Column Totals:	87 (A)		318 (B)
Prevalence Index = B/A =			3.66

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.278686 Long: -90.679723 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	50	Yes	FACW
2. *Glyceria grandis*	25	Yes	OBL
3. *Rubus pubescens*	10	No	FACW
4. *Equisetum arvense*	5	No	FAC
5. *Carex bebbii*	2	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	27	x 1 =	27
FACW species	60	x 2 =	120
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		162 (B)
Prevalence Index = B/A =			1.76

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	7.5YR 4/2	90	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.285283 Long: -90.682556 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes ____ No X Depth (inches): ____

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Euthamia graminifolia*	15	Yes	FAC
3. *Symphyotrichum novae-angliae*	15	Yes	FACW
4. *Persicaria sagittata*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		115 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-17"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loam	
17-24"	7.5YR 4/1	80	7.5YR 5/6	20	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.282307 Long: -90.680419 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	20	Yes	FAC
2. *Picea glauca*	15	Yes	FACU
3. *Ulmus americana*	10	Yes	FACW
4. *Prunus virginiana*	5	No	FACU
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Corylus americana*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	40	Yes	FAC
2. *Fragaria virginiana*	10	No	FACU
3. *Carex pensylvanica*	10	No	UPL
4. *Geranium carolinianum*	5	No	UPL
5. *Abies balsamea*	5	No	FAC
6. *Thalictrum dasycarpum*	5	No	FACW
7. *Doellingeria umbellata*	2	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	17	x 2 =	34
FAC species	65	x 3 =	195
FACU species	45	x 4 =	180
UPL species	15	x 5 =	75
Column Totals:	142 (A)		484 (B)
Prevalence Index = B/A =			3.41

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 4/2	95	10YR 4/6	5	C	M	Sandy Loam	
6-24"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.285016 Long: -90.682362 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria grandis*	10	No	OBL
3. *Solidago gigantea*	10	No	FACW
4. *Thalictrum dasycarpum*	10	No	FACW
5. *Iris virginica*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		115 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.282334 Long: -90.680474 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	35	Yes	OBL
2. *Impatiens capensis*	15	Yes	FACW
3. *Fraxinus nigra*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	52	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	57	x 2 =	114
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	117 (A)		224 (B)
Prevalence Index = B/A =			1.91

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	70	7.5YR 4/6	5	C	M	Loamy Sand	
			7.5YR 5/2	5	D	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.283667 Long: -90.681646 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Juncus effusus*	25	Yes	OBL
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		115 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Sandy Loam	
11-24"	7.5YR 5/2	85	7.5YR 5/6	15	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.284057 Long: -90.681576 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	50	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Achillea millefolium*	15	No	FACU
4. *Schedonorus arundinaceus*	5	No	FACU
5. *Scirpus atrovirens*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)
Prevalence Index = B/A =			3.84

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy loam	Gravelly
7-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.283609 Long: -90.681817 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	40	Yes	FAC
2. *Alnus incana*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	55	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	85	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		320 (B)
Prevalence Index = B/A =			2.29

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/1	90	7.5YR 4/6	10	C	M	Loam	
9-24"	7.5YR 5/1	80	7.5YR 5/6	20	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.284078 Long: -90.681492 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Phalaris arundinacea*	25	Yes	FACW
3. *Onoclea sensibilis*	20	No	FACW
4. *Juncus canadensis*	10	No	OBL
5. *Scirpus cyperinus*	10	No	OBL
6. *Euthamia graminifolia*	10	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	45	x 2 =	90
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		170 (B)
Prevalence Index = B/A =			1.62

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
18-24"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 8% Lat: 46.283701 Long: -90.681578 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	20	Yes	FACU
2. *Lotus corniculatus*	15	Yes	FACU
3. *Achillea millefolium*	15	Yes	FACU
4. *Phleum pratense*	15	Yes	FACU
5. *Pteridium aquilinum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.285998 Long: -90.682467 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	30	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Hieracium aurantiacum*	15	No	UPL
4. *Poa palustris*	15	No	FACW
5. *Scirpus atrovirens*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	35	x 5 =	175
Column Totals:	90 (A)		335 (B)
Prevalence Index = B/A =			3.72

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	Gravelly
6-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 45% Lat: 46.282843 Long: -90.681181 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Solidago canadensis*	15	Yes	FACU
3. *Achillea millefolium*	15	Yes	FACU
4. *Eurybia macrophylla*	10	No	UPL
5. *Fragaria virginiana*	10	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	15	x 5 =	75
Column Totals:	95 (A)		395 (B)
Prevalence Index = B/A =			4.16

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	
18-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.286007 Long: -90.682443 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	10	Yes	FACW
2. *Salix bebbiana*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Impatiens capensis*	15	Yes	FACW
3. *Typha latifolia*	10	No	OBL
4. *Carex stricta*	10	No	OBL
5. *Eurybia macrophylla*	10	No	UPL
6. *Gentiana alba*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	100 (A)		200 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	Coarse
18-26"	10YR 2/1	95	7.5YR 3/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rcok

Depth (inches): 26"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.282817 Long: -90.681255 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	75	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		150 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	90	7.5YR 4/6	5	C	M	Loamy Sand	
			7.5YR 5/2	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.285414 Long: -90.682097 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No X	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	40	Yes	OBL
2. *Scirpus cyperinus*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5. *Carex bebbii*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		95 (B)
Prevalence Index = B/A =			1.12

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy Loam	
7-24"	7.5YR 4/2	90	7.5YR 6/8	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.282788 Long: -90.681413 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	90	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	150	x 2 =	300
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	150 (A)		300 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 7% Lat: 46.285407 Long: -90.682169 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Elymus repens*	15	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	80 (A)		340 (B)
Prevalence Index = B/A =			4.25

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/4	100					Loamy Sand	
14-24"	7.5YR 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.280170 Long: -90.680170 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	30	Yes	FACW
2. *Fragaria virginiana*	30	Yes	FACU
3. *Poa pratensis*	20	Yes	FACU
4. *Lotus corniculatus*	15	No	FACU
5. *Achillea millefolium*	2	No	FACU
6. *Ambrosia artemisiifolia*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	69	x 4 =	276
UPL species	0	x 5 =	0
Column Totals:	99 (A)		336 (B)
Prevalence Index = B/A =			3.39

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-26"	7.5YR 3/2	100					Loamy Sand	
26-32"	5YR 3/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 12% Lat: 46.287993 Long: -90.683428 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa palustris*	40	Yes	FACW
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Symphyotrichum novae-angliae*	2	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	62	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	42	x 2 =	84
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	62 (A)		179 (B)
Prevalence Index = B/A =			2.89

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Loamy Sand	
10-24"	7.5YR 4/3	95	7.5YR 4/4	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.280159 Long: -90.680227 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	6"

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Rubus idaeus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		95 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
6-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.287989 Long: -90.683309 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	45	Yes	OBL
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		85 (B)
Prevalence Index = B/A =			1.13

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.280164 Long: -90.680352 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	75	Yes	FACW
2. *Rubus idaeus*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	85	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		270 (B)

Prevalence Index = B/A = 1.59

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 2.5/1	100					Muck	
10-16"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.288005 Long: -90.683204 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	25	Yes	FAC
2. *Acer rubrum*	20	Yes	FAC
3. *Ulmus americana*	20	Yes	FACW
4. *Fraxinus nigra*	15	No	FACW
5.			
6.			
7.			
	80	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	30	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria canadensis*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	85	x 2 =	170
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	185 (A)		360 (B)
Prevalence Index = B/A =			1.95

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.280166 Long: -90.680437 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	40	Yes	FAC
2. *Fraxinus nigra*	20	Yes	FACW
3. *Abies balsamea*	20	Yes	FAC
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	30	Yes	FACW
2. *Alnus incana*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	15	Yes	FACW
2. *Maianthemum canadense*	5	Yes	FACU
3. *Equisetum arvense*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	65	x 3 =	195
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	140 (A)		355 (B)
Prevalence Index = B/A =			2.54

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.290335 Long: -90.684559 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Trifolium hybridum*	35	Yes	FACU
2. *Poa pratensis*	15	Yes	FACU
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Fragaria virginiana*	10	No	FACU
5. *Danthonia spicata*	10	No	UPL
6. *Lotus corniculatus*	5	No	FACU
7. *Schedonorus arundinaceus*	5	No	FACU
8. *Quercus rubra*	5	No	FACU
9. *Equisetum arvense*	2	No	FAC
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	75	x 4 =	300
UPL species	25	x 5 =	125
Column Totals:	102 (A)		431 (B)
Prevalence Index = B/A =			4.23

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	
6-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.278742 Long: -90.680141 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	50	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		110 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
16-24"	7.5YR 5/2	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.290329 Long: -90.684480 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	35	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Rubus idaeus*	10	No	FAC
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		85 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.278778 Long: -90.680102 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	20	Yes	FACU
3. *Lotus corniculatus*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	65 (A)		260 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Sandy Loam	
9-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.291373 Long: -90.685042 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix discolor*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	30	Yes	FACU
2. *Fragaria virginiana*	30	Yes	FACU
3. *Danthonia spicata*	10	No	UPL
4. *Solidago gigantea*	10	No	FACW
5. *Eurybia macrophylla*	10	No	UPL
6. *Solidago canadensis*	5	No	FACU
7. *Achillea millefolium*	5	No	FACU
8. *Populus tremuloides*	2	No	FAC
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	2	x 3 =	6
FACU species	70	x 4 =	280
UPL species	20	x 5 =	100
Column Totals:	112 (A)		426 (B)
Prevalence Index = B/A =			3.80

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy Loam	
3-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.277094 Long: -90.680091 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	20	Yes	FACU
3. *Hieracium caespitosum*	15	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	75 (A)		315 (B)
Prevalence Index = B/A =			4.20

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Loamy Sand	
9-18"	7.5YR 4/3	100					Loamy Sand	
18-24"	7.5YR 4/4	60	7.5YR 5/2	20	D	M	Sandy Clay Loam	
			7.5YR 5/1	20	D	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.291381 Long: -90.684960 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Poa palustris*	10	No	FACW
4. *Juncus canadensis*	5	No	OBL
5. *Onoclea sensibilis*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		70 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	80	7.5YR 6/8	20	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.277081 Long: -90.680161 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	75	Yes	OBL
2. *Rubus idaeus*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		105 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.291391 Long: -90.684821 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	55	Yes	FAC
2. *Acer rubrum*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	30	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	70	Yes	OBL
2. *Equisetum arvense*	5	No	FAC
3. *Symphyotrichum novae-angliae*	5	No	FACW
4. *Cornus canadensis*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	195 (A)		410 (B)
Prevalence Index = B/A =			2.10

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: 12"

Depth (inches): Rock

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.277073 Long: -90.680337 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Populus tremuloides*	30	Yes	FAC
3. *Tsuga canadensis*	15	No	FACU
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Acer rubrum*	5	Yes	FAC
2. *Fraxinus nigra*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	20	x 2 =	40
FAC species	75	x 3 =	225
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	155 (A)		370 (B)
Prevalence Index = B/A =			2.39

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/1	100					Mucky Loam	
4-18"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loam	
18-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 45% Lat: 46.297560 Long: -90.684073 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Schedonorus arundinaceus*	10	No	FACU
4. *Hypericum perforatum*	5	No	UPL
5. *Solidago gigantea*	5	No	FACW
6. *Daucus carota*	5	No	UPL
7. *Leucanthemum vulgare*	2	No	UPL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	12	x 5 =	60
Column Totals:	97 (A)		390 (B)
Prevalence Index = B/A =			4.02

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Silt Loam	
3-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.273643 Long: -90.680108 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Lotus corniculatus*	20	Yes	FACU
3. *Fragaria virginiana*	15	No	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Trifolium hybridum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 20"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.297542 Long: -90.684008 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	35	Yes	FACW
2. *Onoclea sensibilis*	10	No	FACW
3. *Juncus effusus*	10	No	OBL
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		110 (B)
Prevalence Index = B/A =			1.83

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-24"	7.5YR 3/1	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.273641 Long: -90.680155 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Alnus incana*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		75 (B)
Prevalence Index = B/A =			1.25

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	
20-24"	7.5YR 5/1	90	7.5YR 6/8	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299671 Long: -90.682221 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	10	Yes	FACW
2. *Spiraea alba*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		90 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/1	100					Muck	
14-18"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.268710 Long: -90.680080 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Achillea millefolium*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Loamy Sand	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.299632 Long: -90.682044 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	10	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3. *Fraxinus nigra*	5	Yes	FACW
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	15	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	10	Yes	FACW
2. *Carex crinita*	10	Yes	OBL
3. *Osmundastrum cinnamomeum*	10	Yes	FACW
4. *Athyrium filix-femina*	5	No	UPL
5. *Rubus pubescens*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	37	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	52	x 2 =	104
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	82 (A)		184 (B)
Prevalence Index = B/A =			2.24

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
16-24"	7.5YR 5/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.268711 Long: -90.680112 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Populus tremuloides*	10	No	FAC
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		110 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loam	
4-14"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
14-24"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.299358 Long: -90.682489 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	10	Yes	FACU
2. *Quercus rubra*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	40	Yes	FAC
2. *Quercus rubra*	25	Yes	FACU
3. *Apocynum cannabinum*	10	No	FAC
4.			
5.			
6.			
7.			
	75	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Clintonia borealis*	55	Yes	FAC
2. *Hieracium aurantiacum*	30	Yes	UPL
3. *Eurybia macrophylla*	5	No	UPL
4. *Maianthemum canadense*	5	No	FACU
5. *Trientalis borealis*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	107	x 3 =	321
FACU species	50	x 4 =	200
UPL species	35	x 5 =	175
Column Totals:	192 (A)		696 (B)
Prevalence Index = B/A =			3.63

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/1	100					Silt Loam	
10-24"	7.5YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.263091 Long: -90.680050 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Pteridium aquilinum*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	15	x 5 =	75
Column Totals:	70 (A)		295 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Loamy Sand	
7-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Slough Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299294 Long: -90.682569 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	35	Yes	FACW
2. *Acer rubrum*	25	Yes	FAC
3. *Betula alleghaniensis*	10	No	FAC
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	30	Yes	FAC
2. *Fraxinus nigra*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	25	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3. *Impatiens capensis*	15	No	FACW
4. *Osmundastrum cinnamomeum*	15	No	FACW
5. *Equisetum arvense*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	85	x 2 =	170
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	210 (A)		445 (B)
Prevalence Index = B/A =			2.12

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-15"	10YR 2/1	95	10YR 4/4	5	C	M	Silty Clay	
15-24"	10YR 4/1	95	10YR 4/4	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.263090 Long: -90.680088 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Agrostis gigantea*	10	No	FACW
4. *Poa pratensis*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	67 (A)		83 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-12"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.300241 Long: -90.681725 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa palustris*	20	Yes	FACW
2. *Lotus corniculatus*	20	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Hieracium aurantiacum*	15	No	UPL
5. *Poa pratensis*	10	No	FACU
6. *Solidago gigantea*	5	No	FACW
7. *Onoclea sensibilis*	5	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	15	x 5 =	75
Column Totals:	95 (A)		335 (B)
Prevalence Index = B/A =			3.53

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 3/3	100					Sandy Loam	Gravelly
13-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.260976 Long: -90.679989 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Juncus canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		55 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 5/2	95	7.5YR 5/6	5	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.300214 Long: -90.681639 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Fraxinus nigra*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		80 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
7-24"	7.5YR 4/2	70	7.5YR 5/8	30	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.260897 Long: -90.679976 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Solidago canadensis*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	50 (A)		215 (B)
Prevalence Index = B/A =			4.30

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.302596 Long: -90.679204 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	15	Yes	UPL
3. *Phleum pratense*	10	No	FACU
4. *Solidago canadensis*	5	No	FACU
5. *Solidago gigantea*	5	No	FACW
6. *Agrostis gigantea*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	60 (A)		235 (B)
Prevalence Index = B/A =			3.92

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Sandy Clay	
9-24"	7.5YR 4/4	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.260835 Long: -90.680004 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus canadensis*	40	Yes	OBL
2. *Euthamia graminifolia*	15	Yes	FAC
3. *Calamagrostis canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		90 (B)
Prevalence Index = B/A =			1.50

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-19"	7.5YR 4/2	85	7.5YR 5/6	15	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hardpan

Depth (inches): 19"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.302574 Long: -90.679158 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Athyrium filix-femina*	5	No	UPL
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	80 (A)		105 (B)
Prevalence Index = B/A =			1.31

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 5/2	98	7.5YR 5/6	5	C	M	Sandy Loam	
7-24"	7.5YR 6/1	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.258003 Long: -90.679958 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	20	Yes	FACU
2. *Andropogon gerardii*	15	Yes	FACU
3. *Onoclea sensibilis*	5	No	FACW
4. *Rubus pubescens*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	45 (A)		160 (B)
Prevalence Index = B/A =			3.56

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/4	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.302655 Long: -90.678935 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	60	Yes	FACW
2. *Betula alleghaniensis*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2. *Fraxinus nigra*	10	No	FACW
3. *Ilex verticillata*	5	No	FACW
4.			
5.			
6.			
7.			
	75	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	45	Yes	FACW
2. *Carex stricta*	15	Yes	OBL
3. *Equisetum arvense*	5	No	FAC
4. *Calla palustris*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	180	x 2 =	360
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	215 (A)		425 (B)
Prevalence Index = B/A =			1.98

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.257999 Long: -90.680055 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	25	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Salix exigua*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	55 (A)		75 (B)
Prevalence Index = B/A =			1.36

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 2.5/2	100					Sandy Loam	
5-17"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
17-24"	7.5YR 5/1	95	7.5YR 6/8	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.311708 Long: -90.669326 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Ulmus americana*	25	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	95	Yes	FACU
2. *Cirsium vulgare*	2	No	FACU
3. *Pteridium aquilinum*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	99	x 4 =	396
UPL species	0	x 5 =	0
Column Totals:	124 (A)		446 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/3	100					Sandy Loam	
8-26"	10YR 2/1	85	10YR 6/1	10	D	M		
			10YR 4/6	5	C	M	Silt Loam	
26-36"	5YR 4/4	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.257994 Long: -90.680190 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	80	Yes	FACW
2. *Rubus idaeus*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
	85	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	35	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	80	x 2 =	160
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		235 (B)
Prevalence Index = B/A =			1.62

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/1	100					Muck	
14-24"	7.5YR 2.5/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.311690 Long: -90.669271 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Euthamia graminifolia*	20	Yes	FAC
3. *Onoclea sensibilis*	10	No	FACW
4. *Poa palustris*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		130 (B)
Prevalence Index = B/A =			1.73

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.255850 Long: -90.679918 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Fragaria virginiana*	25	Yes	FACU
3. *Achillea millefolium*	10	Yes	FACU
4. *Eurybia macrophylla*	10	Yes	UPL
5. *Schedonorus arundinaceus*	10	Yes	FACU
6. *Leucanthemum vulgare*	5	No	UPL
7. *Lotus corniculatus*	5	No	FACU
8. *Phleum pratense*	5	No	FACU
9. *Hieracium aurantiacum*	5	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	20	x 5 =	100
Column Totals:	95 (A)		400 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-28"	5YR 4/3	100					Sandy Loam	
28-36"	10YR 2/1	95	10YR 4/6	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.311647 Long: -90.669235 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	40	Yes	FACW
2. *Larix laricina*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Osmundastrum cinnamomeum*	45	Yes	FACW
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4. *Rubus pubescens*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	115	x 2 =	230
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		240 (B)
Prevalence Index = B/A =			1.92

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255859 Long: -90.680003 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	35	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Scirpus atrovirens*	5	No	OBL
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		85 (B)
Prevalence Index = B/A =			1.21

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-28"	7.5YR 2.5/1	100					Muck	
28-36"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.317059 Long: -90.663776 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	50	Yes	FACU
2. *Achillea millefolium*	10	No	FACU
3. *Dactylis glomerata*	10	No	FACU
4. *Taraxacum officinale*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	72	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	72	x 4 =	288
UPL species	0	x 5 =	0
Column Totals:	72 (A)		288 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 24"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255941 Long: -90.680182 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	25	Yes	FAC
2. *Abies balsamea*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Acer rubrum*	5	No	FAC
3. *Spiraea alba*	5	No	FACW
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex striata*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	45	x 2 =	90
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		305 (B)
Prevalence Index = B/A =			1.79

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Muck	
4-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.317049 Long: -90.663749 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Lythrum salicaria*	10	No	OBL
4. *Carex lacustris*	5	No	OBL
5. *Juncus canadensis*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		75 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-64-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Riser Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.250883 Long: -90.679898 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-64-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	15	Yes	FACU
3. *Festuca rubra*	10	No	FACU
4. *Eurybia macrophylla*	10	No	UPL
5. *Lotus corniculatus*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	10	x 5 =	50
Column Totals:	80 (A)		330 (B)
Prevalence Index = B/A =			4.13

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-64-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Loamy Sand	
3-16"	5YR 3/4	100					Sandy Loam	
16-30"	5YR 4/4	100					andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-64-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.317837 Long: -90.662941 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-64-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Ambrosia artemisiifolia*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Onoclea sensibilis*	5	No	FACW
6. *Sonchus oleraceus*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	20	x 5 =	100
Column Totals:	60 (A)		250 (B)
Prevalence Index = B/A =			4.17

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-64-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/3	100					Sandy Loam	
6-12"	7.5YR 2.5/3	100					Loamy Sand	
12-16"	7.5YR 3/3	100					Sandy Clay Loam	
16-24"	7.5YR 2.5/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-65-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.250912 Long: -90.679961 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	7"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-65-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Scirpus cyperinus*	15	Yes	OBL
3. *Carex bebbii*	10	No	OBL
4. *Scirpus atrovirens*	10	No	OBL
5. *Solidago gigantea*	10	No	FACW
6. *Euthamia graminifolia*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		130 (B)
Prevalence Index = B/A =			1.63

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-65-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
16-28"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-65-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.317824 Long: -90.662925 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
Recent flooding has caused ditch to be filled with washed-out sediment (fill). WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-65-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Carex lacustris*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Scirpus atrovirens*	5	No	OBL
5. *Persicaria sagittata*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		125 (B)
Prevalence Index = B/A =			1.67

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-65-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100					Sandy Loam	
6-24"	10YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Clay	
			′R					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-66-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.250935 Long: -90.680114 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-66-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	5	Yes	FACW
2. *Populus tremuloides*	5	Yes	FAC
3. *Abies balsamea*	5	Yes	FAC
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	5	Yes	FAC
2. *Alnus incana*	5	Yes	FACW
3. *Fraxinus nigra*	5	Yes	FACW
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	20	Yes	OBL
2. *Carex gracillima*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	55 (A)		115 (B)
Prevalence Index = B/A =			2.09

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-66-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
13-18"	7.5YR 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Unable to retrieve past 18" due to saturated conditions.

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-66-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.319010 Long: -90.661683 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-66-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	35	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Danthonia spicata*	15	No	UPL
4. *Cirsium arvense*	10	No	FACU
5. *Elymus repens*	5	No	FACU
6. *Achillea millefolium*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-66-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-30"	7.5YR 4/3	100					Loamy Sand	
30-34"	7.5YR 4/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-67-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 55% Lat: 46.248679 Long: -90.679878 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-67-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	25	Yes	FACU
2. *Poa pratensis*	25	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Lotus corniculatus*	10	No	FACU
5. *Equisetum arvense*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	85 (A)		335 (B)
Prevalence Index = B/A =			3.94

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-67-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	Gravelly
6-28"	7.5YR 3/3	100					Loamy Sand	Coarse
28-30"	10YR 2/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-67-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.318999 Long: -90.661457 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-67-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	10	Yes	OBL
2. *Scirpus atrovirens*	10	Yes	OBL
3. *Impatiens capensis*	5	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Eurybia macrophylla*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	35 (A)		65 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-67-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/3	100					Silt Loam	
5-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-68-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.248677 Long: -90.679971 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-68-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	55	Yes	OBL
2. *Spiraea alba*	15	No	FACW
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		105 (B)
Prevalence Index = B/A =			1.31

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-68-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-68-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.318856 Long: -90.661726 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-68-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2. *Salix bebbiana*	15	Yes	FACW
3. *Salix interior*	10	No	FACW
4.			
5.			
6.			
7.			
	65	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	25	Yes	OBL
2. *Schoenoplectus tabernaemontani*	20	Yes	OBL
3. *Glyceria canadensis*	20	Yes	OBL
4. *Solidago gigantea*	10	No	FACW
5. *Scirpus atrovirens*	10	No	OBL
6. *Iris virginica*	5	No	OBL
7. *Carex lacustris*	5	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		235 (B)
Prevalence Index = B/A =			1.47

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-68-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	95	10YR 4/6	5	C	M	Silt Loam	
10-20"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 20"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-69-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.246379 Long: -90.679507 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-69-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	40	Yes	FACU
2. *Poa pratensis*	30	Yes	FACU
3. *Fragaria virginiana*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-69-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sandy Loam	
4-24"	7.5YR 3/2	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-70-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.246363 Long: -90.679560 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	6"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-70-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	25	Yes	OBL
2. *Juncus effusus*	5	No	OBL
3. *Calamagrostis canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	35 (A)		35 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-70-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 5/2	98	7.5YR 4/6	2	C	M	Sand	
9-36"								Unable to retrieve due to saturated conditions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-71-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.245150 Long: -90.678773 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 13"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-71-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Apocynum androsaemifolium*	40	Yes	UPL
2. *Rubus idaeus*	25	Yes	FAC
3. *Elymus repens*	20	Yes	FACU
4. *Solidago canadensis*	5	No	FACU
5. *Pteridium aquilinum*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	27	x 4 =	108
UPL species	40	x 5 =	200
Column Totals:	92 (A)		383 (B)
Prevalence Index = B/A =			4.16

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-71-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy loam	
7-21"	7.5YR 3/1	95	7.5YR 4/6	5	C	M	Sandy Loam	
21-30"	10YR 2/1	95	10YR 4/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-72-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.245163 Long: -90.678820 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-72-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago gigantea*	30	Yes	FACW
2. *Carex bebbii*	25	Yes	OBL
3. *Carex crinita*	15	Yes	OBL
4. *Euthamia graminifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	45	x 2 =	90
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		145 (B)
Prevalence Index = B/A =			1.61

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-72-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17"	10YR 2/1	90	7.5YR 6/8	10	C	M	Clay Loam	
17-24"	10YR 5/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

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STH 13 Cayuga Road to Jefferson Ave

APPENDIX C

WISDOT WETLAND CLASSIFICATION SYSTEM

Table 1C. Wetland Type Classification for the Wisconsin Wetland Mitigation Bank.

Cir39 Classification	Wetland Type Bank Site *	Examples of Vegetational Community Types
1A Seasonally flooded basin or flat	Riparian wetland (RPF) (wooded)	Floodplain Forest (includes Bottomland Hardwood forests **), Riparian Shrub Carr and Alder Thickets
1B Seasonally flooded basin or flat	Riparian wetland (RPE) (emergent)	Riparian Wet and Sedge Meadows, Bars and Mudflats
2 Inland fresh meadow	Wet Meadow (M)	Wet Meadow, Wet/Wet Mesic Prairie, Sedge Meadow, Vernal pools, (also includes Fens **)
3 Inland shallow fresh marsh	Shallow Marsh (SM)	Emergent Aquatic
4 Inland deep fresh marsh	Deep Marsh (DM)	Emergent and Submergent Aquatic
5 Inland open fresh water	Aquatic Bed (AB)	Submergent Aquatic, Aquatic Bed (depth less than 3 Meters)
6 Shrub swamp	Shrub Scrub (SS)	Shrub Carr, Alder Thicket
7 Wooded swamp	Wooded Swamp (WS) (Forested Wetland)	Wet/Wet-Mesic Deciduous Forests White Cedar Swamps
8 Bog	Bog (Bog)	Open Bog, Forested Bog

* Wetland types used for purposes of this bank system.
These should be refered to by name or by acronym (e.g. RPF, SM, AB, etc.)

