GRE

MAY 2014

PROJECT ID: 6090-07-71
WITH: N/A

COUNTY: FOND DU LAC

ORDER OF SHEETS

TOTAL SHEETS = --186

32

N

DESIGN DESIGNATION

A.A.D.T.	2014	=	2,600 V.P.D.
A.A.D.T.	2034	=	3,100 V.P.D.
D.H.V.	2034	=	136 V.P.D.
D.D.		=	62/38
T.		=	5.6%
DESIGN SPEED		=	60 M.P.H.
ESALS		=	386,900 (HMA)

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WAUPUN - BRANDON

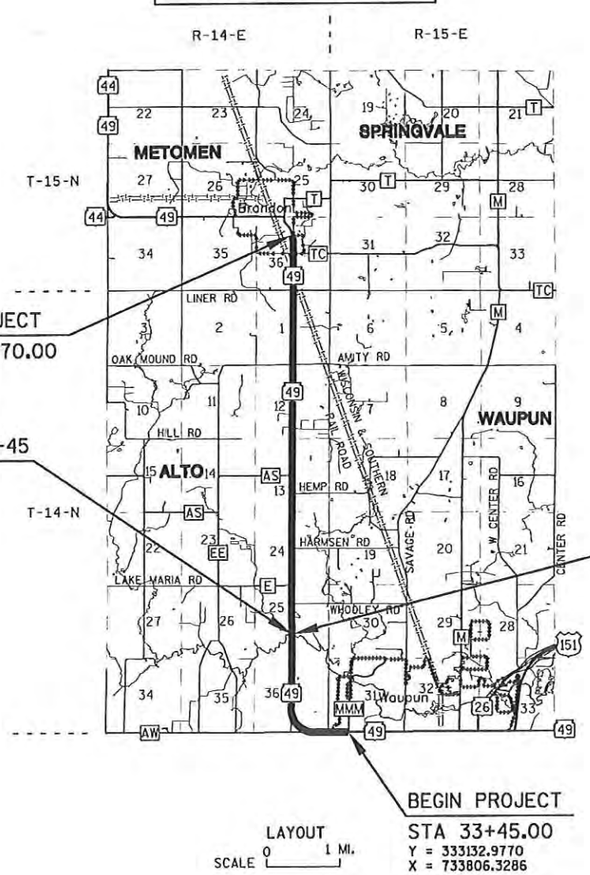
CTH "MMM" - S CPL BRANDON

STH 49

FOND DU LAC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6090-07-71	WISC 2014197	1

STATE PROJECT NUMBER
6090-07-71



TOTAL NET LENGTH OF CENTERLINE = 7.344 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), FOND DU LAC COUNTY.

ALL ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 VERTICAL DATUM.

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
93 South Pioneer Road, Suite 300 • Fond du Lac, WI 54935
(920) 924-5725 (920) 924-5725

WISCONSIN
BENJAMIN L. OITZINGER
E-36149
NEENAH, WI
PROFESSIONAL ENGINEER

1-15-2014 (Date)
BENJAMIN L. OITZINGER, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GREMMER & ASSOCIATES, INC.
Designer	GREMMER & ASSOCIATES, INC.
Project Manager	BRYAN LEARST, PE
Regional Examiner	
Regional Supervisor	
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 01/15/2014 (Signature)

E

GENERAL NOTES

ALL DISTANCES AND STATIONING SHOWN ON THIS PLAN ARE GROUND VALUES.

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.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

A VERTICAL SAW CUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS, SIDEWALKS AND PAVEMENTS AT THE REMOVAL LIMITS.

A BUTT JOINT SHALL BE PROVIDED AT ALL LOCATIONS WHERE NEW PAVEMENT MATCHES EXISTING PAVEMENT.

SAWCUT LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND LAYOUT OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

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

SALVAGED TOPSOIL, FERTILIZER, SEED AND MULCH SHALL BE PLACED ON ALL DISTURBED AREAS, EXCLUSIVE OF THE AREA OCCUPIED BY THE NEW PAVEMENTS, ENTRANCES, AND RELATED STRUCTURES.

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF SALVAGED TOPSOIL WHERE REQUIRED.

EROSION CONTROL ITEMS SHOWN ARE APPROXIMATE, THE EXACT LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DRAIN TILE MAY EXIST WITHIN THE PROJECT LIMITS. IF THE CONTRACTOR ENCOUNTERS DRAIN TILE, THE CONTRACTOR SHALL REATTACH AND MAINTAIN DRAINAGE PATTERNS, INCIDENTAL TO GRADING OPERATIONS.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

INSTALL SAFETY EDGE ON HMA PAVEMENTS WITH HMA PAVED SHOULDER OF 3 FEET OR LESS.

ORDER OF SECTION 2 SHEETS

UTILITIES

ALLIANT ENERGY
(ELECTRICITY)
4902 NORTH BILTMORE LANE
SUITE 1000
MADISON, WI 53718
PHONE: (608) 458-4871
MOBILE: (608) 395-7395
ATTN: MR. JASON HOGAN
jasonhogan@alliantenergy.com

ALLIANT ENERGY
(GAS/PETROLEUM)
4902 NORTH BILTMORE LANE
SUITE 1000
MADISON, WI 53718
PHONE: (608) 458-4871
MOBILE: (608) 395-7395
ATTN: MR. JASON HOGAN
jasonhogan@alliantenergy.com

ATC MANAGEMENT, INC.
(ELECTRICITY)
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
PHONE: (920) 338-6556
ATTN: MS. KIM HACKELBERG
khackelberg@atcllc.com

MCLEOD USA TELECOMMUNICATION SERVICES INC
(COMMUNICATION LINE)
731 NORTH JACKSON STREET
SUITE 410
MILWAUKEE, WI 53202
PHONE: (414) 207-2986
ATTN: MR. JIM BIRKENHEIER
SUPERVISOR - OPS NETWORK
James.birkenheier@paetec.com

CENTURYLINK
(COMMUNICATION LINE)
201 STARK STREET
RANDOLPH, WI 54956
PHONE: (920) 326-2224
ATTN: MR. TIM KROEZE
tim.kroeze@centurylink.com

CHARTER COMMUNICATIONS
(COMMUNICATION LINE)
W7185 STATE ROAD 49
WAUPUN, WI 53963
PHONE: (920) 345-1117
MOBILE: (920) 263-0062
ATTN: MR. TONY KLATT
tony.klatt@chartercom.com

AT&T WISCONSIN
(COMMUNICATION LINE)
70 EAST DIVISION STREET
FOND DU LAC, WI 54935
PHONE: (920) 929-1016
ATTN: MR. WALTER WELK
ww5363@att.com

KOCH PIPELINE COMPANY L.P.
(GAS/ PETROLEUM)
N4240 STATE ROAD 26
WAUPUN, WI 53963
PHONE: (920) 324-9300
ATTN: MR. DREW SUYDAM
drew.suydam@kochplpeline.com

VILLAGE OF BRANDON
(WATER)
115 NORTH CENTER STREET
P.O. BOX 385
BRANDON, WI 53919-8217
PHONE: (920) 346-8217
ATTN: MS. DEBORAH STARK
clerkofbrandon@centurytel.net

WAUPUN UTILITIES
(COMMUNICATION LINE)
817 SOUTH MADISON STREET
P.O. BOX 431
WAUPUN, WI 53963
PHONE: (920) 324-7920
ATTN: MR. ZACHARY BLOOM

WAUPUN UTILITIES
(ELECTRICITY)
817 SOUTH MADISON STREET
P.O. BOX 431
WAUPUN, WI 53963
PHONE: (920) 324-7920
ATTN: MR. ZACHARY BLOOM

WAUPUN UTILITIES
(WATER)
817 SOUTH MADISON STREET
P.O. BOX 431
WAUPUN, WI 53963
PHONE: (920) 324-7920
ATTN: MR. ZACHARY BLOOM

DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

CALL DIGGERS HOTLINE TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG.

WISCONSIN STATUTE 182.0175 REQUIRES MINIMUM OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

FOND DU LAC COUNTY CONTACT

MR. TOM JANKE
HIGHWAY COMMISSIONER
301 DIXIE STREET
P.O. BOX 1234
FOND DU LAC, WI 54936-1234
PHONE: (920) 929-3488

FOND DU LAC COUNTY SURVEYOR

MR. PETER KUEN
COUNTY SURVEYOR
301 DIXIE STREET
P.O. BOX 1234
FOND DU LAC, WI 54936-1234
PHONE: (920) 929-3492

DODGE COUNTY CONTACT

MR. PETE THOMPSON
HIGHWAY ENGINEER
211 EAST CENTER STREET
JUNEAU, WI 53039-1309
PHONE: (920) 386-3655

CITY OF WAUPUN

MR. RICHARD FLYNN
DIRECTOR OF PUBLIC WORKS
201 EAST MAIN STREET
WAUPUN, WI 53963
PHONE: (920) 324-7918

VILLAGE OF BRANDON CONTACT

MR. RICK PETERSON
TOWN PRESIDENT
BRANDON VILLAGE HALL
115 NORTH CENTER STREET
P.O. BOX 385
BRANDON, WI 53919-0385
PHONE: (920) 346-2774

TOWN OF WAUPUN CONTACT

MR. RANDY VANDE SLUNT
TOWN CHAIRPERSON
N3335 SAVAGE ROAD
WAUPUN, WI 53963
PHONE: (920) 324-5145
FAX: (920) 324-0333

TOWN OF ALTO CONTACT

MR. DONALD DEMOTTS
TOWN CHAIRPERSON
W13674 MARSHVIEW ROAD
WAUPUN, WI 53963
PHONE: (920) 324-3909
MOBILE: (920) 382-2527

TOWN OF METOMEN CONTACT

MR. JEFF AMEND
TOWN CHAIRPERSON
N7046 RADIO ROAD
RIPON, WI 54971
PHONE: (920) 748-9539
MOBILE: (920) 428-5390

TOWN OF TRENTON CONTACT

MR. RUSSELL H. KOTTKE
TOWN CHAIRPERSON
W8542 LAUREL HILL ROAD
FOX LAKE, WI 53933
PHONE: (920) 928-3168

TOWN OF CHESTER CONTACT

MR. DANIEL HOLZ
TOWN CHAIRPERSON
N11412 OTT DRIVE
WAUPUN, WI 53963
PHONE: (920) 324-1078

WISCONSIN & SOUTHERN RAILROAD CONTACTS

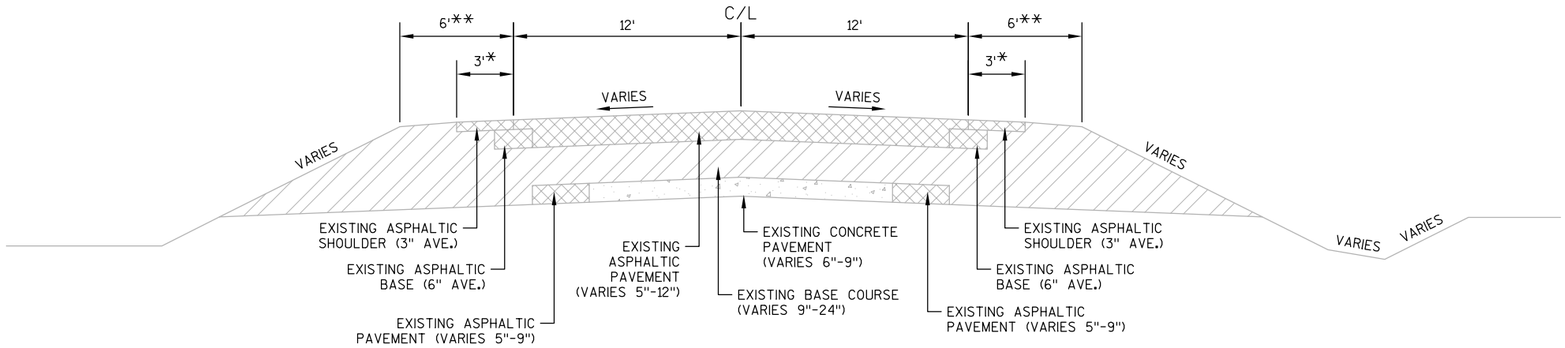
RAILROAD CROSSING SURFACE/ SIGNAL CONTACT
MR. BEN MEIGHAN
SUPERINTENDENT OF MAINTENANCE OF WAY
1890 EAST JOHNSON STREET
MADISON, WI 53704
PHONE: (608) 243-9129 EXT 201
FAX: (608) 243-9225

NORTHERN DIVISION CONTACT (HORICON)
MR. JIM SUKOPP
ROADMASTER - NORTHERN DIVISION
313 CLINTON STREET
HORICON, WI 53032
PHONE: (920) 485-4783

RAILROAD FLAGGING CONTACT
MS. KERI PALMER
1890 EAST JOHNSON STREET
MADISON, WI 53704
PHONE: (608) 243-9129 EXT 200
FAX: (608) 243-9225

DNR AREA LIAISON

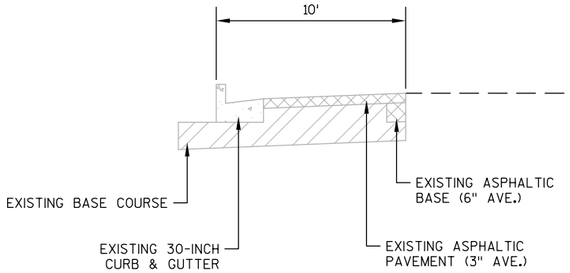
WISCONSIN DEPT. OF NATURAL RESOURCES
GREEN BAY SERVICE CENTER
2984 SHAWANO AVENUE
GREEN BAY, WI 54313-6727
PHONE: (920) 662-5407
MOBILE: (920) 360-3784
ATTN: MR. JAY SCHIEFELBEIN



TYPICAL EXISTING SECTION

STH 49

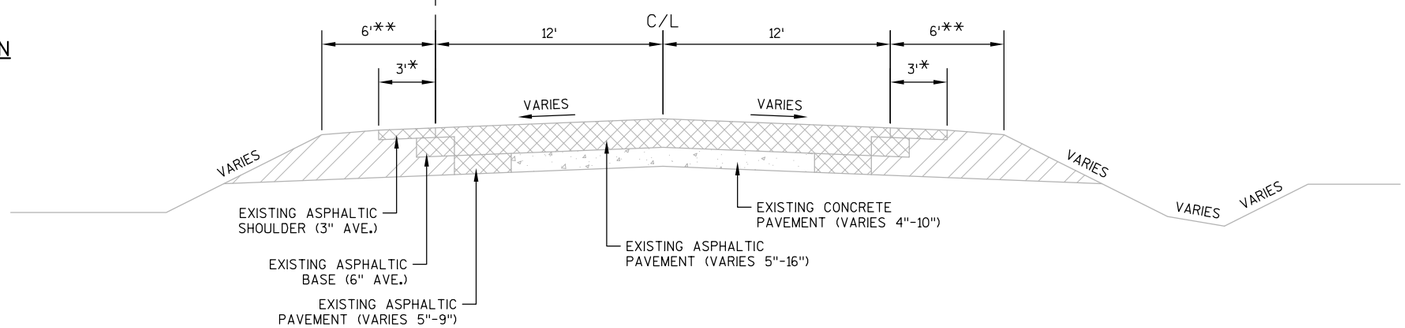
STA 40+50 TO STA 50+50
STA 82+00 TO STA 92+00
STA 136+35 TO STA 142+15
STA 145+70 TO STA 158+00
STA 190+00 TO STA 200+50
STA 207+35 TO STA 217+00
STA 278+00 TO STA 282+90
STA 284+05 TO STA 287+00
STA 365+00 TO STA 377+50
STA 385+50 TO STA 392+60
STA 405+00 TO STA 412+00



TYPICAL EXISTING CURB & GUTTER SECTION

STH 49

STA 419+29 - STA 421+70 LT



TYPICAL EXISTING SECTION

STH 49

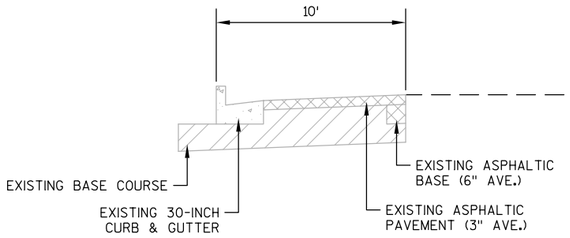
STA 33+45 TO STA 40+50
STA 50+50 TO STA 53+20
STA 92+00 TO STA 134+95
STA 158+00 TO STA 190+00
STA 217+00 TO STA 278+00
STA 287+00 TO STA 365+00
STA 398+75 TO STA 405+00
STA 421+00 TO STA 421+70

* 8' STA 30+70 - STA 39+45 LT
8' STA 30+70 - STA 36+59 RT
7' STA 41+52 - STA 43+52 RT
10' STA 417+12 - STA 421+70 RT
10' STA 417+12 - STA 419+29 LT
7.5' STA 419+29 - STA 421+70 LT

** 8' STA 30+70 - STA 53+20 LT & RT
10' STA 417+12 - STA 421+70 LT & RT

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 3	E

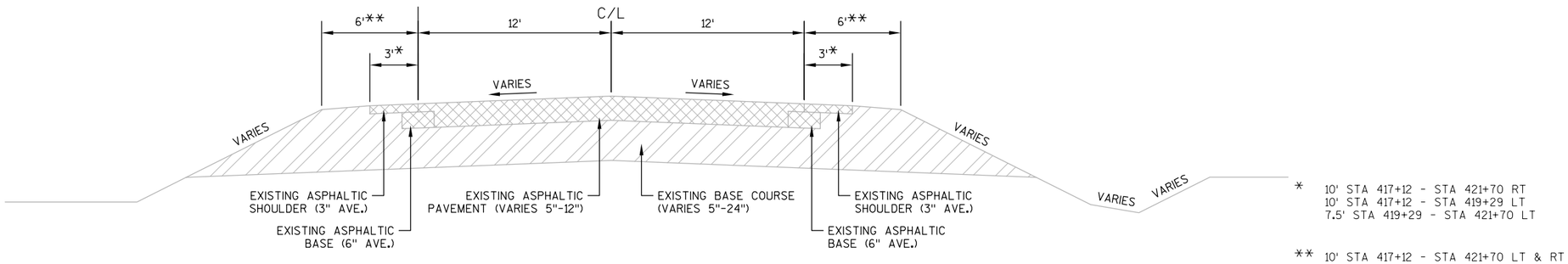
2



TYPICAL EXISTING CURB & GUTTER SECTION

STH 49

STA 419+29 - STA 421+70 LT



* 10' STA 417+12 - STA 421+70 RT
10' STA 417+12 - STA 419+29 LT
7.5' STA 419+29 - STA 421+70 LT

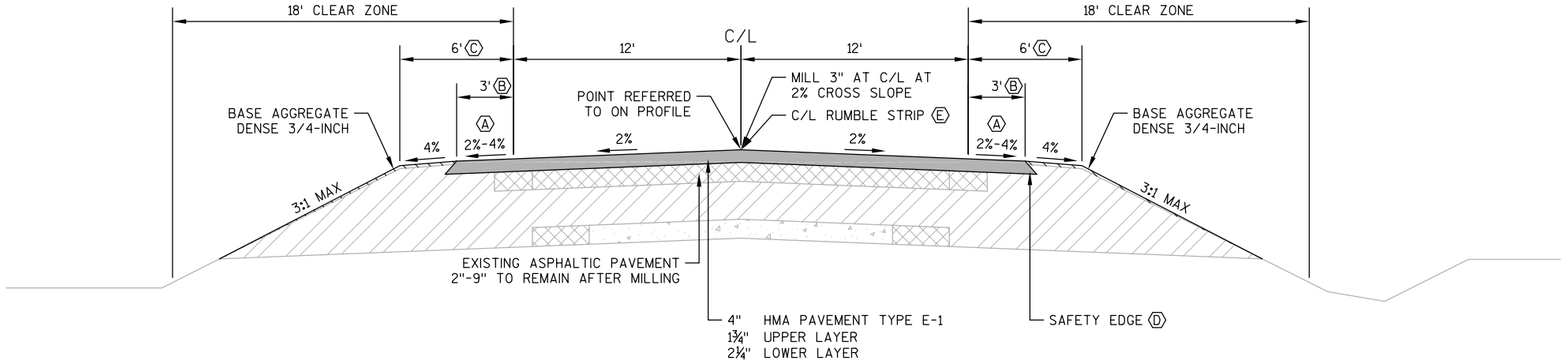
** 10' STA 417+12 - STA 421+70 LT & RT

TYPICAL EXISTING SECTION

STH 49

STA 53+20 TO STA 82+00
STA 134+95 TO STA 136+35
STA 142+15 TO STA 145+70
STA 200+50 TO STA 207+35
STA 282+90 TO STA 284+05
STA 377+50 TO STA 385+50
STA 392+60 TO STA 398+75
STA 412+00 TO STA 421+00

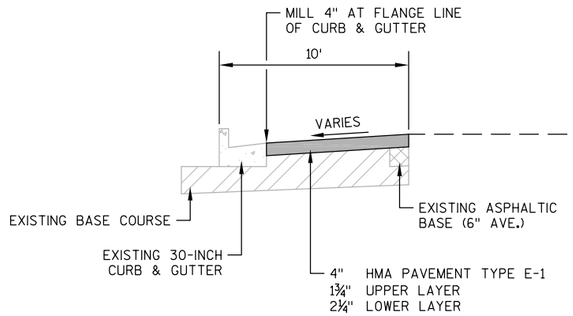
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 4	E



TYPICAL FINISHED SECTION

STH 49

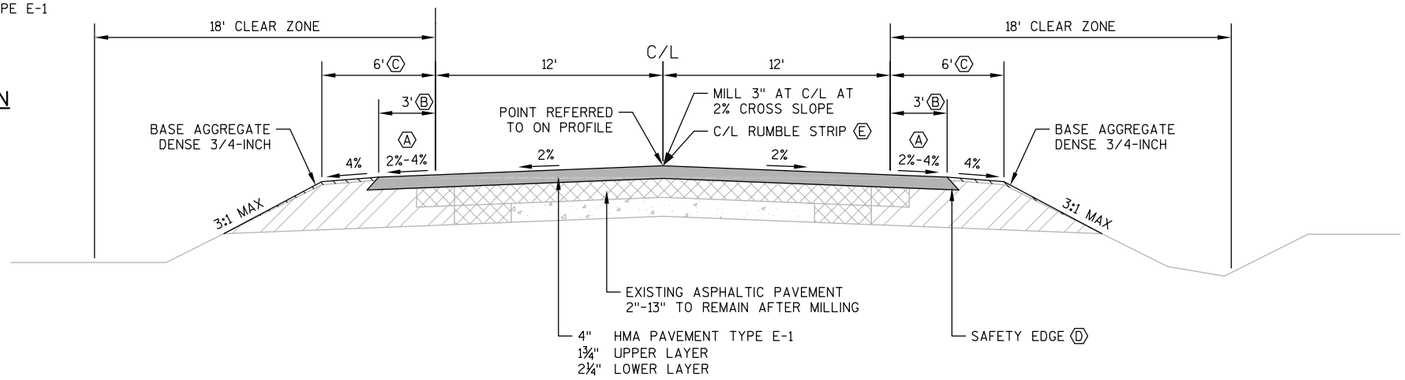
STA 40+50 TO STA 50+50
STA 82+00 TO STA 92+00
STA 136+35 TO STA 142+15
STA 145+70 TO STA 158+00
STA 190+00 TO STA 200+50
STA 207+35 TO STA 217+00
STA 278+00 TO STA 282+90
STA 284+05 TO STA 287+00
STA 365+00 TO STA 377+50
STA 385+50 TO STA 392+60
STA 405+00 TO STA 412+00



TYPICAL FINISHED CURB & GUTTER SECTION

STH 49

STA 419+29 - STA 421+70 LT



TYPICAL FINISHED SECTION

STH 49

STA 33+45 TO STA 40+50
STA 50+50 TO STA 53+20
STA 92+00 TO STA 134+95
STA 158+00 TO STA 190+00
STA 217+00 TO STA 278+00
STA 287+00 TO STA 365+00
STA 398+75 TO STA 405+00
STA 421+00 TO STA 421+70

NOTES:

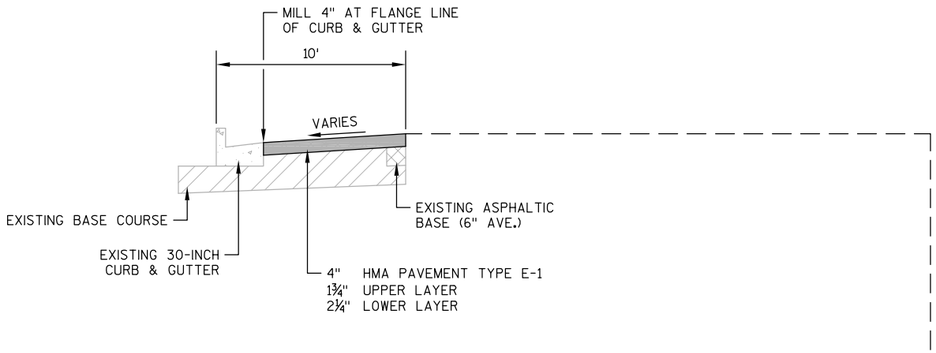
Ⓐ PAVED SHOULDER CROSS SLOPE SHALL EQUAL LANE SLOPE WHEN PAVED INTEGRAL AND TOTAL WIDTH IS LESS THAN OR EQUAL TO 18'. WHEN THE TOTAL WIDTH IS GREATER THAN 18', THE PAVED SHOULDER SHALL BE PAVED SEPARATE FROM TRAVEL LANE AND AT 4%.

Ⓑ 8' STA 30+70 - STA 39+45 LT
8' STA 30+70 - STA 36+59 RT
5' STA 39+45 - STA 63+43 LT
5' STA 36+59 - STA 41+22 RT
7' STA 41+22 - STA 43+82 RT
5' STA 43+82 - STA 59+11 RT
13' STA 58+77 - STA 66+02 RT
8' STA 166+08 - STA 172+75 RT
8' STA 405+65 - STA 411+25 LT
5' STA 409+51 - STA 417+96 RT
5' STA 411+25 - STA 418+15 LT
10' STA 417+96 - STA 421+70 RT
10' STA 418+15 - STA 419+29 LT
7.5' STA 419+29 - STA 421+70 LT

Ⓒ 9' STA 30+70 - STA 39+45 LT
9' STA 30+70 - STA 36+59 RT
8' STA 41+22 - STA 43+82 RT
15' STA 58+77 - STA 66+02 RT
9' STA 166+08 - STA 172+75 RT
9' STA 405+65 - STA 411+25 LT
11' STA 417+96 - STA 421+70 RT

Ⓓ SAFETY EDGE IS TO BE INSTALLED WHEN PAVED SHOULDER IS 3' OR LESS.

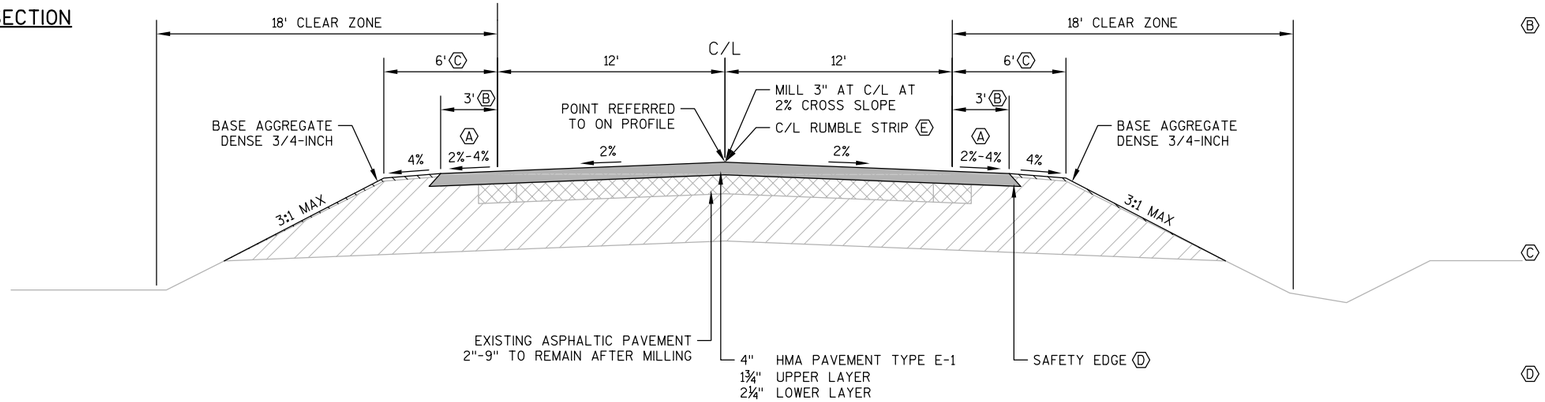
Ⓔ SEE MISCELLANEOUS QUANTITIES AND SDD FOR LOCATIONS.



