SUP

PROJECT ID: 1180-03-81

WITH: N/A

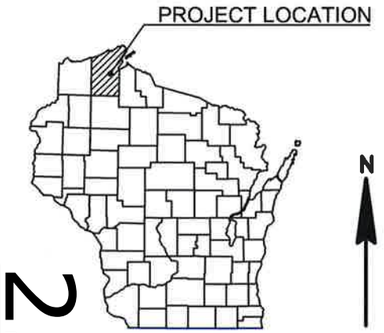
COUNTY: BAYFIELD

JANUARY 2020

ORDER OF SHEETS

TOTAL SHEETS = 84

PROJECT LOCATION



22

DESIGN DESIGNATION 1180-03-81

A.A.D.T.	2015	=	4,250
A.A.D.T.	2033	=	5,000
D.H.V.		=	675
D.D.		=	61/39
T.		=	19.7%
DESIGN SPEED		=	55 MPH
ESALS		=	2,600,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE			
SLOPE INTERCEPT		CULVERT (Profile View)	
REFERENCE LINE	300'FB'	UTILITIES	
EXISTING CULVERT		ELECTRIC	E
PROPOSED CULVERT (Box or Pipe)		FIBER OPTIC	FO
COMBUSTIBLE FLUIDS	CAUTION	GAS	G
		SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

INO - ASHLAND

(CTH E - USH 63)

USH 2

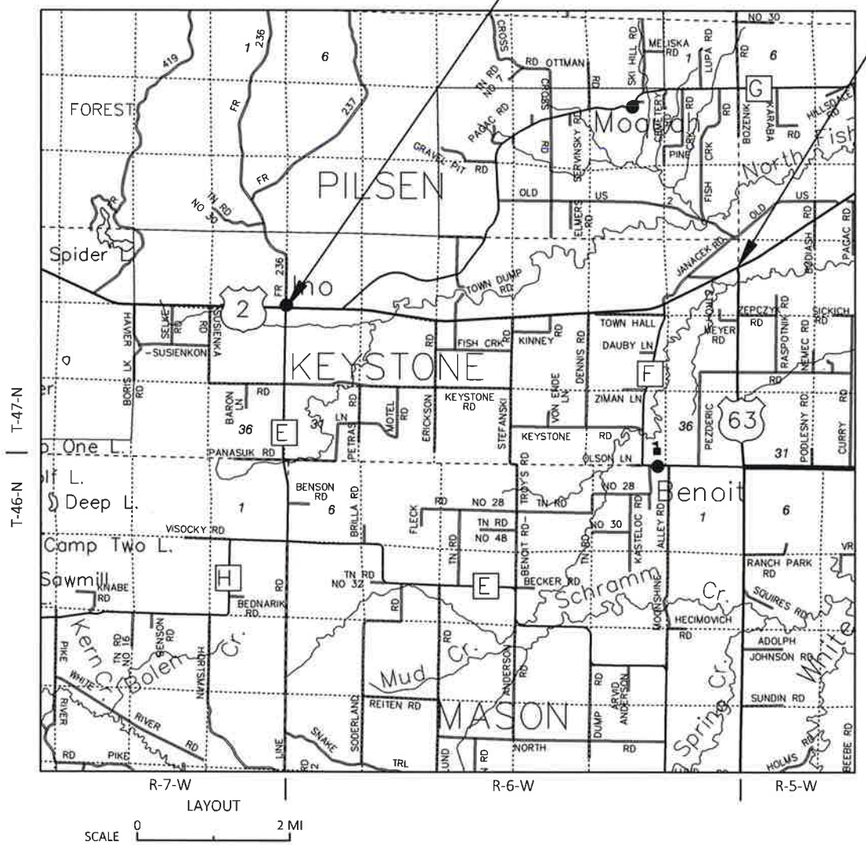
BAYFIELD COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1180-03-81	WISC 2019182	1

STATE PROJECT NUMBER
1180-03-81

BEGIN PROJECT 1180-03-81
STA 823+00
Y = 436,858.91
X = 743,444.33

END PROJECT 1180-03-81
STA 1147+00
Y = 440,188.99
X = 775,060.42



TOTAL NET LENGTH OF CENTERLINE = 6.136 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BAYFIELD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ORIGINAL PLANS PREPARED BY

MSA

ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
332 W. SUPERIOR STREET, SUITE 600
DULUTH, MN 55802
(218) 722-3915 www.msa-ps.com

WISCONSIN PROFESSIONAL ENGINEER
JASON T. DIPIAZZA
38341
DULUTH
MN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES
Designer	MSA PROFESSIONAL SERVICES
Project Manager	PHILIP KEPPERS
Regional Examiner	
Regional Supervisor	PAUL CONLIN

APPROVED FOR THE DEPARTMENT
DATE: 11/2/2018 Philip L. Keppers (Signature)

E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\010101_TI.DWG PLOT DATE : 10/24/2018 8:20 AM PLOT BY : JASON DIPIAZZA PLOT NAME :

ABBREVIATIONS

AC	ACRES
AC	ASPHALT CEMENT
AEW	APRON ENDWALL
ASPH	ASPHALT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
CL	CENTERLINE
CC	CENTER TO CENTER
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSCP	CORRUGATED STEEL CULVERT PIPE
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
CULV	CULVERT
CP	CULVERT PIPE
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
ELEV	ELEVATION
EW	ENDWALL
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FF	FACE TO FACE
FERT	FERTILIZER
FE	FIELD ENTRANCE
FG	FINISHED GRADE
FT	FOOT
G.V.	GAS VALVE
INV	INVERT
IP	IRON PIPE
JCT	JUNCTION
LHF	LEFT HAND FORWARD
L	LENGTH
LS	LUMP SUM
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
PACS	PIPE ARCH CORRUGATED STEEL
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PL	PROPERTY LINE
PE	PRIVATE ENTRANCE
R	RADIUS
REQ'D	REQUIRED
R/W	RIGHT-OF-WAY
RHF	RIGHT HAND FORWARD
SALV	SALVAGED
SHLDR	SHOULDER
SDD	STANDARD DETAIL DRAWING
STA	STATION
SE	SUPERELEVATION
TAN	TANGENT
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS
TYP	TYPICAL
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WV	WATER VALVE
W	WELL

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

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

ALL RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

THE LOCATIONS OF EXISTING WETLAND LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE AND THERE MAY BE OTHER WETLANDS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

DO NOT STORE EQUIPMENT OF MATERIALS IN, NOR IMPACT ANY WETLANDS OR WATERWAYS OUTSIDE THE SLOPE INTERCEPTS SHOWN.

RESETTING PIPE WILL BE PAID AS CULVERT PIPE SALVAGED (SIZE). THE NUMBER OF PIPE SECTIONS SHOWN ON THE PLANS IS APPROXIMATE AND SHOULD BE VERIFIED BY THE ENGINEER AFTER PIPE CLEANING AND EXCAVATION. EXCAVATE AND REMOVE SECTIONS OF CONCRETE CULVERT PIPE FROM THE END OF PIPE TO THE NEAREST PIPE JOINT THAT IS IN ALIGNMENT AND TIGHT. RESET THE PIPE SECTIONS IN ACCORDANCE TO THE STANDARD SPEC FOR CULVERT PIPE SALVAGED (SIZE). PROVIDE PIPE JOINT TIES FOR A MINIMUM OF THREE JOINTS FROM THE END OF THE PIPE. PROVIDING PIPE JOINT TIES IS INCIDENTAL TO THE CULVERT PIPE SALVAGED BID ITEM. RESET PIPE TO MATCH THE LINE AND SLOPE OF THE REMAINING PIPE BELOW THE ROAD EMBANKMENT.

INSTALL APRON ENDWALLS AT PLAN LOCATIONS.

REMOVE END PIPE SECTIONS WILL BE PAID FOR AS REMOVING STORM SEWER AND WILL BE MEASURED BY THE LINEAR FOOT.

PROVIDE PIPE JOINT TIES ON RESET PIPE, NEW PIPE, AND APRON END WALLS (INCIDENTAL TO PIPE BID ITEMS).

GRADING LIMITS ARE SPECIFIED IN AREAS WHERE SLOPE IMPROVEMENTS ARE TO BE MADE. IF NO LIMIT IS SHOWN GRADE AS REQUIRED FOR CULVERT REPLACEMENT. GRADE ALL IMPACTED DITCHES TO DRAIN.

USE MATERIAL EXCAVATED FROM DITCH CLEANING AND PIPE CLEANING WORK TO RESTORE THE ROADWAY EMBANKMENT ABOVE AND AROUND THE CULVERT PIPE ENDS TO A CONSISTENT OR SMOOTH SLOPE WITH COMPLETE BACKFILL COVERAGE OVER AND AROUND THE CULVERT PIPE ENDS. DISPOSE OF EXCESS EXCAVATED MATERIAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED AND SEEDED. INSTALL MULCH OR EROSION MAT AS THE PLANS SHOW OR AS DIRECTED BY THE ENGINEER.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEM. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER HAS DETERMINED THE MEASURE IS NO LONGER NECESSARY. REMOVE ITEMS AT ENGINEER'S DIRECTION.

SALVAGE TOPSOIL, GRADE THE ROAD EMBANKMENT FORE SLOPE AND DITCH AS SHOWN IN THE PLANS, RESTORE THE SHOULDER, AND RE-ESTABLISH PERMANENT VEGETATION AT THE PLAN LOCATIONS IDENTIFIED AS ROADSIDE GRADING. THE CONTRACTOR MAY FURNISH AND PLACE TOPSOIL OVER THE EXISTING VEGETATED SLOPES AT LOCATIONS WHERE PLAN FILL DEPTHS ARE LESS THAN 6-INCHES. THE TOPSOIL MATERIAL SHALL MEET THE MATERIAL SPECIFICATIONS FOR THE BID ITEM "TOPSOIL" . THE DEPARTMENT WILL MEASURE AND PAY FOR ANY TOPSOIL FURNISHED AT THE CONTRACT UNIT PRICE FOR BORROW.

UTILITY CONTACTS

COMMUNICATION:
CHEQUAMEGON COMMUNICATIONS
COOPERATIVE INC
DBA: NORVADO
ATTN:GUY FOLSOM
43750 USH 63
P.O. BOX 67
CABLE, WI 54821
715-798-7123
GFOLSOM@NORVADO.COM

COMMUNICATION:
MERIT NETWORK, INC.
ATTN: NICK ANDRUS
1000 OAKBROOK DR
SUITE 200
ANN ARBOR, MI 48104
734-527-5777
OSP@MERIT.EDU

ELECTRIC:
BAYFIELD ELECTRIC COOPERATIVE INC
ATTN: GARY TARASEWICZ
P.O. BOX 68
IRON RIVER, WI 54847
715-372-4287
GARY.TARASEWICZ@BAYFIELDELECTRIC.COM

* DENOTES NOT A MEMBER OF DIGGERS HOTLINE

COUNTY

BAYFIELD CO HWY COMMISSIONER
ATTN: PAUL JOHANIK
311 S 1ST AVE E
WASHBURN, WI 54891
715-373-6115
PJOHANIK@BAYFIELDCOUNTY.ORG

NW REGION CONTACT

ATTN: PHILIP KEPPERS
1701 N 4TH ST
SUPERIOR, WI 54880
715-395-3027
PHILIP.KEPPERS@DOT.WI.GOV

DNR LIAISON

WDNR - NORTHWEST DISTRICT HEADQUARTERS
ATTN: SHAWN HASELEU
810 WEST MAPLE ST
SPOONER, WI 54801
715-635-4228
SHAWN.HASELEU@WISCONSIN.GOV

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: JASON DIPIAZZA
332 W SUPERIOR ST
DULUTH, MN 55802
218-499-3179
JDIPIAZZA@MSA-PS.COM

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

2

2

N

BEGIN PROJECT
STA 823+00
Y = 436,858.91
X = 743,444.33

END PROJECT
STA 1147+00

INO RD

CTH E

CTH G

USH 2

NORTH FISH CREEK

TOMICH RD

TOWN DUMP RD

NORDIN RD

STEFANSKI RD

JOE PAJAC RD

USH 63

SOUTH FISH CREEK

JANECEK RD

CTH F

TOWN HALL RD

DENNIS RD

KINNEY RD

STEFANSKI RD

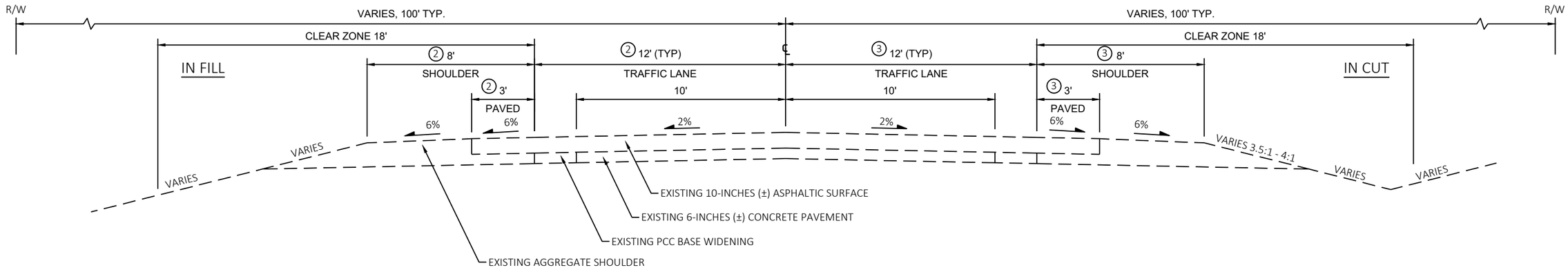
N

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PROJECT OVERVIEW	SHEET 3	E

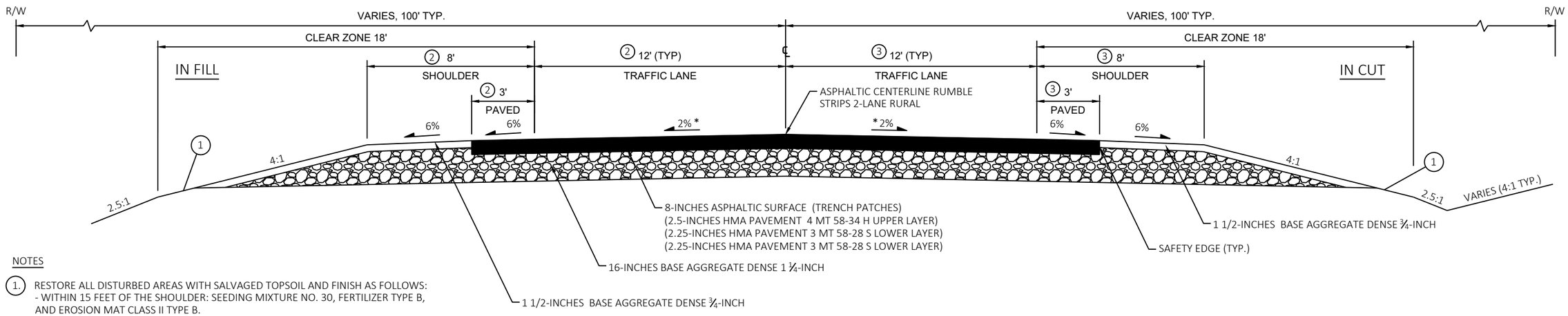
FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 020201_po

PLOT DATE : 10/24/2018 8:22 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ############

WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION
STA. 823+00 - STA. 1147+00



FINISHED TYPICAL SECTION
PAVEMENT RESTORATION AND ROADSIDE GRADING
LOCATIONS VARY - SEE PLANS

*MATCH ADJACENT PAVEMENT CROSS SLOPE

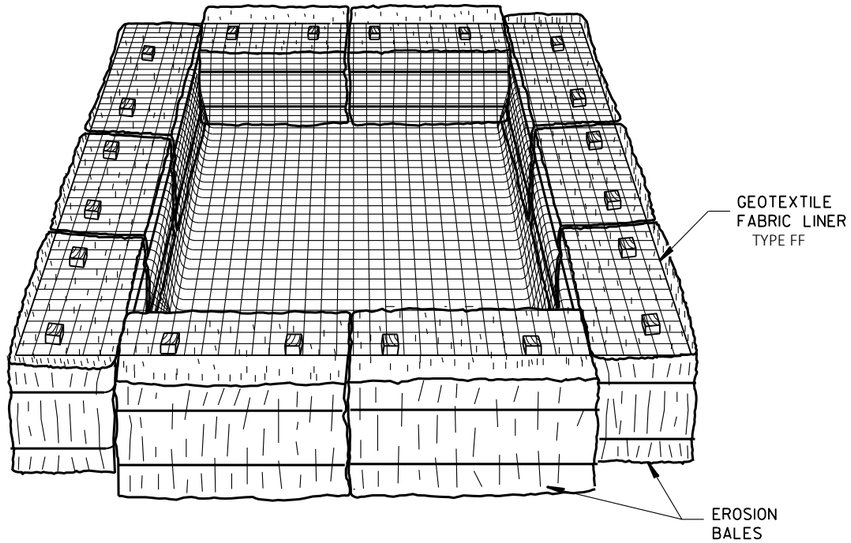
NOTES

1. RESTORE ALL DISTURBED AREAS WITH SALVAGED TOPSOIL AND FINISH AS FOLLOWS:
   - WITHIN 15 FEET OF THE SHOULDER: SEEDING MIXTURE NO. 30, FERTILIZER TYPE B, AND EROSION MAT CLASS II TYPE B.
   - IN DRAINAGE SWALES, ROADSIDE DITCHES, AND ADJACENT TO DITCH CLEANING OR RIPRAP: SEEDING MIXTURE NO. 10, AND EROSION MAT CLASS I TYPE B URBAN, EXCEPT WHERE EROSION MAT CLASS III TYPE C IS SHOWN.

2. STA. 1012+50 - STA. 1071+75 - WESTBOUND PASSING LANE
   PASSING LANE WIDTH: VARIES 0'-12'
   PAVED SHOULDER WIDTH: 3'
   TOTAL SHOULDER WIDTH: 12'

3. STA. 859+90 - STA. 868+80 - BYPASS LANE (CTH G)
   BYPASS LANE WIDTH: VARIES 0'-13'
   PAVED SHOULDER WIDTH: 1'
   TOTAL SHOULDER WIDTH: 3'

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN: TYPICAL SECTIONS	SHEET 4	E



TEMPORARY SETTLING BASIN

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

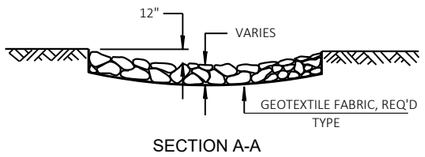
STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

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

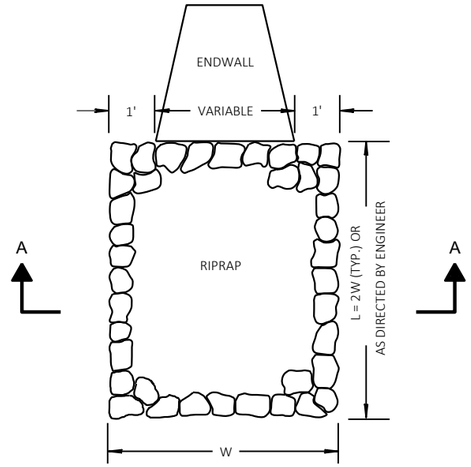
SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

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

USE A 20 FT. X 27 FT. BASIN



SECTION A-A



RIPRAP TREATMENT AT CULVERTS

(L) LIGHT RIPRAP = 12" MINIMUM THICKNESS - GEOTEXTILE TYPE R

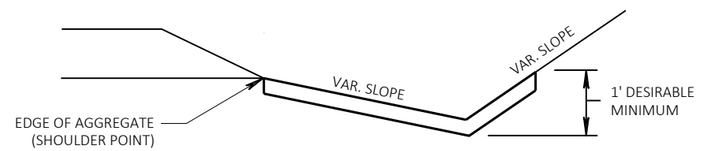
(M) MEDIUM RIPRAP = 18" MINIMUM THICKNESS - GEOTEXTILE TYPE HR

(H) HEAVY RIPRAP = 24" MINIMUM THICKNESS - GEOTEXTILE TYPE HR

(EH) EXTRA HEAVY RIPRAP = 36" MINIMUM THICKNESS - GEOTEXTILE TYPE HR

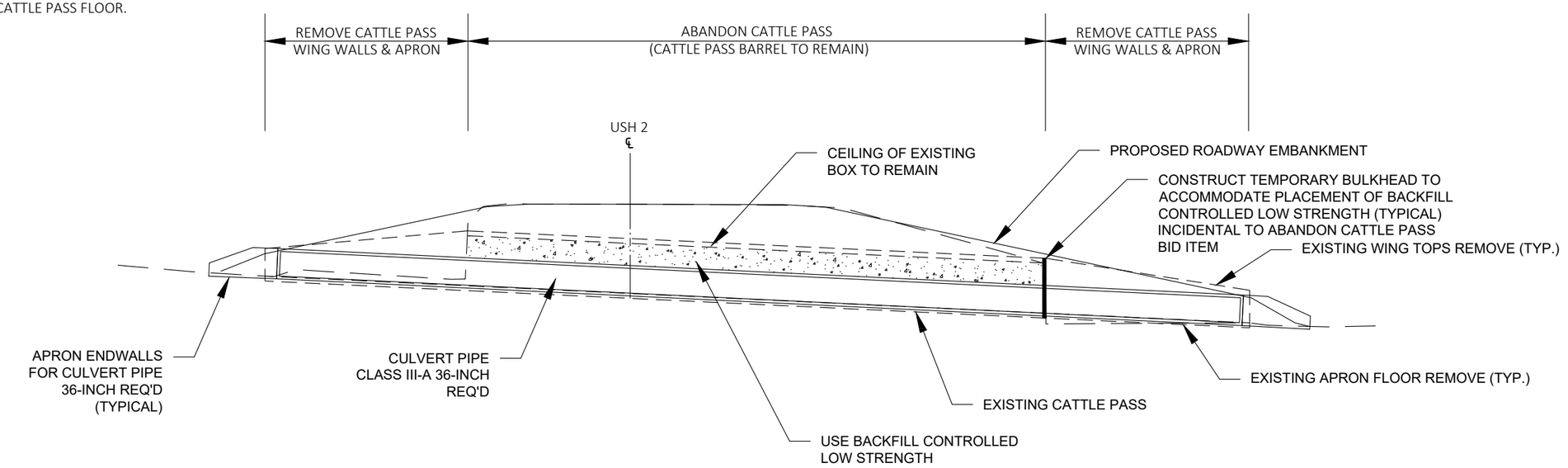
INSTALL FABRIC AND RIP RAP AT PIPE INLET AND OUTLET LOCATIONS WHERE THE PLANS CALL FOR REMOVING AND REPLACIING PIPES, RESTORING CHANNELS, CLEANING DITCHES, RESETTING PIPE, OR INSTALLING APRON ENDWALLS.

ADJUST THE LAYOUT AND SIZE OF THE RIP RAP TREATMENT AREA TO REPAIR SCOUR HOLES AND TO FIT THE TERRAIN AND AVAILABLE RIGHT OF WAY AND AS DIRECTED BY THE ENGINEER.

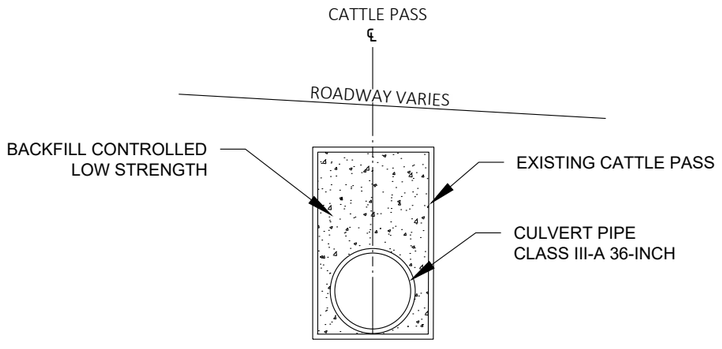


EROSION MAT DETAIL FOR DITCHES

NOTE: REMOVAL OF CATTLE PASS WING WALLS AND APRONS ARE INCLUDED IN THE BID ITEMS FOR REMOVING OLD STRUCTURE. SET CULVERT PIPE ON UNIFORM GRADE MATCHING THE EXISTING CATTLE PASS FLOOR.



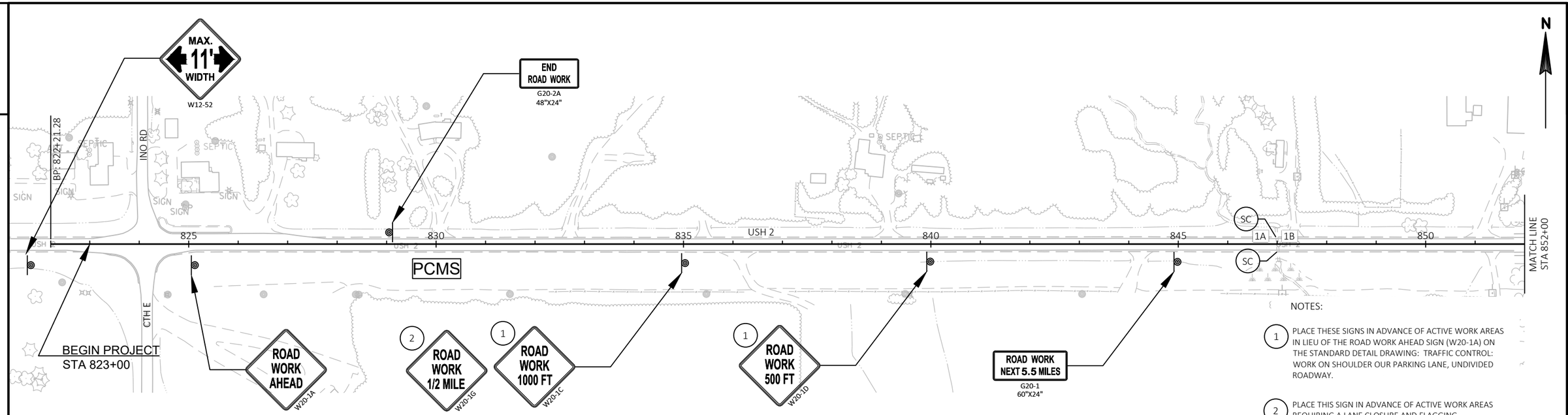
TYPICAL SECTION - ABANDONING CATTLE PASS



ABANDON CATTLE PASS INFORMATION TABLE				
LOCATION USH 2 ℄	CATTLE PASS NUMBER	36-INCH ENDWALLS	PIPE OFFSETS USH 2 ℄	PROPOSED 36-INCH CULVERT PIPE LENGTH
STA. 938+31	C-04-708 #12	2 ENDWALLS REQ'D	38' LT - 38' RT	76'
STA. 1131+21	NA - #34	2 ENDWALLS REQ'D	42' LT - 74' RT	116'

NOTE: STABILIZE CULVERT PIPE CLASS III-A 36-INCH INSIDE THE CATTLE PASS UTILIZING BRICK OR ANOTHER FIELD ENGINEER APPROVED METHOD TO SECURE THE PIPE DURING BACKFILLING AND CURING.

SECTION THRU CATTLE PASS



NOTE: PLAN LEGEND AND NOTES CAN BE FOUND ON THE LAST TRAFFIC CONTROL PLAN DETAIL PAGE

ALL DIAGONAL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED

NOTES:

1. PLACE THESE SIGNS IN ADVANCE OF ACTIVE WORK AREAS IN LIEU OF THE ROAD WORK AHEAD SIGN (W20-1A) ON THE STANDARD DETAIL DRAWING: TRAFFIC CONTROL: WORK ON SHOULDER OUR PARKING LANE, UNDIVIDED ROADWAY.

2. PLACE THIS SIGN IN ADVANCE OF ACTIVE WORK AREAS REQUIRING A LANE CLOSURE AND FLAGGING OPERATIONS IN LIEU OF THE ROAD WORK AHEAD SIGN (W20-1A) ON THE STANDARD DETAIL DRAWING: TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

TRAFFIC CONTROL TYPE LEGEND AND GENERAL NOTES

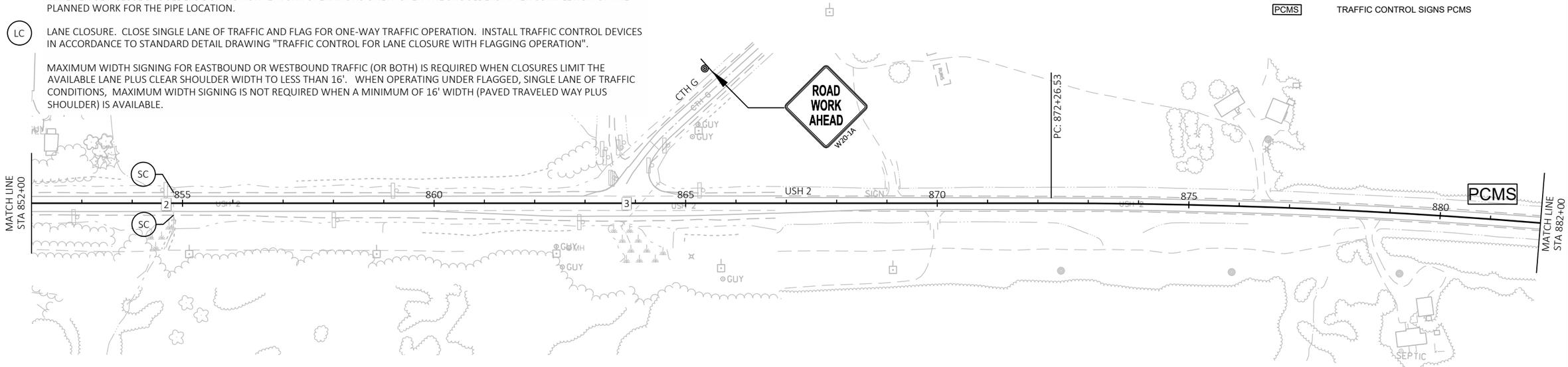
SC — SHOULDER CLOSURE. INSTALL TRAFFIC CONTROL IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY. DO NOT CLOSE BOTH THE LEFT AND RIGHT SHOULDER DURING THE SAME TIME PERIOD. CLOSE SHOULDERS DURING ACTIVE WORK OPERATIONS ONLY. OPEN THE SHOULDERS AFTER COMPLETION OF THE PLANNED WORK FOR THE PIPE LOCATION.

LC — LANE CLOSURE. CLOSE SINGLE LANE OF TRAFFIC AND FLAG FOR ONE-WAY TRAFFIC OPERATION. INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".

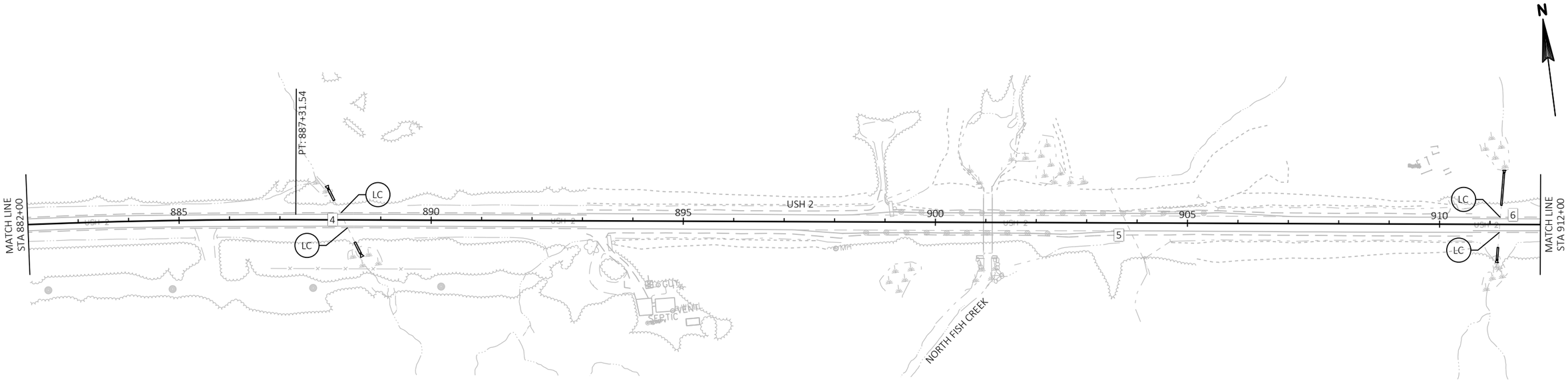
MAXIMUM WIDTH SIGNING FOR EASTBOUND OR WESTBOUND TRAFFIC (OR BOTH) IS REQUIRED WHEN CLOSURES LIMIT THE AVAILABLE LANE PLUS CLEAR SHOULDER WIDTH TO LESS THAN 16'. WHEN OPERATING UNDER FLAGGED, SINGLE LANE OF TRAFFIC CONDITIONS, MAXIMUM WIDTH SIGNING IS NOT REQUIRED WHEN A MINIMUM OF 16' WIDTH (PAVED TRAVELED WAY PLUS SHOULDER) IS AVAILABLE.

TRAFFIC CONTROL SYMBOLS LEGEND

- SIGN ON TEMPORARY SUPPORT
- PCMS — TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL	SHEET 7	E



ALL DIAGONAL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED

TRAFFIC CONTROL TYPE LEGEND AND GENERAL NOTES

(SC) SHOULDER CLOSURE. INSTALL TRAFFIC CONTROL IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY. DO NOT CLOSE BOTH THE LEFT AND RIGHT SHOULDER DURING THE SAME TIME PERIOD. CLOSE SHOULDERS DURING ACTIVE WORK OPERATIONS ONLY. OPEN THE SHOULDERS AFTER COMPLETION OF THE PLANNED WORK FOR THE PIPE LOCATION.

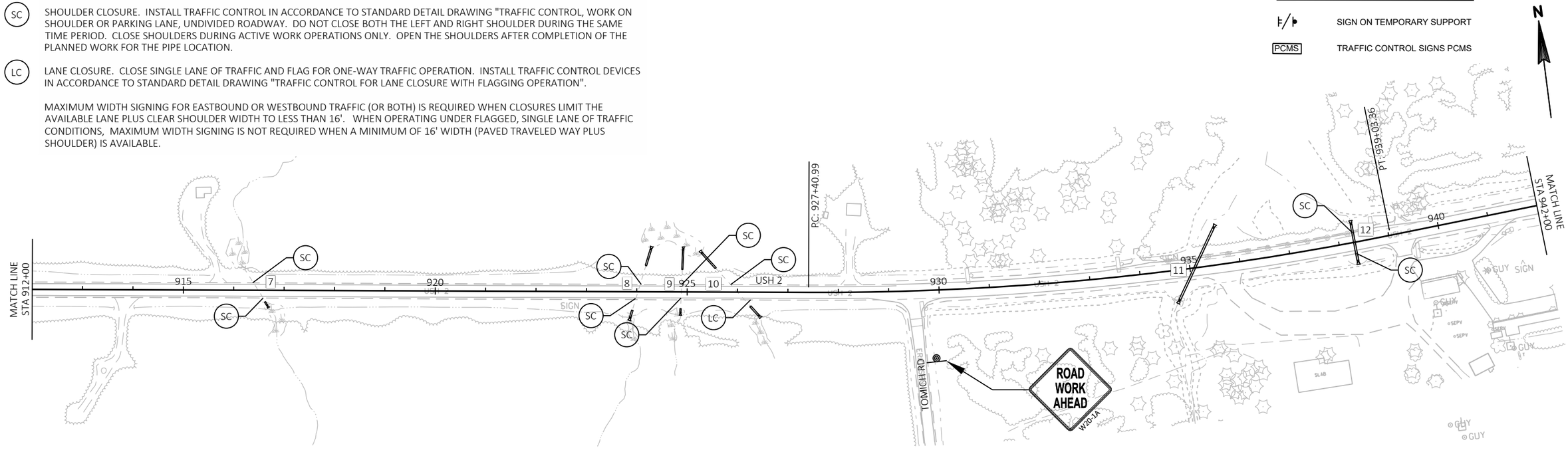
(LC) LANE CLOSURE. CLOSE SINGLE LANE OF TRAFFIC AND FLAG FOR ONE-WAY TRAFFIC OPERATION. INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".

MAXIMUM WIDTH SIGNING FOR EASTBOUND OR WESTBOUND TRAFFIC (OR BOTH) IS REQUIRED WHEN CLOSURES LIMIT THE AVAILABLE LANE PLUS CLEAR SHOULDER WIDTH TO LESS THAN 16'. WHEN OPERATING UNDER FLAGGED, SINGLE LANE OF TRAFFIC CONDITIONS, MAXIMUM WIDTH SIGNING IS NOT REQUIRED WHEN A MINIMUM OF 16' WIDTH (PAVED TRAVELED WAY PLUS SHOULDER) IS AVAILABLE.

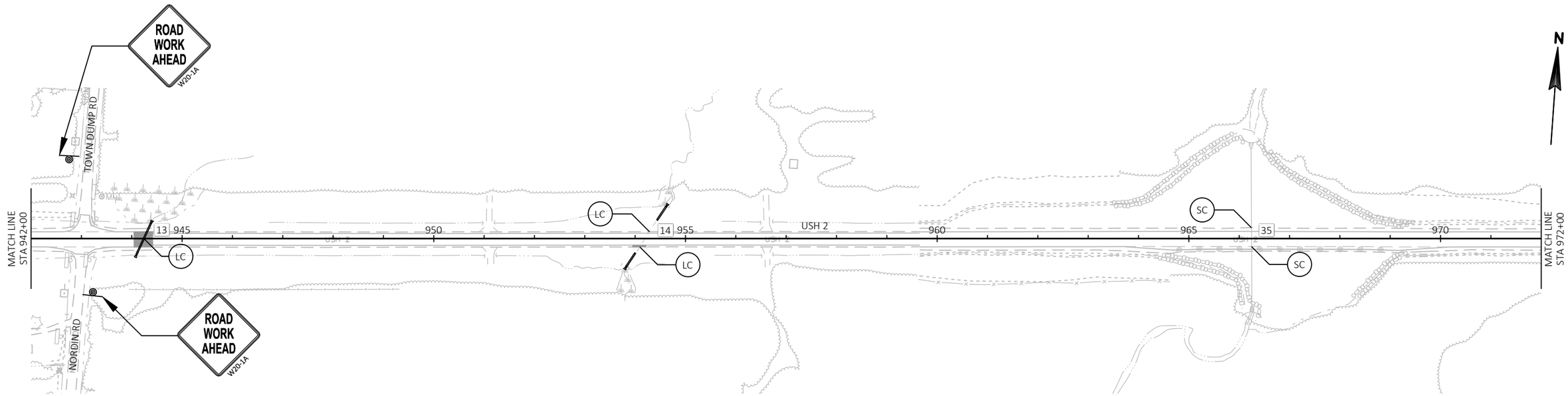
TRAFFIC CONTROL SYMBOLS LEGEND

F/P SIGN ON TEMPORARY SUPPORT

PCMS TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL	SHEET 8	E



ALL DIAGONAL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED

TRAFFIC CONTROL TYPE LEGEND AND GENERAL NOTES

SC

SHOULDER CLOSURE. INSTALL TRAFFIC CONTROL IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY. DO NOT CLOSE BOTH THE LEFT AND RIGHT SHOULDER DURING THE SAME TIME PERIOD. CLOSE SHOULDERS DURING ACTIVE WORK OPERATIONS ONLY. OPEN THE SHOULDERS AFTER COMPLETION OF THE PLANNED WORK FOR THE PIPE LOCATION.

LC

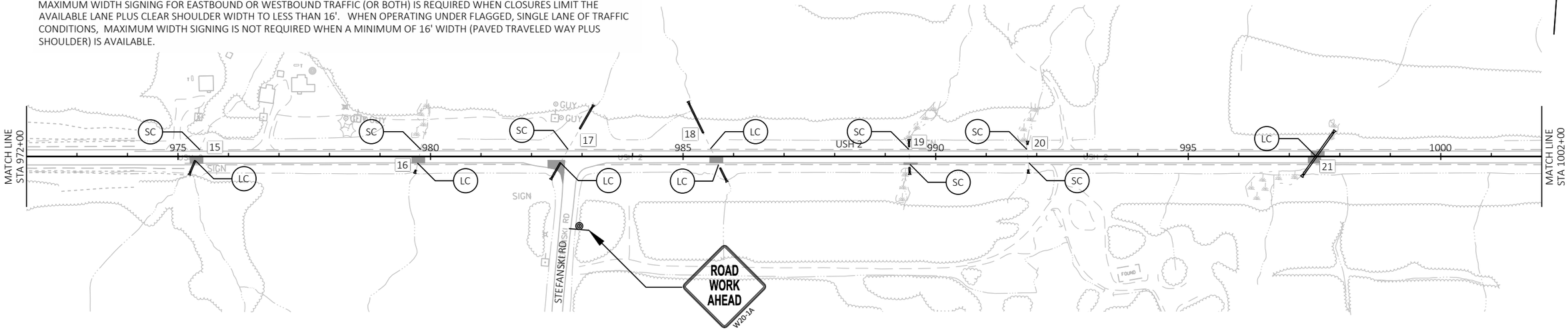
LANE CLOSURE. CLOSE SINGLE LANE OF TRAFFIC AND FLAG FOR ONE-WAY TRAFFIC OPERATION. INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".

MAXIMUM WIDTH SIGNING FOR EASTBOUND OR WESTBOUND TRAFFIC (OR BOTH) IS REQUIRED WHEN CLOSURES LIMIT THE AVAILABLE LANE PLUS CLEAR SHOULDER WIDTH TO LESS THAN 16'. WHEN OPERATING UNDER FLAGGED, SINGLE LANE OF TRAFFIC CONDITIONS, MAXIMUM WIDTH SIGNING IS NOT REQUIRED WHEN A MINIMUM OF 16' WIDTH (PAVED TRAVELED WAY PLUS SHOULDER) IS AVAILABLE.

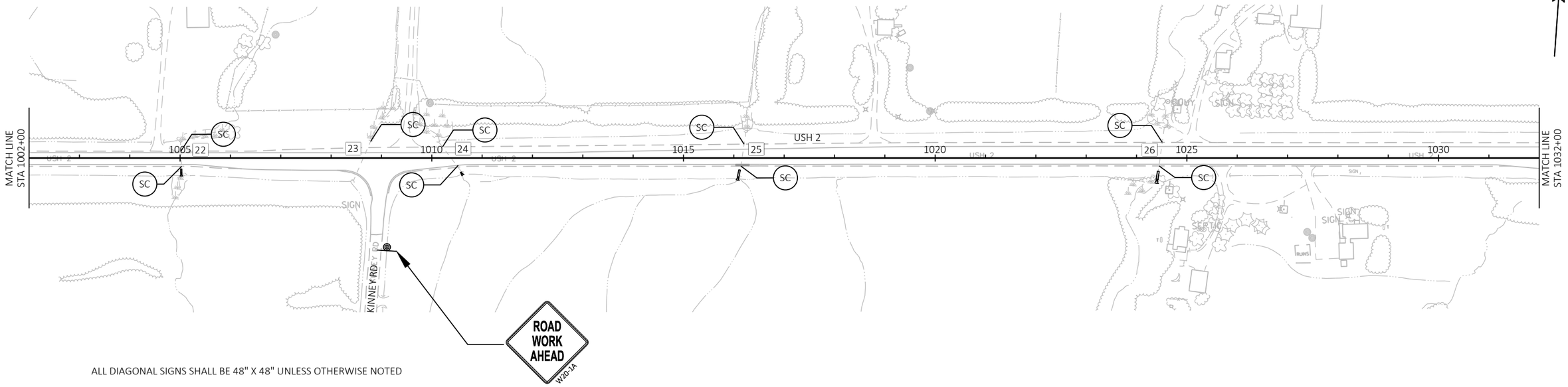
TRAFFIC CONTROL SYMBOLS LEGEND

SIGN ON TEMPORARY SUPPORT

PCMS TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL	SHEET 9	E



ALL DIAGONAL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED

TRAFFIC CONTROL TYPE LEGEND AND GENERAL NOTES

SC — SHOULDER CLOSURE. INSTALL TRAFFIC CONTROL IN ACCORDANCE TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY. DO NOT CLOSE BOTH THE LEFT AND RIGHT SHOULDER DURING THE SAME TIME PERIOD. CLOSE SHOULDERS DURING ACTIVE WORK OPERATIONS ONLY. OPEN THE SHOULDERS AFTER COMPLETION OF THE PLANNED WORK FOR THE PIPE LOCATION.