** Red flag wetlands

STH 13 Cayuga Road to Jefferson Ave

APPENDIX D

SUMMARY OF DELINEATED WETLANDS

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-01-A	0.85	Wet Meadow	0.62	DP-02-A	A2, A3, D2, D5	F6	The wet meadow community was dominated by Scirpus atrovirens and Calamagrostis canadensis
		Wooded Swamp	0.23	DP-03-A, DP-04-A	A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Abies balsamea, Populus tremuloides, Salix interior, Calamagrostis canadensis, Agrostis gigantea, and Solidago gigantea
W-01-B	1.67	Wet Meadow	1.48	DP-02-B	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea, Solidago gigantea, Carex lacustris, and Juncus effusus
		Shrub Scrub	0.18	DP-03-B	A1, A2, A3, D2, D5	A1	The shrub scrub community was dominated by Salix petiolaris, Phalaris arundinacea, and Glyceria grandis
W-02-A	0.08	Wet Meadow	0.08	DP-06-A	A3, D2, D5	S5	The wet meadow community was dominated by Juncus effusus
W-02-B	1.28	Wet Meadow	0.84	DP-05-B	A2, A3, D2, D5	A1	The wet meadow community was dominated by Spiraea alba and Carex lacustris
		Shrub Scrub	0.44	DP-06-B	A1, A2, A3, B3, B9, D2, D5	A1, A2	The shrub scrub community was dominated by Cornus racemosa, Alnus incana, and Carex lacustris
W-03-A	0.04	Wet Meadow	0.04	DP-07-A	A3, D2, D5	A11, F6	The wet meadow community was dominated by Calamagrostis canadensis
W-03-B	0.41	Wet Meadow	0.24	DP-08-B	A2, A3, D2, D5	F3	The wet meadow community was dominated by Juncus effusus and Calamagrostis canadensis
		Wooded Swamp	0.17	DP-09-B	A2, A3, D2, D5	A11, F3	The wooded swamp community was dominated by Abies balsamea, Populus tremuloides, Alnus incana, and Calamagrostris canadensis
W-04-A	0.1	Riparian Emergent Wetland	0.1	DP-09-A	A1, A2, A3, D2, D5	A2, S5	The riparian emergent wetland community was dominated by Carex crinita

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-04-B	0.92	Wet Meadow	0.72	DP-11-B	A1, A1, A3, B9, D2, D5	F3	The wet meadow community was dominated by Glyceria grandis and Calamagrostis canadensis
		Wooded Swamp	0.12	DP-12-B	A1, A2, A3, D2, D5	A1	The wooded swamp community was dominated by Acer rubrum, Abies balsamea, Populus tremuloides, Calamagrostis canadensis, and Carex crinita
		Shallow Marsh	0.08	DP-13-B	A1, A2, A3, D2, D5	A1	The shallow marsh community was dominated by Sagittaria latifolia and Calamagrostis canadensis
W-05-A	0.1	Wet Meadow	0.1	DP-12-A	A2, A3, D2, D5	F3	The wet meadow community was dominated by Scirpus atrovirens and Juncus effusus
W-05-B	0.24	Wet Meadow	0.13	DP-15-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Glyceria canadensis
		Wooded Swamp	0.11	DP-16-B	A1, A2, A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Abies balsamea, Fraxinus nigra, Ulmus americana, Alnus incana, Calamagrostis canadensis, Elymus canadensis, and Onoclea sensibilis
W-06-A	0.08	Wet Meadow	0.08	DP-13-A	D2, D5	A11, F3	The wet meadow community was dominated by Calamagrostis canadensis
W-06-B	0.09	Wet Meadow	0.09	DP-18-B	A3, D2, D5	A11, F3	The wet meadow community was dominated by Juncus effusus and Carex bebbii
W-07-A	0.17	Wet Meadow	0.07	DP-16-A	D2, D5	A11, S5	The wet meadow community was dominated by Phalaris arundinacea
		Wooded Swamp	0.1	DP-15-A	A1, A2, A3, D2, D5	A3	The woooded swamp community was dominated by Fraxinus nigra, Ulmus americana, and Carex crinita.
W-07-B	0.59	Riparian Emergent Wetland	0.59	DP-20-B	A3, D2, D5	F3	The riparian emergent wetland community was dominated by Scirpus cyperinus and Solidago gigantea
W-08-A	0.16	Wet Meadow	0.07	DP-19-A	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea and Onoclea sensibilis.
		Wooded Swamp	0.05	DP-21-A	A1, A2, A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Fraxinus nigra, Alnus incana, Impatiens capenswas, and Phalaris arundinacea
		Shrub Scrub	0.05	DP-20-A	A1, A2, A3, D2, D5	A1, A2, A3	The shrub scrub community was dominated by Alnus incana, Cornus alba, and Onoclea sensibilis.

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-08-B	0.17	Wet Meadow	0.17	DP-22-B	A1, A2, A3, D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis
W-09-A	0.05	Wet Meadow	0.05	DP-23-A	A2, A3, D2, D5	F3	The wet meadow community was dominated by Scirpus atrovirens and Phalaris arundinacea
W-09-B	0.36	Wet Meadow	0.36	DP-24-B	A2, A3, D2, D5	A11, S5	The wet meadow community was dominated by Calamagrostis canadensis and Carex bebbii
W-10-A	0.04	Riparian Wooded Wetland	0.04	DP-26-A	A2, A3, D2, D5	A11, F3	The riparian wooded wetland community was domainted by Ulmus americana, Fraxinus nigra, and Onoclea sensibilis.
W-10-B	0.07	Wet Meadow	0.07	DP-26-B	A1, A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Juncus effusus
W-11-A	0.04	Wet Meadow	0.04	DP-27-A	D2, D5	A11, S5	The wet meadow community was dominated by Calamagrostis canadensis
W-11-B	0.06	Wet Meadow	0.06	DP-28-B	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Phalaris arundinacea and Scirpus atrovirens
W-12-A	0.14	Wet Meadow	0.14	DP-30-A	D2, D5	A1	The wet meadow community was dominated by Phalaris arundinacea
W-12-B	1.2	Wet Meadow	0.59	DP-31-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea and Glyceria grandis
		Wooded Swamp	0.61	DP-30-B	A2, A3, D5	F6	The wooded swamp community was dominated by Fraxinus nigra, Betula alleghaniensis, Alnus incana, Ilex verticillata, Calamagrostis canadensis, and Carex crinita
W-13-A	0.55	Wet Meadow	0.3	DP-32-A	D2, D5	A11, F3	The wet meadow community was dominated by Juncus effusus, Euthamia graminifolia, and Symphyotrichum novae-angliae
		Shrub Scrub	0.25	DP-33-A	D2, D5	F3	The shrub scrub community was dominated by Alnus incana and Calamagrostis canadensis
W-13-B	0.42	Riparian Wooded Wetland	0.42	DP-33-B	A2, A3, D2, D5	S5	The riparian wooded wetland community was dominated by Abies balsamea, Alnus incana, Glyceria grandis, and Impatiens capensis
W-14-A	0.2	Wet Meadow	0.17	DP-34-A	D2, D5	F3	The wet meadow community was dominated by Phalaris arundinacea and Juncus effusus
		Shrub Scrub	0.03	DP-35-A	D2, D5	F3	The shrub scrub community was dominated by Populus tremuloides, Alnus incana, and Phalaris arundinacea

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-14-B	0.1	Riparian Emergent Wetland	0.1	DP-35-B	A2, A3, D2, D5	F3	The riparian emergent wetland community was dominated by Juncus effusus and Phalaris arundinacea
W-15-A	0.14	Wet Meadow	0.1	DP-38-A	D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea
		Shrub Scrub	0.04	DP-39-A	A2, A3, D2, D5	S6	The shrub scrub community was dominated by Alnus incana and Phalaris arundinacea
W-15-B	0.08	Wet Meadow	0.08	DP-37-B	A2, A3, D2, D5	F3	The wet meadow community was dominated by Salix petiolaris, Salix bebbiana, Scirpus atrovirens, and Impatiens capensis
W-16-A	0.85	Wet Meadow	0.63	DP-41-A	A3, D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
		Wooded Swamp	0.07	DP-43-A	D2, D5	A11, F3	The wooded swamp community was dominated by Populus tremuloides, Fraxinus nigra, Abies balsamea, Onoclea sensibilis, Maianthemum canadense, and Equisetum arvense
		Shrub Scrub	0.15	DP-42-A	A1, A2, A3, D2, D5	A2, A11	The shrub scrub community was dominated by Alnus incana and Calamagrostis canadensis
W-16-B	0.07	Wet Meadow	0.07	DP-38-B	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Glyceria grandis and Scirpus cyperinus
W-17-A	0.06	Wet Meadow	0.06	DP-44-A	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Salix bebbiana, Salix bebbiana, and Solidago gigantea

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-17-B	0.53	Wet Meadow	0.25	DP-41-B	D2, D5	A1	The wet meadow community was dominated by Glyceria canadensis and Calamagrostis canadensis
		Wooded Swamp	0.28	DP-42-B	D2, D5	A1	The wooded swamp community was dominated by Populus tremuloides, Acer rubrum, Ulmus americana, Alnus incana, Fraxinus nigra, Calamagrostis canadensis, and Glyceria canadensis
W-18-A	0.42	Wet Meadow	0.3	DP-47-A	A1, A2, A3, D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis
		Wooded Swamp	0.12	DP-48-A	A2, A3, D2, D5	A11, F1, F3	The wooded swamp community was dominated by Acer rubrum, Populus tremuloides, Fraxinus nigra, Calamagrostis canadensis, and Onoclea sensibilis
W-18-B	0.15	Wet Meadow	0.15	DP-44-B	A3, D2, D5	S5	The wet meadow community was dominated by Scirpus atrovirens
W-19-A	0.07	Wet Meadow	0.07	DP-50-A	D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
W-19-B	0.25	Wet Meadow	0.09	DP-46-B	D2, D5	S5	The wet meadow community was dominated by Scirpus atrovirens and Carex bebbii
		Wooded Swamp	0.17	DP-47-B	A3, D2, D5	A1	The wooded swamp community was dominated by Abies balsamea, Acer rubrum, Alnus incana, and Glyceria canadensis
W-20-A	0.86	Riparian Emergent Wetland	0.86	DP-52-A	D2, D5	A11, S5	The riparian emergent wetland community was dominated by Calamagrostis canadensis
W-20-B	0.02	Wet Meadow	0.02	DP-49-B	D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea
W-21-A	0.04	Wet Meadow	0.04	DP-54-A	D2, D5	A11, F3	The wet meadow community was dominated by Calamagrostis canadensis and Carex bebbii

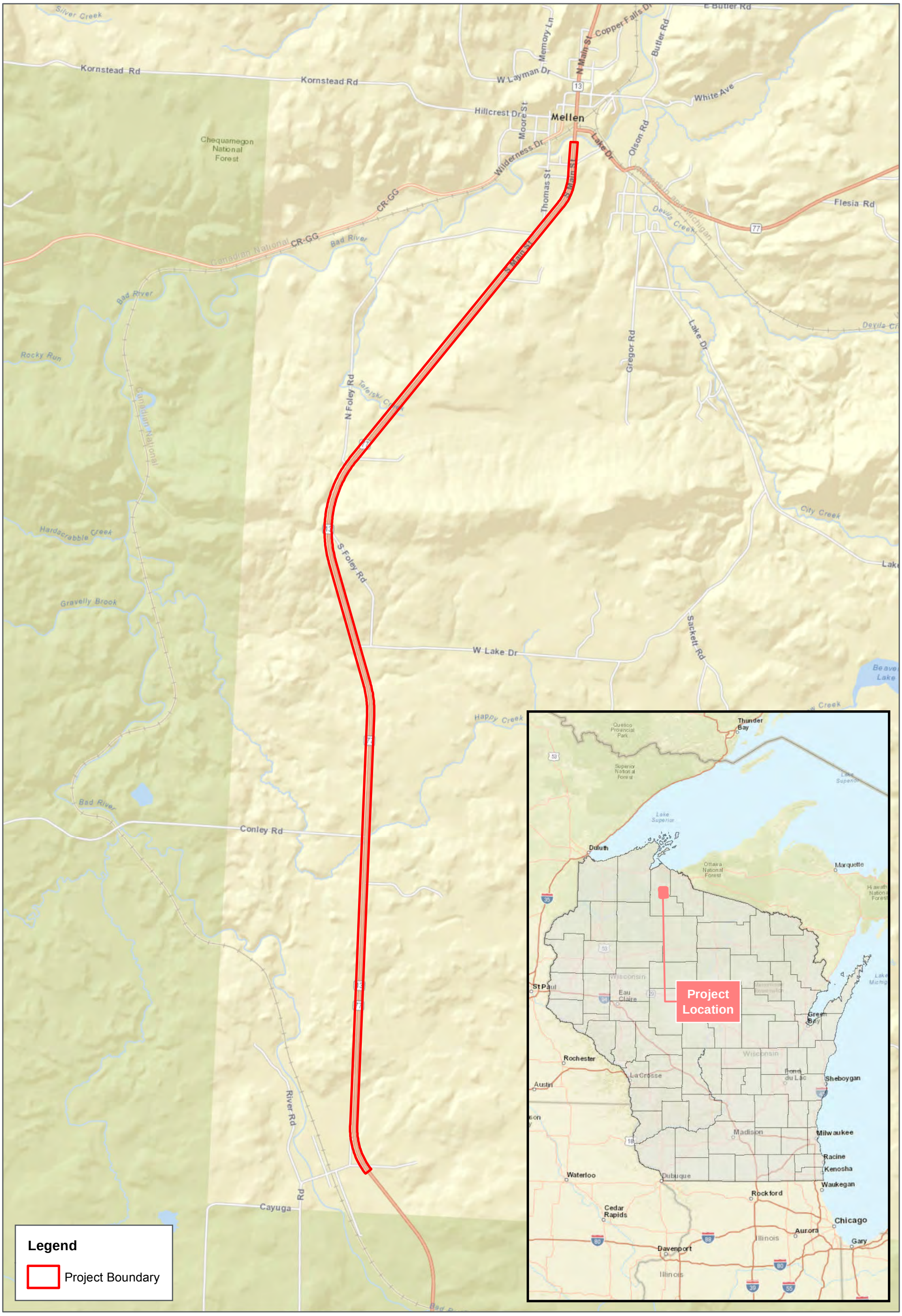
Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-21-B	0.36	Wet Meadow	0.26	DP-50-B	A1, A2, A3, D2, D5	A2, A3	The wet meadow community was dominated by Salix petiolaris, Spiraea alba, and Scirpus atrovirens
		Wooded Swamp	0.1	DP-51-B, DP-53-B	A1, A2, A3, D2, D5	A2, A12, S5	The wooded swamp community was dominated by Populus tremuloides, Acer rubrum,Fraxinus nigra, Alnus incana, Onoclea sensibilis, Carex crinita, Carex lacustris, and Calamagrostis canadensis
W-22-A	0.19	Wet Meadow	0.19	DP-55-A	A1, A2, A3, D5	F3	The wet meadow community was dominated by Scirpus atrovirens
W-22-B	0.18	Wet Meadow	0.18	DP-55-B	D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis and Solidago gigantea
W-23-A	0.33	Wet Meadow	0.33	DP-57-A	A1, A2, A3, D2, D5	F3	The wet meadow c ommunity was dominated by Juncus canadensis and Euthamia graminifolia
W-23-B	0.79	Riparian Emergent Wetland	0.4	DP-57-B	D2, D5	F3	The riparian emergent wetland community was dominated by Calamagrostis canadensis
		Riparian Wooded Wetland	0.38	DP-58-B	A1, A2, A3, B9, D2, D5	A1	The riparian wooded wetland community was dominated by Fraxinus nigra, Alnus incana, Impatiens capensis, and Carex stricta
W-24-A	0.38	Wet Meadow	0.225	DP-59-A	D2, D5	A11, F3	The wet meadow community was dominated by Carex crinita and Carex bebbii
		Shrub Scrub	0.13	DP-60-A	A1, A2, A3, D2, D5	A1, A2	The shrub scrub community was dominated by Alnus incana, Carex lacustris, and Calamagrostis canadensis
W-24-B	0.11	Wet Meadow	0.07	DP-60-B	D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis and Euthamia graminifolia
		Shrub Scrub	0.05	DP-61-B	A2, A3, D2, D5	A1	The shrub scrub community was dominated by Salix bebbiana, Larix laricina, Osmundastrum cinnamomeum, and Onoclea sensibilis
W-25-A	0.44	Wet Meadow	0.38	DP-62-A	A2, A3, D2, D5	A1	The wet meadow community was dominated by Carex lacustris and Typha latifolia
		Wooded Swamp	0.06	DP-63-A	A1, A2, A3, D2, D5	A3, A12	The wooded swamp community was dominated by Acer rubrum, Abies balsamea, Alnus incana, and Carex striata.

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-25-B	0.05	Wet Meadow	0.05	DP-63-B	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
W-26-A	0.38	Wet Meadow	0.29	DP-65-A	A2, A3, D2, D5	A11, S5	The wet meadow community was dominated by Alnus incana, Phalaris arundinacea, and Scirpus cyperinus
		Wooded Swamp	0.09	DP-66-A	A1, A2, A3, D2, D5	S5	The wooded swamp community was dominated by Populus balsamifera, Populus tremuloides, Abies balsamea, Alnus incana, Fraxinus nigra, Calamagrostis canadensis, and Carex gracillima
W-26-B	0.07	Wet Meadow	0.07	DP-65-B	A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea and Carex lacustris
W-27-A	1.65	Wet Meadow	0.165	DP-68-A	A2, A3, D2, D5	A1	The wet meadow community was dominated by Carex lacustris
W-27-B	0.61	Wet Meadow	0.57	DP-67-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Scirpus atrovirens
		Shrub Scrub	0.04	DP-68-B	A2, A3, D2, D5	F3	The shrub scrub community was dominated by Alnus incana, Salix bebbiana, Calamagrostis canadensis, Schoenoplectus tabernaemontani, and Glyceria canadensis
W-28-A	0.3	Wet Meadow	0.3	DP-70-A	A1, A2, A3, D5	S5	The wet meadow community was dominated by Scirpus cyperinus
W-29-A	0.07	Wet Meadow	0.07	DP-72-A	D2, D5	A12, F6	The wet meadow community was dominated by Solidago gigantea, Carex bebbii, and Carex crinita

STH 13 Cayuga Road to Jefferson Ave

FIGURE 1

Project Location



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Project Location

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,500 3,000 Feet

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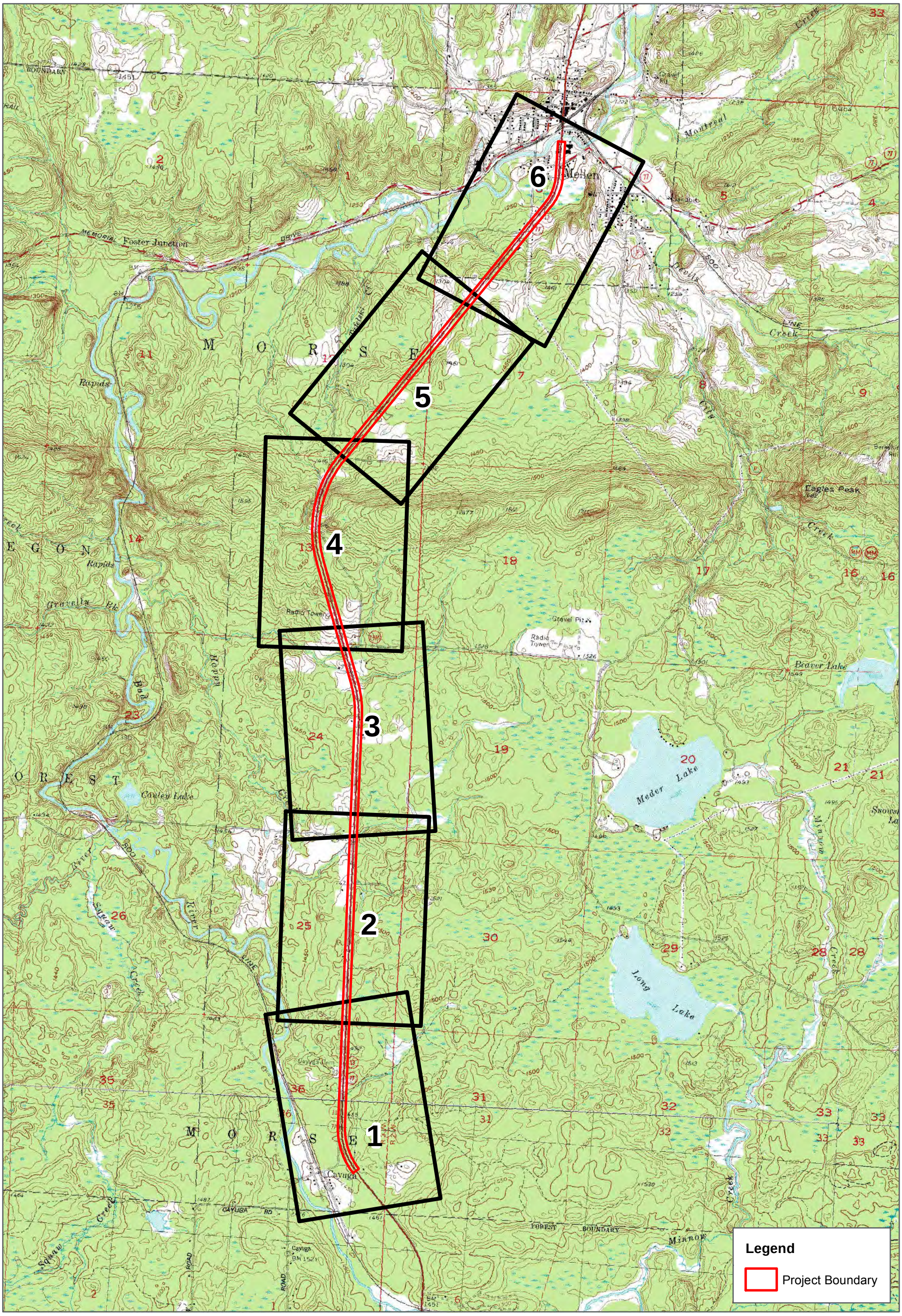
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 2

Topographic Map



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Topographic Map

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Ashland County, Wisconsin

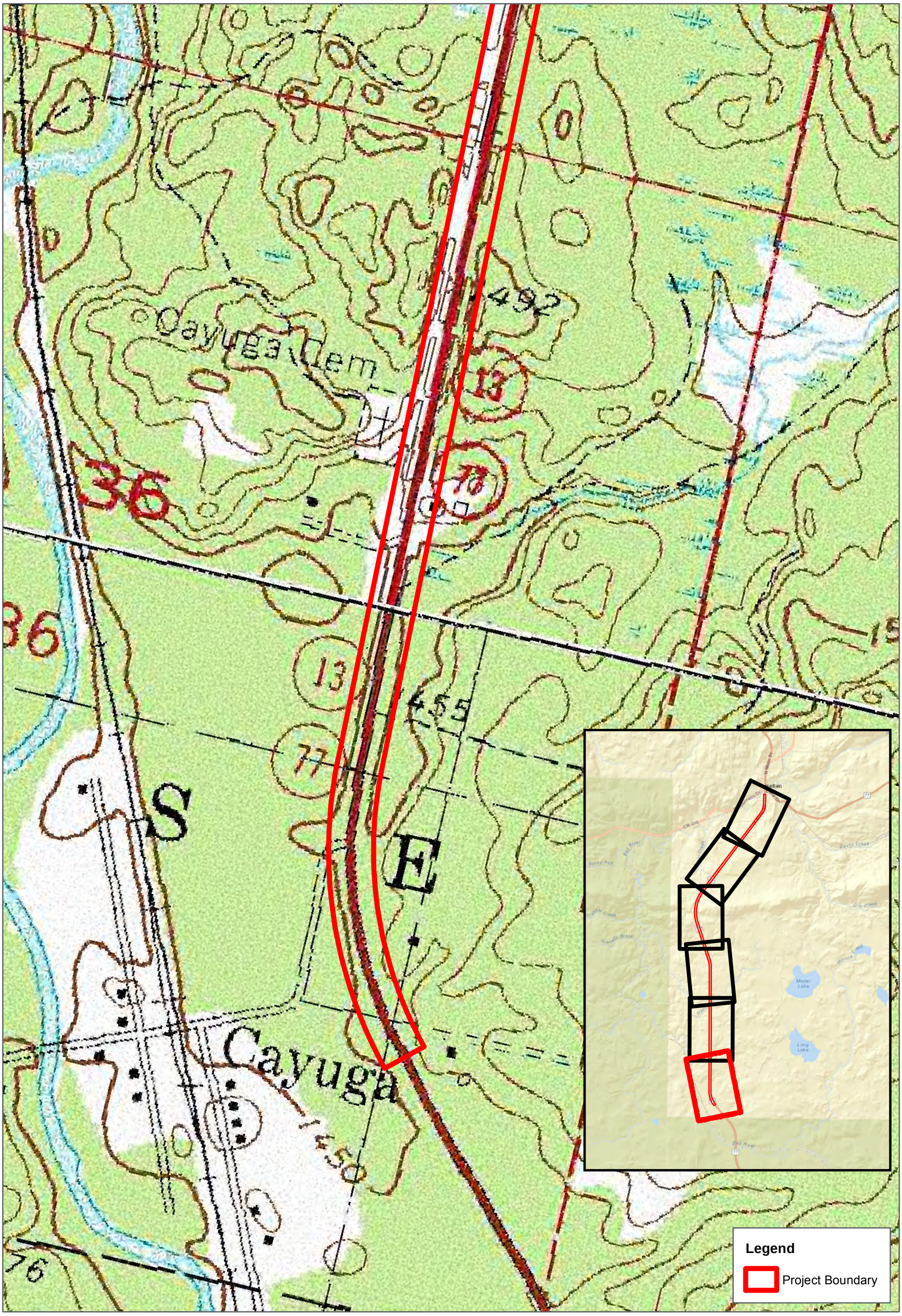
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Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

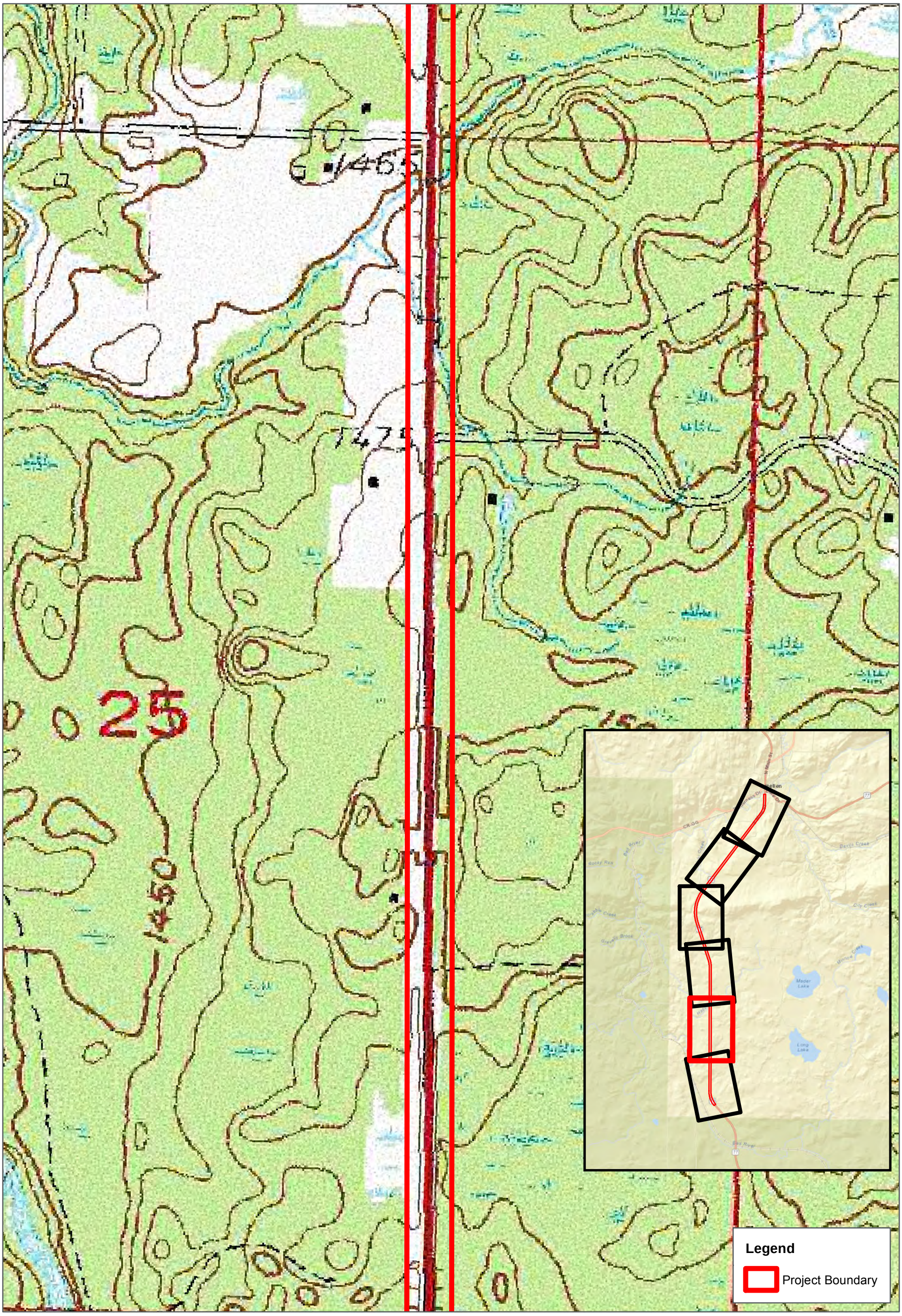
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Wisconsin Department of Transportation
Ashland County, Wisconsin