TYPICAL FINISHED CURB & GUTTER SECTION

STH 49

STA 419+29 - STA 421+70 LT



TYPICAL FINISHED SECTION

STH 49

STA 53+20 TO STA 82+00
STA 134+95 TO STA 136+35
STA 142+15 TO STA 145+70
STA 200+50 TO STA 207+35
STA 282+90 TO STA 284+05
STA 377+50 TO STA 385+50
STA 392+60 TO STA 398+75
STA 412+00 TO STA 421+00

NOTES:

(A) PAVED SHOULDER CROSS SLOPE SHALL EQUAL LANE SLOPE WHEN PAVED INTEGRAL AND TOTAL WIDTH IS LESS THAN OR EQUAL TO 18'. WHEN THE TOTAL WIDTH IS GREATER THAN 18', THE PAVED SHOULDER SHALL BE PAVED SEPARATE FROM TRAVEL LANE AND AT 4%.

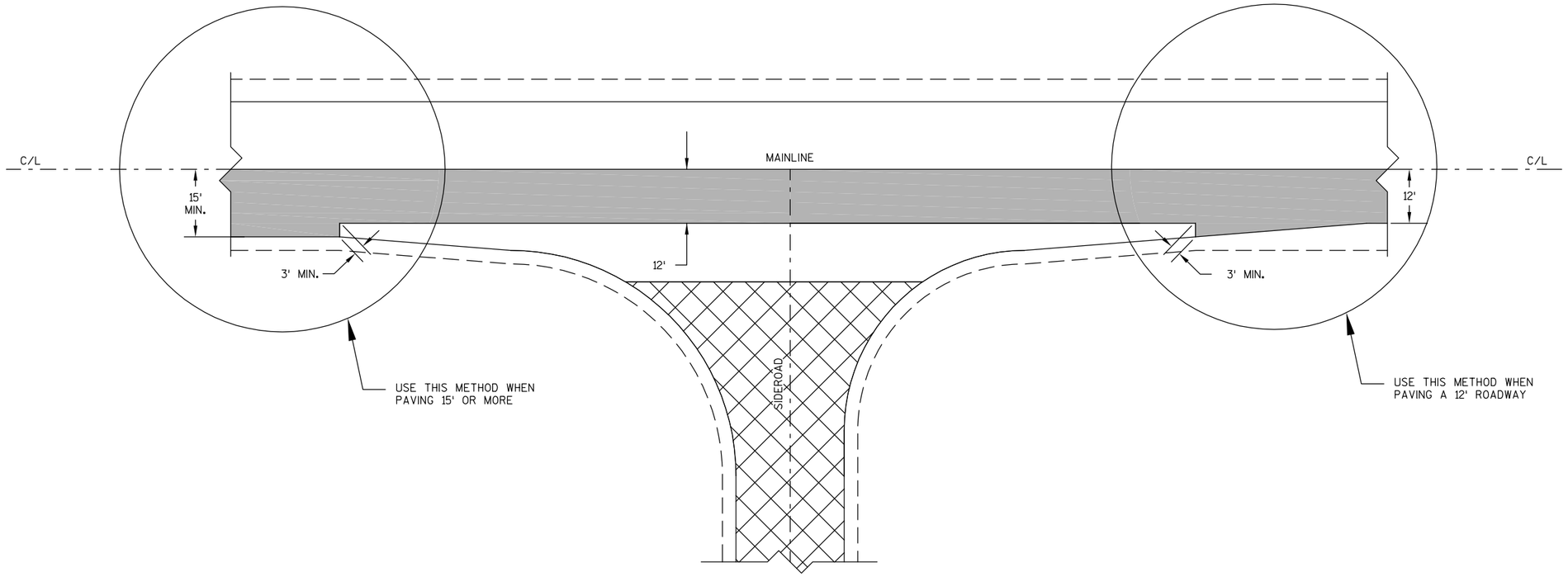
(B) 8' STA 30+70 - STA 39+45 LT
8' STA 30+70 - STA 36+59 RT
5' STA 39+45 - STA 63+43 LT
5' STA 36+59 - STA 41+22 RT
7' STA 41+22 - STA 43+82 RT
5' STA 43+82 - STA 59+11 RT
13' STA 58+77 - STA 66+02 RT
8' STA 166+08 - STA 172+75 RT
8' STA 405+65 - STA 411+25 LT
5' STA 409+51 - STA 417+96 RT
5' STA 411+25 - STA 418+15 LT
10' STA 417+96 - STA 421+70 RT
10' STA 418+15 - STA 419+29 LT
7.5' STA 419+29 - STA 421+70 LT

(C) 9' STA 30+70 - STA 39+45 LT
9' STA 30+70 - STA 36+59 RT
8' STA 41+22 - STA 43+82 RT
15' STA 58+77 - STA 66+02 RT
9' STA 166+08 - STA 172+75 RT
9' STA 405+65 - STA 411+25 LT
11' STA 417+96 - STA 421+70 RT

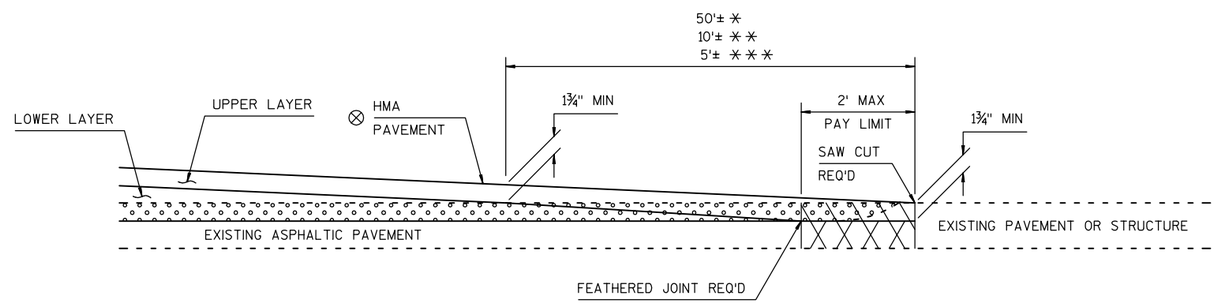
(D) SAFETY EDGE IS TO BE INSTALLED WHEN PAVED SHOULDER IS 3' OR LESS.

(E) SEE MISCELLANEOUS QUANTITIES AND SDD FOR LOCATIONS.

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 6	E



FINAL UPPER LAYER HMA PAVEMENT PAVING DETAIL AT INTERSECTIONS AND BYPASS LANES



⊗ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

REMOVING ASPHALTIC SURFACE, MILLING

REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)

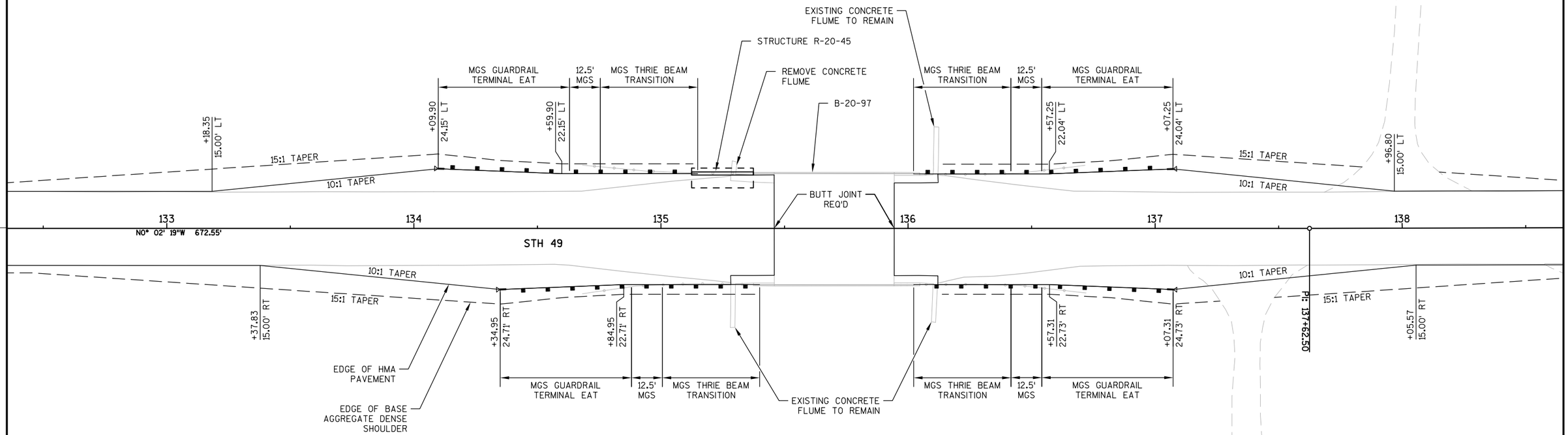
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

* MAINLINE
** SIDE ROADS
*** PRIVATE ENTRANCES

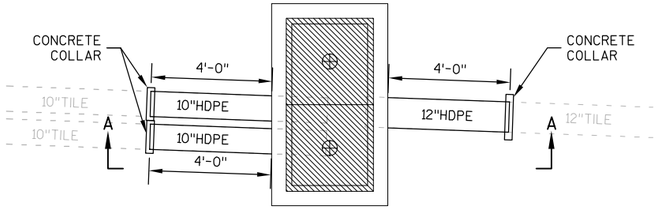
2

N

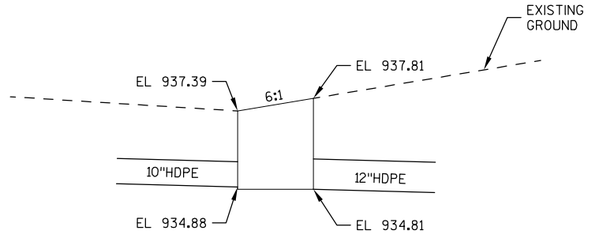
0 20 40



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CONSTRUCTION DETAILS	SHEET 8	E



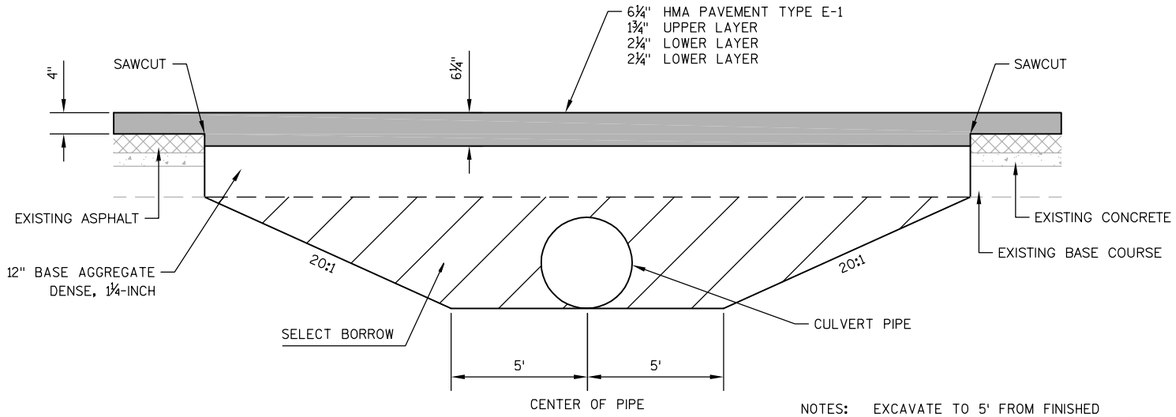
PLAN VIEW



SECTION A-A

INLET MEDIAN 2 GRATE DETAIL

STA 234+90.28, 43.0' RT

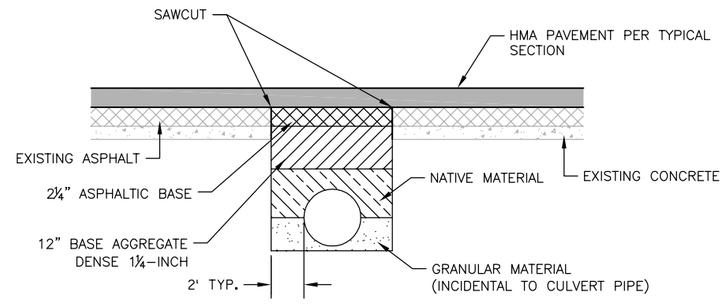


NOTES: EXCAVATE TO 5' FROM FINISHED GRADE OR TO THE FLOWLINE OF THE PIPE, WHEN LOCATED AT A CULVERT PIPE.

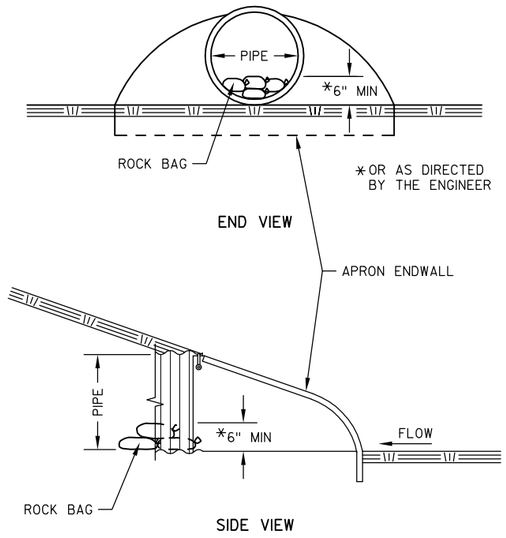
WHEN MULTIPLE PIPES ARE PRESENT ADDITIONAL WIDTH IS REQUIRED EQUIVALENT TO THE DISTANCE FROM CENTER OF PIPE TO CENTER OF PIPE.

LONGITUDINAL DETAIL FOR FROST HEAVE REPAIR AREAS

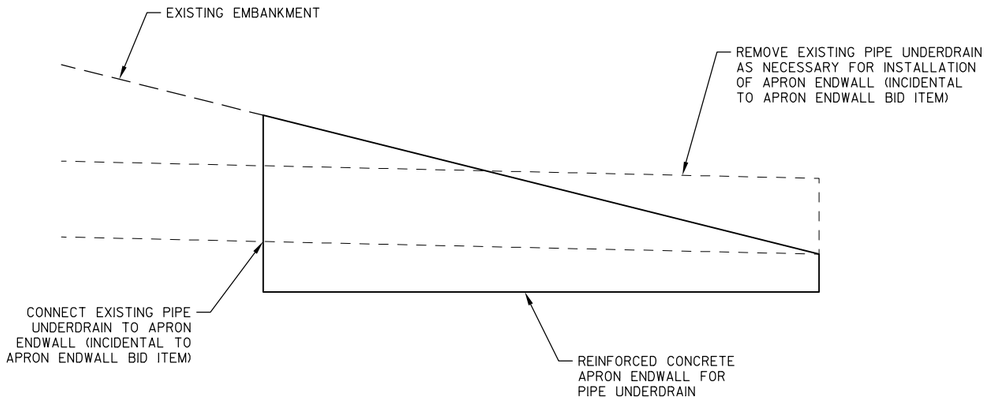
STA 90+11	STA 103+25
STA 116+59	STA 154+25
STA 244+69	STA 261+24
STA 266+04	STA 283+48
STA 358+00	



DETAIL FOR CULVERT PIPE INSTALLATION IN AREAS OF EXISTING PAVEMENT



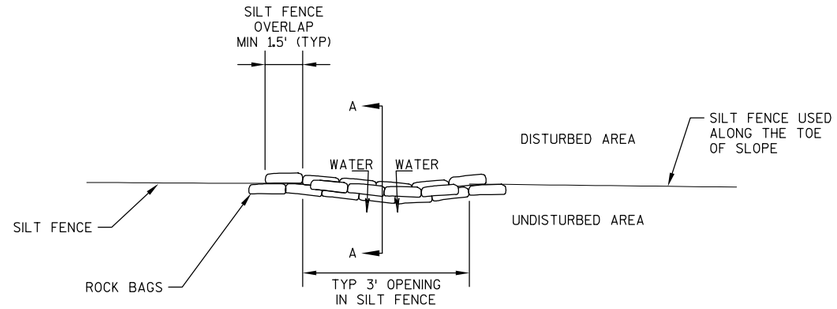
CULVERT PIPE CHECKS DETAIL



NOTE:
REFER TO SDD FOR "REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN" FOR ALL OTHER PERTINENT INFORMATION

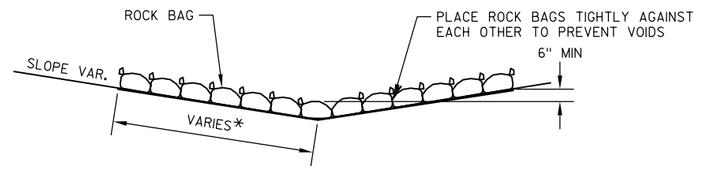
CONNECTION OF EXISTING PIPE UNDERDRAIN TO REINFORCED CONCRETE APRON ENDWALL DETAIL

SECTION A-A

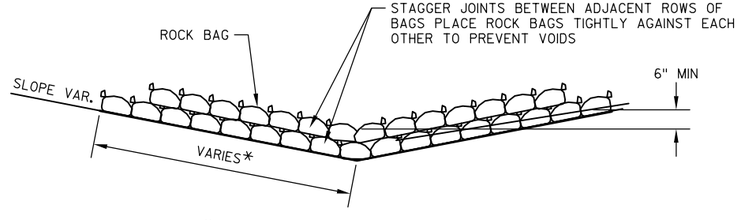


PLAN VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF POINT



SIDE VIEW (SINGLE LAYER)

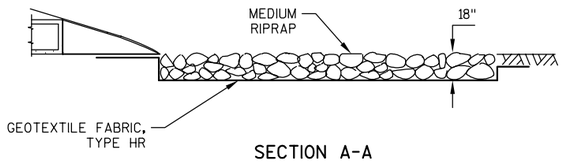


* LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING ON DESIRED DEPTH OF WATER POOL

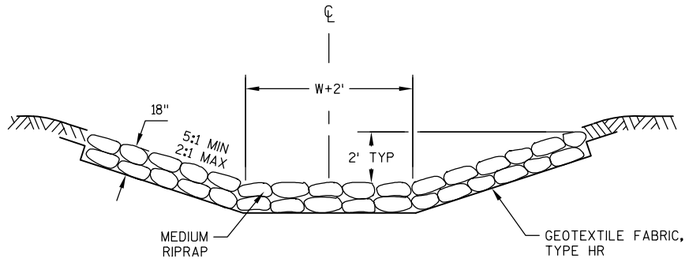
SIDE VIEW (MULTIPLE LAYER)

ROCK BAGS USED FOR DITCH CHECKS

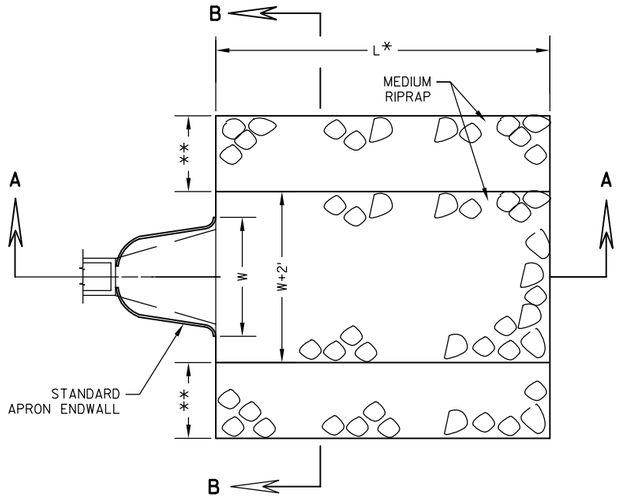
ROCK BAGS DETAIL



SECTION A-A



SECTION B-B

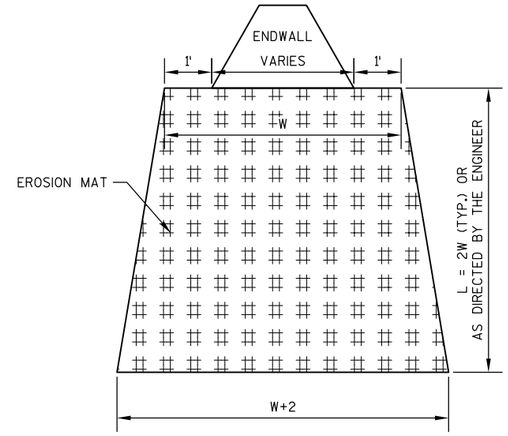


PLAN VIEW

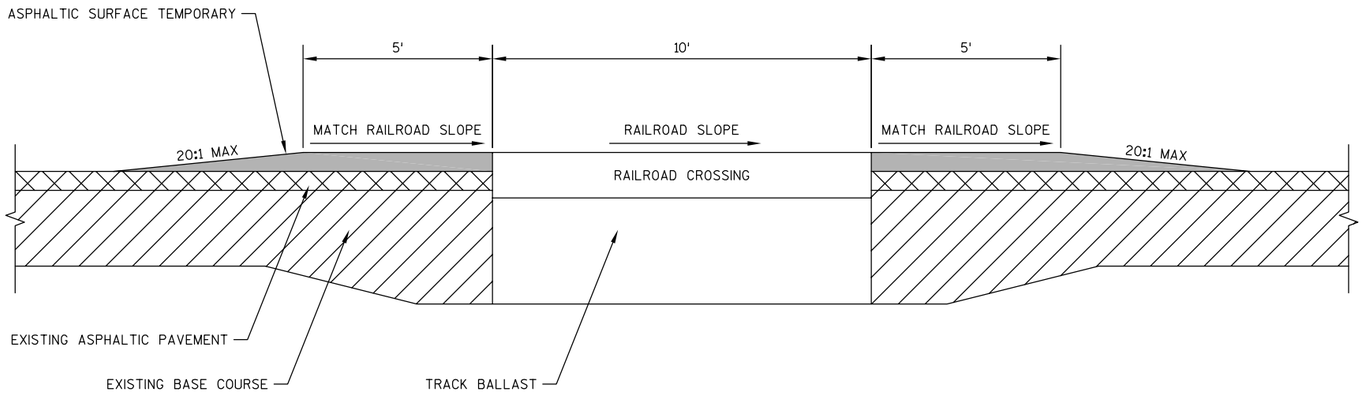
* L = LENGTH AS SHOWN ON PLANS

** ADDITIONAL WIDTH TO MATCH TOP OF SLOPE

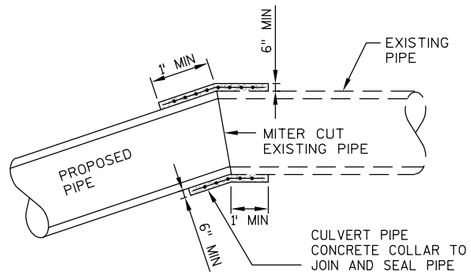
MEDIUM RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS



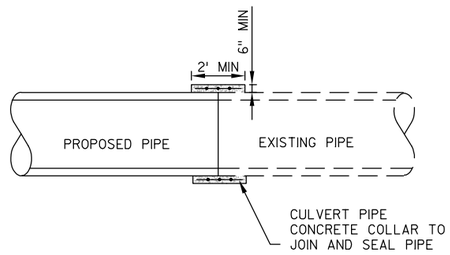
EROSION MAT TREATMENT AT CULVERTS



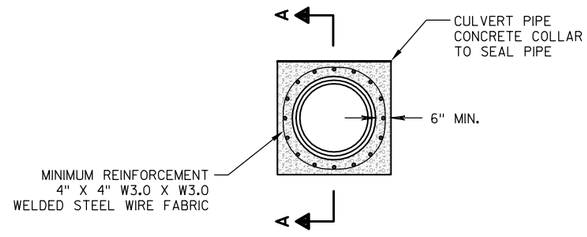
TEMPORARY RAILROAD CROSSING DETAIL PRIOR TO FINAL PAVEMENT



SECTION A-A
MITERED CUT



SECTION A-A



CULVERT PIPE CONCRETE COLLAR DETAIL

2

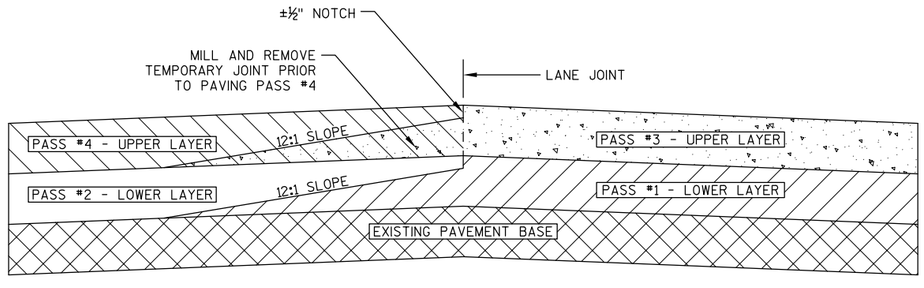
SUPERELEVATION REGION	STATION	DESCRIPTION	LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
1	52+55.3741	END NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%
1	52+55.3741	END NORMAL SHOULDER	-4.00%	-2.00%	-2.00%	-4.00%
1	53+08.5944	LEVEL CROWN	0.00%	0.00%	-2.00%	-4.00%
1	53+61.8148	REVERSE CROWN	2.00%	2.00%	-2.00%	-4.00%
1	54+15.0351	LOW SHOULDER MATCH	4.00%	4.00%	-4.00%	-4.00%
1	54+65.5944	BEGIN FULL SUPER	5.90%	5.90%	-5.90%	-5.90%
1	79+51.7721	END FULL SUPER	5.90%	5.90%	-5.90%	-5.90%
1	80+02.3314	LOW SHOULDER MATCH	4.00%	4.00%	-4.00%	-4.00%
1	80+55.5517	REVERSE CROWN	2.00%	2.00%	-2.00%	-4.00%
1	81+08.7721	LEVEL CROWN	0.00%	0.00%	-2.00%	-4.00%
1	81+61.9924	BEGIN NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%
1	81+61.9924	BEGIN NORMAL SHOULDER	-4.00%	-2.00%	-2.00%	-4.00%
2	414+71.6905	END NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%
2	414+71.6905	END NORMAL SHOULDER	-4.00%	-2.00%	-2.00%	-4.00%
2	415+25.0239	LEVEL CROWN	-4.00%	-2.00%	0.00%	0.00%
2	415+78.3572	REVERSE CROWN	-4.00%	-2.00%	2.00%	2.00%
2	416+31.6905	LOW SHOULDER MATCH	-4.00%	-4.00%	4.00%	4.00%
2	416+85.0239	BEGIN FULL SUPER	-6.00%	-6.00%	6.00%	6.00%
2	419+49.9291	END FULL SUPER	-6.00%	-6.00%	6.00%	6.00%
2	420+03.2625	LOW SHOULDER MATCH	-4.00%	-4.00%	4.00%	4.00%
2	420+56.5958	REVERSE CROWN	-4.00%	-2.00%	2.00%	2.00%
2	421+09.9291	LEVEL CROWN	-4.00%	-2.00%	0.00%	0.00%
2	421+63.2625	BEGIN NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%
2	421+63.2625	BEGIN NORMAL SHOULDER	-4.00%	-2.00%	-2.00%	-4.00%

SUPERELEVATION TABLE

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

TOTAL PROJECT AREA = 91.29 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 40.64 ACRES

RUNOFF COEFFICIENT TABLE



TAPERED AND NOTCHED LONGITUDINAL JOINT DETAIL

2

N

392

393

394

395

STH 49

PI: 393+54.98

RAILROAD CROSSING
TO BE CONSTRUCTED
(BY OTHERS)

PROPOSED RR
SIGNAL
(BY OTHERS)

PROPOSED RR
SIGNAL
(BY OTHERS)