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SIGN ON TEMPORARY SUPPORT

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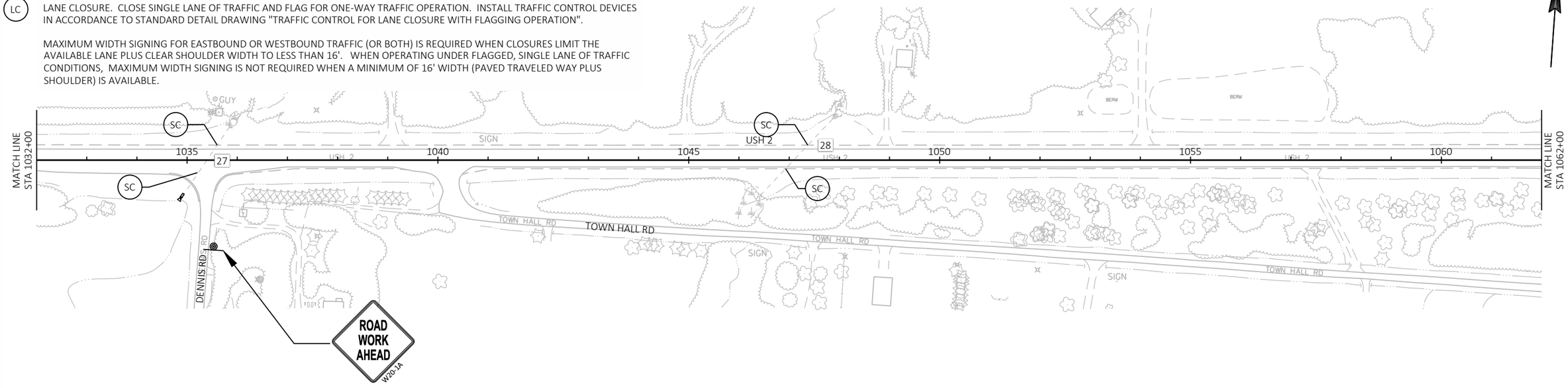
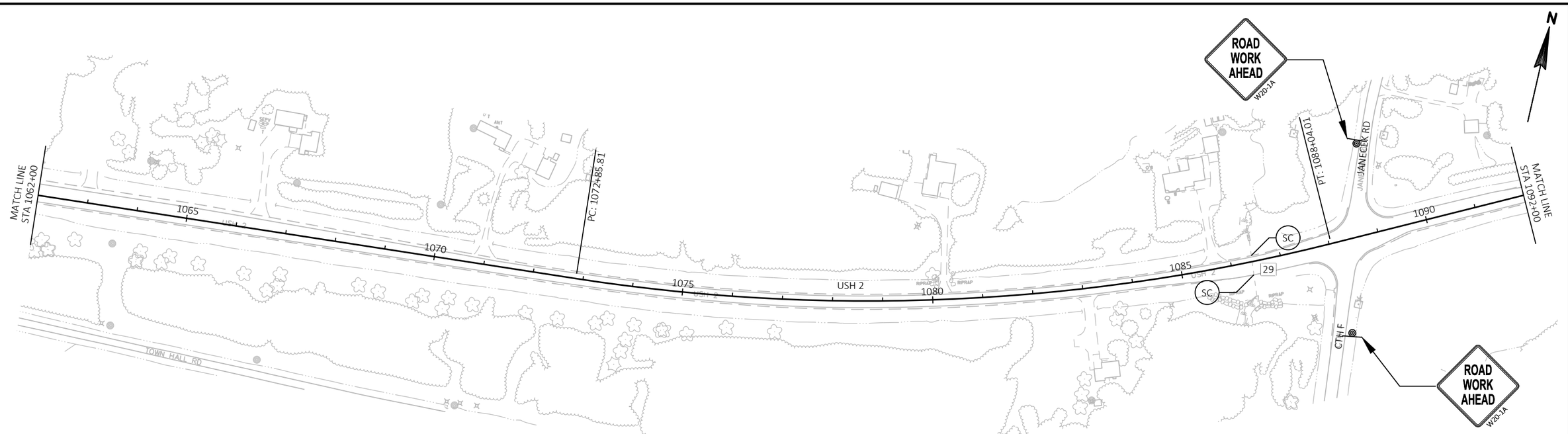


PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL	SHEET 10	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025004_tc

PLOT DATE : 6/21/2019 3:00 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########



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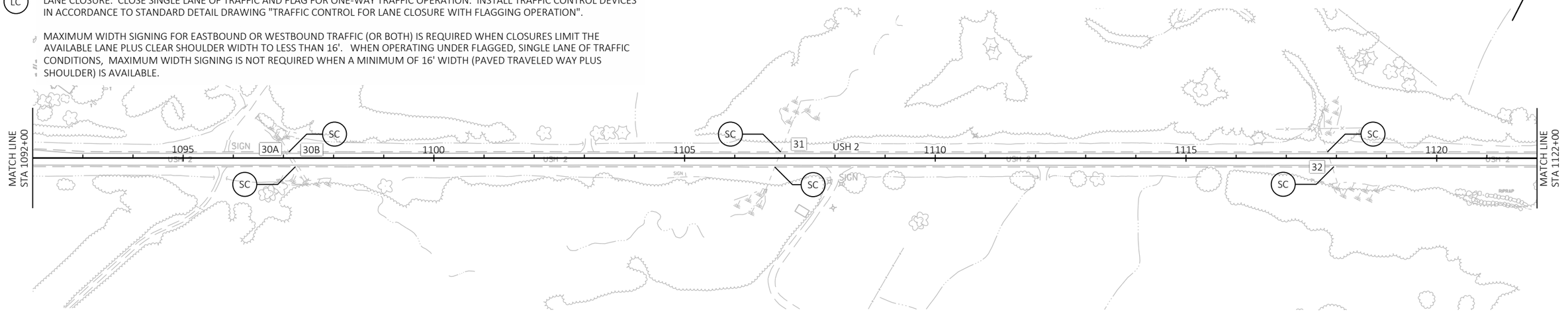
TRAFFIC CONTROL SYMBOLS LEGEND

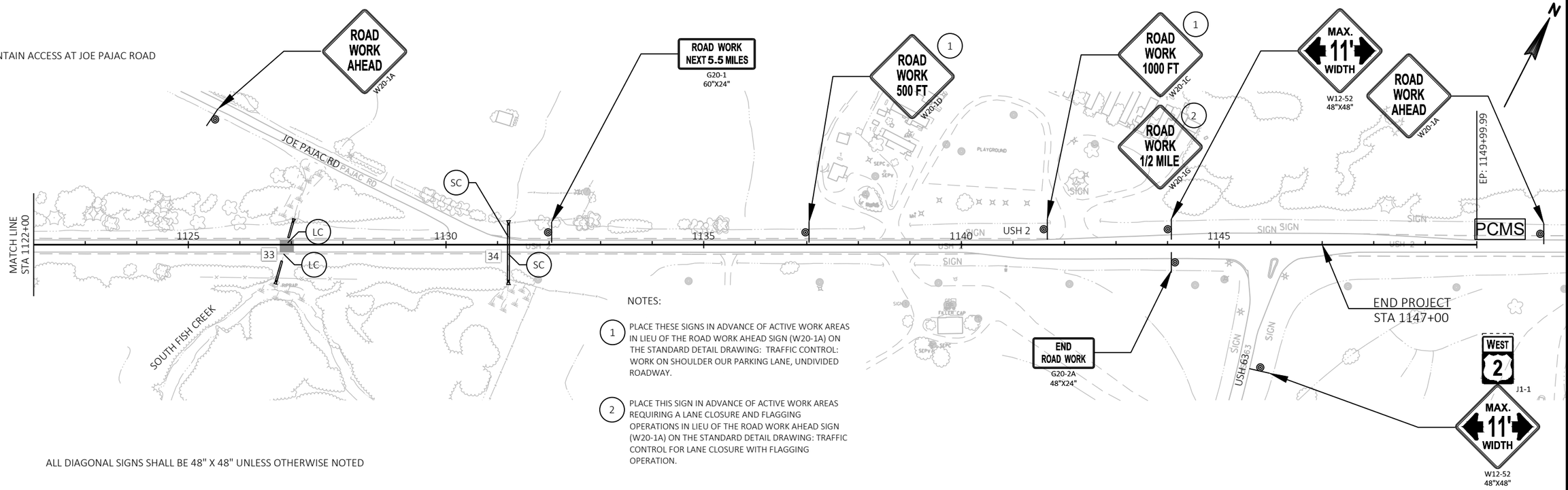
SIGN ON TEMPORARY SUPPORT

PCMS — TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL	SHEET 11	E

MAINTAIN ACCESS AT JOE PAJAC ROAD



NOTES:

1. PLACE THESE SIGNS IN ADVANCE OF ACTIVE WORK AREAS IN LIEU OF THE ROAD WORK AHEAD SIGN (W20-1A) ON THE STANDARD DETAIL DRAWING: TRAFFIC CONTROL: WORK ON SHOULDER OUR PARKING LANE, UNDIVIDED ROADWAY.

2. PLACE THIS SIGN IN ADVANCE OF ACTIVE WORK AREAS REQUIRING A LANE CLOSURE AND FLAGGING OPERATIONS IN LIEU OF THE ROAD WORK AHEAD SIGN (W20-1A) ON THE STANDARD DETAIL DRAWING: TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

ALL DIAGONAL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED

TRAFFIC CONTROL SYMBOLS LEGEND

F/P	SIGN ON TEMPORARY SUPPORT
PCMS	TRAFFIC CONTROL SIGNS PCMS

TRAFFIC CONTROL TYPE LEGEND AND GENERAL NOTES

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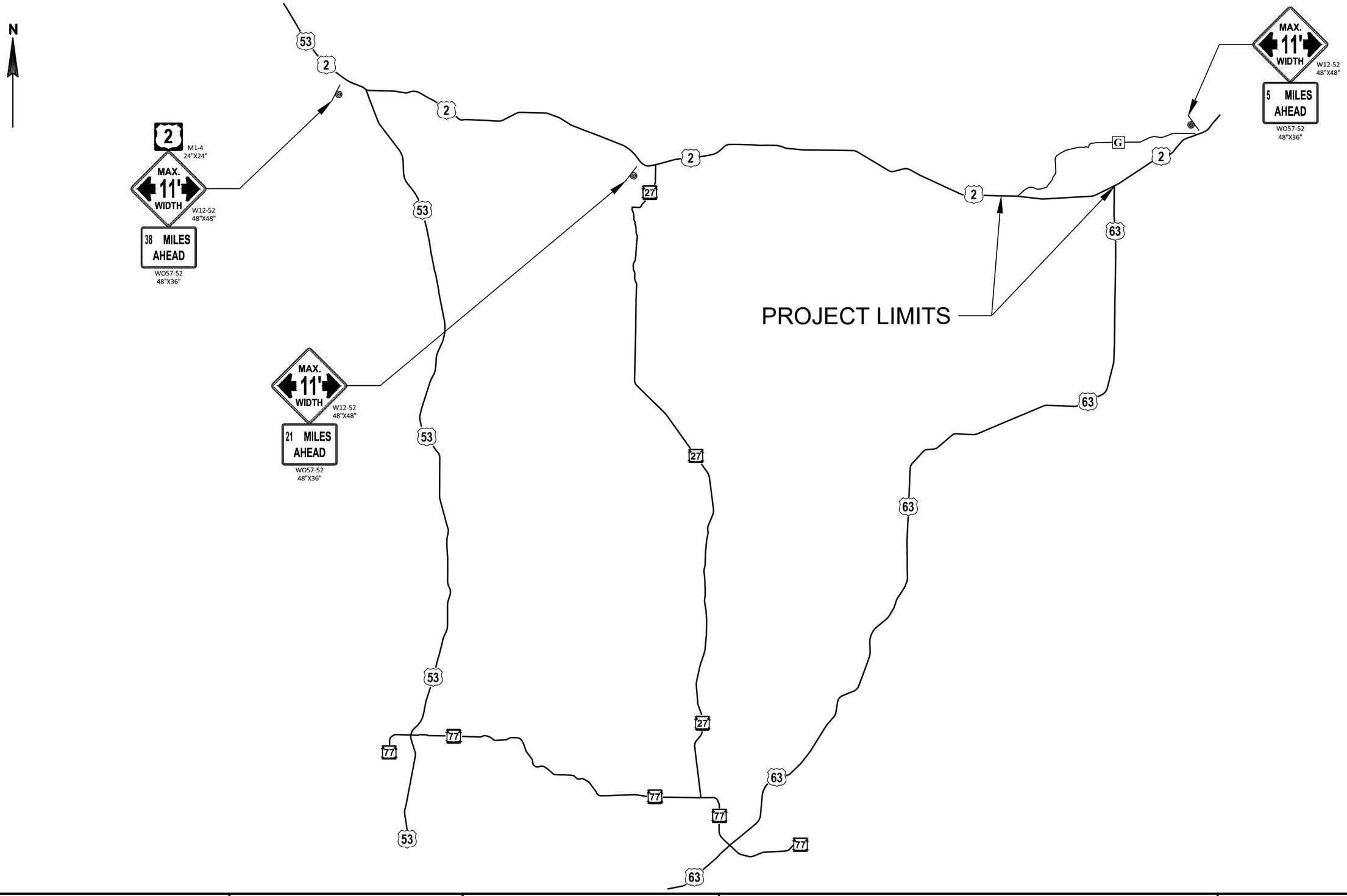

2

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	TRAFFIC CONTROL - RESTRICTED WIDTH ADVANCE SIGNING	SHEET	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025007_tc

PLOT DATE : 6/21/2019 3:00 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:1000 FT

Estimate Of Quantities

1180-03-81

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	2,890.000	2,890.000
0004	201.0210	Grubbing	SY	2,565.000	2,565.000
0006	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	203.0200	Removing Old Structure (station) 01. 938+31	LS	1.000	1.000
0010	203.0200	Removing Old Structure (station) 02. 1131+21	LS	1.000	1.000
0012	204.0100	Removing Pavement	SY	495.000	495.000
0014	204.0170	Removing Fence	LF	125.000	125.000
0016	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	104.000	104.000
0018	204.0245	Removing Storm Sewer (size) 02. 30-Inch	LF	56.000	56.000
0020	204.0245	Removing Storm Sewer (size) 03. 36-Inch	LF	8.000	8.000
0022	205.0100	Excavation Common	CY	2,480.000	2,480.000
0024	208.0100	Borrow	CY	1,937.000	1,937.000
0026	213.0100	Finishing Roadway (project) 01. 1180-03-81	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	60.000	60.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	756.000	756.000
0032	305.0500	Shaping Shoulders	STA	16.000	16.000
0034	455.0605	Tack Coat	GAL	69.000	69.000
0036	465.0105	Asphaltic Surface	TON	222.000	222.000
0038	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	167.000	167.000
0040	509.1500	Concrete Surface Repair	SF	115.000	115.000
0042	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0044	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	2.000	2.000
0046	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	4.000	4.000
0048	520.3424	Culvert Pipe Class III-A Non-metal 24-Inch	LF	68.000	68.000
0050	520.3430	Culvert Pipe Class III-A Non-metal 30-Inch	LF	100.000	100.000
0052	520.3436	Culvert Pipe Class III-A Non-metal 36-Inch	LF	184.000	184.000
0054	520.8000	Concrete Collars for Pipe	EACH	33.000	33.000
0056	520.8700	Cleaning Culvert Pipes	EACH	19.000	19.000
0058	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	104.000	104.000
0060	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	48.000	48.000
0062	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	32.000	32.000
0064	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	19.000	19.000
0066	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	9.000	9.000
0068	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	3.000	3.000
0070	524.0118	Culvert Pipe Salvaged 18-Inch	LF	45.000	45.000
0072	524.0124	Culvert Pipe Salvaged 24-Inch	LF	248.000	248.000
0074	524.0130	Culvert Pipe Salvaged 30-Inch	LF	248.000	248.000

1180-03-81

Line	Item	Item Description	Unit	Total	Qty
0076	524.0136	Culvert Pipe Salvaged 36-Inch	LF	48.000	48.000
0078	606.0100	Riprap Light	CY	19.000	19.000
0080	606.0200	Riprap Medium	CY	177.400	177.400
0082	606.0300	Riprap Heavy	CY	74.600	74.600
0084	606.0400	Riprap Extra-Heavy	CY	199.900	199.900
0086	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1180-03-81	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	624.0100	Water	MGAL	3.000	3.000
0092	625.0500	Salvaged Topsoil	SY	12,010.000	12,010.000
0094	627.0200	Mulching	SY	2,400.000	2,400.000
0096	628.1504	Silt Fence	LF	1,345.000	1,345.000
0098	628.1520	Silt Fence Maintenance	LF	1,345.000	1,345.000
0100	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0102	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0104	628.2008	Erosion Mat Urban Class I Type B	SY	2,520.000	2,520.000
0106	628.2023	Erosion Mat Class II Type B	SY	9,120.000	9,120.000
0108	628.2037	Erosion Mat Class III Type C	SY	580.000	580.000
0110	628.7504	Temporary Ditch Checks	LF	740.000	740.000
0112	628.7555	Culvert Pipe Checks	EACH	114.000	114.000
0114	629.0210	Fertilizer Type B	CWT	8.030	8.030
0116	630.0110	Seeding Mixture No. 10	LB	90.400	90.400
0118	630.0130	Seeding Mixture No. 30	LB	116.500	116.500
0120	630.0500	Seed Water	MGAL	29.400	29.400
0122	633.5200	Markers Culvert End	EACH	68.000	68.000
0124	638.2102	Moving Signs Type II	EACH	3.000	3.000
0126	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0128	642.5001	Field Office Type B	EACH	1.000	1.000
0130	643.0300	Traffic Control Drums	DAY	2,310.000	2,310.000
0132	643.0420	Traffic Control Barricades Type III	DAY	180.000	180.000
0134	643.0705	Traffic Control Warning Lights Type A	DAY	360.000	360.000
0136	643.0715	Traffic Control Warning Lights Type C	DAY	225.000	225.000
0138	643.0900	Traffic Control Signs	DAY	1,759.000	1,759.000
0140	643.1050	Traffic Control Signs PCMS	DAY	34.000	34.000
0142	643.5000	Traffic Control	EACH	1.000	1.000
0144	645.0120	Geotextile Type HR	SY	1,092.600	1,092.600
0146	645.0130	Geotextile Type R	SY	76.500	76.500
0148	646.1020	Marking Line Epoxy 4-Inch	LF	515.000	515.000
0150	650.6000	Construction Staking Pipe Culverts	EACH	21.000	21.000
0152	650.9910	Construction Staking Supplemental Control (project) 01.	LS	1.000	1.000

1180-03-81

Line	Item	Item Description	Unit	Total	Qty
		1180-03-81			
0154	690.0150	Sawing Asphalt	LF	187.000	187.000
0156	690.0250	Sawing Concrete	LF	460.000	460.000
0158	SPV.0090	Special 01. Cleaning Ditch	LF	1,040.000	1,040.000
0160	SPV.0090	Special 02. Sealing Box Culvert Joints	LF	374.000	374.000
0162	SPV.0105	Special 01. Abandon Cattle Pass, Station 938+31	LS	1.000	1.000
0164	SPV.0105	Special 02. Abandon Cattle Pass, Station 1131+21	LS	1.000	1.000
0166	SPV.0105	Special 03. Box Culvert Joint Repair C-4-713	LS	1.000	1.000

3

CLEARING & GRUBBING

CATEGORY	CULVERT ID	STATION	TO STATION	LOCATION	(201.0110) CLEARING SY	(201.0210) GRUBBING SY
0010	4	887+50	888+75	LT	410	410
	4	887+80	889+00	RT	395	395
	6	910+90	911+35	RT	50	50
	6	911+00	911+50	LT	300	300
	8	923+90	924+35	LT	235	235
	8	923+63	923+96	RT	100	100
	9	924+75	925+05	LT	205	205
	9	924+75	925+00	RT	35	35
	10	925+30	925+80	LT	200	200
	17	983+10	983+30	LT	50	25
	18	985+00	985+35	LT	105	105
	22	1004+90	1005+10	LT	50	50
	26	1024+14	1024+84	RT	120	120
	28	1046+25	1046+45	RT	50	50
	29	1086+30	1086+50	RT	50	50
	29	1086+35	1086+55	LT	50	50
	30A/30B	1096+75	1097+00	LT	50	50
	31	1106+40	1106+80	RT	90	-
	31	1106+80	1107+25	LT	100	-
	32	1117+60	1117+85	LT	70	-
	33	1126+85	1127+20	LT	55	55
			UNDISTRIBUTED		120	80
			PROJECT TOTALS		**2,890**	**2,565**

REMOVING PAVEMENT

CATEGORY	STATION	TO STATION	LOCATION	(204.0100) REMOVING PAVEMENT SY	(690.0150) SAWING ASPHALT LF	(690.0250) SAWING CONCRETE LF
0010	944+05	944+41	RT & LT	121	12	60
	953+95	954+20	RT	8	31	31
	975+24	975+49	RT	42	6	55
	979+63	979+88	RT	42	6	55
	982+33	982+66	RT	76	65	33
	985+52	985+77	RT	42	6	55
	989+37	989+62	RT	8	31	-
	997+38	997+69	RT & LT	65	12	80
	1016+00	1016+25	RT	8	6	31
	1126+80	1127+05	RT & LT	83	12	60
		PROJECT TOTALS		**495**	**187**	**460**

REMOVING FENCE

CATEGORY	STATION	TO STATION	LOCATION	(204.0170) LF
0010	888+60	888+85	RT	25
	1117+55	1117+80	LT	25
	1126+20	1127+70	RT	25
	1130+70	1131+70	LT	25
	1131+10	1131+40	RT	25
		PROJECT TOTAL		**125**

REMOVING SMALL PIPE CULVERTS

CATEGORY	PIPE ID	STATION	TO STATION	LOCATION	PIPE DIA.	PIPE LENGTH	(203.0100) EACH
0010	13	944+11	944+38	RT & LT	24"	62'	1
	21	997+31	997+86	RT & LT	24"	91'	1
				PROJECT TOTAL			**2**

REMOVING STORM SEWER

CATEGORY	CULVERT ID	STATION	LOCATION	(204.0245.01) 24-INCH LF	(204.0245.02) 30-INCH LF	(204.0245.03) 36-INCH LF
0010	4	888+00	LT	8	-	-
	8	924+29	LT	-	8	-
	14	953+82	RT	8	-	-
	17	983+23	LT	8	-	-
	18	985+40	LT	64	-	-
	19	989+48	RT	8	-	-
	22	1005+02	RT	8	-	-
	25	1016+08	RT	-	8	-
	26	1024+42	RT	-	-	8
	33	1126+70	RT	-	40	-
		PROJECT TOTALS		**104**	**56**	**8**

NOTE: THIS BID ITEM IS FOR REMOVING SECTIONS OF CULVERT PIPES

REMOVING OLD STRUCTURE

CATEGORY	CULVERT ID	STATION	(203.0200.01) STA. 938+31 LS	(203.0200.02) STA. 1131+21 LS	NOTES
0010	12 (C-04-708)	938+31	1	-	REMOVE INLET AND OUTLET WING WALLS AND APRON FLOORS
	34	1131+21	-	1	REMOVE INLET AND OUTLET WING WALLS AND APRON FLOORS
	PROJECT TOTALS		**1**	**1**	

EARTHWORK

CATEGORY	CULVERT ID	(205.0100) EXCAVATION COMMON (1) (3) (4) CY	FILL (UNADJUSTED) (3) CY	FILL (EXPANDED) FACTOR = 1.5 CY	MASS ORDINATE (2) CY	(208.0100) BORROW CY
0010	1	0	0	0	0	0
	2	30	42	63	-33	33
	4	60	2	3	57	0
	6	70	31	47	24	0
	7	20	36	54	-34	34
	8	10	33	50	-40	40
	9	20	298	447	-427	427
	10	50	483	725	-675	675
	12	90	214	321	-231	231
	13	70	97	146	-76	76
	14	40	98	147	-107	107
	15	30	3	5	26	0
	16	10	32	48	-38	38
	17	40	32	48	-8	8
	18	60	1	2	59	0
	19	30	67	101	-71	71
	20	10	77	116	-106	106
	21	20	12	18	2	0
	22	190	53	80	111	0
	23	210	59	89	122	0
	24	560	154	231	329	0
	25	550	163	245	306	0
	26	40	37	56	-16	16
	27	10	35	53	-43	43
	28	10	22	33	-23	23
	29	10	15	23	-13	13
	30A - 30B	10	6	9	1	0
	31	40	21	32	9	0
	32	40	21	32	9	0
	33	40	1	2	39	0
	34	60	7	11	50	0
	35	50	7	11	40	0
	PROJECT TOTALS	**2,480**	**-**	**3,239**	**-**	**1,937**

NOTES:

(1) Estimated cut volume at each pipe end location. Excavation is required and estimated for ditch regrading and embankment shaping. Excavation for pipe work is incidental to the pipe item at each location.

(2) Mass Ordinate - Earthwork balance computed at each pipe. Hauling waste material from one pipe location to another pipe location will be paid at the bid unit cost for Borrow

(3) Excavation in plan areas identified as "Cleaning Ditch" are not included and are paid for under the Bid Item Cleaning Ditch. Reduce the quantity of Borrow utilizing material excavated from Ditch Cleaning as directed by the engineer

(4) Excavation will not be measured and paid for pavement removal over the pipe. Pavement removal will be measured and paid under the Removing Pavement bid item.

BASE AGGREGATE SHOULDERS

CATEGORY	STATION	TO STATION	LOCATION	(305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(305.0500) SHAPING SHOULDERS STA
0010	944+05	944+41	RT & LT	6	1
	953+95	954+20	RT	2	2
	975+24	975+49	RT	2	1
	979+63	979+88	RT	2	1
	982+33	982+66	RT	4	1
	985+52	985+77	RT	2	1
	989+37	989+62	RT	2	1
	997+38	997+69	RT & LT	4	1
	1016+00	1016+25	RT	2	1
	1126+80	1127+05	RT & LT	4	2
	UNDISTRIBUTED (FOR ROADSIDE GRADING)			30	4
	PROJECT TOTALS			**60**	**16**

HMA PAVEMENT

CATEGORY	STATION	TO STATION	LOCATION	(305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON	(624.0100) WATER MGAL	(1) HMA PAVEMENT 3 MT 58-28 S TON	(1) HMA PAVEMENT 4 MT 58-34 H TON	(465.0105) ASPHALTIC SURFACE TON	(455.0605) TACK COAT GAL
0010	944+05	944+41	RT & LT	169	0.7	37	17	54	17
	953+95	954+20	RT	29	0.1	3	1	4	1
	975+24	975+49	RT	58	0.2	13	6	19	6
	979+63	979+88	RT	58	0.2	13	6	19	6
	982+33	982+66	RT	108	0.4	23	11	34	11
	985+52	985+77	RT	58	0.2	13	6	19	6
	989+37	989+62	RT	29	0.1	3	1	4	1
	997+38	997+69	RT & LT	101	0.4	20	9	29	9
	1016+00	1016+25	RT	29	0.1	3	1	4	1
	1126+80	1127+05	RT & LT	117	0.5	26	12	37	12
	PROJECT TOTALS			**756**	**3.0**	**153**	**69**	**222**	**69**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

NOTE: WATER BID ITEM TO BE USED FOR BASE AGGREGATE COMPACTION
NOTE (1): FOR INFORMATION - PAYMENT UNDER 465.0105 ASPHALTIC SURFACE

ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL

CATEGORY	STATION	TO STATION	(465.0475) LF
0010	944+05	944+41	36
	975+24	975+49	25
	979+63	979+88	25
	985+52	985+77	25
	997+38	997+69	31
	1126+80	1127+05	25
	PROJECT TOTAL		**167**

CULVERT PIPES

CATEGORY	CULVERT ID	C/L STATION	PIPE DIA.	(520.8000) CONCRETE COLLARS FOR PIPE EACH	(520.8700) CLEANING CULVERT PIPES EACH	(520.3424) CULVERT PIPE CLASS III-A NON-METAL 24-INCH LF	(520.3430) CULVERT PIPE CLASS III-A NON-METAL 30-INCH LF	(520.3436) CULVERT PIPE CLASS III-A NON-METAL 36-INCH LF	(520.1024) APRON ENDWALLS FOR CULVERT PIPE 24-INCH LF	(520.1030) APRON ENDWALLS FOR CULVERT PIPE 30-INCH LF	(520.1036) APRON ENDWALLS FOR CULVERT PIPE 36-INCH LF	(522.0124) CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	(522.0130) CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	(522.0136) CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH LF
0010	1A	846+98	30"	-	1	-	-	-	-	-	-	-	-	-
	1B	847+03	30"	-	1	-	-	-	-	-	-	-	-	-
	2	854+82	24"	2	1	-	-	-	-	-	-	8	-	-
	4	888+26	36"	2	1	-	-	-	-	-	-	-	-	24
	6	911+19	30"	2	-	-	-	-	-	-	-	-	-	-
	7	916+48	24"	1	1	-	-	-	-	-	-	-	-	-
	8	924+02	30"	2	1	-	-	-	-	-	-	-	-	-
	9	924+88	24"	2	1	-	-	-	-	-	-	-	-	-
	10	926+00	30"	2	-	-	-	-	-	-	-	-	-	-
	12	938+31	36"	-	-	-	-	76	-	-	2	-	-	-
	13	944+24	24"	-	-	68	-	-	2	-	-	-	-	-
	14	954+19	24"	2	1	-	-	-	-	-	-	8	-	-
	15	975+37	24"	1	1	-	-	-	-	-	-	-	-	-
	16	979+77	24"	1	1	-	-	-	-	-	-	-	-	-
	17	982+65	24"	2	-	-	-	-	-	-	-	8	-	-
	18	985+62	24"	2	-	-	-	-	-	-	-	64	-	-
	19	989+48	24"	2	1	-	-	-	-	-	-	8	-	-
	20	991+82	24"	2	1	-	-	-	-	-	-	-	-	-
	21	997+53	30"	-	-	-	100	-	-	2	-	-	-	-
	22	1005+03	24"	1	1	-	-	-	-	-	-	8	-	-
	23	1008+65	24"	-	1	-	-	-	-	-	-	-	-	-
	24	1010+37	24"	1	1	-	-	-	-	-	-	-	-	-
	25	1016+17	30"	2	1	-	-	-	-	-	-	-	8	-
	26	1024+48	36"	1	1	-	-	-	-	-	-	-	-	8
	27	1035+40	36"	1	1	-	-	-	-	-	-	-	-	-
	28	1047+08	42"	-	-	-	-	-	-	-	-	-	-	-
	29 (C-04-710)	1086+44	3.5'X6' BOX	-	1	-	-	-	-	-	-	-	-	-
	30A & 30B	1097+15	42"	-	-	-	-	-	-	-	-	-	-	-
	31 (C-04-713)	1106+85	3.5'X6' BOX	-	-	-	-	-	-	-	-	-	-	-
	32 (C-04-711)	1117+82	3.5'X6' BOX	-	-	-	-	-	-	-	-	-	-	-
	-	1117+49 - 1117+92	18"	-	-	-	-	-	-	-	-	-	-	-
	33	1126+91	30"	2	-	-	-	-	-	-	-	-	40	-
	34	1131+21	36"	-	-	-	-	108	-	-	2	-	-	-
	35	966+25	6' x 6' BOX	-	-	-	-	-	-	-	-	-	-	-
	PROJECT TOTALS			**33**	**19**	**68**	**100**	**184**	**2**	**2**	**4**	**104**	**48**	**32**

(CONTINUED ON NEXT PAGE)

CULVERT PIPES (CONT.)

CATEGORY	CULVERT ID	C/L STATION	PIPE DIA.	(522.1024) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	(522.1030) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	(522.1036) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	(524.0118) CULVERT PIPE SALVAGED 18-INCH LF	(524.0124) CULVERT PIPE SALVAGED 24-INCH LF	(524.0130) CULVERT PIPE SALVAGED 30-INCH LF	(524.0136) CULVERT PIPE SALVAGED 36-INCH LF	(633.5200) MARKERS CULVERT END EACH	(650.6000) CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	1A	846+98	30"	-	-	-	-	-	-	-	2	-
	1B	847+03	30"	-	-	-	-	-	-	-	2	-
	2	854+82	24"	2	-	-	-	-	-	-	2	1
	4	888+26	36"	-	-	2	-	-	-	24	2	1
	6	911+19	30"	-	2	-	-	-	88	-	2	1
	7	916+48	24"	1	-	-	-	8	-	-	2	1
	8	924+02	30"	-	2	-	-	-	48	-	2	1
	9	924+88	24"	2	-	-	-	48	-	-	2	1
	10	926+00	30"	-	2	-	-	-	64	-	2	1
	12	938+31	36"	-	-	-	-	-	-	-	2	-
	13	944+24	24"	-	-	-	-	-	-	-	2	1
	14	954+19	24"	2	-	-	-	48	-	-	2	1
	15	975+37	24"	1	-	-	-	24	-	-	2	1
	16	979+77	24"	1	-	-	-	16	-	-	2	1
	17	982+65	24"	2	-	-	-	72	-	-	2	1
	18	985+62	24"	2	-	-	-	24	-	-	2	1
	19	989+48	24"	2	-	-	-	8	-	-	2	1
	20	991+82	24"	2	-	-	-	-	-	-	2	-
	21	997+53	30"	-	-	-	-	-	-	-	2	1
	22	1005+03	24"	1	-	-	-	-	-	-	2	1
	23	1008+65	24"	-	-	-	-	-	-	-	2	-
	24	1010+37	24"	1	-	-	-	-	-	-	2	-
	25	1016+17	30"	-	1	-	-	-	16	-	2	1
	26	1024+48	36"	-	-	1	-	-	-	8	2	1
	27	1035+40	36"	-	-	-	-	-	-	16	2	1
	28	1047+08	42"	-	-	-	-	-	-	-	2	-
	29 (C-04-710)	1086+44	3.5'X6' BOX	-	-	-	-	-	-	-	2	-
	30A & 30B	1097+15	42"	-	-	-	-	-	-	-	2	-
	31 (C-04-713)	1106+85	3.5'X6' BOX	-	-	-	-	-	-	-	2	-
	32 (C-04-711)	1117+82	3.5'X6' BOX	-	-	-	-	-	-	-	2	-
	-	1117+49 - 1117+92	18"	-	-	-	45	-	-	-	2	1
	33	1126+91	30"	-	2	-	-	-	32	-	2	1
	34	1131+21	36"	-	-	-	-	-	-	-	2	-
	35	966+25	6' x 6' BOX	-	-	-	-	-	-	-	2	-
	PROJECT TOTALS			**19**	**9**	**3**	**45**	**248**	**248**	**48**	**68**	**21**

3

CONCRETE SURFACE REPAIR

CATEGORY	CULVERT ID	C/L STATION	LOCATION	(509.1500) SF	NOTES
0010	35 (C-04-707)	966+25	LT	10	BOX CULVERT FLOOR
		PROJECT TOTAL		**10**	

* ADDITIONAL QUANTITIES INCLUDED IN THE STRUCTURE PLANS

ABANDON CATTLE PASS

CATEGORY	CULVERT ID	C/L STATION	BOX OPENING W X H X L	(SPV.0105.01) ABANDON CATTLE PASS, STATION 938+31 LS	(SPV.0105.02) ABANDON CATTLE PASS, STATION 1131+21 LS
0010	12 (C-04-708)	938+31	3.5' X 6' X 56'	1	-
	34	1131+21	3.5' X 6' X 70'	-	1
		PROJECT TOTALS		**1**	**1**

NOTE: SEE CULVERT PIPE TABULATION FOR QUANTITIES OF CULVERT PIPE AND APRON ENDWALLS TO BE INSTALLED IN ASSOCIATION WITH ABANDONING CATTLE PASS.

SEALING BOX CULVERT JOINTS

CATEGORY	CULVERT ID	C/L STATION	LOCATION	BOX OPENING W X H	(SPV.0090.02) SEALING BOX CULVERT JOINTS LF
0010	29 (C-04-710)	1086+44	2 JOINTS AT INLET (SOUTH)	3.5' X 6'	38
	35	966+25	4 PRECAST JOINTS AT INLET (SOUTH)	6' X 6' PRECAST AT ENDS	336
			10 PRECAST JOINTS AT OUTLET (NORTH)	6' X 6' CAST IN PLACE INTERIOR	
				PROJECT TOTAL	**374**

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	DESCRIPTION	(618.0100.01) EACH
0010	PROJECT 1180-03-81	1
	PROJECT TOTAL	**1**

CLEANING DITCH

CATEGORY	STATION	LOCATION	(SPV.0090.01) LF
0010	847+00	LT	20
	847+02	RT	30
	854+82	RT	100
	888+62	RT	35
	911+28	LT	20
	916+20	LT	30
	944+40	LT	70
	954+63	LT	20
	975+63	LT	50
	979+89	LT	50
	983+21	LT	30
	985+11	LT	30
	989+47	LT	75
	991+82	LT	75
	1005+02	LT	70
	1008+80	LT	70
	1010+15	LT	70
	1010+58	RT	25
	1016+27	LT	50
	1024+56	LT	50
	1035+86	LT	30
	1046+40	RT	20
	1047+90	LT	20
	PROJECT TOTAL		**1,040**

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RIPRAP OVER FABRIC

CATEGORY	CULVERT ID	C/L STATION	LOCATION	(606.0100) RIPRAP LIGHT CY	(606.0200) RIPRAP MEDIUM CY	(606.0300) RIPRAP HEAVY CY	(606.0400) RIPRAP EXTRA-HEAVY CY	(645.0120) GEOTEXTILE TYPE HR SY	(645.0130) GEOTEXTILE TYPE R SY
0010	1A & 1B	847+00	LT	-	9.0	-	-	24.0	-
			RT	-	9.0	-	-	24.0	-
	2	854+82	LT	-	1.8	-	-	6.4	-
			RT	-	4.7	-	-	13.8	-
	4	888+26	LT	-	-	11.6	-	25.2	-
			RT	-	-	12.0	-	26.0	-
	6	911+19	LT	-	3.0	-	-	9.5	-
			RT	-	3.2	-	-	10.2	-
	7	916+48	LT	-	4.0	-	-	13.5	-
			RT	-	4.7	-	-	13.7	-
	8	924+02	LT	-	4.0	-	-	12.0	-
			RT	-	6.4	-	-	17.8	-
	9	924+88	LT	-	3.6	-	-	11.0	-
			RT	-	10.3	-	-	27.7	-
	10	926+00	LT	-	6.4	-	-	17.8	-
			RT	-	5.4	-	-	17.2	-
	12	938+31	LT	-	7.1	-	-	21.4	-
			RT	-	4.5	-	-	13.4	-
	13	944+24	LT	-	4.0	-	-	13.5	-
			RT	-	4.7	-	-	13.7	-
	14	954+19	LT	-	4.0	-	-	13.5	-
			RT	-	5.4	-	-	15.6	-
	35	966+25	LT	-	-	-	14.2	-	-
			RT	-	-	-	-	-	-
	15	975+37	LT	-	9.0	-	-	24.6	-
			RT	-	4.0	-	-	13.5	-
	16	979+77	LT	-	4.0	-	-	13.5	-
			RT	-	4.0	-	-	13.5	-
	17	982+65	LT	-	4.0	-	-	13.5	-
			RT	-	4.0	-	-	13.5	-
	18	985+62	LT	-	4.2	-	-	13.5	-
			RT	-	4.0	-	-	13.5	-
	19	989+47.75	LT	4.3	-	-	-	-	16.4
			RT	2.7	-	-	-	-	11.6
	20	991+82	LT	3.1	-	-	-	-	12.3
			RT	2.7	-	-	-	-	11.6
	21	997+53	LT	-	6.8	-	-	18.8	-
			RT	-	5.4	-	-	17.2	-
	22	1005+03	LT	-	4.0	-	-	13.5	-
			RT	-	4.0	-	-	13.5	-
	23	1008+65	LT	-	4.0	-	-	13.5	-
			RT	-	-	-	-	-	-
	24	1010+37	LT	3.1	-	-	-	-	12.3
			RT	3.1	-	-	-	-	12.3
	25	1016+17	LT	-	5.4	-	-	17.2	-
			RT	-	5.4	-	-	17.2	-
	26	1024+48	LT	-	-	11.1	-	24.4	-
			RT	-	-	9.5	-	24.0	-
	27	1035+40	LT	-	-	9.5	-	24.0	-
			RT	-	-	3.9	-	10.8	-
	28	1047+08	LT	-	-	-	18.0	35.0	-
			RT	-	-	-	18.0	35.0	-
	29	1086+44	LT	-	-	-	18.4	39.0	-
			RT	-	-	-	-	-	-
	30	1097+20	LT	-	-	-	32.3	49.1	-
			RT	-	-	-	36.7	54.9	-
	31	1106+84	LT	-	-	-	16.0	36.0	-
			RT	-	-	-	7.0	42.0	-
	32	1117+82	LT	-	-	-	-	-	-
			RT	-	-	-	18.7	40.0	-
	33	1126+91	LT	-	-	8.5	-	19.5	-
			RT	-	-	8.5	-	19.5	-
	34	1131+21	LT	-	-	-	9.5	24.0	-
			RT	-	-	-	11.1	24.4	-
	PROJECT TOTALS			**19.0**	**177.4**	**74.6**	**199.9**	**1092.6**	**76.5**

SILT FENCE

CATEGORY	STATION	TO STATION	LOCATION	(628.1504) SILT FENCE LF	(628.1520) SILT FENCE MAINTENANCE LF
0010	887+30	889+50	LT & RT	300	300
	923+15	924+20	RT	100	100
	953+60	954+40	RT	80	80
	982+25	984+00	LT	175	175
	984+80	986+00	LT	120	120
	997+40	998+10	LT	170	170
	1130+70	1131+70	RT	100	100
		UNDISTRIBUTED		300	300
		PROJECT TOTALS		**1,345**	**1,345**

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	(628.1905) EACH	(628.1910) EMERGENCY EACH
0010	1180-03-81	8	4
	PROJECT TOTALS	**8**	**4**

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	(628.7504) LF
0010	854+30	RT	20
	888+74	RT	25
	911+28	LT	25
	916+15	LT	20
	924+32	LT	25
	924+84	LT	25
	938+15	LT	20
	944+75	LT	25
	954+70	LT	20
	975+76	LT	25
	979+95	LT	30
	983+35	LT	10
	985+05	LT	25
	990+00	LT	25
	991+82	LT	20
	997+95	LT	35
	1005+15	LT	25
	1008+92	LT	20
	1009+75	LT	25
	1016+30	LT	10
	1024+65	LT	15
	1036+00	LT	20
	1047+92	LT	30
	1131+21	RT	35
	UNDISTRIBUTED		185
	PROJECT TOTAL		**740**