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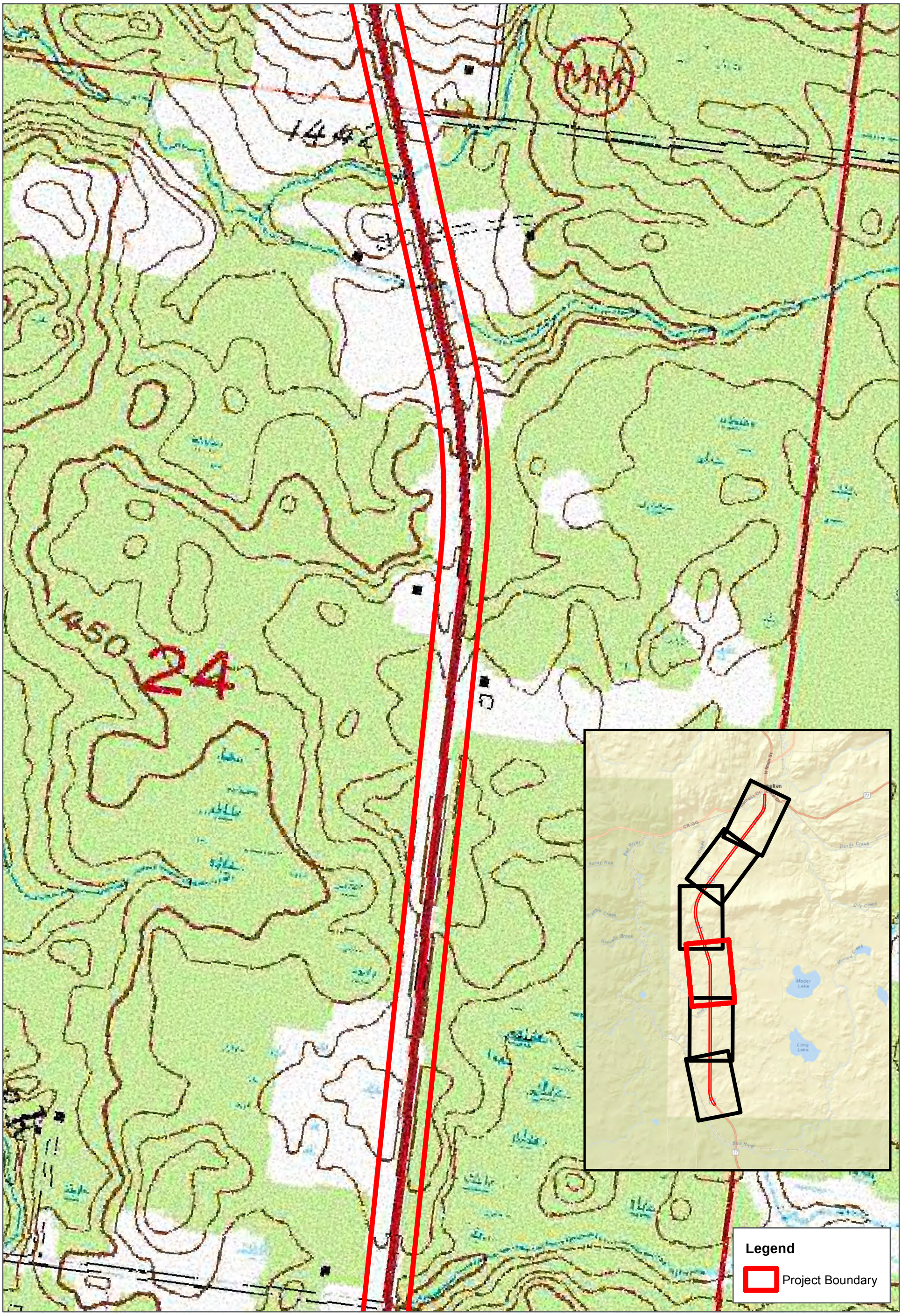
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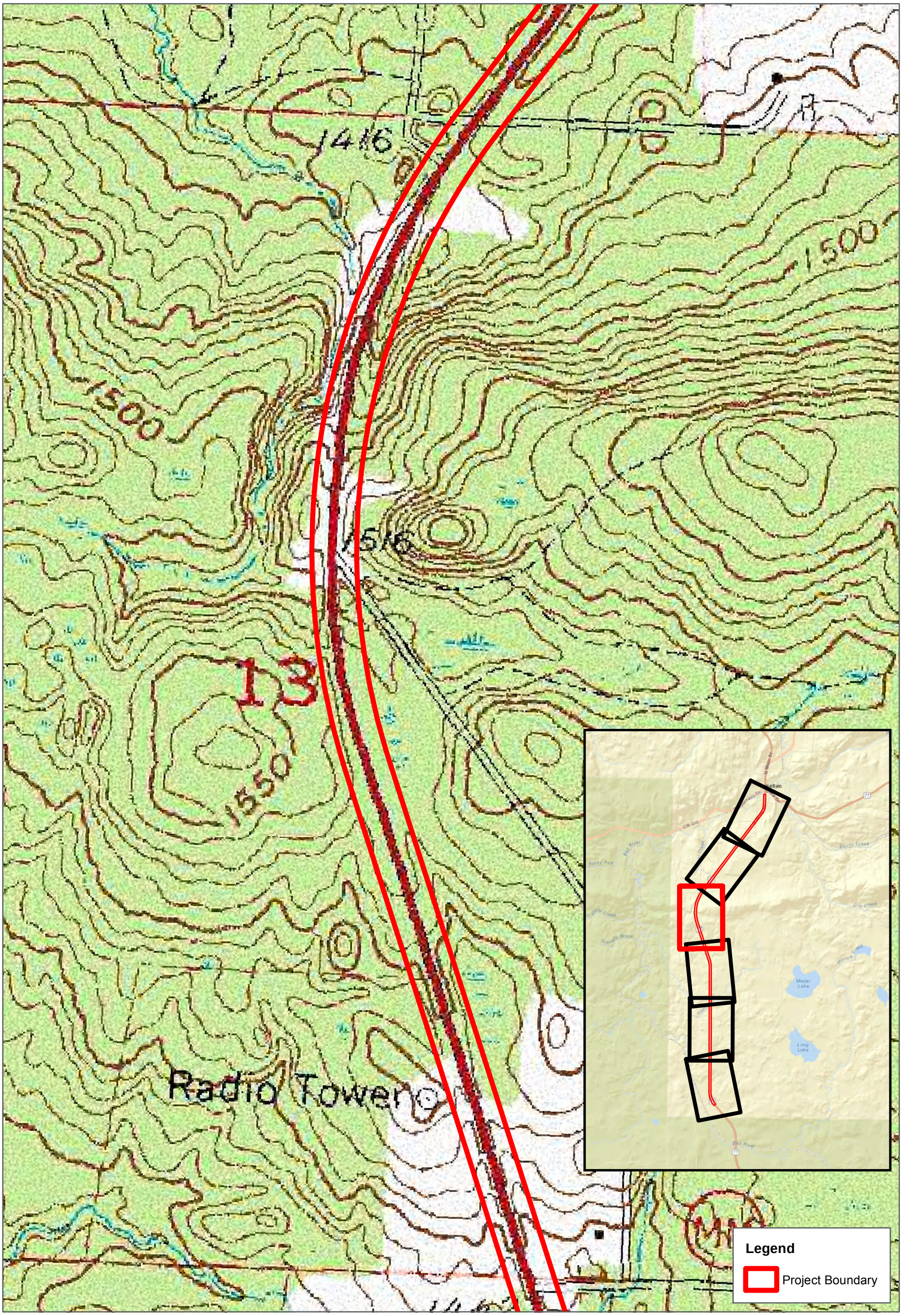
STH 13: Cayuga Rd - Jefferson Ave
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Wisconsin Department of Transportation
Ashland County, Wisconsin

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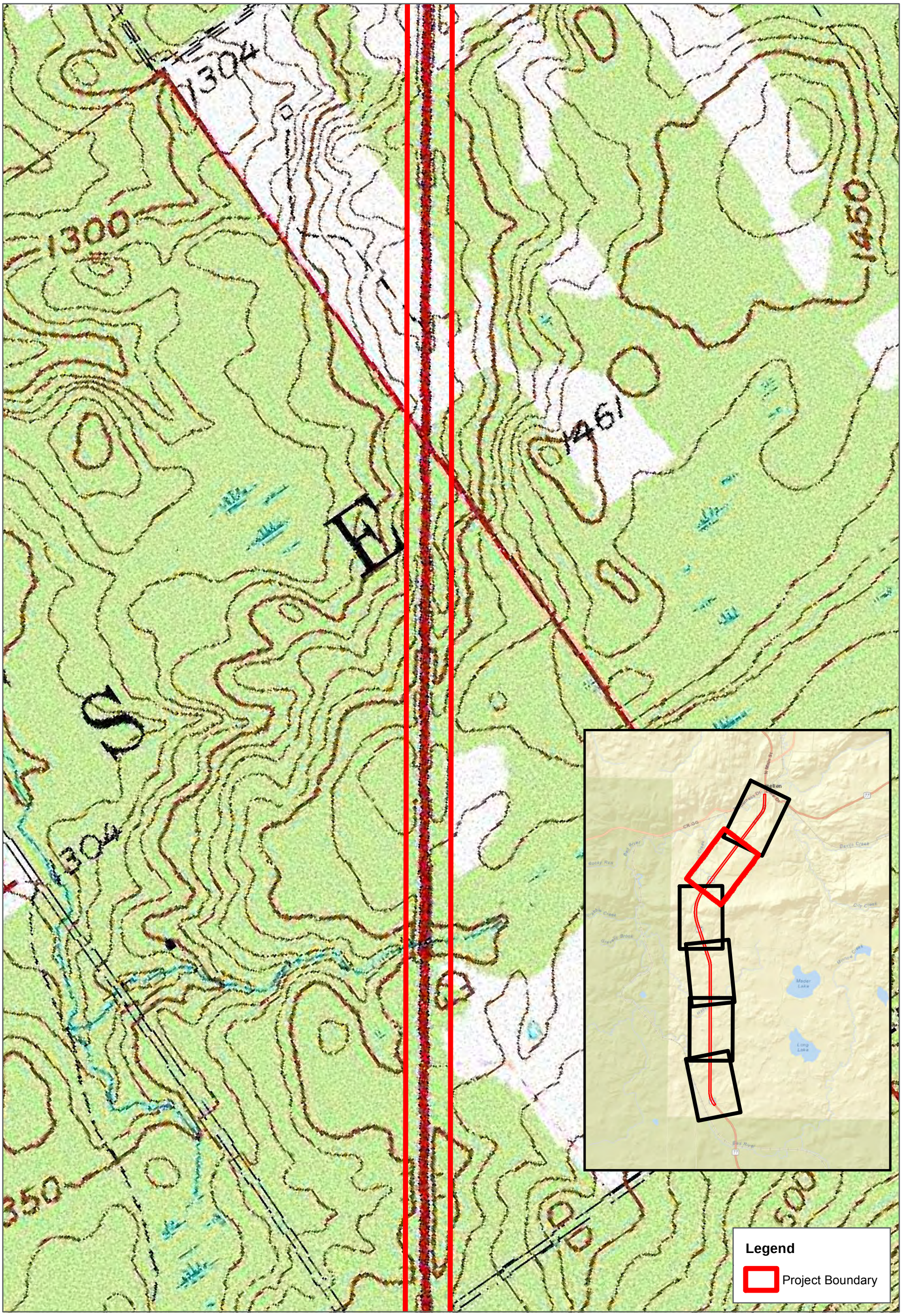
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GIS Analyst: Alex Cohen



Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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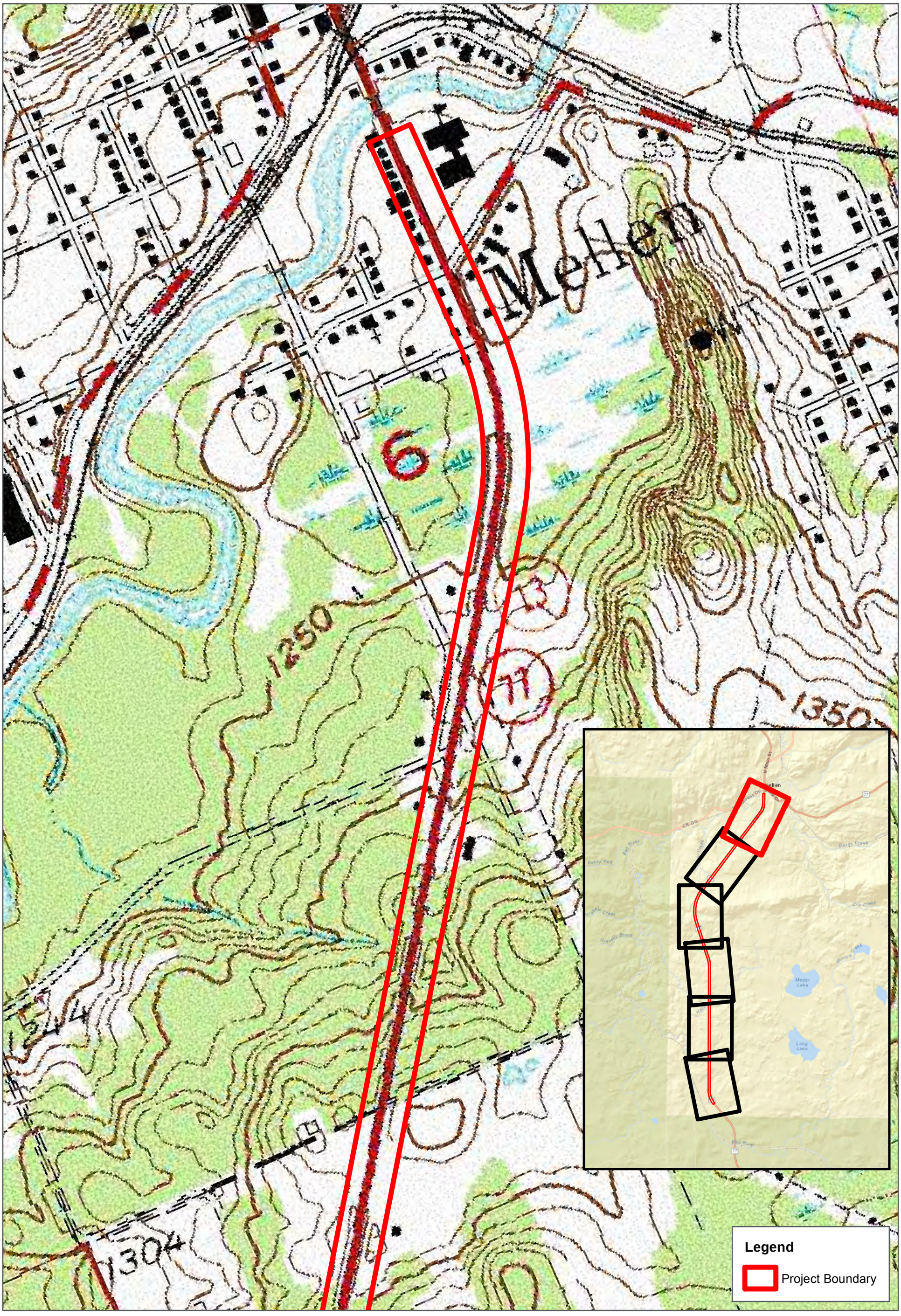
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GIS Analyst: Alex Cohen



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Topographic Map

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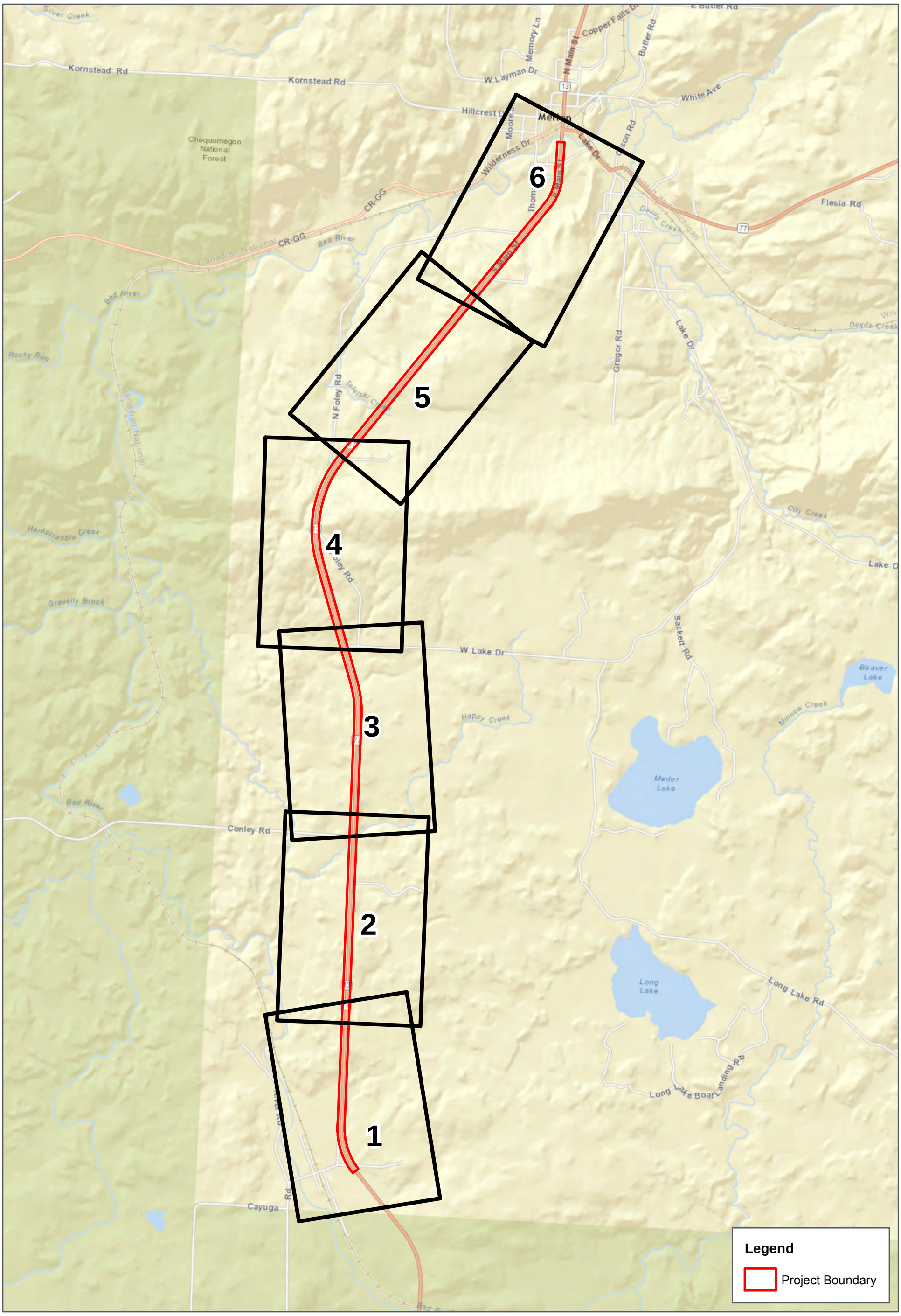
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GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 3

Mapped Soil Units



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Mapped Soil Units

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Ashland County, Wisconsin

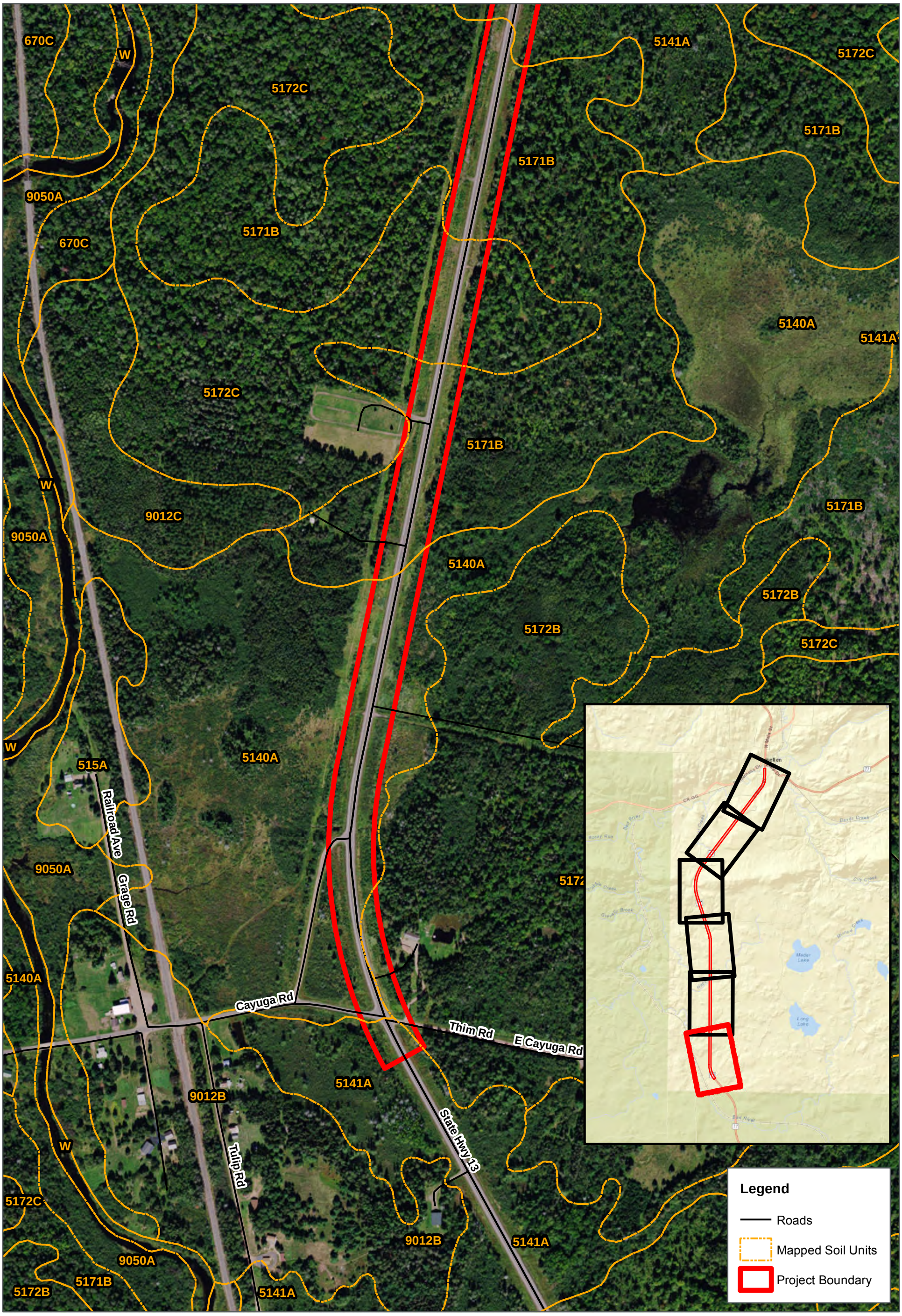
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GIS Analyst: Alex Cohen



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Mapped Soil Units

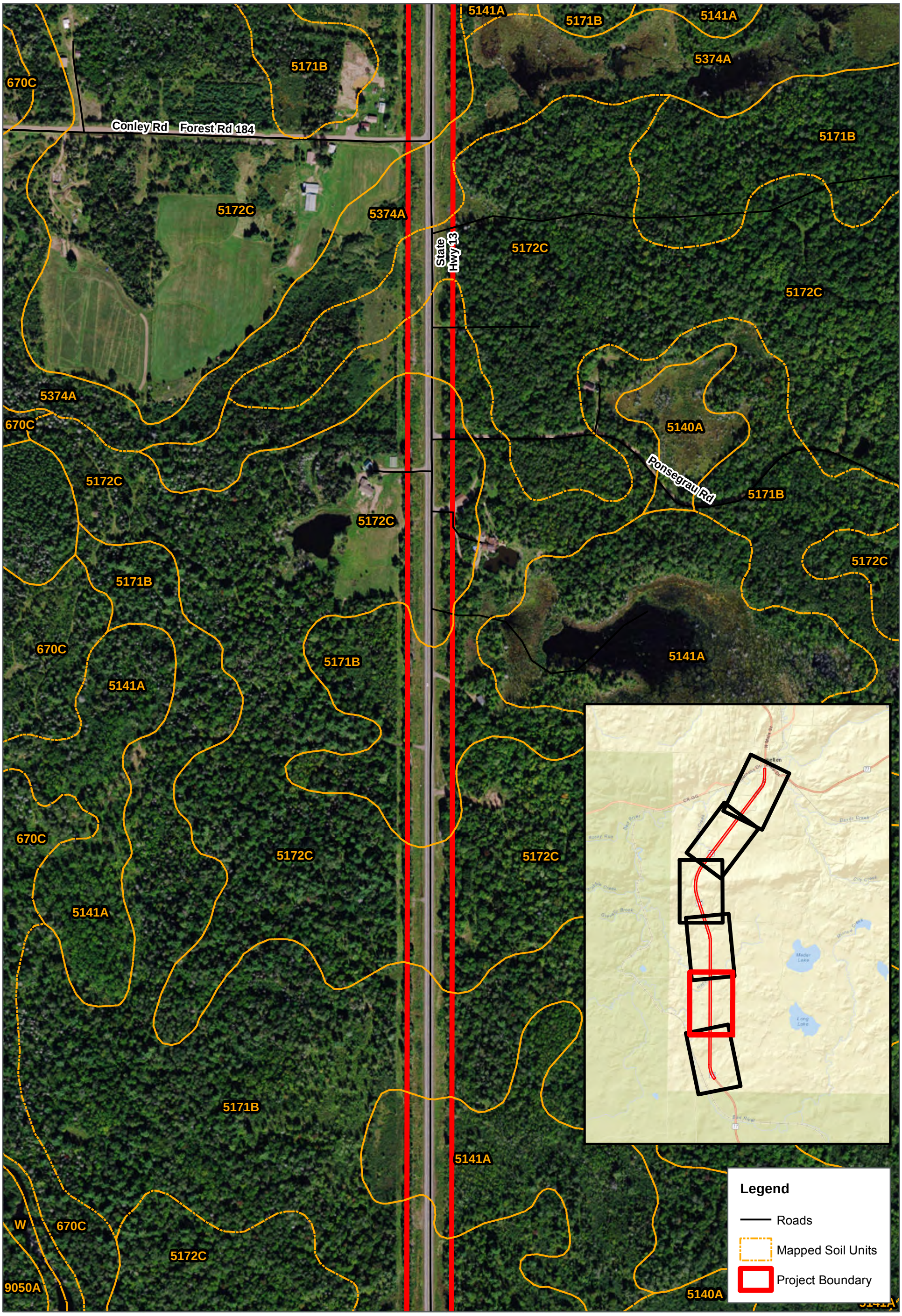
STH 13: Cayuga Rd - Jefferson Ave
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0 250 500 Feet

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Mapped Soil Units

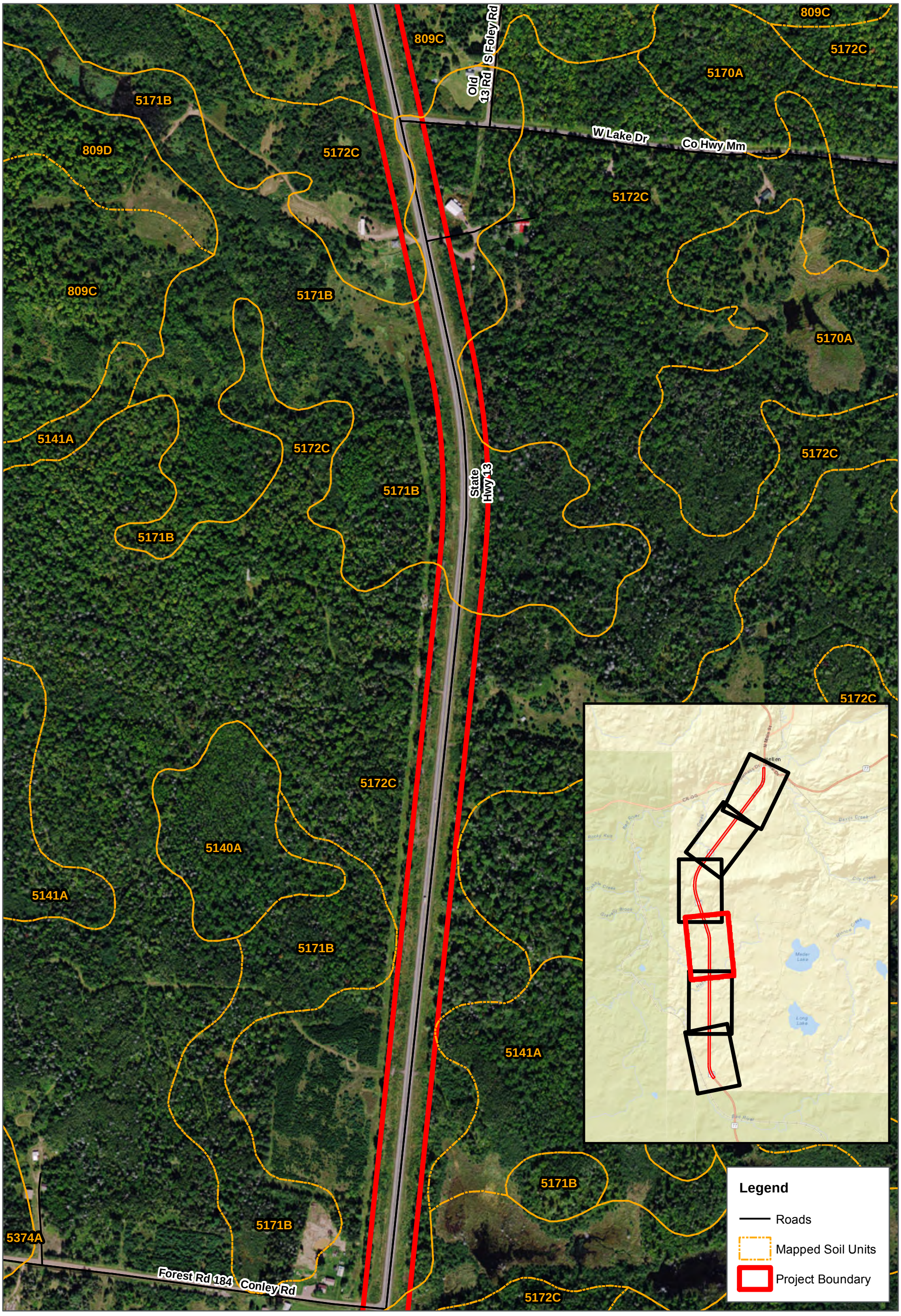
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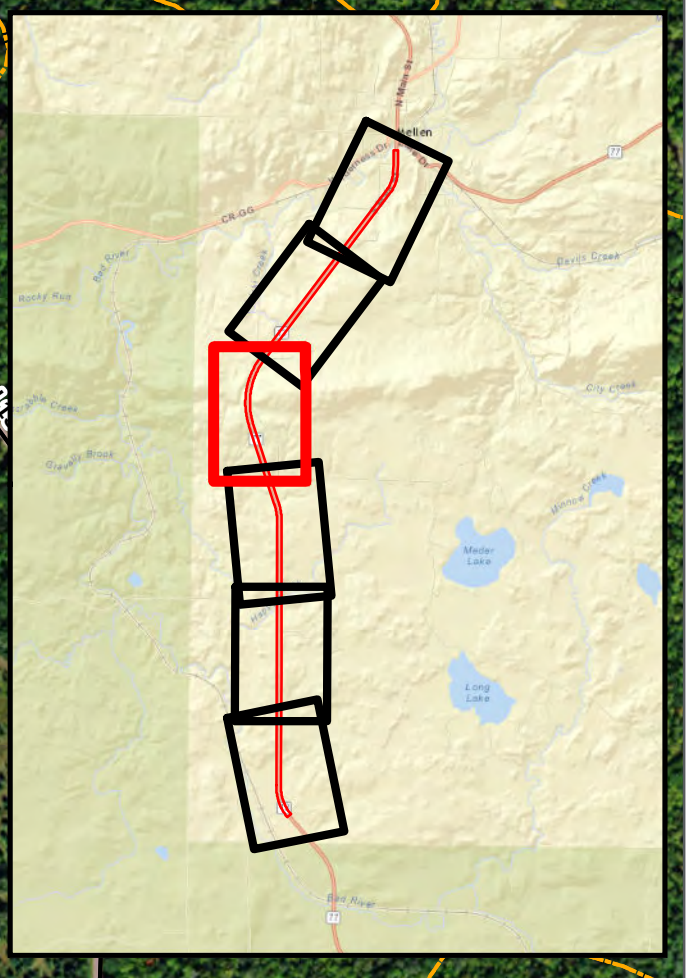
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GIS Analyst: Alex Cohen