RR SIGNAL

RR SIGNAL

WISCONSIN & SOUTHERN RAILROAD

SLOPE INTERCEPT, TYP

18" CPCM

TEL
PED

TEL
PED

PP

PP

MH

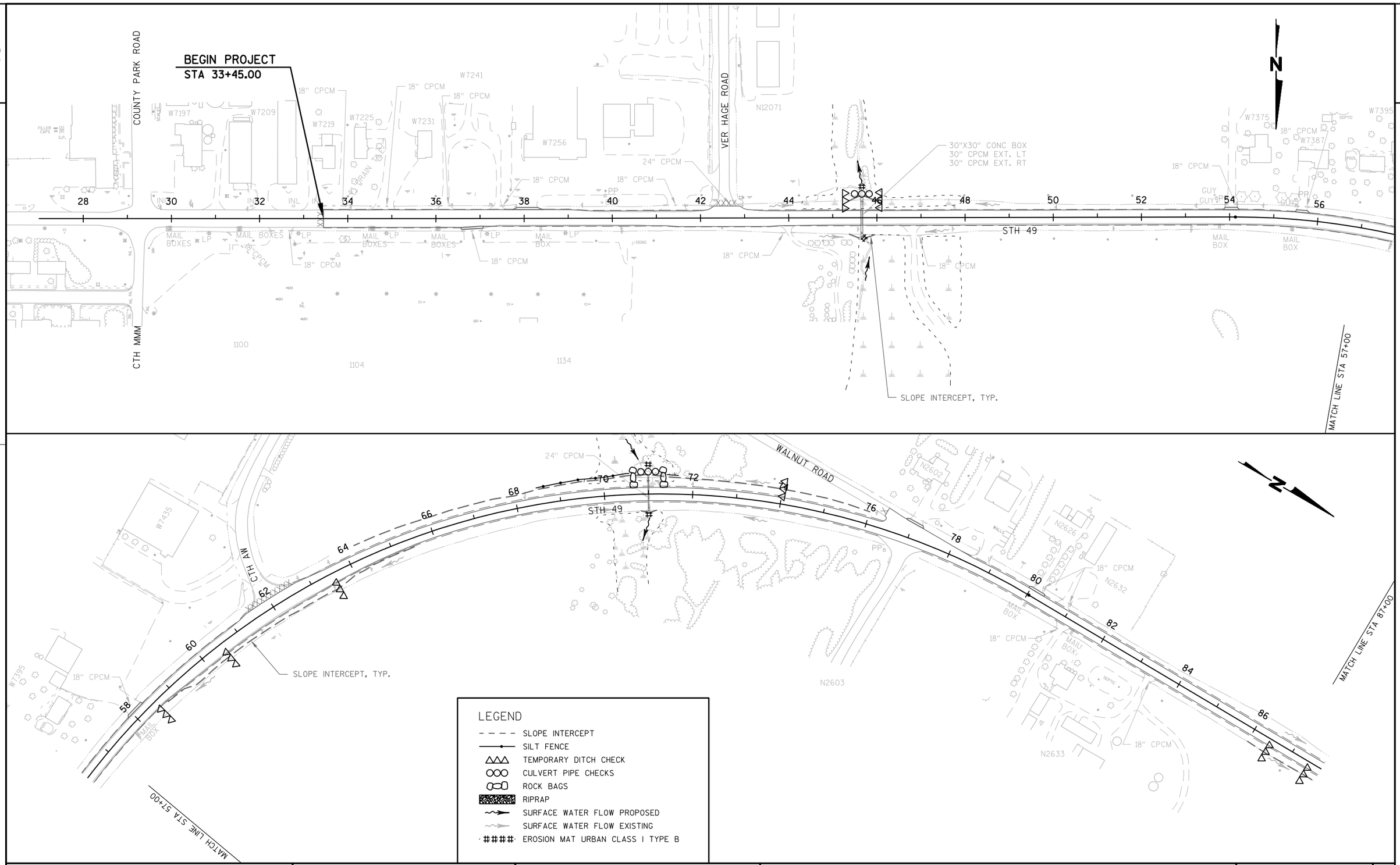
FO

T

G

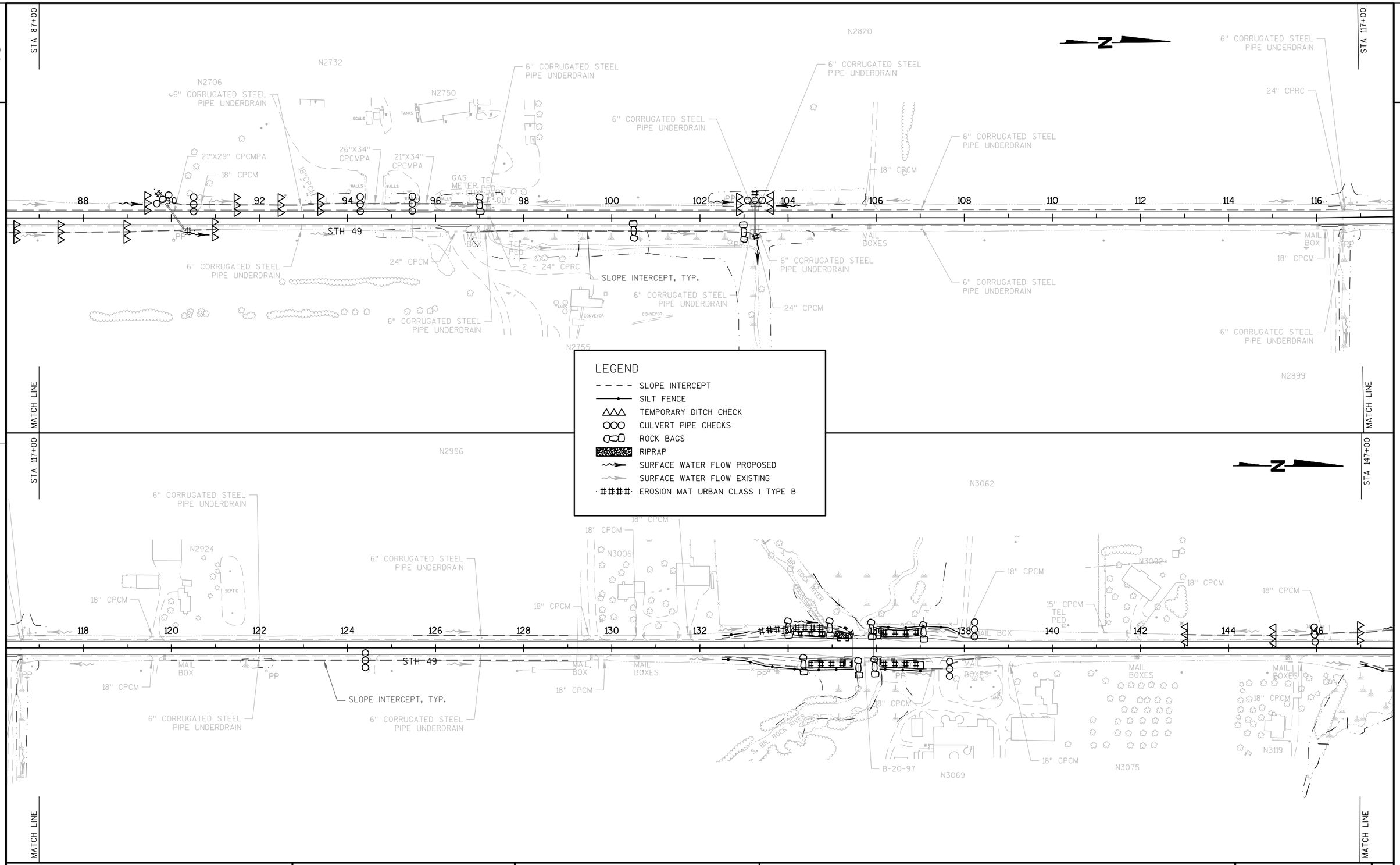
RAILROAD DETAIL

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CONSTRUCTION DETAILS	SHEET 13	E



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 14	E

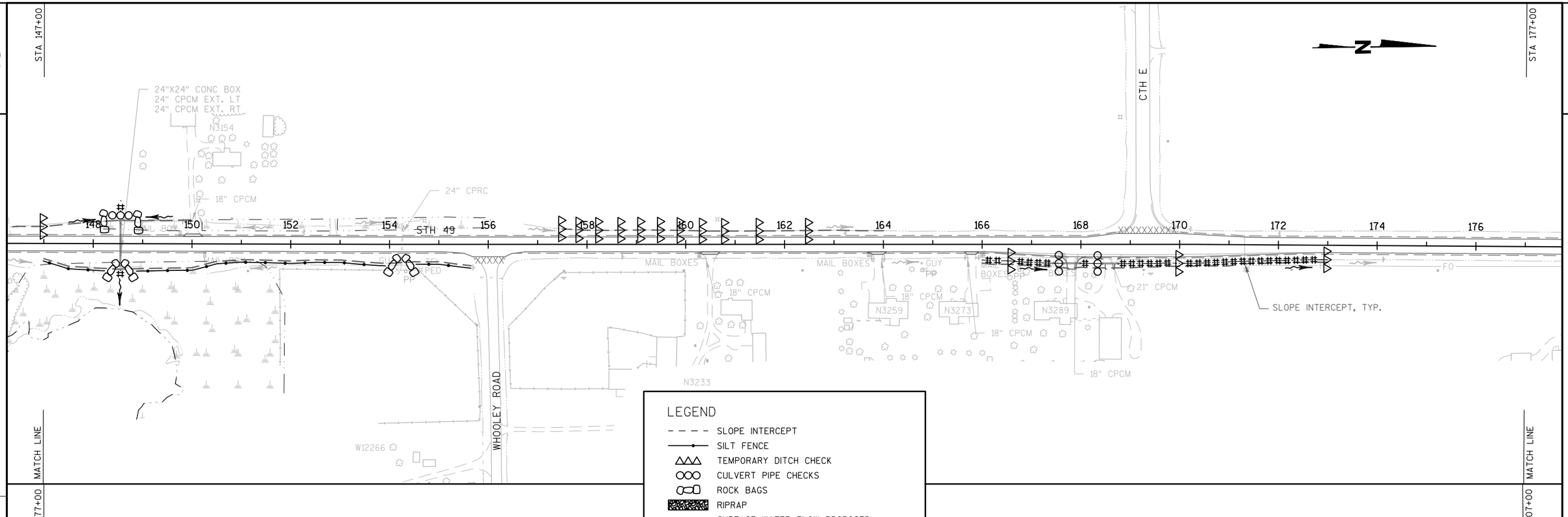
FILE NAME : 60900771_022001_EC PLOT DATE : 26 NOV 2013 09:56:30 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 15	E

STA 147+00

STA 177+00



STA 177+00 MATCH LINE

STA 207+00 MATCH LINE

MATCH LINE

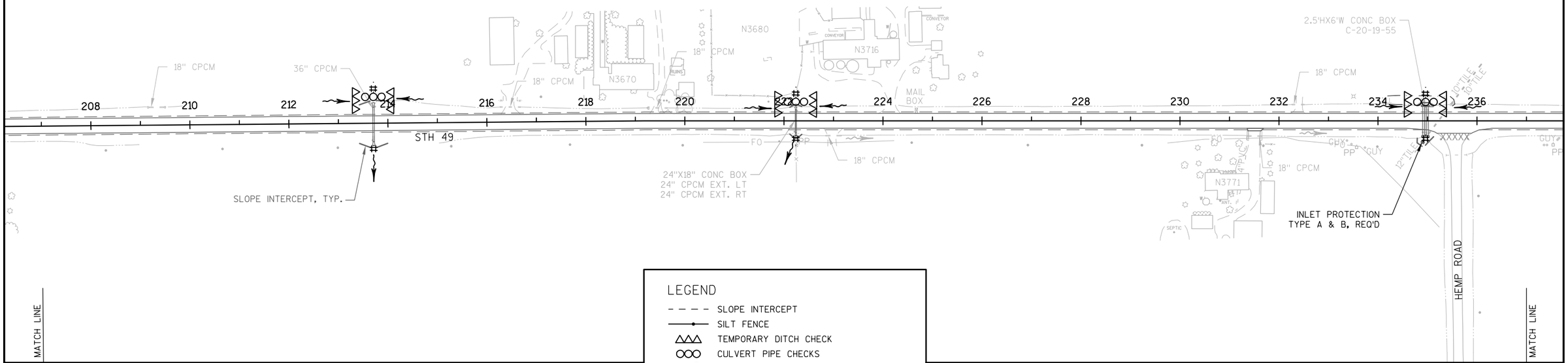
MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 16	E

FILE NAME : 60900771_022003_EC PLOT DATE : 26 NOV 2013 14:47:34 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

STA 207+00

STA 237+00



MATCH LINE

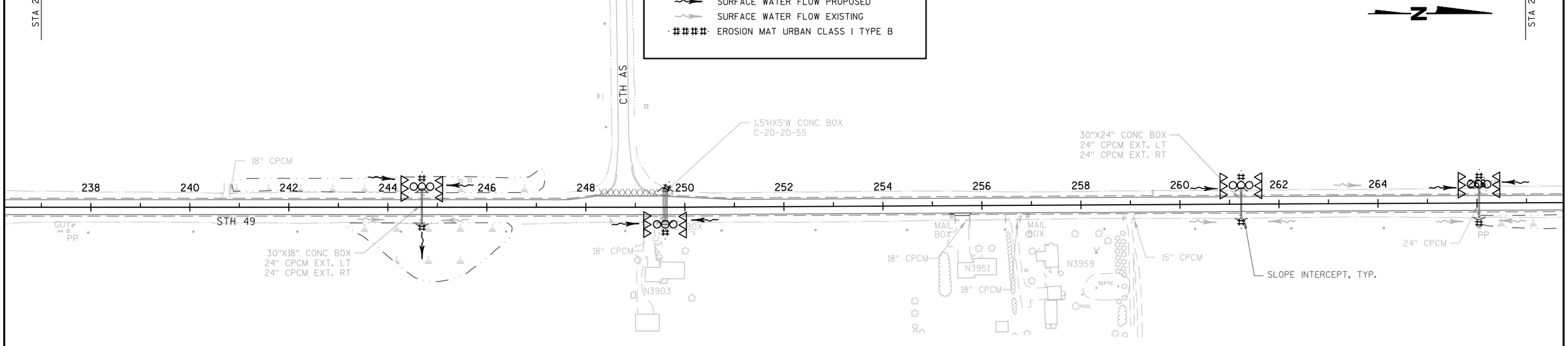
MATCH LINE

LEGEND

- SLOPE INTERCEPT
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECKS
- ROCK BAGS
- RIPRAP
- SURFACE WATER FLOW PROPOSED
- SURFACE WATER FLOW EXISTING
- EROSION MAT URBAN CLASS I TYPE B

STA 237+00

STA 267+00



MATCH LINE

MATCH LINE

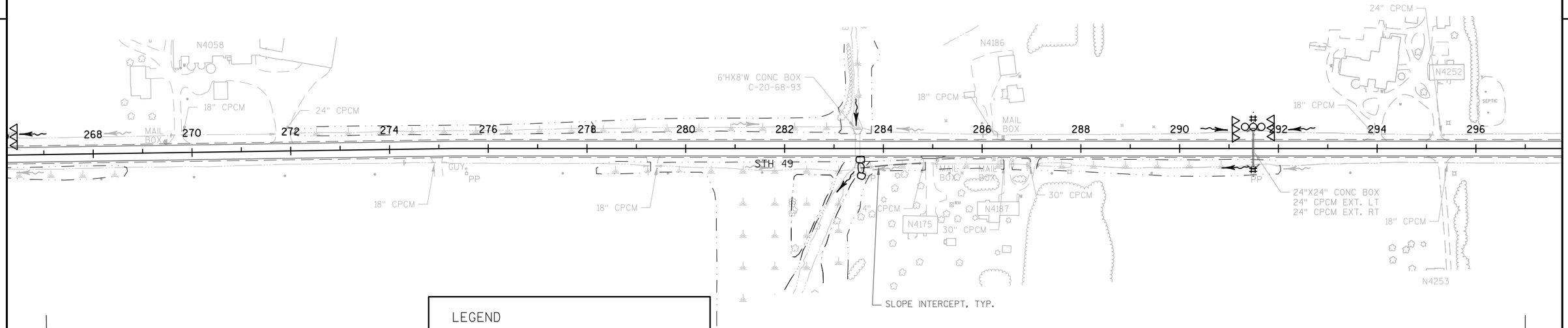
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 17	E

2

STA 267+00

STA 297+00

2



LEGEND

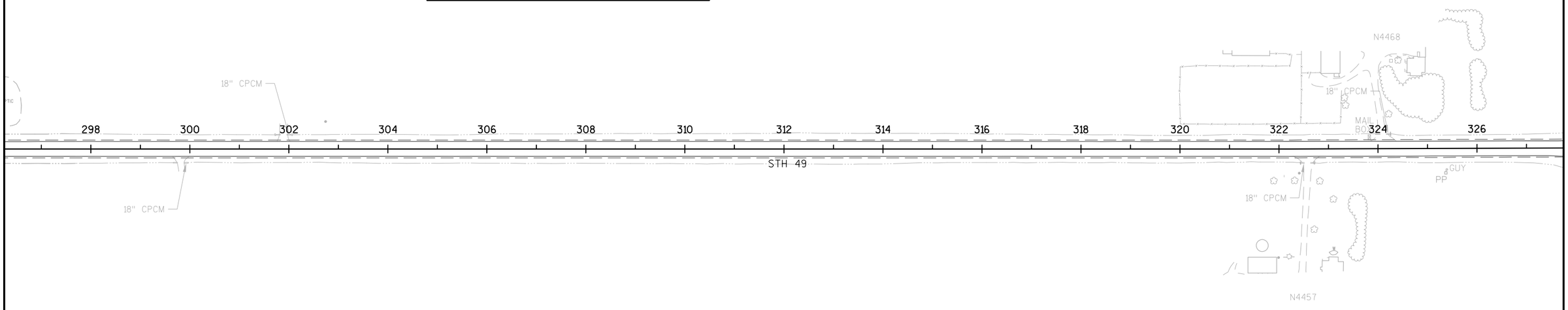
- SLOPE INTERCEPT
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECKS
- ROCK BAGS
- RIPRAP
- SURFACE WATER FLOW PROPOSED
- SURFACE WATER FLOW EXISTING
- EROSION MAT URBAN CLASS I TYPE B

MATCH LINE

STA 297+00

STA 327+00

MATCH LINE



MATCH LINE

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 18	E

STA 327+00

AMITY ROAD

N4582

18" CPCM

MAIL BOXES

N4654

RUINS

18" CPCM

18" CPCM

18" CPCM

18" CPCM

328 330 332 334 336 338 340 342 344 346 348 350 352 354 356

STH 49

GUY

PP

18" CPCM

STA 357+00

W12261

MATCH LINE

LEGEND

- SLOPE INTERCEPT
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECKS
- ROCK BAGS
- RIPRAP
- SURFACE WATER FLOW PROPOSED
- SURFACE WATER FLOW EXISTING
- EROSION MAT URBAN CLASS I TYPE B

STA 357+00

MATCH LINE

STA 387+00

W12317

N4870

18" CPCM

TEL PED

MAIL BOXES

MAIL BOX

21" CPCM

360 362 364 366 368 370 372 374 376 378 380 382 384 386

STH 49

TEL PED

TEL PED

3'HX5'W CONC BOX C-20-23-55

15" CPCP

SLOPE INTERCEPT, TYP.

N4767

18" CPCM

18" CPCM

N4861

LINER ROAD

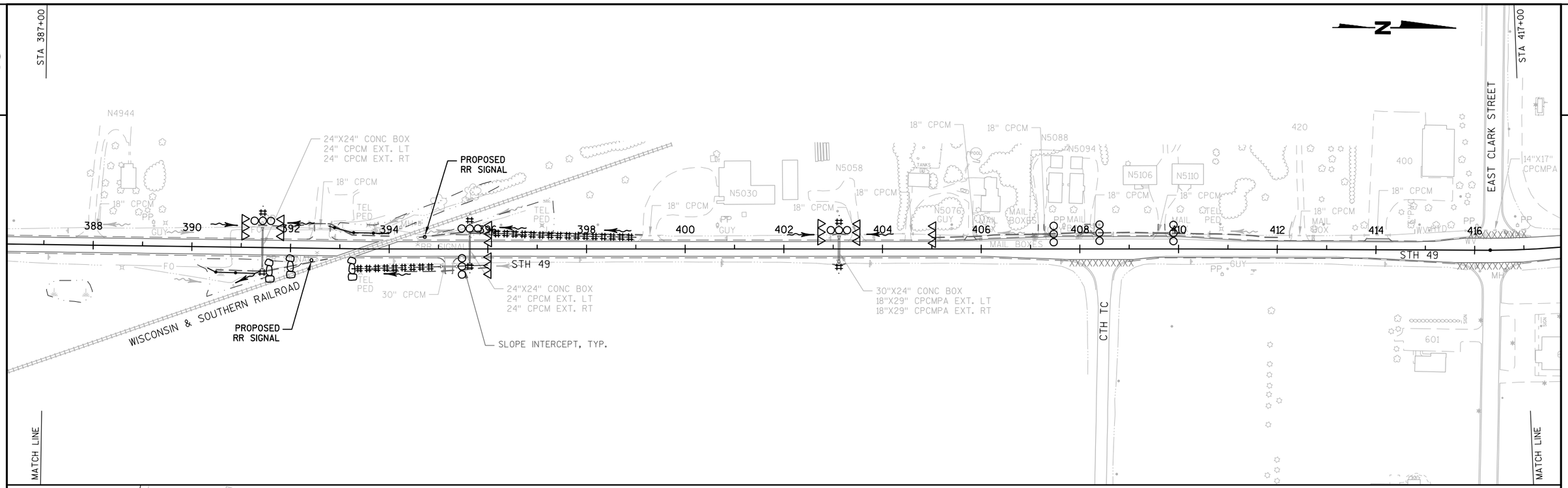
W12289

WISCONSIN & SOUTHERN RAILROAD

MATCH LINE

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 19	E



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	EROSION CONTROL PLAN	SHEET 20	E

FILE NAME : 60900771_022007_EC PLOT DATE : 26 NOV 2013 15:15:37 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

WISDOT/CADDS SHEET 42

SIGNING NOTES

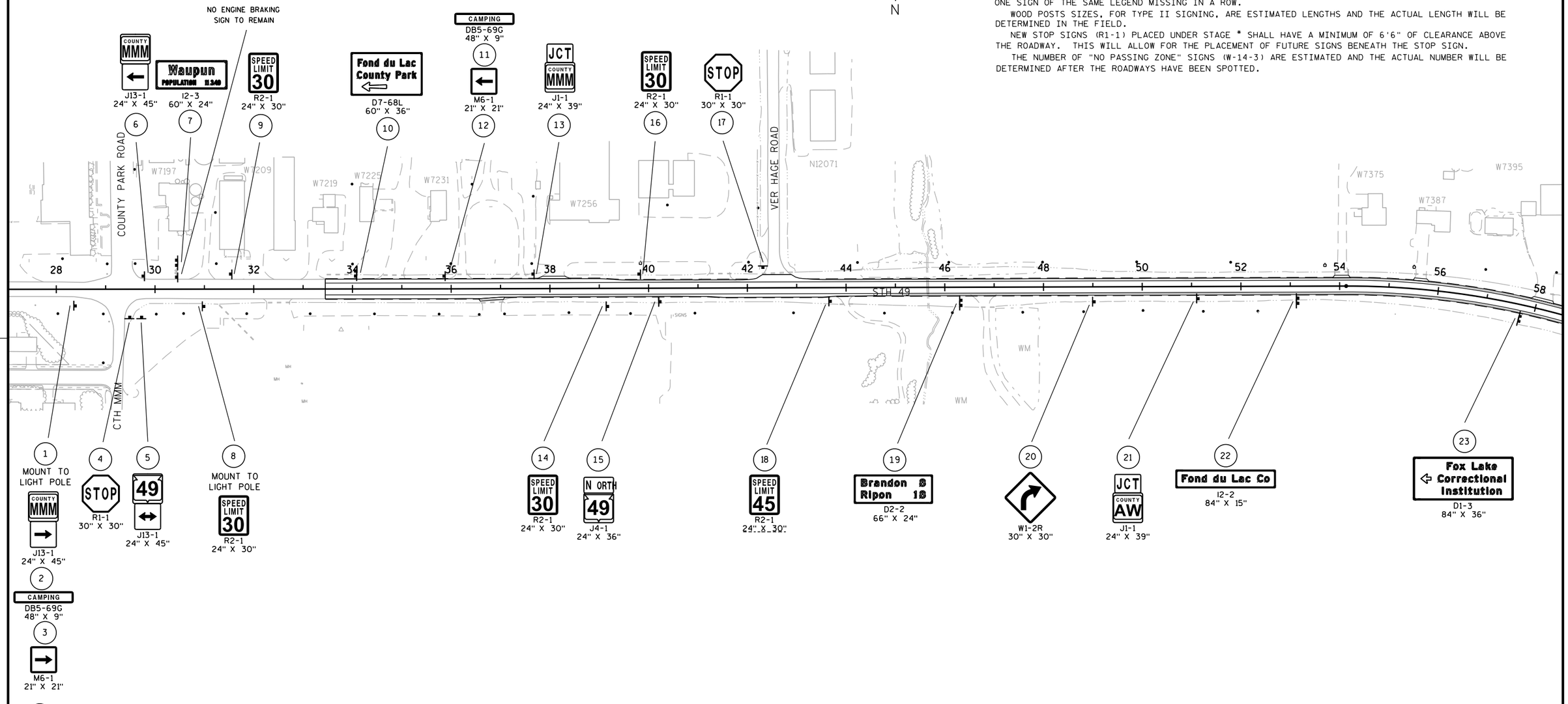
TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.



SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 21	E

2

SIGNING NOTES

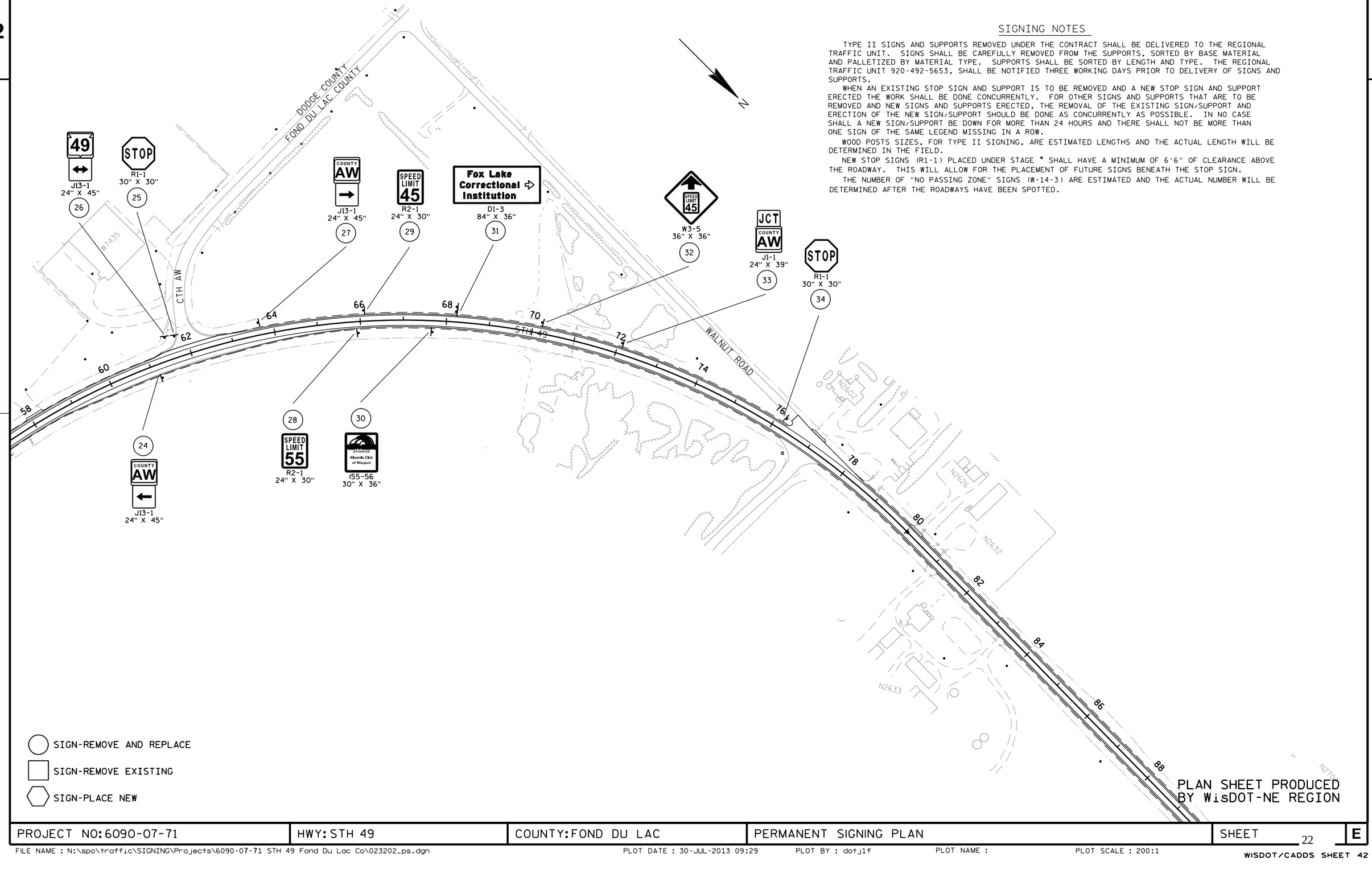
TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.



SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY:STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 22	E

2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

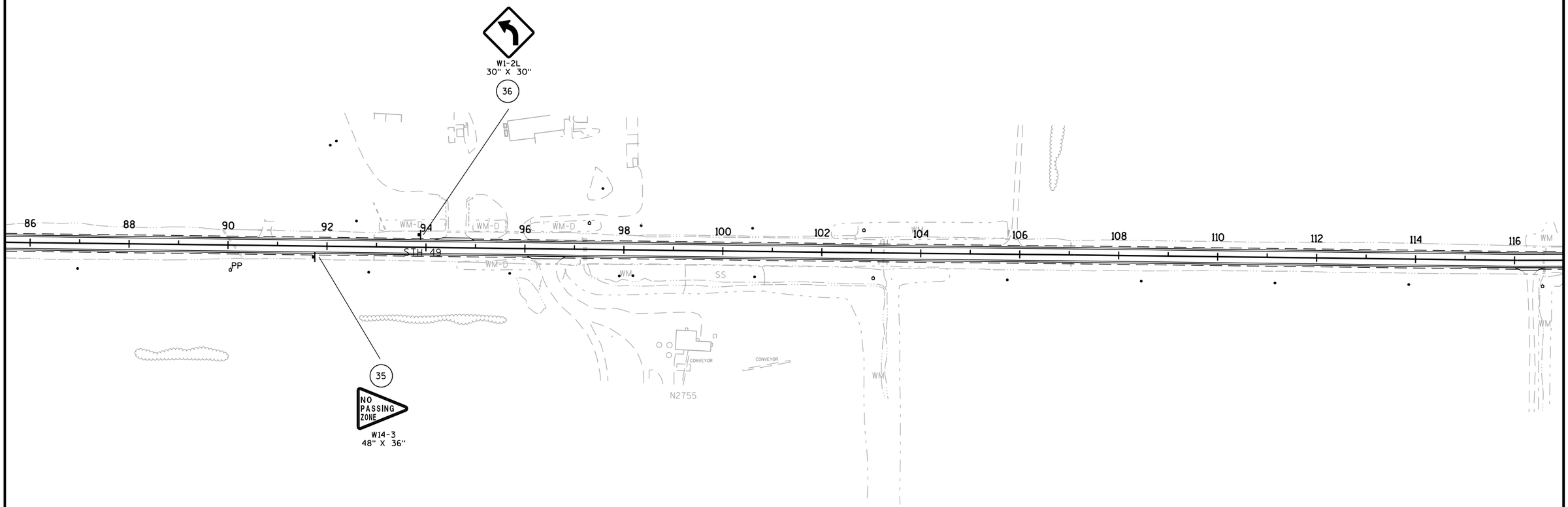
WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.

N



SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY: STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 23	E

2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

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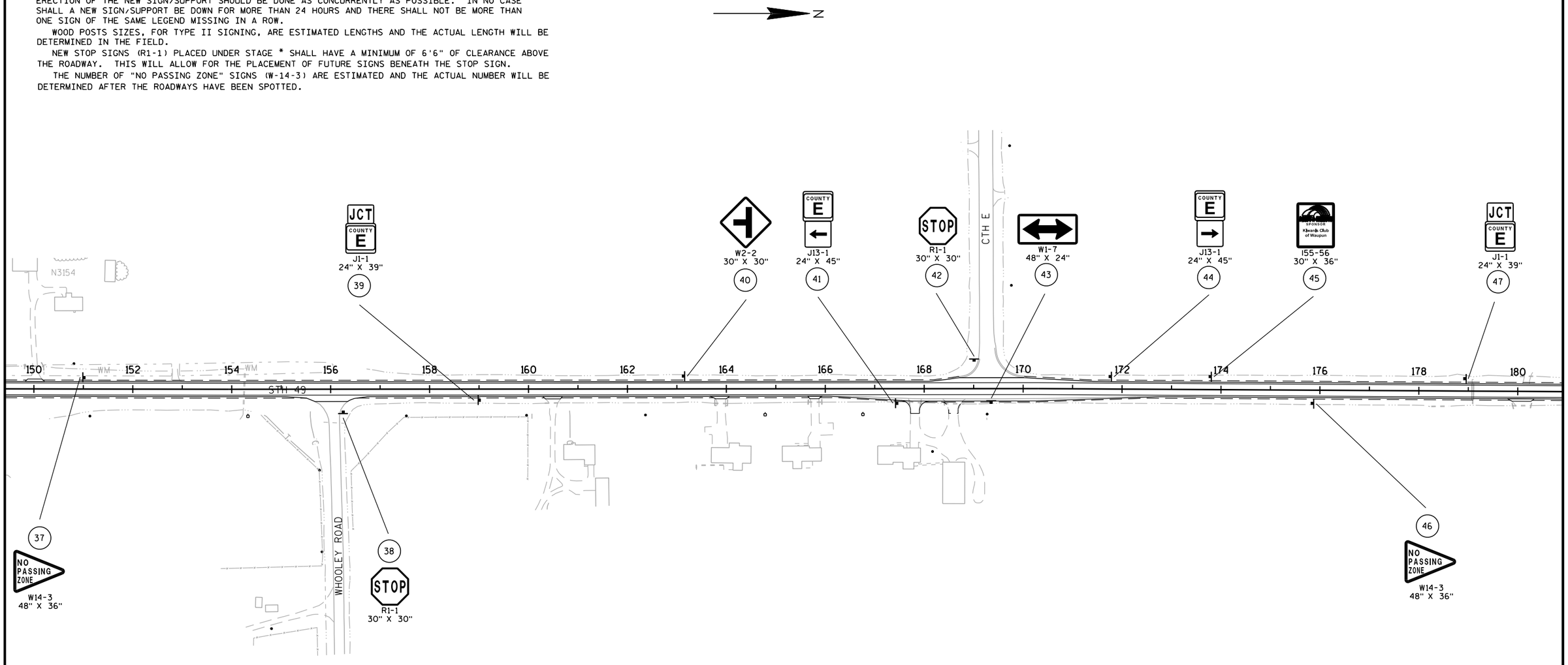

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY:STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 24	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\6090-07-71 STH 49 Fond Du Lac Co\023204_ps.dgn PLOT DATE : 30-JUL-2013 09:29 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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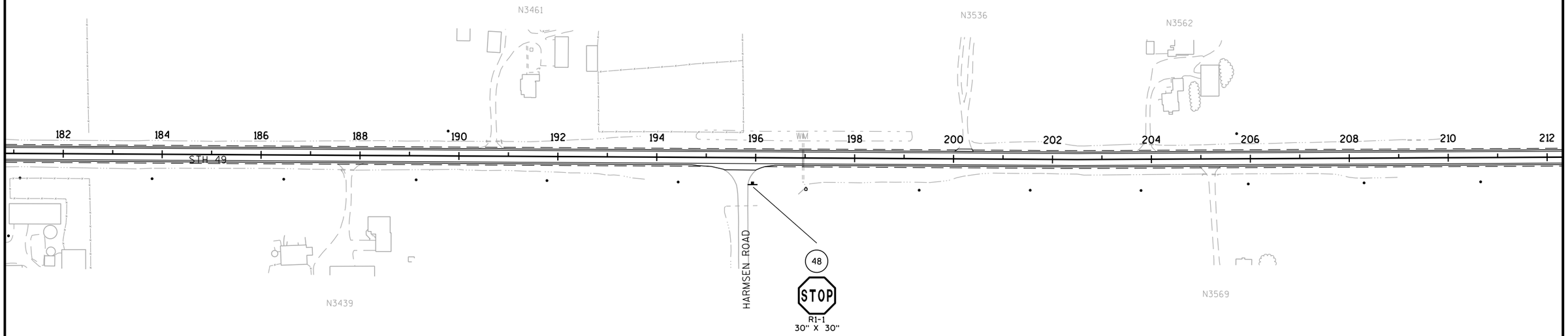

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY: STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 25	E

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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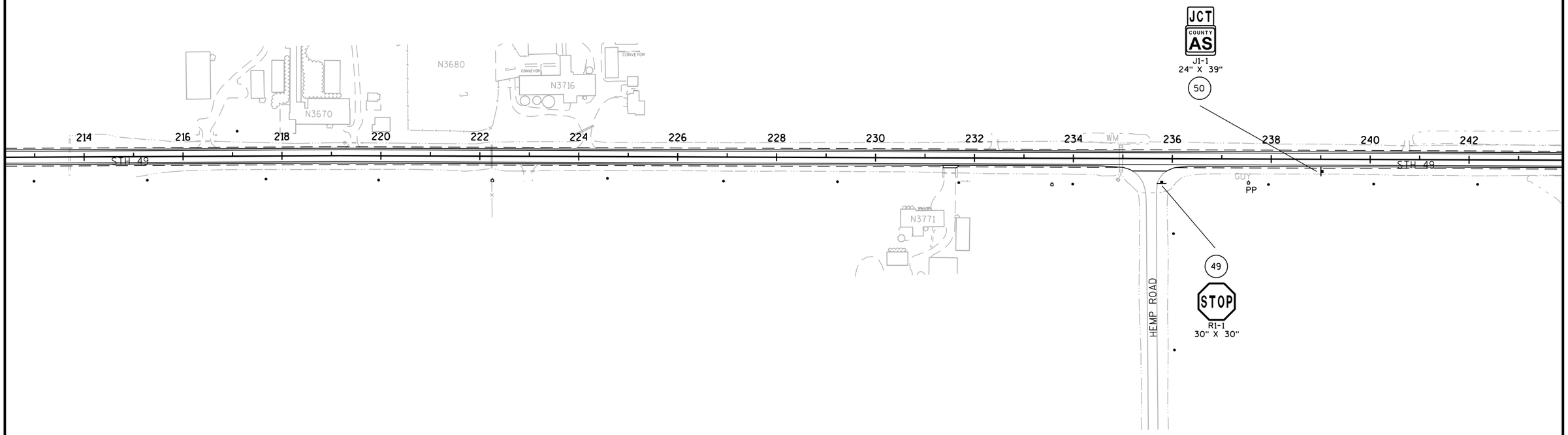

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY: STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 26	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\6090-07-71 STH 49 Fond Du Lac Co\023206_ps.dgn PLOT DATE : 30-JUL-2013 09:29 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 200:1

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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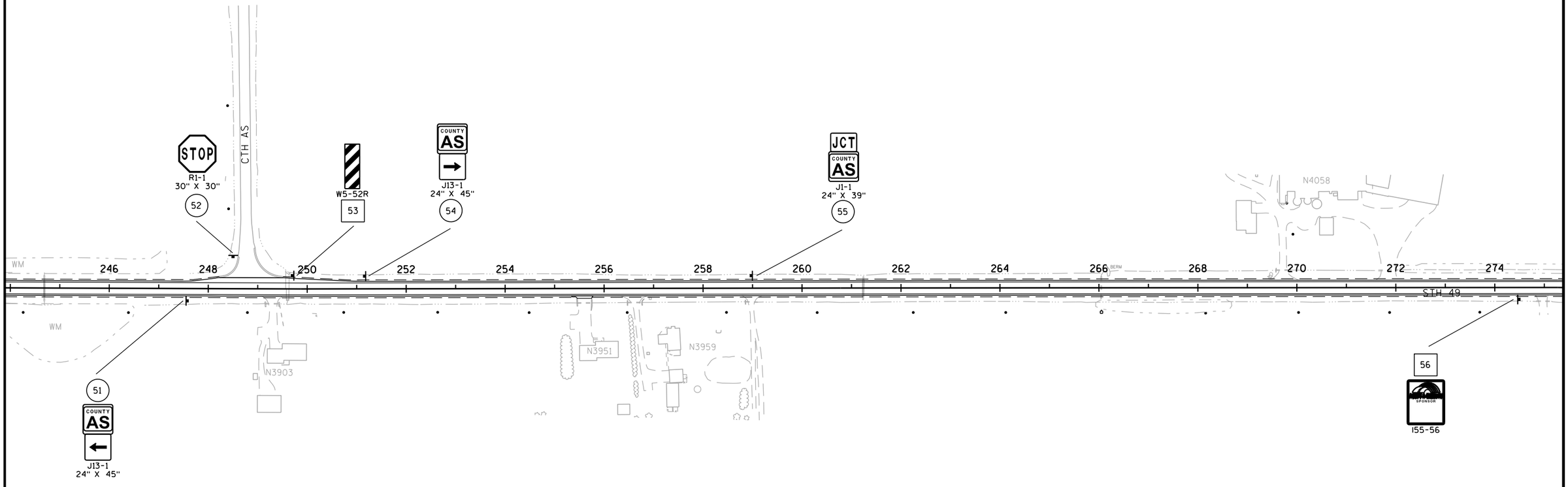

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY:STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 27	E

2

SIGNING NOTES

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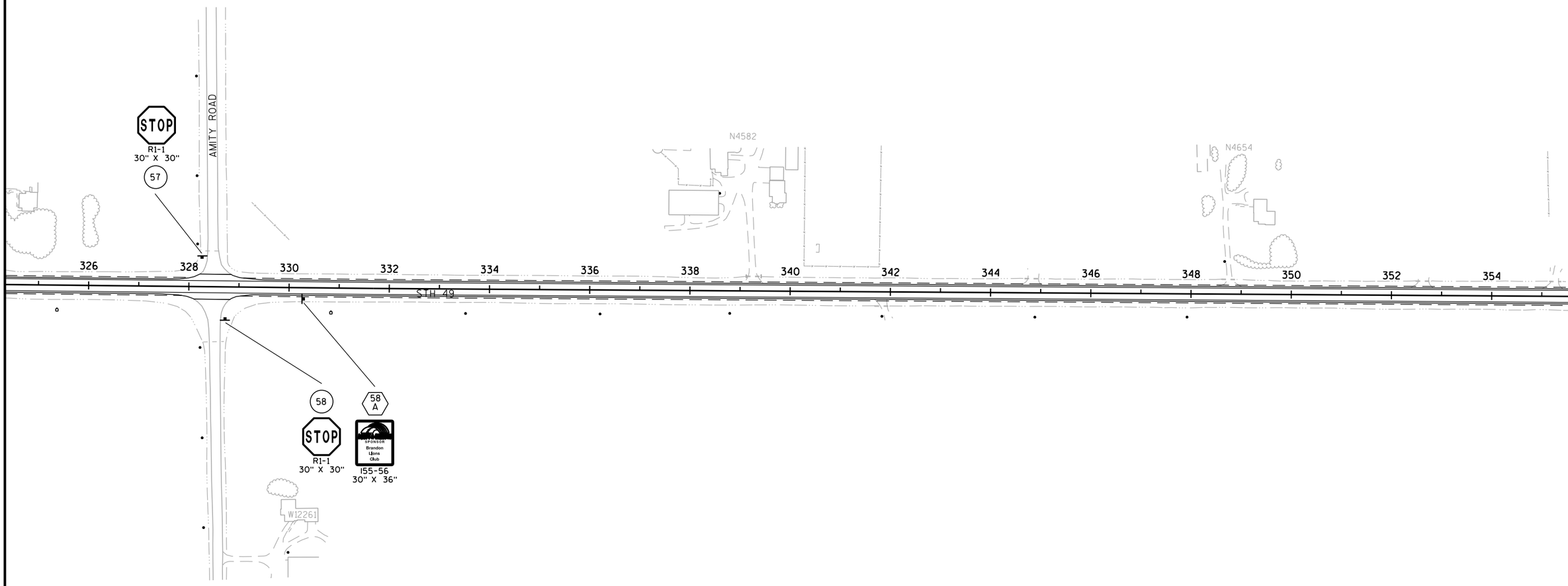

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY:STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 28	E

SIGNING NOTES

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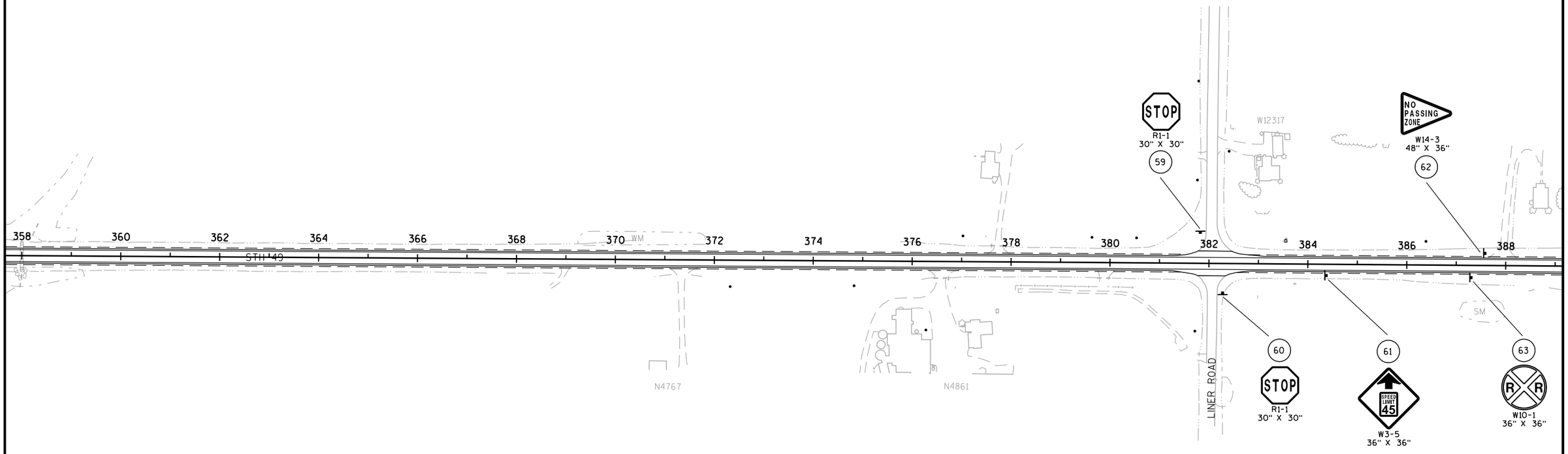

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY: STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 29	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\6090-07-71 STH 49 Fond Du Lac Co\023209_ps.dgn PLOT DATE : 30-JUL-2013 09:30 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 200:1

SIGNING NOTES

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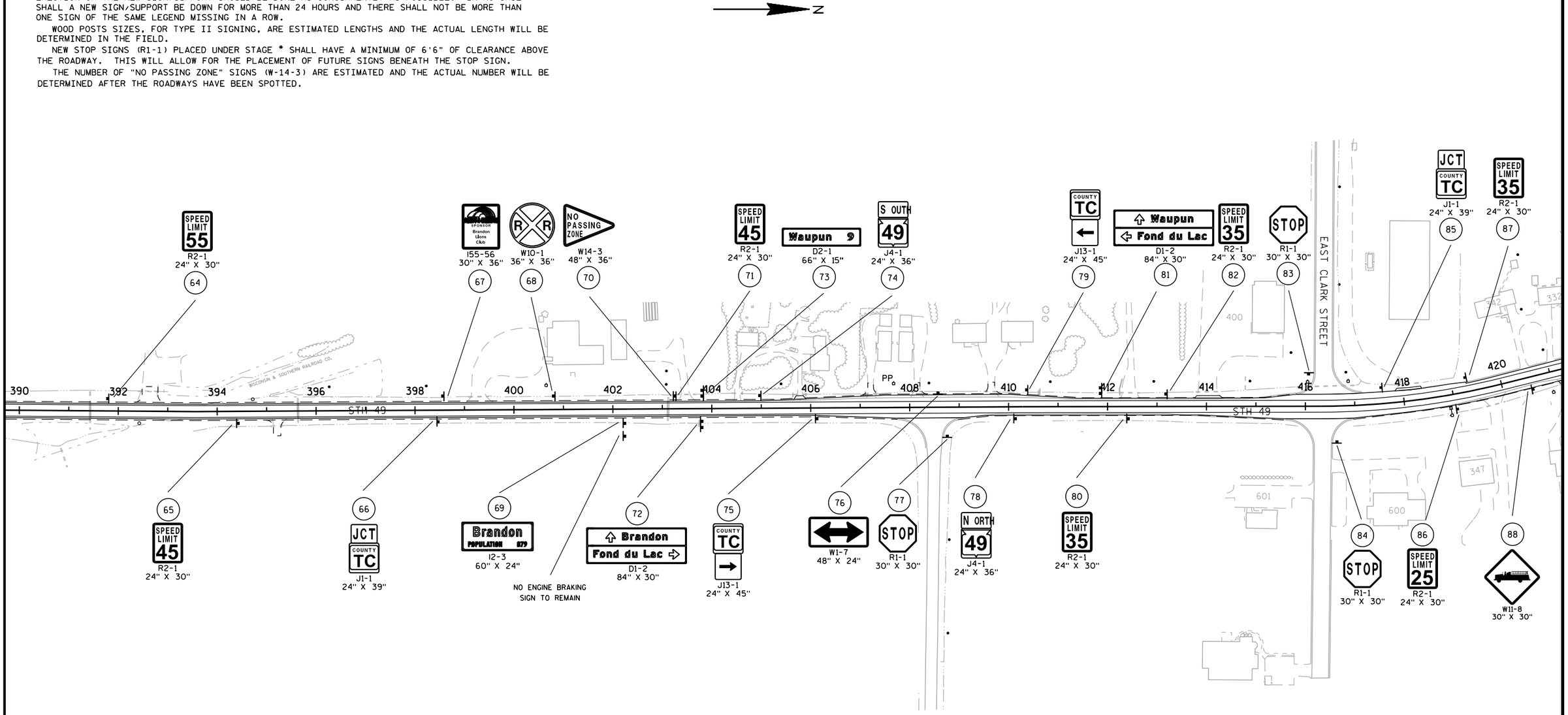


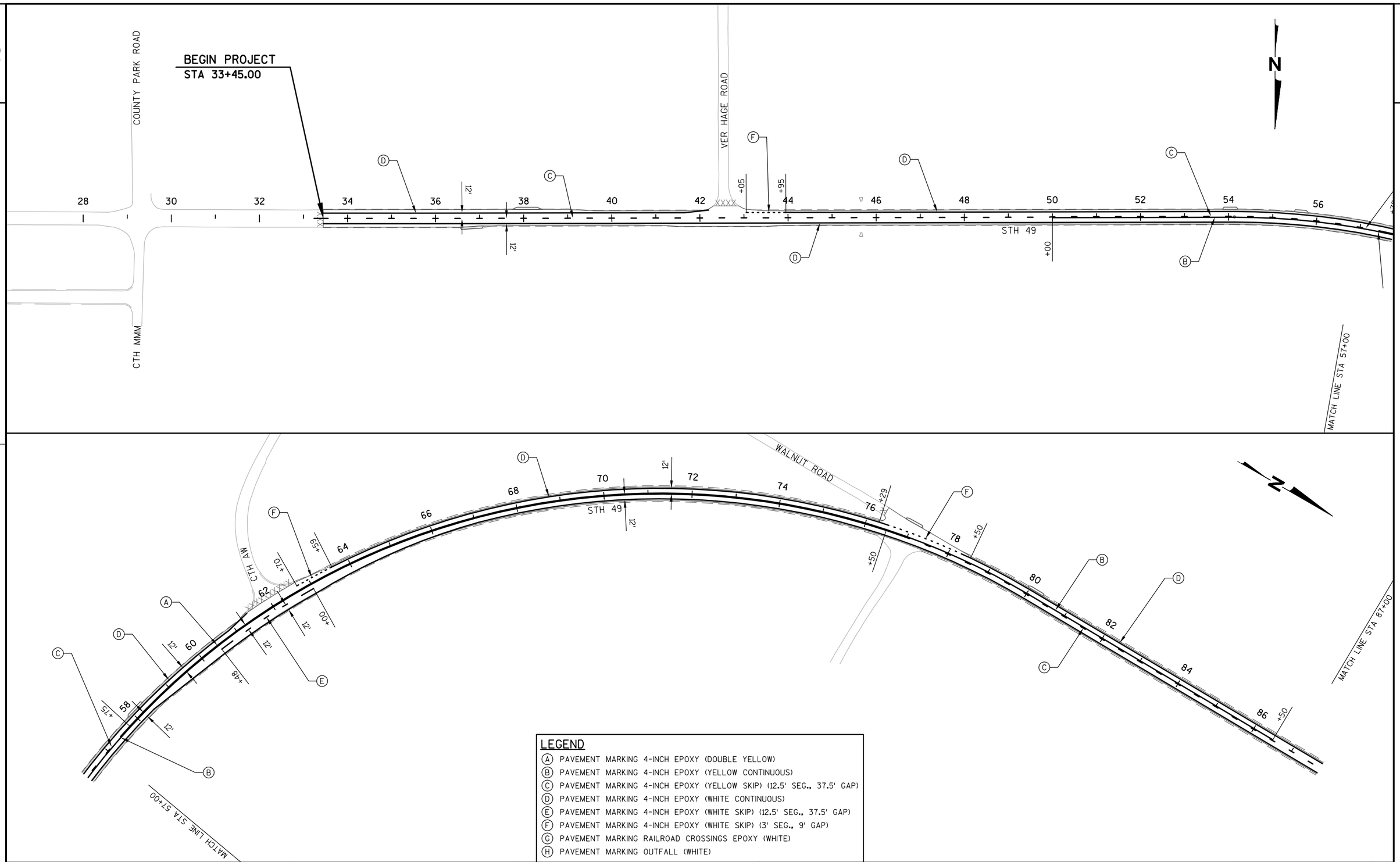
SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY: STH 49	COUNTY:FOND DU LAC	PERMANENT SIGNING PLAN	SHEET 30	E



LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
- (C) PAVEMENT MARKING 4-INCH EPOXY (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
- (D) PAVEMENT MARKING 4-INCH EPOXY (WHITE CONTINUOUS)
- (E) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (12.5' SEG., 37.5' GAP)
- (F) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (3' SEG., 9' GAP)
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

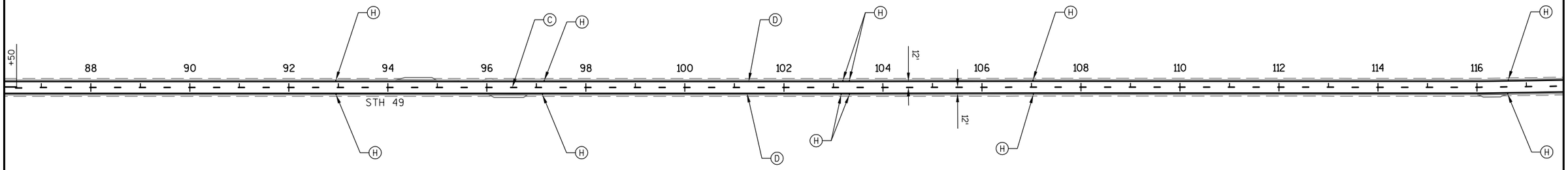
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 31	E

2

STA 87+00

STA 117+00

2



LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
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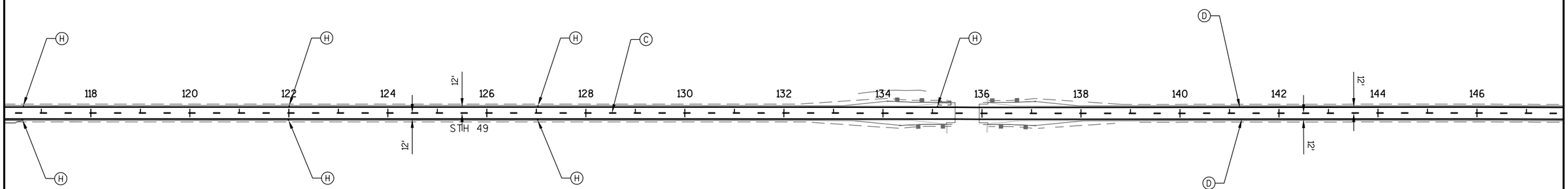
- (F) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (3' SEG., 9' GAP)
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