3

CULVERT PIPE CHECKS

CATEGORY	CULVERT ID	STATION	LOCATION	(628.7555) EACH	PIPE DIA.
0010	2	854+83	LT	3	24"
	4	887+93	LT	7	36"
	6	911+28	LT	5	30"
	7	916+69	RT	3	24"
	8	923+85	RT	5	30"
	9	924+87	RT	3	24"
	10	926+46	RT	5	30"
	12	938+30	RT	7	36"
	13	944+07	RT	3	24"
	14	953+70	RT	3	24"
	15	975+15	RT	3	24"
	16	979+69	RT	3	24"
	17	982+38	RT	3	24"
	18	985+90	RT	3	24"
	19	989+49	RT	3	24"
	20	991+83	RT	3	24"
	21	997+25	RT	5	30"
	22	1005+02	RT	3	24"
	24	1010+62	RT	3	24"
	25	1016+07	RT	5	30"
	26	1024+40	RT	7	36"
	27	1034+83	RT	7	36"
	33	1127+05	LT	5	30"
	34	1131+21	LT	7	36"
	UNDISTRIBUTED			10	
	PROJECT TOTAL			**114**	

RESTORATION ITEMS

CATEGORY	*	STATION	TO STATION	LOCATION	(625.0500) SALVAGED TOPSOIL SY	(627.0200) MULCHING SY	(628.2008) EROSION MAT URBAN CLASS I TYPE B	(628.2023) EROSION MAT CLASS II TYPE B SY	(628.2037) EROSION MAT CLASS III TYPE C SY	(629.0210) FERTILIZER TYPE B CWT	(630.0110) SEEDING MIXTURE NO. 10 LB	(630.0130) SEEDING MIXTURE NO. 30 LB	(630.0500) SEED WATER MGAL
0010	*	846+65	847+10	LT	-	-	-	-	50	-	0.3	0.5	-
	*	846+95	847+10	RT	-	-	-	-	30	-	0.2	0.3	-
		854+29	855+28	LT	280	-	60	220	-	0.18	1.9	2.5	0.7
	*	854+26	855+00	RT	270	-	60	210	-	0.17	1.8	2.4	0.7
		887+50	888+75	LT	610	-	130	490	-	0.38	4.1	5.5	1.5
	*	887+30	888+99	RT	810	-	170	650	-	0.51	5.5	7.3	2.0
		910+95	911+55	RT	310	-	50	170	100	0.20	2.1	2.8	0.8
		910+99	911+52	LT	420	-	90	340	-	0.27	2.9	3.8	1.0
	*	916+13	916+26	LT	-	-	10	20	-	-	0.3	-	-
		916+31	917+19	RT	210	-	40	150	20	0.13	1.4	1.9	0.5
		923+18	924+20	RT	370	-	60	220	90	0.23	2.5	3.3	0.9
		923+91	924+34	LT	180	-	40	140	-	0.11	1.2	1.6	0.4
		924+74	925+06	LT	230	-	50	180	-	0.14	1.5	2.1	0.6
		924+64	925+15	RT	170	-	40	140	-	0.11	1.1	1.5	0.4
		925+09	925+83	LT	220	-	50	180	-	0.14	1.5	2.0	0.5
		926+10	927+32	RT	600	-	120	480	-	0.38	4.0	5.4	1.5
		938+14	938+40	RT	100	-	20	80	-	0.06	0.7	0.9	0.2
		938+24	938+41	LT	40	-	10	30	-	0.03	0.3	0.4	0.1
		943+85	944+30	RT	110	-	30	90	-	0.07	0.7	1.0	0.3
	*	944+25	944+73	LT	140	-	30	110	-	0.09	0.9	1.2	0.3
		953+57	954+39	RT	380	-	80	310	-	0.24	2.6	3.4	0.9
	*	954+37	954+67	LT	220	-	50	170	-	0.14	1.5	2.0	0.5
		974+96	975+47	RT	190	-	40	150	-	0.12	1.3	1.7	0.5
	*	975+53	975+96	LT	-	-	20	50	-	-	0.4	0.5	-
		979+22	980+23	RT	100	-	20	80	-	0.06	0.7	0.9	0.2
	*	979+87	979+99	LT	-	-	20	40	-	-	0.8	-	-
		982+16	982+61	RT	140	-	20	80	40	0.09	1.0	1.3	0.3
	*	982+25	983+94	LT	760	-	160	630	-	0.50	5.3	7.1	1.9
		984+42	986+48	RT	930	-	190	750	-	0.59	6.3	8.4	2.3
	*	984+82	986+00	LT	670	-	140	560	-	0.44	4.7	6.3	1.7
		989+28	989+73	RT	190	-	40	150	-	0.12	1.3	1.7	0.5
	*	989+33	989+68	LT	280	-	60	220	-	0.17	1.9	2.5	0.7
		991+60	992+04	RT	110	-	30	80	-	0.07	0.7	1.0	0.3
	*	991+61	991+98	LT	140	-	30	120	-	0.05	1.0	1.3	0.3
		997+09	997+63	RT	160	-	40	120	10	0.10	1.1	1.5	0.4
		997+39	998+07	LT	240	-	50	190	-	0.15	1.6	2.2	0.6
		1004+85	1005+15	RT	70	-	20	40	20	0.04	0.5	0.6	0.2
	*	1005+00	1005+65	LT	-	-	10	10	-	-	0.1	-	-
	*	1008+80	1009+00	LT	-	-	10	10	-	-	0.1	-	-
	*	1009+75	1010+09	LT	-	-	10	10	-	-	0.3	-	-
	*	1010+33	1010+67	RT	50	-	20	60	-	0.05	0.5	0.7	0.1
		1015+72	1016+52	RT	380	-	80	300	-	0.24	2.5	3.4	0.9
	*	1016+19	1016+35	LT	-	-	10	20	-	-	0.3	-	-
		1024+09	1024+84	RT	340	-	50	190	110	0.22	2.3	3.1	0.8
	*	1024+59	1024+65	LT	-	-	10	10	-	-	0.2	-	-
		1034+62	1035+27	RT	300	-	60	210	40	0.19	2.0	2.7	0.7
	*	1035+88	1036+15	LT	-	-	20	40	-	-	0.8	-	-
		1126+58	1126+98	RT	230	-	50	190	-	0.15	1.6	2.1	0.6
		1126+84	1127+19	LT	150	-	30	100	20	0.09	1.0	1.4	0.4
		1130+69	1131+66	LT	130	-	30	110	-	0.08	0.9	1.2	0.3
		1131+01	1131+19	RT	280	-	60	220	-	0.17	1.9	2.5	0.7
		UNDISTRIBUTED			500	2,400	0	0	50	0.77	8.3	10.6	1.2
		PROJECT TOTALS			**12,010**	**2,400**	**2,520**	**9,120**	**580**	**8.03**	**90.40**	**116.5**	**29.4**

* SALVAGED TOPSOIL IS NOT MEASURED AND PAID SEPARATELY FOR AT DITCH CLEANING LOCATIONS

TRAFFIC CONTROL

CATEGORY	DESCRIPTION	(643.5000) TRAFFIC CONTROL EACH	DRUMS NO. DEVICES	(643.0300) TRAFFIC CONTROL DRUMS DAY	BARRICADES TYPE III NO. DEVICES	(643.0420) TRAFFIC CONTROL BARRICADES TYPE III DAY	WARNING LIGHTS TYPE A NO. DEVICES	(643.0705) TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	WARNING LIGHTS TYPE C NO. DEVICES	(643.0715) TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	SIGNS NO. DEVICES	(643.0900) TRAFFIC CONTROL SIGNS DAY	SIGNS PCMS NO. DEVICES	(643.1050) TRAFFIC CONTROL SIGNS PCMS DAY	DURATION	
0010	PIPE 1A - 1B (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 2 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 4 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 6 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 7 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 8 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 9 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 10 (SC - LC)	-	35	35	0	0	0	0	0	0	13	13	-	-	1	DAYS
	PIPE 12 (SC-2)	-	30	60	0	0	0	0	0	0	3	6	-	-	2	DAYS
	PIPE 13 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 14 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 35 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 15 (SC - LC)	-	35	35	0	0	0	0	0	0	13	13	-	-	1	DAYS
	PIPE 16 (SC - LC)	-	35	35	0	0	0	0	0	0	13	13	-	-	1	DAYS
	PIPE 17 (SC - LC)	-	35	70	0	0	0	0	0	0	13	26	-	-	2	DAYS
	PIPE 18 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 19 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 20 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 21 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 22 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 23 (SC)	-	15	15	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 24 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 25 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 26 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 27 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 28 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 29 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 30A - 30B (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 31 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 32 (SC-2)	-	30	30	0	0	0	0	0	0	3	3	-	-	1	DAYS
	PIPE 33 (LC-2)	-	40	80	0	0	0	0	0	0	10	20	-	-	2	DAYS
	PIPE 34 (SC-2)	-	30	60	0	0	0	0	0	0	3	6	-	-	2	DAYS
	ADVANCE WARNING STA. 823+00 - STA. 1147+00	-	0	0	0	0	0	0	0	0	28	1,260	2	14	45	DAYS
	PROJECT 1180-03-81 UNDISTRIBUTED	1	20	900	4	180	8	360	5	225	5	225	2	20	45	DAYS
	PROJECT TOTALS	**1**	**-**	**2,310**	**-**	**180**	**-**	**360**	**-**	**225**	**-**	**1,759**		**34**		

NOTES: SC - # = Shoulder Closure - Number of Traffic Control Setups
LC - # = Lane Closure - Number of Traffic Control Setups

MOVING SIGNS

CATEGORY	STATION	LOCATION	(638.2102) MOVING SIGNS TYPE II EACH	(638.4000) MOVING SMALL SIGN SUPPORTS EACH
0010	855+60	LT	1	1
	975+35	RT	1	2
	1035+00	RT	1	1
	PROJECT TOTALS		**3**	**4**

PAVEMENT MARKINGS

				(646.1020) MARKING LINE EPOXY 4-INCH	
				(YELLOW)	(WHITE)
CATEGORY	STATION	TO STATION	LOCATION	LF	LF
0010	944+05	944+41	RT & LT	50	70
	953+95	954+21	RT	-	25
	975+24	975+49	RT	35	25
	979+63	979+88	RT	35	25
	982+33	982+66	RT	-	10
	985+52	985+77	RT	35	25
	989+37	989+63	RT	-	25
	997+38	997+69	RT & LT	15	50
	1016+00	1016+25	RT	-	25
	1126+80	1127+05	RT & LT	15	50
	SUBTOTALS			**185**	**330**
	PROJECT TOTAL			**515**	

TRANSPORTATION PROJECT PLAT NO: 1180-03-20-4.01 AMENDMENT NO.1

AMENDS PARCEL 1 OF TRANSPORTATION PROJECT PLAT NO: 1180-03-20-4.01, RECORDED IN VOLUME 1 OF TPP'S, PAGE 33 AS DOCUMENT NUMBER 2018R-571807

THAT PART OF THE NE 1/4 OF THE NE 1/4, SECTION 27, LOCATED IN TOWNSHIP 47 NORTH, RANGE 6 WEST, TOWN OF KEYSTONE, BAYFIELD COUNTY, WISCONSIN

RELOCATION ORDER USH 2 BAYFIELD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

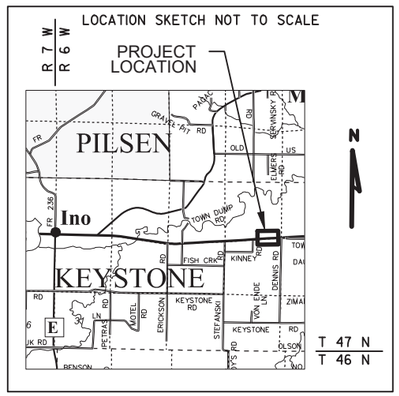
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERSTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	PLE
7	BRIAN L. LEDIN	PLE	---	---	---	0.111

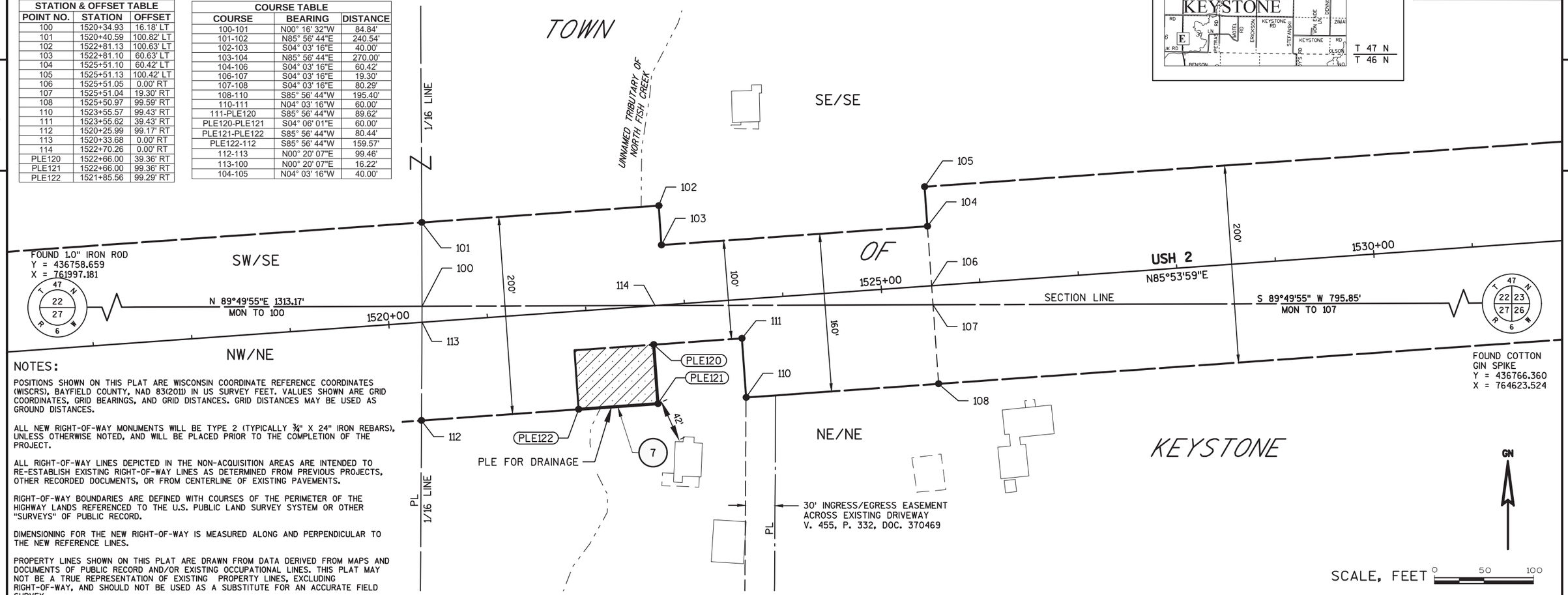
LOCATION SKETCH NOT TO SCALE



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1180-03-20-4.01
AMENDMENT NO: 1

STATION & OFFSET TABLE		
POINT NO.	STATION	OFFSET
100	1520+34.93	16.18' LT
101	1520+40.59	100.82' LT
102	1522+81.13	100.63' LT
103	1522+81.10	60.63' LT
104	1525+51.10	60.42' LT
105	1525+51.13	100.42' LT
106	1525+51.05	0.00' RT
107	1525+51.04	19.30' RT
108	1525+50.97	99.59' RT
110	1523+55.57	99.43' RT
111	1523+55.62	39.43' RT
112	1520+25.99	99.17' RT
113	1520+33.68	0.00' RT
114	1522+70.26	0.00' RT
PLE120	1522+66.00	39.36' RT
PLE121	1522+66.00	99.36' RT
PLE122	1521+85.56	99.29' RT

COURSE TABLE		
COURSE	BEARING	DISTANCE
100-101	N00° 16' 32"W	84.84'
101-102	N85° 56' 44"E	240.54'
102-103	S04° 03' 16"E	40.00'
103-104	N85° 56' 44"E	270.00'
104-106	S04° 03' 16"E	60.42'
106-107	S04° 03' 16"E	19.30'
107-108	S04° 03' 16"E	80.29'
108-110	S85° 56' 44"W	195.40'
110-111	N04° 03' 16"W	60.00'
111-PLE120	S85° 56' 44"W	89.62'
PLE120-PLE121	S04° 06' 01"E	60.00'
PLE121-PLE122	S85° 56' 44"W	80.44'
PLE122-112	S85° 56' 44"W	159.57'
112-113	N00° 20' 07"E	99.46'
113-100	N00° 20' 07"E	16.22'
104-105	N04° 03' 16"W	40.00'



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE COORDINATES (WISCRS), BAYFIELD COUNTY, NAD 83(2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

NO EXISTING ACCESS CONTROL EXISTS.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 2 ESTABLISHED FROM PREVIOUS PROJECT: RW DIVISION JOB NO. 8451 & EXISTING CENTERLINE.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
		REMAINING	REM.
ACCESS RIGHTS	AR	RIGHT-OF-WAY	R/W
ACRES	AC.	SECTION	SEC.
AND OTHERS	ET.AL.	STATION	STA.
CENTERLINE	C/L	TEMPORARY LIMITED EASEMENT	TLE
CERTIFIED SURVEY MAP	CSM	VOLUME	V.
CORNER	COR.		
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LIC (1" UNLESS NOTED)
R/W MONUMENT	●(SET)
R/W STANDARD	▲(SET)
SIGN	SIGN
SECTION CORNER MONUMENT	
SECTION CORNER SYMBOL	
FEE (HATCH VARIES)	
TEMPORARY LIMITED EASEMENT	
PERMANENT LIMITED EASEMENT	
R/W BOUNDARY POINT	RWB20
PARCEL NUMBER	102
UTILITY PARCEL NUMBER	92
SIGN NUMBER (OFF PREMISE)	21-1
BUILDING	
PROPOSED R/W LINE	
EXISTING H.E. LINE	
PROPERTY LINE	
LOT & TIE LINES	
SLOPE INTERCEPTS	
CORPORATE LIMITS	
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
NO ACCESS (BY ACQUISITION)	
NO ACCESS (BY STATUTORY AUTHORITY)	
SECTION LINE	
QUARTER LINE	
SIXTEENTH LINE	
EXISTING CENTERLINE	
PROPOSED REFERENCE LINE	
PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD	OH	
TRANSMISSION LINES ELECTRIC	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

emcs.inc

I, TIMOTHY G. RUTZEN JR. PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT COMPLIANCE WITH IN FULL THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE_DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1180-03-20-4.01 A1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN TIMOTHY G. RUTZEN, JR. S-2994 MOSINEE, WISCONSIN LAND SURVEYOR

DATE: 4-26-2018

TIMOTHY G. RUTZEN JR.
PROFESSIONAL LAND SURVEYOR NUMBER 2994

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

(SIGNATURE) Michael Rabe DATE: 4-26-2018

(PRINTED NAME) 26 ER

TRANSPORTATION PROJECT PLAT NO: 1180-03-20-4.01

THAT PART OF THE NE 1/4 OF THE NE 1/4, SECTION 27, LOCATED IN TOWNSHIP 47 NORTH, RANGE 6 WEST, TOWN OF KEYSTONE, BAYFIELD COUNTY, WISCONSIN

RELOCATION ORDER USH 2 BAYFIELD COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

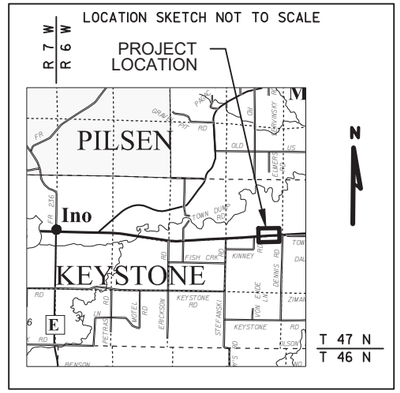
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERSTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL
7	BRIAN L. LEDIN	FEE	0.111	---	0.111

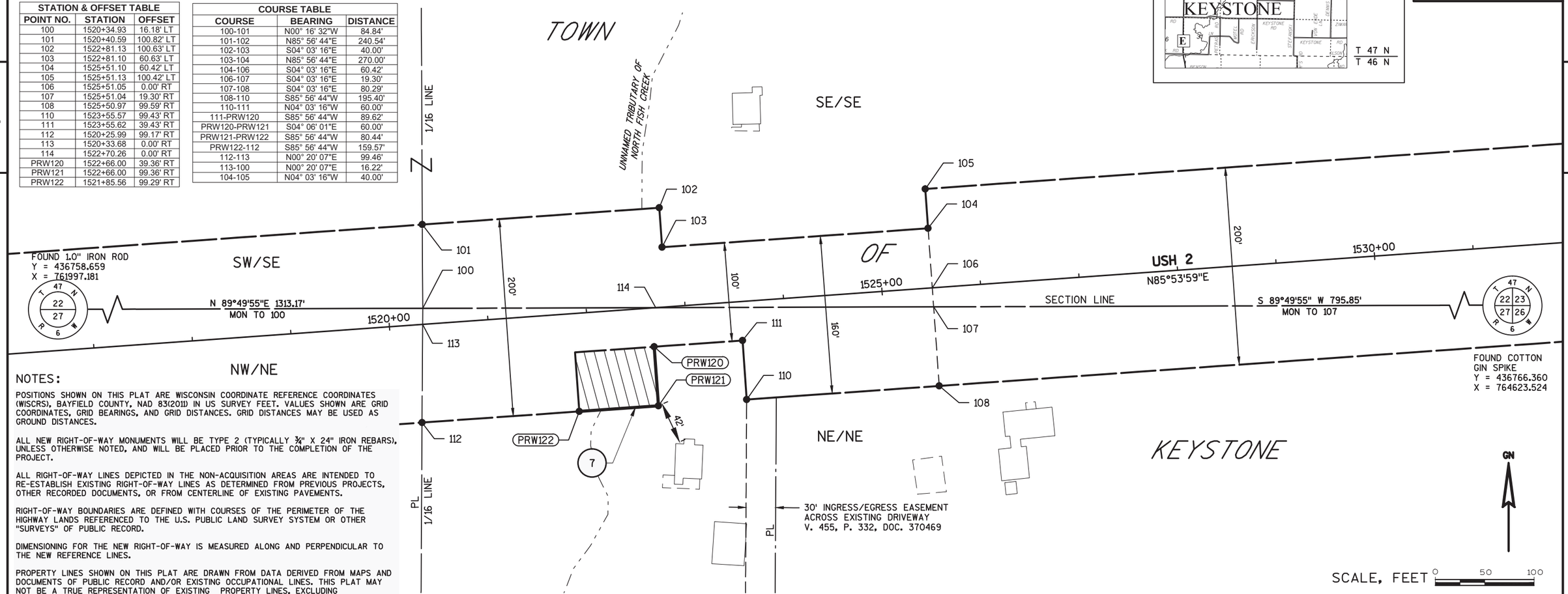
LOCATION SKETCH NOT TO SCALE



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1180-03-20-4.01
AMENDMENT NO:---

STATION & OFFSET TABLE		
POINT NO.	STATION	OFFSET
100	1520+34.93	16.18' LT
101	1520+40.59	100.82' LT
102	1522+81.13	100.63' LT
103	1522+81.10	60.63' LT
104	1525+51.10	60.42' LT
105	1525+51.13	100.42' LT
106	1525+51.05	0.00' RT
107	1525+51.04	19.30' RT
108	1525+50.97	99.59' RT
110	1523+55.57	99.43' RT
111	1523+55.62	39.43' RT
112	1520+25.99	99.17' RT
113	1520+33.68	0.00' RT
114	1522+70.26	0.00' RT
PRW120	1522+66.00	39.36' RT
PRW121	1522+66.00	99.36' RT
PRW122	1521+85.56	99.29' RT

COURSE TABLE		
COURSE	BEARING	DISTANCE
100-101	N00° 16' 32"W	84.84'
101-102	N85° 56' 44"E	240.54'
102-103	S04° 03' 16"E	40.00'
103-104	N85° 56' 44"E	270.00'
104-106	S04° 03' 16"E	60.42'
106-107	S04° 03' 16"E	19.30'
107-108	S04° 03' 16"E	80.29'
108-110	S85° 56' 44"W	195.40'
110-111	N04° 03' 16"W	60.00'
111-PRW120	S85° 56' 44"W	89.62'
PRW120-PRW121	S04° 06' 01"E	60.00'
PRW121-PRW122	S85° 56' 44"W	80.44'
PRW122-112	S85° 56' 44"W	159.57'
112-113	N00° 20' 07"E	99.46'
113-100	N00° 20' 07"E	16.22'
104-105	N04° 03' 16"W	40.00'



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE COORDINATES (WISCRS), BAYFIELD COUNTY, NAD 83(2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ⅜" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

NO EXISTING ACCESS CONTROL EXISTS.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 2 ESTABLISHED FROM PREVIOUS PROJECT: RW DIVISION JOB NO. 8451 & EXISTING CENTERLINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	⅝" (1" UNLESS NOTED)
R/W MONUMENT	●(SET)
R/W STANDARD	▲(SET)
SIGN	SIGN
SECTION CORNER MONUMENT	
SECTION CORNER SYMBOL	
FEE (HATCH VARIES)	
TEMPORARY LIMITED EASEMENT	
PERMANENT LIMITED EASEMENT	
R/W BOUNDARY POINT	RWB20
PARCEL NUMBER	102
UTILITY PARCEL NUMBER	92
SIGN NUMBER (OFF PREMISE)	21-1
BUILDING	
PROPOSED R/W LINE	
EXISTING H.E. LINE	
PROPERTY LINE	
LOT & TIE LINES	
SLOPE INTERCEPTS	
CORPORATE LIMITS	
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
NO ACCESS (BY ACQUISITION)	
NO ACCESS (BY STATUTORY AUTHORITY)	
SECTION LINE	
QUARTER LINE	
SIXTEENTH LINE	
EXISTING CENTERLINE	
PROPOSED REFERENCE LINE	
PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

		NON COMPENSABLE	COMPENSABLE
WATER	W		
GAS	G		
TELEPHONE	T		
OVERHEAD TRANSMISSION LINES	OH		
ELECTRIC	E		
CABLE TELEVISION	TV		
FIBER OPTIC	FO		
SANITARY SEWER	SAN		
STORM SEWER	SS		
POWER POLE		○	●
TELEPHONE POLE		⌀	⌀
TELEPHONE PEDESTAL		⌘	⌘
ELECTRIC TOWER		⊠	

emcs.inc

I, TIMOTHY G. RUTZEN JR. PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT COMPLIANCE WITH IN FULL THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1180-03-20-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN TIMOTHY G. RUTZEN, JR. S-2994 MOSINEE, WISCONSIN LAND SURVEYOR

TIMOTHY G. RUTZEN JR. DATE: 1-22-2018
PROFESSIONAL LAND SURVEYOR NUMBER 2994

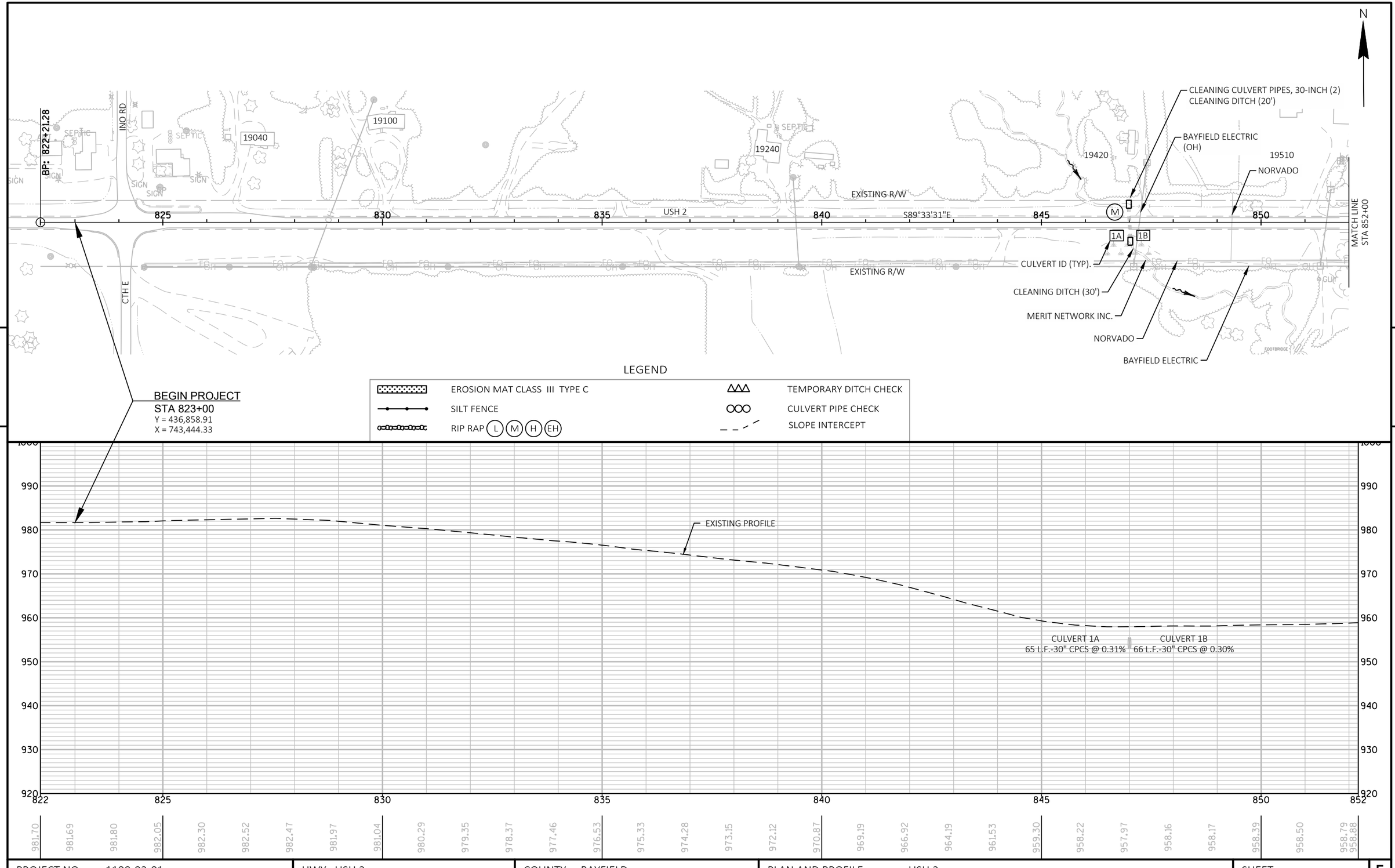
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

(SIGNATURE) DATE: 1-22-2018

(PRINTED NAME) 27 ER

FILE NAME : P:\49XX\4931.4818WO25.SP.15.USH2.BAY\CADDS\10800304\SHEETSPLAN\040101_RP.DWG
PLOT DATE : 2/8/2018 1:00 PM PLOT BY : TIM RUTZEN PLOT NAME : PLOT SCALE : **********
APPRAISAL PLAT DATE : ----------

1180-03-20-4.01



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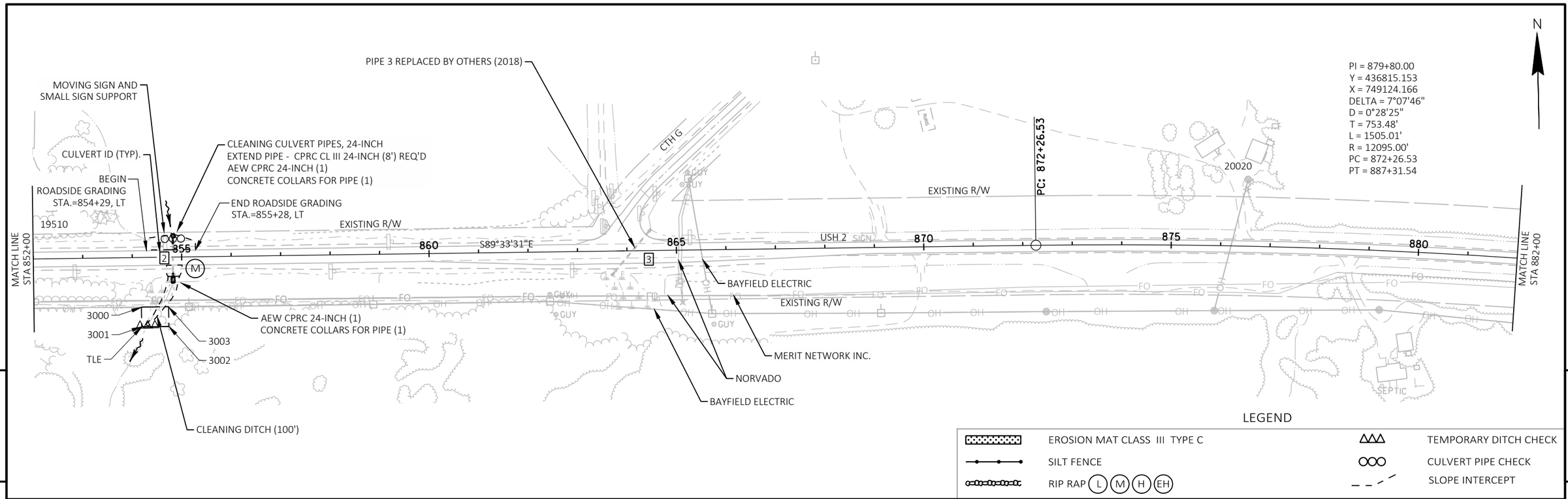
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 28 E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050101_pp

PLOT DATE : 10/29/2018 11:37 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########



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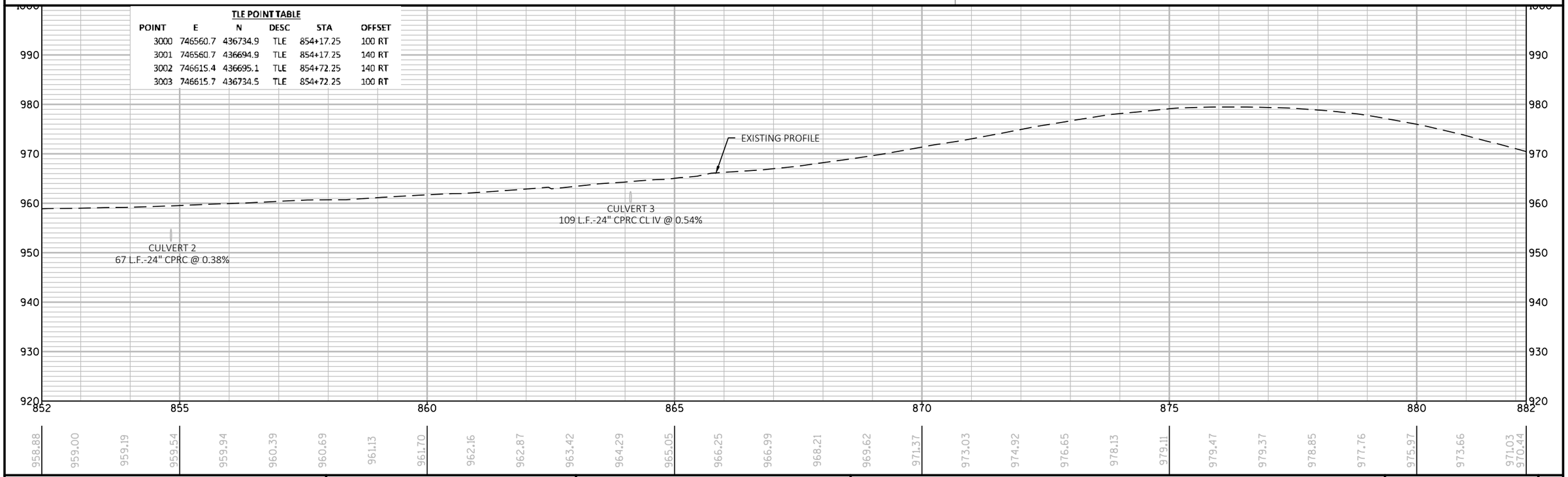
LEGEND

EROSION MAT CLASS III TYPE C	TEMPORARY DITCH CHECK
SILT FENCE	CULVERT PIPE CHECK
RIP RAP (L) (M) (H) (EH)	SLOPE INTERCEPT

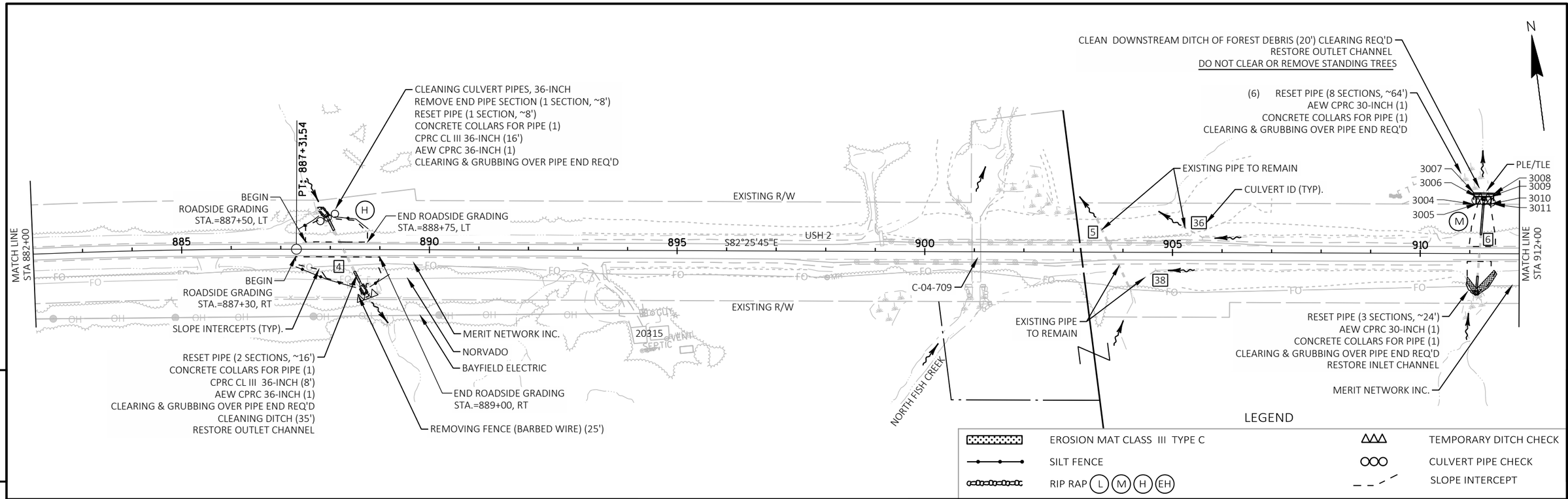
TLE POINT TABLE

POINT	E	N	DESC	STA	OFFSET
3000	746560.7	436734.9	TLE	854+17.25	100 RT
3001	746560.7	436694.9	TLE	854+17.25	140 RT
3002	746615.4	436695.1	TLE	854+72.25	140 RT
3003	746615.7	436734.5	TLE	854+72.25	100 RT



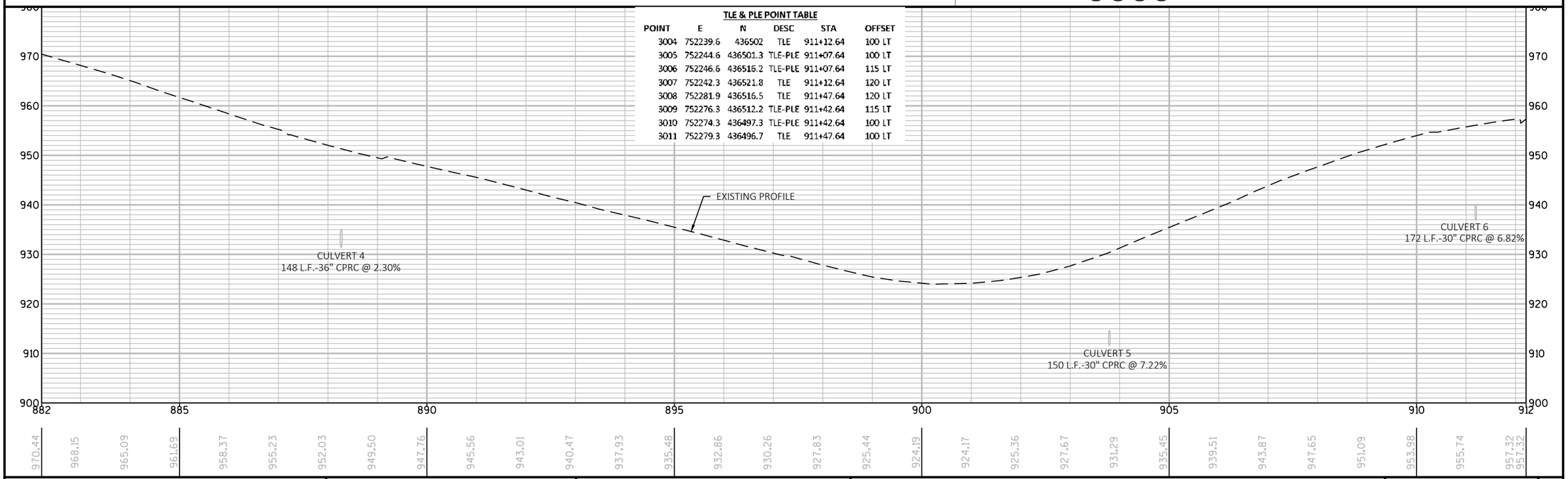
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2

SHEET 29 E



TLE & PLE POINT TABLE

POINT	E	N	DESC	STA	OFFSET
3004	752239.6	436502	TLE	911+12.64	100 LT
3005	752244.6	436501.3	TLE-PLE	911+07.64	100 LT
3006	752246.6	436516.2	TLE-PLE	911+07.64	115 LT
3007	752242.3	436521.8	TLE	911+12.64	120 LT
3008	752281.9	436516.5	TLE	911+47.64	120 LT
3009	752276.3	436512.2	TLE-PLE	911+42.64	115 LT
3010	752274.3	436497.3	TLE-PLE	911+42.64	100 LT
3011	752279.3	436496.7	TLE	911+47.64	100 LT



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 30	E

NOTE: DO NOT CLEAR OR DAMAGE THE LARGE (24"+) DIAMETER EVERGREEN IN THE NORTHWEST QUADRANT OF THE TLE. ADJUST CHANNEL GRADING AND OUTLET REPAIR EXCAVATION TO AVOID, OR MINIMIZE, CUTTING OR OTHERWISE DAMAGING THE ROOT SYSTEM OF THE TREE.