809C
5172C
Old 13 Rd
N Foley Rd
5172C
670C
670C
Tafelski Rd
5351C
809D
5351D
5171B
5351D
5351D
5351C
5171B
809D
5351D
5351C
5351B
State Hwy 13
5170A
809C
809D
S Foley Rd
Old 13
809C
5171B
5170A
5172C
5172C
5171B
809D
5171B
5172
Co Hwy Mm
W Lake



Legend

- Roads
- Mapped Soil Units
- Project Boundary

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Project No. J157001M17

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Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

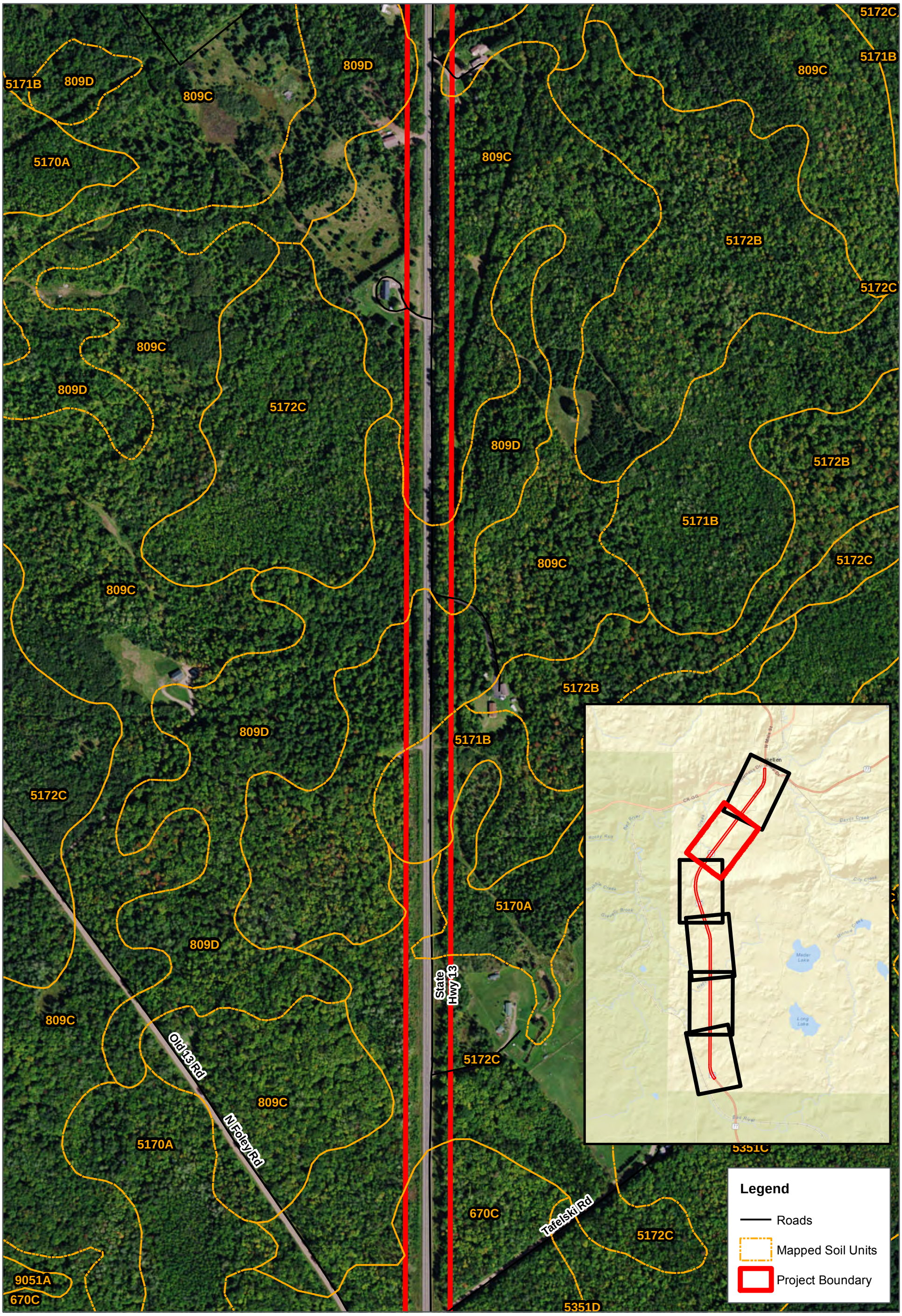
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Mapped Soil Units

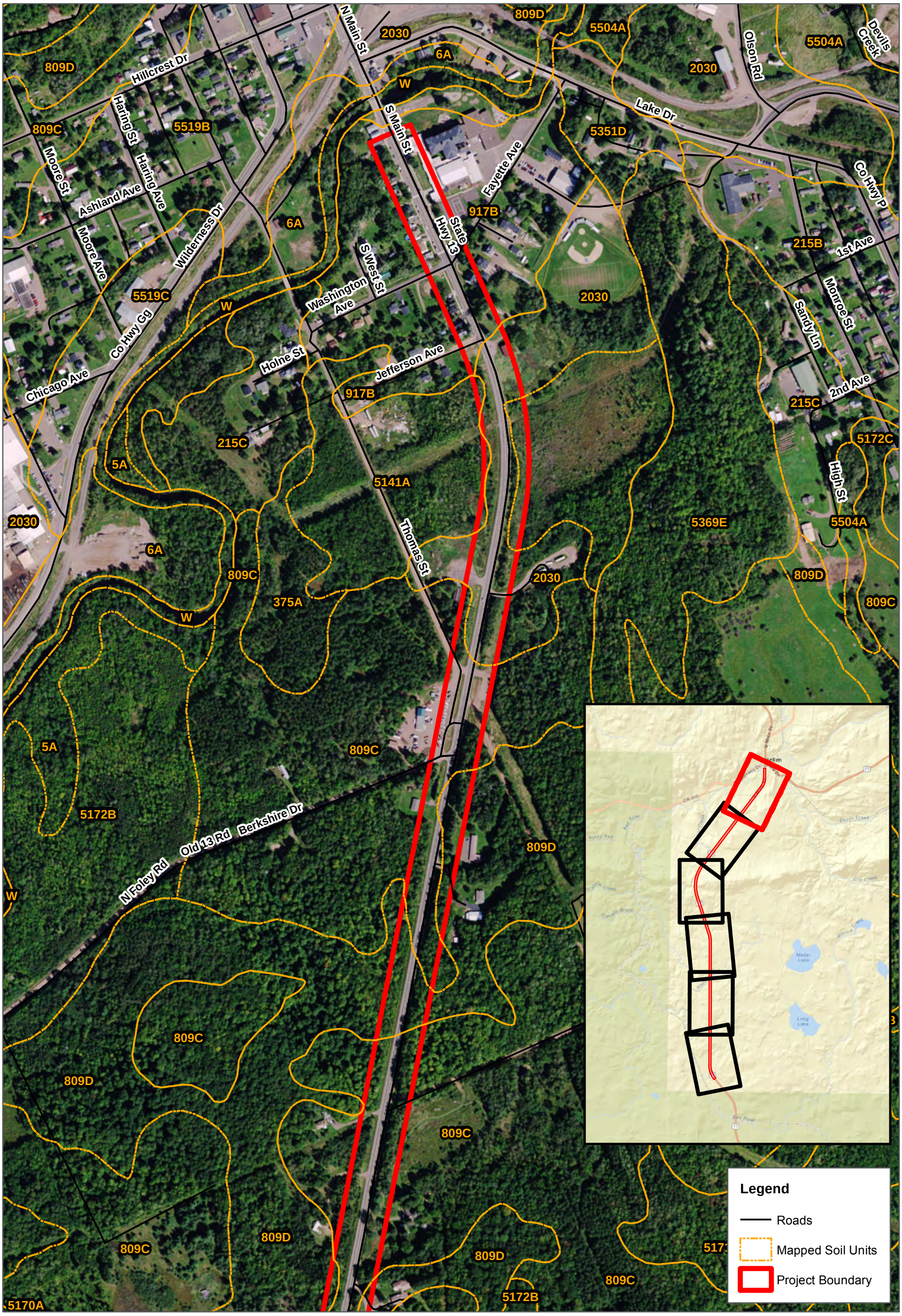
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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GIS Analyst: Alex Cohen



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Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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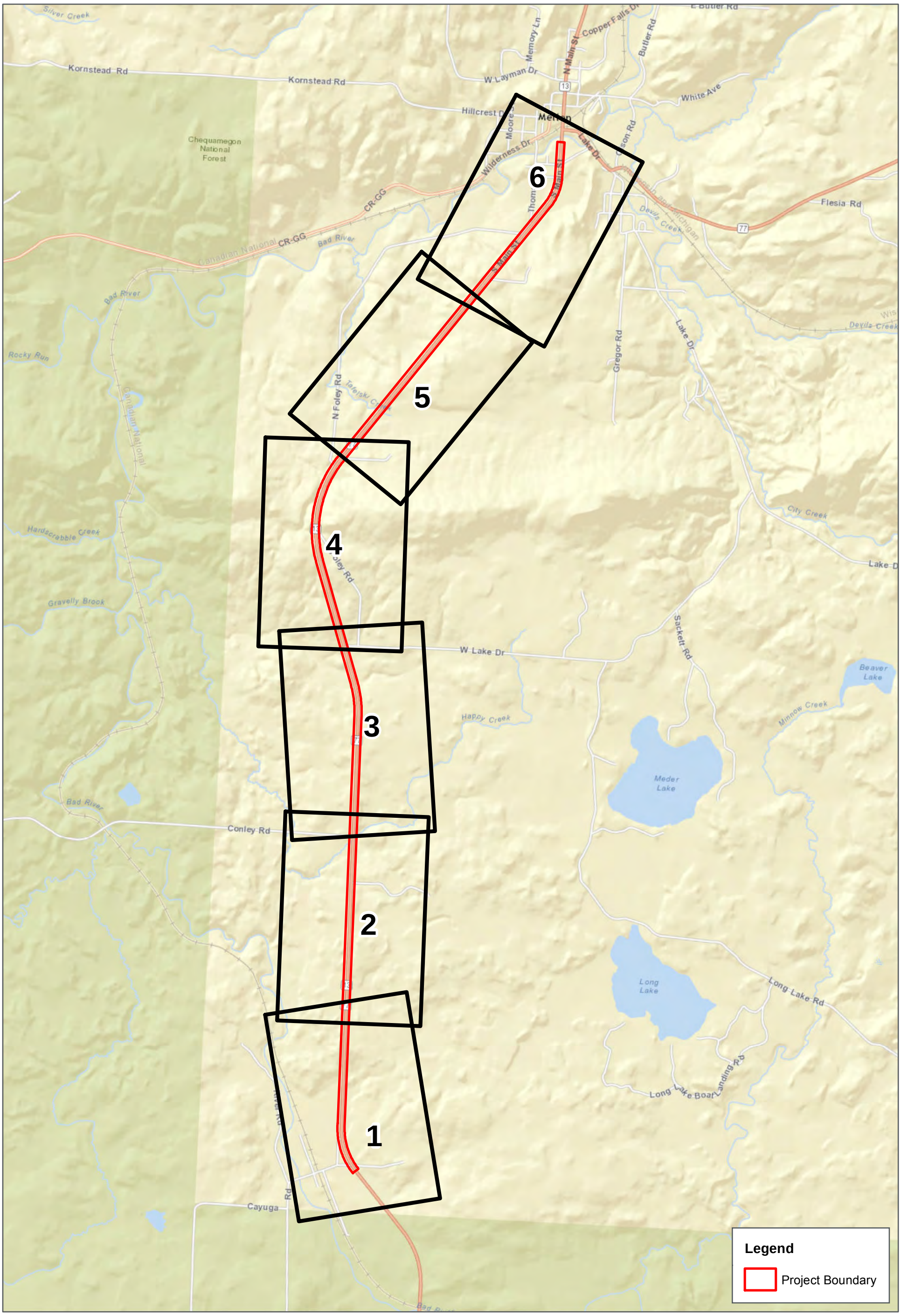
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GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 4

Wisconsin Wetlands Inventory



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Wisconsin Wetland Inventory

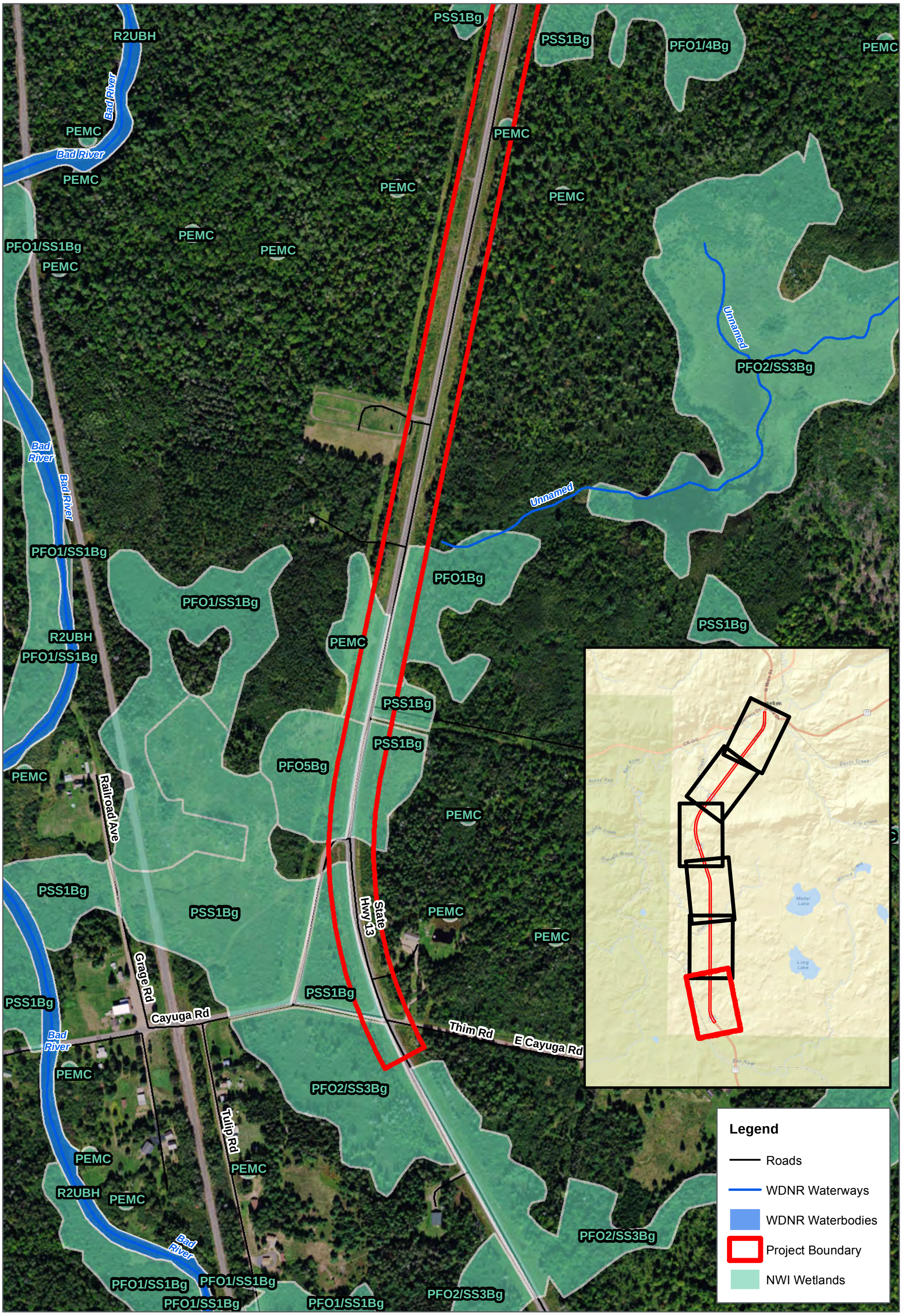
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,500 3,000 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Project No. J157001M17

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Wisconsin Wetland Inventory

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

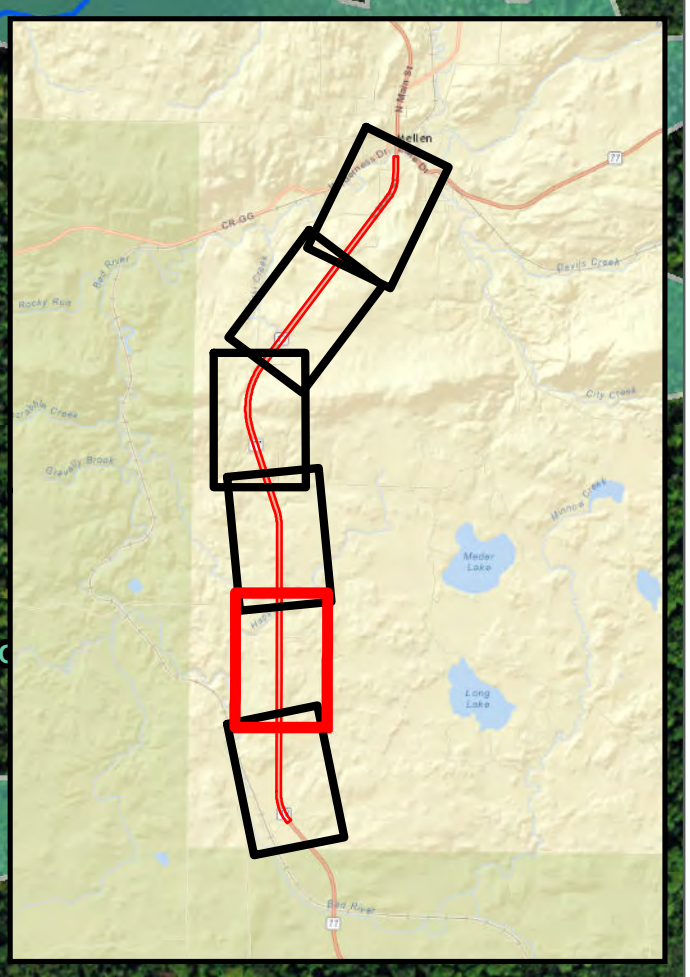
0 250 500 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PEMC
PEMC
PEMC
PEMC
Happy Creek
Conley Rd
Forest Rd 184
Happy Creek
PEMC
Happy Creek
PEMC
State Hwy 13
PUBH
PFO1/SS1Bg
Unnamed
PFO2/EMBg
PEMC
PFO2Bg
Unnamed
Ponsegrau Rd
PSS1/EMBg
PEMC
PEMC
PEMC
Unnamed
NA
PEMC
PEMC
PEMC
PEMC
PFO1Bg
PEMC
PEMC
PSS1Bg
PSS1Bg
PFO1/4Bg
PEMC
Bad River
PEMC
Bad River
R2UBH
PEMC



Legend

- Roads
- WDNR Waterways
- WDNR Waterbodies
- Project Boundary
- NWI Wetlands

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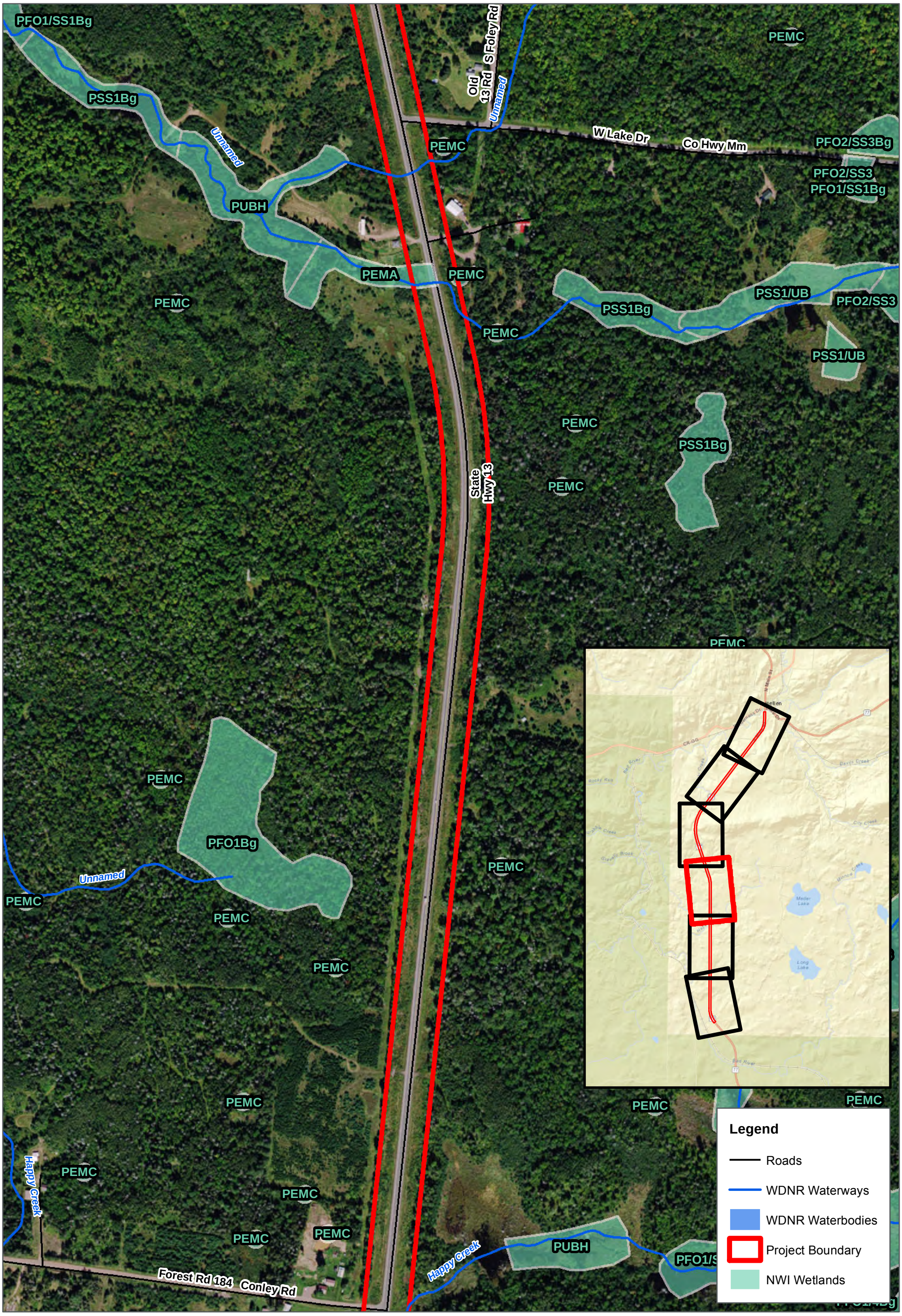
Wisconsin Wetland Inventory

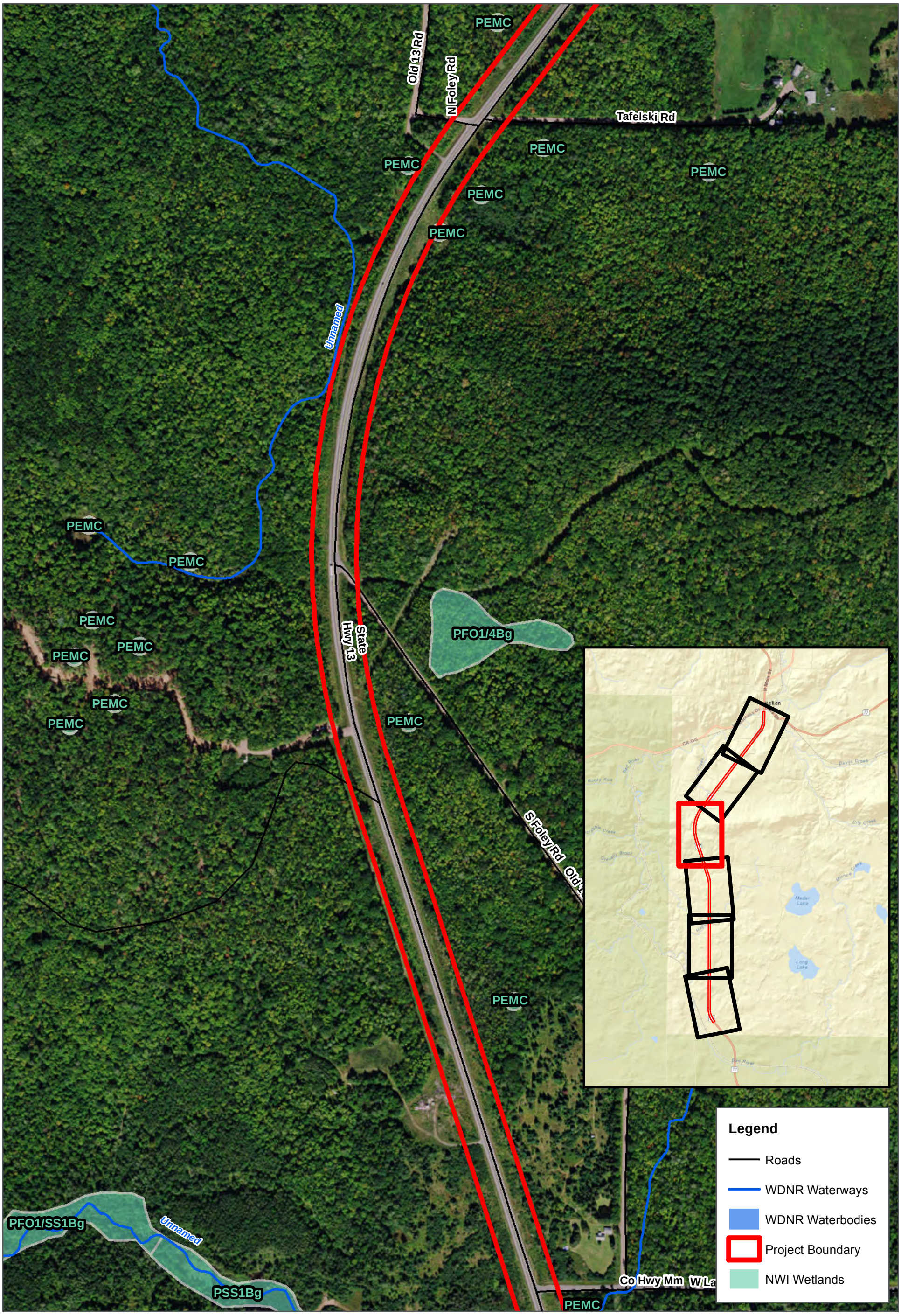
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen


PFO1/SS1Bg
PSS1Bg
Unnamed
PUBH
PEMA
PEMC
PEMC
PEMC


PEMC
Old 13 Rd
N Foley Rd
Tafelski Rd
PEMC
PEMC
PEMC
PEMC
Unnamed
PEMC
PEMC
PEMC
PEMC
PEMC
State Hwy 13
PFO1/4Bg
S Foley Rd
PEMC
PFO1/SS1Bg
Unnamed
PSS1Bg
PEMC
Co Hwy Mm
Legend
Roads
WDNR Waterways
WDNR Waterbodies
Project Boundary
NWI Wetlands
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Wisconsin Wetland Inventory
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin
0
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500 Feet
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PEMC
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PEMC
PEMC
PFO1/4Bg
PFO1Bg
PFO1/4Bg
PEMC
PFO1/4Bg
PEMC
PEMC
PEMC
Tafelski Creek
Unnamed
Old 13 Rd
N Foley Rd
PEMC
PEMC
PEMC
PEMC
PFO1Bg
PUBGh
State Hwy 13
PEMC
Tafelski Rd
PEMC
PEMC
CR GG
Devils Creek
Red River
Rocky Run
Gravelly Brook
City Creek
Monroe Creek
Medar Lake
Long Lake

Legend

- Roads
- WDNR Waterways
- WDNR Waterbodies
- Project Boundary
- NWI Wetlands

N E S W

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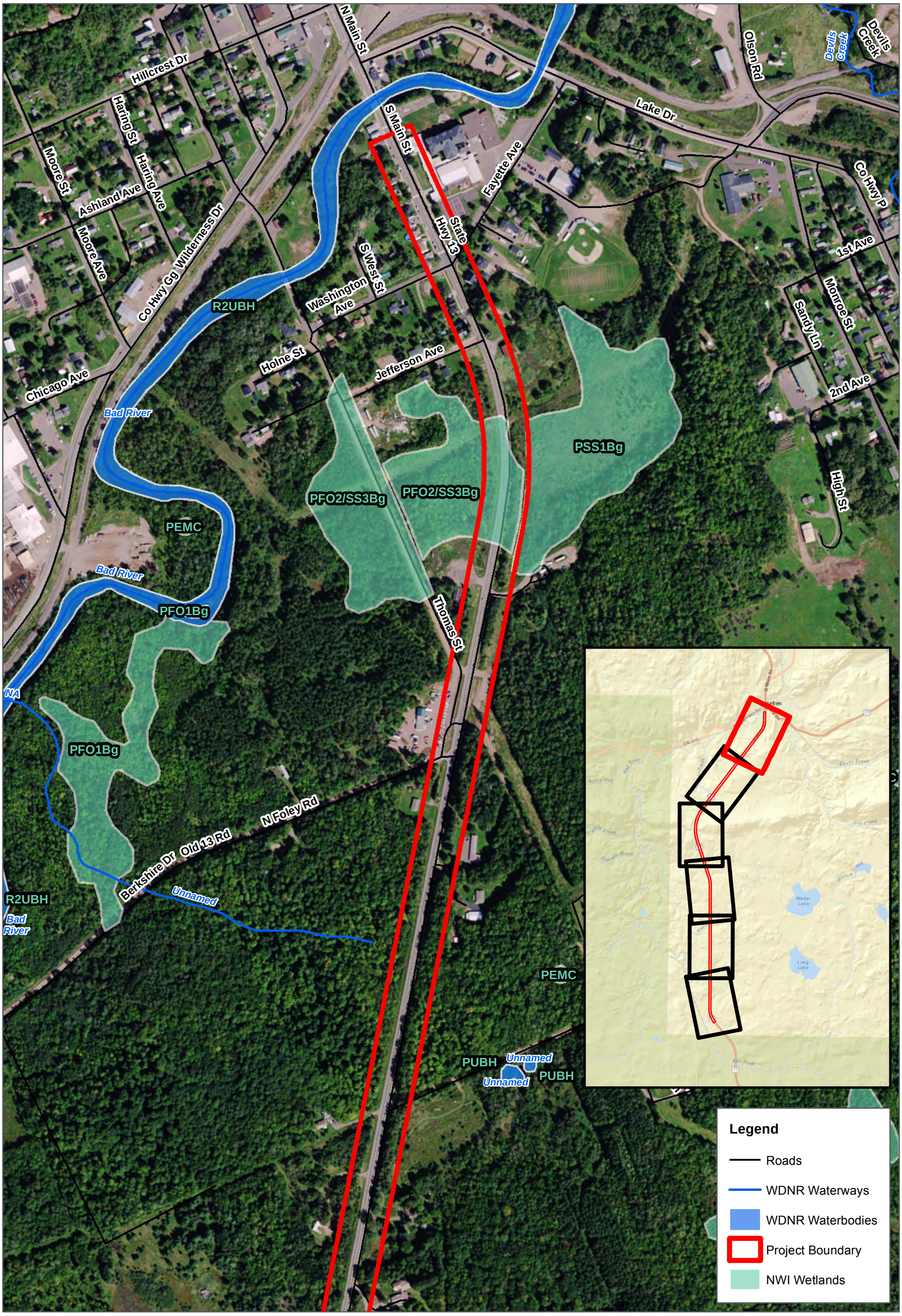
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