MATCH LINE

STA 117+00

STA 147+00

MATCH LINE

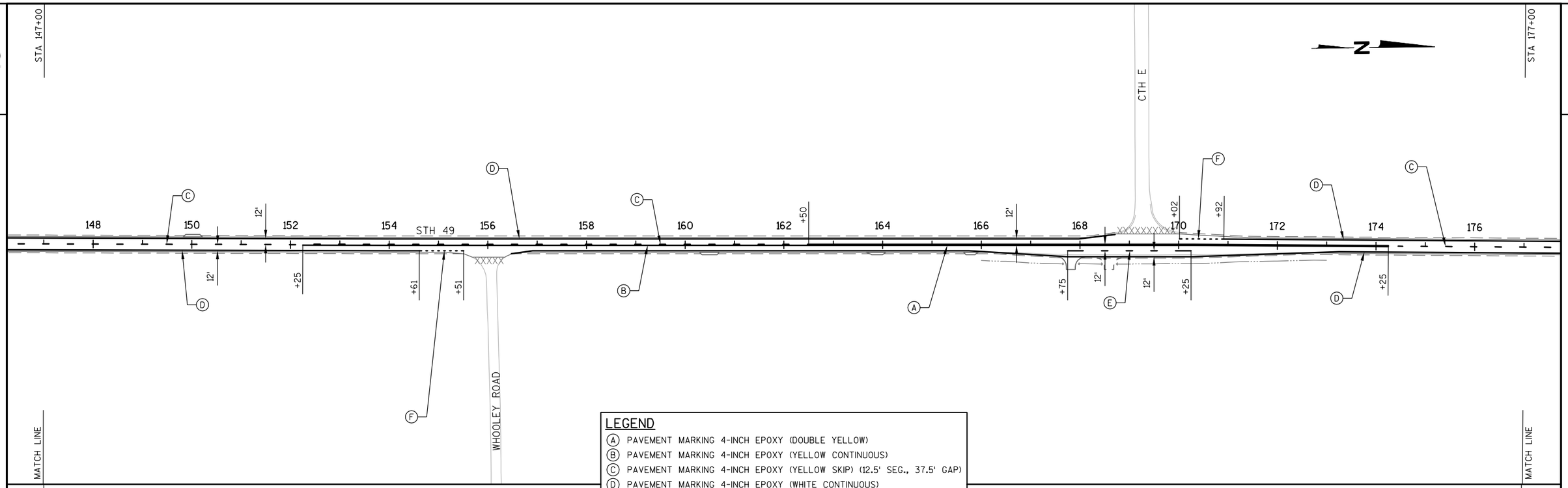


MATCH LINE

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 32	E

STA 147+00



STA 177+00

MATCH LINE

LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
- (C) PAVEMENT MARKING 4-INCH EPOXY (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
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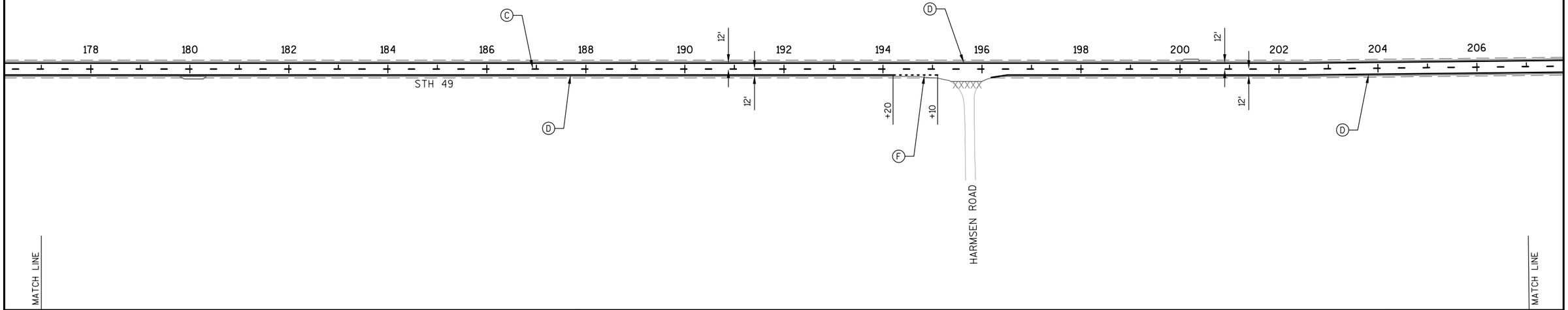
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

STA 207+00

MATCH LINE



MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 33	E

FILE NAME : 60900771_024503_PM PLOT DATE : 26 NOV 2013 09:57:09 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

2

STA 207+00

STA 237+00

2

N

208 210 212 214 216 218 220 222 224 226 228 230 232 234 236

12'

12'

STH 49

D

D

C

F

+11

+01

HEMP ROAD

MATCH LINE

MATCH LINE

STA 237+00

STA 267+00

LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
- (C) PAVEMENT MARKING 4-INCH EPOXY (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
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- (H) PAVEMENT MARKING OUTFALL (WHITE)

CTH AS

N

D

F

D

238 240 242 244 246 248 250 252 254 256 258 260 262 264 266

12'

12'

+52

+95

12'

STH 49

D

C

D

MATCH LINE

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 34	E

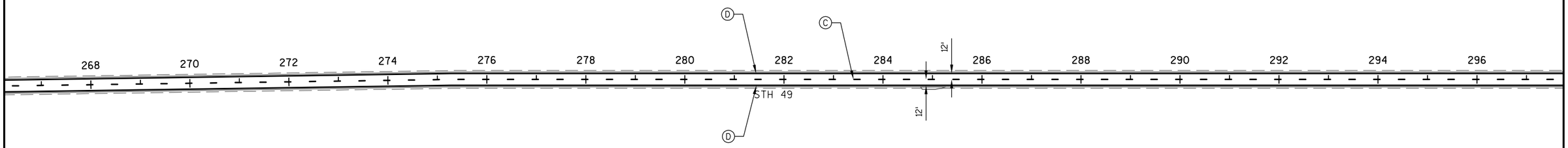
FILE NAME : 60900771_024504_PM PLOT DATE : 26 NOV 2013 09:57:13 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

2

STA 267+00

STA 297+00

2



LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
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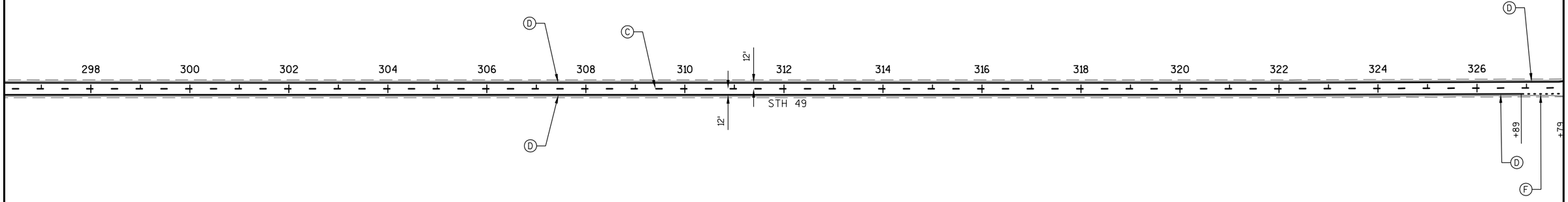
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

MATCH LINE

MATCH LINE

STA 297+00

STA 327+00



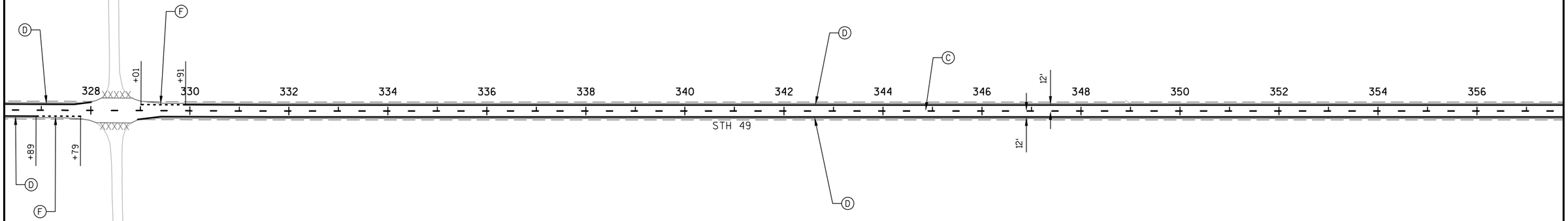
MATCH LINE

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 35	E

STA 327+00

AMITY ROAD



STA 357+00

2

MATCH LINE

LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
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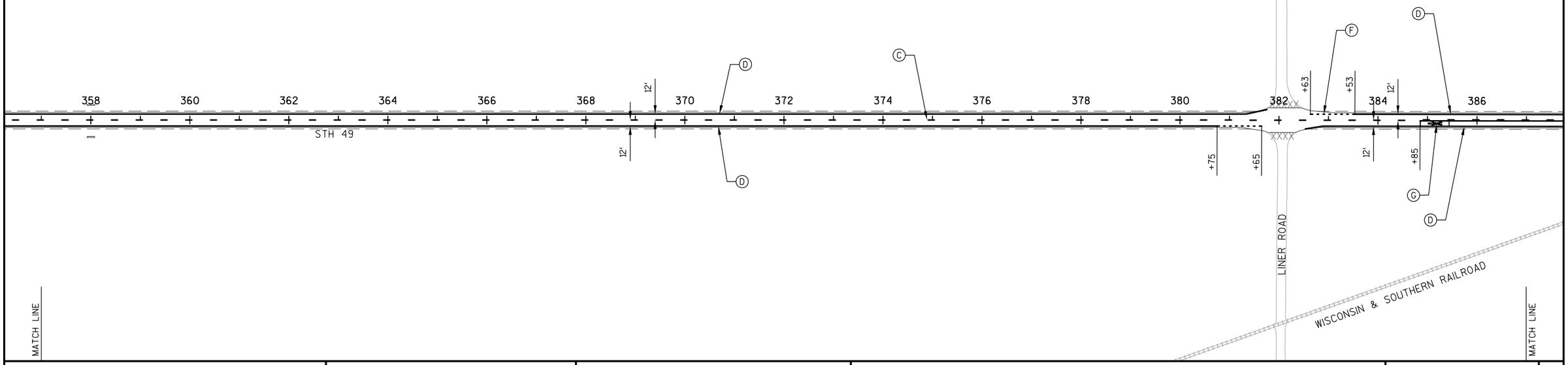
- (E) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (12.5' SEG., 37.5' GAP)
- (F) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (3' SEG., 9' GAP)
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

STA 357+00

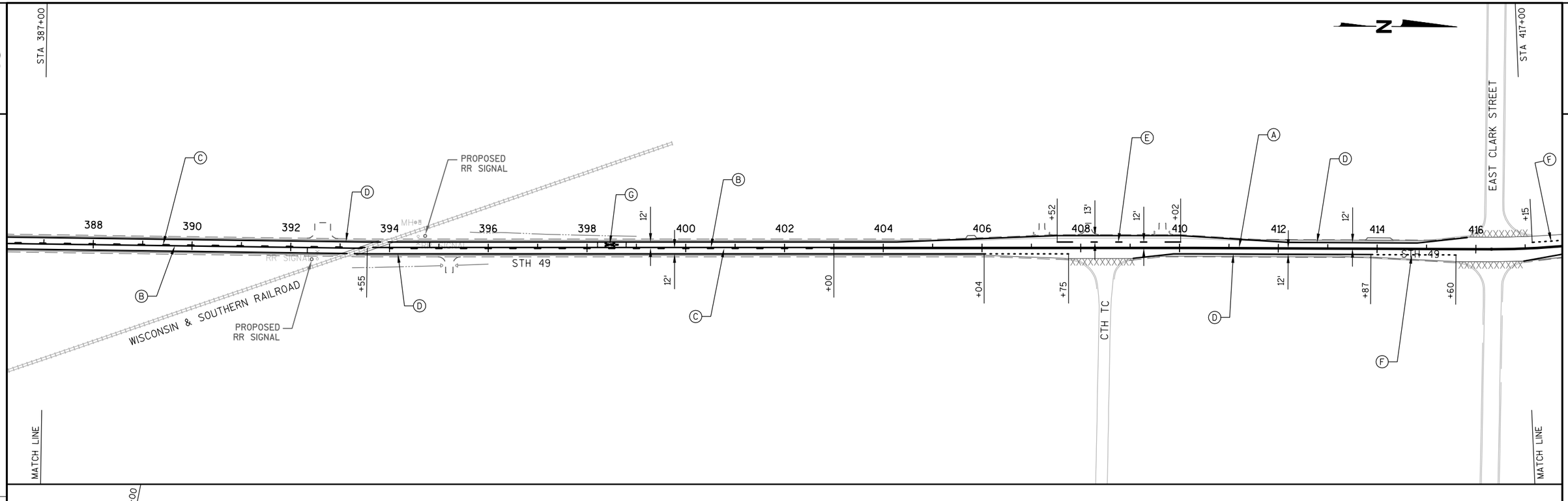
MATCH LINE

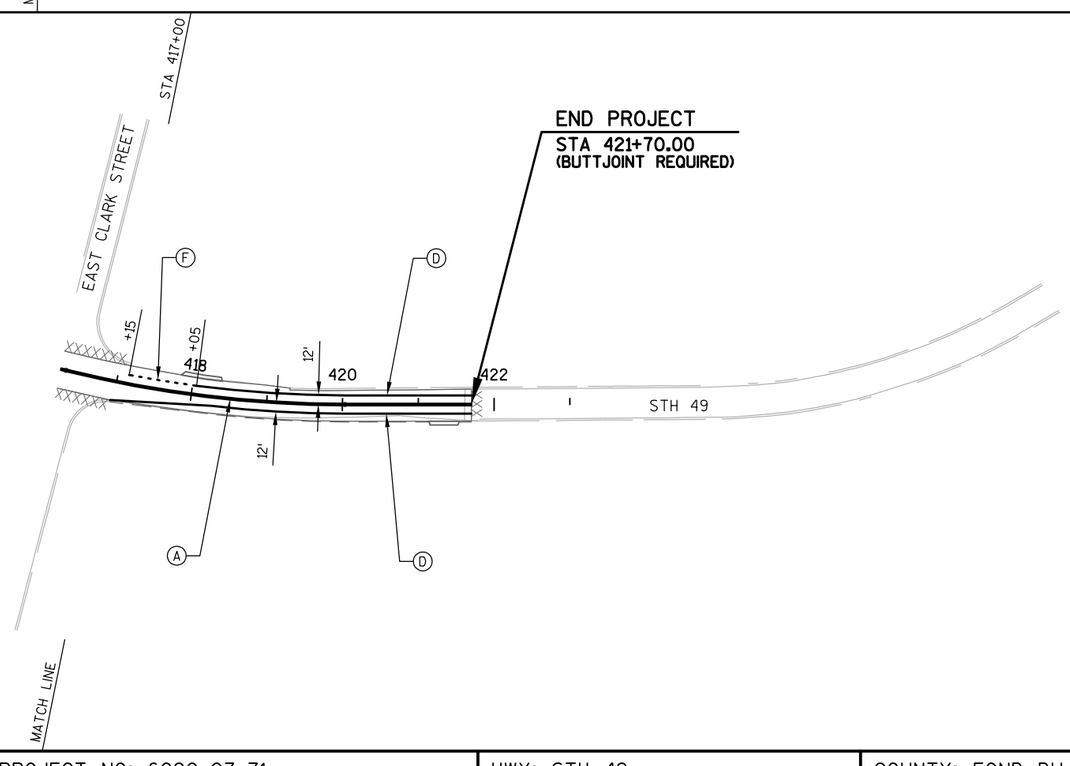
STA 387+00



MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 36	E

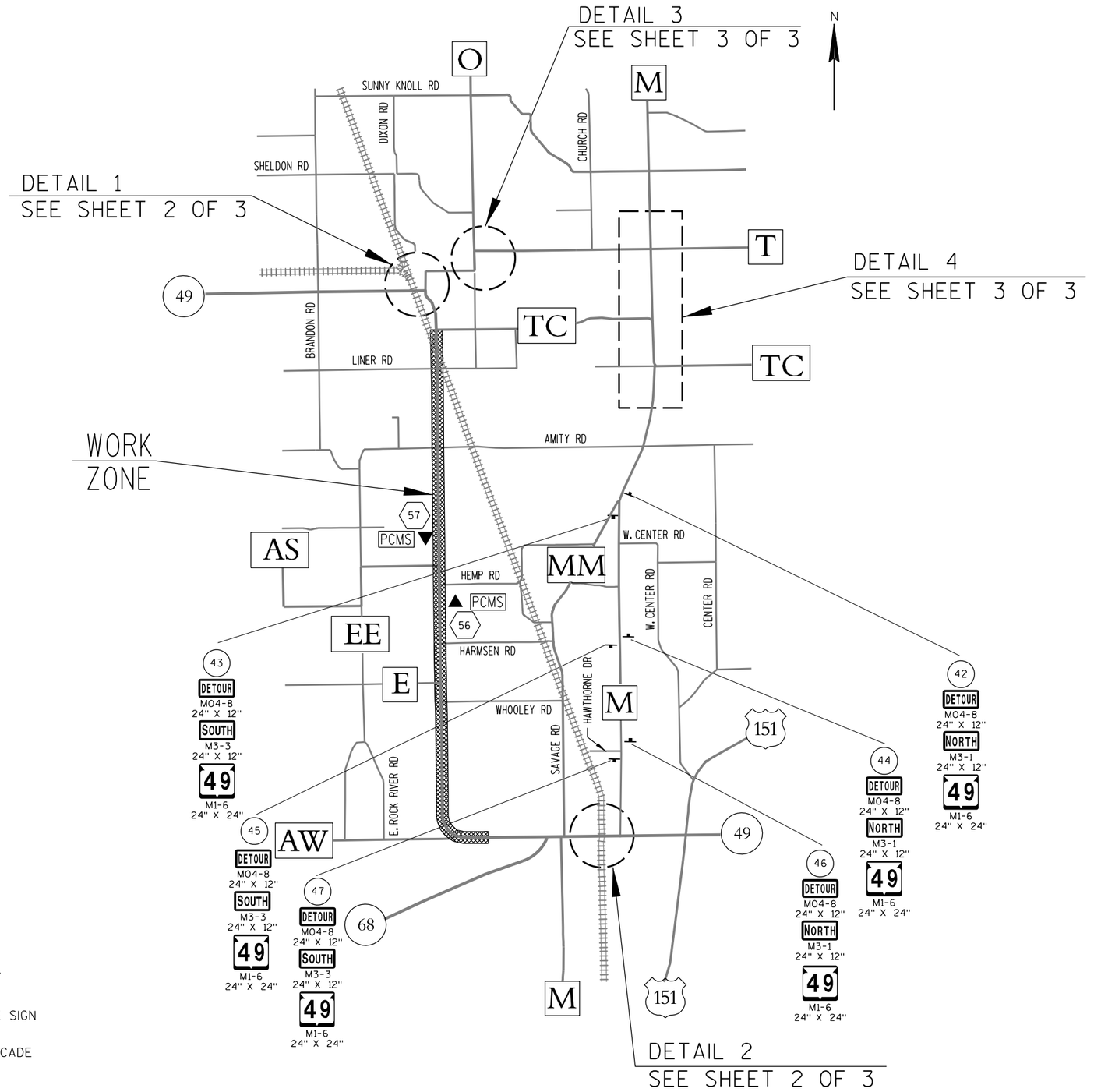




LEGEND

- (A) PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)
- (B) PAVEMENT MARKING 4-INCH EPOXY (YELLOW CONTINUOUS)
- (C) PAVEMENT MARKING 4-INCH EPOXY (YELLOW SKIP) (12.5' SEG., 37.5' GAP)
- (D) PAVEMENT MARKING 4-INCH EPOXY (WHITE CONTINUOUS)
- (E) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (12.5' SEG., 37.5' GAP)
- (F) PAVEMENT MARKING 4-INCH EPOXY (WHITE SKIP) (3' SEG., 9' GAP)
- (G) PAVEMENT MARKING RAILROAD CROSSINGS EPOXY (WHITE)
- (H) PAVEMENT MARKING OUTFALL (WHITE)

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PAVEMENT MARKING PLAN	SHEET 37	E



LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- PCMS ▲ (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

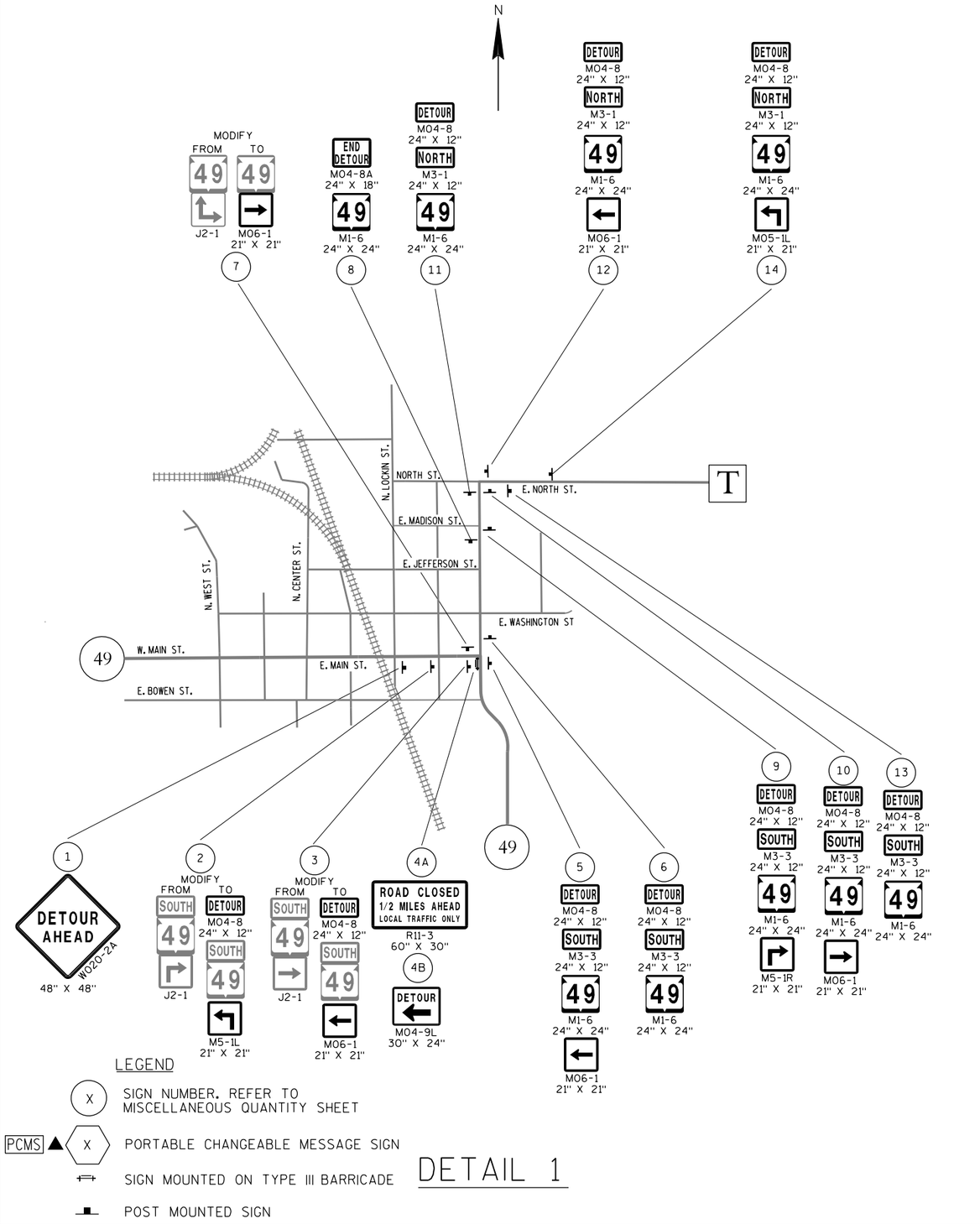
SHEET 1 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

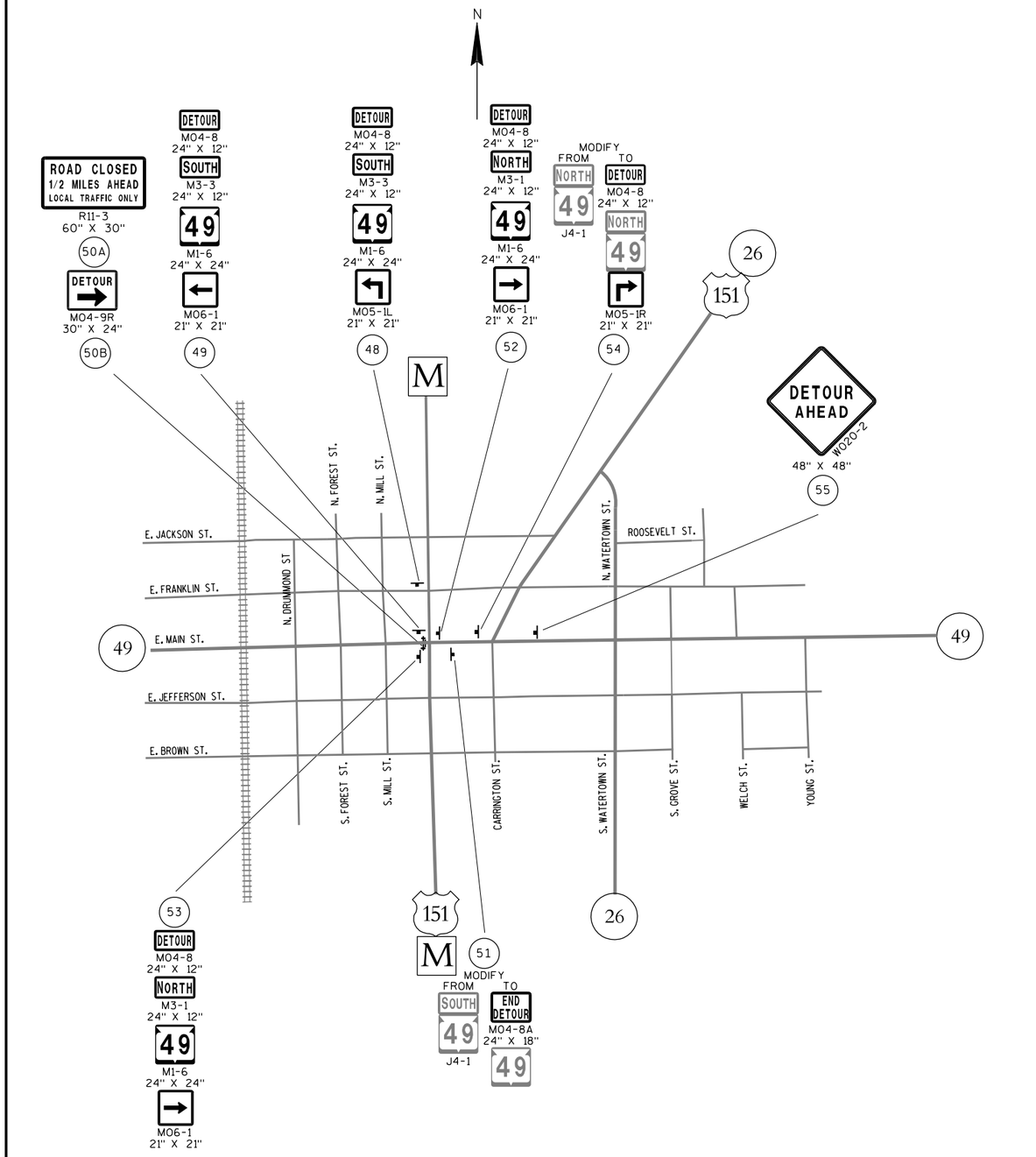
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	DETOUR SIGNING DETAIL	SHEET 38	E

FILE NAME : S:\currproj\FondduCo\STH 49\acad\60900771_027001_dt.dgn PLOT DATE : 7/18/2013 PLOT BY : BLO PLOT NAME : PLOT SCALE : 1:8000