CLEAR TREES OVER PIPE AND 20' DOWNSTREAM OF OUTFALL
CLEARING & GRUBBING REQ'D
(SEE NOTE)

9 RESET PIPE (5 SECTIONS, ~40')
AEW CPRC 24-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
RESTORE OUTLET CHANNEL - RIPRAP MEDIUM REQ'D

8 REMOVE END PIPE SECTION (1 SECTION, ~8')
RESET PIPE (4 SECTIONS, ~32')
AEW CPRC 30-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
CLEARING & GRUBBING OVER PIPE END REQ'D
RESTORE OUTLET CHANNEL
CLEARING & GRUBBING REQ'D

(10)
CLEARING & GRUBBING REQ'D
RESET PIPE (5 SECTIONS, ~40')
AEW CPRC 30-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
RESTORE OUTLET CHANNEL

ABANDON BOX CULVERT (3.5' X 6'X56')(PAID AS ABANDON CATTLE PASS)
REMOVING OLD STRUCTURE (EXISTING WING WALL AND APRON FLOOR)
CULVERT PIPE CL III-A NON-METAL 36-INCH (76')
AEW CP 36-INCH (2)
(SEE CONSTRUCTION DETAILS)

PIPE 11 REPLACED BY OTHERS (2018)

PI = 933+24.19
Y = 436110.791
X = 754423.693
DELTA = 11°40'11"
D = 1°00'14"
T = 583.20'
L = 1162.37'
R = 5707.00'
PC = 927+40.99
PT = 939+03.36

PC: 927+40.99
PT: 939+03.36

CLEANING DITCH REQ'D (30')
BEGIN ROADSIDE GRADING STA.=916+31, RT
CULVERT ID (TYP.)
MATCH LINE STA 912+00
MATCH LINE STA 942+00
END ROADSIDE GRADING STA.=917+19, RT
CLEANING CULVERT PIPES, 24-INCH
RESET PIPE (1 SECTION, ~8')
AEW CPRC 24-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
MERIT NETWORK INC.
EXISTING R/W
TLE (SEE NOTE)
S82°25'45"E
USH 2
BEGIN ROADSIDE GRADING STA.=923+18, RT
8 RESET PIPE (2 SECTION, ~16')
AEW CPRC 30-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
CLEANING CULVERT PIPES, 30-INCH
RESTORE INLET CHANNEL
CLEARING & GRUBBING REQ'D
END ROADSIDE GRADING STA.=924+20, RT
9 RESET PIPE (1 SECTION, ~8')
AEW CPRC 24-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
CLEANING CULVERT PIPES, 24-INCH
CLEARING & GRUBBING OVER PIPE REQ'D
END ROADSIDE GRADING STA.=927+32, RT
RE-GRADE DITCH, GRADE TO DRAIN TO CULVERT 10
TOMICH RD
LARGE OAK TREE (>18" DIAMETER) NEAR INLET CHANNEL. ADJUST GRADING TO AVOID DAMAGE TO TREE AND TREE ROOTS
RESET PIPE (3 SECTIONS, ~ 24')
AEW CPRC 30-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
C-04-708
STA. 938+31
REMOVING OLD STRUCTURE (EXISTING WING WALL AND APRON FLOOR)
65845 NORDIN ROAD
20750
20980
21195
21215
3012
3013
3014
3015

N

LEGEND

- EROSION MAT CLASS III TYPE C
- SILT FENCE
- RIP RAP (L) (M) (H) (EH)
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SLOPE INTERCEPT

TLE POINT TABLE

POINT	E	N	DESC	STA	OFFSET
3012	753527	436330.8	TLE	924+06.36	100 LT
3013	753529.7	436350.7	TLE	924+06.36	120 LT
3014	753628.8	436337.5	TLE	925+06.36	120 LT
3015	753626.2	436317.7	TLE	925+06.36	100 LT

EXISTING PROFILE

CULVERT 7
82 L.F.-24" CPRC @ 1.90%

CULVERT 8
141 L.F.-30" CPRC @ 5.36%

CULVERT 9
124 L.F.-24" CPRC @ 7.88%

CULVERT 10
167 L.F.-30" CPRC @ 4.51%

CULVERT 11

CULVERT 12
76 L.F.-36" CP CL III-A NON-METAL@ 6.57%

1000 990 980 970 960 950 940 930 920

912 915 920 925 930 935 940 942

957.32 958.85 959.81 960.96 962.15 963.31 964.33 965.21 965.65 965.85 965.99 965.76 965.82 966.01 966.37 966.76 967.06 966.77 966.20 965.63 965.24 964.51 963.52 962.83 962.45 961.85 961.07 960.65 960.06 959.43 958.10 957.57

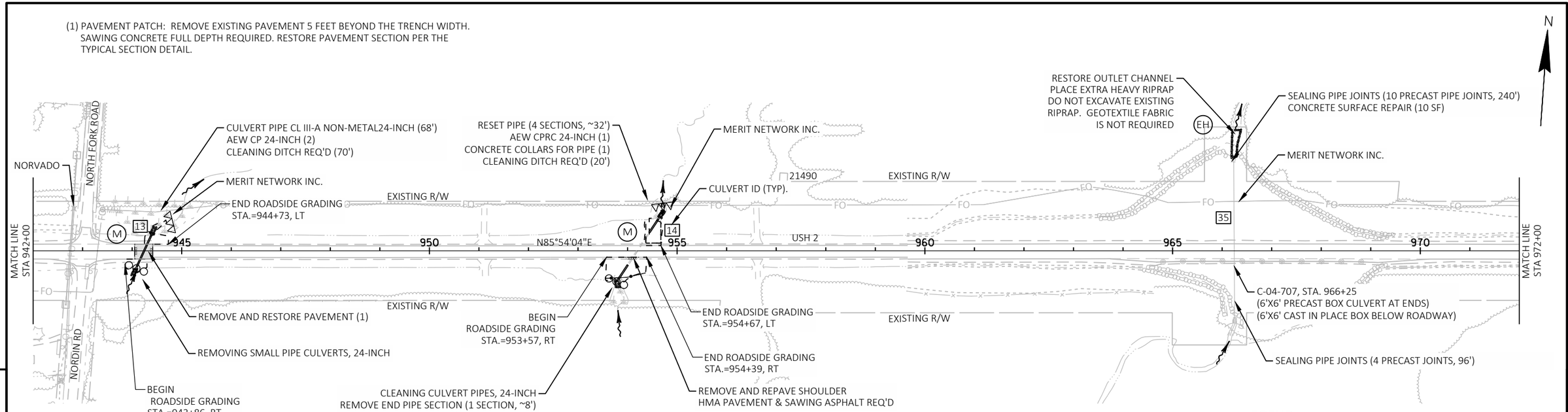
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 31	E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050104_pp

PLOT DATE : 10/29/2018 11:38 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########

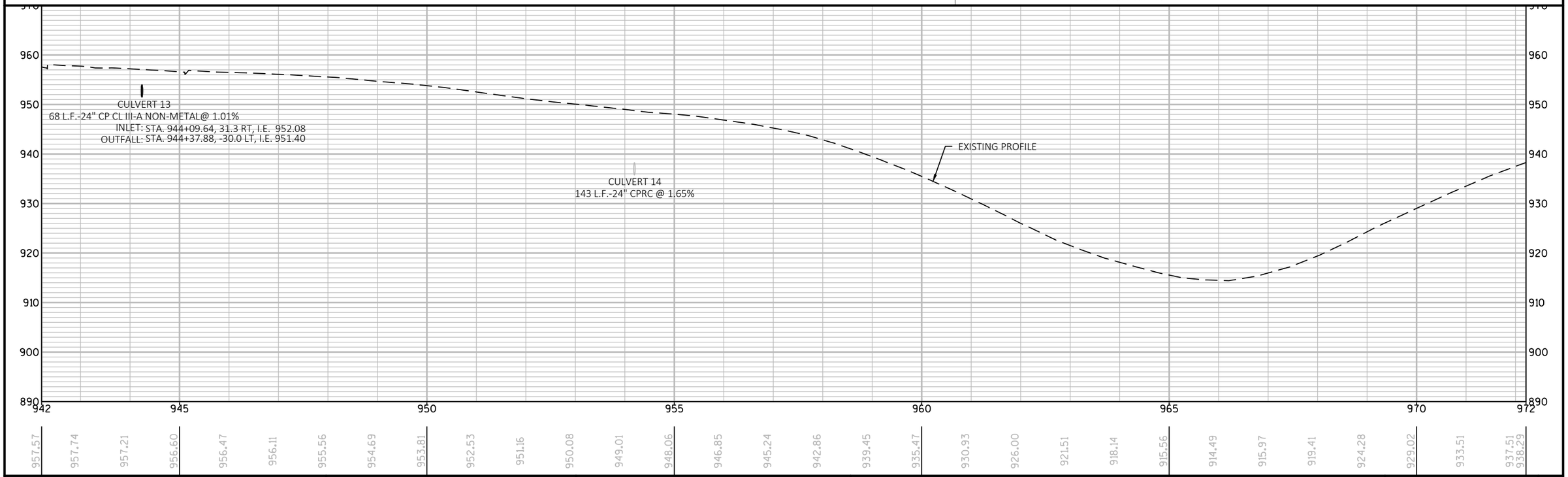
WISDOT/CADDS SHEET 44

(1) PAVEMENT PATCH: REMOVE EXISTING PAVEMENT 5 FEET BEYOND THE TRENCH WIDTH. SAWING CONCRETE FULL DEPTH REQUIRED. RESTORE PAVEMENT SECTION PER THE TYPICAL SECTION DETAIL.

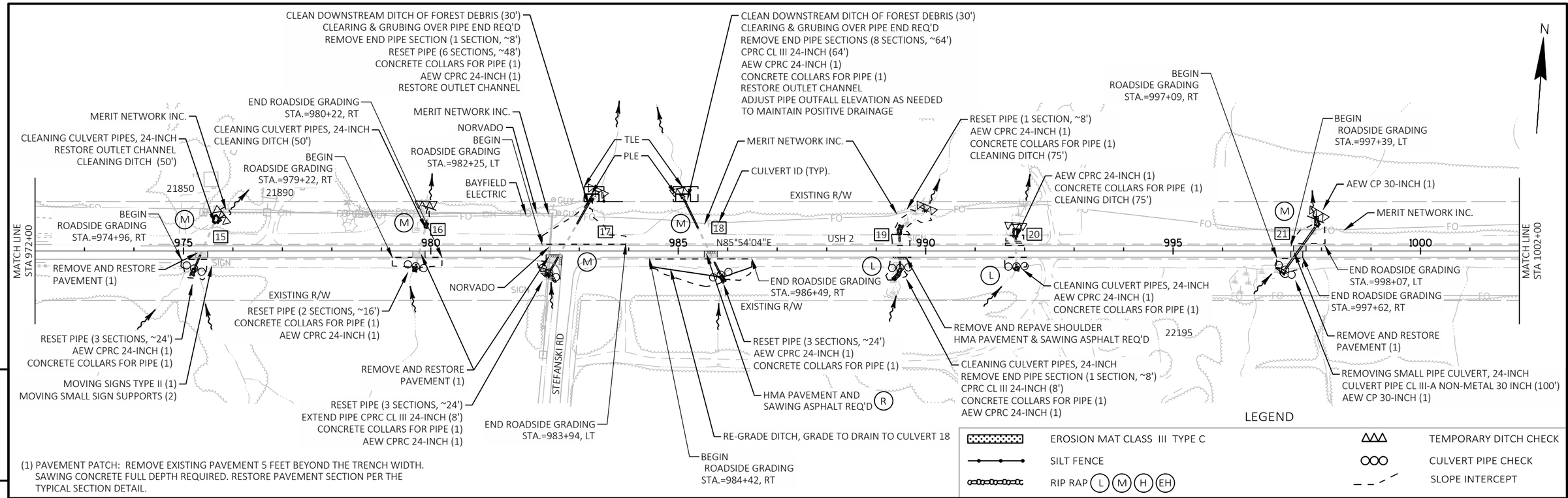


LEGEND

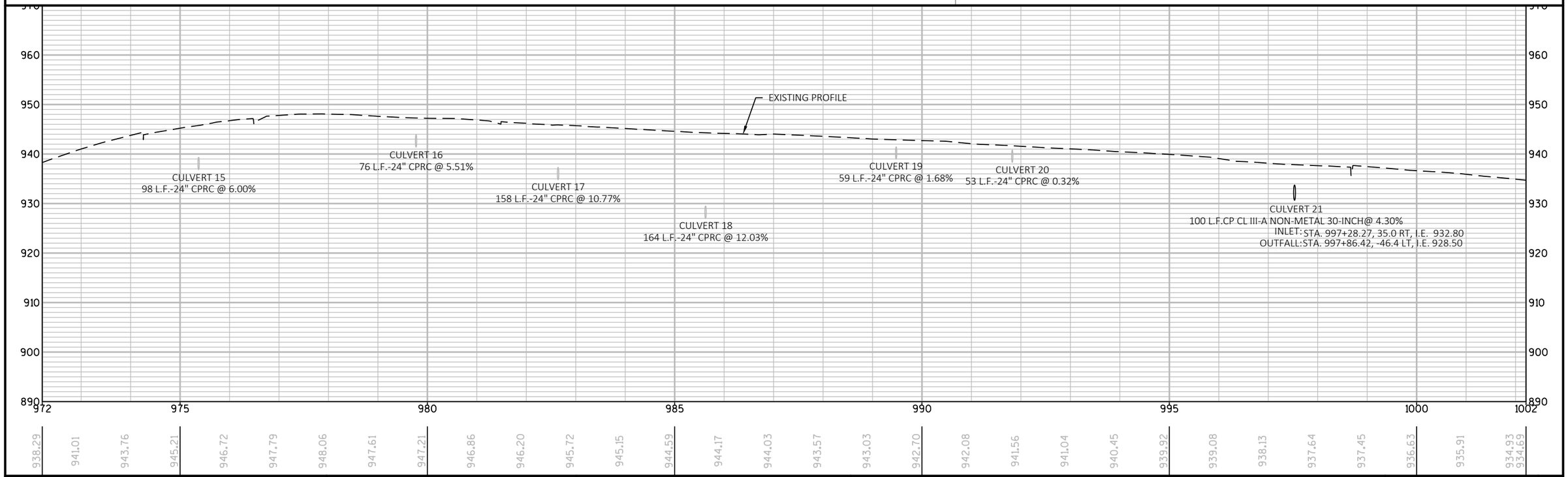
- EROSION MAT CLASS III TYPE C
- SILT FENCE
- RIP RAP (L) (M) (H) (EH)
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SLOPE INTERCEPT



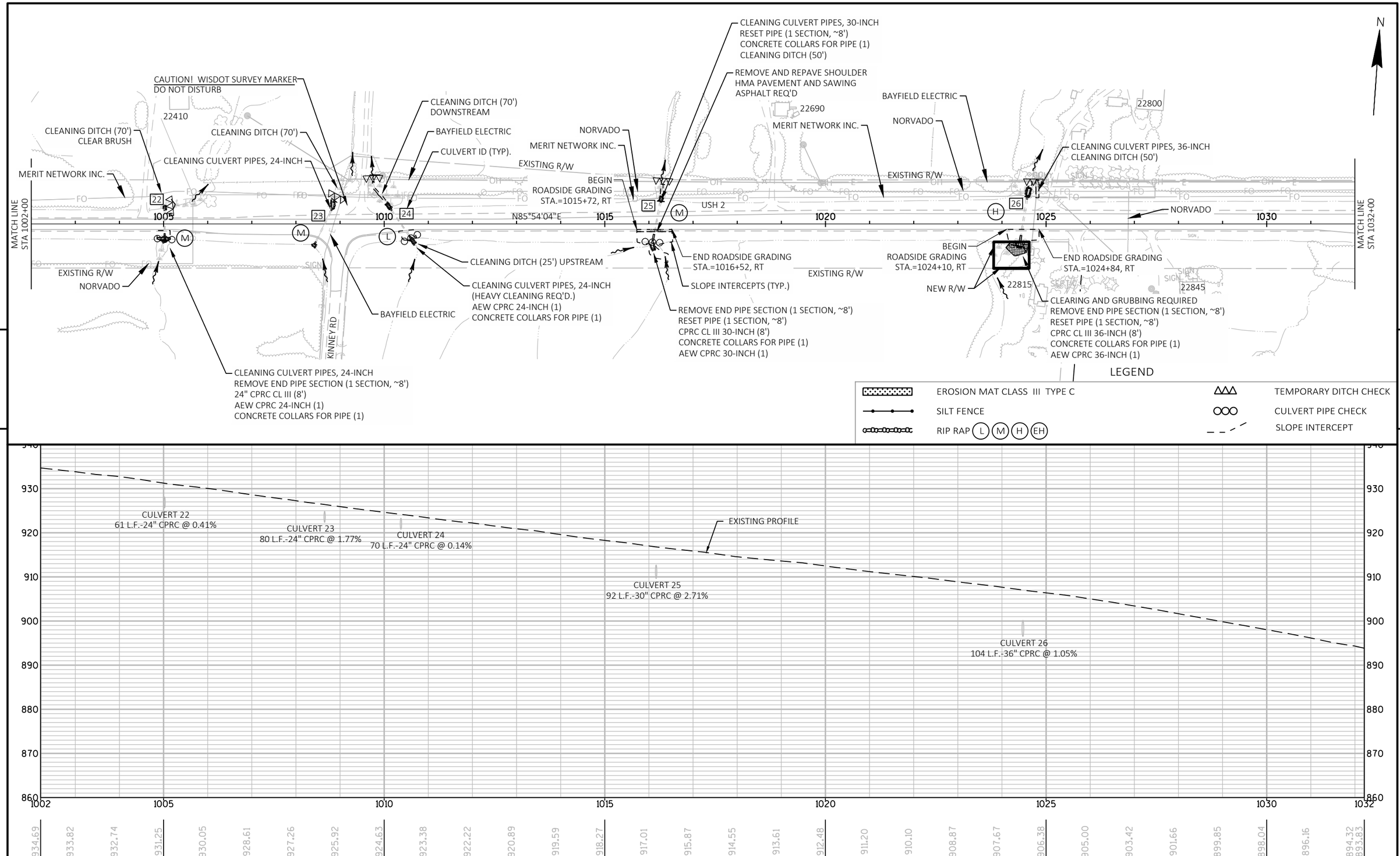
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 32	E



(1) PAVEMENT PATCH: REMOVE EXISTING PAVEMENT 5 FEET BEYOND THE TRENCH WIDTH. SAWING CONCRETE FULL DEPTH REQUIRED. RESTORE PAVEMENT SECTION PER THE TYPICAL SECTION DETAIL.



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 33	E



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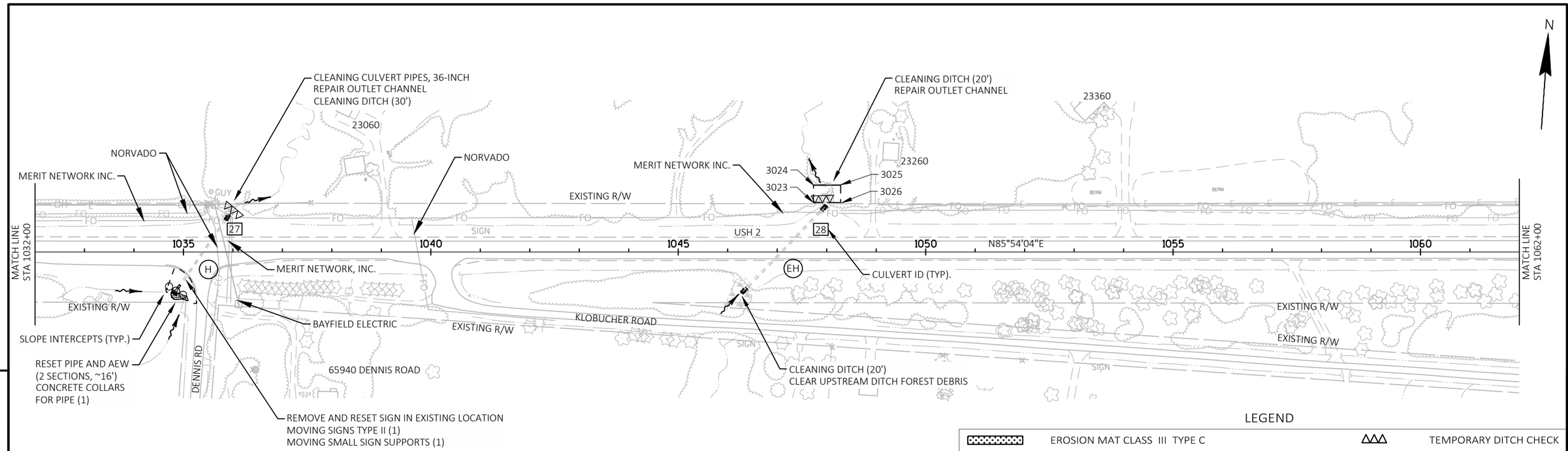
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 34	E

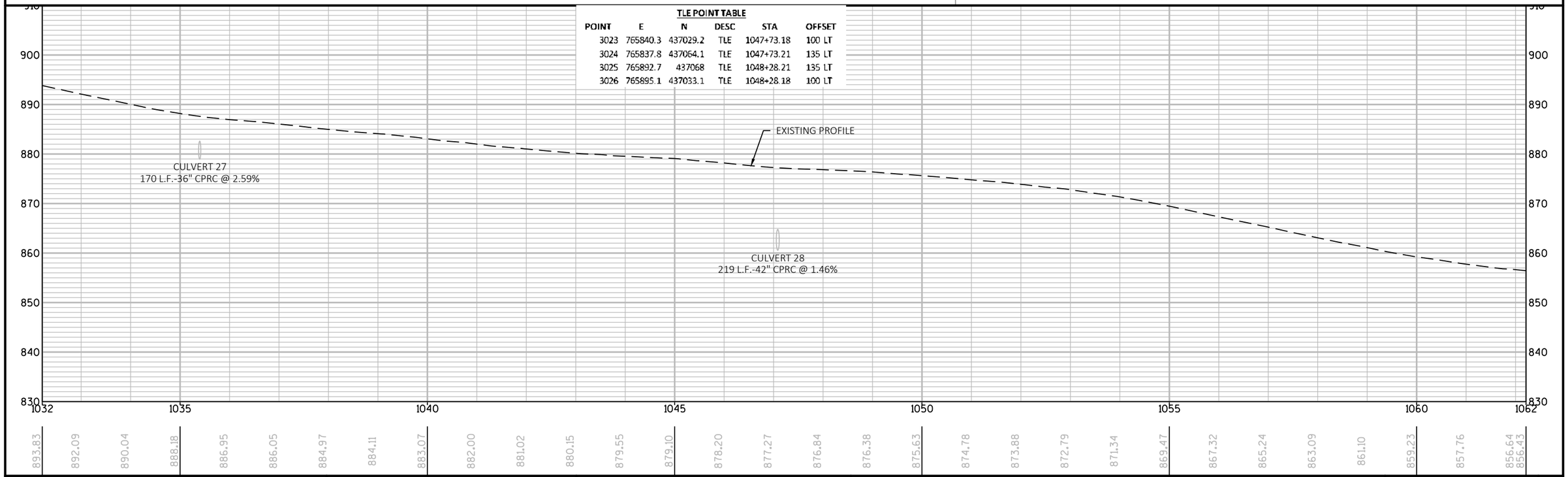
FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050107_pp

PLOT DATE : 10/29/2018 11:40 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########



TLE POINT TABLE

POINT	E	N	DESC	STA	OFFSET
3023	765840.3	437029.2	TLE	1047+73.18	100 LT
3024	765837.8	437064.1	TLE	1047+73.21	135 LT
3025	765892.7	437068	TLE	1048+28.21	135 LT
3026	765895.1	437033.1	TLE	1048+28.18	100 LT

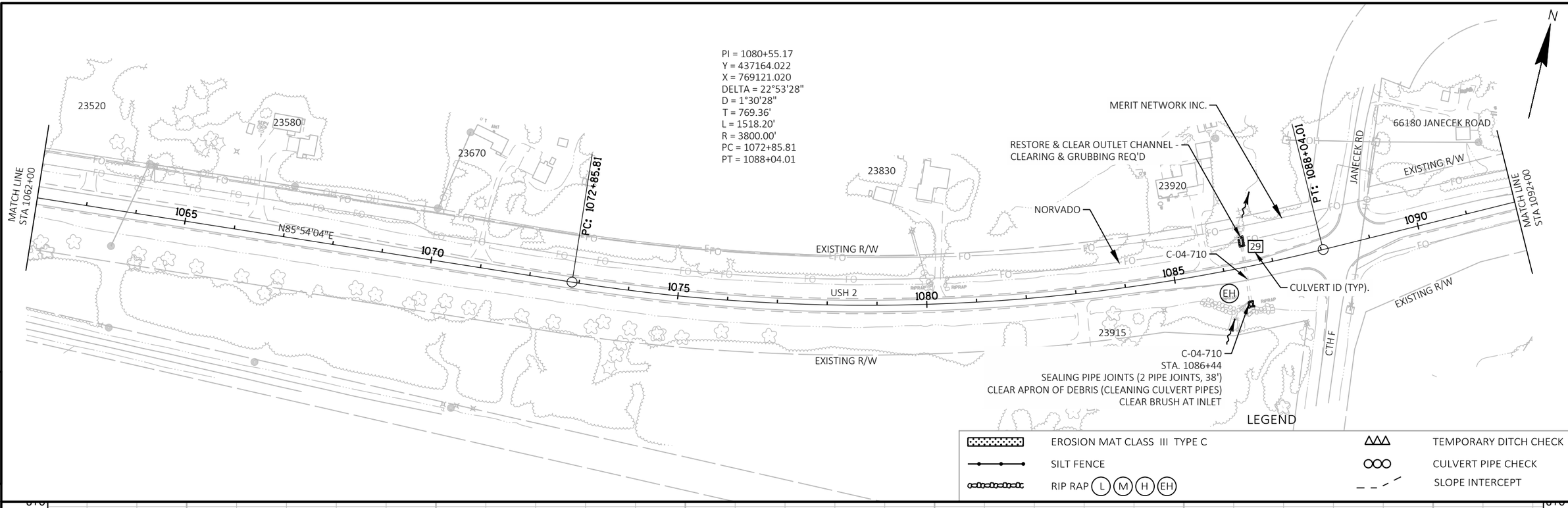


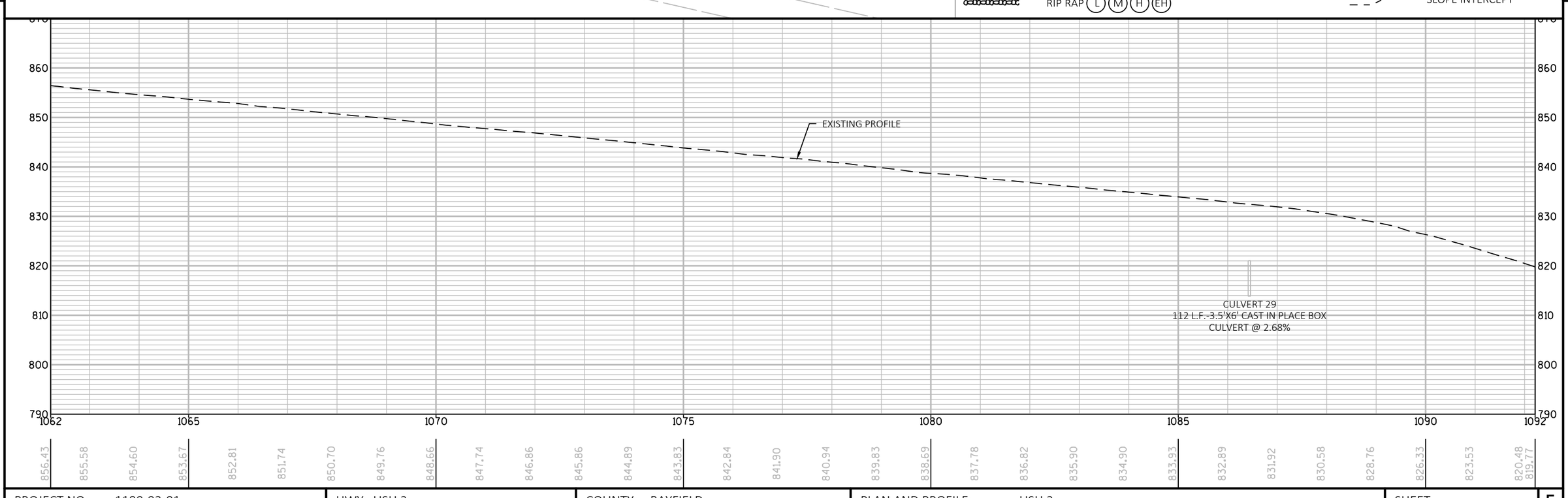
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 35	E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050108_pp

PLOT DATE : 10/29/2018 11:40 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########

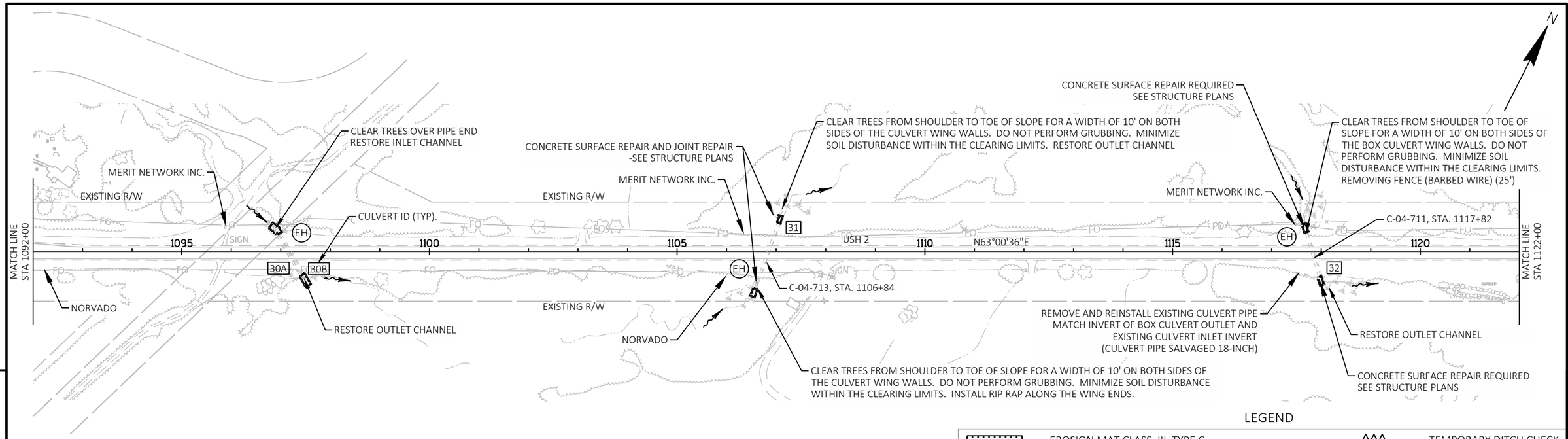
PI = 1080+55.17
Y = 437164.022
X = 769121.020
DELTA = 22°53'28"
D = 1°30'28"
T = 769.36'
L = 1518.20'
R = 3800.00'
PC = 1072+85.81
PT = 1088+04.01

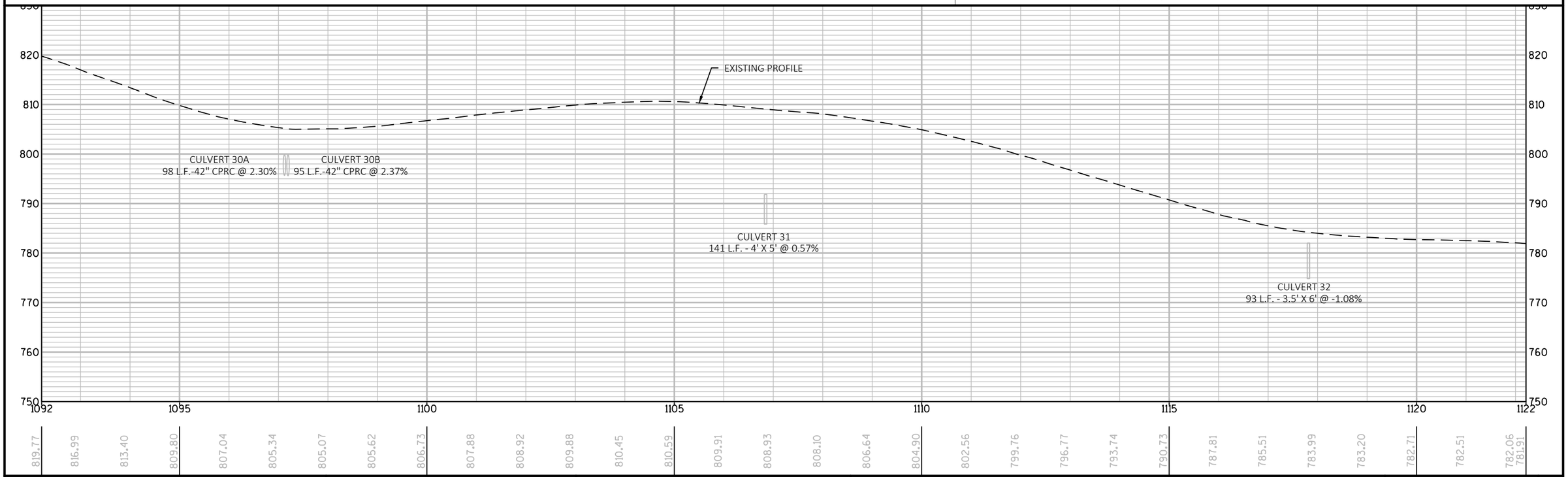




PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050109_pp
PLOT DATE : 10/29/2018 11:41 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########





PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET 37	E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050110_pp

PLOT DATE : 10/29/2018 11:41 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########

(1) PAVEMENT PATCH: REMOVE EXISTING PAVEMENT 5 FEET BEYOND THE TRENCH WIDTH. SAWING CONCRETE FULL DEPTH REQUIRED. RESTORE PAVEMENT SECTION PER THE TYPICAL SECTION DETAIL.

MERIT NETWORK INC.

RESET PIPE (4 SECTIONS, ~32')
AEW CPRC 30-INCH (1)
CONCRETE COLLARS FOR PIPE (1)
CLEARING & GRUBBING REQ'D

REMOVE AND RESTORE PAVEMENT (1)

NORVADO

JOE PAJAC RD

CAUTION! WISDOT SURVEY MARKER
DO NOT DISTURB

REMOVING OLD STRUCTURE (EXISTING WING WALL AND APRON FLOOR)
AEW CP 36-INCH (1)

REMOVING FENCE (BARBED WIRE) (25')

END ROADSIDE GRADING
STA.=1131+66, LT

EP: 1149+99.99

MATCH LINE
STA 1122+00

EXISTING R/W

1125 1130 1135 N63°00'36"E 1140 1145

USH 2

33 34

CULVERT ID (TYP).

BEGIN
ROADSIDE GRADING
STA.=1130+69, LT

SOUTH FISH CREEK

BAYFIELD ELECTRIC

REMOVING FENCE
(BARBED WIRE 25')

ABANDON EXISTING 3.5' X 6' BOX CULVERT (PAID AS ABANDON CATTLE PASS)
REMOVING OLD STRUCTURE (EXISTING WING WALL AND APRON FLOOR)
CULVERT PIPE CL III-A NON-METAL 36-INCH (108')
AEW CP 36-INCH (1)

REMOVE END PIPE SECTIONS (5 SECTIONS, ~ 40')
CPRC CL III 30-INCH (40')
CONCRETE COLLARS FOR CULVERT PIPE (1)
AEW CPRC 30-INCH (1)

REMOVING FENCE (BARBED WIRE) (25')

LEGEND

- EROSION MAT CLASS III TYPE C
- SILT FENCE
- RIP RAP (L) (M) (H) (EH)
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SLOPE INTERCEPT

END PROJECT
STA 1147+00
Y = 440,188.99
X = 775,060.42

EXISTING PROFILE

CULVERT 34
108 L.F. - CP CLASS III-A NON METAL 36-INCH @ 5.19%
INLET: STA. 1131+21.33, -38.5 LT, I.E. 772.90
OUTFALL: STA. 1131+21.08, 69.3 RT, I.E. 767.30

CULVERT 33
119 L.F.-30" CPRC @ 6.89%

820 810 800 790 780 770 760 750 740

1122 1125 1130 1135 1140 1145 1150

781.91 781.37 780.92 780.47 779.73 779.60 779.78 780.55 780.82 781.40 782.35 783.83 785.06 785.97 787.06 788.22 789.30 790.31 791.23 791.86 792.38 792.73 792.83 793.18 793.21 793.27 793.06 793.06 793.16

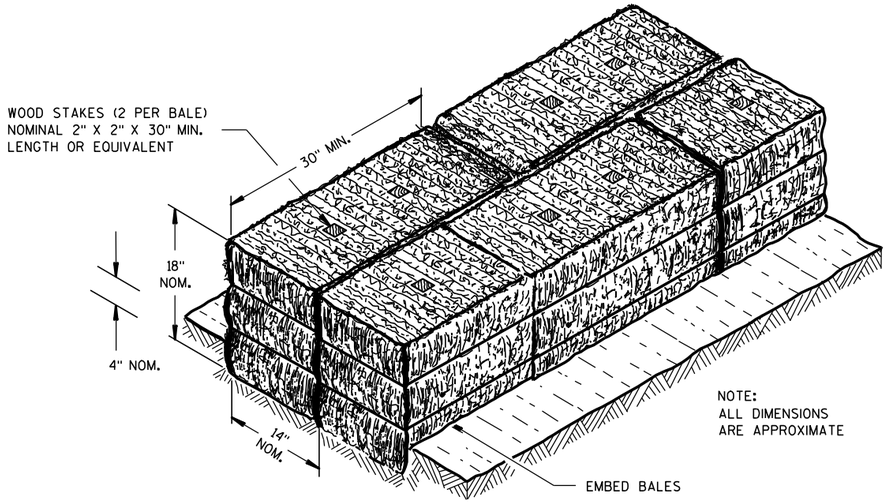
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	PLAN AND PROFILE: USH 2	SHEET E

FILE NAME : P:\90S\93\00093362\CADD\DESIGN\ALIPROFS\ALIPROF-USH 2-BEST FIT.DWG
LAYOUT NAME - 050111_pp

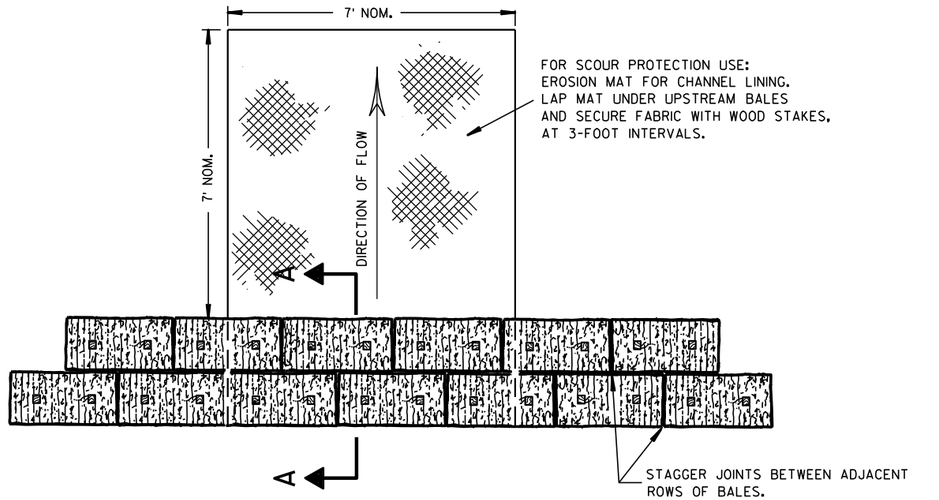
PLOT DATE : 10/29/2018 11:41 AM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : ##########

Standard Detail Drawing List

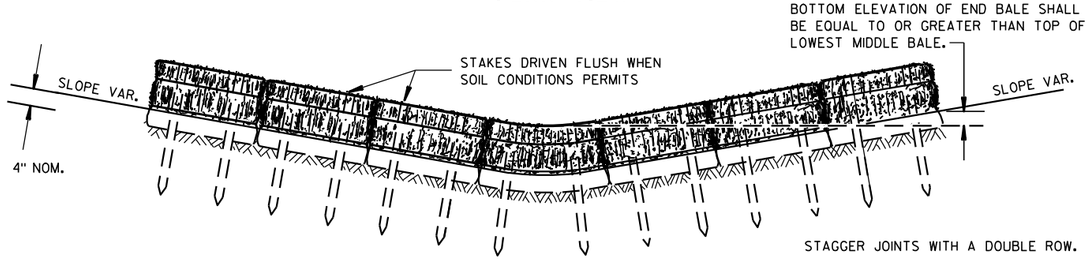
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15C35-03B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-03C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



PLAN VIEW



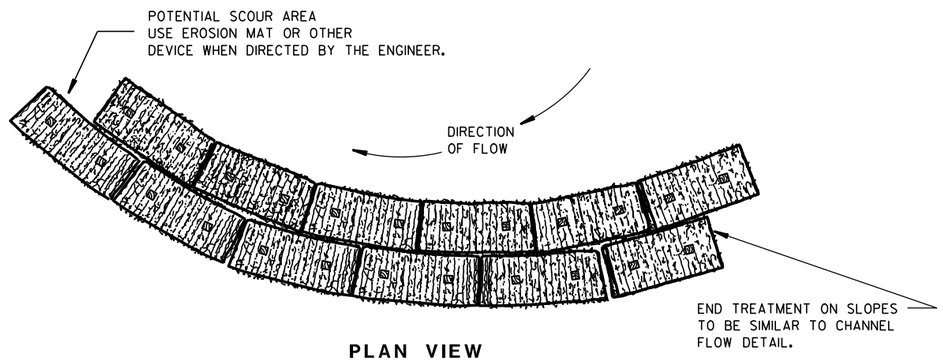
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

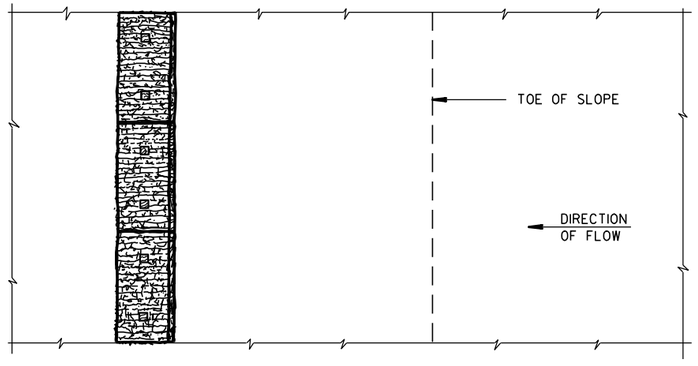
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