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Wisconsin Wetland Inventory

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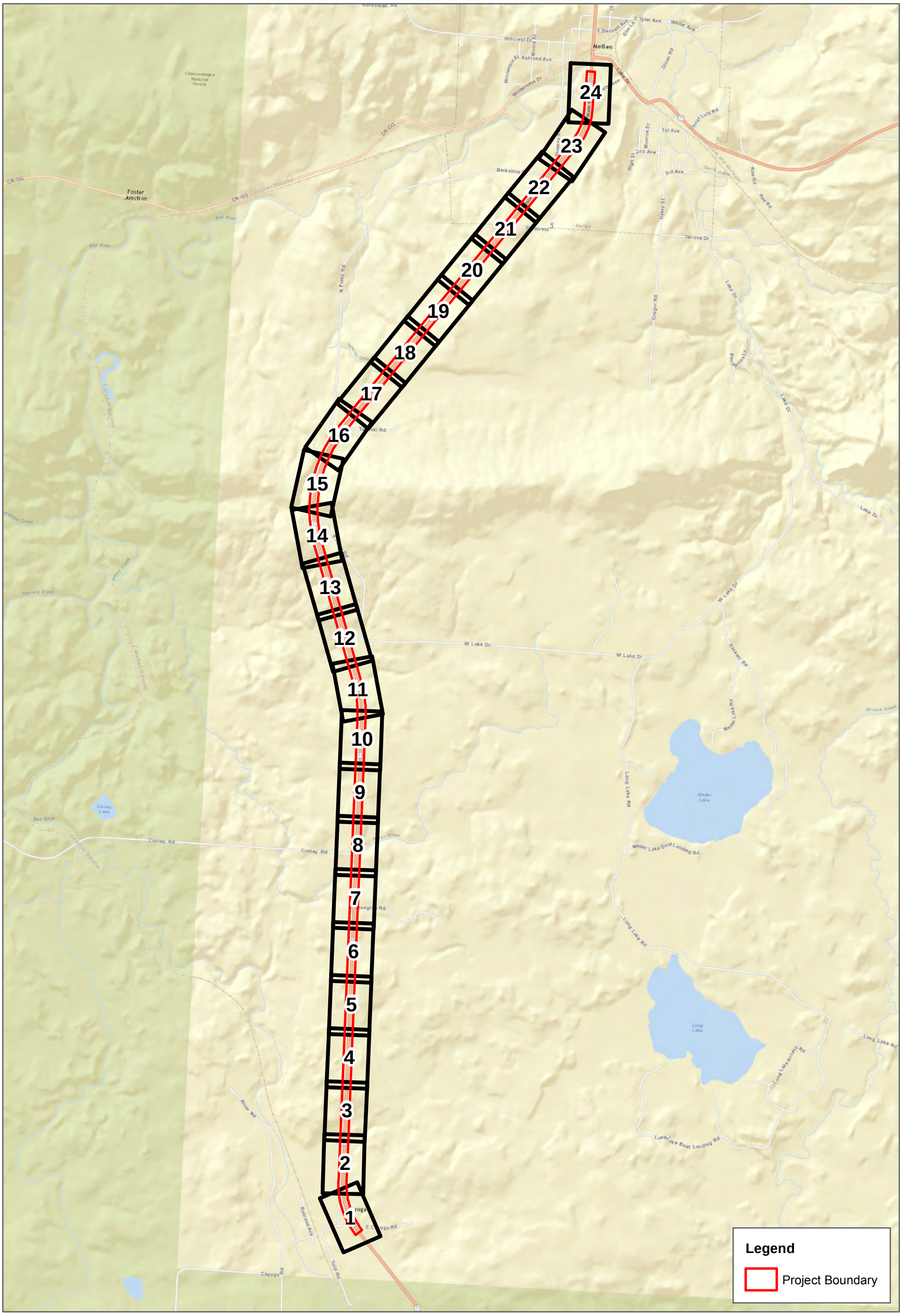
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GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 5

Delineated Wetlands and Waterways



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Delineated Wetlands and Waterways

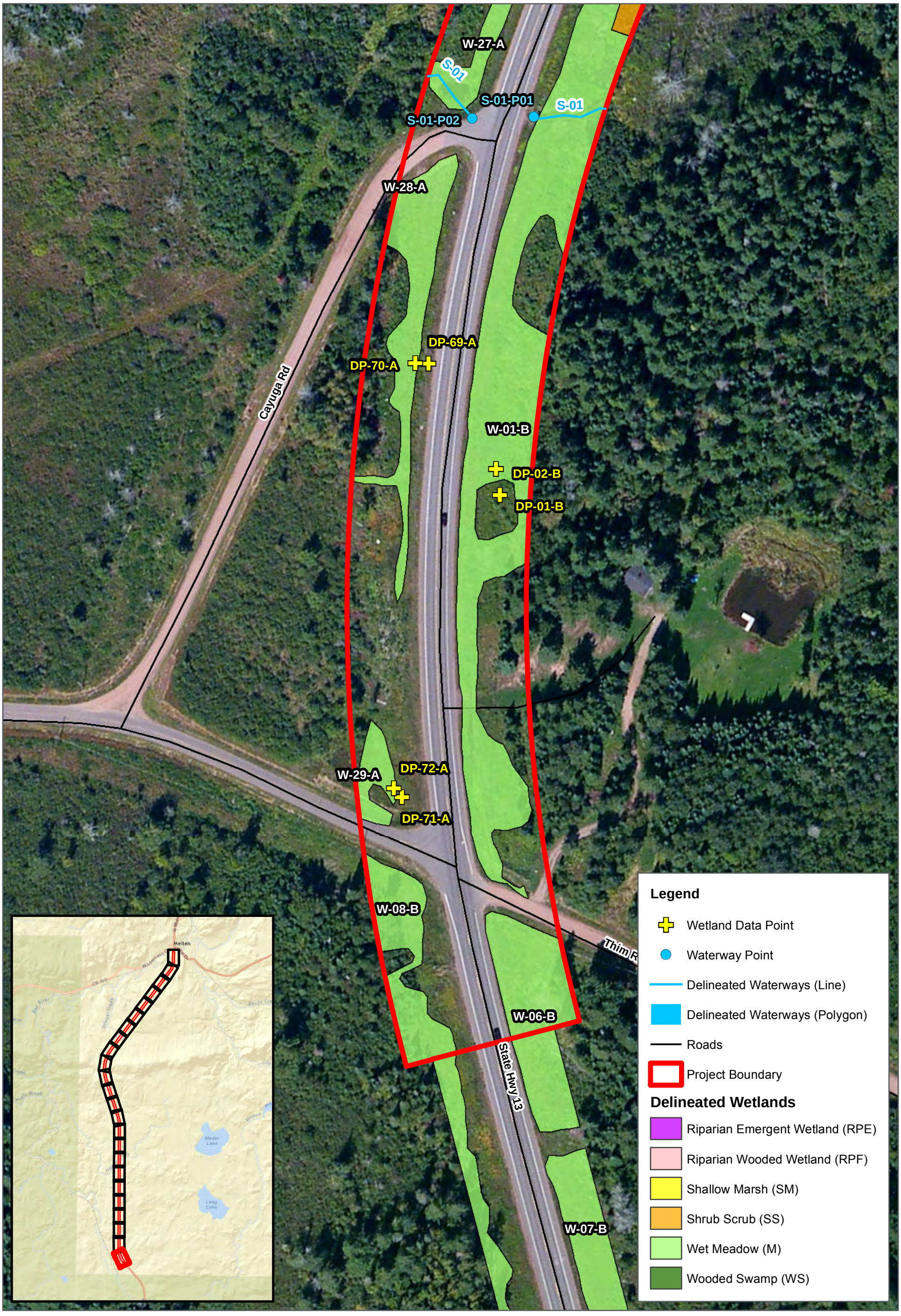
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Ashland County, Wisconsin

0 1,250 2,500 Feet

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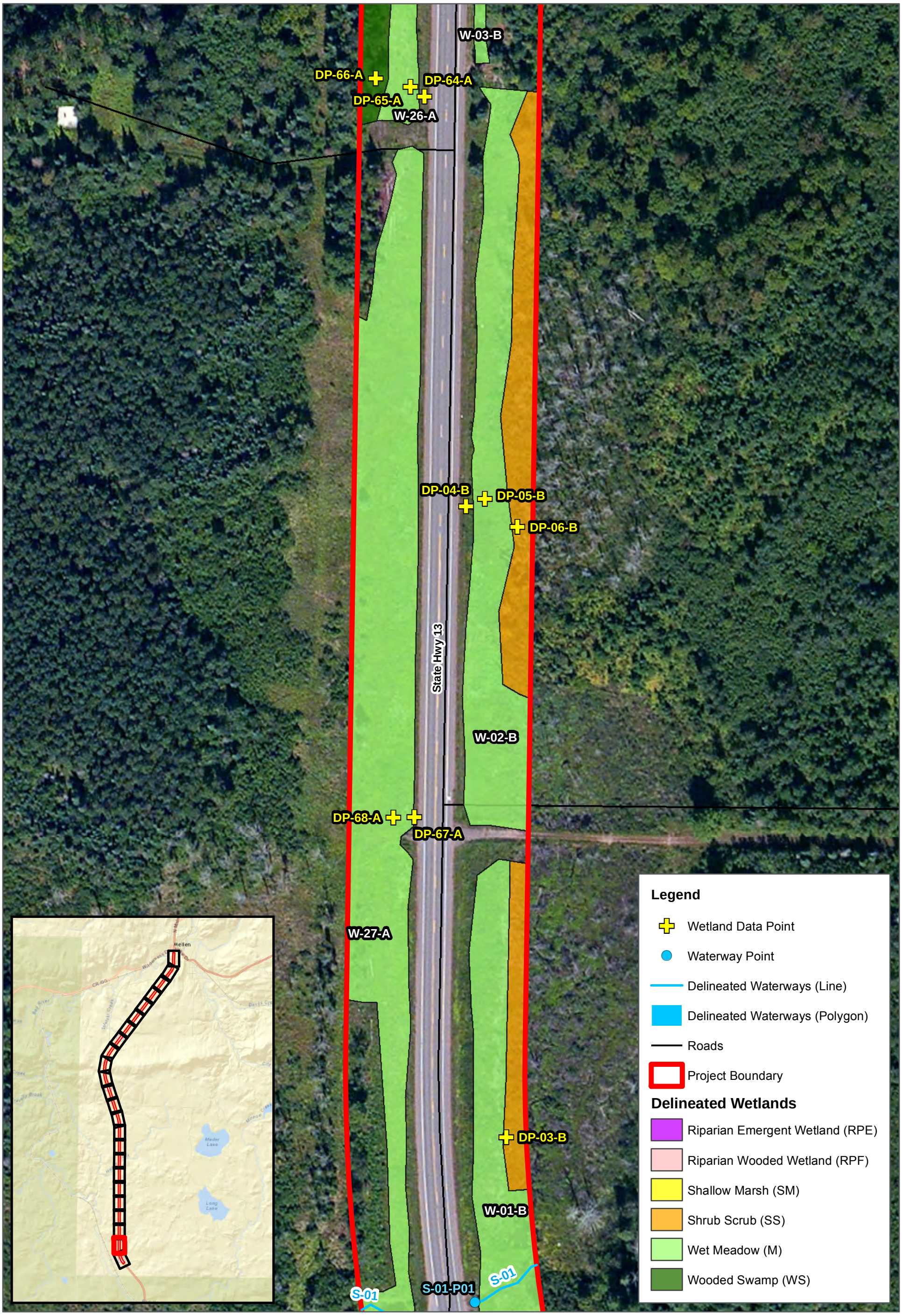
Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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GIS Analyst: Alex Cohen



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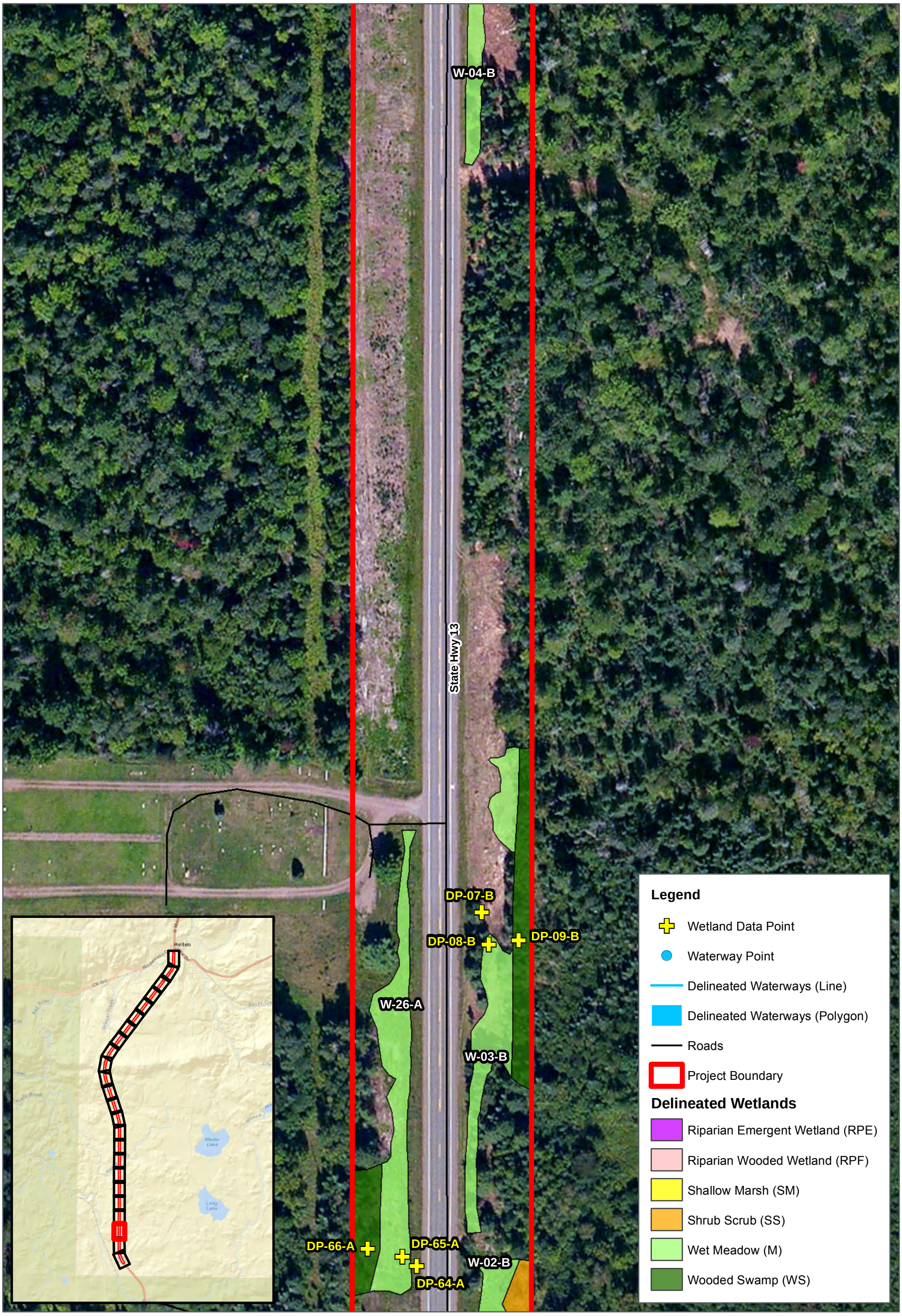
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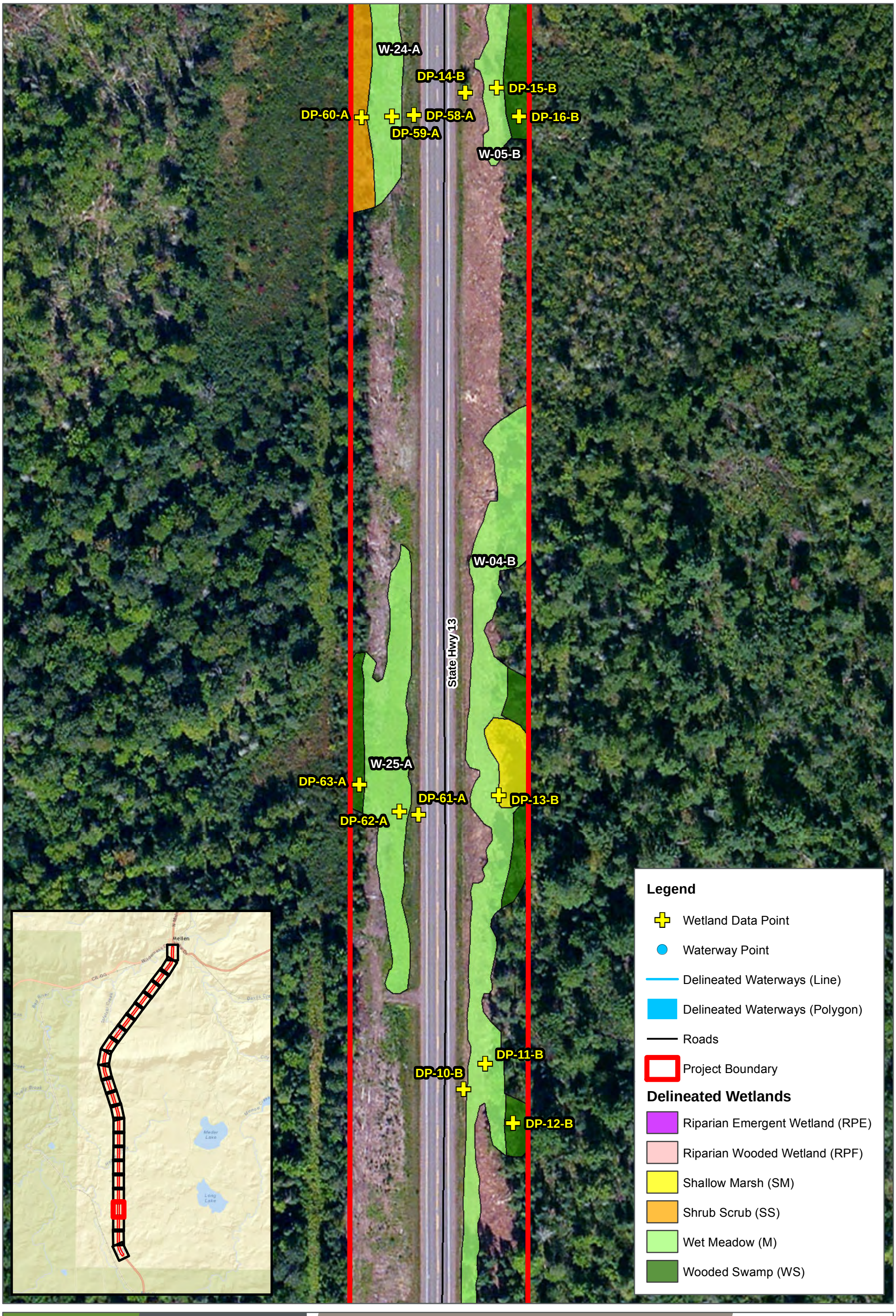
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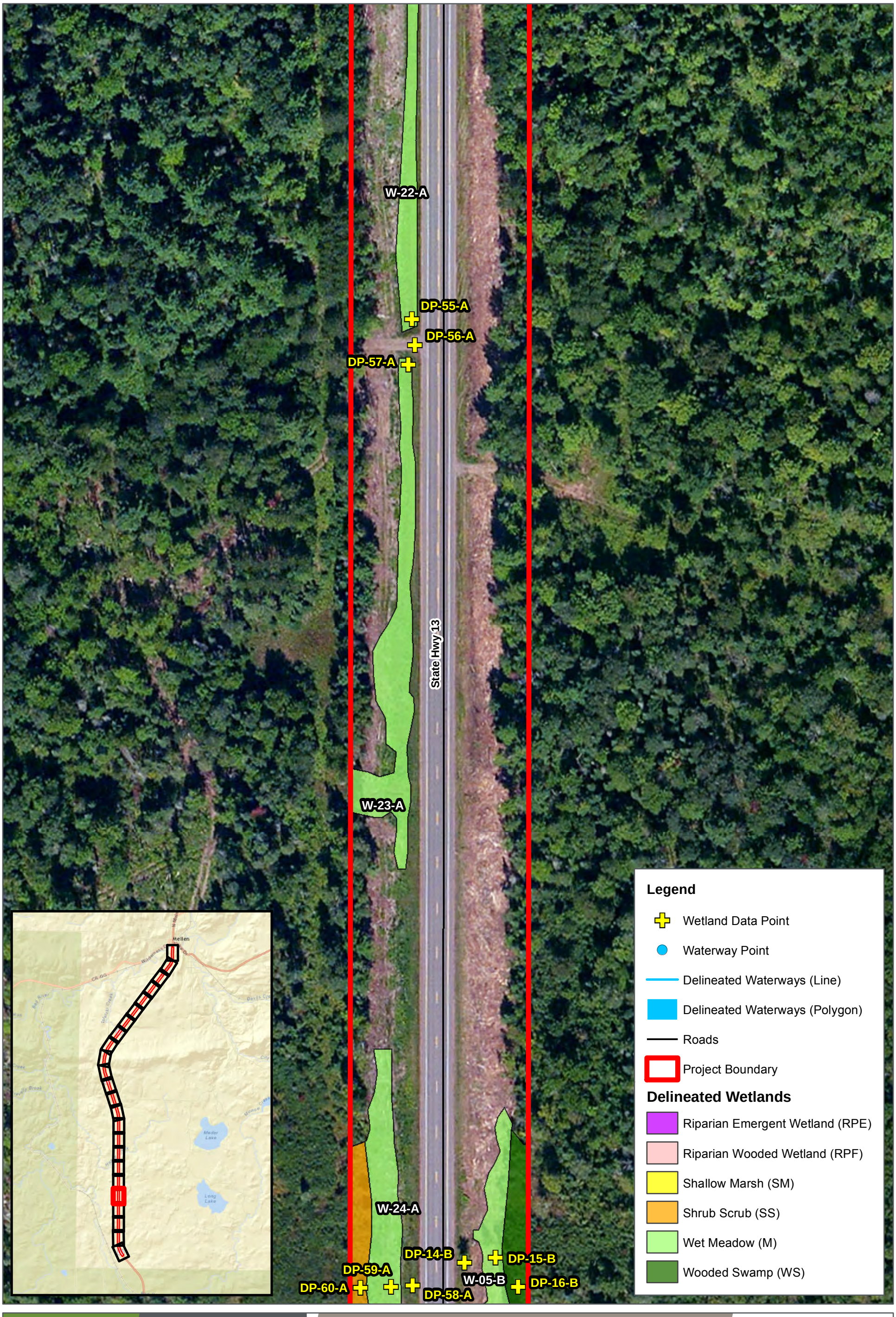
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Delineated Wetlands and Waterways

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

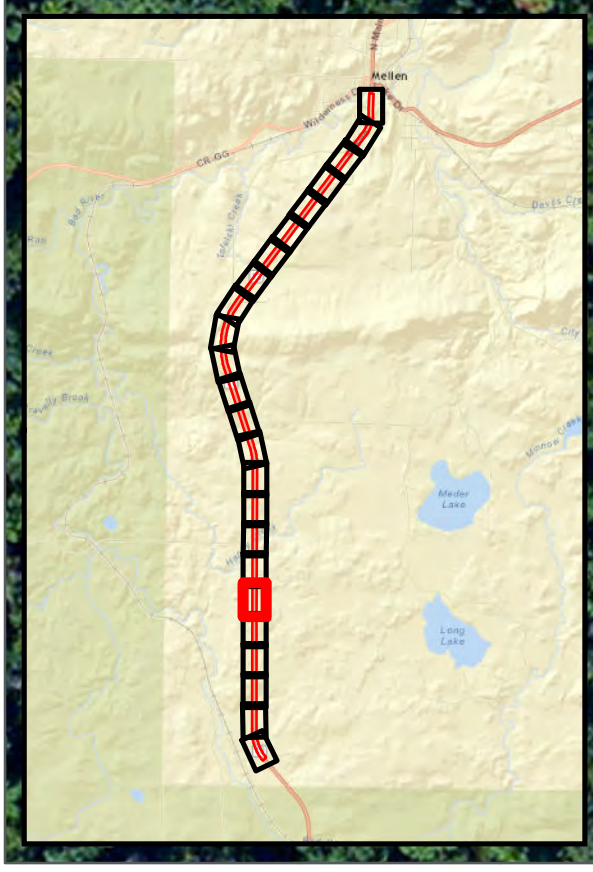
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GIS Analyst: Alex Cohen

State Hwy 13

W-06-B
DP-17-B
DP-18-B
W-21-A
DP-53-A
DP-54-A
W-22-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

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Delineated Wetlands and Waterways

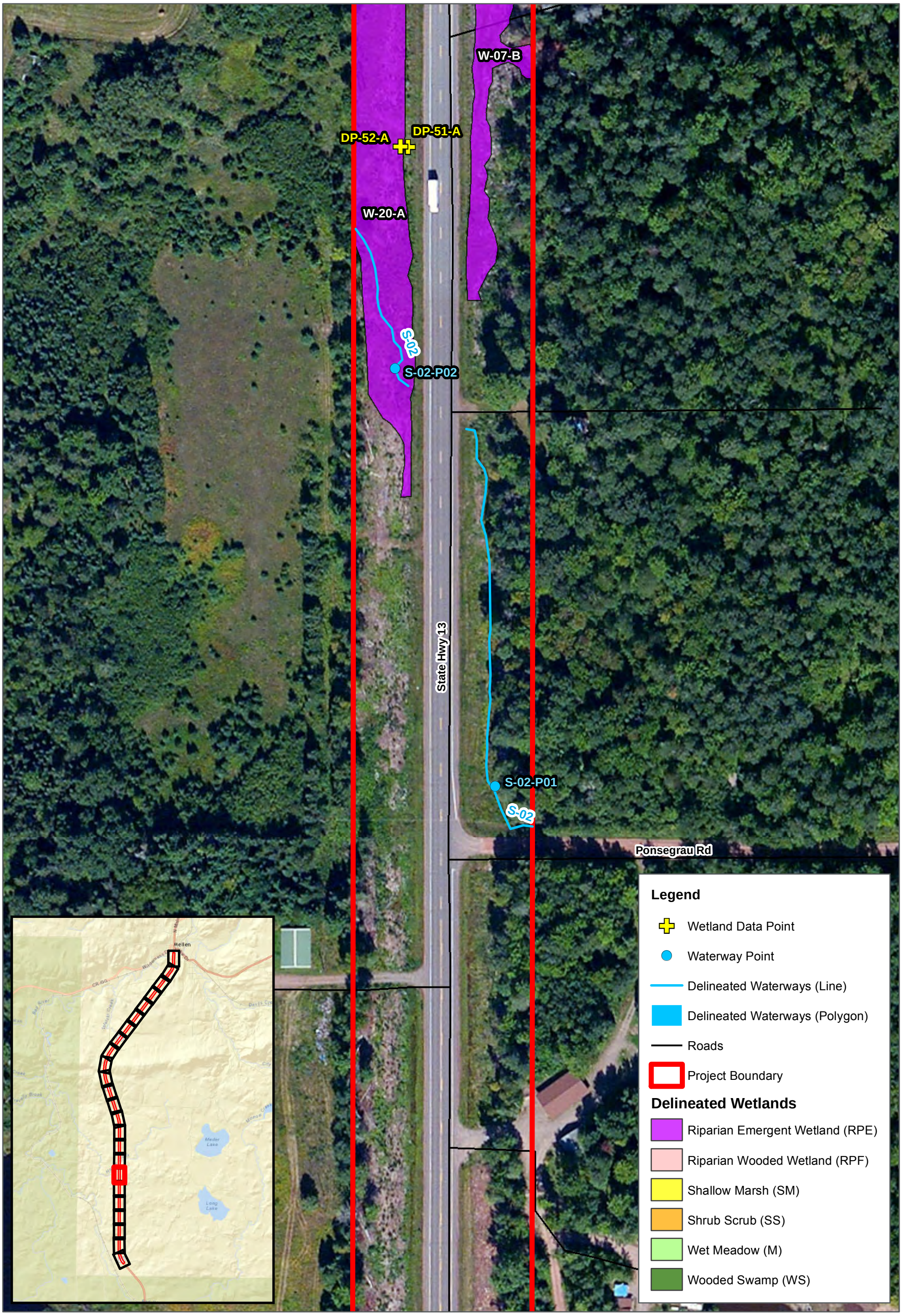
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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Project No. J157001M17