WISDOT/CADDS SHEET 42



DETAIL 1

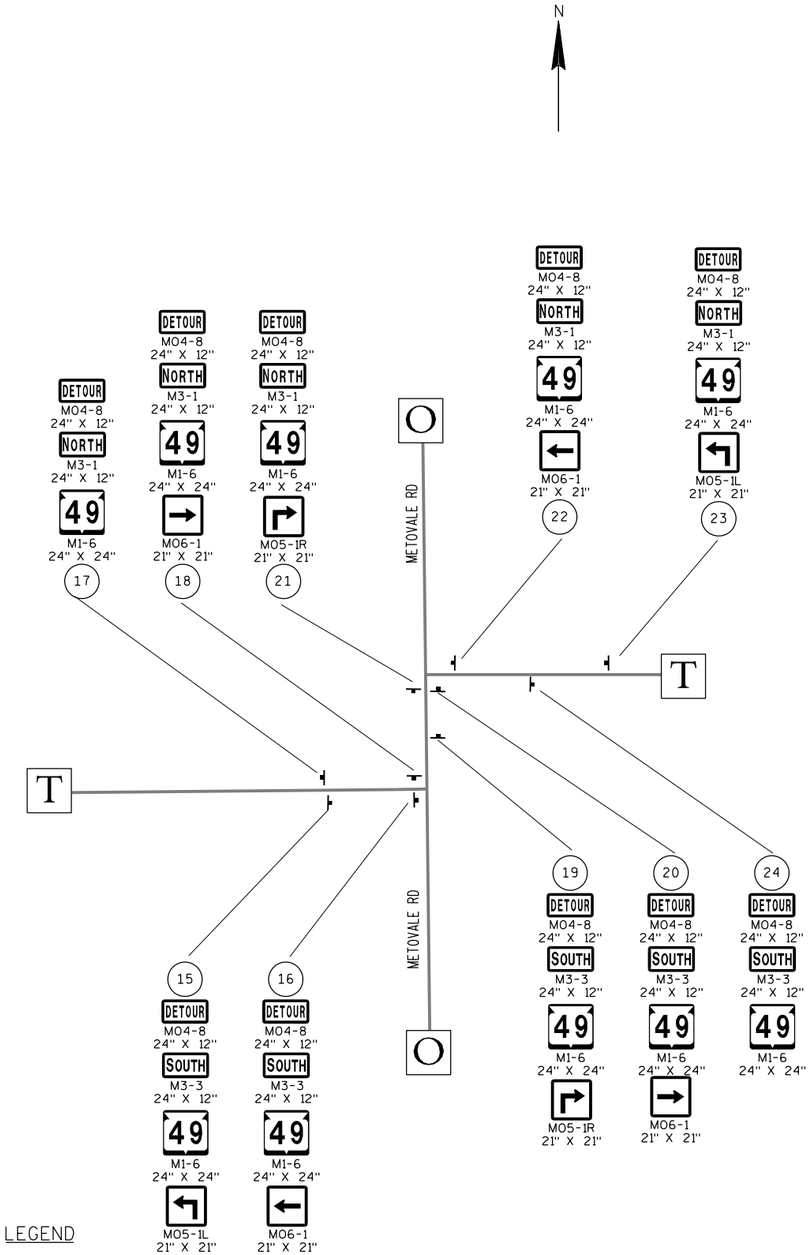


DETAIL 2

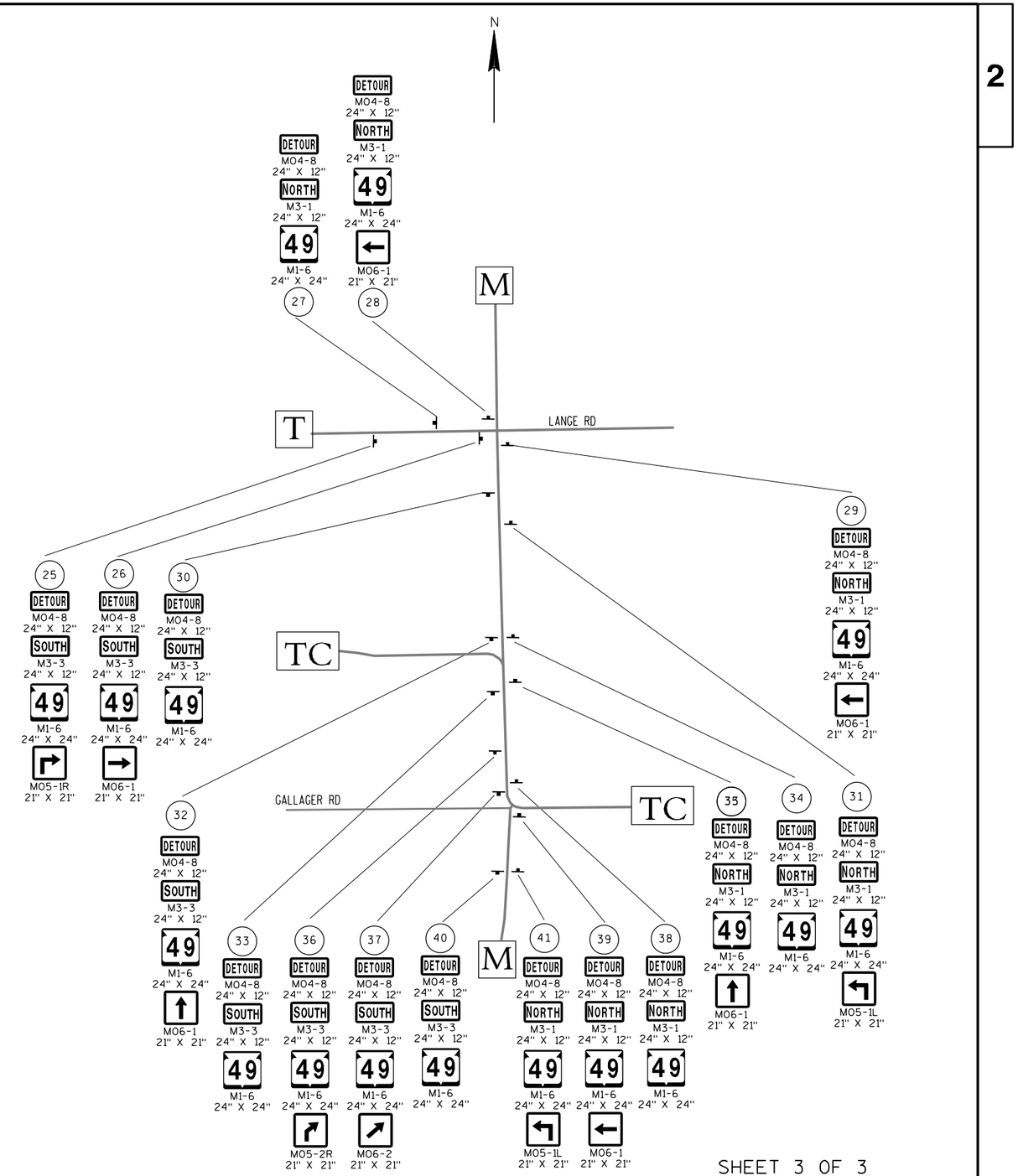
SHEET 2 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	DETOUR SIGNING DETAIL	SHEET 39	E



DETAIL 3



DETAIL 4

SHEET 3 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO:6090-07-71	HWY:STH 49	COUNTY:FOND DU LAC	DETOUR SIGNING DETAIL	SHEET 40	E

DATE 05MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6090-07-71 QUANTITY
0010	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	11.000	11.000
0020	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 45+66	LS	1.000	1.000
0030	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 148+56	LS	1.000	1.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 179+09	LS	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 04. 196+96	LS	1.000	1.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 05. 222+24	LS	1.000	1.000
0070	203.0200	REMOVING OLD STRUCTURE (STATION) 06. 234+96	LS	1.000	1.000
0080	203.0200	REMOVING OLD STRUCTURE (STATION) 07. 244+69	LS	1.000	1.000
0090	203.0200	REMOVING OLD STRUCTURE (STATION) 08. 249+60	LS	1.000	1.000
0100	203.0200	REMOVING OLD STRUCTURE (STATION) 09. 261+24	LS	1.000	1.000
0110	203.0200	REMOVING OLD STRUCTURE (STATION) 10. 291+49	LS	1.000	1.000
0120	203.0200	REMOVING OLD STRUCTURE (STATION) 11. 358+00	LS	1.000	1.000
0130	203.0200	REMOVING OLD STRUCTURE (STATION) 12. 391+43	LS	1.000	1.000
0140	203.0200	REMOVING OLD STRUCTURE (STATION) 13. 395+63	LS	1.000	1.000
0150	203.0200	REMOVING OLD STRUCTURE (STATION) 14. 403+12	LS	1.000	1.000
0160	204.0100	REMOVING PAVEMENT	SY	2,950.000	2,950.000
0170	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	580.000	580.000
0180	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	134,200.000	134,200.000
0190	204.0165	REMOVING GUARDRAIL	LF	280.000	280.000
0200	205.0100	EXCAVATION COMMON	CY	782.000	782.000
0210	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-20-45	LS	1.000	1.000
0220	208.0100	BORROW	CY	4,012.000	4,012.000
0230	208.1100	SELECT BORROW	CY	4,550.000	4,550.000
0240	210.0100	BACKFILL STRUCTURE	CY	55.000	55.000
0250	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	73.000	73.000
0260	213.0100	FINISHING ROADWAY (PROJECT) 01. 6090-07-71	EACH	1.000	1.000
0270	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	8,300.000	8,300.000
0280	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	8,750.000	8,750.000
0290	305.0500	SHAPING SHOULDERS	STA	760.000	760.000
0300	315.0100	ASPHALTIC BASE	TON	105.000	105.000
0310	440.4410.S	INCENTIVE IRI RIDE	DOL	29,376.000	29,376.000
0320	455.0105	ASPHALTIC MATERIAL PG58-28	TON	1,880.000	1,880.000
0330	455.0605	TACK COAT	GAL	7,490.000	7,490.000
0340	460.1101	HMA PAVEMENT TYPE E-1	TON	34,150.000	34,150.000
0350	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	21,860.000	21,860.000
0360	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	110.000	110.000
0370	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	40.000	40.000
0380	465.0475	ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL	LF	29,200.000	29,200.000

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DATE 05MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6090-07-71 QUANTITY
0390	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	21.000	21.000
0400	504.0900	CONCRETE MASONRY ENDWALLS	CY	16.000	16.000
0410	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1,938.000	1,938.000
0420	513.7050	RAILING STEEL TYPE W (STRUCTURE) 01. R-20-45	LS	1.000	1.000
0430	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6.000	6.000
0440	520.0130	CULVERT PIPE CLASS III 30-INCH	LF	26.000	26.000
0450	520.1030	APRON ENDWALLS FOR CULVERT PIPE 30-INCH	EACH	2.000	2.000
0460	520.8000	CONCRETE COLLARS FOR PIPE	EACH	3.000	3.000
0470	521.0721	PIPE ARCH CORRUGATED STEEL 21X15-INCH	LF	116.000	116.000
0480	521.0724	PIPE ARCH CORRUGATED STEEL 24X18-INCH	LF	28.000	28.000
0490	521.1221	APRON ENDWALLS FOR PIPE ARCH STEEL 21X15-INCH	EACH	8.000	8.000
0500	521.1224	APRON ENDWALLS FOR PIPE ARCH STEEL 24X18-INCH	EACH	2.000	2.000
0510	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	280.000	280.000
0520	522.0136	CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	70.000	70.000
0530	522.0324	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF	294.000	294.000
0540	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	20.000	20.000
0550	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	2.000	2.000
0560	523.0124	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	LF	104.000	104.000
0570	523.0134	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	LF	72.000	72.000
0580	523.0419	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	LF	104.000	104.000
0590	523.0424	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	LF	166.000	166.000
0600	523.0434	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 34X53-INCH	LF	248.000	248.000
0610	523.0519	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	EACH	4.000	4.000
0620	523.0524	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	EACH	4.000	4.000
0630	523.0534	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH	EACH	2.000	2.000
0640	606.0200	RIPRAP MEDIUM	CY	30.000	30.000
0650	606.0300	RIPRAP HEAVY	CY	28.000	28.000
0660	611.0642	INLET COVERS TYPE MS	EACH	2.000	2.000
0670	611.3902	INLETS MEDIAN 2 GRATE	EACH	1.000	1.000
0680	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	52.000	52.000
0690	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	25.000	25.000
0700	612.0806	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	EACH	16.000	16.000

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DATE 05MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6090-07-71 QUANTITY
0710	614.2300	MGS GUARDRAIL 3	LF	50.000	50.000
0720	614.2500	MGS THRIE BEAM TRANSITION	LF	157.600	157.600
0730	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0740	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 6090-07-71	EACH	1.000	1.000
0750	619.1000	MOBILIZATION	EACH	1.000	1.000
0760	621.0100	LANDMARK REFERENCE MONUMENTS	EACH	56.000	56.000
0770	624.0100	WATER	MGAL	240.000	240.000
0780	625.0500	SALVAGED TOPSOIL	SY	28,600.000	28,600.000
0790	627.0200	MULCHING	SY	26,000.000	26,000.000
0800	628.1504	SILT FENCE	LF	3,710.000	3,710.000
0810	628.1520	SILT FENCE MAINTENANCE	LF	1,855.000	1,855.000
0820	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	8.000	8.000
0830	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000	6.000
0840	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	3,200.000	3,200.000
0850	628.7005	INLET PROTECTION TYPE A	EACH	2.000	2.000
0860	628.7010	INLET PROTECTION TYPE B	EACH	1.000	1.000
0870	628.7504	TEMPORARY DITCH CHECKS	LF	750.000	750.000
0880	628.7555	CULVERT PIPE CHECKS	EACH	210.000	210.000
0890	628.7570	ROCK BAGS	EACH	580.000	580.000
0900	629.0210	FERTILIZER TYPE B	CWT	18.000	18.000
0910	630.0120	SEEDING MIXTURE NO. 20	LB	770.000	770.000
0920	630.0200	SEEDING TEMPORARY	LB	390.000	390.000
0930	633.5200	MARKERS CULVERT END	EACH	38.000	38.000
0940	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	56.000	56.000
0950	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	35.000	35.000
0960	637.2210	SIGNS TYPE II REFLECTIVE H	SF	500.130	500.130
0970	637.2230	SIGNS TYPE II REFLECTIVE F	SF	103.140	103.140
0980	638.2602	REMOVING SIGNS TYPE II	EACH	113.000	113.000
0990	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	93.000	93.000
1000	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
1010	643.0100	TRAFFIC CONTROL (PROJECT) 01. 6090-07-71	EACH	1.000	1.000
1020	643.0300	TRAFFIC CONTROL DRUMS	DAY	825.000	825.000
1030	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,190.000	1,190.000
1040	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	2,380.000	2,380.000
1050	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,705.000	3,705.000
1060	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	14.000	14.000
1070	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 6090-07-71	EACH	1.000	1.000
1080	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	6,265.000	6,265.000
1090	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	100.000	100.000
1100	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	89,750.000	89,750.000
1110	646.0406	PAVEMENT MARKING SAME DAY EPOXY 4-INCH	LF	23,000.000	23,000.000
1120	646.0805.S	PAVEMENT MARKING OUTFALL	EACH	17.000	17.000
1130	647.0110	PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	EACH	2.000	2.000
1140	648.0100	LOCATING NO-PASSING ZONES	MI	7.350	7.350
1150	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	42,950.000	42,950.000
1160	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	19.000	19.000
1170	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	38,777.000	38,777.000
1180	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 6090-07-71	LS	1.000	1.000

DATE 05MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6090-07-71 QUANTITY
1190	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	11,443.000	11,443.000
1200	690.0150	SAWING ASPHALT	LF	3,390.000	3,390.000
1210	690.0250	SAWING CONCRETE	LF	645.000	645.000
1220	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	2,000.000	2,000.000
1230	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	1,320.000	1,320.000
1240	SPV.0060	SPECIAL 01. CONSTRUCTION STAKING SUPERELEVATION TRANSITIONS	EACH	4.000	4.000
1250	SPV.0060	SPECIAL 02. CONNECT TO EXISTING PIPE UNDERDRAIN	EACH	7.000	7.000
1260	SPV.0060	SPECIAL 03. SECTION CORNER MONUMENTS	EACH	14.000	14.000
1270	SPV.0090	SPECIAL 01. PIPE UNDERDRAIN HDPE 10-INCH	LF	12.000	12.000
1280	SPV.0090	SPECIAL 02. PIPE UNDERDRAIN HDPE 12-INCH	LF	6.000	6.000
1290	SPV.0090	SPECIAL 03. MILLING AND REMOVING TEMPORARY JOINT	LF	38,739.000	38,739.000
1300	SPV.0105	SPECIAL 01. REMOVE CORRUGATED PLASTIC CULVERT AND REMOVE AND REPLACE ENDWALL STA358+00	LS	1.000	1.000

3

3

REMOVING OLD STRUCTURE

203.0200

STATION	LOCATION	LS	COMMENTS
CATEGORY CODE 0010			
45+66	C/L	1	30 LF OF 30X30-INCH CONC. BOX WITH 22 LF OF 30-INCH CPCM EXT. LEFT & 22 LF OF 30-INCH CPCM EXT. RIGHT
148+56	C/L	1	27 LF OF 24X24-INCH CONC. BOX WITH 30 LF OF 24-INCH CPCM EXT. LEFT & 32 LF OF 24-INCH CPCM EXT. RIGHT
179+09	C/L	1	33 LF OF 18X30-INCH CONC. BOX WITH 8 LF OF 22X36-INCH CPCMPA EXT. LEFT & 8 LF OF 18-INCH CPCM EXT. RIGHT
196+96	C/L	1	33 LF OF 24X30-INCH CONC. BOX WITH 32 LF OF 22X36-INCH CPCMPA EXT. LEFT & 32 LF OF 22X36-INCH CPCMPA EXT. RIGHT
222+24	C/L	1	30 LF OF 24X18-INCH CONC. BOX WITH 8 LF OF 24-INCH CPCM EXT. LEFT & 8 LF OF 24-INCH CPCM EXT. RIGHT
234+96	C/L	1	STRUCTURE C-20-19-55
244+69	C/L	1	33 LF OF 30X18-INCH CONC. BOX WITH 10 LF OF 24-INCH CPCM EXT. LEFT & 10 LF OF 24-INCH CPCM EXT. RIGHT
249+60	C/L	1	STRUCTURE C-20-20-55
261+24	C/L	1	35 LF OF 30X24-INCH CONC. BOX WITH 6 LF OF 24-INCH CPCM EXT. LEFT & 6 LF OF 24-INCH CPCM EXT. RIGTH
291+49	C/L	1	36 LF OF 24X24-INCH CONC. BOX WITH 12 LF OF 24-INCH CPCM EXT. LEFT & 10 LF OF 24-INCH CPCM EXT. RIGHT
358+00	C/L	1	STRUCTURE C-20-23-55
391+43	C/L	1	33 LF OF 24X24-INCH CONC. BOX WITH 22 LF OF 24-INCH CPCM EXT. LEFT & 22 LF OF 24-INCH CPCM EXT. RIGHT
395+63	C/L	1	31 LF OF 24X24-INCH CONC. BOX WITH 8 LF OF 24-INCH CPCM EXT. LEFT & 10 LF OF 24-INCH CPCM EXT. RIGHT
403+12	C/L	1	31 LF OF 30X24-INCH CONC. BOX WITH 8 LF OF 18X29-INCH CPCMPA EXT. LEFT & 8 LF OF 18X29-INCH CPCMPA EXT. LEFT
TOTAL		**14**	

REMOVING SMALL PIPE CULVERTS

203.0100

STATION	LOCATION	EACH	COMMENTS
CATEGORY CODE 0010			
71+00	C/L	1	REMOVE 67 LF OF CPCM 24-INCH
90+11	C/L	1	REMOVE 65 LF OF CPCMPA 21X29-INCH
103+25	C/L	1	REMOVE 54 LF OF CPCM 24-INCH
167+81	RT	1	REMOVE 25 LF OF CPCM 18-INCH
168+60	RT	1	REMOVE 41 LF OF CPCM 21-INCH
213+71	C/L	1	REMOVE 73 LF OF CPCM 36-INCH
266+04	C/L	1	REMOVE 45 LF OF CPCM 24-INCH
395+20	RT	1	REMOVE 25 LF OF CPCM 30-INCH
407+22	LT	1	REMOVE 27 LF OF CPCM 18-INCH
408+14	LT	1	REMOVE 24 LF OF CPCM 18-INCH
409+64	LT	1	REMOVE 28 LF OF CPCM 18-INCH
TOTAL		**11**	

SELECT BORROW

208.1100

STATION	LOCATION	CY
CATEGORY CODE 0010		
90+11	LT & RT	116
103+25	LT & RT	412
116+59	LT & RT	150
154+25	LT & RT	1,258
244+69	LT & RT	314
261+24	LT & RT	138
266+04	LT & RT	118
283+48	LT & RT	1,236
TOTAL		**4,550**

REMOVING GUARDRAIL

204.0165

STATION - STATION	LOCATION	LF
CATEGORY CODE 0010		
134+68 - 135+38	LT	70
134+68 - 135+38	RT	70
136+03 - 136+72	LT	70
136+02 - 136+72	RT	70
TOTAL		**280**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

211.0400

STATION - STATION	LOCATION	STA
CATEGORY CODE 0010		
37+32 - 41+00	RT	4
39+48 - 42+03	LT	3
43+34 - 61+12	LT	18
44+21 - 65+90	RT	22
166+10 - 172+75	RT	7
405+18 - 414+96	LT	10
409+51 - 413+53	RT	5
418+16 - 421+70	RT	4
TOTAL		**73**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

204.0115

STATION - STATION	LOCATION	SY	COMMENTS
CATEGORY CODE 0010			
33+45	LT & RT	9	BEGIN PROJECT
36+82	RT	11	DRIVEWAY
38+08	LT	11	DRIVEWAY
42+60	LT	14	VER HAGE ROAD
54+02	LT	7	DRIVEWAY
55+62	LT	6	DRIVEWAY
58+12	LT	9	DRIVEWAY
62+05	LT	31	CTH AW
76+38	LT	5	WALNUT ROAD
77+06	LT	8	DRIVEWAY
80+18	LT	8	DRIVEWAY
94+62	LT	13	DRIVEWAY
96+44	RT	14	DRIVEWAY
116+30	RT	9	DRIVEWAY
135+46	LT & RT	8	STRUCTURE B-20-07-92
135+94	LT & RT	8	STRUCTURE B-20-07-92
150+02	LT	7	DRIVEWAY
156+01	RT	16	WHOOLEY ROAD
160+49	RT	7	DRIVEWAY
163+89	RT	6	DRIVEWAY
165+78	RT	5	DRIVEWAY
169+36	LT	34	CTH E
180+08	RT	9	DRIVEWAY
195+69	RT	15	HARMSEN ROAD
200+23	LT	7	DRIVEWAY
231+50	RT	6	DRIVEWAY
235+54	RT	16	HEMP ROAD
248+87	LT	33	CTH AS
255+60	RT	7	DRIVEWAY
284+93	RT	7	DRIVEWAY
328+46	RT	17	AMITY ROAD
328+53	LT	15	AMITY ROAD
382+05	RT	13	LINER ROAD
382+12	LT	16	LINER ROAD
393+36	LT & RT	20	RR TRACKS
393+75	LT & RT	20	RR TRACKS
405+78	LT	4	DRIVEWAY
408+42	RT	30	CTH TC
414+04	LT	11	DRIVEWAY
416+35	RT	31	E. CLARK STREET
416+37	LT	29	E. CLARK STREET
418+15	LT	11	DRIVEWAY
421+34	RT	8	DRIVEWAY
421+70	LT & RT	9	END PROJECT
TOTAL		**580**	

DIVISION	FROM/TO STATION	LOCATION	COMMON EXCAVATION CUT (1) 205.0100	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL FACTOR 1.33	MASS ORDINATE +/- (3)	BORROW (4) FACTOR 1.15 208.0100	COMMENT:
1	58+50 to 412+25	STH 49	782	0	782	4077	5422	-4640		
DIVISION 1 SUBTOTAL			782	0	782	4077	5422	-4640	4012	
TOTAL			**782**	**0**	**782**	**4077**	**5422**	**-4640**	**4012**	

1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
3) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
4) BORROW = (MASS ORDINATE / FILL FACTOR) * BORROW FACTOR

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY
CATEGORY CODE 0010		
45+53 - 45+79	LT & RT	48
89+63 - 90+60	LT & RT	174
102+39 - 104+11	LT & RT	308
116+07 - 117+11	LT & RT	187
135+28 - 135+46	LT	7
148+39 - 148+71	LT & RT	56
152+77 - 155+74	LT & RT	531
179+05 - 179+13	LT & RT	13
196+78 - 197+14	LT & RT	64
213+59 - 213+83	LT & RT	44
222+21 - 222+27	LT & RT	11
234+86 - 235+06	LT & RT	37
243+94 - 245+44	LT & RT	269
249+54 - 249+67	LT & RT	23
260+74 - 261+74	LT & RT	180
265+58 - 260+51	LT & RT	166
281+99 - 282+90	LT & RT	163
284+05 - 284+97	LT & RT	164
291+43 - 291+55	LT & RT	23
356+80 - 359+20	LT & RT	432
391+33 - 391+53	LT & RT	37
403+08 - 403+15	LT & RT	13
TOTAL		**2,950**

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 SY
CATEGORY CODE 0010		
33+45 - 135+46	LT & RT	35,782
36+82	RT	28
38+08	LT	34
54+02	LT	26
55+62	LT	20
58+12	LT	37
77+06	LT	23
80+18	LT	23
94+62	LT	30
96+44	RT	42
116+30	RT	28
135+94 - 421+70	LT & RT	97,835
150+02	LT	19
160+49	RT	19
163+89	RT	16
165+78	RT	13
180+08	RT	29
200+23	LT	18
231+50	RT	17
255+60	RT	19
284+93	RT	19
405+78	LT	23
414+04	LT	42
418+15	LT	23
421+34	RT	35
TOTALS		**134,200**

BASE AGGREGATE DENSE ITEMS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
CATEGORY CODE 0010			
33+45 - 135+46	LT & RT	2,027	2,414
135+94 - 421+70	LT & RT	6,273	6,336
TOTALS		**8,300**	**8,750**

ASPHALTIC ITEMS

STATION - STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL	465.0125 ASPHALTIC SURFACE TEMPORARY TON
CATEGORY CODE 0010						
33+45 - 135+46	LT & RT	508	2,034	9,218	5,901	--
135+94 - 421+70	LT & RT	1,372	5,456	24,932	15,959	--
393+01 - 394+11	LT & RT	--	--	--	--	40
TOTALS		**1,880**	**7,490**	**34,150**	**21,860**	**40**

3

SHAPING SHOULDERS

STATION - STATION	LOCATION	305.0500 STA
CATEGORY CODE 0010		
33+45 - 42+11	LT	9
33+45 - 135+38	RT	102
43+22 - 61+41	LT	19
62+67 - 76+36	LT	14
78+24 - 135+13	LT	57
136+14 - 168+71	LT	33
136+14 - 155+51	RT	20
156+53 - 195+05	RT	39
170+02 - 248+22	RT	79
196+19 - 235+01	RT	39
236+06 - 327+86	RT	92
249+51 - 328+03	LT	79
329+03 - 381+45	RT	53
329+09 - 381+57	LT	53
382+57 - 407+75	RT	26
382+79 - 415+82	LT	34
408+98 - 415+60	RT	7
416+94 - 421+70	RT	5
	TOTAL	**760**

ASPHALTIC BASE

STATION	LOCATION	315.0100 TON
CATEGORY CODE 0010		
45+66	LT & RT	12
71+00	LT & RT	7
148+55	LT & RT	14
179+09	LT & RT	3
196+96	LT & RT	17
213+71	LT & RT	11
222+24	LT & RT	3
234+96	LT & RT	10
249+60	LT & RT	7
291+49	LT & RT	6
391+43	LT & RT	9
395+63	LT & RT	3
403+12	LT & RT	3
	TOTAL	**105**

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

STATION	LOCATION	465.0120 TON
CATEGORY CODE 0010		
36+82	RT	5
38+08	LT	6
54+02	LT	3
55+62	LT	3
58+12	LT	4
77+06	LT	4
80+18	LT	4
94+62	LT	7
96+44	RT	7
116+30	RT	5
150+02	LT	3
160+49	RT	4
163+89	RT	3
165+78	RT	2
167+81	RT	14
180+08	RT	5
200+23	LT	3
231+50	RT	3
255+60	RT	4
284+93	RT	4
405+78	LT	3
414+04	LT	5
418+15	LT	5
421+34	RT	4
	TOTAL	**110**

RUMBLE STRIP ITEMS

STATION - STATION	LOCATION	465.0475 ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL LF
CATEGORY CODE 0010		
64+00 - 75+00	C/L	1,100
79+00 - 93+62	C/L	1,464
97+45 - 135+21	C/L	3,780
136+19 - 154+05	C/L	1,788
158+05 - 167+25	C/L	920
171+25 - 193+76	C/L	2,252
197+76 - 233+54	C/L	3,584
237+54 - 246+78	C/L	924
250+78 - 326+49	C/L	7,580
330+49 - 380+06	C/L	4,964
384+06 - 392+48	C/L	844
	TOTALS	**29,200**

3

CONCRETE MASONRY ENDWALLS

STATION - STATION	LOCATION	504.0900 CY
CATEGORY CODE 0010		
234+96	LT	3.2
234+96	RT	3.2
249+60	LT	1.7
249+60	RT	1.5
358+00	LT	3.2
358+00	RT	3.2
	TOTAL	**16.0**

RIPRAP AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120* GEOTEXTILE FABRIC TYPE HR SY
CATEGORY CODE 0010			
358+00	LT	11	22
358+00	RT	8	15
UNDISTRIBUTED		11	23
	TOTALS	**30**	**60**