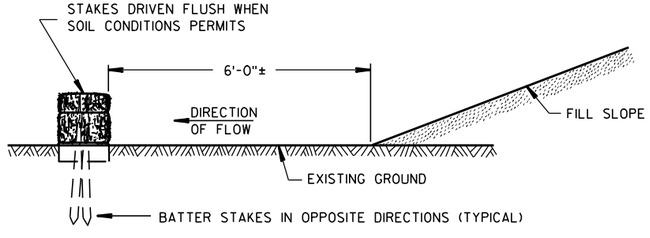


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

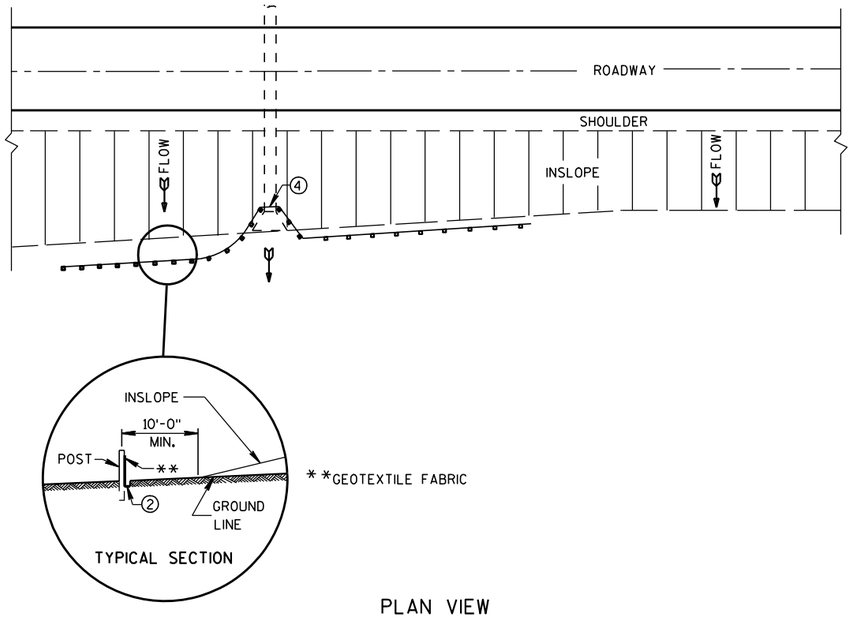
FHWA

6

S.D.D. 8 E 8-3

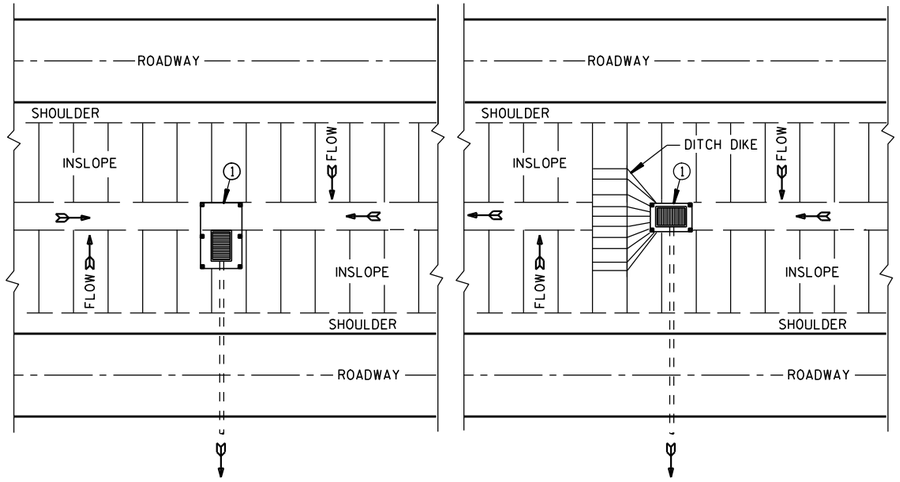
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

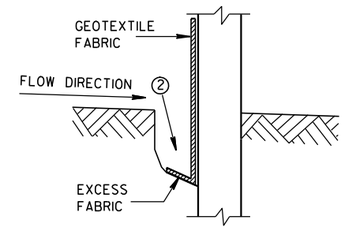
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

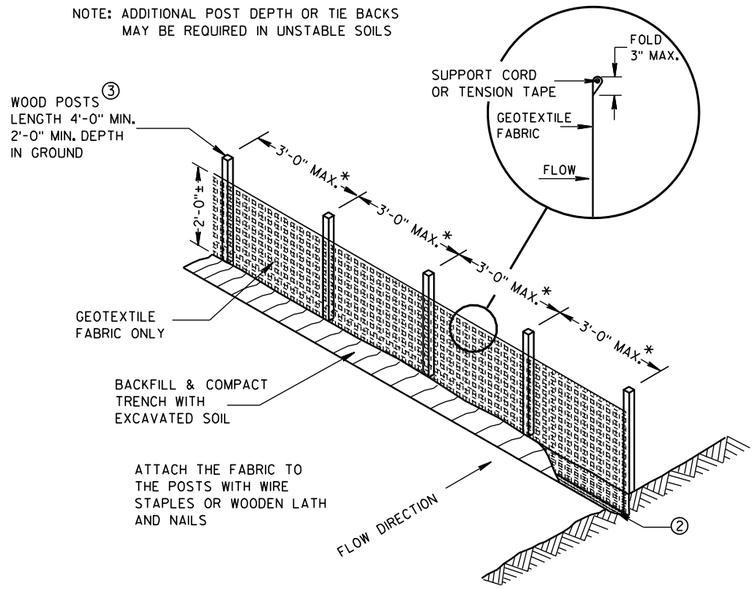
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

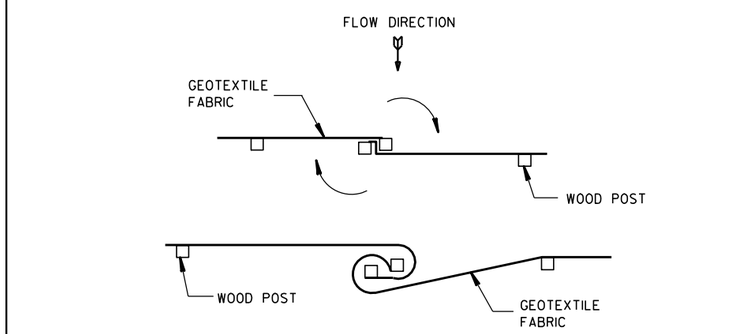
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



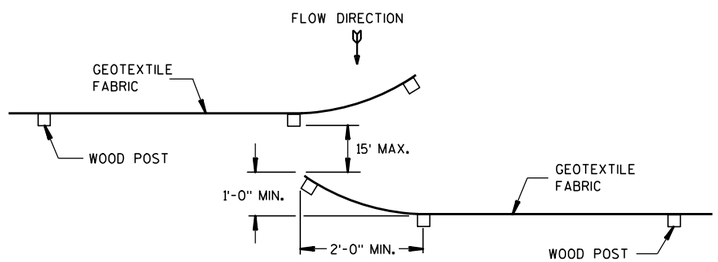
TRENCH DETAIL



SILT FENCE

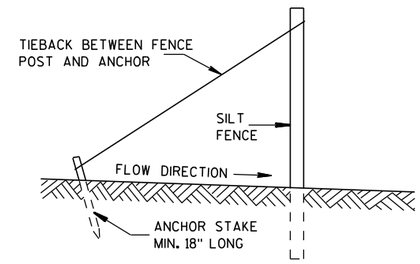


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

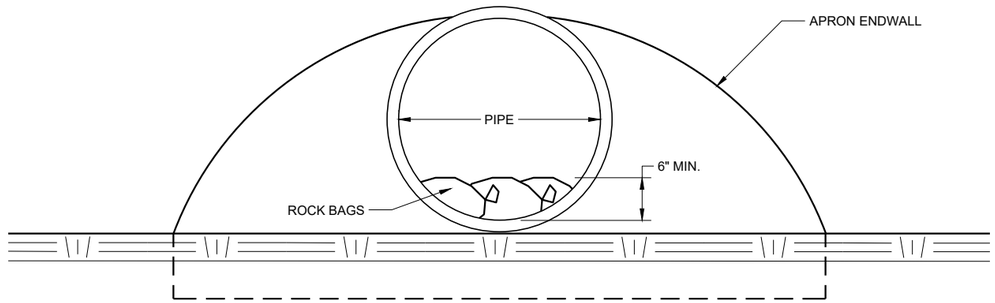
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

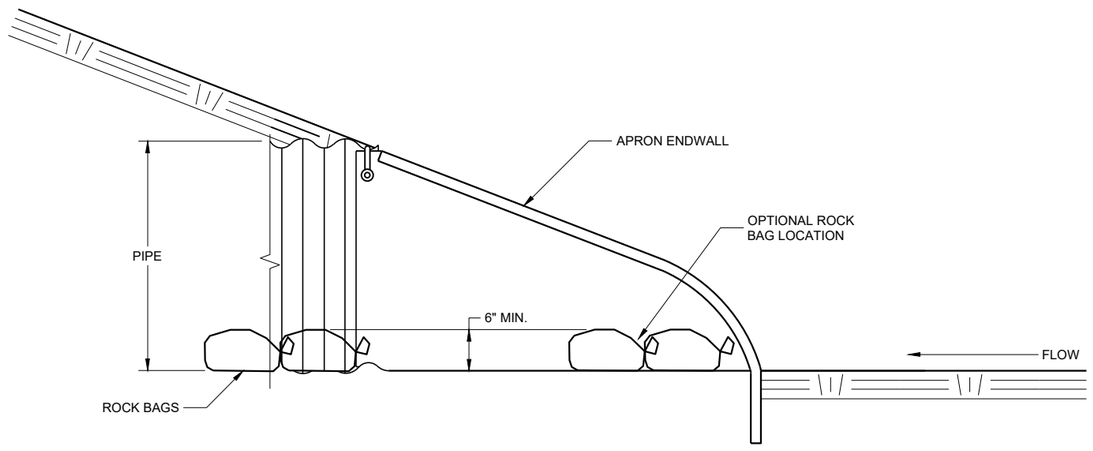
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

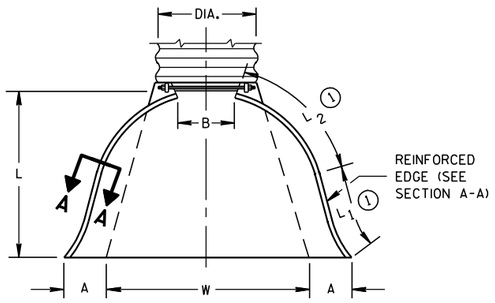
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

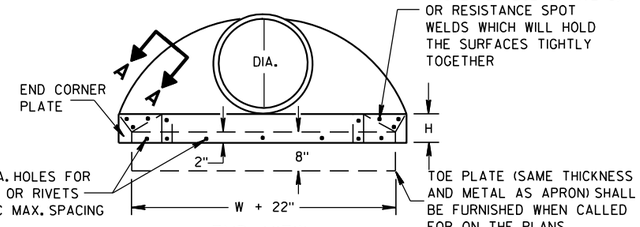
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

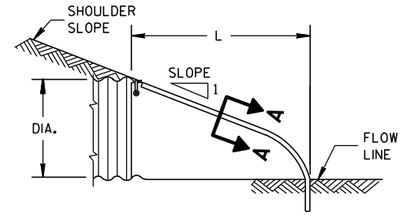
*MINIMUM
**MAXIMUM



PLAN VIEW

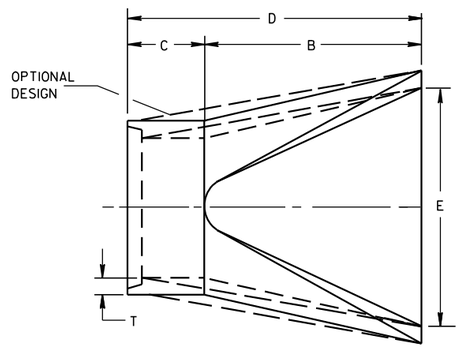


END VIEW

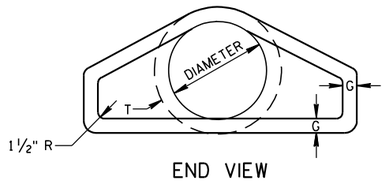


SIDE ELEVATION

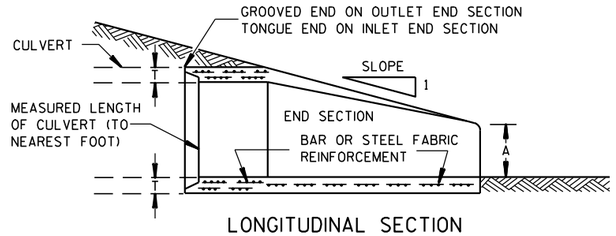
METAL ENDWALLS



PLAN

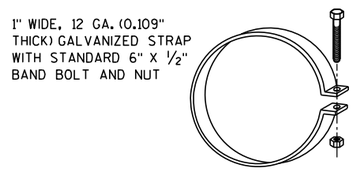


END VIEW



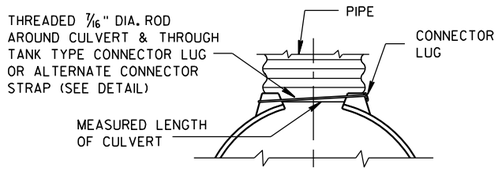
LONGITUDINAL SECTION

CONCRETE ENDWALLS

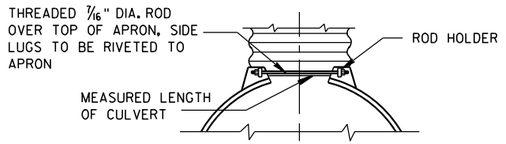


ALTERNATE FOR TYPE 1 CONNECTION

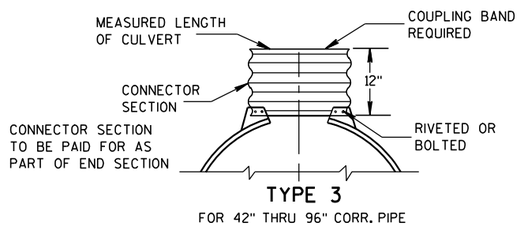
END SECTION CONNECTOR STRAP



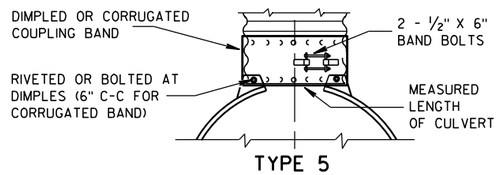
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

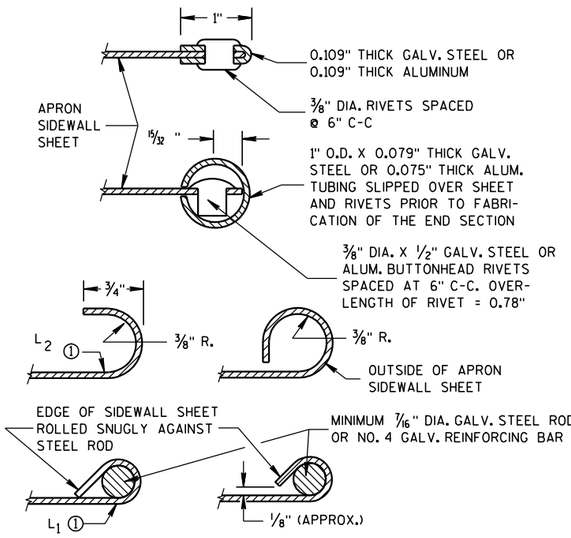
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

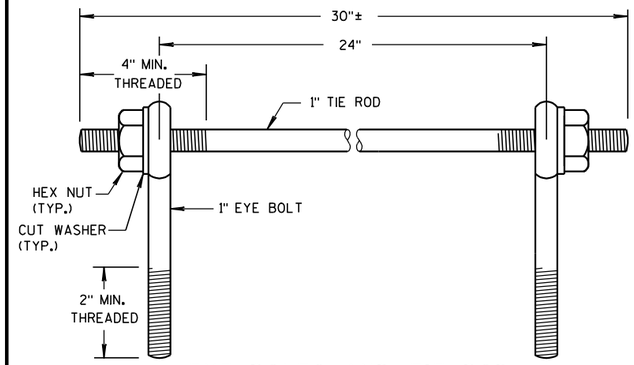
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

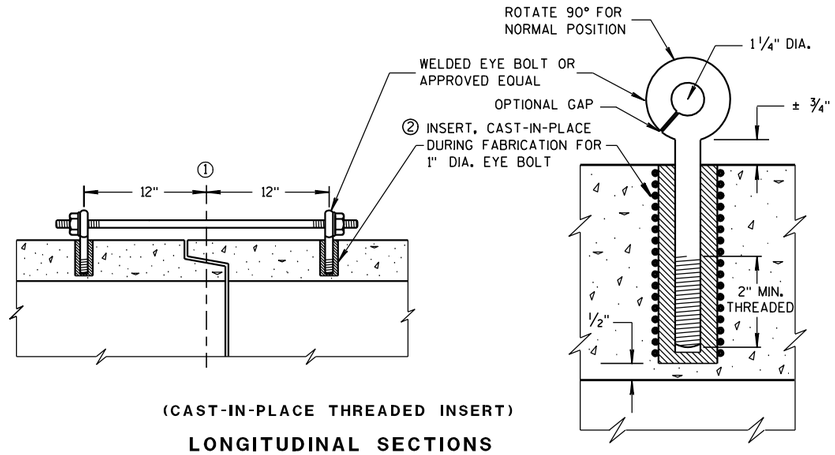
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

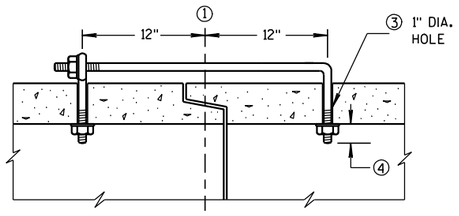
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

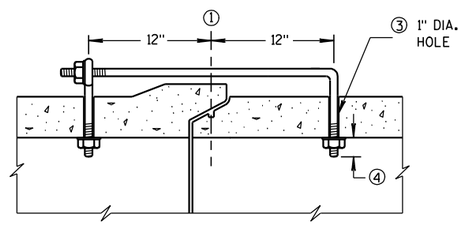
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

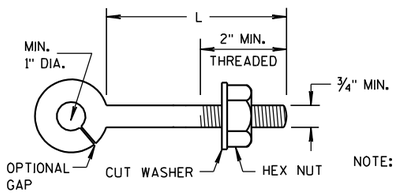


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

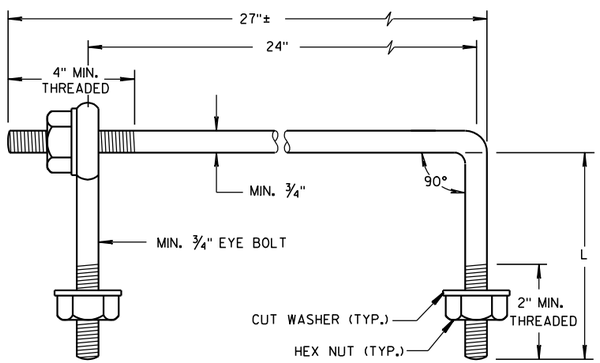
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

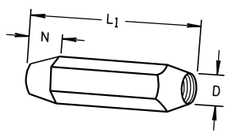
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

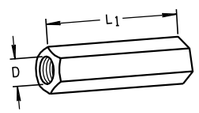
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



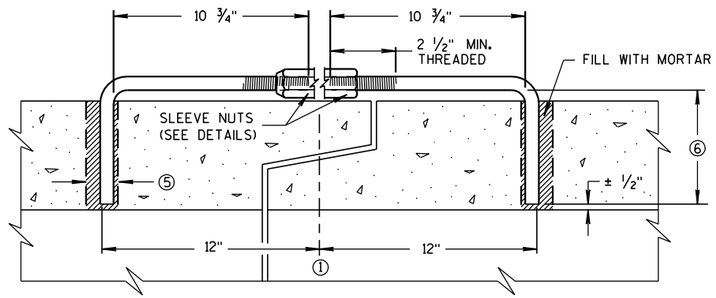
TAPERED



PLAIN

RIGHT AND LEFT THREADS

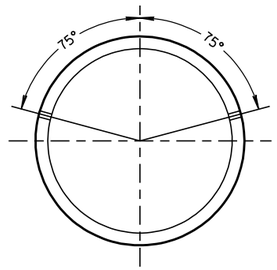
SLEEVE NUTS



LONGITUDINAL SECTION

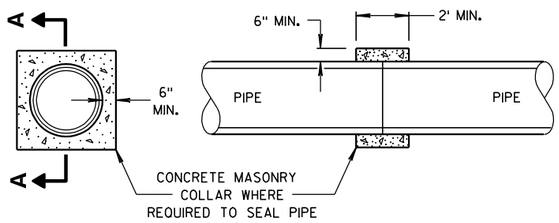
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
44 — 'MENT
FHWA

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S.D.D. 8 F 4-7

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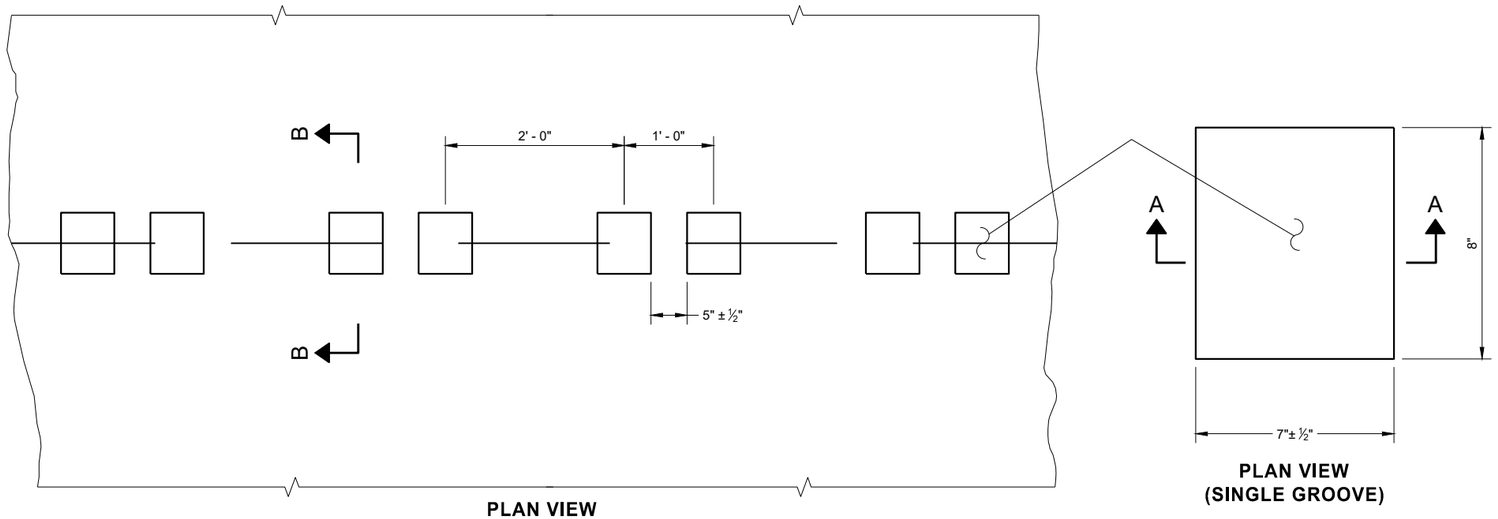
S.D.D. 8 F 4-7



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

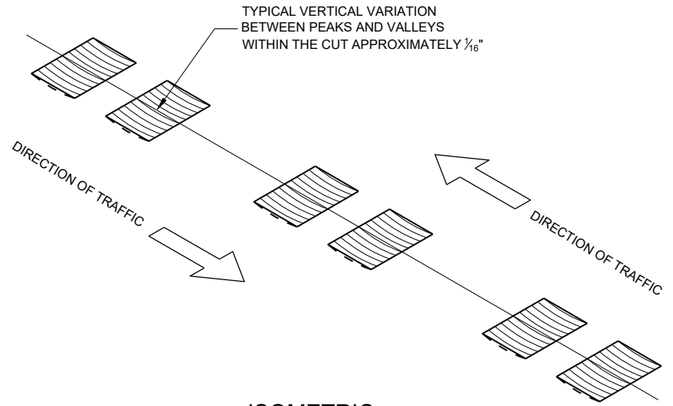
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

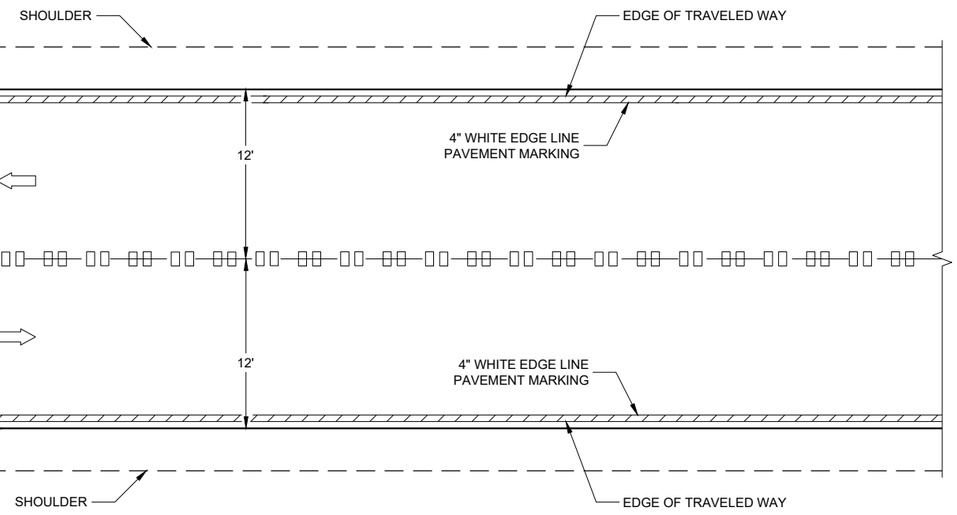
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

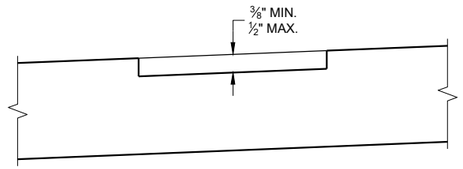
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



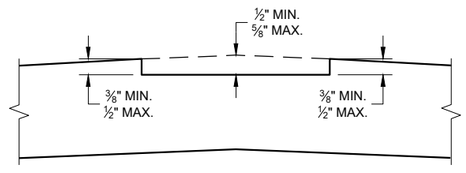
ISOMETRIC



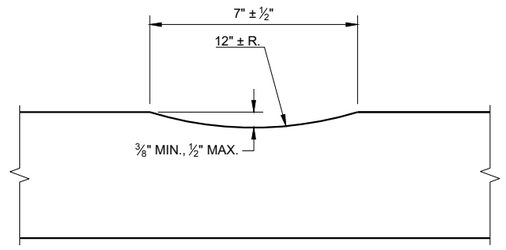
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

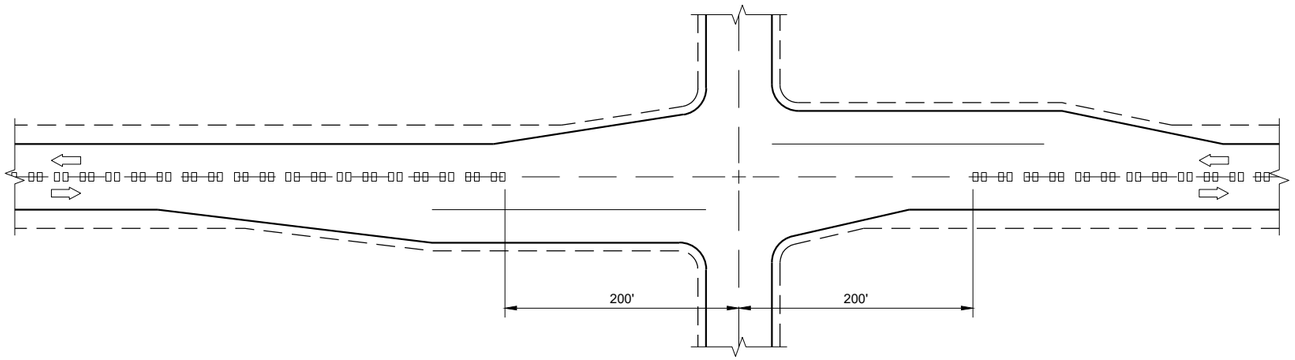
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

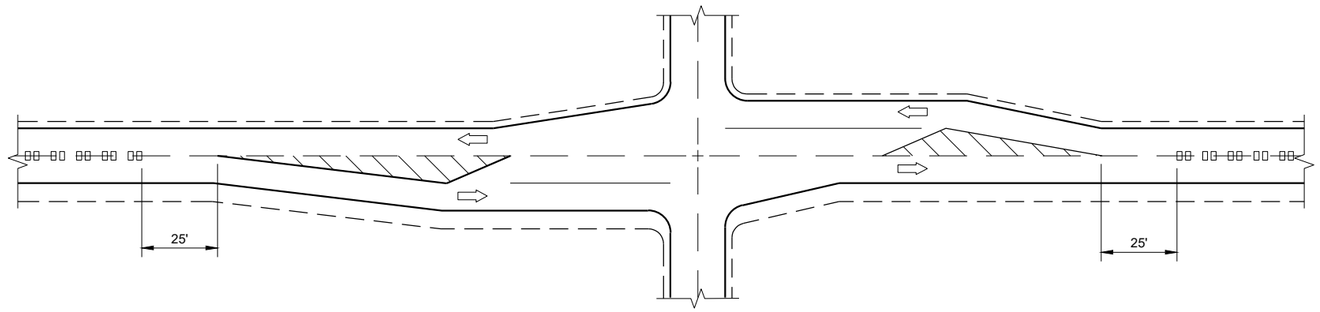
SDD 13A11 - 03a

6

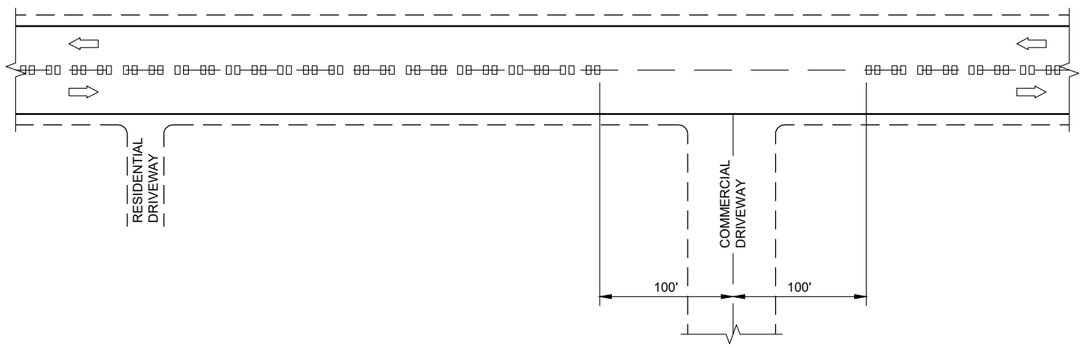
SDD 13A11 - 03a



CENTERLINE GROOVES AT INTERSECTIONS



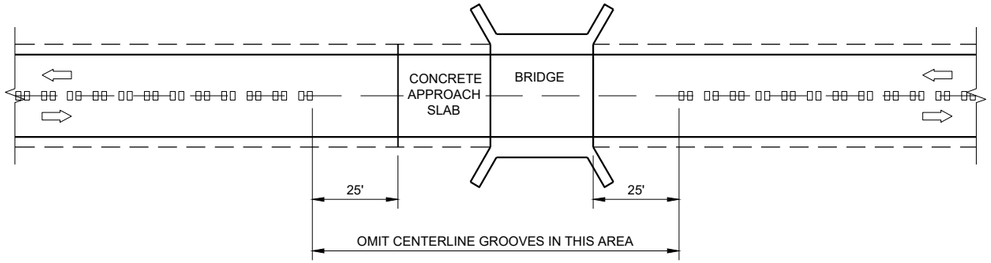
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



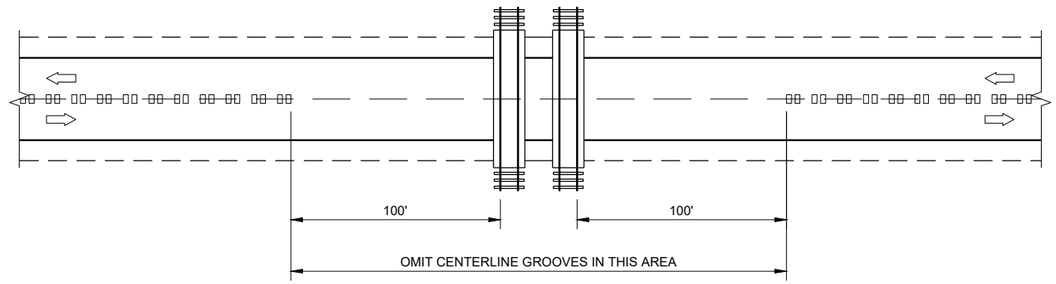
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

2-LANE RURAL
CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE

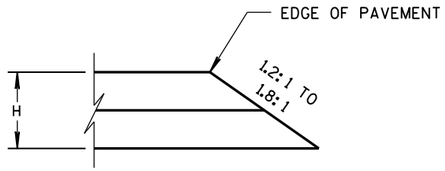
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

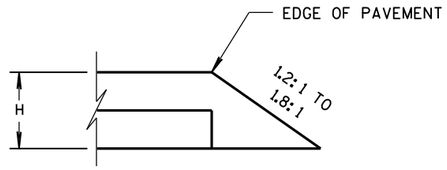
SDD 13A11 - 03b

SDD 13A11 - 03b



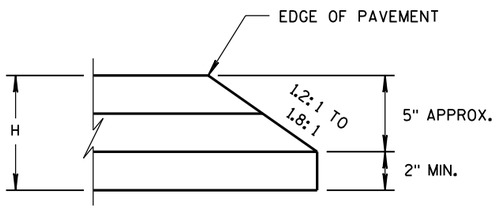
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



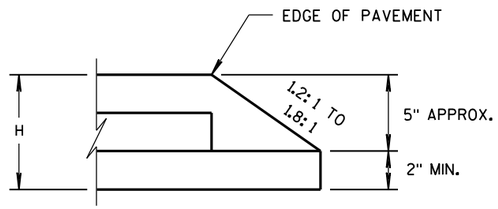
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

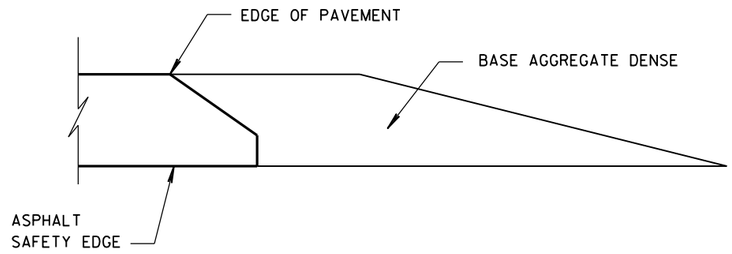
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

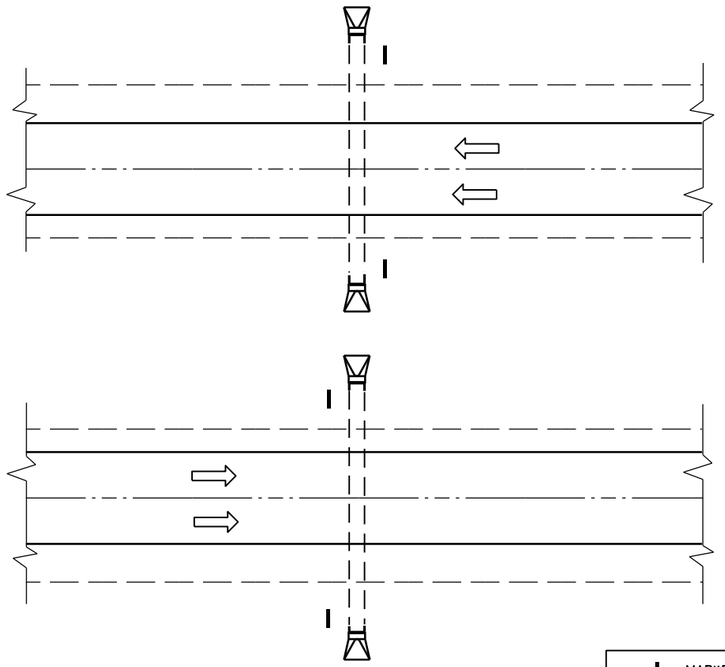
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

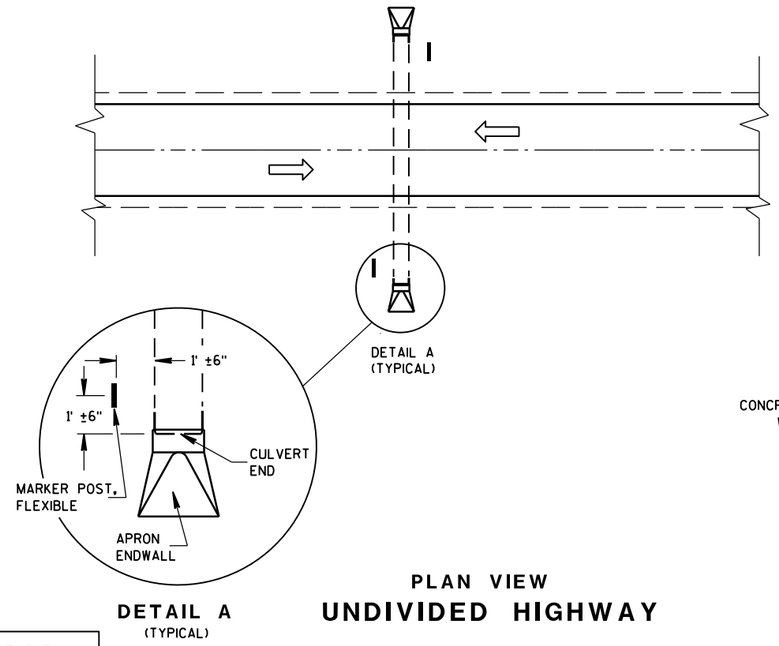
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

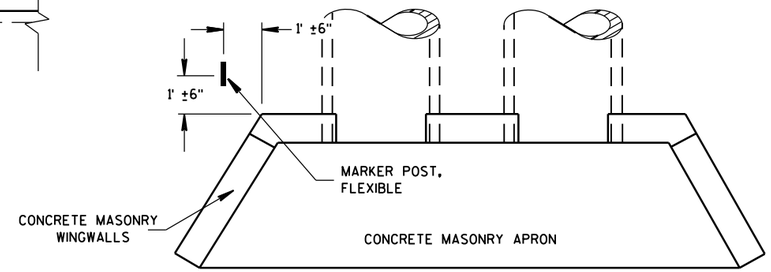
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

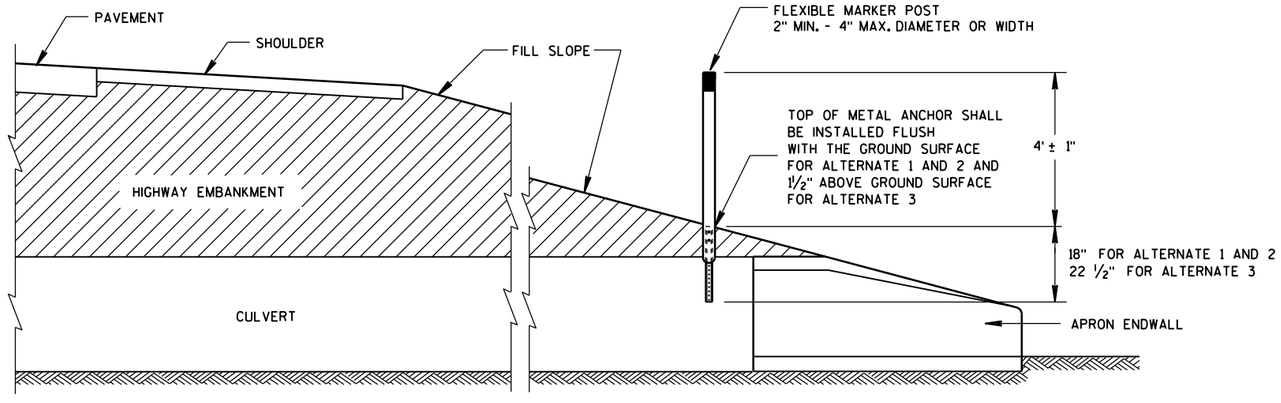
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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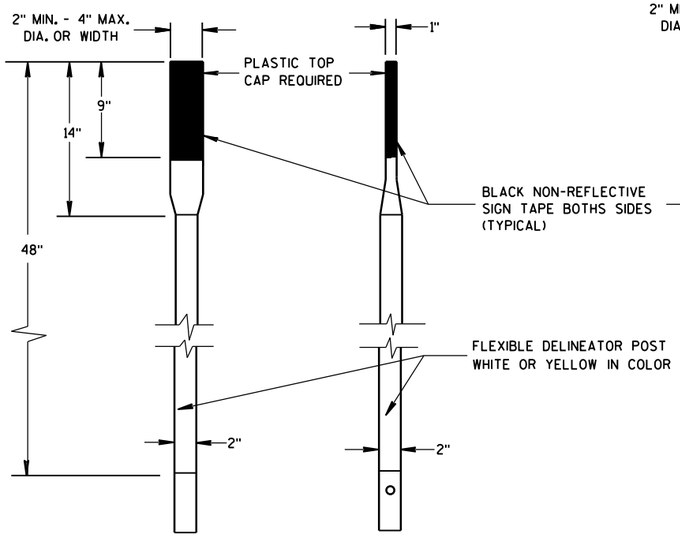
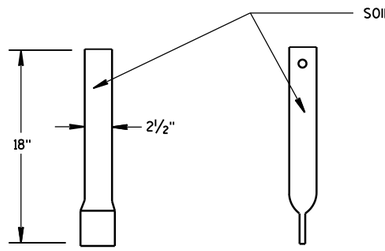
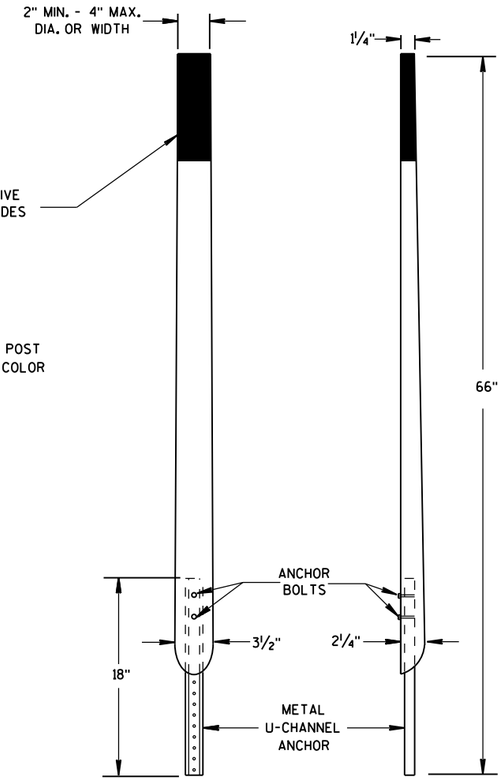
S.D.D. 15 A 3-2a





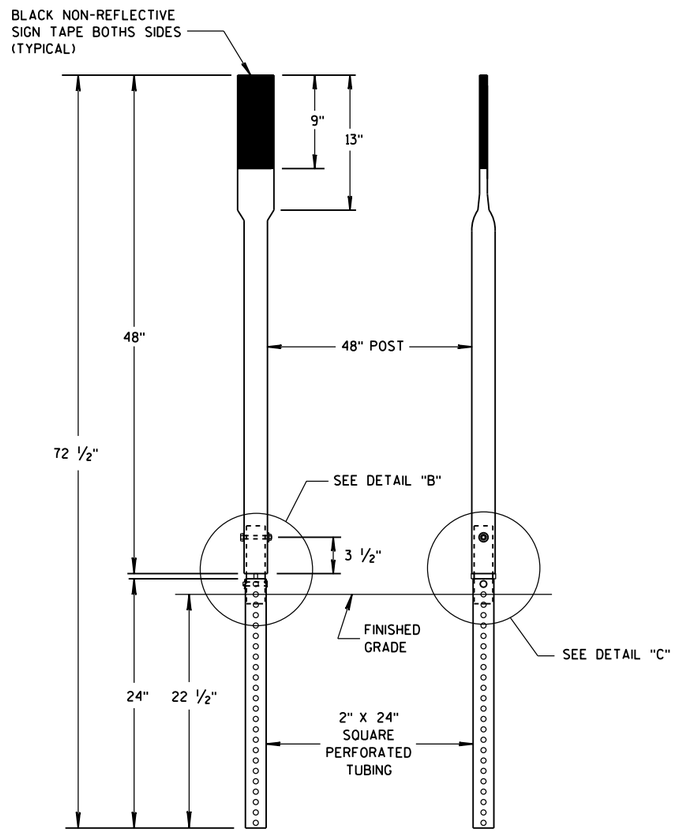
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