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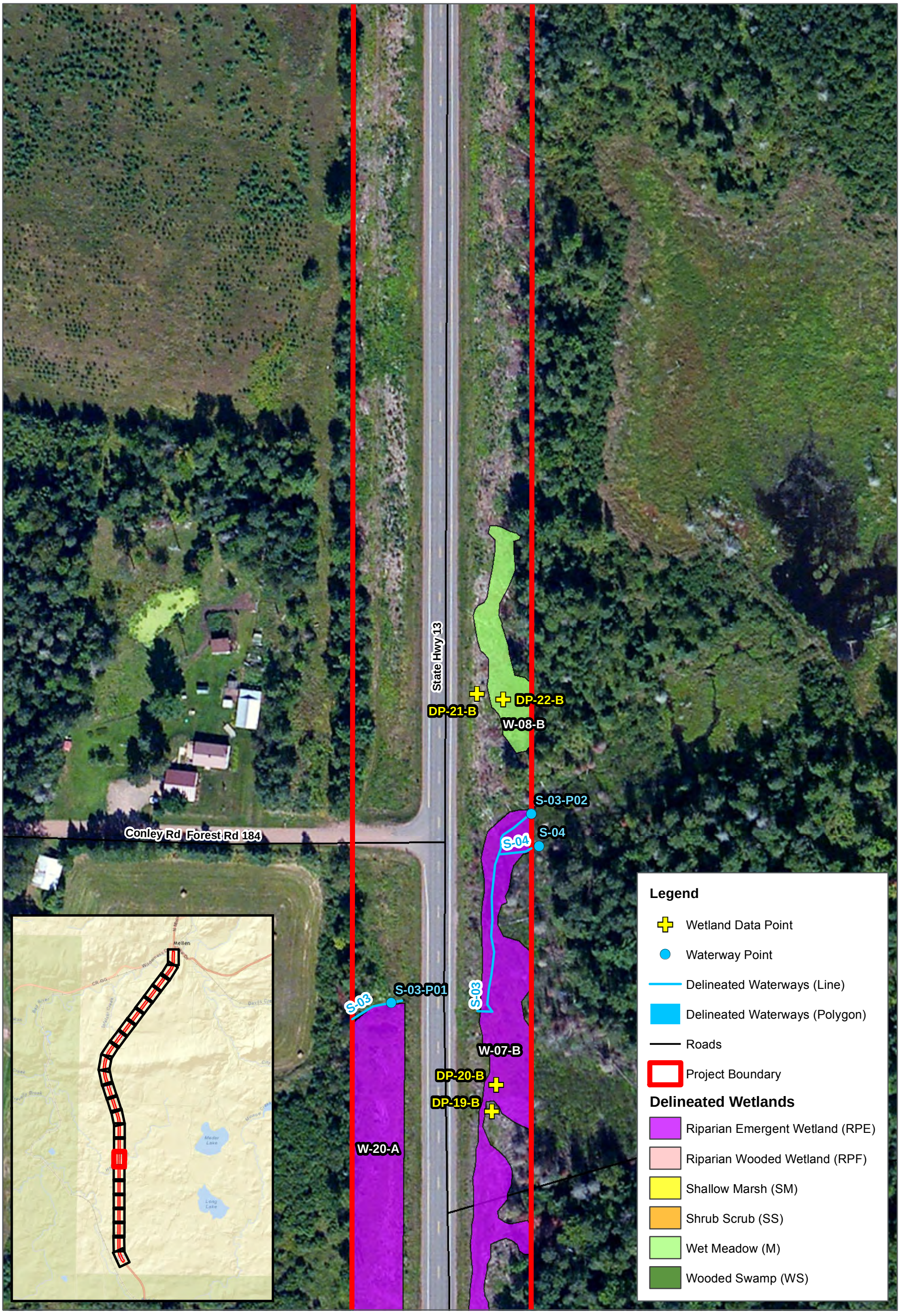
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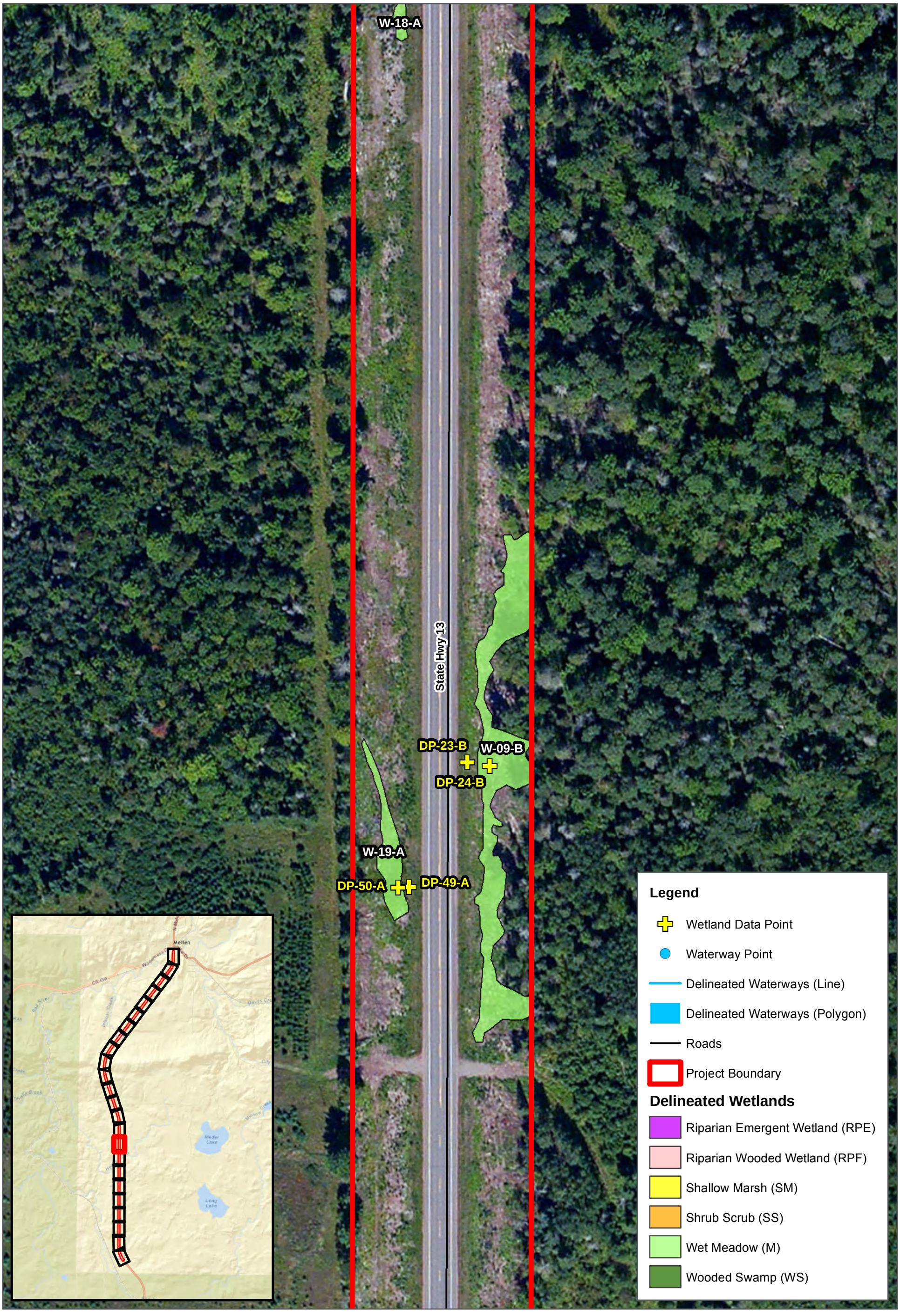
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GIS Analyst: Alex Cohen

W-12-B
W-16-A
DP-29-B
DP-30-B
DP-45-A
DP-44-A
DP-31-B
W-17-A
State Hwy 13
DP-27-B
DP-28-B
W-18-A
W-11-B
DP-46-A
DP-48-A
DP-47-A
DP-26-B
DP-25-B
W-10-B
Mellen
CR GG
Meder Lake
Long Lake

Legend

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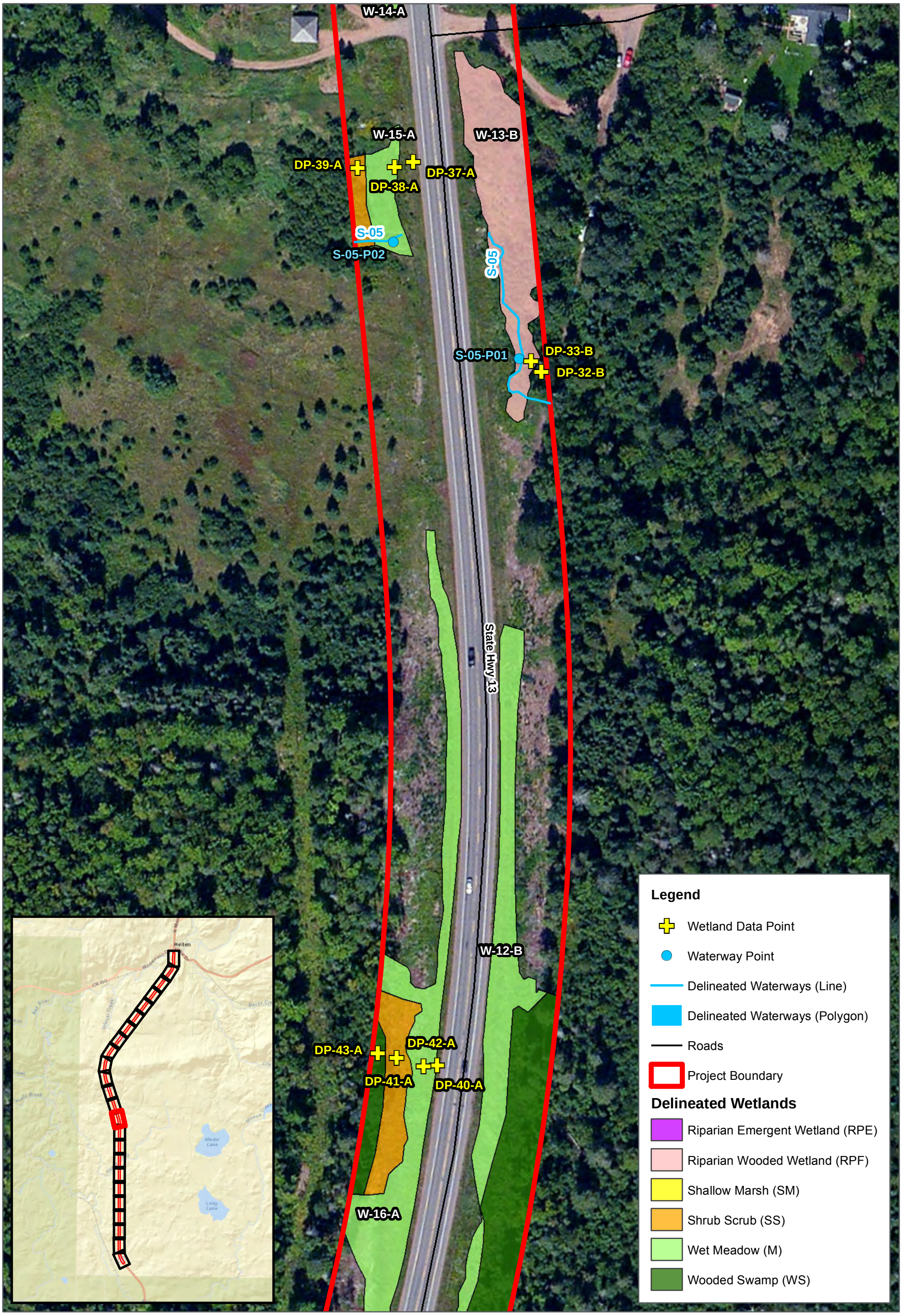
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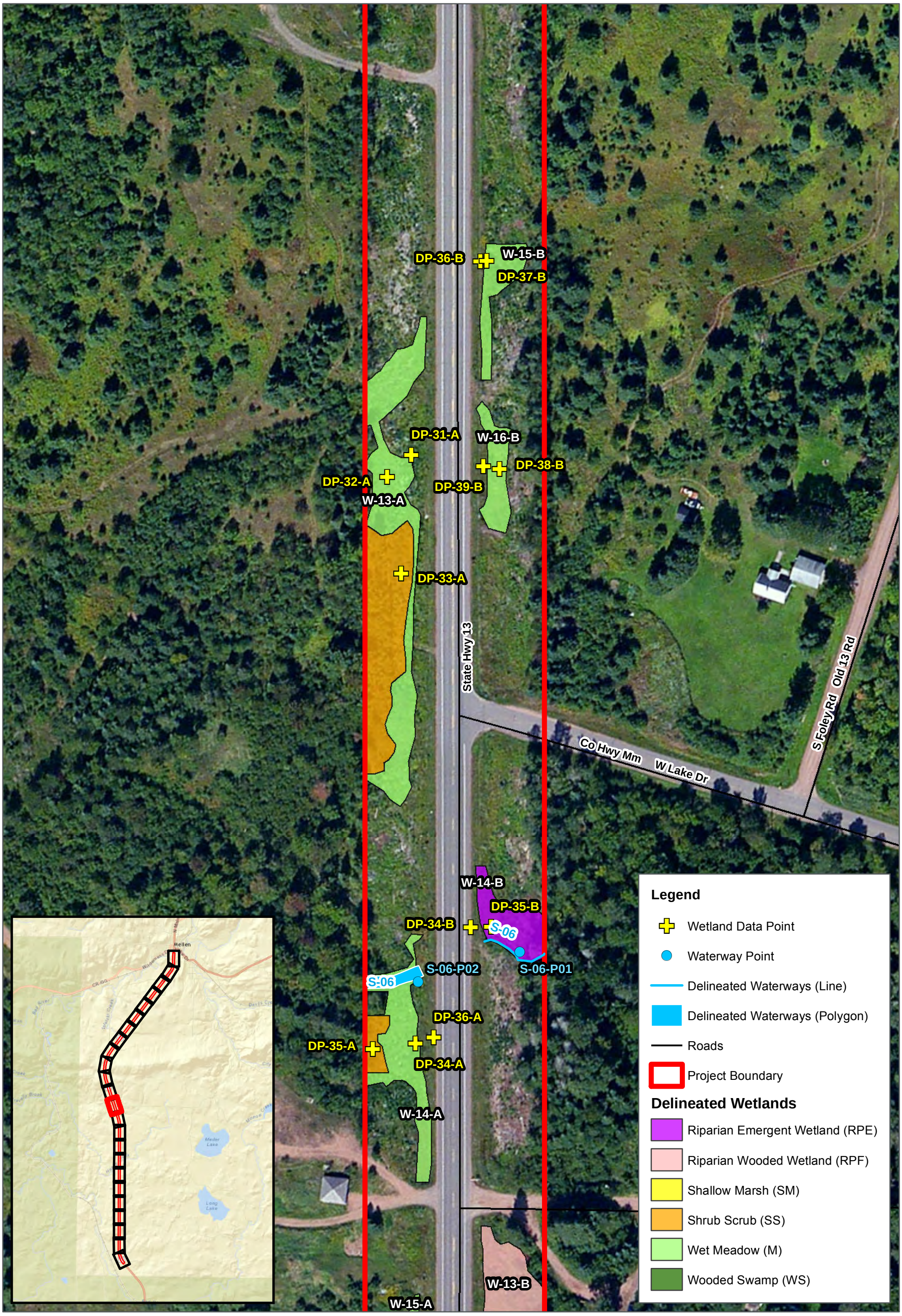
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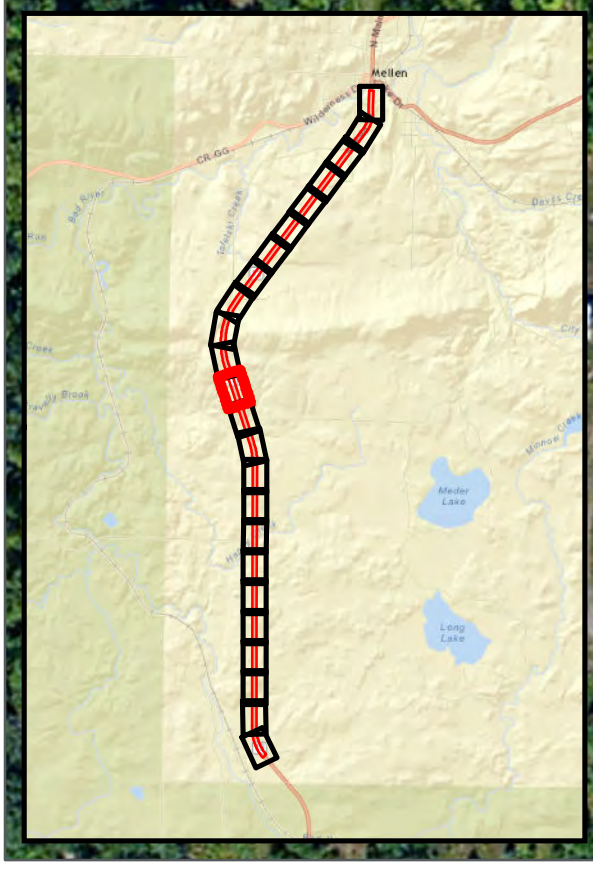
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GIS Analyst: Alex Cohen

W-11-A
W-18-B
W-17-B
DP-40-B
DP-41-B
DP-42-B
DP-30-A
State Hwy 13
W-12-A
DP-29-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
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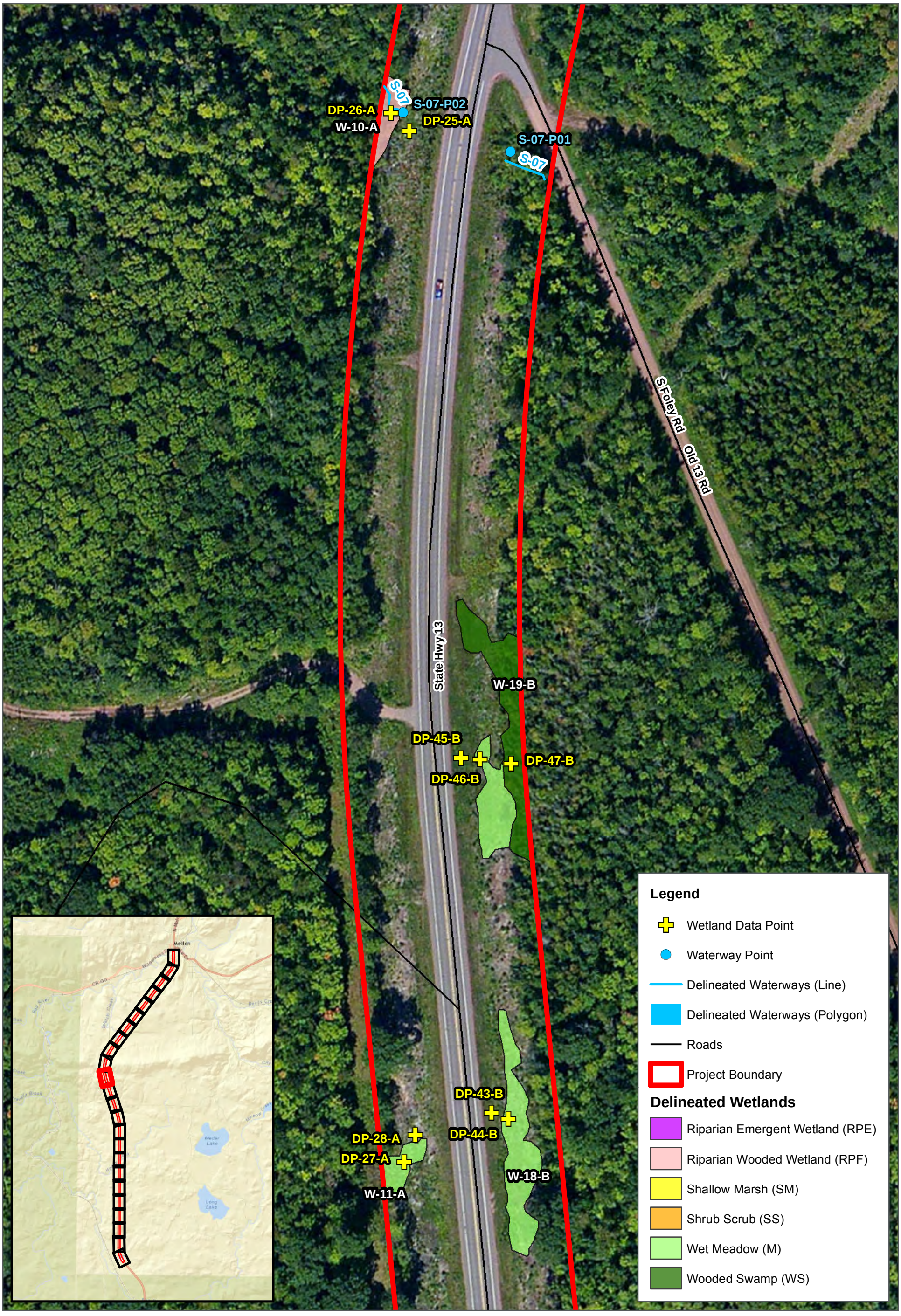
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GIS Analyst: Alex Cohen

S-08

State Hwy 13

DP-24-A

W-10-A

DP-26-A

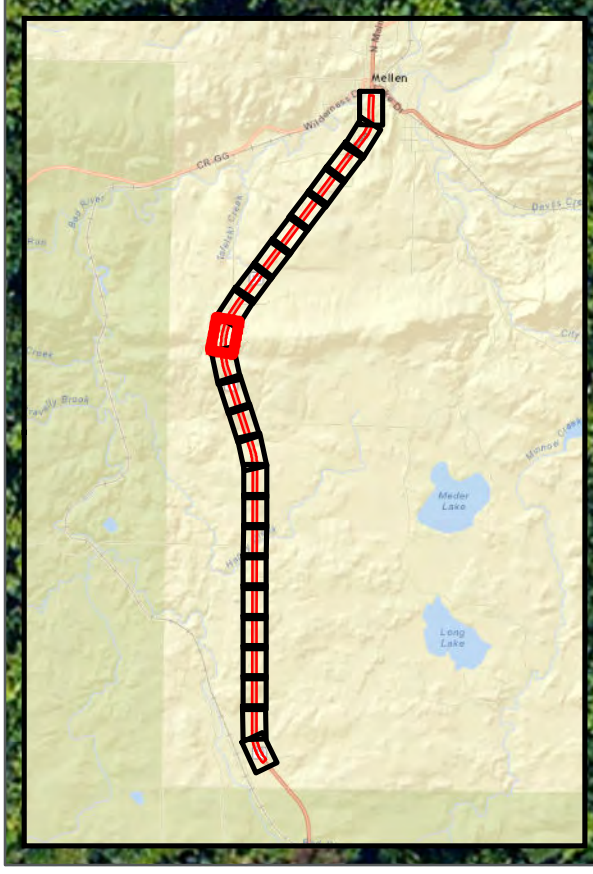
S-07-P02

S-07-P01

S-07

S Foley Rd

Old 13 Rd



Legend

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Ashland County, Wisconsin

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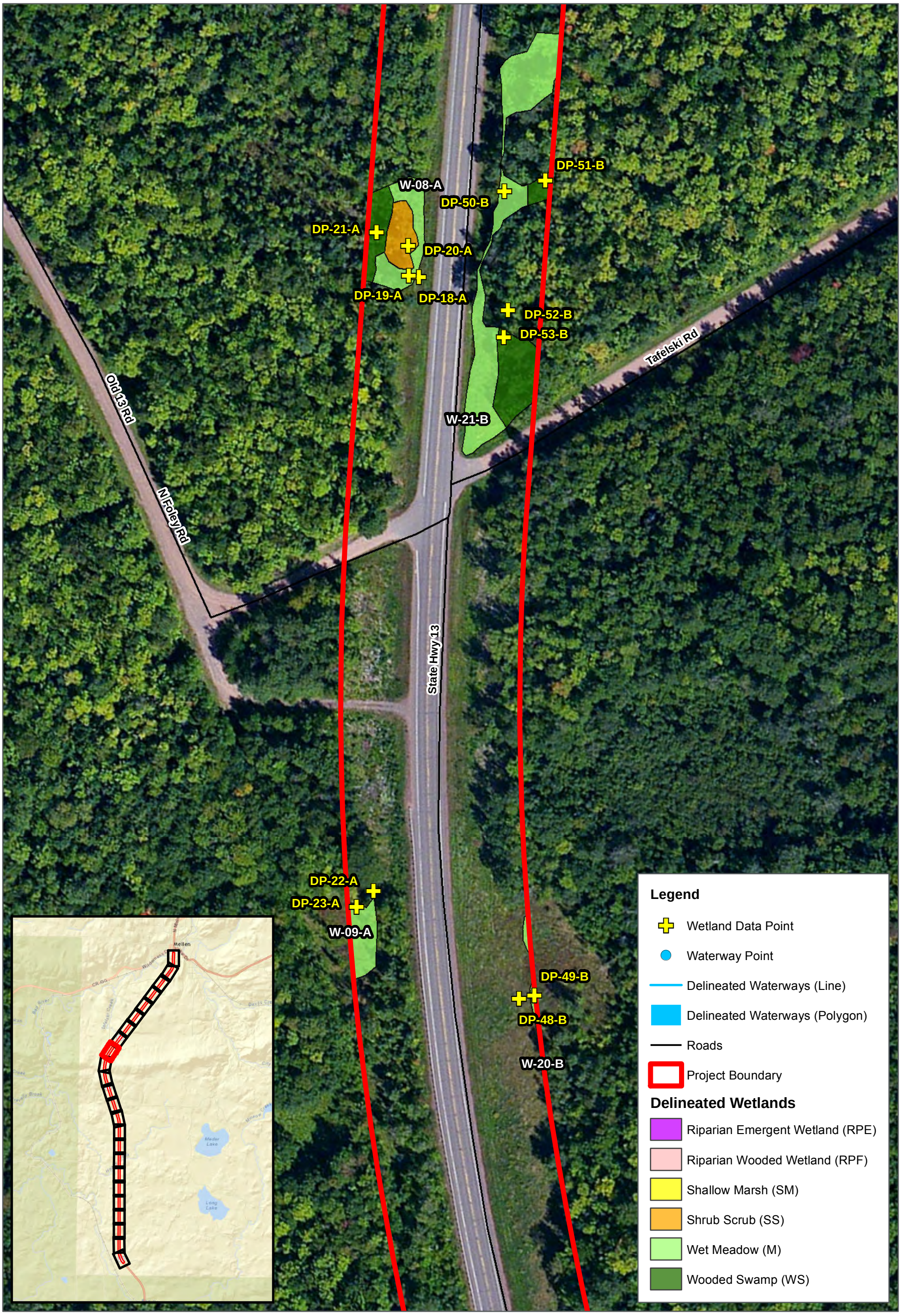
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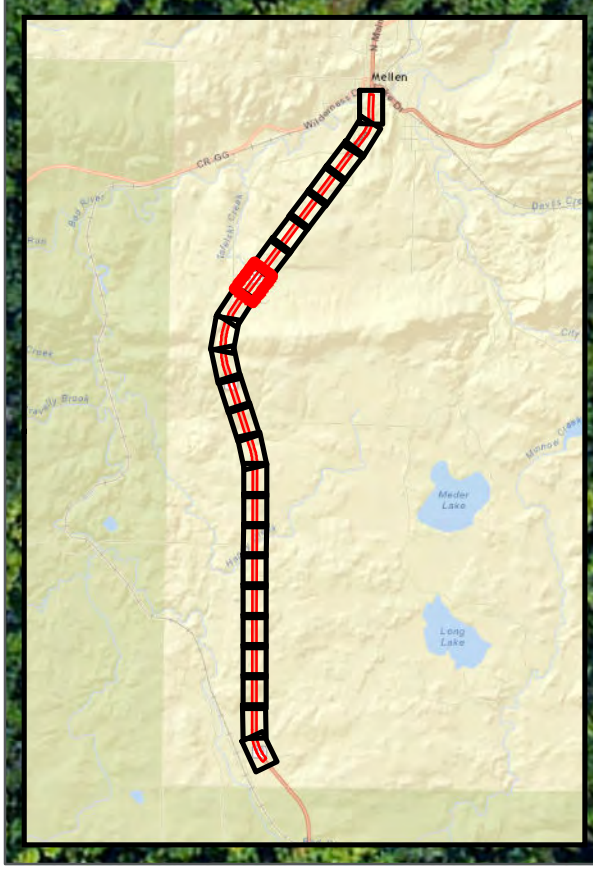
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GIS Analyst: Alex Cohen

DP-09-A
DP-10-A
W-04-A
S-09-P02
S-09
S-09-P01
S-09
DP-58-B
S-10
S-10
DP-56-B
DP-57-B
W-05-A
DP-12-A
DP-11-A
W-23-B
State Hwy 13
DP-14-A
DP-13-A
W-06-A
W-07-A
DP-16-A
DP-17-A
W-22-B
DP-15-A
DP-54-B
DP-55-B
W-21-B