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

STORM SEWER ITEMS

STATION	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	611.0642 INLET COVERS TYPE MS EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	SPV.0090.01 PIPE UNDERDRAIN HDPE 10-INCH LF	SPV.0090.02 PIPE UNDERDRAIN HDPE 12-INCH LF
CATEGORY CODE 0010						
234+90.28	43.0' RT	3	2	1	12	6
	TOTALS	**3**	**2**	**1**	**12**	**6**

CULVERT PIPE ITEMS

STATION	LOCATION	STEEL PIPE THICKNESS INCHES	ALUMINUM PIPE THICKNESS INCHES	520.0130 CP CLASS III 30-INCH LF	521.0721 PACS 21X15-INCH LF	521.0724 PACS 24X18-INCH LF	522.0124 CPRC CLASS III 24-INCH LF	522.0136 CPRC CLASS III 36-INCH LF	522.0324 CPRC CLASS IV 24-INCH LF	523.0124 CPRCHE CLASS HE-III 24X38-INCH LF	523.0134 CPRCHE CLASS HE-III 34X53-INCH LF	523.0419 CPRCHE CLASS HE-IV 19X30-INCH LF	523.0424 CPRCHE CLASS HE-IV 24X38-INCH LF	523.0434 CPRCHE CLASS HE-IV 34X53-INCH LF
CATEGORY CODE 0010														
45+66	LT & RT	--	--	--	--	--	--	--	--	--	72	--	--	--
71+00	LT & RT	--	--	--	--	--	68	--	--	--	--	--	--	--
90+11	LT & RT	--	--	--	--	--	--	--	--	--	--	62	--	--
103+25	LT & RT	--	--	--	--	--	--	--	56	--	--	--	--	--
148+55	LT & RT	--	--	--	--	--	80	--	--	--	--	--	--	--
167+82	RT	0.064	--	--	30	--	--	--	--	--	--	--	--	--
168+60	RT	0.064	--	--	--	28	--	--	--	--	--	--	--	--
179+09	LT & RT	--	--	--	--	--	--	--	--	--	--	--	46	--
196+96	LT & RT	--	--	--	--	--	--	--	--	104	--	--	--	--
213+71	LT & RT	--	--	--	--	--	--	70	--	--	--	--	--	--
222+24	LT & RT	--	--	--	--	--	--	--	46	--	--	--	--	--
234+96	LT & RT	--	--	--	--	--	--	--	--	--	--	--	--	120
244+69	LT & RT	--	--	--	--	--	--	--	54	--	--	--	--	--
249+60	LT & RT	--	--	--	--	--	--	--	--	--	--	--	120	--
261+24	LT & RT	--	--	--	--	--	--	--	44	--	--	--	--	--
266+04	LT & RT	--	--	--	--	--	--	--	44	--	--	--	--	--
291+49	LT & RT	--	--	--	--	--	60	--	--	--	--	--	--	--
358+00	LT & RT	--	--	--	--	--	--	--	--	--	--	--	--	128
391+43	LT & RT	--	--	--	--	--	72	--	--	--	--	--	--	--
395+21	RT	0.079	0.075	26	--	--	--	--	--	--	--	--	--	--
395+63	LT & RT	--	--	--	--	--	--	--	50	--	--	--	--	--
403+12	LT & RT	--	--	--	--	--	--	--	--	--	--	42	--	--
407+20	LT	0.064	--	--	30	--	--	--	--	--	--	--	--	--
408+14	LT	0.064	--	--	28	--	--	--	--	--	--	--	--	--
409+64	LT	0.064	--	--	28	--	--	--	--	--	--	--	--	--
			TOTALS	26	116	28	280	70	294	104	72	104	166	248

PIPE UNDERDRAIN ITEMS

STATION	LOCATION	612.0206* PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	612.0806 AEW FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	646.0805.S PAVEMENT MARKING OUTFALL EACH	SPV.0060.02 CONNECT TO EXISTING PIPE UNDERDRAIN EACH
CATEGORY CODE 0010					
92+95	LT	5	1	1	1
92+95	RT	--	1	1	--
97+12	RT	--	1	1	--
97+16	LT	--	1	1	--
103+16	RT	5	1	1	1
103+19	LT	5	1	1	1
103+32	LT	5	1	1	1
103+32	RT	5	1	1	1
107+03	LT	--	1	1	--
107+04	RT	--	1	1	--
116+62	RT	--	1	1	--
116+64	LT	--	1	1	--
121+99	RT	5	1	1	1
122+00	LT	--	1	1	--
127+03	LT	--	1	1	--
127+03	RT	5	1	1	1
135+10	LT	--	--	1	--
	TOTALS	35	16	17	7

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

STEEL PLATE BEAM GUARD ITEMS

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
CATEGORY CODE 0010				
134+10 - 135+15	LT	12.5	39.4	1.0
134+35 - 135+40	RT	12.5	39.4	1.0
136+02 - 137+07	LT	12.5	39.4	1.0
136+02 - 137+07	RT	12.5	39.4	1.0
	TOTALS	50.0	157.6	4.0

APRON ENDWALL ITEMS

STATION	LOCATION	STEEL PIPE THICKNESS INCHES	ALUMINUM PIPE THICKNESS INCHES	520.1030 AEW FOR CP 30-INCH EACH	521.1221 AEW FOR PA STEEL 21X15-INCH EACH	521.1224 AEW FOR PA STEEL 24X18-INCH EACH	522.1024 AEW FOR CPRC 24-INCH EACH	522.1036 AEW FOR CPRC 36-INCH EACH	523.0519 AEW FOR CPRCHE 19X30-INCH EACH	523.0524 AEW FOR CPRCHE 24X38-INCH EACH	523.0534 AEW FOR CPRCHE 34X53-INCH EACH	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
CATEGORY CODE 0010													
45+66	LT & RT	--	--	--	--	--	--	--	--	--	2	2	1
71+00	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
90+11	LT & RT	--	--	--	--	--	--	--	2	--	--	2	1
103+25	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
148+55	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
167+82	RT	0.064	--	--	2	--	--	--	--	--	--	--	--
168+60	RT	0.064	--	--	--	2	--	--	--	--	--	--	--
179+09	LT & RT	--	--	--	--	--	--	--	--	2	--	2	1
196+96	LT & RT	--	--	--	--	--	--	--	--	2	--	2	1
213+71	LT & RT	--	--	--	--	--	--	2	--	--	--	2	1
222+24	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
234+96	LT & RT	--	--	--	--	--	--	--	--	--	--	2	1
244+69	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
249+60	LT & RT	--	--	--	--	--	--	--	--	--	--	2	1
261+24	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
266+04	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
291+49	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
358+00	LT & RT	--	--	--	--	--	--	--	--	--	--	2	1
391+43	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
395+21	RT	0.079	0.075	2	--	--	--	--	--	--	--	--	--
395+63	LT & RT	--	--	--	--	--	2	--	--	--	--	2	1
403+12	LT & RT	--	--	--	--	--	--	--	2	--	--	2	1
407+20	LT	0.064	--	--	2	--	--	--	--	--	--	--	--
408+14	LT	0.064	--	--	2	--	--	--	--	--	--	--	--
409+64	LT	0.064	--	--	2	--	--	--	--	--	--	--	--
	TOTALS			2	8	2	20	2	4	4	2	38	19

LANDMARK REFERENCE MONUMENTS

LOCATION	621.0100 LANDMARK REFERENCE MONUMENTS EACH	SPV.0060.03 SECTION CORNER MONUMENTS EACH
CATEGORY CODE 0010		
SE CORNER OF SEC 36, T14N R14E	4	1
CENTER OF SEC 36, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 36, T14N R14E	4	1
CENTER OF SEC 25, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 25, T14N R14E	4	1
CENTER OF SEC 24, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 24, T14N R14E	4	1
CENTER OF SEC 13, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 13, T14N R14E	4	1
CENTER OF SEC 12, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 12, T14N R14E	4	1
CENTER OF SEC 1, T14N R14E	4	1
NW CORNER OF NE 1/4 OF SEC 1, T14N R14E	4	1
CENTER OF SEC 36, T15N R14E	4	1
TOTALS	56	14

WATER

STATION - STATION	LOCATION	624.0100 MGAL
CATEGORY CODE 0010		
33+45 - 135+46	LT & RT	63
135+94 - 421+70	LT & RT	177
	TOTAL	240

SILT FENCE ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
CATEGORY CODE 0010			
68+50 - 71+65	LT	330	165
132+50 - 133+10	LT	64	32
132+50 - 135+60	RT	312	156
135+85 - 137+90	LT	207	104
135+95 - 137+35	RT	138	69
147+00 - 155+65	RT	881	441
195+85 - 200+00	RT	415	208
196+00 - 200+00	LT	401	201
390+35 - 391+28	RT	97	49
392+77 - 394+00	LT	124	62
UNDISTRIBUTED		741	368
TOTALS		3,710	1,855

LANDSCAPING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEED MIX NO. 20 LBS	630.0200 SEED TEMPORARY LBS
CATEGORY CODE 0010						
45+66	LT & RT	352	342	0.2	10	5
58+77 - 65+50	RT	549	549	0.4	15	7
64+00 - 76+00	LT	2,393	2,393	1.5	65	32
71+00	RT	89	85	0.1	2	1
86+00 - 91+00	RT	748	739	0.5	20	10
89+70 - 97+25	LT	1,006	1,001	0.6	27	14
96+71 - 103+50	RT	937	933	0.6	25	13
103+25	LT	49	45	--	1	1
120+00 - 129+00	RT	1,031	1,031	0.7	28	14
125+50 - 129+00	LT	409	409	0.3	11	6
132+50 - 138+50	LT & RT	1,520	614	1.0	41	21
143+00 - 149+97	LT	1,456	1,454	0.9	39	20
147+00 - 155+65	RT	2,186	2,180	1.4	59	30
157+50 - 164+00	LT	774	774	0.5	21	11
166+00 - 173+00	RT	1,421	858	0.9	38	19
179+09	LT & RT	86	78	0.1	2	1
195+86 - 200+00	RT	1,577	1,573	1.0	43	21
196+00 - 200+00	LT	1,651	1,647	1.0	45	22
213+71	LT & RT	355	345	0.2	10	5
222+24	LT & RT	77	70	--	2	1
234+96	LT & RT	167	128	0.1	5	2
244+69	LT & RT	100	92	0.1	3	1
249+60	LT & RT	97	83	0.1	3	1
261+24	LT & RT	73	66	--	2	1
266+04	LT & RT	80	73	0.1	2	1
283+53 - 284+75	RT	224	224	0.1	6	3
291+49	LT & RT	115	109	0.1	3	2
358+00	LT & RT	328	328	0.2	9	4
390+50 - 396+00	RT	1,338	1,133	0.9	36	18
391+35 - 399+15	LT	1,210	908	0.8	33	16
403+12	LT & RT	78	70	0.1	2	1
405+00 - 412+00	LT	432	432	0.3	12	6
UNDISTRIBUTED		5,692	5,234	3.2	150	80
TOTALS		**28,600**	**26,000**	**18**	**770**	**390**

EROSION MAT ITEMS

STATION - STATION	LOCATION	628.2008 URBAN CLASS I TYPE B SY
CATEGORY CODE 0010		
45+66	LT & RT	42
71+00	LT & RT	22
90+11	LT & RT	22
103+25	LT & RT	22
133+32 - 135+46	LT	306
134+35 - 135+46	RT	203
135+94 - 137+07	RT	202
135+95 - 137+07	LT	201
148+55	LT & RT	22
166+00 - 173+00	RT	564
179+09	LT & RT	30
196+96	LT & RT	30
213+71	LT & RT	38
222+24	LT & RT	22
234+96	LT & RT	80
244+69	LT & RT	22
249+60	LT & RT	66
261+24	LT & RT	22
266+04	LT & RT	22
291+49	LT & RT	22
391+43	LT & RT	22
393+25 - 396+00	RT	208
395+63	LT & RT	22
395+63 - 399+00	LT	298
403+12	LT & RT	30
UNDISTRIBUTED		660
TOTALS		**3,200**

DITCH CHECK ITEMS

STATION	LOCATION	628.7504 TEMPORARY DITCH CHECK LF	628.7570 ROCK BAGS EACH
CATEGORY CODE 0010			
45+66	LT	20	--
58+50 - 63+50	RT	30	--
71+00 - 74+00	LT	10	40
86+50 - 91+00	RT	40	--
89+50 - 97+00	LT	40	20
100+50 - 103+00	RT	--	40
103+25	LT	20	--
134+00 - 137+10	LT & RT	--	140
143+00 - 148+65	LT	30	40
148+55	RT	--	26
154+25	RT	--	26
157+50 - 162+50	LT	110	--
166+60 - 173+00	RT	30	--
179+09	RT	20	--
196+96	LT & RT	--	52
213+71	LT	20	--
222+24	LT	20	--
234+96	LT	20	--
244+69	LT	20	--
249+60	RT	20	--
261+24	LT	20	--
266+04	LT	20	--
283+55	RT	--	20
291+49	LT	20	--
358+00	LT	20	--
391+43	LT	20	--
391+55 - 392+00	RT	--	40
393+25 - 396+00	RT	10	20
395+63	LT	10	--
403+12	LT	20	--
405+00	LT	10	--
UNDISTRIBUTED		150	116
TOTALS		**750**	**580**

INLET PROTECTION ITEMS

LOCATION	628.7005 TYPE A EACH	628.7010 TYPE B EACH
CATEGORY CODE 0010		
234+90; RT	2	1
TOTALS	**2**	**1**

EROSION CONTROL MOBILIZATIONS ITEMS

LOCATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
CATEGORY CODE 0010		
PROJECT 6090-07-71	8	6
TOTALS	**8**	**6**

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH WHITE LF	646.0106 EPOXY 4-INCH YELLOW LF	646.0406 SAME DAY EPOXY 4-INCH YELLOW LF	647.0110 RAILROAD CROSSINGS EPOXY WHITE EACH
CATEGORY CODE 0010					
33+45 - 421+70	LT & RT	75,025	14,725	23,000	2
		75,025	14,725		
TOTALS		**89,750**		**23,000**	**2**

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 EACH
CATEGORY CODE 0010		
45+66	LT	10
71+00	LT	3
89+90	LT	5
90+60	LT	2
94+42	LT	7
95+60	LT	6
103+25	LT	3
124+50	RT	2
137+57	RT	2
138+14	LT	2
146+08	LT	2
148+55	LT	3
167+67	RT	3
168+46	RT	4
179+09	RT	7
196+96	RT	7
213+71	LT	7
222+24	LT	3
234+96	LT	20
244+69	LT	3
249+60	RT	14
261+24	LT	3
266+04	LT	3
291+49	LT	3
358+00	LT	20
391+43	LT	3
395+34	RT	5
395+63	LT	3
403+12	LT	5
407+35	LT	3
408+28	LT	3
409+78	LT	3
UNDISTRIBUTED		41
TOTAL		**210**

TRAFFIC CONTROL ITEMS

LOCATION	643.0300 DRUMS NO. REQ'D	643.0300 DRUMS NO. DAYS	643.0300 DRUMS TOTAL DAYS	643.0420* BARRICADES TYPE III NO. REQ'D	643.0420* BARRICADES TYPE III NO. DAYS	643.0420* BARRICADES TYPE III TOTAL DAYS	643.0705* WARNING LIGHTS TYPE A NO. REQ'D	643.0705* WARNING LIGHTS TYPE A NO. DAYS	643.0705* WARNING LIGHTS TYPE A TOTAL DAYS	643.0900 SIGNS NO. REQ'D	643.0900 SIGNS NO. DAYS	643.0900 SIGNS TOTAL DAYS
CATEGORY CODE 0010												
SOUTH LIMITS (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	1	35	35
VER HAGE ROAD (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
CTH AW (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
WALNUT ROAD (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
WHOOLEY ROAD (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
CTH E (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
HARMSEN ROAD (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
HEMP ROAD (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
CTH AS (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
AMITY ROAD (ROAD CLOSED)	--	--	--	4	35	140	8	35	280	4	35	140
LINER ROAD (ROAD CLOSED)	--	--	--	4	35	140	8	35	280	4	35	140
CTH TC (ROAD CLOSED)	--	--	--	2	35	70	4	35	140	3	35	105
EAST CLARK STREET (ROAD CLOSED)	--	--	--	4	35	140	8	35	280	4	35	140
SOUTH LIMITS (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	5	90	450
VER HAGE ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
CTH AW (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
WALNUT ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
WHOOLEY ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
CTH E (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
HARMSEN ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
HEMP ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
CTH AS (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
AMITY ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	2	90	180
LINER ROAD (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	2	90	180
CTH TC (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	1	90	90
EAST CLARK STREET (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	2	90	180
NORTH LIMITS (ROAD CLOSED TO THRU RAFFIC)	--	--	--	--	--	--	--	--	--	5	90	450
SHOULDER WORK	15	55	825	--	--	--	--	--	--	1	55	55
TOTALS			**825**			**1,120**			**2,240**			**3,705**

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

LOCATING NO-PASSING ZONES

STATION - STATION	648.0100 MI
CATEGORY CODE 0010	
33+45 - 421+70	7.35
TOTAL	**7.35**

TEMPORARY PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	649.0200 REFLECTIVE PAINT 4-INCH YELLOW LF
CATEGORY CODE 0010		
33+45 - 135+46	LT & RT	15,495
135+94 - 421+70	LT & RT	27,455
TOTALS		**42,950**

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	SPV.0060.01 SUPERELEVATION TRANSITIONS EACH
CATEGORY CODE 0010					
33+45 - 135+46	LT & RT	10,201	1	5,169	2
135+94 - 421+70	LT & RT	28,576	--	6,274	2
TOTALS		**38,777**	**1**	**11,443**	**4**

STAKING ITEMS FOR STORM SEWER AND PIPE CULVERTS SHOWN ELSEWHERE

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	STH 49, E. OF CTH MMM	J13-1	24" X 45"	7.50				2		MOUNT TO LIGHT POLE
2	"	DB5-69G	48" X 9"	3.00				1		MOUNT BELOW SIGN #1
3	"	M6-1	21" X 21"	3.06				1		MOUNT BELOW SIGN #2
4	CTH MMM	R1-1	30" X 30"	5.18		1		1	1	
5	"	J13-1	24" X 45"	7.50			1	2	1	STH 49, SEE PLAN SHEET
6	STH 49, W. OF CTH MMM	J13-1	24" X 45"	7.50			1	2	1	STH 49, SEE PLAN SHEET
7	"	I2-3	60" X 24"	10.00		2		1	2	
8	"	R2-1	24" X 30"	5.00				1		30 MPH, MOUNT TO LIGHT POLE
9	"	R2-1	24" X 30"	5.00		1		1	1	30 MPH
10	"	D7-68L	60" X 36"	15.00		2		1	2	SEE SIGN DETAIL SHEET
11	"	DB5-69G	48" X 9"	3.00		1		1	1	
12	"	M6-1	21" X 21"	3.06				1		MOUNT BELOW SIGN #11
13	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH MMM
14	"	R2-1	24" X 30"	5.00		1		1	1	30 MPH
15	"	J4-1	24" X 36"	6.00			1	2	1	NORTH STH 49
16	"	R2-1	24" X 30"	5.00		1		1	1	30 MPH
17	VER HAGE RD	R1-1	30" X 30"	5.18		1		1	1	
18	STH 49, W. OF VER HAGE RD	R2-1	24" X 30"	5.00		1		1	1	45 MPH
19	"	D2-2	66" X 24"	11.00		2		1	2	SEE SIGN DETAIL SHEET
20	"	W1-2R	30" X 30"		6.25	1		1	1	
21	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH AW
22	"	I2-2	84" X 15"	8.75		2		1	2	FOND DU LAC CO
23	"	D1-3	84" X 36"	21.00			2	1	2	FOX LAKE CORRECTIONAL INSTITUTION, SEE SIGN DETAIL
24	"	J13-1	24" X 45"	7.50			1	2	1	CTH AW, SEE PLAN SHEET
25	CTH AW	R1-1	30" X 30"	5.18		1		1	1	
26	"	J13-1	24" X 45"	7.50			1	2	1	STH 49, SEE PLAN SHEET
27	STH 49, W. OF CTH AW	J13-1	24" X 45"	7.50			1	2	1	CTH AW, SEE PLAN SHEET
28	"	R2-1	24" X 30"	5.00		1		1	1	55 MPH
29	"	R2-1	24" X 30"	5.00		1		1	1	45 MPH
30	"	I55-56	30" X 36"	7.50			1	1	1	KIWANIS CLUB OF WAUPUN
31	"	D1-3	84" X 36"	21.00			2	1	2	SEE SIGN DETAIL SHEET
32	"	W3-5	36" X 36"		9.00		1	1	1	45 MPH
33	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH AW
34	WALNUT RD	R1-1	30" X 30"	5.18		1		1	1	
35	STH 49, N. OF WALNUT RD	W14-3	48" X 36"		6.00		1	1	1	
36	"	W1-2L	30" X 30"		6.25	1		1	1	
37	"	W14-3	48" X 36"		6.00		1	1	1	
38	WHOOLEY RD	R1-1	30" X 30"	5.18		1		1	1	
39	STH 49, N. OF WHOOLEY RD	J1-1	24" X 39"	6.50			1	2	1	JCT CTH E
40	"	W2-2	30" X 30"		6.25	1		1	1	
41	"	J13-1	24" X 45"	7.50			1	2	1	CTH E, SEE PLAN SHEET
42	CTH E	R1-1	30" X 30"	5.18		1		1	1	
43	"	W1-7	48" X 24"		8.00	1		1	1	
44	STH 49, N. OF CTH E	J13-1	24" X 45"	7.50			1	2	1	CTH E, SEE PLAN SHEET
45	"	I55-56	30" X 36"	7.50			1	1	1	KIWANIS CLUB OF WAUPUN
46	"	W14-3	48" X 36"		6.00		1	1	1	
47	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH E
48	HARMSEN RD	R1-1	30" X 30"	5.18		1		1	1	
49	HEMP RD	R1-1	30" X 30"	5.18		1		1	1	
50	STH 49, N. OF HEMP RD	J1-1	24" X 39"	6.50			1	2	1	JCT CTH AS
51	STH 49, S. OF CTH AS	J13-1	24" X 45"	7.50			1	2	1	CTH AS, SEE PLAN SHEET
52	CTH AS	R1-1	30" X 30"	5.18		1		1	1	
53	STH 49, N. OF CTH AS	W5-52R						1	1	
54	"	J13-1	24" X 45"	7.50			1	2	1	CTH AS, SEE PLAN SHEET
55	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH AS

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
56	"	I55-56						1	1	
57	AMITY RD	R1-1	30" X 30"	5.18		1		1	1	
58	"	R1-1	30" X 30"	5.18		1		1	1	
58A	STH 49, N. OF AMITY RD	I55-56	30" X 36"	7.50			1	1	1	BRANDON LIONS CLUB
59	LINER RD	R1-1	30" X 30"	5.18		1		1	1	
60	"	R1-1	30" X 30"	5.18		1		1	1	
61	STH 49, N. OF LINER RD	W3-5	36" X 36"		9.00		1	1	1	45 MPH
62	"	W14-3	48" X 36"		6.00		1	1	1	
63	"	W10-1	36" X 36"		7.07	1		1	1	
64	"	R2-1	24" X 30"	5.00		1		1	1	55 MPH
65	"	R2-1	24" X 30"	5.00		1		1	1	55 MPH
66	"	J1-1	24" X 39"	6.50			1	2	1	JCT CTH TC
67	"	I55-56	30" X 36"	7.50			1	1	1	BRANDON LIONS CLUB
68	"	W10-1	36" X 36"		7.07	1		1	1	
69	"	I2-3	60" X 24"	10.00		1		1	1	BRANDON POPULATION 879, SEE SIGN DETAIL SHEET
70	"	W14-3	48" X 36"		6.00	1		1	1	
71	"	R2-1	24" X 30"	5.00		1		1	1	45 MPH
72	"	D1-2	84" X 30"	17.50		2		1	2	SEE SIGN DETAIL SHEET
73	"	D2-1	66" X 15"	6.88		2		1	2	WAUPUN 9, SEE SIGN DETAIL SHEET
74	"	J4-1	24" X 36"	6.00		1		2	1	SOUTH STH 49
75	"	J13-1	24" X 45"	7.50			1	2	1	CTH TC, SEE PLAN SHEET
76	"	W1-7	48" X 24"		8.00	1		1	1	
77	CTH TC	R1-1	30" X 30"	5.18		1		1	1	
78	STH 49, N. OF CTH TC	J4-1	24" X 36"	6.00		1		2	1	NORTH STH 49
79	"	J13-1	24" X 45"	7.50			1	2	1	CTH TC, SEE PLAN SHEET
80	"	R2-1	24" X 30"	5.00		1		1	1	35 MPH
81	"	D1-2	84" X 30"	17.50		2		1	2	SEE SIGN DETAIL SHEET
82	"	R2-1	24" X 30"	5.00		1		1	1	35 MPH
83	EAST CLARK STREET	R1-1	30" X 30"	5.18		1		1	1	
84	"	R1-1	30" X 30"	5.18		1		1	1	
85	STH 49, N. OF EAST CLARK ST	J1-1	24" X 39"	6.50			1	2	1	JCT CTH TC
86	"	R2-1	24" X 30"	5.00		1		1	1	25 MPH
87	"	R2-1	24" X 30"	5.00		1		1	1	35 MPH
88	"	W11-8	30" X 30"		6.25	1		1	1	
			TOTALS	**500.13**	**103.14**	**56**	**35**	**113**	**93**	

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 35 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
1	50' E OF LOCKIN ST ON STH 49	W 20-2-A	48"x48"	1	35	35				
2	MODIFY J2-1 (S-49-AH RT;)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	EXISTING							
	"	M 1-6	EXISTING							49
	"	MO 5-1-L	21"x21"	1	35	35				
3	MODIFY J3-2 (T-RT; S-49-LT;)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	EXISTING							
	"	M 1-6	EXISTING							49
	"	MO 6-1	21"x21"	1	35	35				LEFT
4A	SW QUAD OF STH 49 & CTH T INTERSECTION	R11-3	60"x30"	1	35	35	35	70		1/2 MILE
4B	BELOW SIGN # 4 ON BARRICADE	MO 4-9-L	30"x24"	1	35	35				
5	FAR LT QUAD OF STH 49 & CTH T INTERSECTION	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
6	100' N OF STH 49 INTERSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
7	MODIFY J2-1 (49-AH & RT;)	M 1-6	EXISTING							
	"	MO 6-1	21"x21"	1	35	35				RIGHT
8	100' S OF MADISON ST INTERSECTION ON CTH T	MO 4-8-A	24"x18"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
9	50' S OF MADISON ST INTERSECTION OF CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-R	21"x21"	1	35	35				
10	RT OF STOP SIGN @ NORTH ST & CTH T INTERSECTION (NB)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
11	50' S OF NORTH ST INTERSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
12	RT OF STOP SIGN @ NORTH ST & CTH T INTERSECTION (WB)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
13	150' E OF WOODWARD ST INTERSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
14	350' E OF SIGN # 12 ON CTH T (WB)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-L	21"x21"	1	35	35				
15	RT OF J13-1 (T-AH LT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-L	21"x21"	1	35	35				
16	RT OF J13-1 (T-LT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
17	200' W OF METOVALE RD INTERSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 35 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
18	RT OF J13-1 (T-RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
19	RT OF J13-1 (T-AH RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-R	21"x21"	1	35	35				
20	RT OF J13-1 (T-RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
21	RT OF J13-1 (T-AH RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-R	21"x21"	1	35	35				
22	RT OF J13-1 (T-LT) @ STOP SIGN ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
23	250' E OF SIGN # 22 ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-L	21"x21"	1	35	35				
24	200 ' E OF METOVALE RD INTERSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
25	LT OF J1-1 (JCT M)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-R	21"x21"	1	35	35				RIGHT
26	RT OF J13-2 (T-LT; M LT & RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
27	250' W OF CTH M INTESRSECTION ON CTH T	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
28	ON BACK OF J13-1 (T-RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
29	RT OF J13-2 (T-LT & AH; M-AH)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
30	250' S OF CTH T INTERSECION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
31	RT OF J1-1 (JCT T)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-L	21"x21"	1	35	35				
32	LT OF J13-2 (E-T-AH; W-TC-RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 35 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				AHEAD
33	200' S OF CTH TC INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
34	LT OF J13-1 (M-AH)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
35	RT OF J13-1 (M-AH)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				AHEAD
36	RT OF J13-1 (M-AH TILT RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-2-R	21"x21"	1	35	35				
37	RT OF J13-1 (M-TILT RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-2	21"x21"	1	35	35				RIGHT
38	250' N OF CTH M INTERSECTION ON CTH TC	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
39	RT OF J13-1 (TC-LT & RT)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
40	RT OF J13-1 (S-M)	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
41	RT OF J1-1 (JCT TC)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 5-1-L	21"x21"	1	35	35				
42	250' N OF SAVAGE RD INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
43	250' S OF SAVAGE RD INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
44	250' N OF FIRE NUMBER N3500 ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
45	250' S OF FIRE NUMBER N3500 ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
46	250' N OF HAWTHORNE DR INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
47	250' S OF HAWTHORNE DR INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
48	100' N OF FRANKLIN ST INTERSECTION ON CTH M	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 35 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	REMARKS
	"	MO 5-1-L	21"x21"	1	35	35				
49	75' N OF TRAFFIC SIGNAL	MO 4-8	24"x12"	1	35	35				
	"	M 3-3	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				LEFT
50A	NW QUAD OF STH 49 & CTH M INTERSECTION	R11-3	60"x30"	1	35	35	35	70		1/2 MILE
50B	"	M 4-9-R	30"x24"	1	35	35				
51	MODIFY J4-1 (S-49)	MO 4-8-A	24"x18"	1	35	35				
	"	M 1-6	EXISTING							
52	RT OF J3-1 (BUS 151)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
53	LT OF FAR LT TRAFFIC SIGNAL	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	24"x12"	1	35	35				
	"	M 1-6	24"x24"	1	35	35				49
	"	MO 6-1	21"x21"	1	35	35				RIGHT
54	MODIFY J4-1 (N-49)	MO 4-8	24"x12"	1	35	35				
	"	M 3-1	EXISTING							
	"	M 1-6	EXISTING							49
	"	MO 5-1-R	21"x21"	1	35	35				
55	500' E OF SIGN # 54 ON STH 49	W 20-2-A	48"x48"	1	35	35				
56	NB WORK ZONE (PRIOR TO START OF CONSTRUCTION)								7	
57	SB WORK ZONE (PRIOR TO START OF CONSTRUCTION)								7	
	TOTALS			**179**		**6,265**	**70**	**140**	**14**	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS