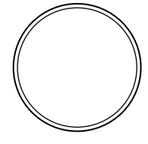
ALTERNATE 2



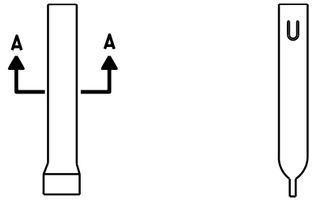
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

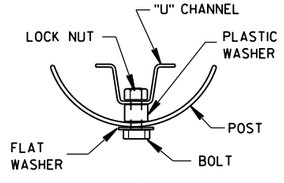


SECTION A-A

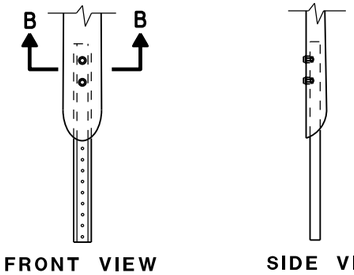


FRONT VIEW SIDE VIEW

ALTERNATE 1

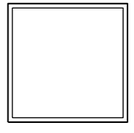


SECTION B-B

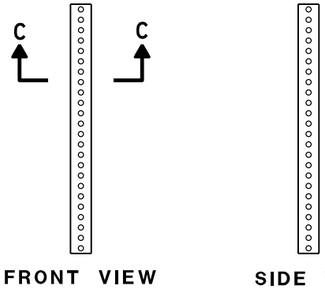


FRONT VIEW SIDE VIEW

ALTERNATE 2



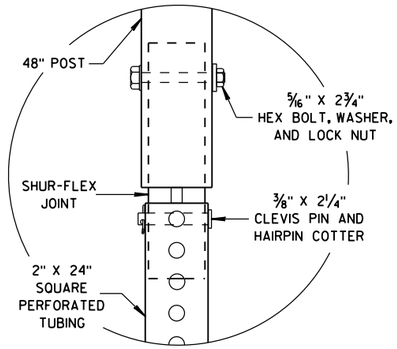
SECTION C-C



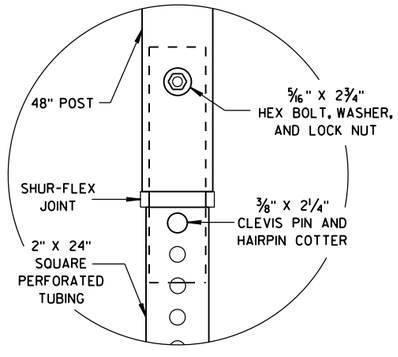
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

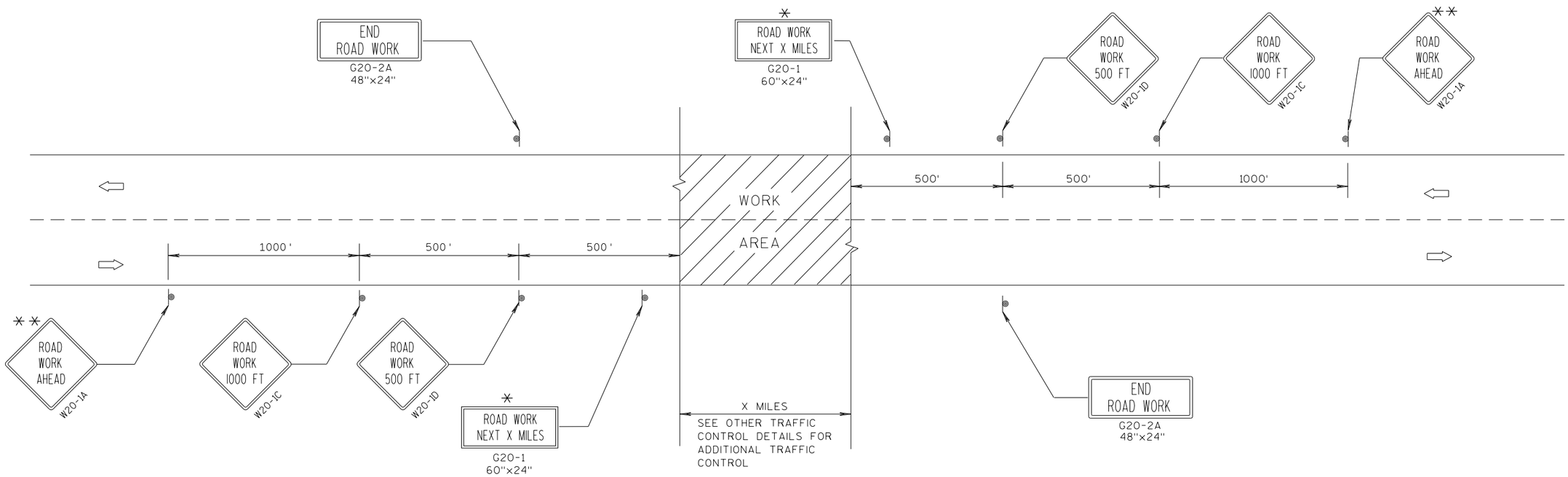
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6
S.D.D. 15 A 3-2b

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

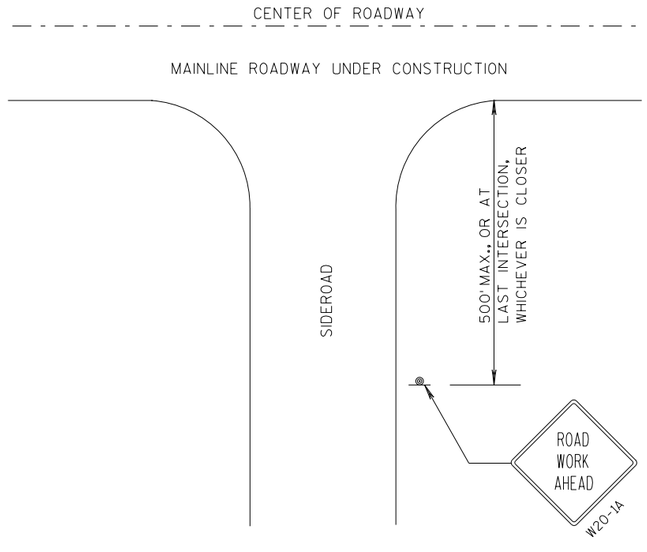
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGI
FHWA

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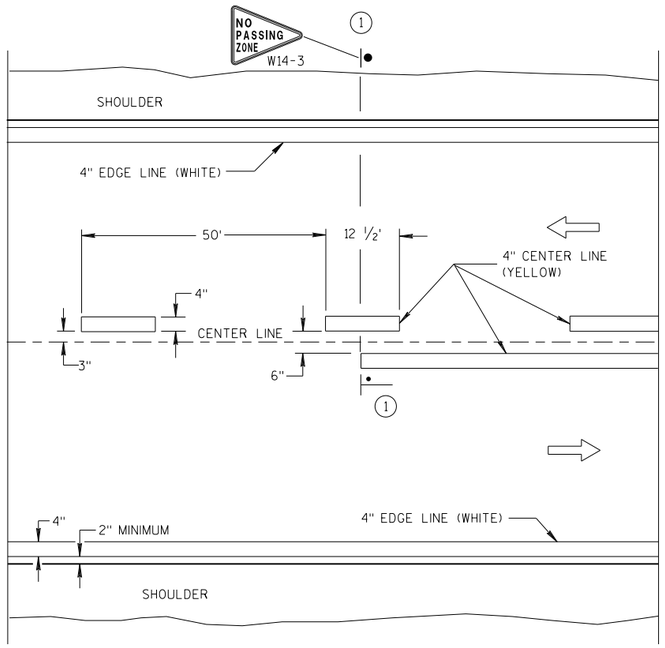
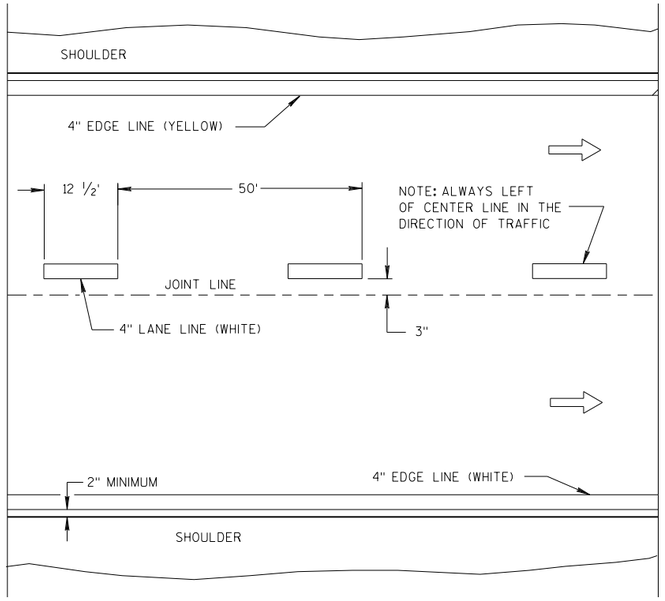
S.D.D. 15 C 4-5



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

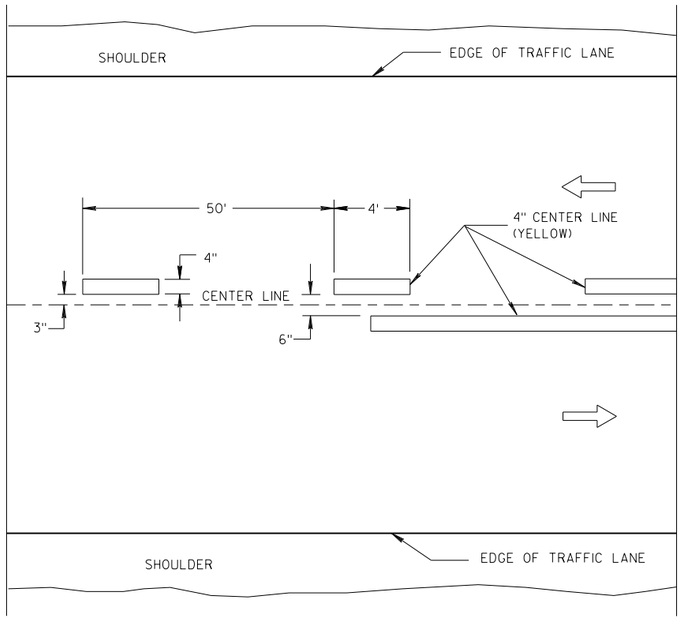
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

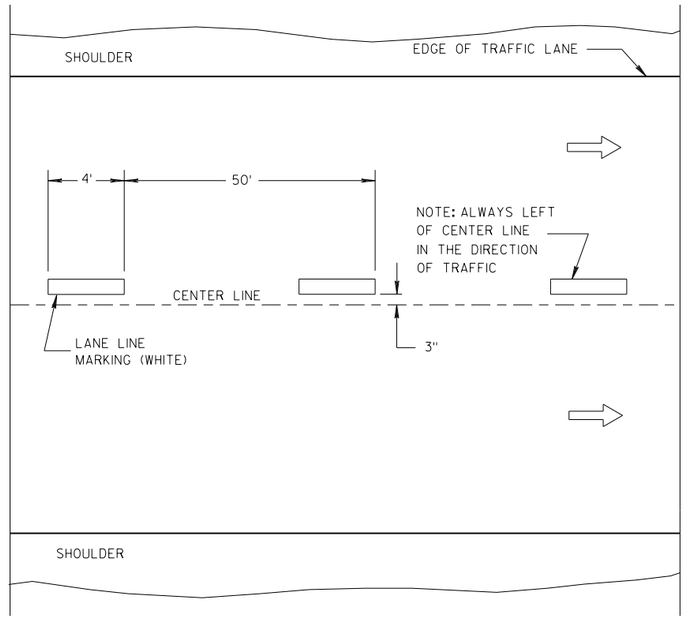
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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S.D.D. 15 C 8-19a

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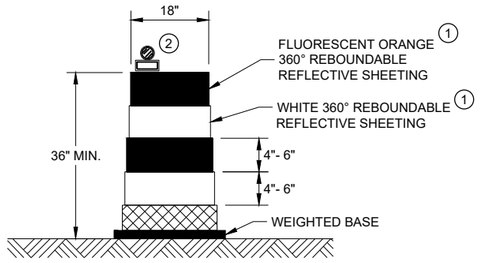
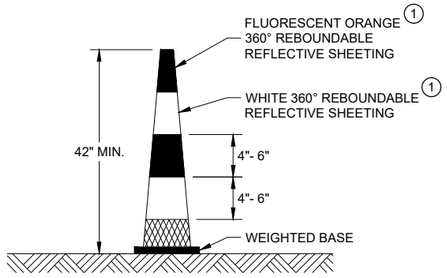
S.D.D. 15 C 8-19a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

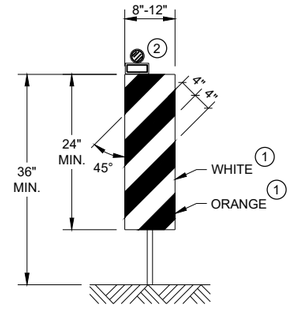


DRUM



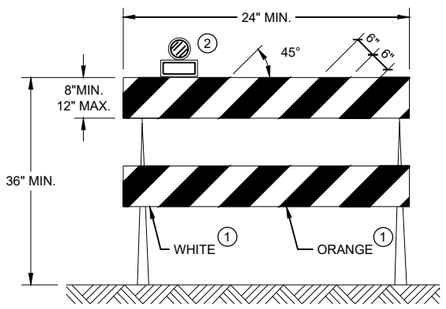
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



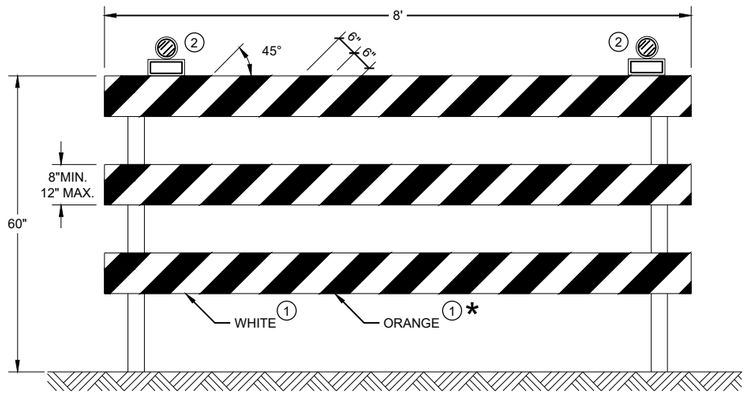
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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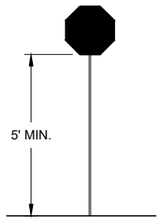
SDD 15C11 - 07b
SDD 15C11 - 07b

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



STOP/SLOW PADDLE ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

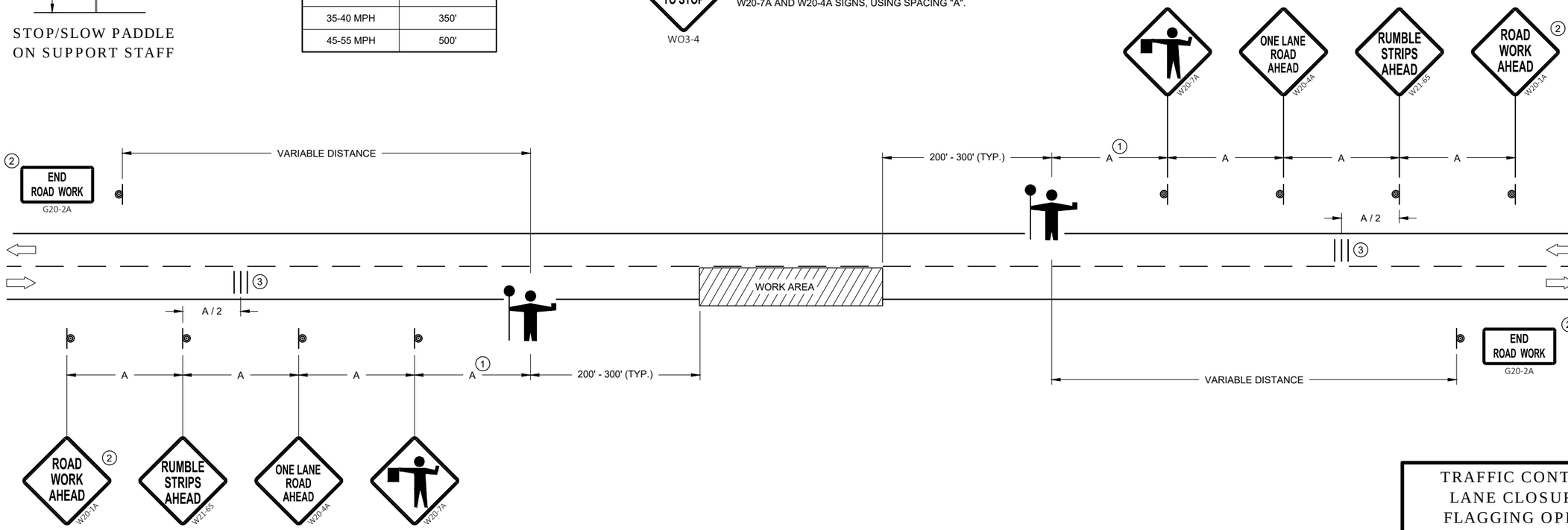
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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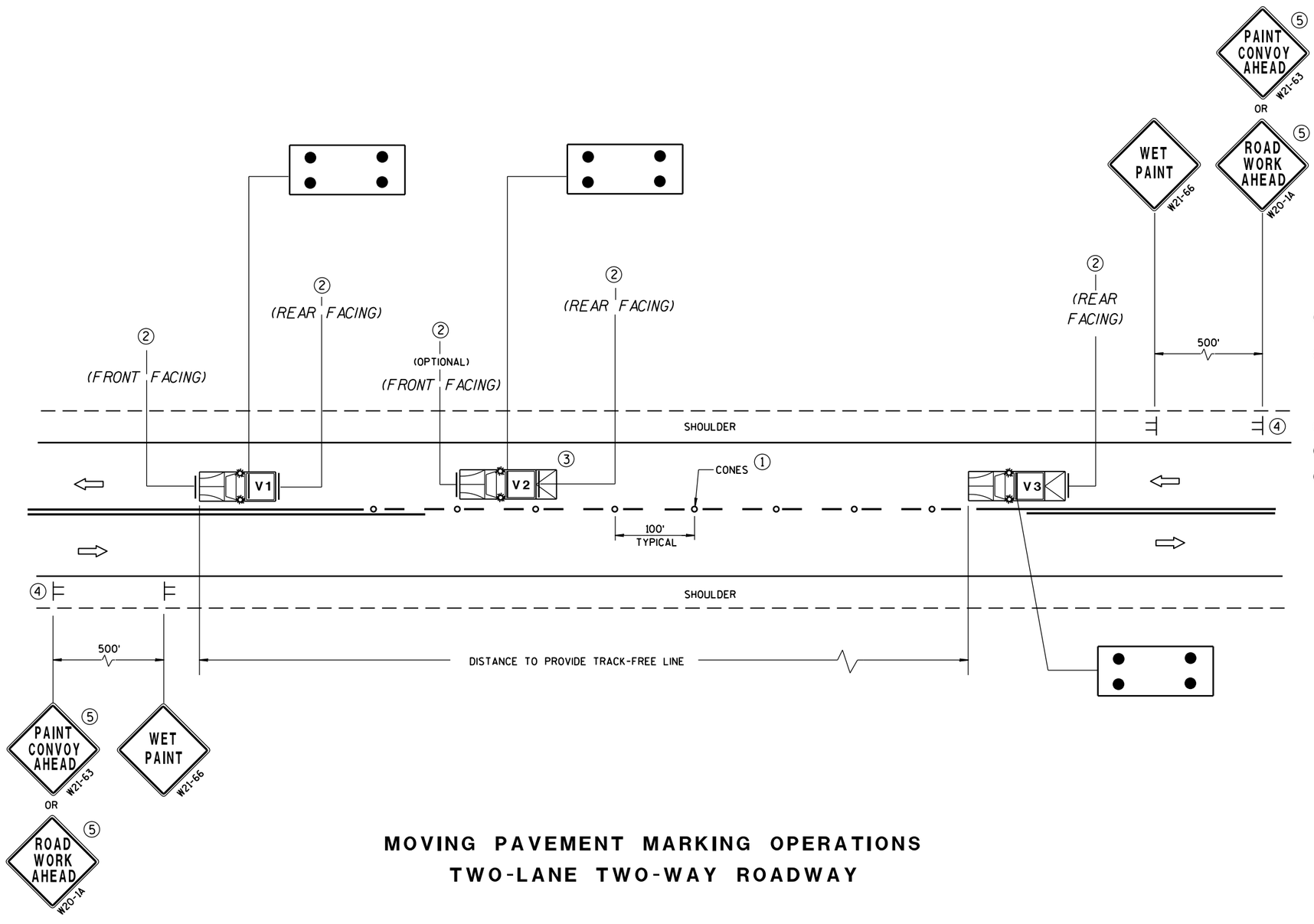
SDD 15C12 - 07



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGR
FHWA	

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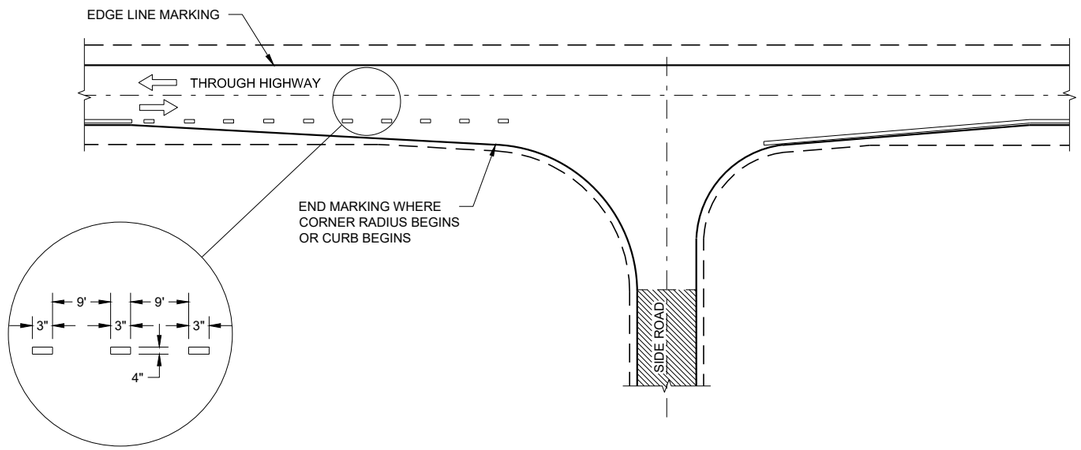
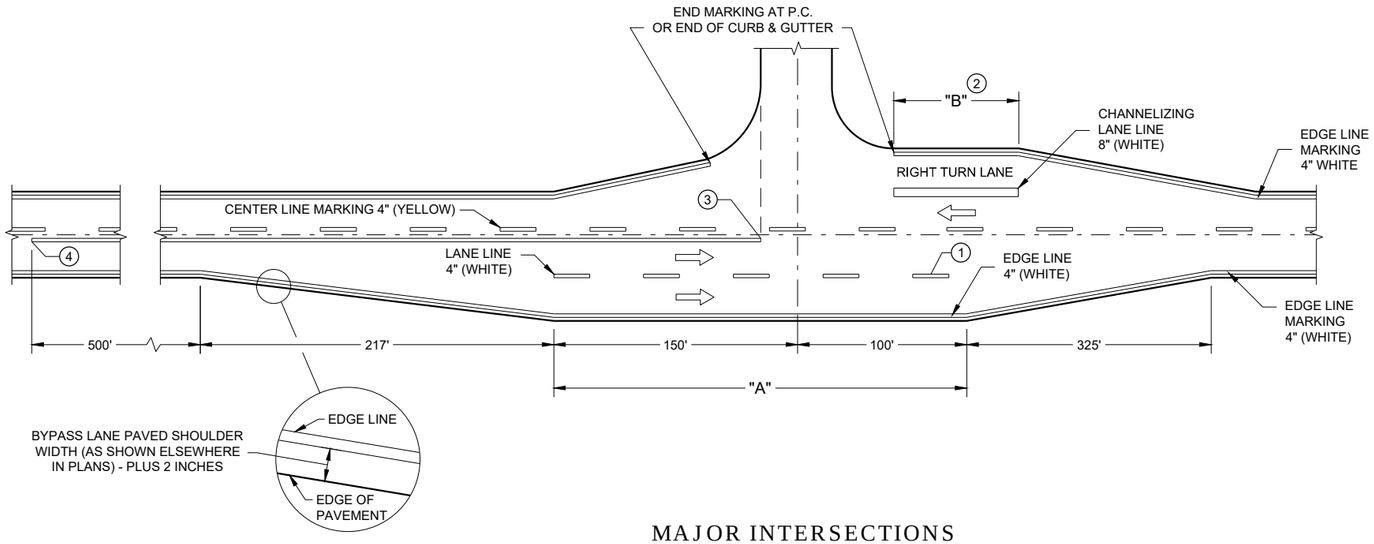
S.D.D. 15 C 19-5a



MINOR INTERSECTION



MAJOR INTERSECTIONS

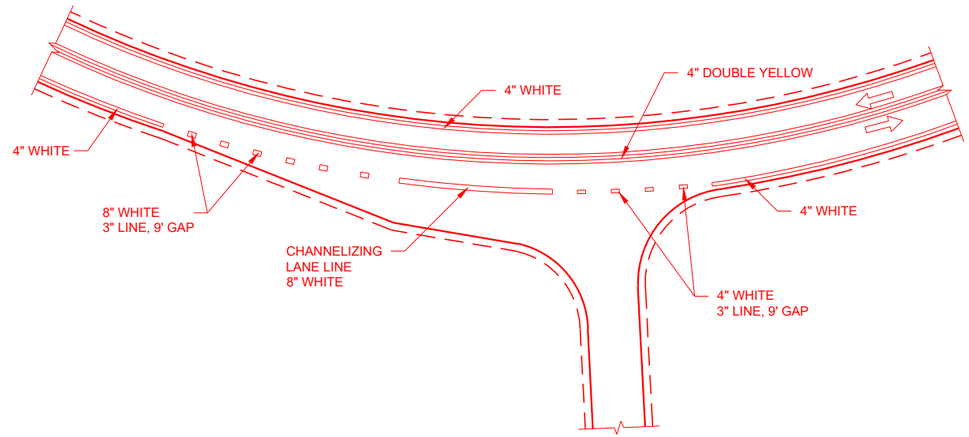
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

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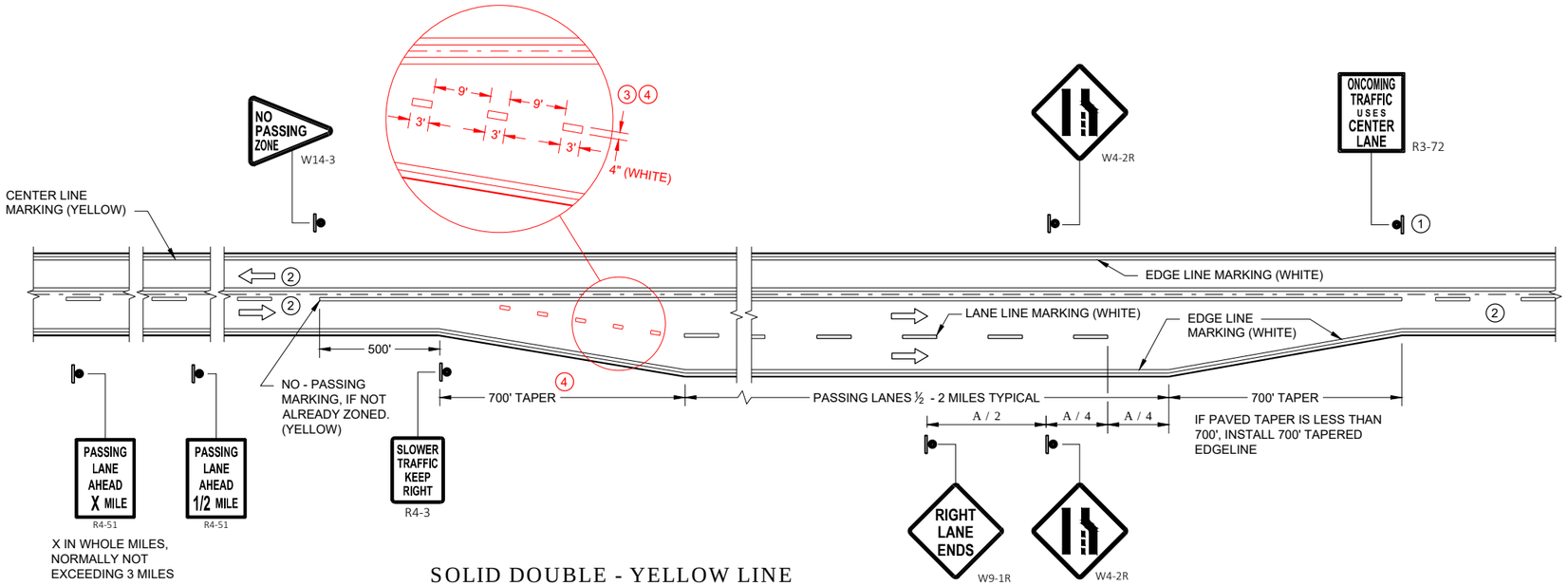
SDD 15C35 - 03a

PAVEMENT MARKING
(INTERSECTIONS)

SDD 15C35 - 03a



SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)

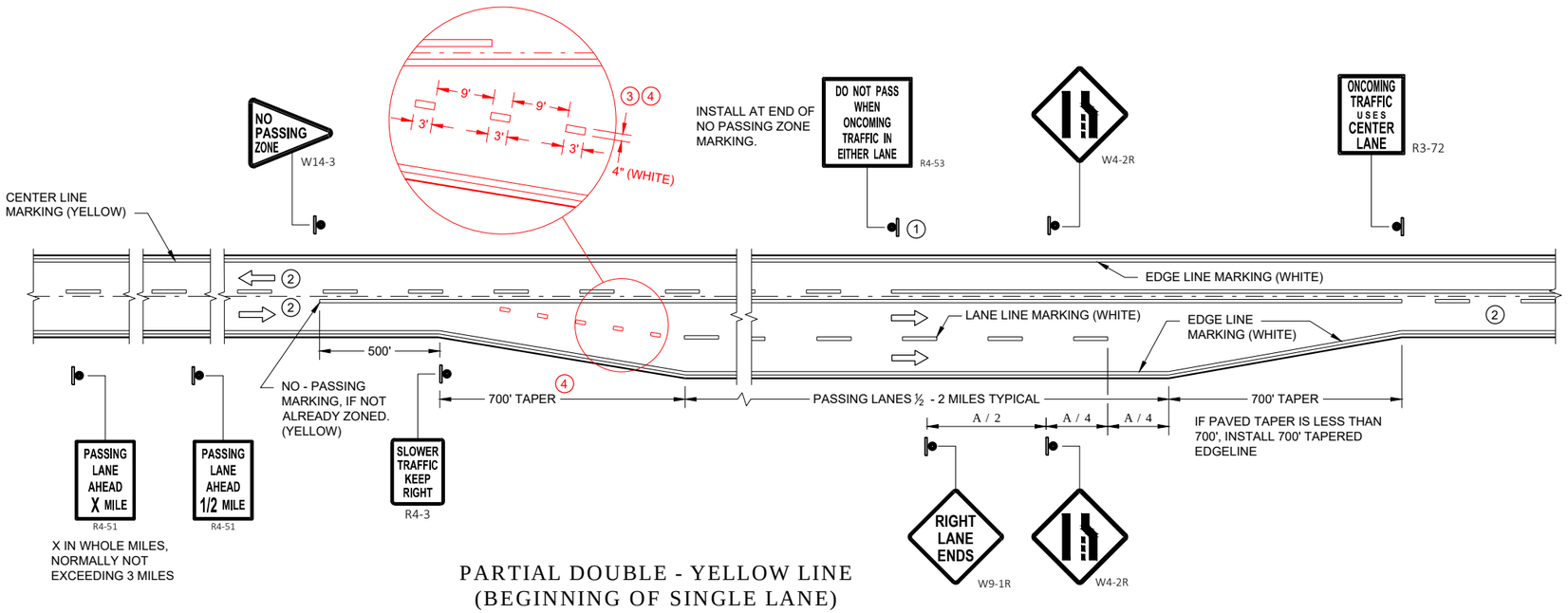
GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950



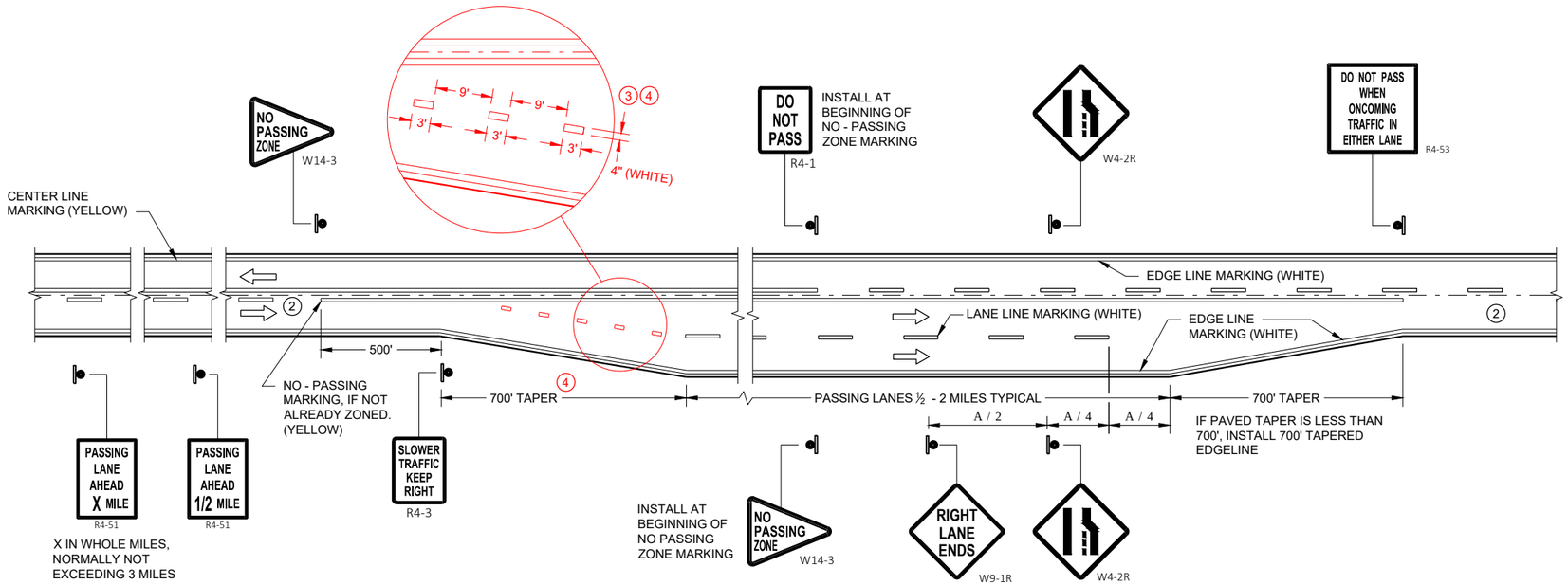
PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)

PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)

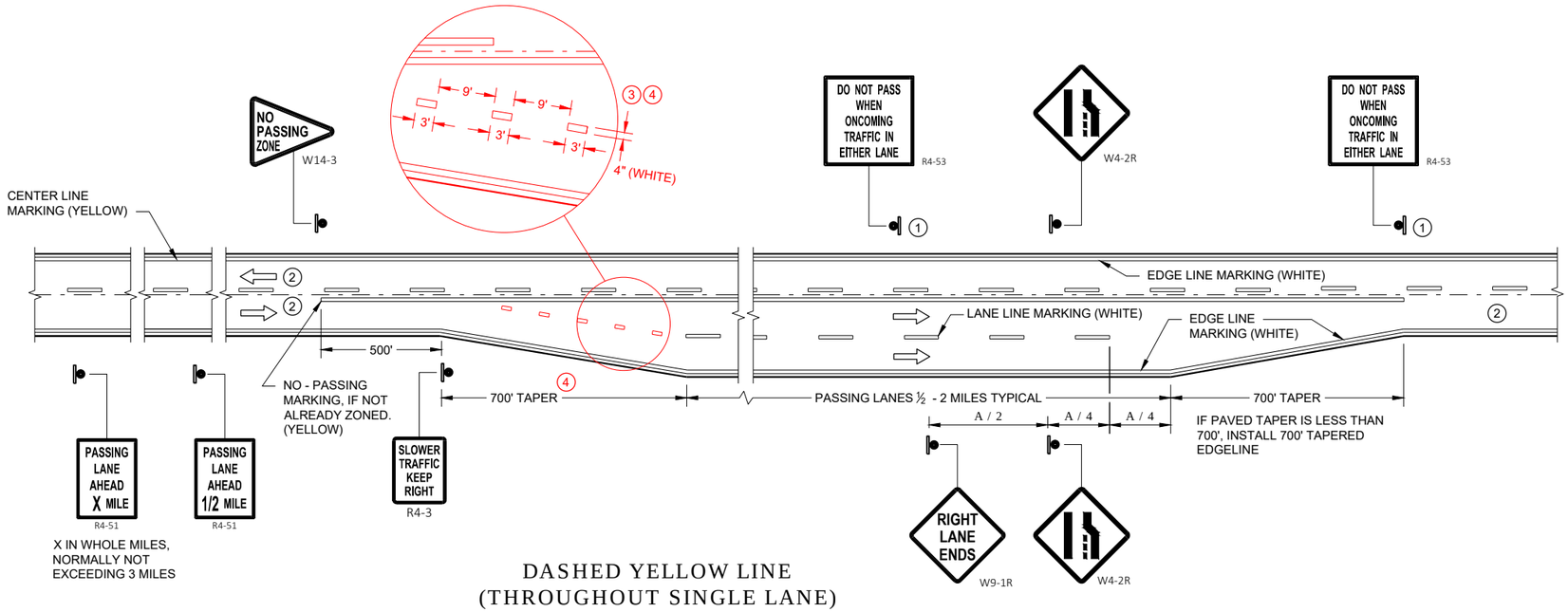
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35 - 03b

SDD 15C35 - 03b



SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)



DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBLING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

PAVEMNET MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
00-00-00 DATE
/S/ <AUTHOR> ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 15C35 - 03c

SDD 15C35 - 03c

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
W / S	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L= WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

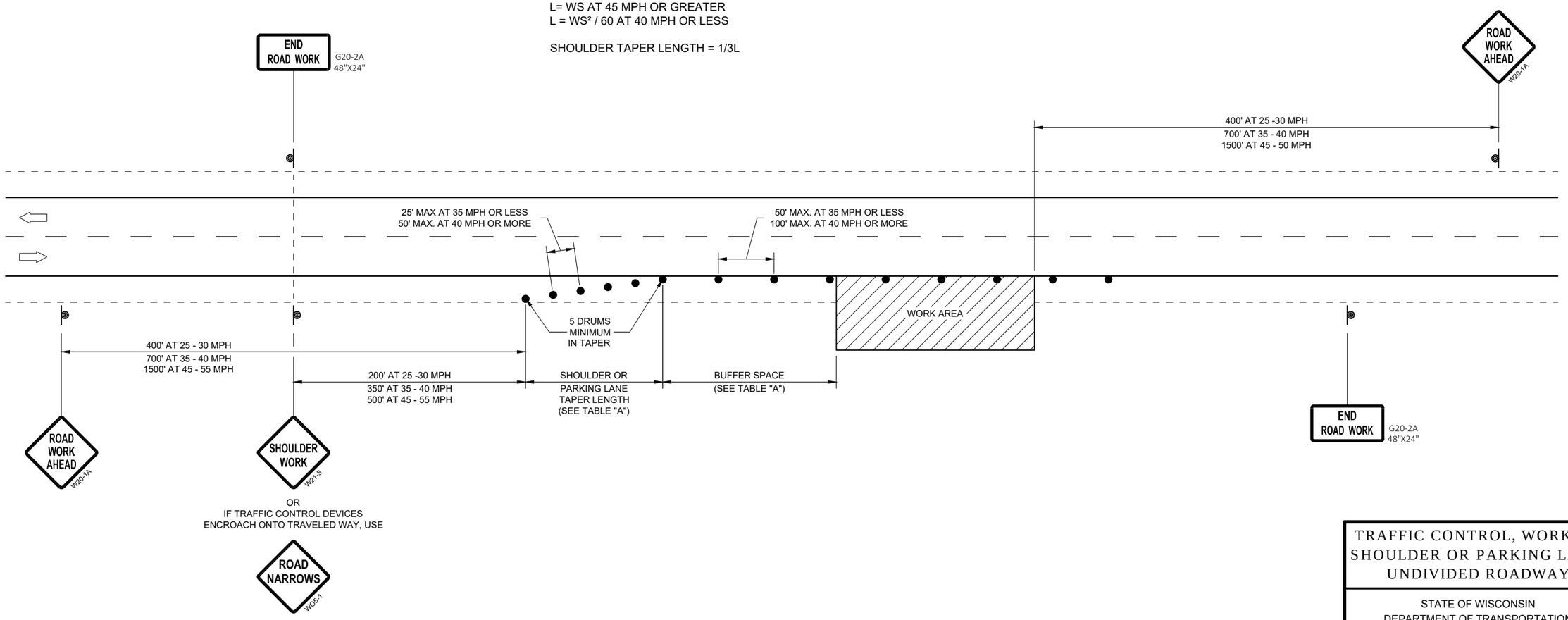
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE T SAFETY ENGINEER
FHWA

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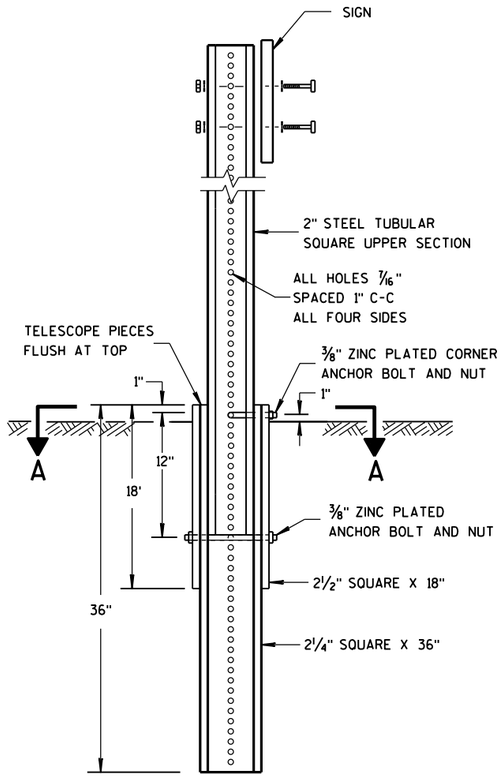
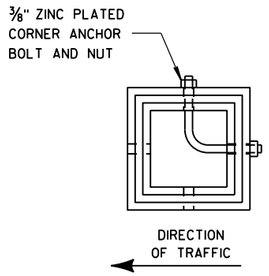
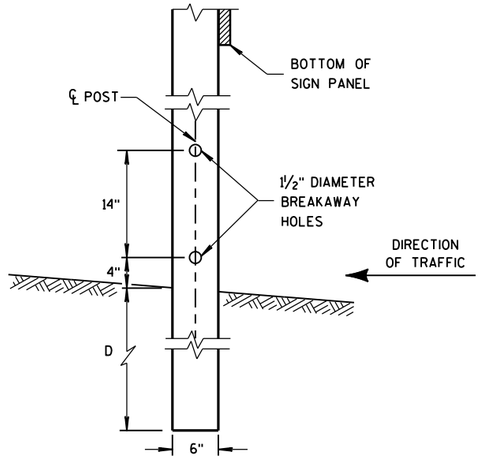
SDD 15D28 - 03