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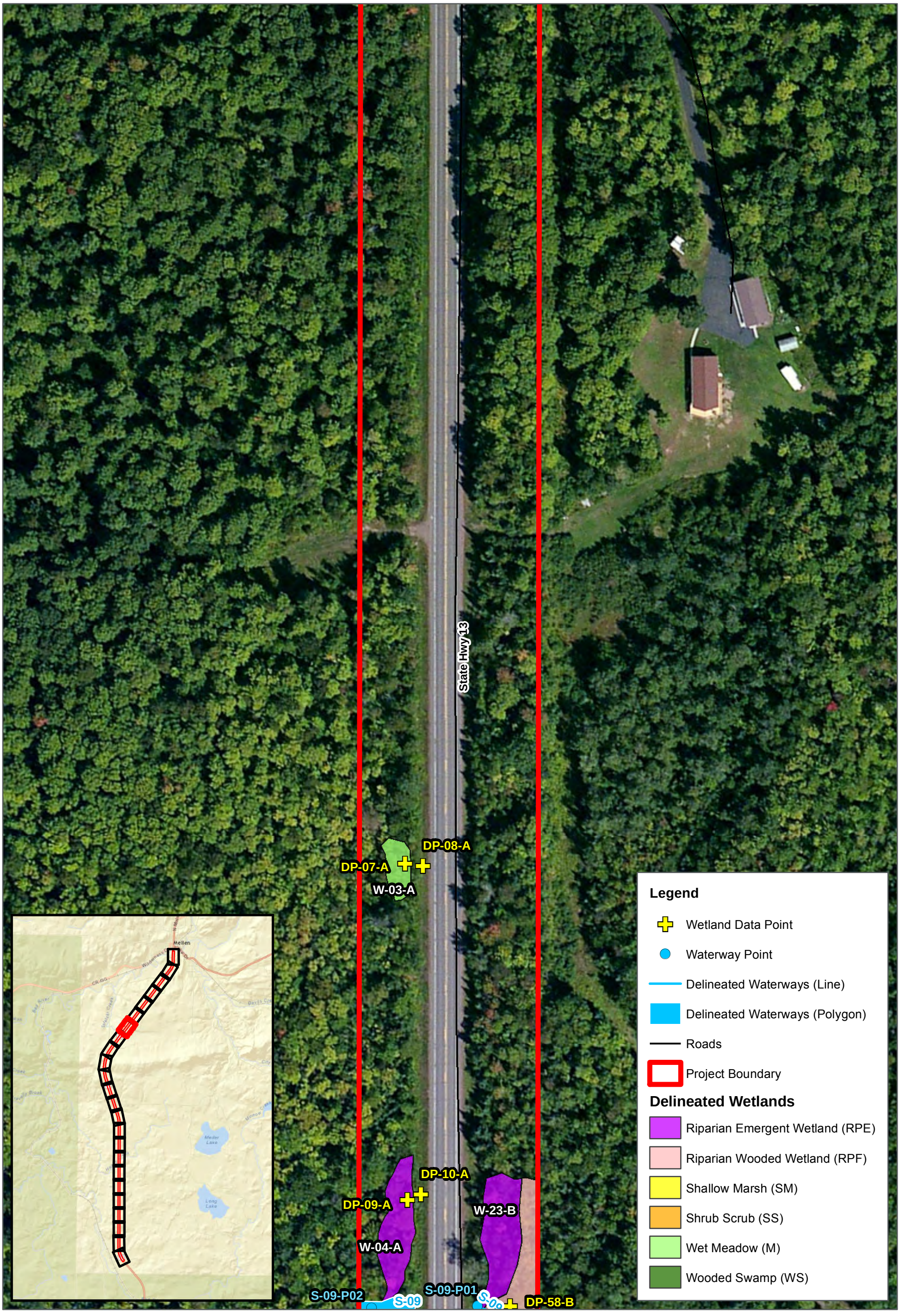
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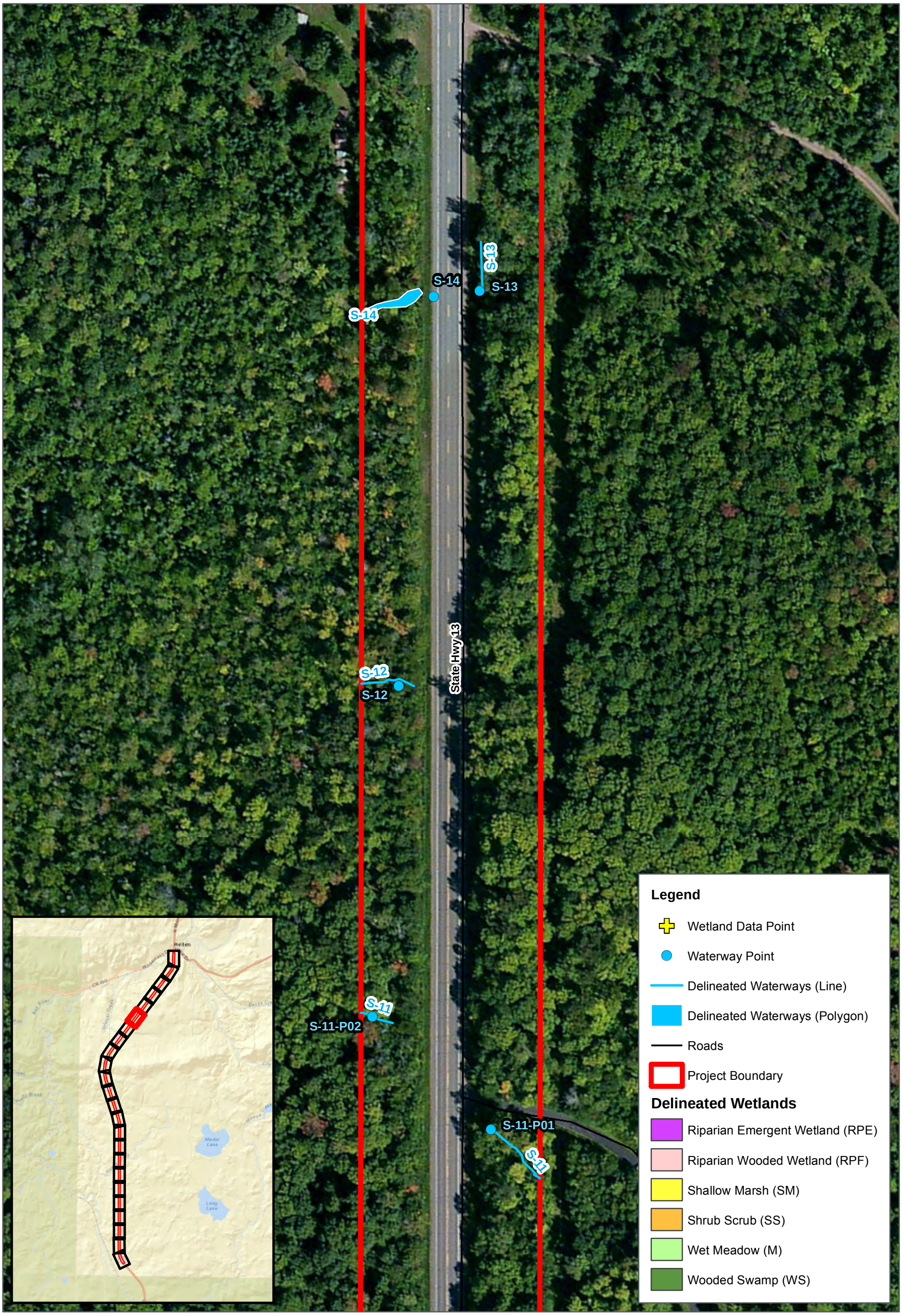
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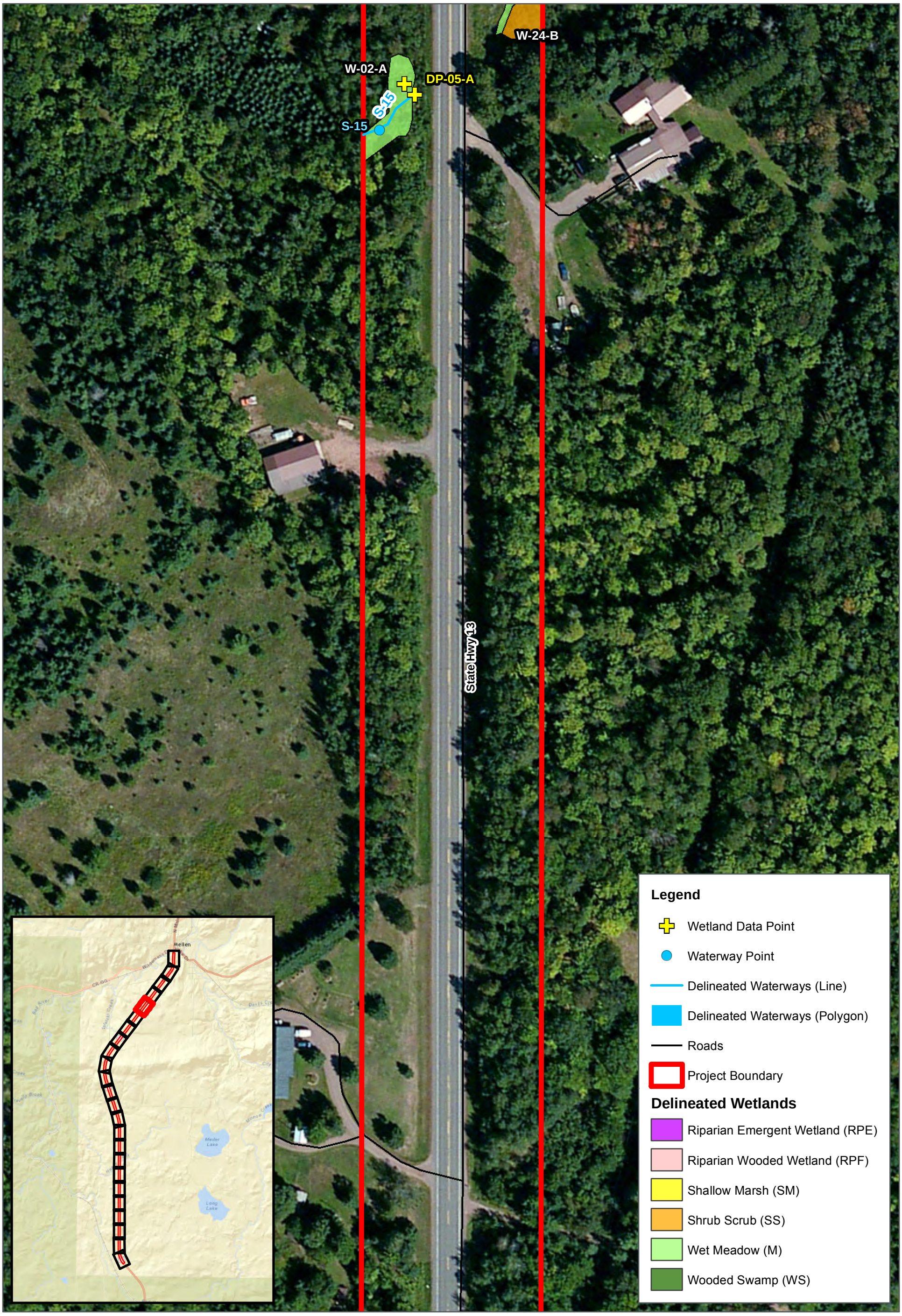
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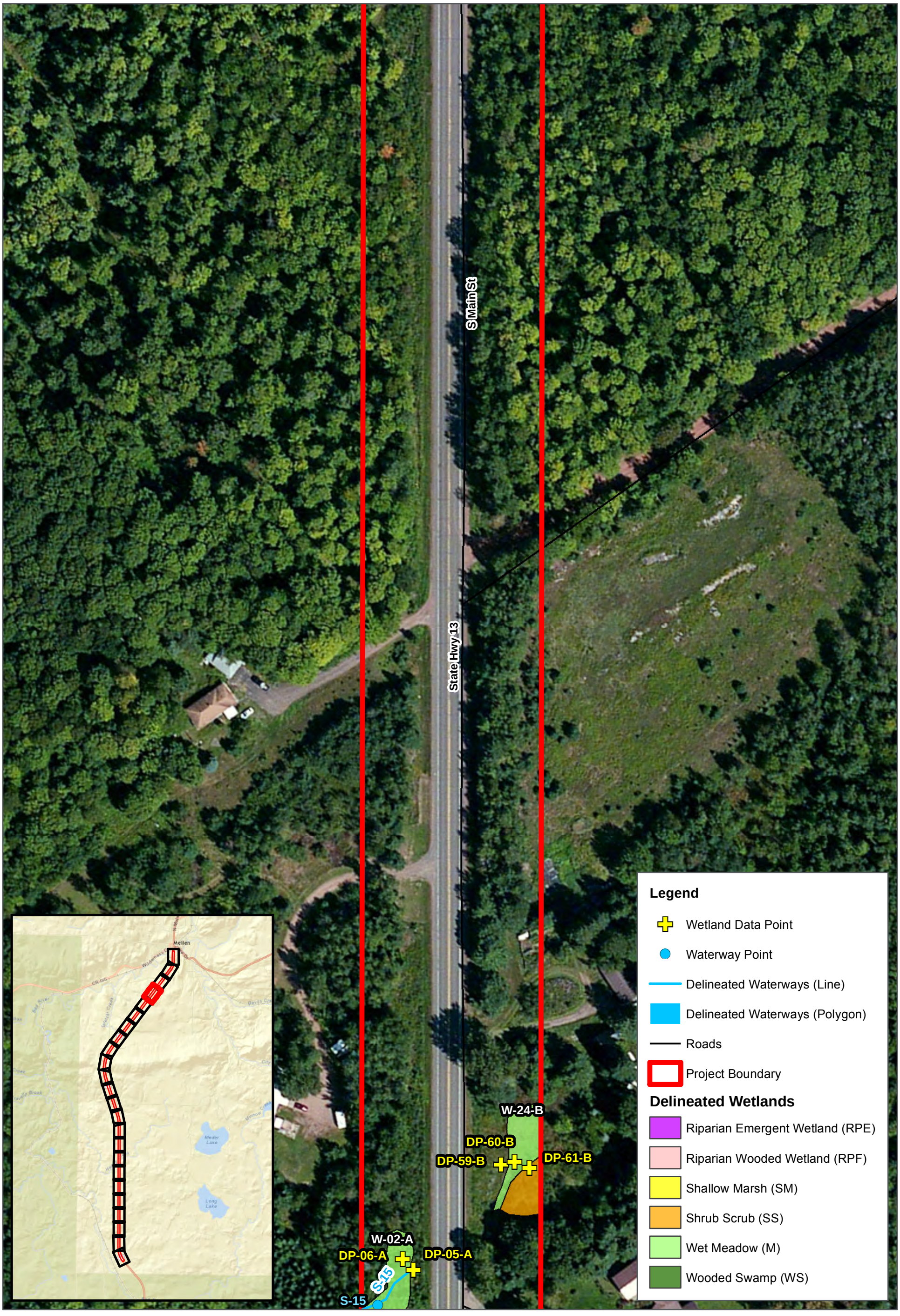
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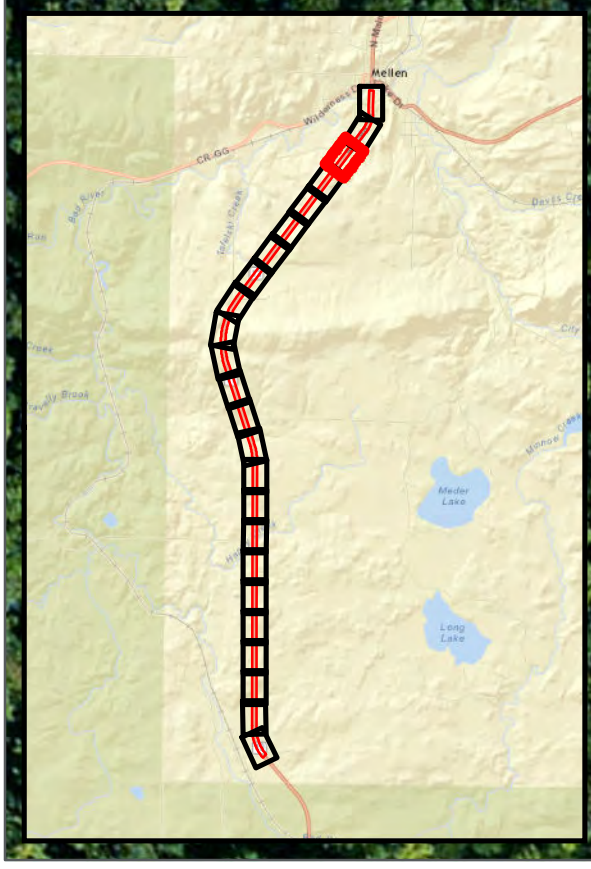
0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-25-B
DP-62-B
DP-63-B
Thomas St
N Foley Rd
Old 13 Rd
Berkshire Dr
S Main St State Hwy 13



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

Project No. J157001M17

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Delineated Wetlands and Waterways

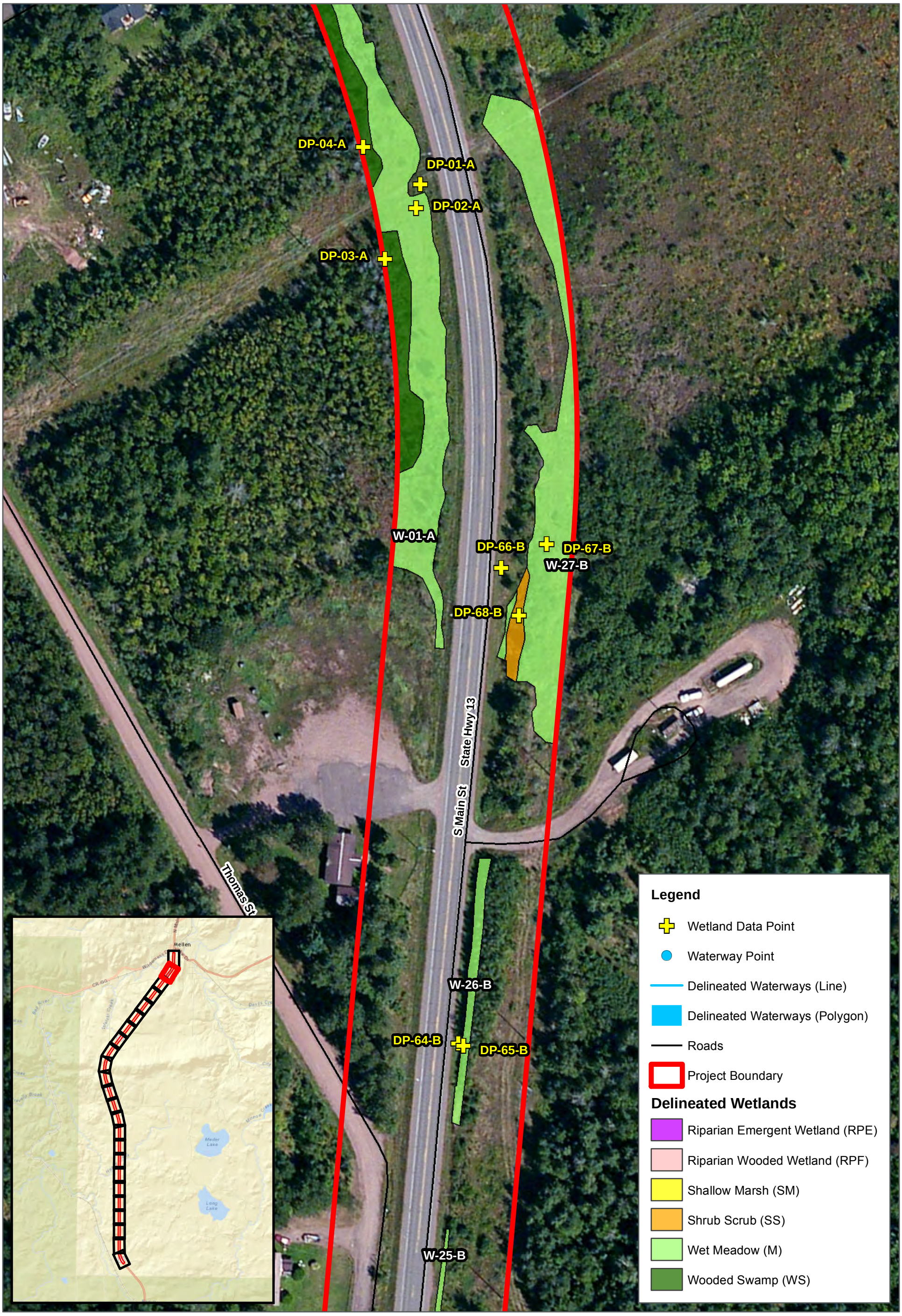
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

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Delineated Wetlands and Waterways

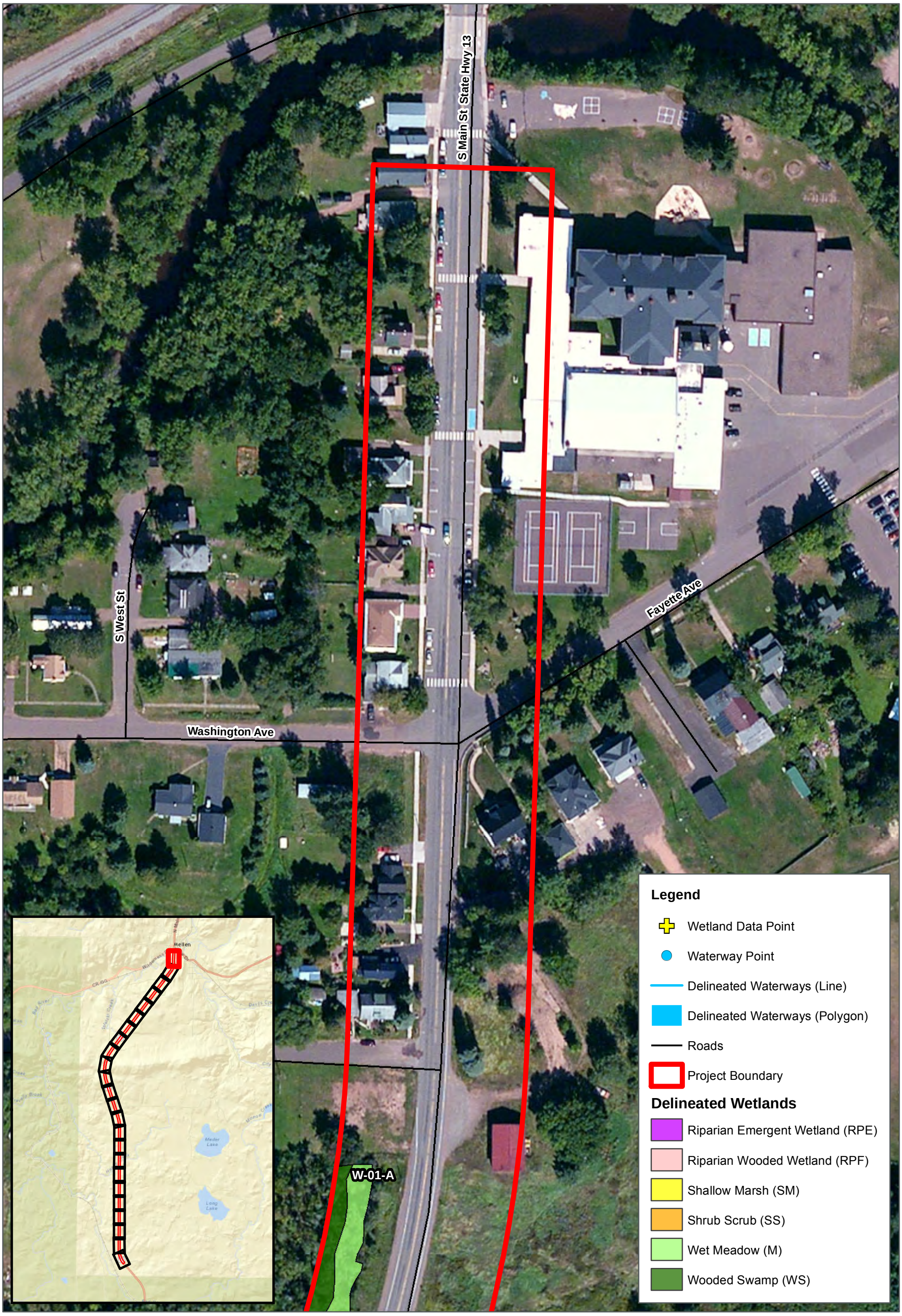
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



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S

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Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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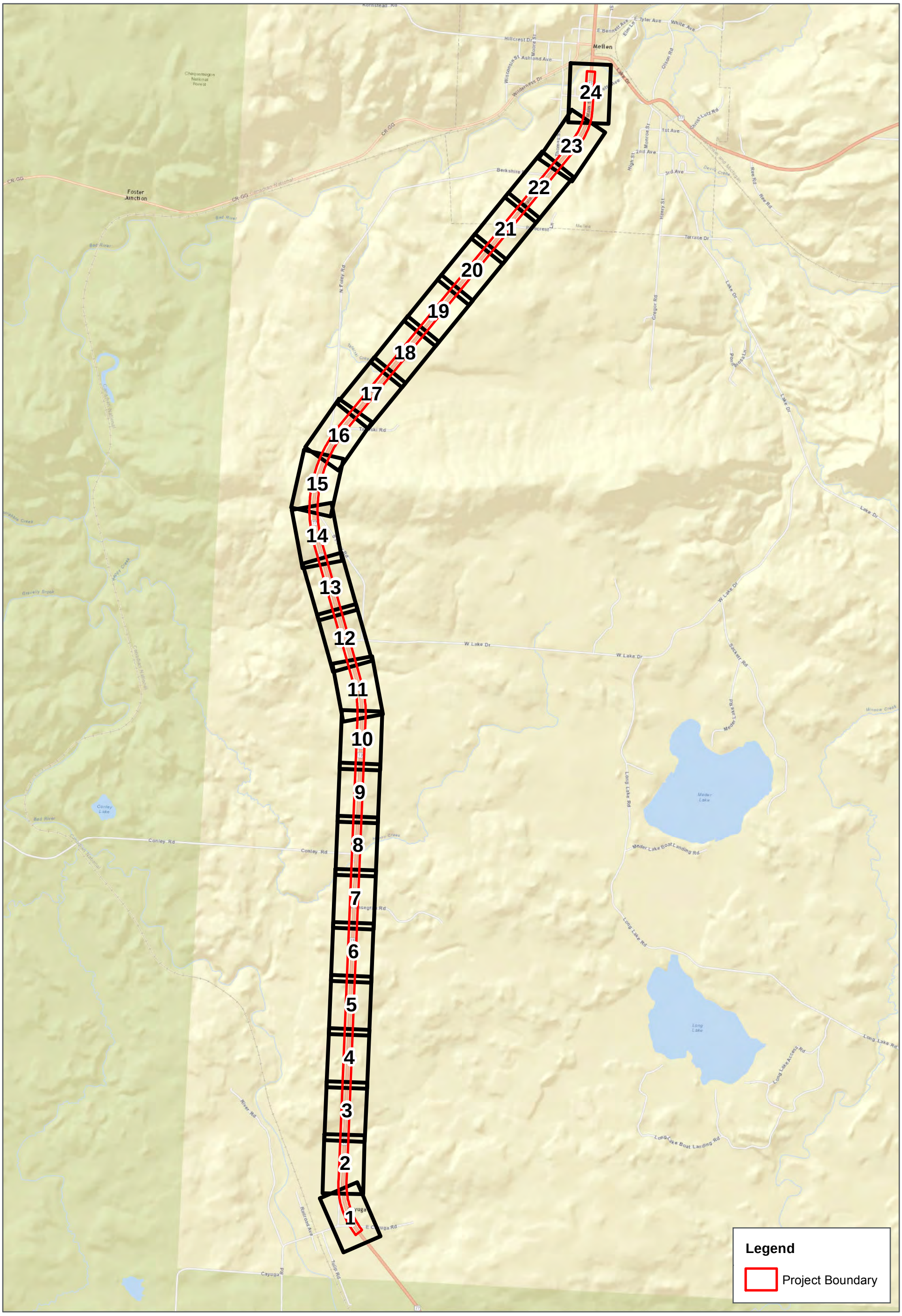
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 6

Photo Points



N
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Project No. J157001M17

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Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

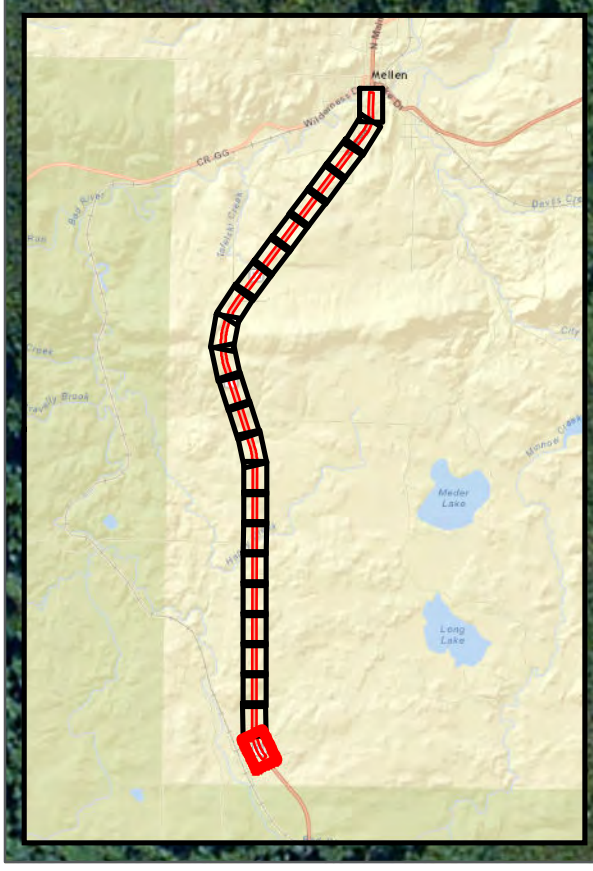
0 1,250 2,500 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-02
W-27-A
W-28-A
Cayuga Rd
PP-82
W-01-B
PP-01
W-29-A
PP-83
W-08-B
Thim Rd
W-06-B
State Hwy 13
W-07-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