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



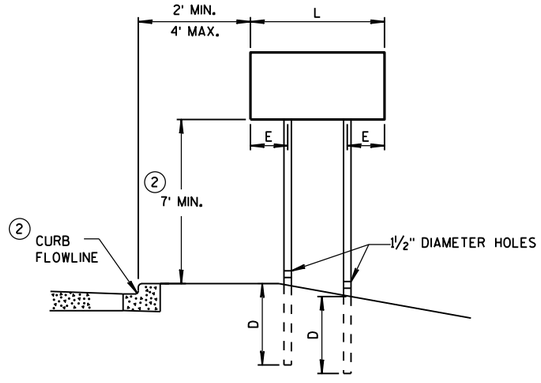
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

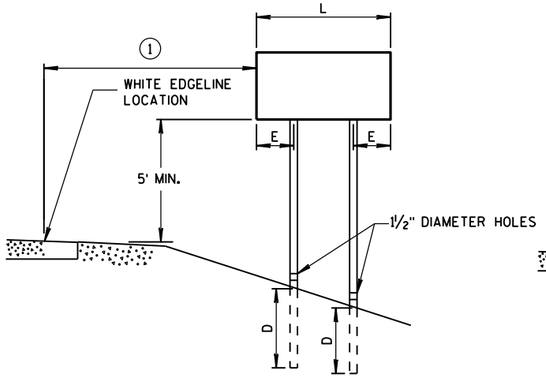
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

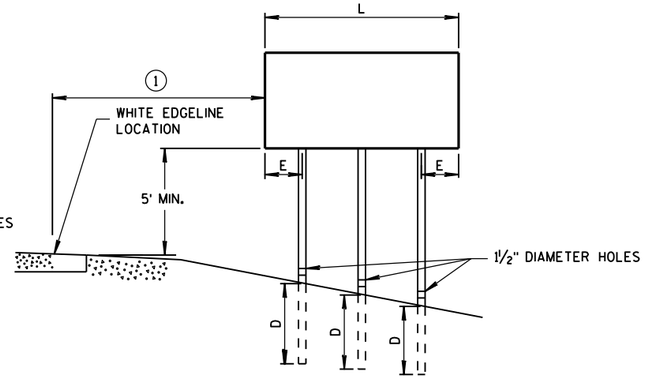
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

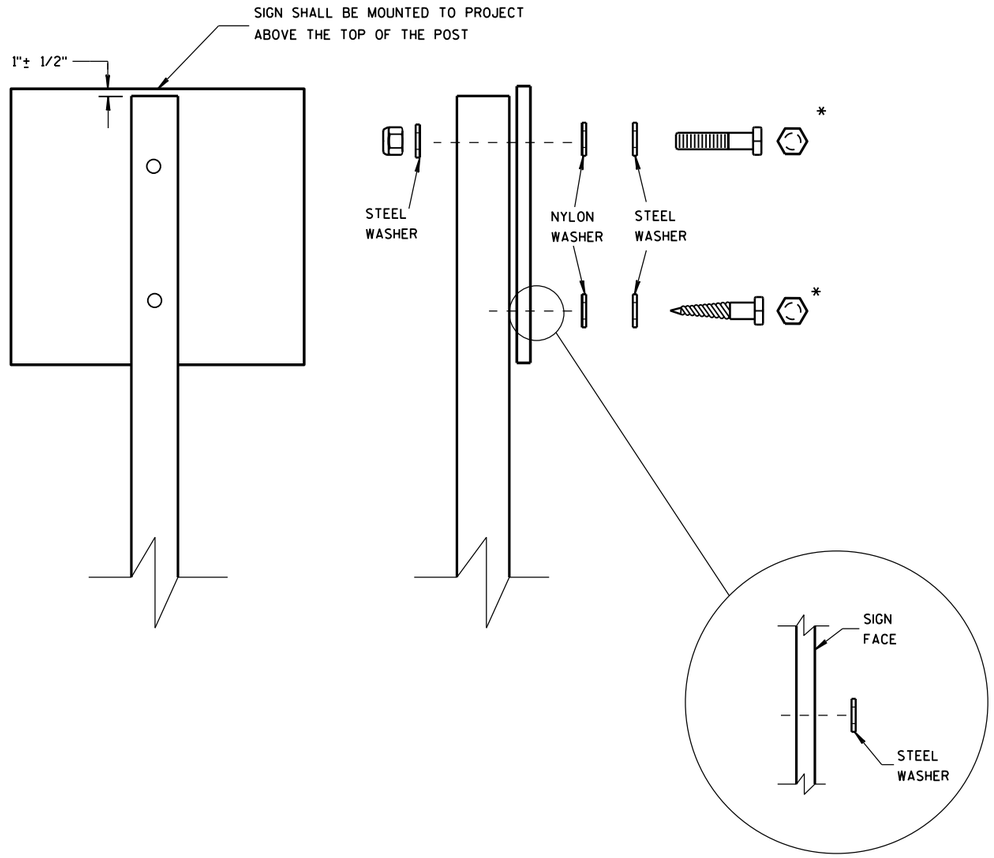
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

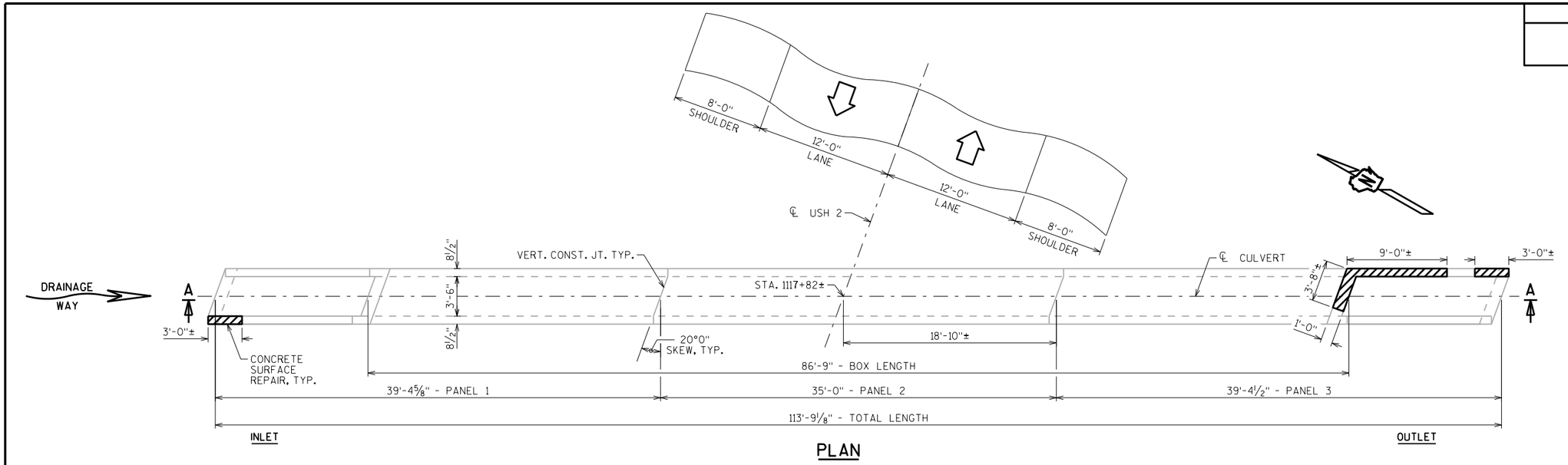
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

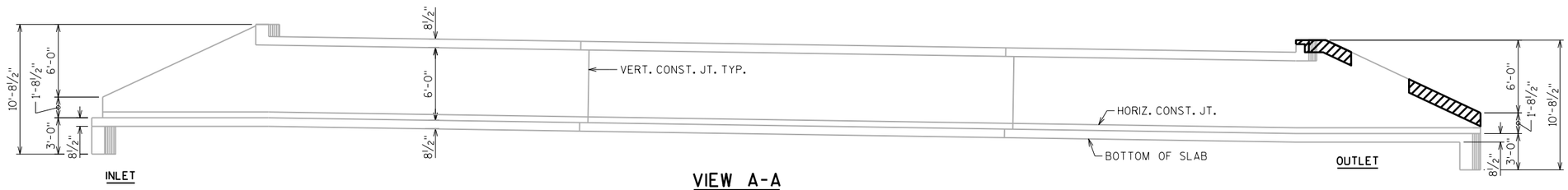
FHWA

STATE PROJECT NUMBER

1180-03-80



PLAN



VIEW A-A

TRAFFIC VOLUME

USH 2

ADT = 5,000 (2033)

R.D.S. = 55 M.P.H.

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089

AARON BONK (608) 261-0261

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

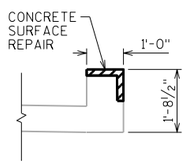
DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

TOTAL ESTIMATED QUANTITIES

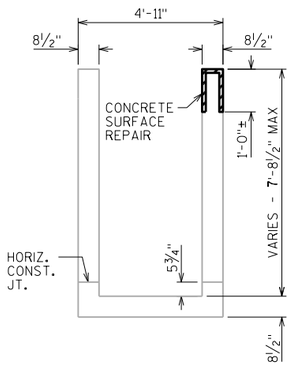
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
509.1500	CONCRETE SURFACE REPAIR	SF	75

CONCRETE SURFACE REPAIR AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.



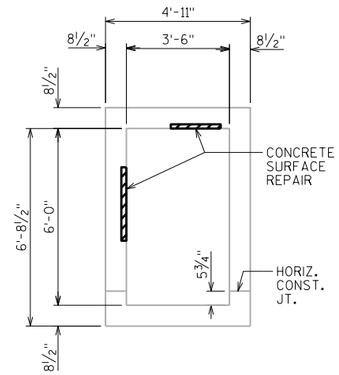
SECTION THRU HEADER

SHOWING CONCRETE SURFACE REPAIR AT OUTLET HEADER



END VIEW AT APRON

SHOWING CONCRETE SURFACE REPAIR AT INLET AND OUTLET WINGWALLS AS SHOWN ON PLANS



TYPICAL SECTION THRU BOX

SHOWING CONCRETE SURFACE REPAIRS TO INSIDE OF BOX AS DIRECTED BY THE ENGINEER

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 10/31/18

CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE C-4-711

USH 2 OVER DRAINAGE WAY

COUNTY BAYFIELD | TOWN KEYSTONE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. MJK | DRAWN BY EMK | PLANS CK'D. MJK

CULVERT REPAIRS

SHEET 1 OF 1

61

I.D. 1180-03-10D DATE: JAN. 2018

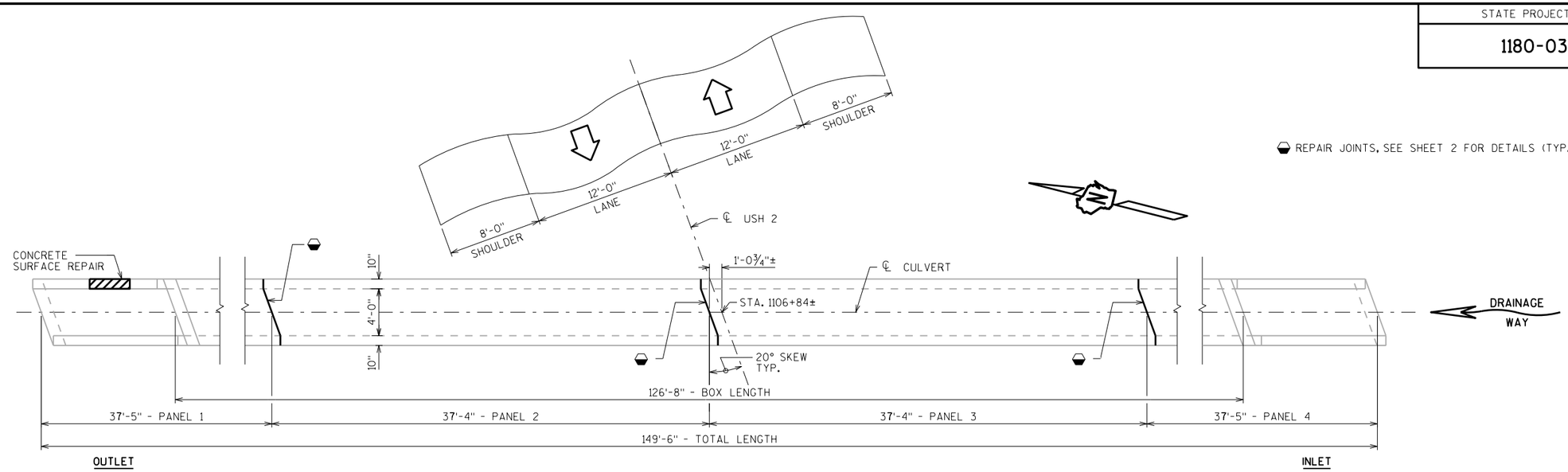
SCALE = 5.00

8

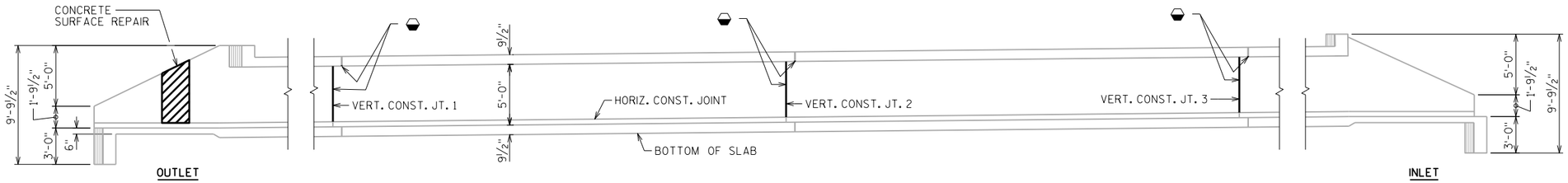
8

STATE PROJECT NUMBER

1180-03-80



PLAN



ELEVATION

TRAFFIC VOLUME

USH 2
ADT = 5,000 (2033)
R.D.S. = 55 M.P.H.

DESIGN DATA

MATERIAL PROPERTIES:
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

HIGH STRENGTH STRUCTURAL STEEL:
ASTM A36, GRADE 36 ——— fy = 36,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

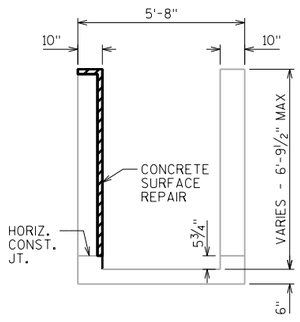
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

REPAIR JOINTS (AT ALL THREE VERT. CONST. JOINT LOCATIONS) TO BE PAID FOR UNDER BID ITEM "BOX CULVERT JOINT REPAIR C-4-713".

TOTAL ESTIMATED QUANTITIES

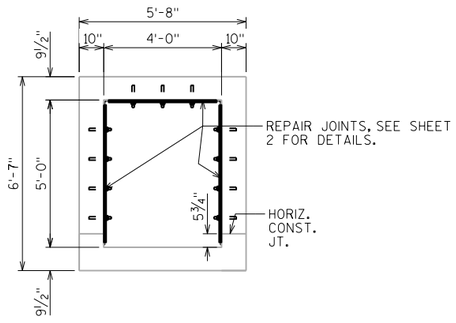
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
509.1500	CONCRETE SURFACE REPAIR	SF	30
SPV.0105	BOX CULVERT JOINT REPAIR C-4-713	LS	1

CONCRETE SURFACE REPAIR AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.



END VIEW AT APRON

SHOWING CONCRETE SURFACE REPAIR AT OUTLET END ON NORTHEAST WINGWALL



TYPICAL SECTION THRU BOX

SHOWING JOINT REPAIR AT VERT. CONST. JOINTS

LIST OF DRAWINGS

1. CULVERT REPAIR
2. REPAIR DETAILS

STRUCTURE DESIGN CONTACTS:
EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 10/31/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE C-4-713

USH 2 OVER DRAINAGE WAY

COUNTY	TOWN
BAYFIELD	KEYSTONE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
EMK	MJK	EMK	MJK

CULVERT REPAIR

SHEET 1 OF 2

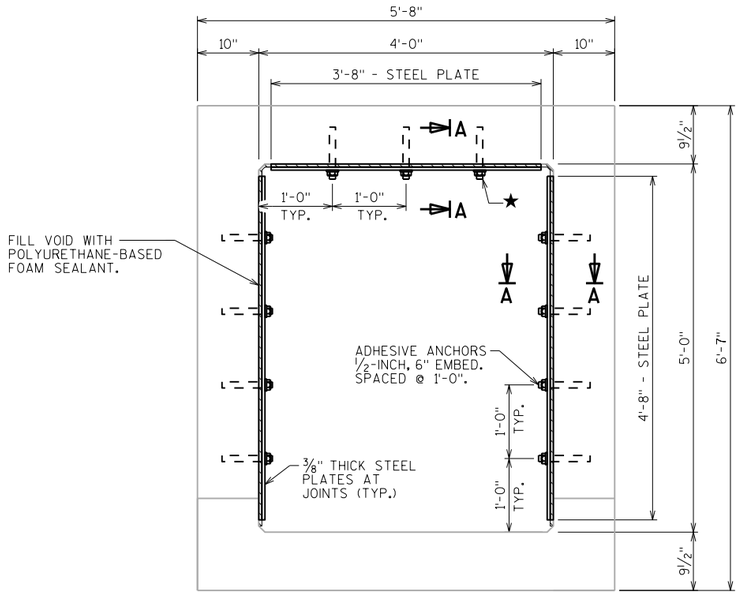
62

I.D. 1180-03-10A DATE: JAN. 2018

SCALE = 5.00

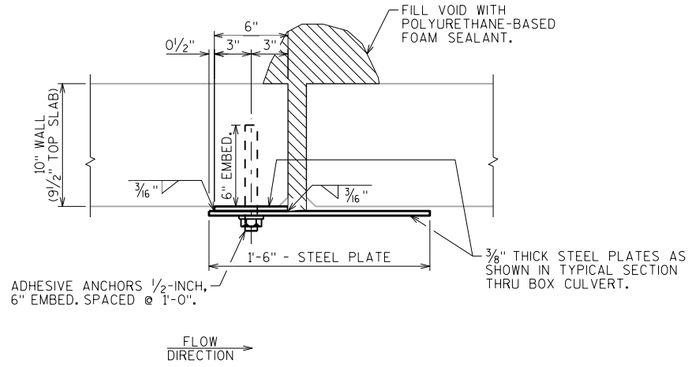
STATE PROJECT NUMBER

1180-03-80



TYPICAL SECTION THRU BOX CULVERT JOINT REPAIR

★ MECHANICAL ANCHORS WILL BE ALLOWED TO BE SUBSTITUTED FOR OVERHEAD INSTALLATION.



SECTION A-A

NOTES

REPAR JOINTS (AT ALL THREE VERT. CONST. JOINT LOCATIONS) TO BE PAID FOR UNDER BID ITEM "BOX CULVERT JOINT REPAIR C-4-713".

ADHESIVE ANCHORS, STEEL PLATES, POLYURETHANE-BASED FOAM SEALANT, AND ANY OTHER MISCELLANEOUS WORK ASSOCIATED WITH BOX CULVERT JOINT REPAIRS TO BE INCLUDED IN BID ITEM "BOX CULVERT JOINT REPAIR C-4-713".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-4-713

DRAWN BY EMK | PLANS CK'D. MJK

REPAIR DETAILS

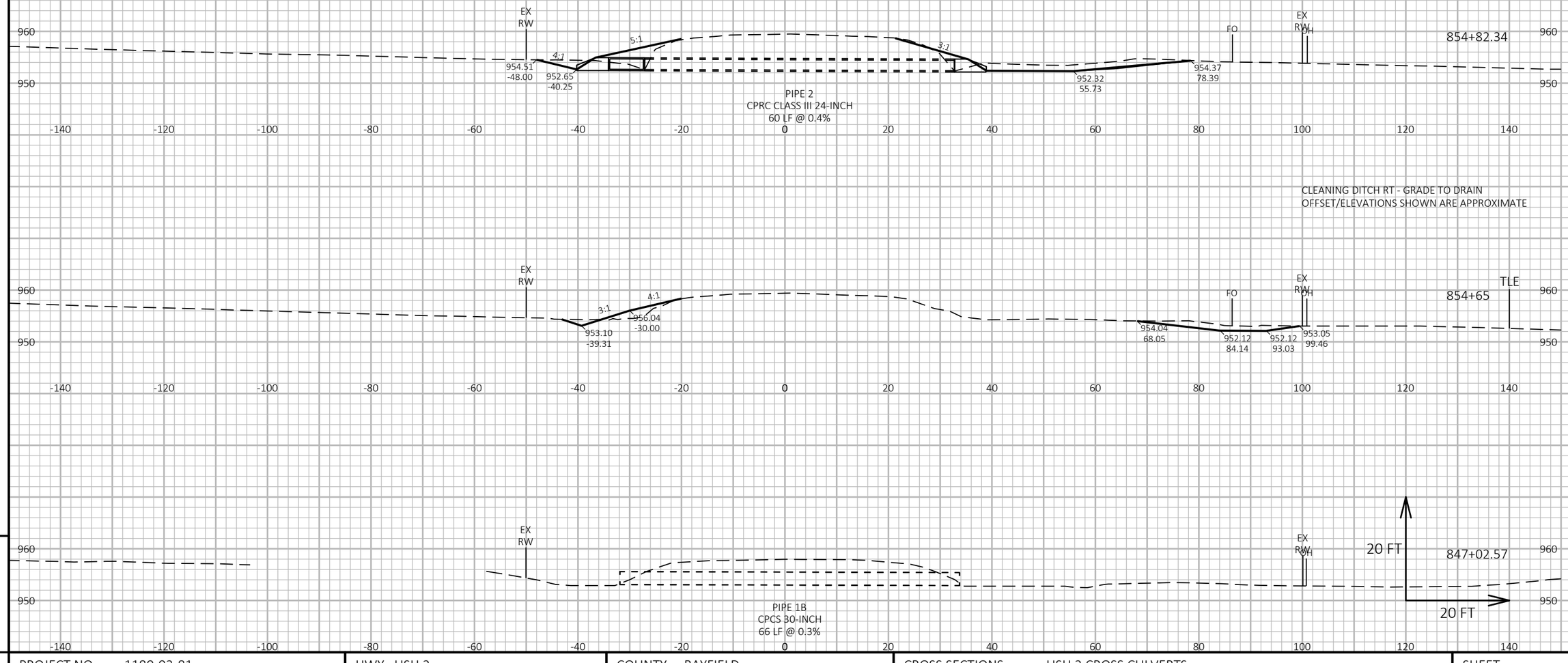
SHEET 2

63

8

8

SCALE = 1.00



9

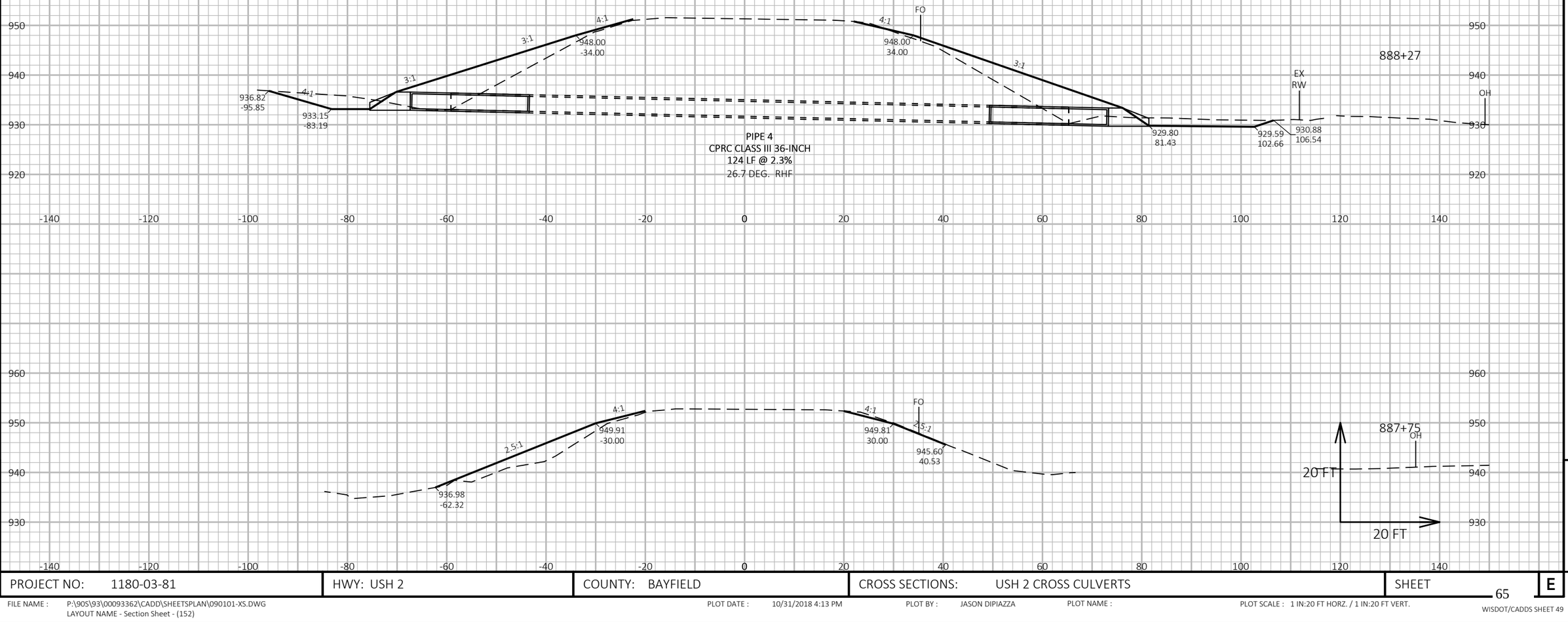
9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 64	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (150)

PLOT DATE : 10/31/2018 4:12 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

CLEANING DITCH RT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE



9

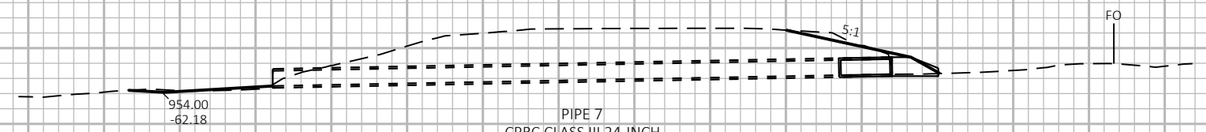
9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (152)

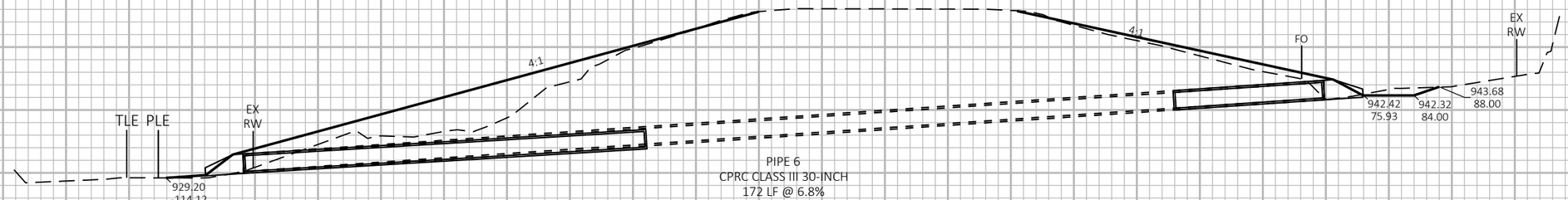
PLOT DATE : 10/31/2018 4:13 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE



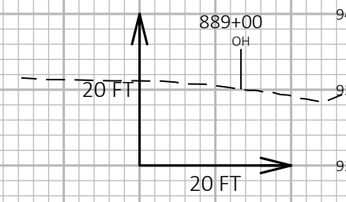
916+48.20

PIPE 7
CPRC CLASS III 24-INCH
82 LF @ 1.9%
31.2 DEG. RHF



911+19.43

PIPE 6
CPRC CLASS III 30-INCH
172 LF @ 6.8%
4.4 DEG. LHF



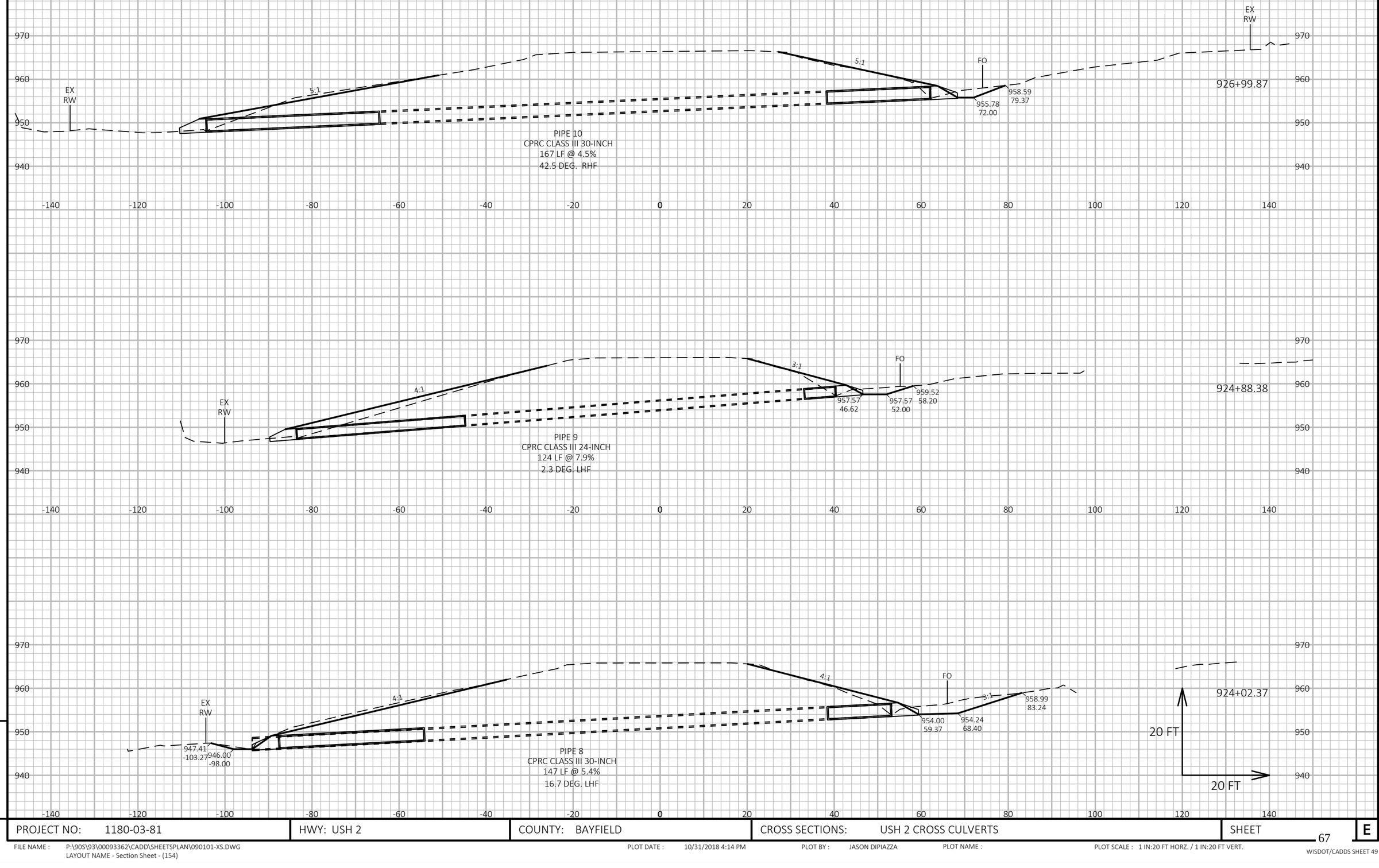
9

9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (153)

PLOT DATE : 10/31/2018 4:13 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

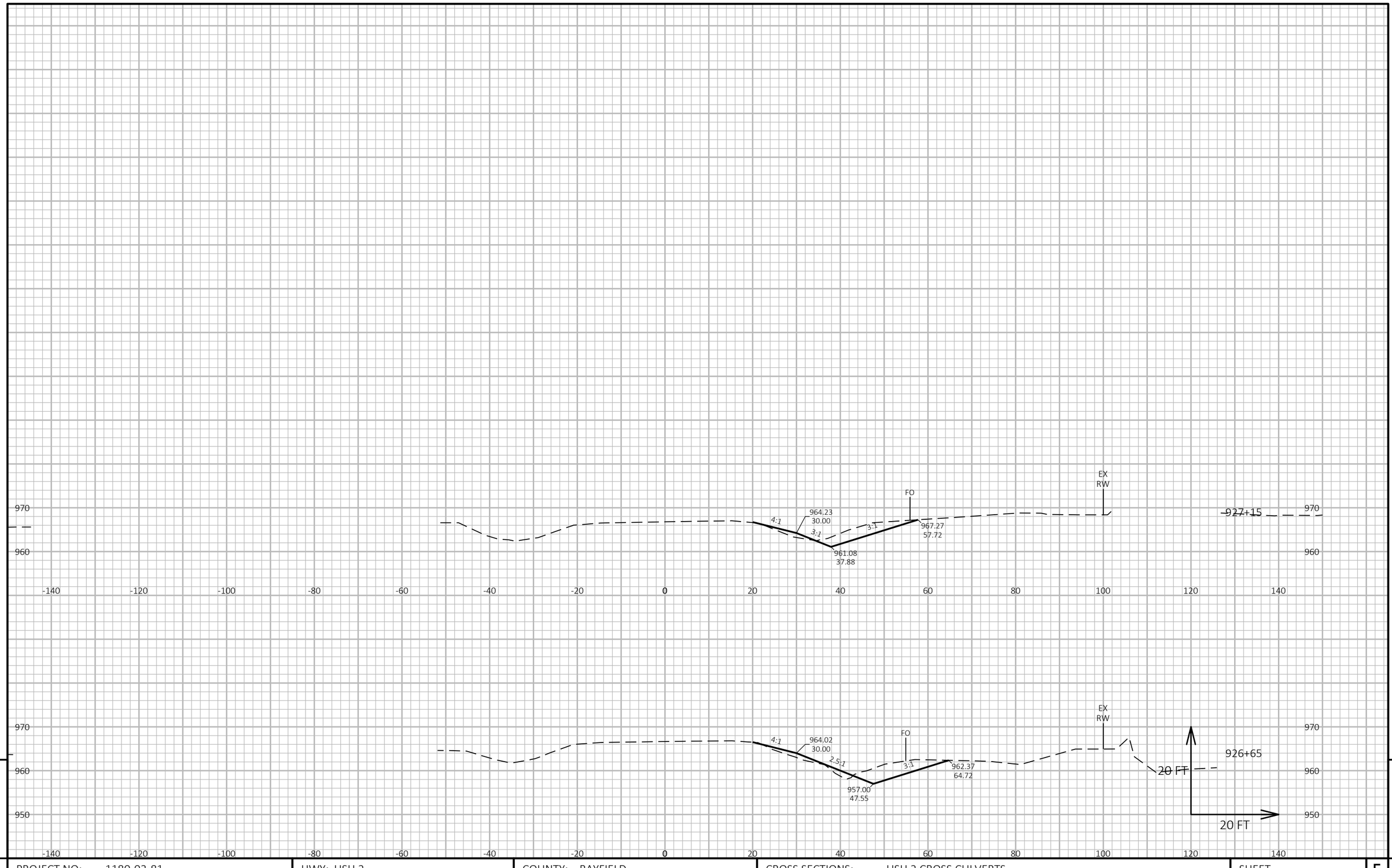


PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 67 E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (154)

PLOT DATE : 10/31/2018 4:14 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

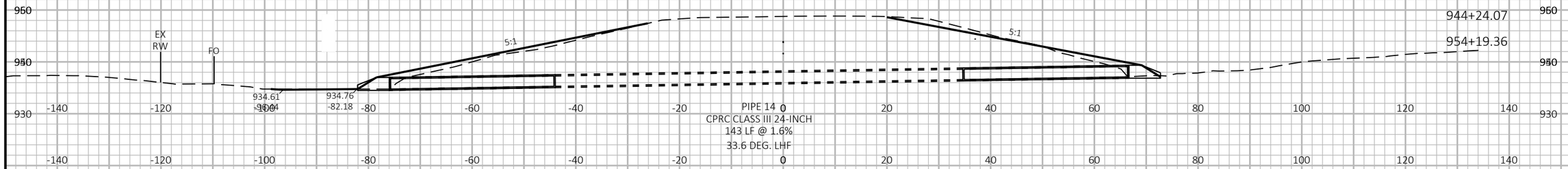
9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 68	E

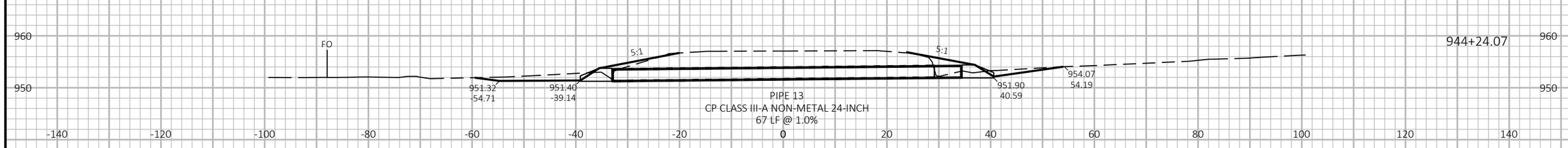
FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (155)

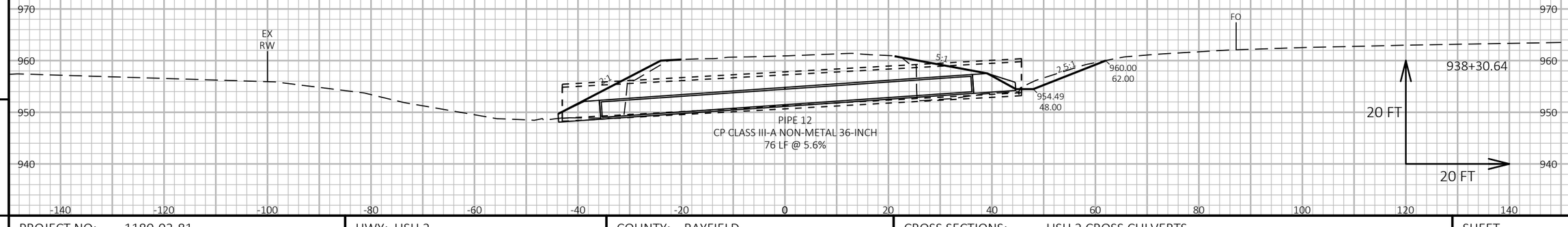
PLOT DATE : 10/31/2018 4:14 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE



CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE





9

9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 69	E

960
950
940
930
920

EX RW
FO
OH
FO
4:1
979+50

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

960
950
940
930
920

CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE

FO
OH
4:1
933.20
-76.67
932.97
-64.45

PIPE 15
CPRC CLASS III 24-INCH
98 LF @ 6.0%
23.2 DEG. LHF

3:1
939.49
39.23
939.47
44.00
3:1
944.96
60.01

975+37.51
20 FT
20 FT

960
950
940
930

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

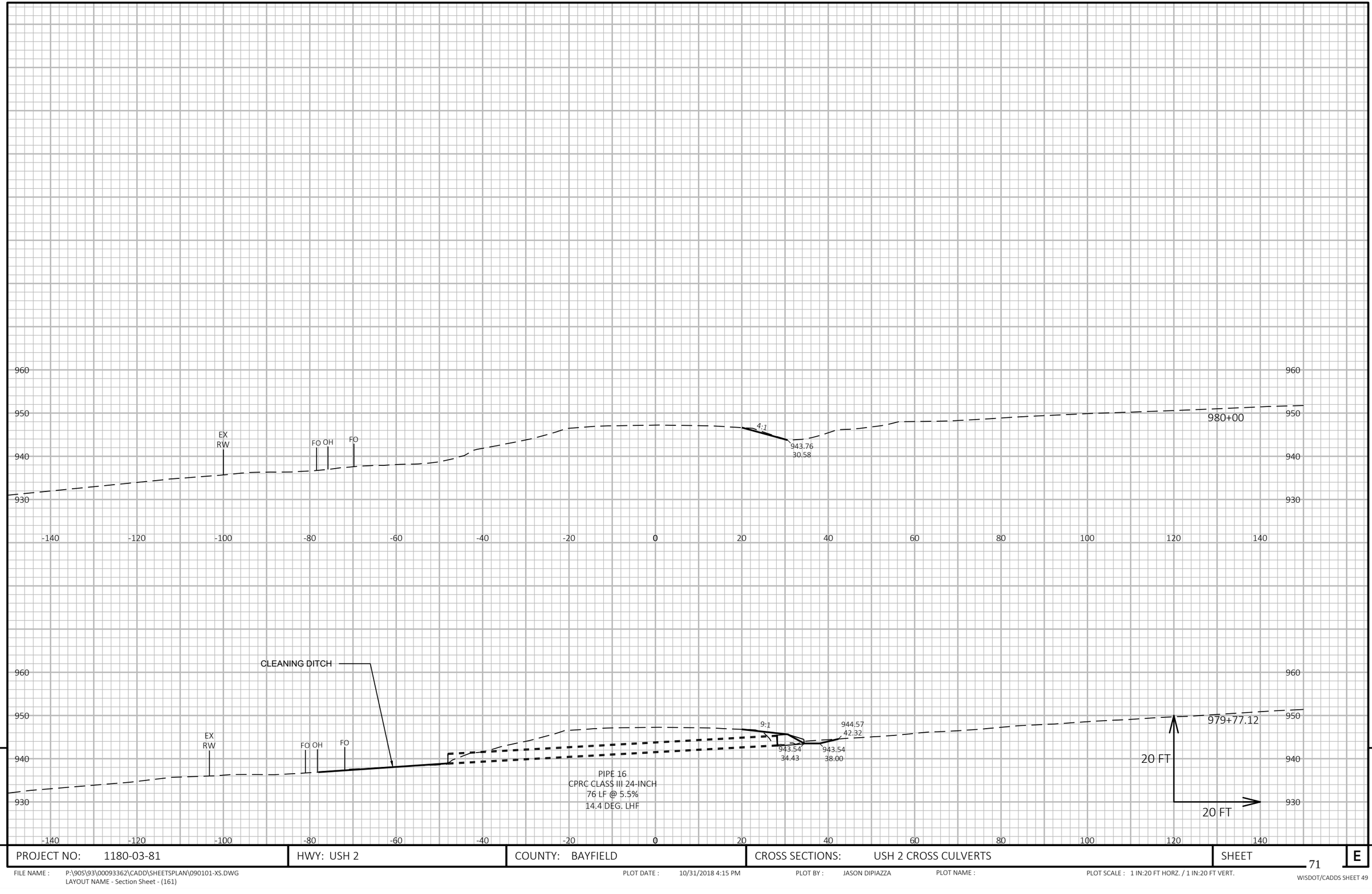
9

9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 70	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (160)

PLOT DATE : 10/31/2018 4:15 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

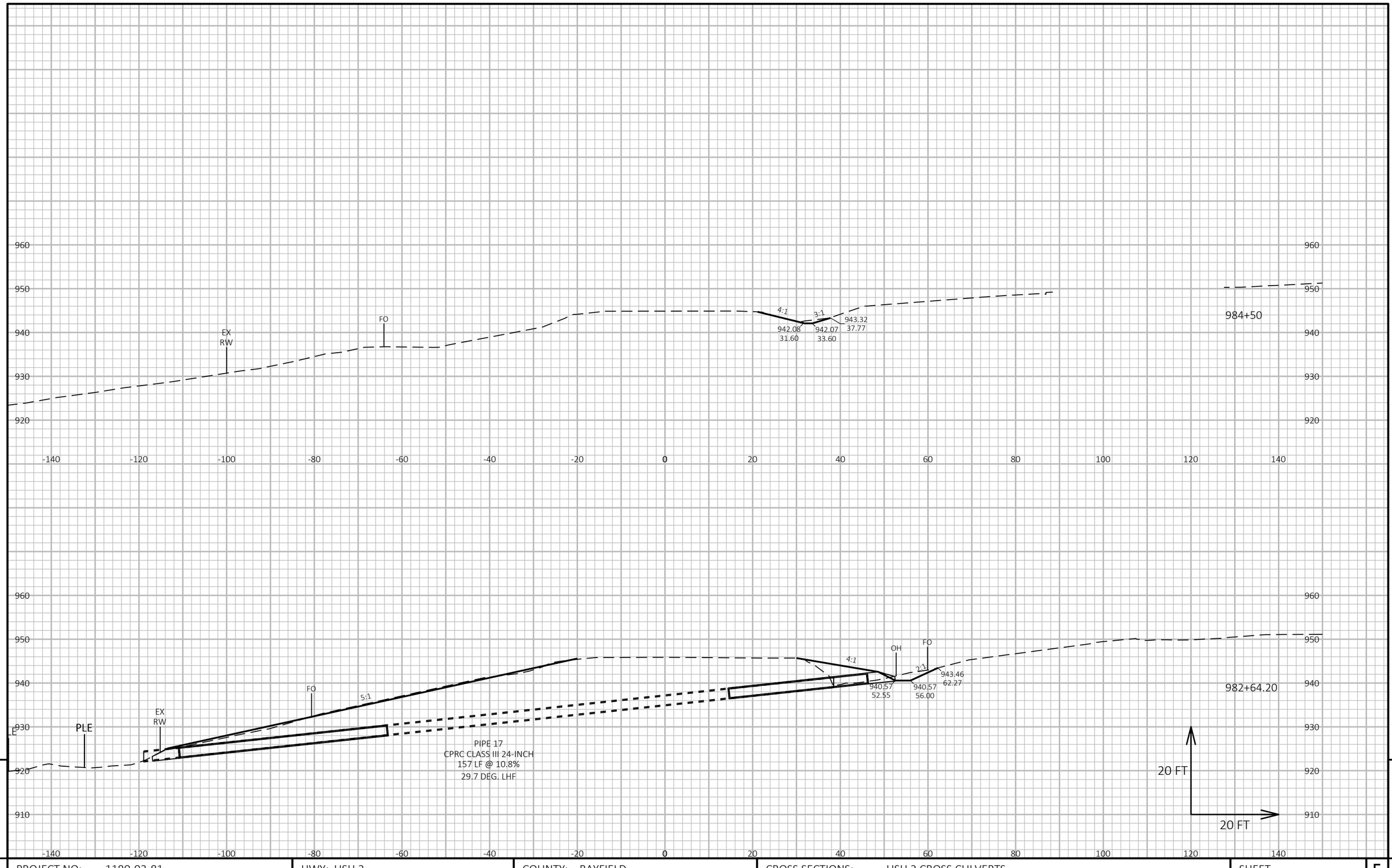
9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 71	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (161)

PLOT DATE : 10/31/2018 4:15 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



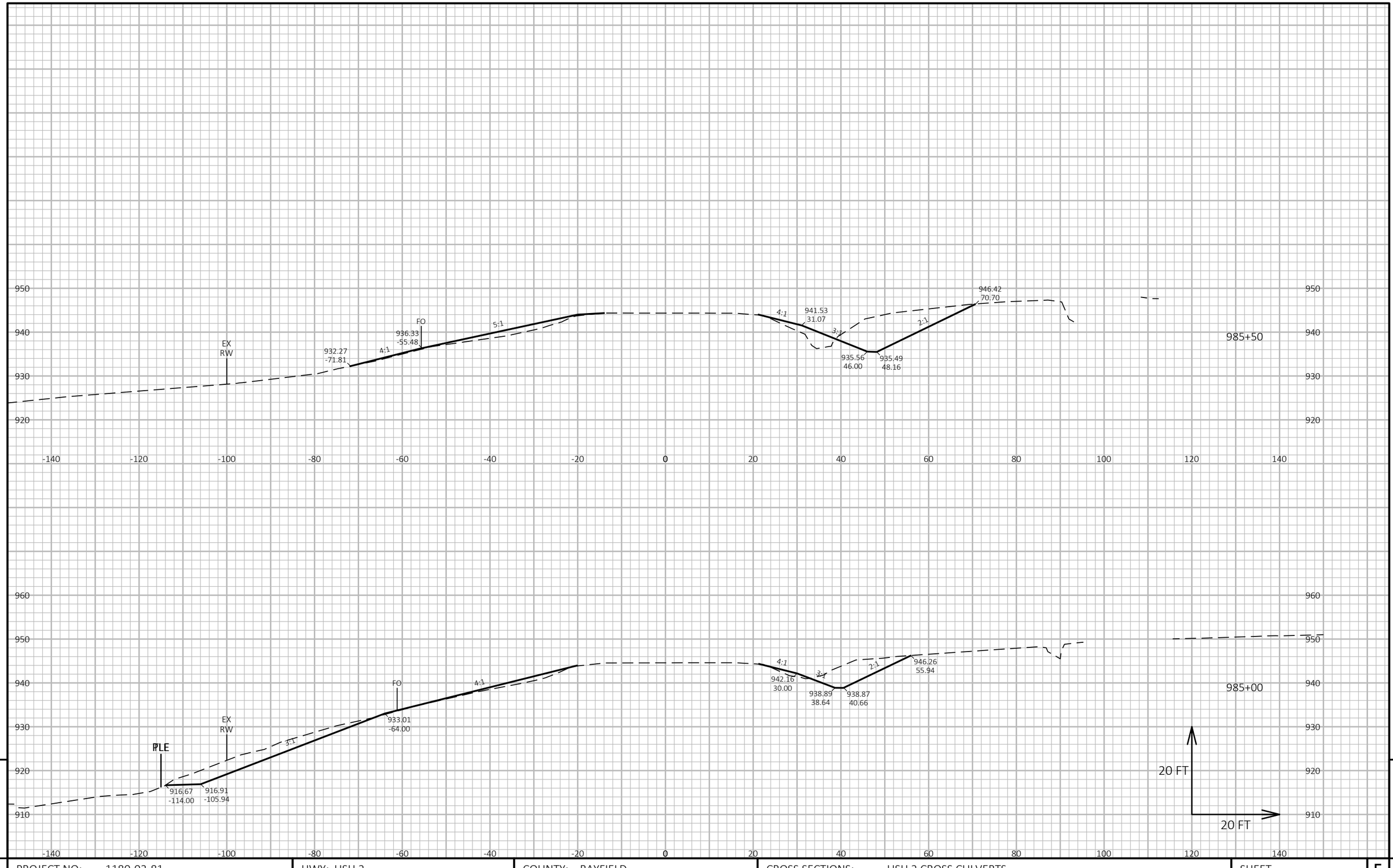
9

9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (162)

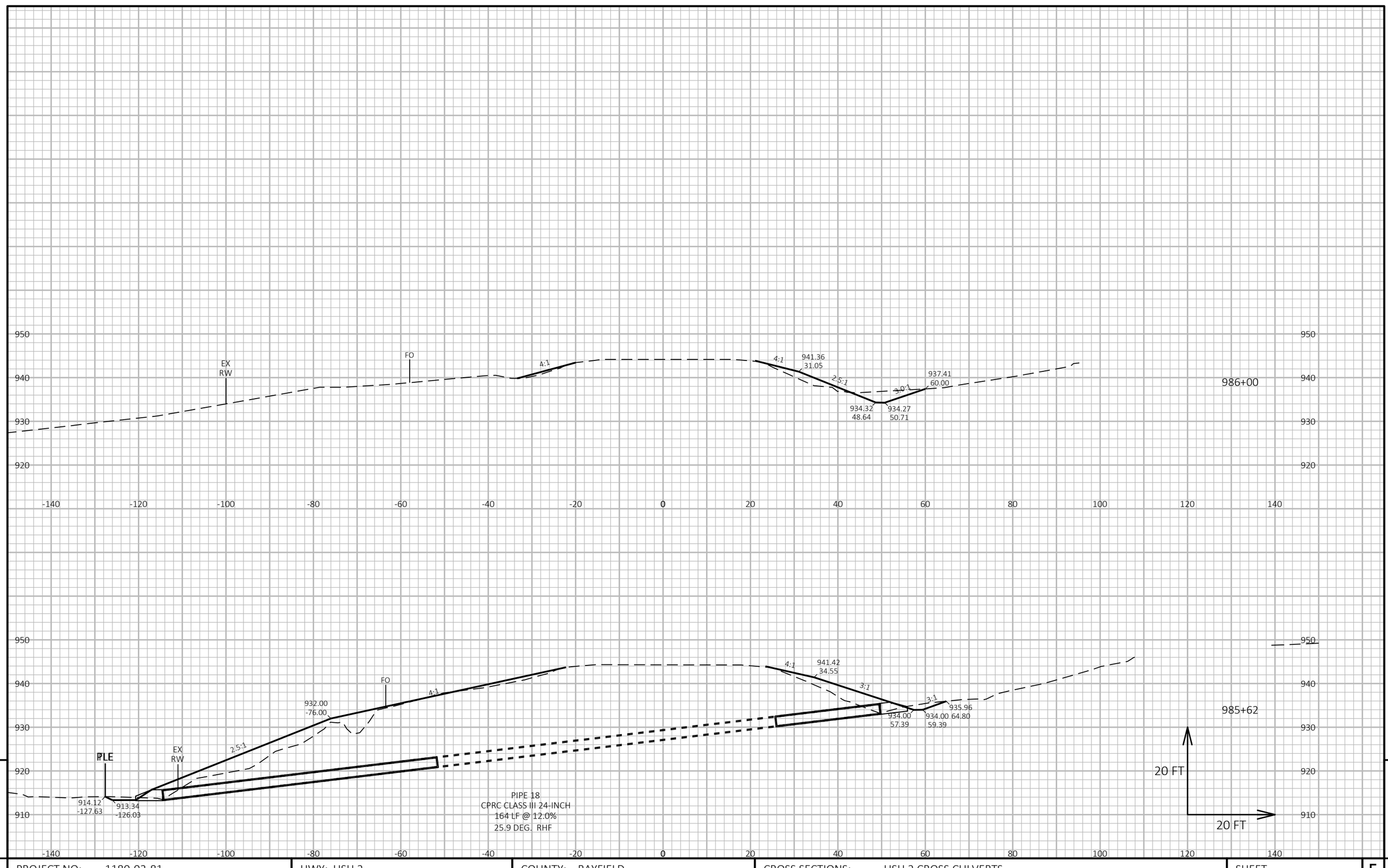
PLOT DATE : 10/31/2018 4:15 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 73 E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (163)

PLOT DATE : 10/31/2018 4:16 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

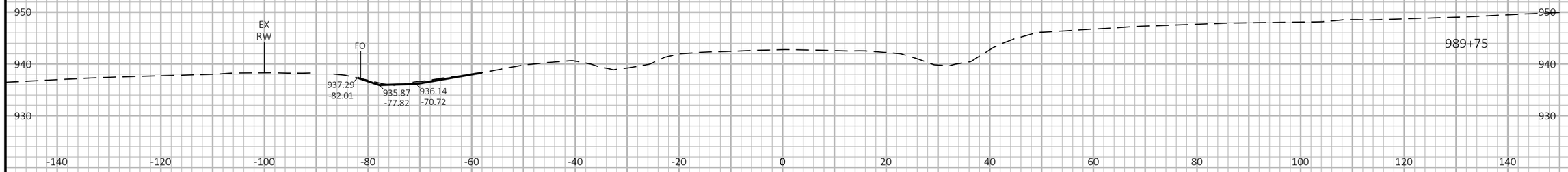
9

PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 74	E

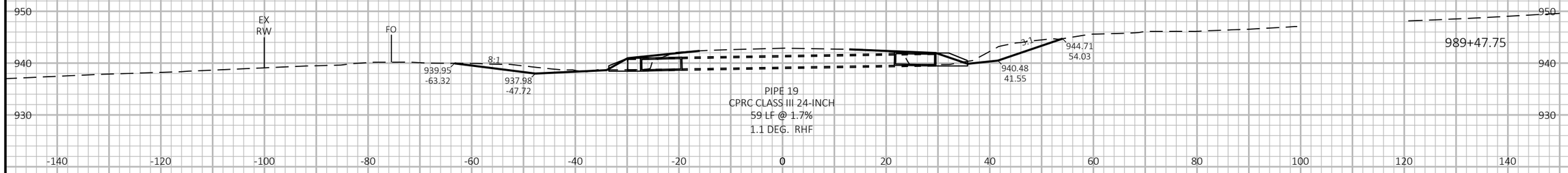
FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (164)

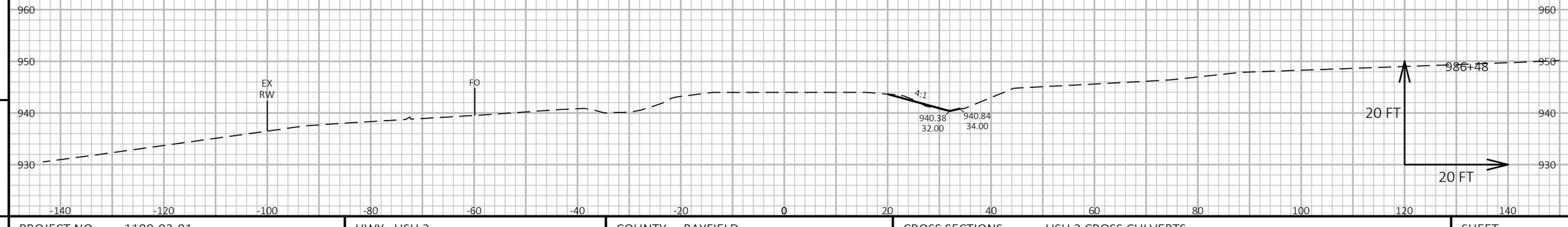
PLOT DATE : 10/31/2018 4:16 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE



CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE





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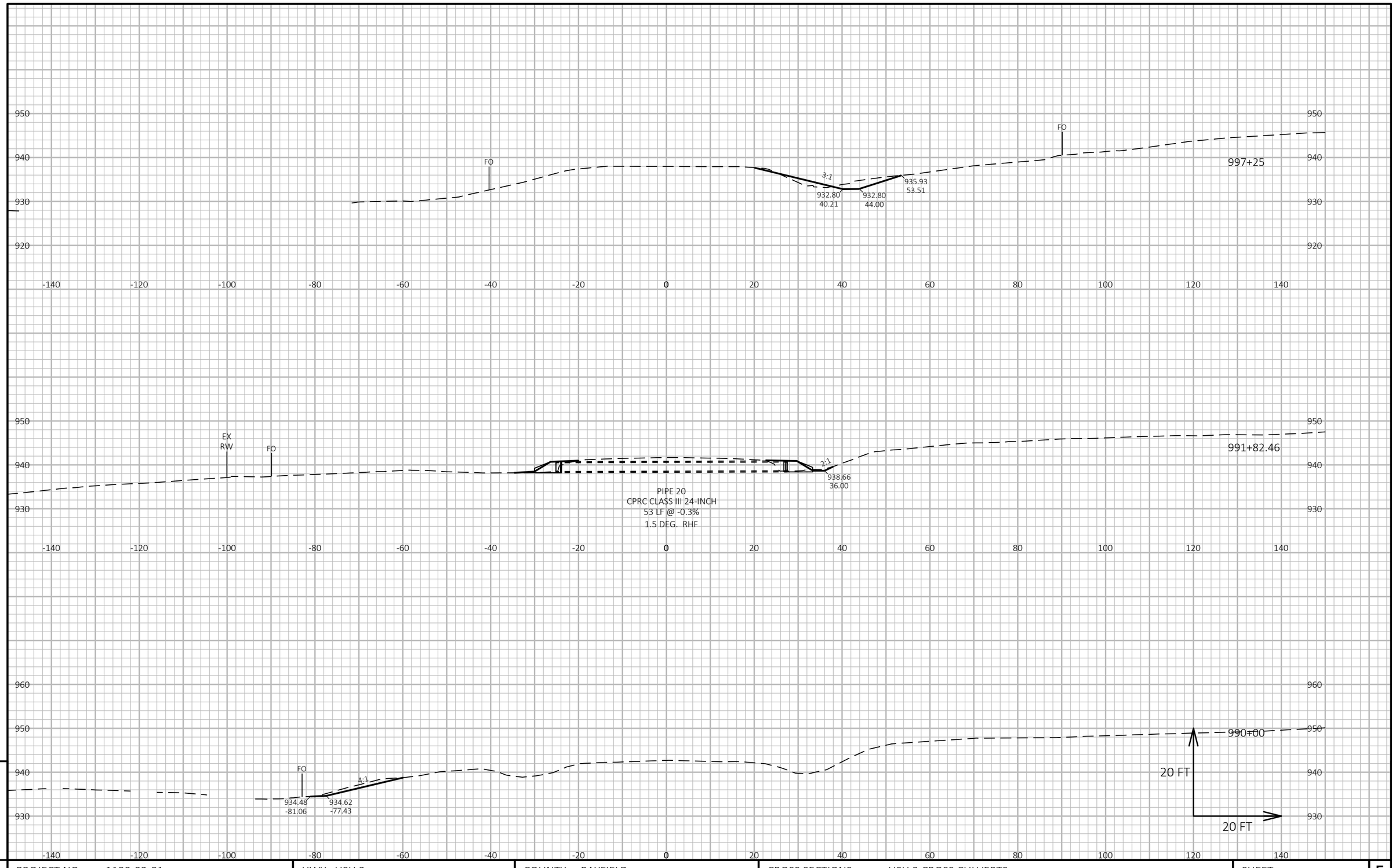
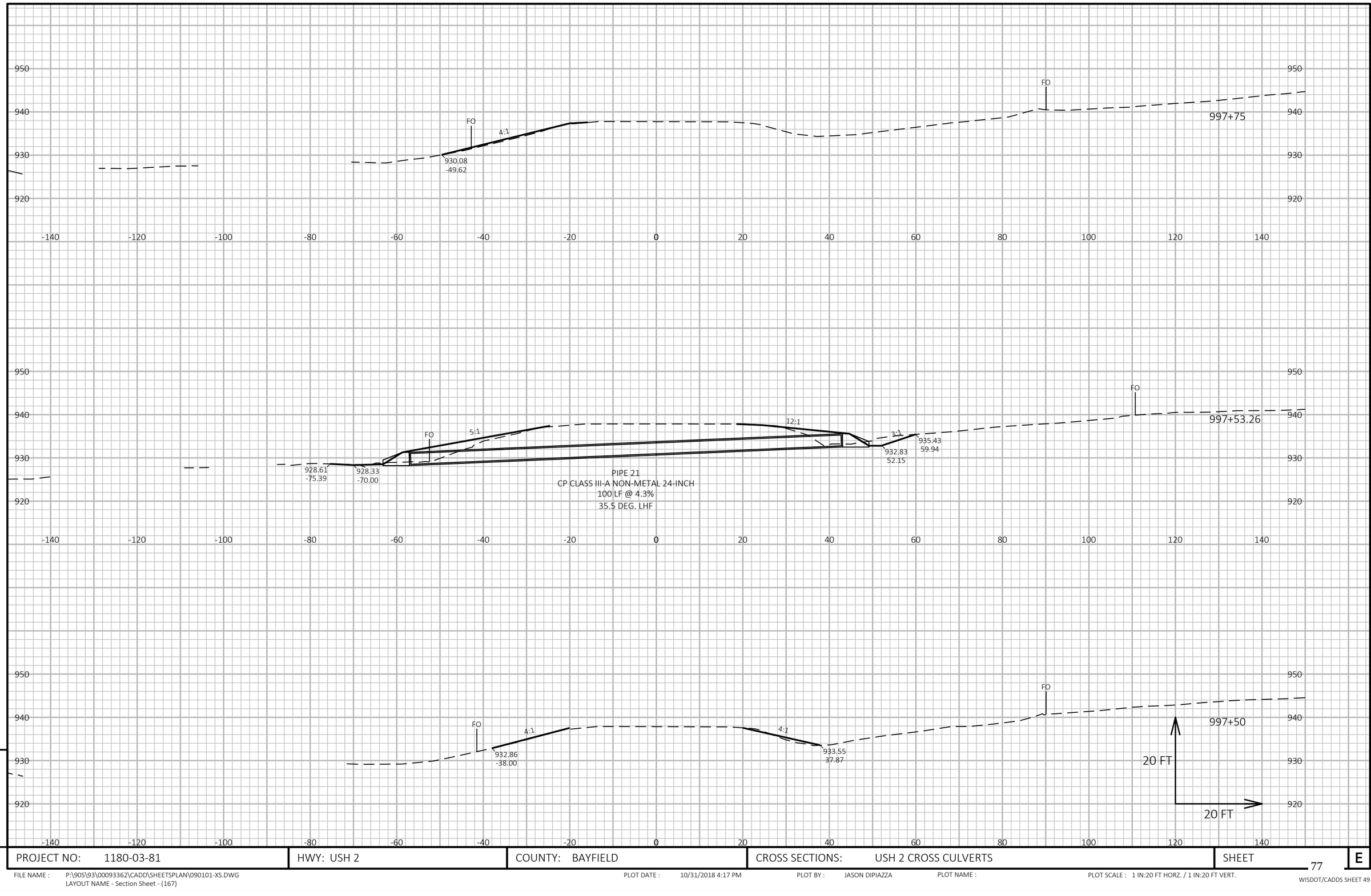
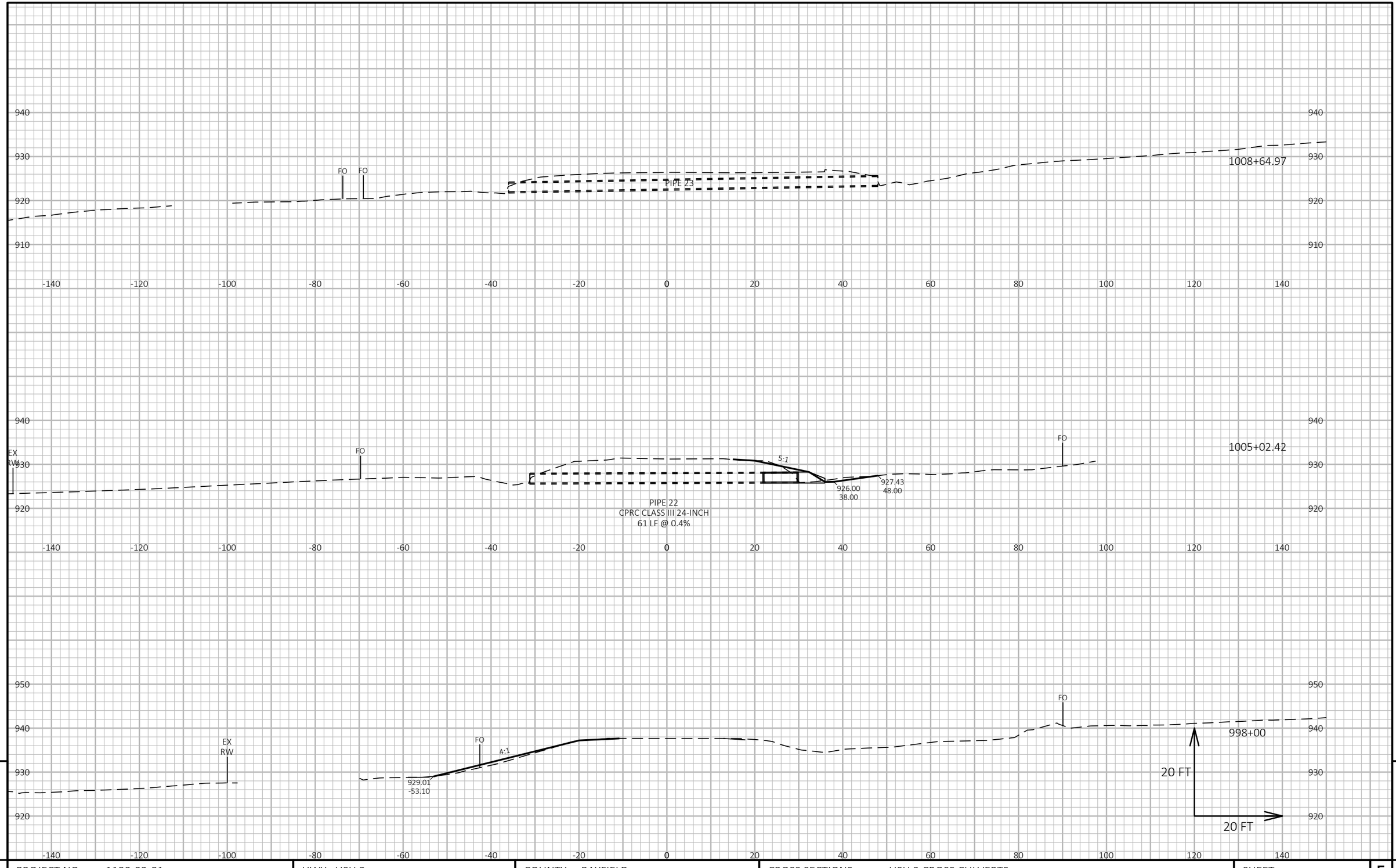
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 75	E



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 76	E



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 77	E



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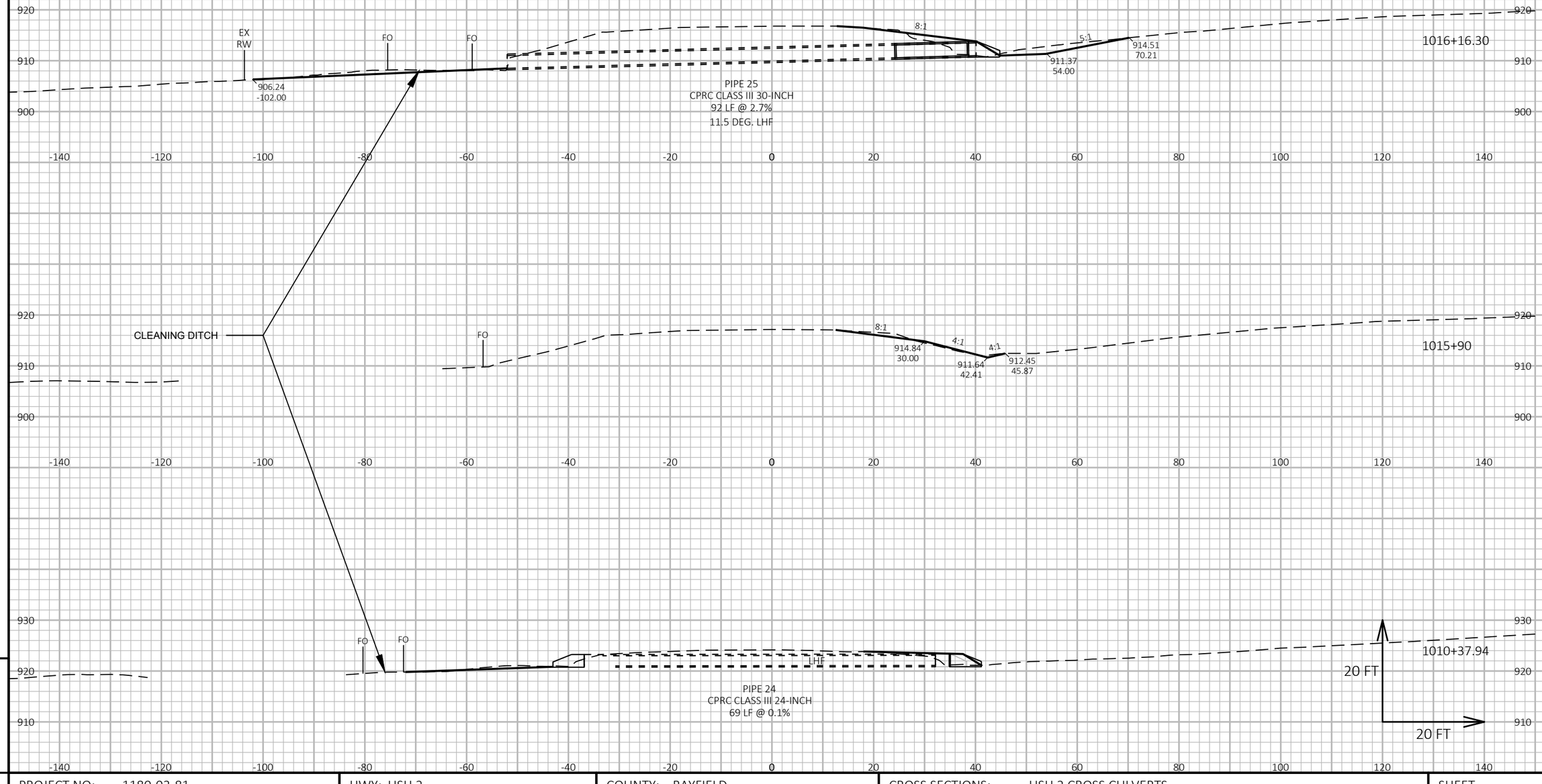
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 78	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (168)

PLOT DATE : 10/31/2018 4:17 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

CLEANING DITCH LT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE



PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 79 E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (169)
PLOT DATE : 10/31/2018 4:18 PM
PLOT BY : JASON DIPIAZZA
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

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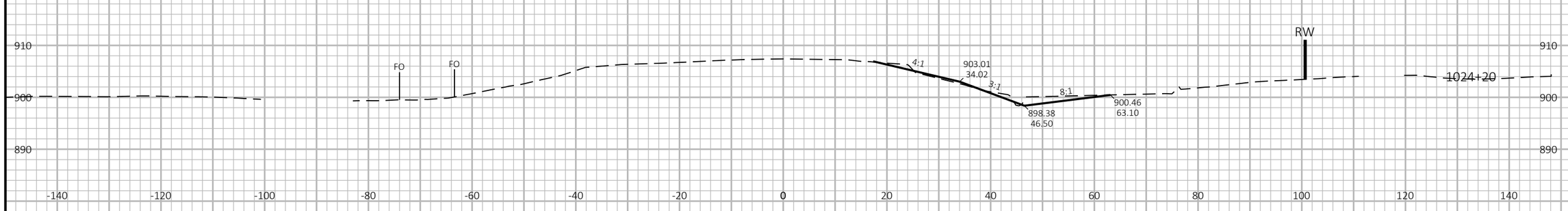
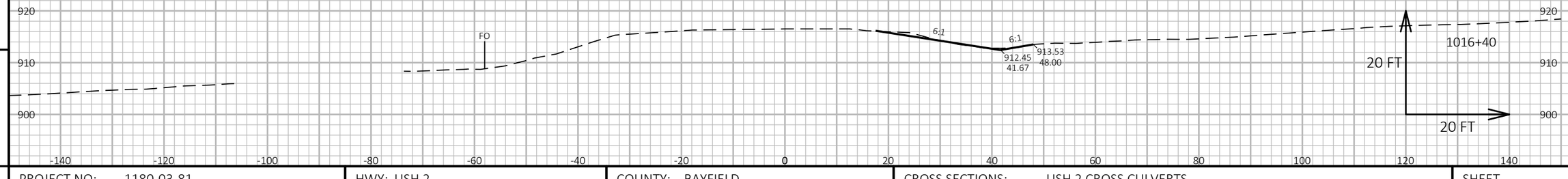
CLEANING DITCH RT - GRADE TO DRAIN
OFFSET/ELEVATIONS SHOWN ARE APPROXIMATE

PIPE 26
CPRC CLASS III 36-INCH
91 LF @ 1.1%
9.1 DEG. LHF

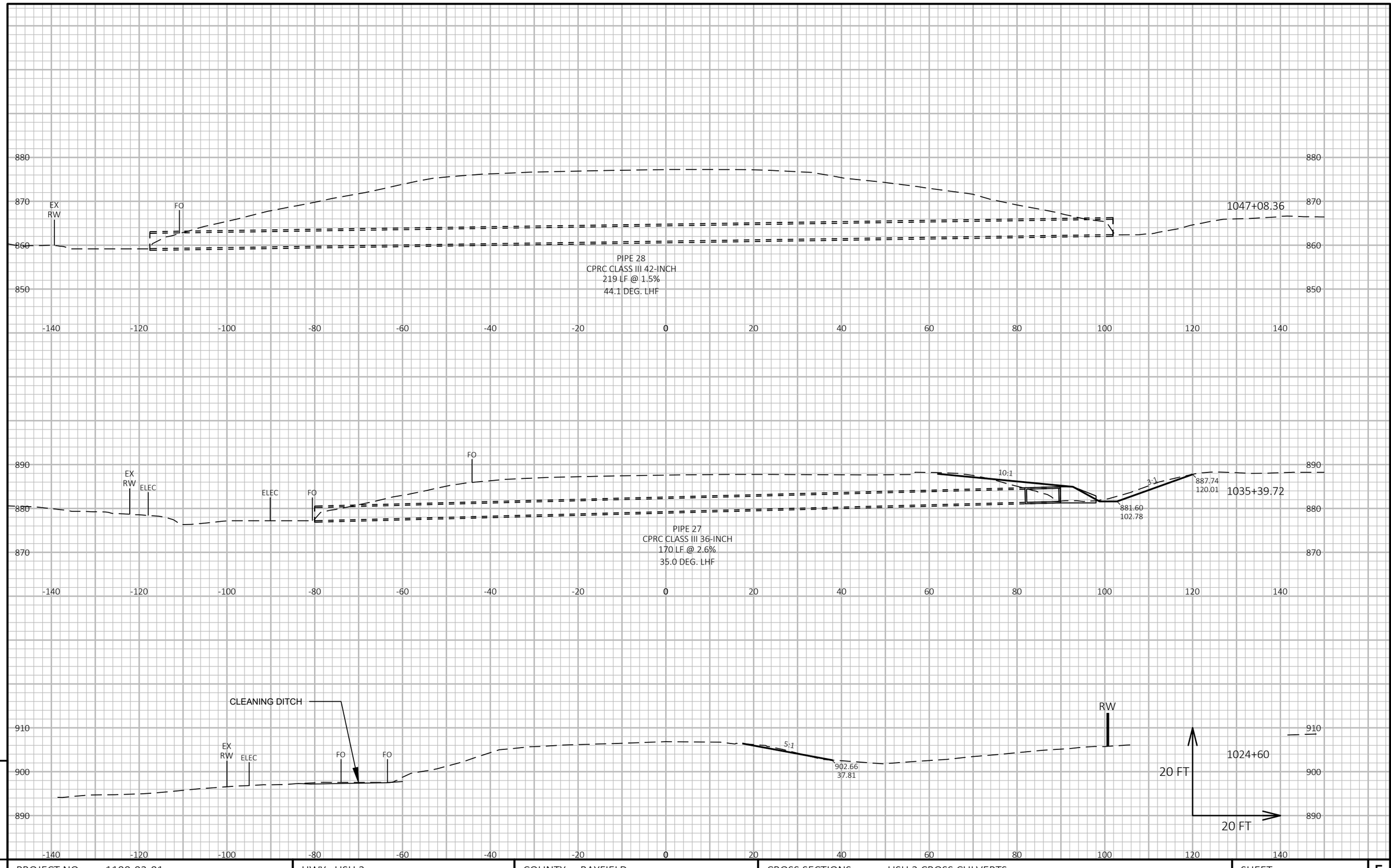




PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 80 E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (170)
PLOT DATE : 10/31/2018 4:18 PM
PLOT BY : JASON DIPIAZZA
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

9 9



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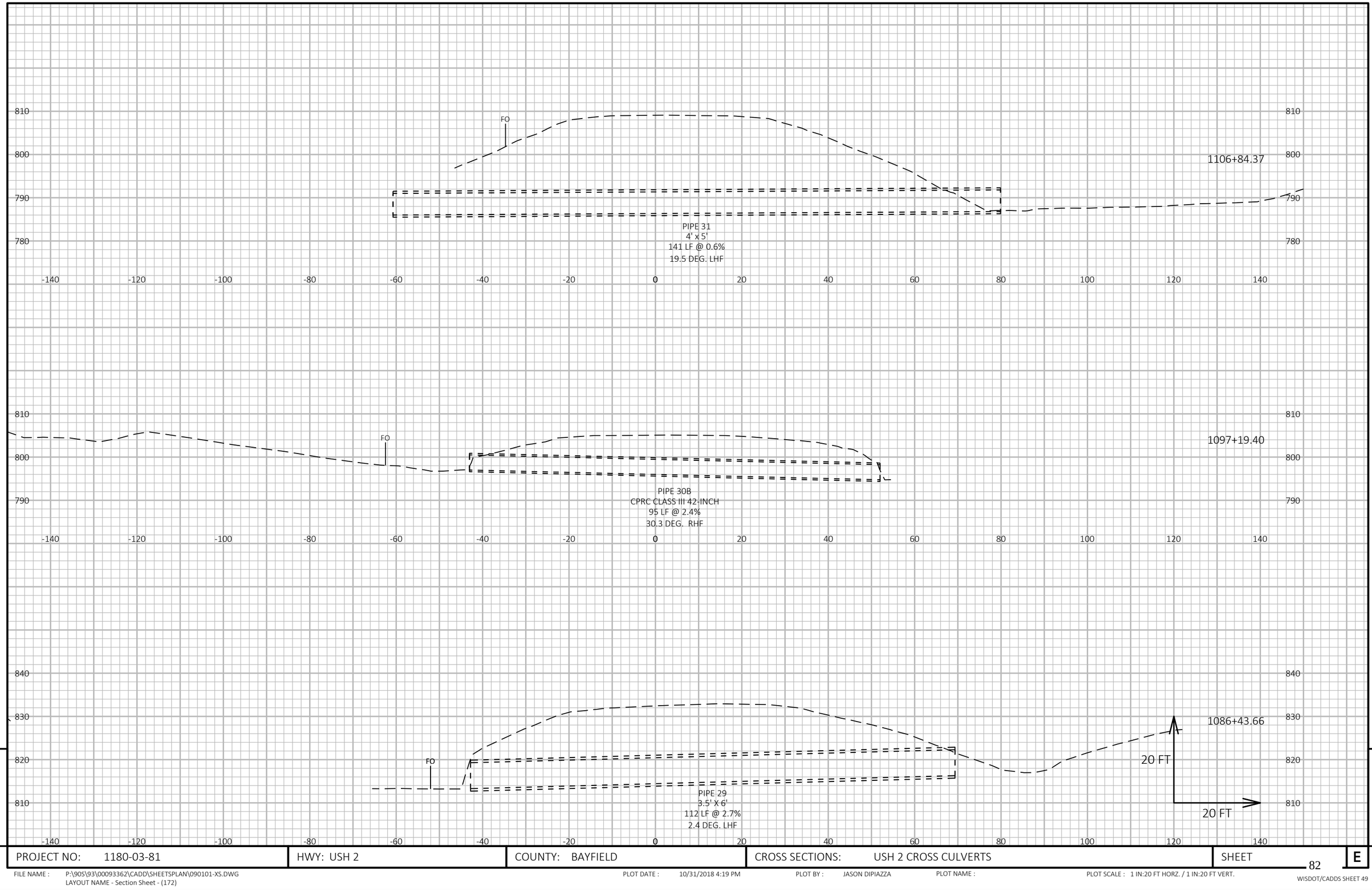
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 81	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (171)

PLOT DATE : 10/31/2018 4:18 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



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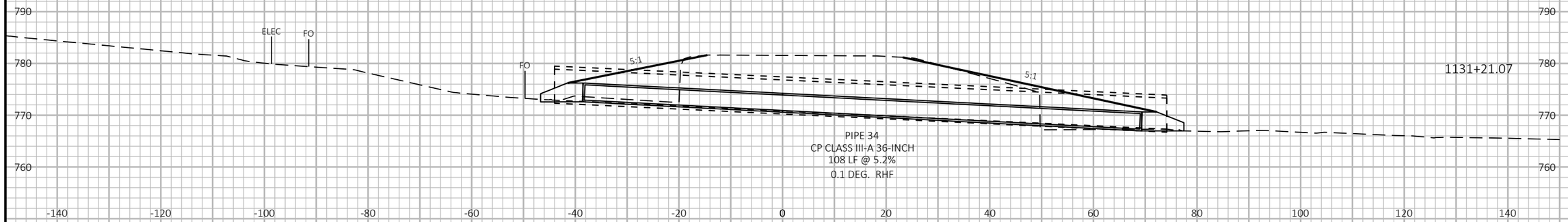
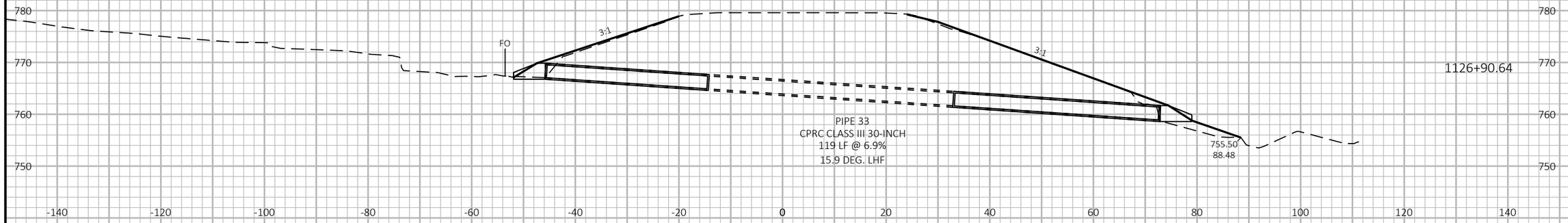
PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 82	E

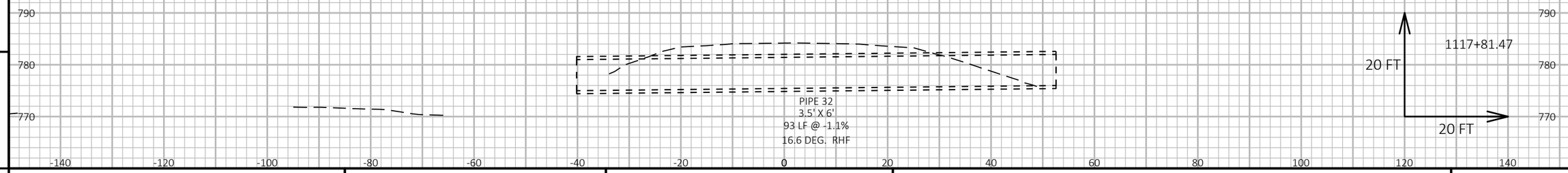
FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (172)

PLOT DATE : 10/31/2018 4:19 PM PLOT BY : JASON DIPIAZZA PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49







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PROJECT NO: 1180-03-81	HWY: USH 2	COUNTY: BAYFIELD	CROSS SECTIONS: USH 2 CROSS CULVERTS	SHEET 83	E

FILE NAME : P:\90S\93\00093362\CADD\SHEETSPLAN\090101-XS.DWG
LAYOUT NAME - Section Sheet - (173)

PLOT DATE : 10/31/2018 4:19 PM

PLOT BY : JASON DIPIAZZA

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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