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Photo Points

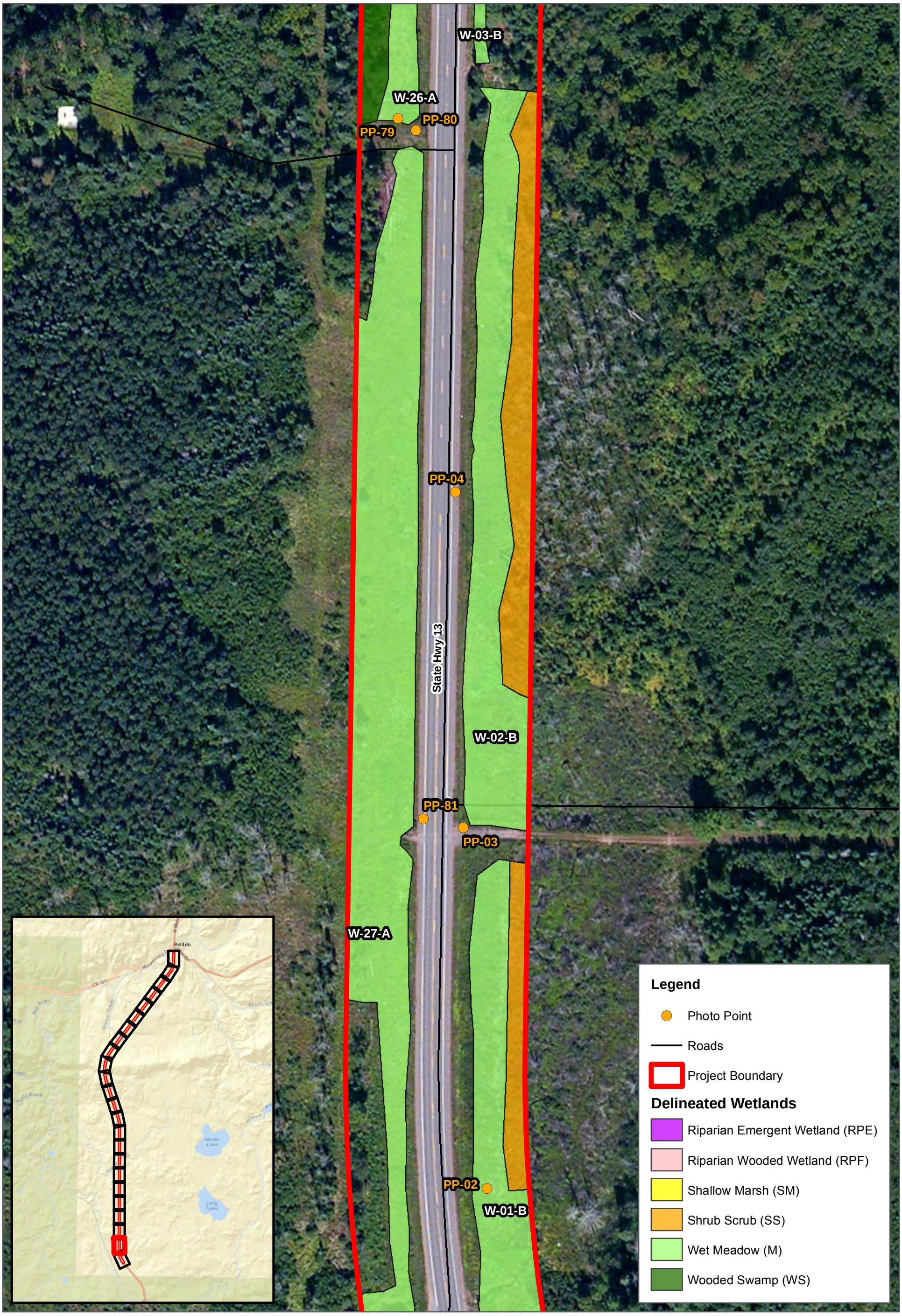
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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GIS Analyst: Alex Cohen



N
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S

Project No. J157001M17

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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-04-B

State Hwy 13

PP-06

PP-05

W-26-A

W-03-B

W-02-B

PP-80

PP-79

Mellen

CR GG

Bad River

Davis Creek

Trywilly Brook

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
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N

W E

S

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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-75
W-24-A
PP-10
W-05-B
PP-76
W-04-B
State Hwy 13
W-25-A
PP-09
PP-77
PP-78
PP-07
PP-08
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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N W E S

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Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

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GIS Analyst: Alex Cohen

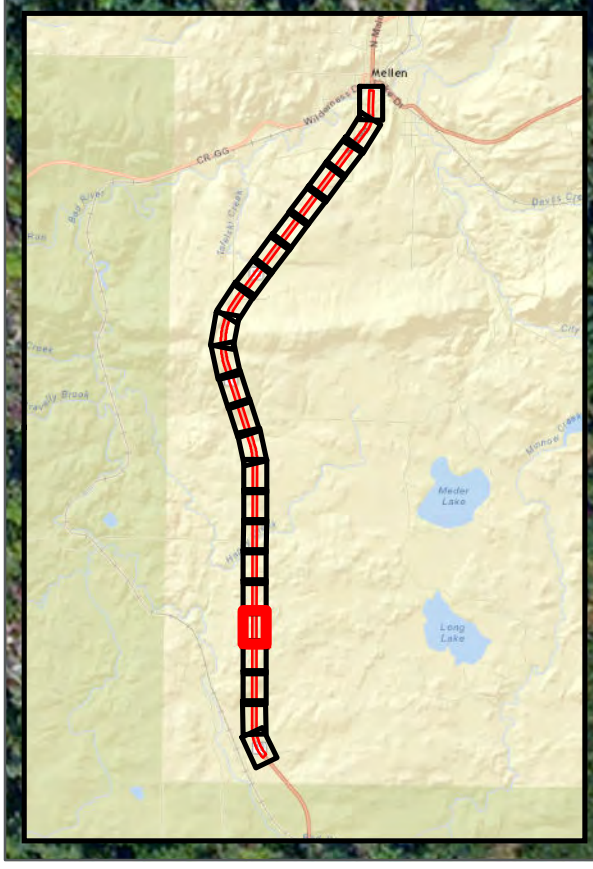
W-22-A

PP-73

PP-74

State Hwy 13

W-23-A



PP-11

PP-75

W-05-B

W-24-A

PP-10

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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N

W E

S

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

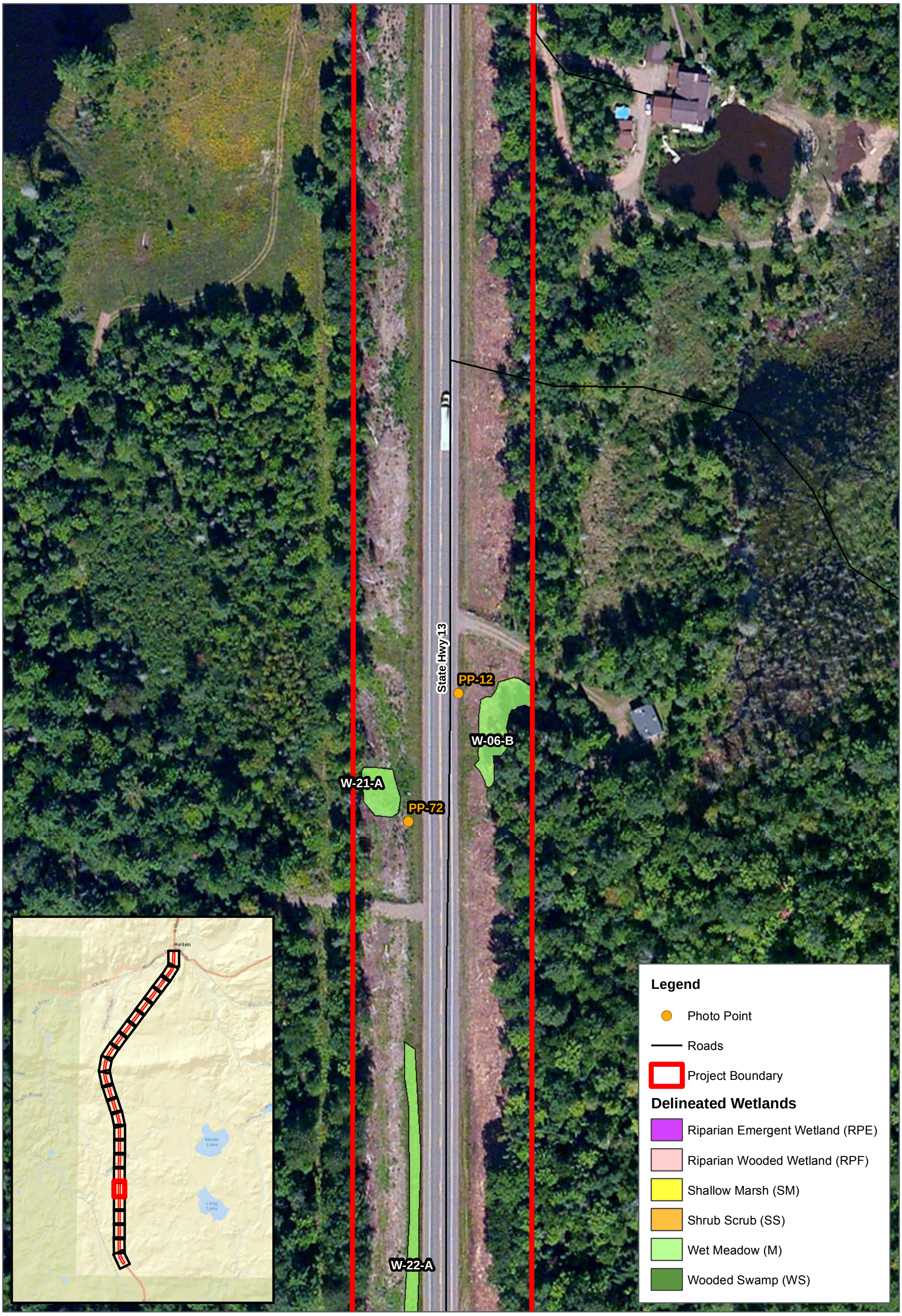
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GIS Analyst: Alex Cohen



N
W E
S

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

PP-13
W-07-B
W-20-A
PP-71
State Hwy 13
Ponsegrau Rd
Mellen
CR GG
Bad River
Whitetail Creek
Davis Creek
Trowbridge Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
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- Shrub Scrub (SS)
- Wet Meadow (M)
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N
W E
S

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Ashland County, Wisconsin

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

State Hwy 13

Conley Rd Forest Rd 184

PP-14

PP-13

W-08-B

W-07-B

W-20-A

Mellen

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-18-A

State Hwy 13

W-09-B

W-19-A

PP-70

PP-15

Mellen

CR GG

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-12-B
W-16-A
PP-19
PP-67
PP-18
W-17-A
State Hwy 13
PP-68
W-18-A
PP-17
PP-69
W-10-B
PP-16
Mellen
CR GG
Bad River
Davis Creek
Morgan Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

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Photo Points

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Ashland County, Wisconsin

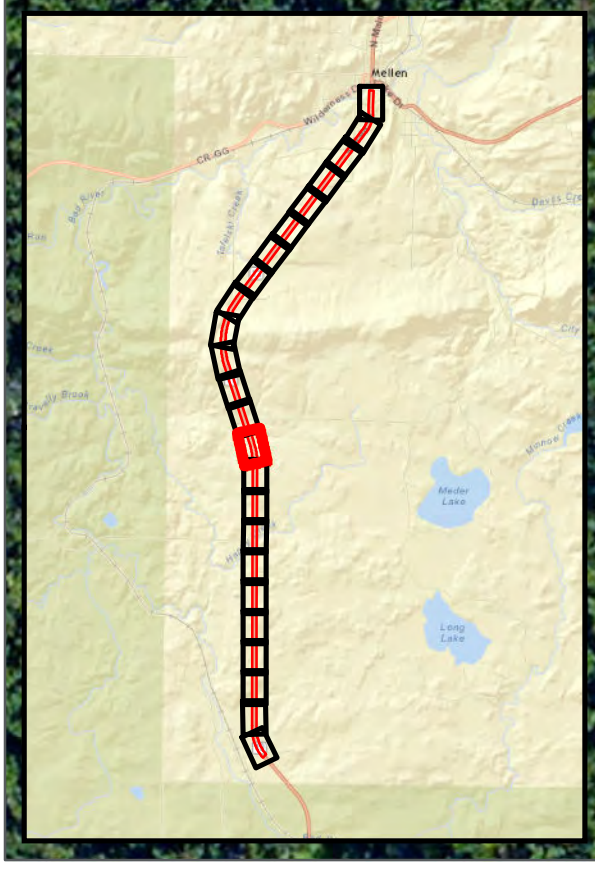
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-14-A
W-13-B
PP-62
PP-63
W-15-A
PP-20
State Hwy 13
W-12-B
PP-64
PP-66
PP-65
W-16-A



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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Photo Points

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-15-B
PP-23
PP-22
PP-58
W-16-B
W-13-A
PP-59
State Hwy 13
S Foley Rd
Old 13 Rd
Co Hwy Mm
W Lake Dr
W-14-B
PP-21
W-14-A
PP-61
PP-60
W-13-B
W-15-A
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

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Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-11-A
W-18-B
W-17-B
PP-25
PP-24
PP-57
W-12-A
State Hwy 13
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
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GIS Analyst: Alex Cohen

PP-55
W-10-A
Old 13 Rd
S Foley Rd
State Hwy 13
W-19-B
PP-28
PP-27
PP-26
PP-56
W-18-B
W-11-A
Mellen
CR GG
Bad River
Morgan Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
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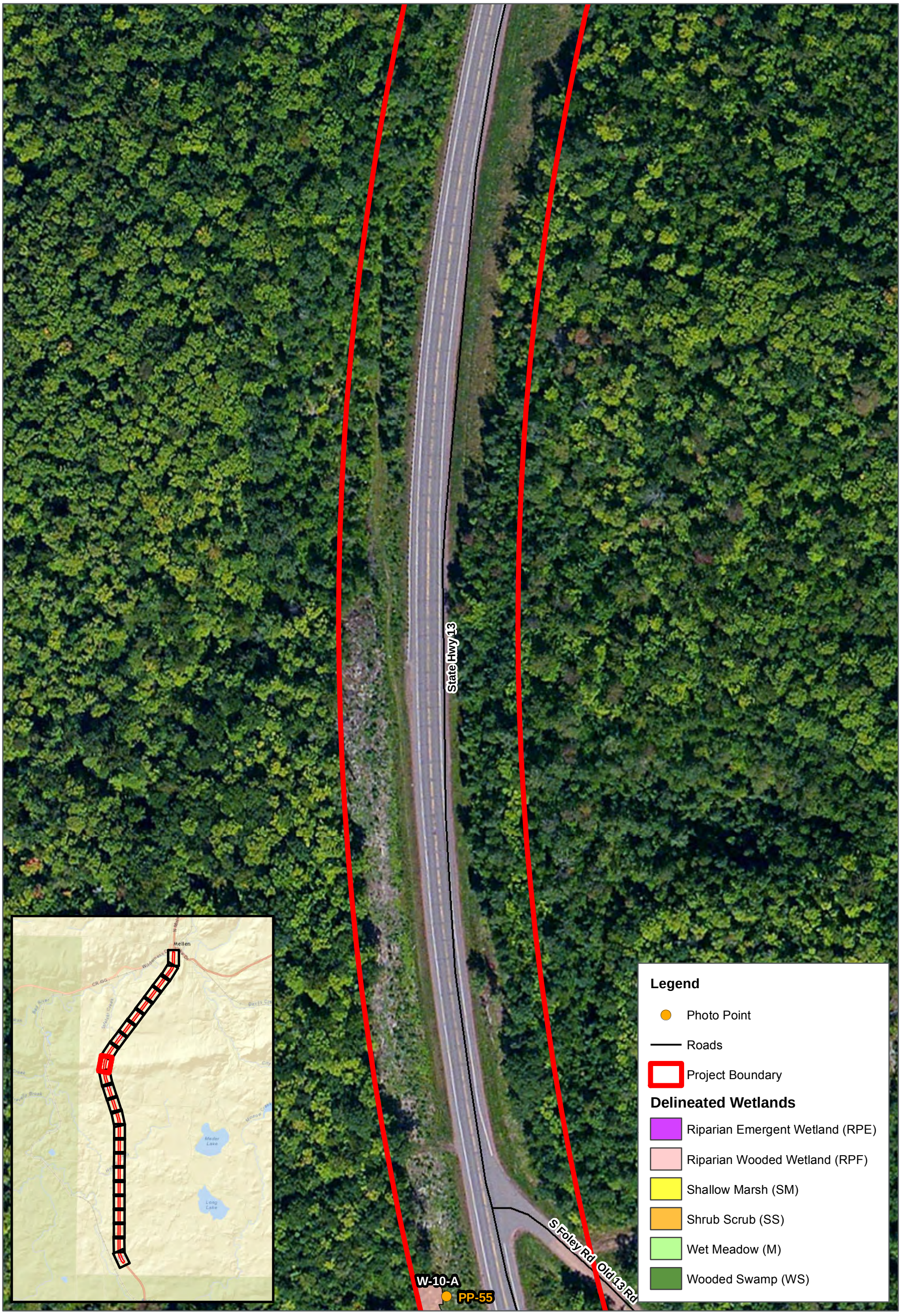
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen



N
W E
S

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

PP-51
PP-31
PP-30
PP-52
W-08-A
PP-53
Old 13 Rd
N Foley Rd
Tafelski Rd
W-21-B
State Hwy 13
PP-54
W-09-A
PP-29
W-20-B
Mellen
CR GG
Medar Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

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Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-46
W-04-A
PP-34
PP-33
W-23-B
W-05-A
PP-47
State Hwy 13
PP-48
W-06-A
W-22-B
PP-49
PP-50
W-07-A
PP-32
W-21-B
Mellen
CR GG

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
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GIS Analyst: Alex Cohen

State Hwy 13

PP-45

W-03-A

PP-46

W-23-B

W-04-A

PP-34

Mellen

CR GG

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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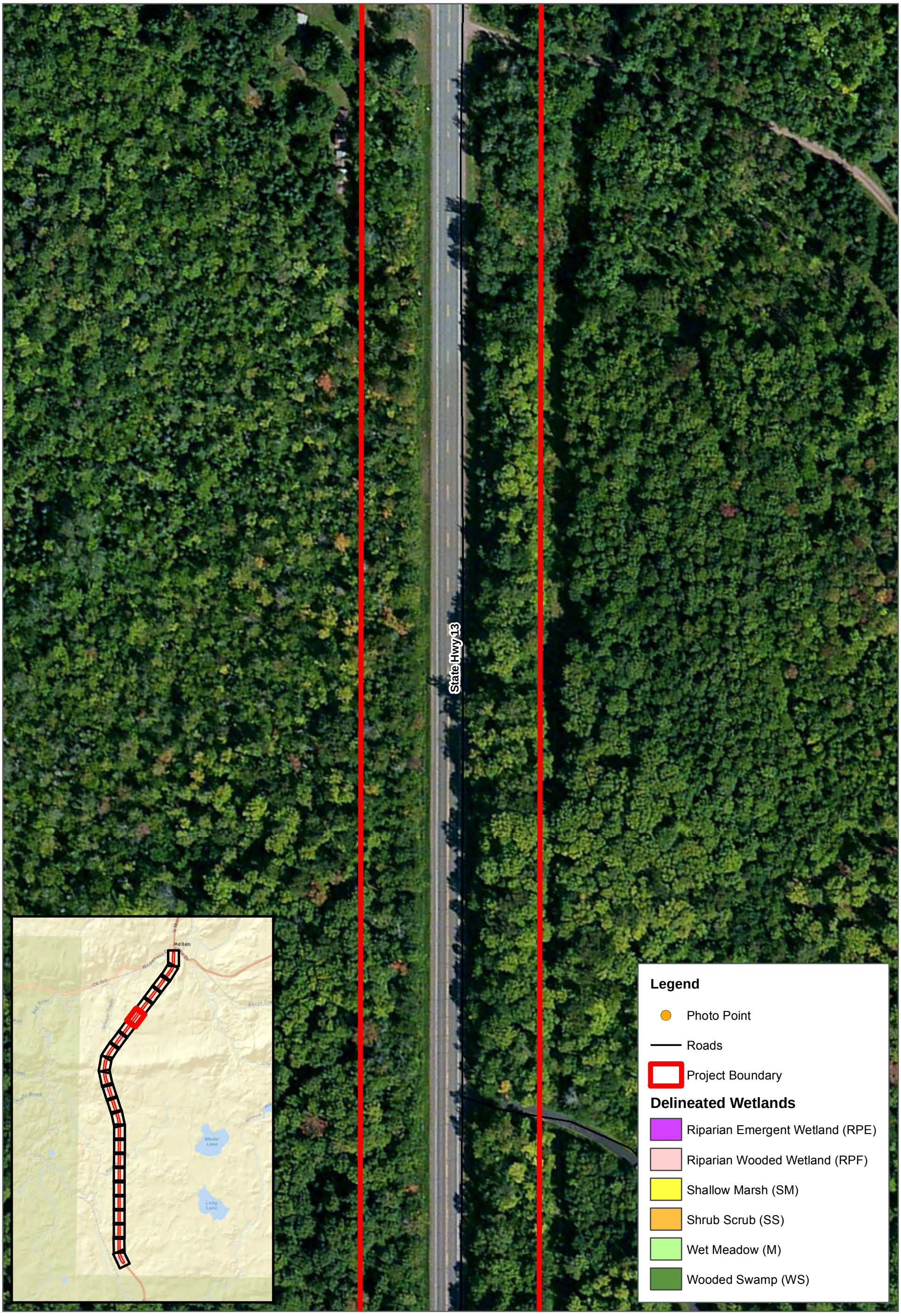
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

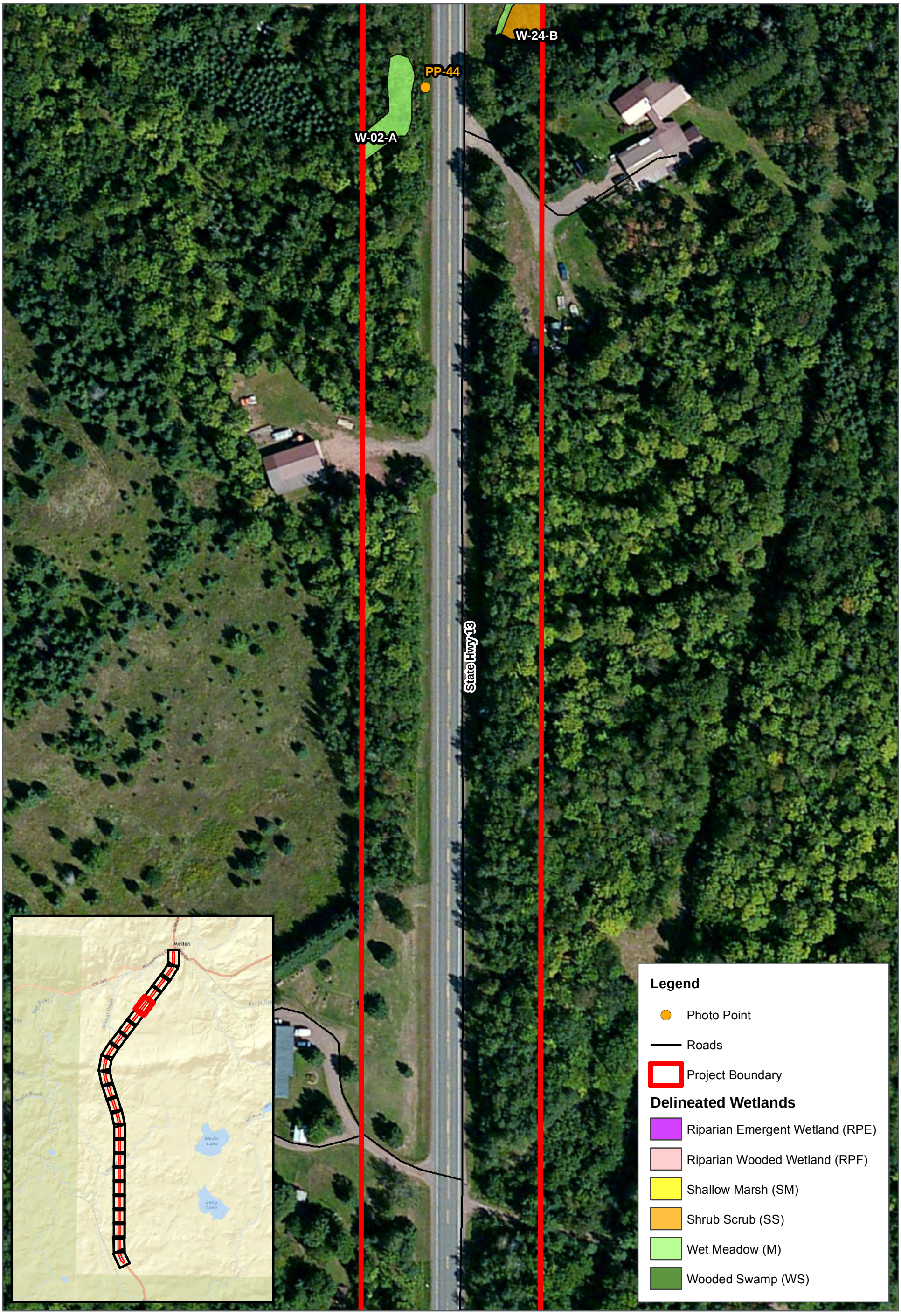
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GIS Analyst: Alex Cohen

S Main St

State Hwy 13

Mellen

CR GG

Meder Lake

Long Lake

PP-36

W-24-B

PP-35

PP-44

W-02-A

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

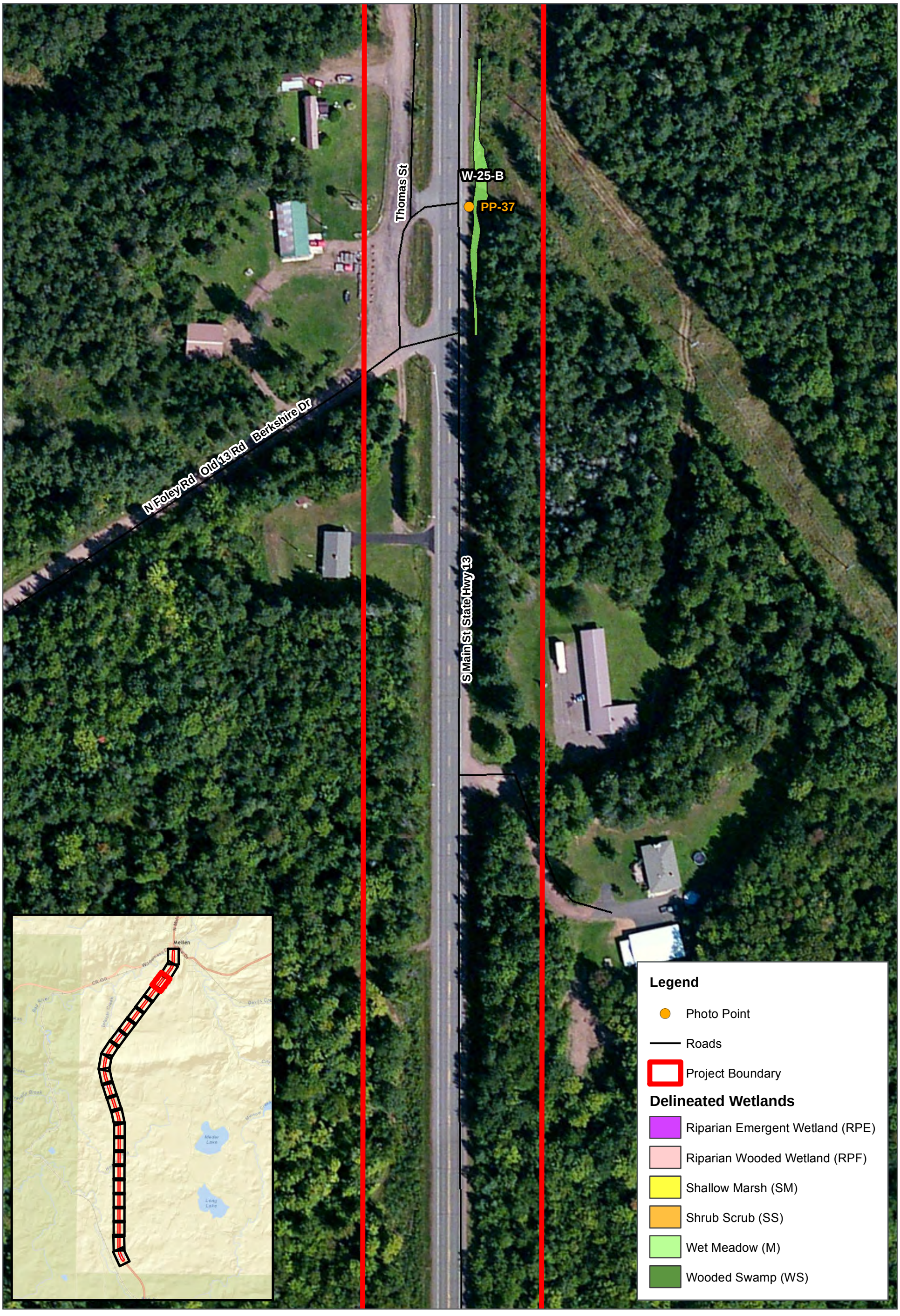
0 50 100 Feet

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GIS Analyst: Alex Cohen



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Photo Points

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Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

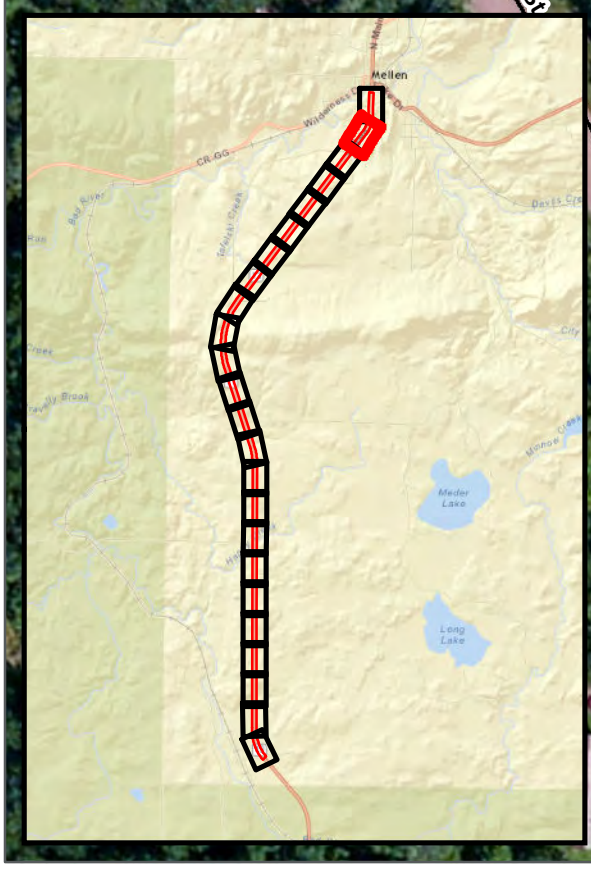
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GIS Analyst: Alex Cohen

PP-41
PP-42
PP-43
W-01-A
PP-40
W-27-B
PP-39
S Main St
State Hwy 13
Thomas St
W-26-B
PP-38
W-25-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

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Wisconsin Department of Transportation
Ashland County, Wisconsin

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GIS Analyst: Alex Cohen

S Main St State Hwy 13

S West St

Washington Ave

Fayette Ave

W-01-A

Mellen

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

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- Riparian Wooded Wetland (RPF)
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GIS Analyst: Alex Cohen