3

SAWING PAVEMENT ITEMS

STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
CATEGORY CODE 0010				
33+45	LT & RT	40	--	BEGIN PROJECT
36+82	RT	47	--	DRIVEWAY
38+08	LT	46	--	DRIVEWAY
42+31 - 42+89	LT	58	--	VER HAGE ROAD
45+53	LT & RT	36	16	CROSS CULVERT
45+79	LT & RT	36	16	CROSS CULVERT
54+02	LT	29	--	DRIVEWAY
55+62	LT	25	--	DRIVEWAY
58+12	LT	40	--	DRIVEWAY
61+42 - 63+70	LT	129	--	CTH AW
70+93	LT & RT	30	--	CROSS CULVERT
71+07	LT & RT	31	--	CROSS CULVERT
76+38	LT	20	--	WALNUT ROAD
77+06	LT	34	--	DRIVEWAY
80+18	LT	32	--	DRIVEWAY
89+63	LT & RT	36	16	CROSS CULVERT
90+60	LT & RT	36	16	CROSS CULVERT
94+62	LT	55	--	DRIVEWAY
96+44	RT	60	--	DRIVEWAY
102+39	LT & RT	14	16	CROSS CULVERT
104+11	LT & RT	14	16	CROSS CULVERT
116+07	LT & RT	14	16	CROSS CULVERT
116+30	RT	35	--	DRIVEWAY
117+11	LT & RT	14	16	CROSS CULVERT
135+12 - 135+37	LT	31	5	MOMENT SLAB
148+39	LT & RT	36	16	CROSS CULVERT
148+71	LT & RT	36	16	CROSS CULVERT
150+02	LT	29	--	DRIVEWAY
152+78	LT & RT	38	16	CROSS CULVERT
155+68 - 156+34	RT	66	--	WHOOLEY ROAD
155+74	LT & RT	46	16	CROSS CULVERT
160+49	RT	30	--	DRIVEWAY
163+89	RT	22	--	DRIVEWAY
165+78	RT	19	--	DRIVEWAY
167+84	RT	18	--	DRIVEWAY
168+71 - 170+02	LT	130	--	CTH E
179+06	LT & RT	14	16	CROSS CULVERT
179+12	LT & RT	14	16	CROSS CULVERT
180+08	RT	38	--	DRIVEWAY
195+37 - 196+01	RT	64	--	HARMSEN ROAD
196+78	LT & RT	36	16	CROSS CULVERT
197+14	LT & RT	37	16	CROSS CULVERT
200+23	LT	29	--	DRIVEWAY
213+59	LT & RT	36	16	CROSS CULVERT
213+83	LT & RT	36	16	CROSS CULVERT
222+22	LT & RT	14	16	CROSS CULVERT
222+27	LT & RT	14	16	CROSS CULVERT
231+50	RT	26	--	DRIVEWAY
234+86	LT & RT	16	16	CROSS CULVERT
235+06	LT & RT	19	16	CROSS CULVERT
235+19 - 235+89	RT	70	--	HEMP ROAD
243+94	LT & RT	14	16	CROSS CULVERT
245+44	LT & RT	14	16	CROSS CULVERT
248+23 - 249+51	LT	129	--	CTH AS
249+55	LT & RT	23	16	CROSS CULVERT
249+66	LT & RT	20	16	CROSS CULVERT
255+60	RT	29	--	DRIVEWAY

SAWING PAVEMENT ITEMS (CONTINUED)

STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF	COMMENTS
CATEGORY CODE 0010				
260+74	LT & RT	14	16	CROSS CULVERT
261+74	LT & RT	14	16	CROSS CULVERT
265+58	LT & RT	13	16	CROSS CULVERT
266+51	LT & RT	14	16	CROSS CULVERT
281+99	LT & RT	36	16	CROSS CULVERT
284+93	RT	27	--	DRIVEWAY
284+97	LT & RT	41	16	CROSS CULVERT
291+43	LT & RT	14	16	CROSS CULVERT
291+55	LT & RT	14	16	CROSS CULVERT
328+10 - 328+82	RT	72	--	AMITY ROAD
328+22 - 328+84	LT	63	--	AMITY ROAD
356+80	LT & RT	14	16	CROSS CULVERT
359+20	LT & RT	14	16	CROSS CULVERT
381+77 - 382+33	RT	56	--	LINER ROAD
381+78 - 382+46	LT	69	--	LINER ROAD
391+33	LT & RT	36	16	CROSS CULVERT
391+53	LT & RT	36	16	CROSS CULVERT
393+04	LT & RT	30	--	RR TRACKS
394+06	LT & RT	30	--	RR TRACKS
395+59	LT & RT	30	--	CROSS CULVERT
395+68	LT & RT	30	--	CROSS CULVERT
403+09	LT & RT	14	16	CROSS CULVERT
403+15	LT & RT	14	16	CROSS CULVERT
405+78	LT	14	--	DRIVEWAY
407+75 - 409+09	RT	134	--	CTH TC
414+04	LT	47	--	DRIVEWAY
415+60 - 416+96	RT	138	--	E. CLARK STREET
415+82 - 417+15	LT	131	--	E. CLARK STREET
418+15	LT	48	--	DRIVEWAY
421+34	RT	37	--	DRIVEWAY
421+70	LT & RT	42	--	END PROJECT
TOTALS		**3,390**	**645**	

MILLING AND REMOVING TEMPORARY JOINT

STATION - STATION	LOCATION	SPV.0090.03 STA
CATEGORY CODE 0010		
33+45 - 135+46	C/L	10,201
135+94 - 393+36	C/L	25,742
393+75 - 421+70	C/L	2,796
TOTAL		**38,739**

REMOVE CORRUGATED PLASTIC CULVERT AND REMOVE AND REPLACE ENDWALL

STATION	LOCATION	SPV.0105.01 LS
CATEGORY CODE 0010		
358+00	RT	1
TOTAL		**1**

3

BEGIN PROJECT
STA 33+45.00
(BUTTJOINT REQUIRED)

45+66.00; 37.6' LT
45+66.00; 34.4' RT
1-72' 34"X53" CPRCHE REQ'D
2-34"X53" AEW REQ'D
SKEW 0°
NORTH INV=895.15
SOUTH INV=895.83

30"X30" CONC BOX
30" CPCM EXT. LT
30" CPCM EXT. RT
TO BE REMOVED

SLOPE INTERCEPT, TYP.

71+00.00; 37.0' LT
71+00.00; 31.0' RT
1-68' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=922.96
WEST INV=923.18

24" CPCM
TO BE REMOVED

INTERSECTION BYPASS
LANE, REQUIRED

SLOPE INTERCEPT, TYP.

SLOPE FLATTENING
STA 58+77 TO STA 65+50, RT

SLOPE FLATTENING
STA 64+00 TO STA 76+00, LT

CURVE	1
PI	70+71.90
Δ	90° 52' 30"
D	3° 30' 27"
T	1658.64
L	2590.84
R	1633.50
SE	5.90%
RO	157'

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 59	E

FILE NAME : 60900771_050101_PP PLOT DATE : 26 NOV 2013 15:24:47 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

WISDOT/CADDS SHEET 42

STA 87+00

89+91.47; 27.5' LT
90+27.69; 22.8' RT
1-62' 19"X30" CPRCHE REQ'D
2-19"X30" AEW REQ'D
SKEW 36° RHF
EAST INV=903.16
WEST INV=903.42

SLOPE FLATTENING
STA 90+00 TO STA 97+25, LT

103+25.00; 26.5' LT
103+25.00; 29.5' RT
1-56' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=890.50
WEST INV=891.10

STA 117+00

T 14 N R 14 E 36

T 14 N R 14 E 36 25

N2706 N2732 N2750 N2820 N2899

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

21"X29" CPCMPA TO BE REMOVED
18" CPCM
26"X34" CPCMPA
21"X34" CPCMPA
18" CPCM
24" CPCM
2 - 24" CPRC
24" CPCM TO BE REMOVED
24" CPRC

FROST HEAVE LOCATION (SEE DETAIL)
FROST HEAVE LOCATION (SEE DETAIL)
FROST HEAVE LOCATION (SEE DETAIL)

SLOPE INTERCEPT, TYP.

SLOPE FLATTENING
STA 86+00 TO STA 91+00, RT

SLOPE FLATTENING
STA 96+71 TO STA 103+50, RT

88 90 92 94 96 98 100 102 104 106 108 110 112 114 116

N0° 41' 45"E 2335.01'
N0° 35' 03"E 371.37'
N0° 42' 20"E 894.86'

STH 49

PI: 103+39.12
PI: 107+10.49
PI: 116+05.35

GAS METER PED
GUY WALLS
PP PIPL G MAIL BOX MAIL BOXES SEPTIC TANKS CONVEYOR

5

MATCH LINE

STA 117+00

STA 147+00

N2996

SLOPE FLATTENING
STA 125+50 TO STA 129+00, LT

SLOPE FLATTENING
STA 132+50 TO STA 135+46, LT

SLOPE FLATTENING
STA 135+94 TO STA 138+50, LT

SLOPE FLATTENING
STA 143+00 TO STA 149+97, LT

N3062

STRUCTURE R-20-45

MGS ENERGY ABSORBING TERMINAL REQ'D
MGS BEAM GUARD REQ'D
MGS THRIE BEAM TRANSITION REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
REMOVE AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

6" CORRUGATED STEEL PIPE UNDERDRAIN
EXTEND AS NECESSARY
1-AEW FOR UNDERDRAIN RC REQ'D

N2924 N3006 N3092 N3119 N3075 N3069

18" CPCM 15" CPCM TEL PED

SLOPE INTERCEPT, TYP.

MGS ENERGY ABSORBING TERMINAL REQ'D
MGS BEAM GUARD REQ'D
MGS THRIE BEAM TRANSITION REQ'D

B-20-97 TO REMAIN
BUTT JOINTS REQ'D

118 120 122 124 126 128 130 132 134 136 138 140 142 144 146

N0° 06' 50"W 1484.60'
N0° 02' 19"W 672.55'
N0° 10' 21"W 816.10'

STH 49

PI: 130+89.96
PI: 137+62.50
PI: 145+78.60

SLOPE FLATTENING
STA 120+00 TO STA 129+00, RT

SLOPE FLATTENING
STA 132+50 TO STA 135+46, RT

SLOPE FLATTENING
STA 135+94 TO STA 138+50, RT

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 60	E

STA 147+00

148+55.00; 41.5' LT
148+55.00; 46.5' RT
1-80' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=895.67
WEST INV=898.52

24"X24" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED

FROST HEAVE LOCATION
(SEE DETAIL)

SLOPE FLATTENING
STA 157+50 TO STA 164+00, LT

STA 177+00

N

T 14 N
R 14 E
25 24

CTH E

PI: 170+30.28

24" CPRC

18" CPCM

148 150 152 154 STH 49 156 158 160 162 164 166 168 170 172 174 176

N0° 06' 39"E 816.13'

N0° 02' 57"W 1635.55'

PI: 153+94.73

MAIL BOXES

GUY

PP

N3154

N3259

N3273

N3289

N3233

18" CPCM

21" CPCM
TO BE REMOVED

SLOPE INTERCEPT, TYP.

INTERSECTION BYPASS
LANE, REQUIRED

WHOOLEY ROAD

W12266

SLOPE FLATTENING
STA 147+00 TO STA 155+65, RT

167+81.8; 38.3' RT
1-30' 21"X15" PACS REQ'D
2-21"X15" AEW REQ'D
SOUTH INV=935.23
NORTH INV=934.99

168+59.8; 38.7' RT
1-28' 24"X18" PACS REQ'D
2-24"X18" AEW REQ'D
SOUTH INV=934.29
NORTH INV=933.90

SLOPE FLATTENING
STA 166+00 TO STA 173+00, RT

5

MATCH LINE

STA 177+00

179+09.00; 23.0' LT
179+09.00; 23.0' RT
1-46' 24"X38" CPRCHE REQ'D
2-24"X38" AEW REQ'D
SKEW 0°
EAST INV=928.23
WEST INV=928.10

196+96.00; 53.0' LT
196+96.00; 51.0' RT
1-104' 24"X38" CPRCHE REQ'D
2-24"X38" AEW REQ'D
SKEW 0°
EAST INV=919.34
WEST INV=918.77

SLOPE FLATTENING
STA 196+00 TO STA 200+00, LT

STA 207+00

N

T 14 N
R 14 E
24

N3461

N3536

N3562

18"X30" CONC BOX
22"X36" CPCMPA EXT. LT
18" CPCM EXT. RT
TO BE REMOVED

SLOPE INTERCEPT, TYP.

178 180 182 184 186 188 190 192 194 196 198 200 202 204 206

N0° 19' 52"E 3219.67'

STH 49

MAIL BOXES

GUY

PP

18" CPCM

N3381

N3439

WALLS

RUINS

24"X30" CONC BOX
22"X36" CPCMPA EXT. LT
22"X36" CPCMPA EXT. RT
TO BE REMOVED

PI: 202+49.95

N3569

HARMSEN ROAD

SLOPE FLATTENING
STA 195+86 TO STA 200+00, RT

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 61	E

STA 207+00

213+71.00; 33.0' LT
213+71.00; 37.0' RT
1-70' 36" CPRC REQ'D
2-36" AEW REQ'D
SKEW 0°
EAST INV=932.05
WEST INV=933.62

222+24; 22.0' LT
222+24; 24.0" RT
1-46' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=940.29
WEST INV=940.76

234+96.00; 30.0' LT
234+96.00; 30.0' RT
2-60' 34"X53" CPRCHE REQ'D
2-CONC MASONRY AEW REQ'D
SKEW 0°
EAST INV=938.61
WEST INV=938.72

STA 237+00

18" CPCM
36" CPCM
TO BE REMOVED
18" CPCM
18" CPCM
N3680
N3670
RUINS
18" CPCM
CONVEYOR
CONVEYOR
N3716
MAIL BOX
2.5'HX6'W CONC BOX
C-20-19-55
TO BE REMOVED
18" CPCM

208 210 212 214 216 218 220 222 224 226 228 230 232 234 236

N0° 17' 04"W 1667.91'
STH 49
N0° 12' 46"E 3069.47'

SLOPE INTERCEPT, TYP.
PI: 219+17.86
24"X18" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED
18" CPCM
N3771
18" CPCM
XXXXX
EXISTING INLET TO BE REMOVED
1-INLET MEDIAN 2 GRATE REQ'D
(SEE DETAIL)
HEMP ROAD

T 14 N
R 14 E
24 13

5

MATCH LINE

STA 237+00

244+68.70; 26.0' LT
244+68.70; 28.0' RT
1-54' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=939.10
WEST INV=939.26

249+60.25; 32.0' LT
249+60.25; 28.0' RT
2-60' 24"X38" CPRCHE REQ'D
2-CONC MASONRY AEW REQ'D
SKEW 0°
EAST INV=941.55
WEST INV=941.55

261+23.70; 22.0' LT
261+23.70; 22.0' RT
1-44' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=944.09
WEST INV=944.16

266+04.41; 22.0' LT
266+04.41; 22.0' RT
1-44' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=944.34
WEST INV=944.40

STA 267+00

T 14 N
R 14 E
13

CTH AS

FROST HEAVE LOCATION
(SEE DETAIL)

1.5'HX5'W CONC BOX
C-20-20-55
TO BE REMOVED

30"X24" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED

FROST HEAVE LOCATION
(SEE DETAIL)

18" CPCM
18" CPCM
N3951
N3959
15" CPCM
18" CPCM
SEPTIC
POOL
24" CPCM
TO BE REMOVED

238 240 242 244 246 248 250 252 254 256 258 260 262 264 266

N0° 05' 58"W 1090.69'
STH 49

30"X18" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED
PI: 249+87.33
PI: 260+78.01
SLOPE INTERCEPT, TYP.

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 62	E

FILE NAME : 60900771_050104_PP PLOT DATE : 26 NOV 2013 15:27:46 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

STA 267+00

STA 297+00

291+49.00; 29.5' LT
291+49.00; 30.5' RT
1-60' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=949.79
WEST INV=950.10

N

T 14 N
R 14 E
13 12

FROST HEAVE LOCATION
(SEE DETAIL)

6'HX8'W CONC BOX
C-20-68-93
TO REMAIN

N4058
N4186
N4252
N4175
N4187
N4253

18" CPCM
24" CPCM
30" CPCM

MAIL BOX
GUY
PP
SEPTIC

268 270 272 274 276 278 280 282 284 286 288 290 292 294 296

N0° 02' 37"W 1449.33'

STH 49

PI: 275+27.35

24"X24" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED

SLOPE INTERCEPT, TYP.

SLOPE FLATTENING
STA 283+55 TO STA 284+75, RT

5

MATCH LINE

STA 297+00

STA 327+00

N

N4468
N4457

18" CPCM

298 300 302 304 306 308 310 312 314 316 318 320 322 324 326

N0° 47' 40"E 4697.34'

STH 49

PI: 322+24.69

T 14 N
R 14 E
12

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 63	E

STA 327+00

STA 357+00

AMITY ROAD

T 14 N
R 14 E
12 1

N4582

N4654

RUINS

18" CPCM

MAIL BOXES

328 330 332 334 336 338 340 342 344 346 348 350 352 354 356

N0° 36' 33"E 943.75'

N0° 22' 52"E 2405.28'

STH 49

GUY

PP

PI: 331+68.44

T 14 N
R 14 E
1

PI: 355+73.72

5

5

MATCH LINE

STA 357+00

MATCH LINE

STA 387+00

358+00.0; 30.0' LT
358+00.0; 34.0' RT
SKEW 0°
2-64' 34"X53" CPRCHE REQ'D
2-CONC MASONRY AEW REQ'D
EAST INV=963.18(BURIED 6")
WEST INV=964.56(BURIED 6")
ONLY BURY ONE RUN OF
PIPE, OTHER RUN IS 6"
ABOVE INVERTS ABOVE

W12261

FROST HEAVE LOCATION
(SEE DETAIL)

12" RCAY

358 360 362 364 366 368 370 372 374 376 378 380 382 384 386

N0° 21' 49"E 2336.97'

N0° 26' 14"E 1444.29'

STH 49

3'HX5'W CONC BOX
C-20-23-55
TO BE REMOVED

15" CPCP
REMOVE 4 LF OF CPCP
REMOVE & REPLACE APRON ENDWALL

SLOPE INTERCEPT, TYP.

N4767

N4870

N4861

T14N T15N
R14E R14E
1 36

TOWN OF ALTO

TOWN OF METOMEN

W12317

21" CPCM

TEL PED

MAIL BOX

PI: 379+10.70

LINER ROAD

W12289

WISCONSIN & SOUTHERN RAILROAD

MATCH LINE

PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 64	E

FILE NAME : 60900771_050106_PP PLOT DATE : 26 NOV 2013 15:29:59 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

STA 387+00

391+43.10; 34.5' LT
391+43.10; 37.5' RT
1-72' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=978.21
WEST INV=979.05

395+63.30; 25.0' LT
395+63.30; 25.0' RT
1-50' 24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 0°
EAST INV=980.13
WEST INV=980.16

407+20.4; 30.2' RT
1-30' 21X15" PACS REQ'D
2-21X15" AEW REQ'D
SOUTH INV=985.90
NORTH INV=986.30

408+14.3; 32.9' RT
1-28' 21X15" PACS REQ'D
2-21X15" AEW REQ'D
SOUTH INV=986.73
NORTH INV=987.22

409+64.1; 32.3' RT
1-28' 21X15" PACS REQ'D
2-21X15" AEW REQ'D
SOUTH INV=989.12
NORTH INV=989.67

SLOPE FLATTENING
STA 391+35 TO STA 394+00, LT

SLOPE FLATTENING
STA 394+61 TO STA 399+12, LT

SLOPE FLATTENING
STA 405+00 TO STA 412+00, LT

INTERSECTION BYPASS
LANE, REQUIRED

N

24"X24" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED

PROPOSED
RR SIGNAL

18" CPCM

N4944

N5030

N5058

N5076

N5088

N5094

N5106

N5110

TO BE
REMOVED

420

400

14"X17"
CPCMPA

EAST CLARK STREET

388 390 392 394 396 398 400 402 404 406 408 410 412 414 416

STH 49

N0° 20' 12"W 1673.87'

N0° 05' 45"W 602.83'

WISCONSIN & SOUTHERN RAILROAD

PROPOSED
RR SIGNAL

RAILROAD CROSSING TO BE
CONSTRUCTED BY OTHERS

PI: 393+54.98

30" CPCM
TO BE
REMOVED

24"X24" CONC BOX
24" CPCM EXT. LT
24" CPCM EXT. RT
TO BE REMOVED

SLOPE INTERCEPT, TYP.

30"X24" CONC BOX
18"X29" CPCMPA EXT. LT
18"X29" CPCMPA EXT. RT
TO BE REMOVED

T 15 N
36
R 14 E

TOWN OF METOMEN
VILLAGE OF BRANDON
CTH TC

PI: 410+28.86

PC: 416+31.69

601

5

MATCH LINE

395+20.8; 35.5' RT
1-26' 30" CP CL III REQ'D
2-30" AEW REQ'D
SOUTH INV=979.87
NORTH INV=979.98

SLOPE FLATTENING
STA 390+50 TO STA 392+75, RT

SLOPE FLATTENING
STA 393+25 TO STA 396+00, RT

403+11.60; 20.0' LT
403+11.60; 22.0' RT
1-42' 19"X30" CPRCHE REQ'D
2-19"X30" AEW REQ'D
SKEW 0°
EAST INV=982.32
WEST INV=982.89

STA 417+00

EAST CLARK STREET

END PROJECT
STA 421+70.00
(BUTTJOINT REQUIRED)

14"X17"
CPCMPA

18" CPCM

342 332 322 312 262 242 301 257 247 347 600 337

418 420 422

INL WV HYD

MAIL BOX

MH

N14° 01' 48"W 346.74'

STH 49

15" CPCM

PI: 420+03.26

EP: 423+50.00

CURVE 2
PI 418+18.40
Δ 13° 56' 02"
D 3° 45' 00"
T 186.71
L 371.57
R 1527.89
SE 6.0%
RO 160'

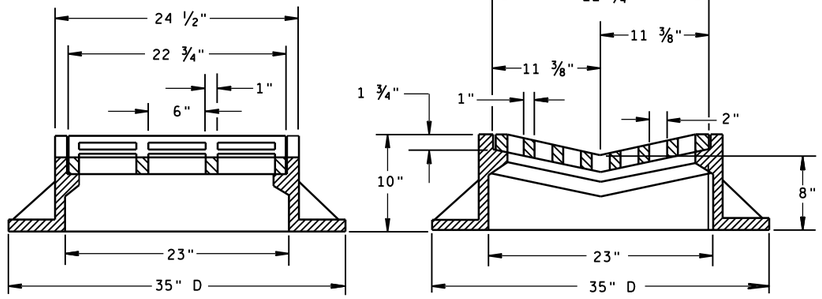
MATCH LINE

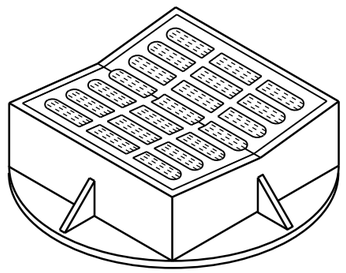
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	PLAN	SHEET 65	E

Standard Detail Drawing List

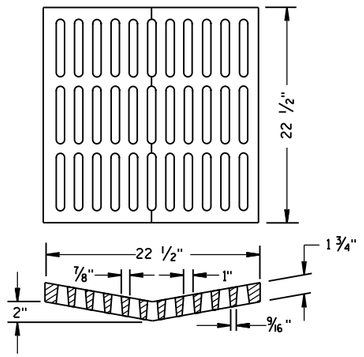
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
14B29-01	SAFETY EDGE
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

6



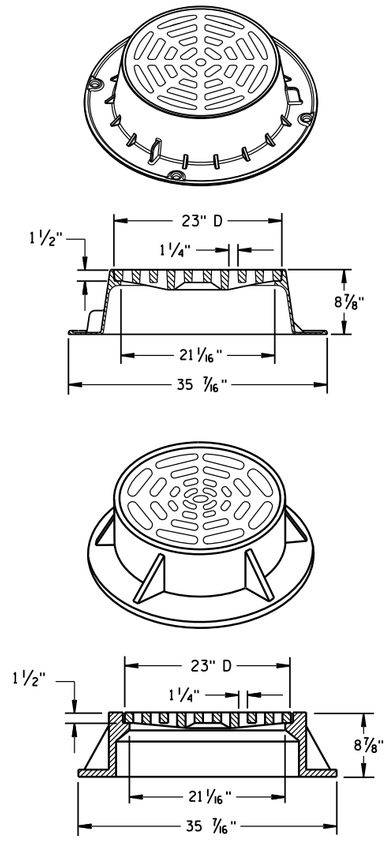


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

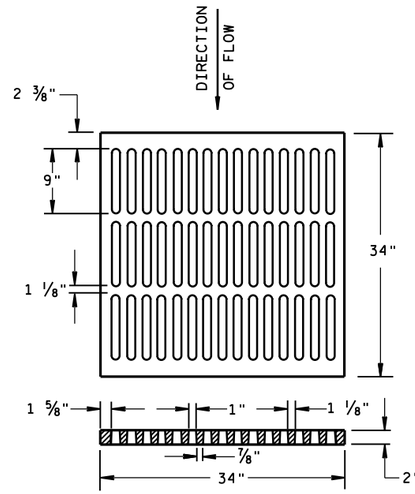
NOTE: EITHER CASTING IS ACCEPTABLE

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.

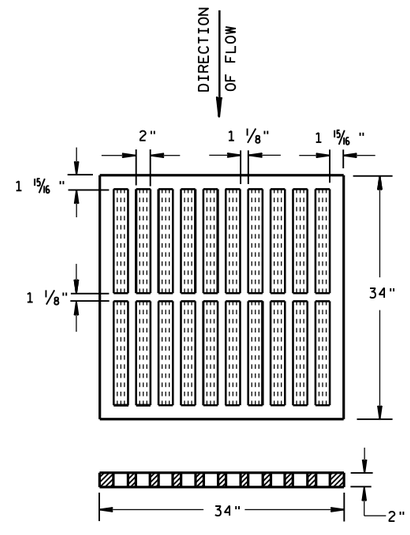
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



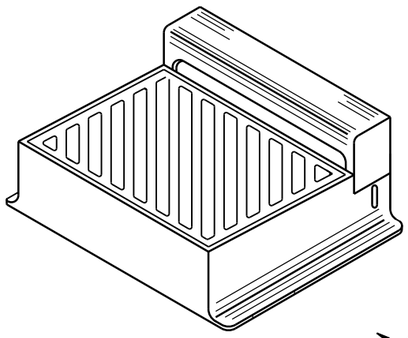
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

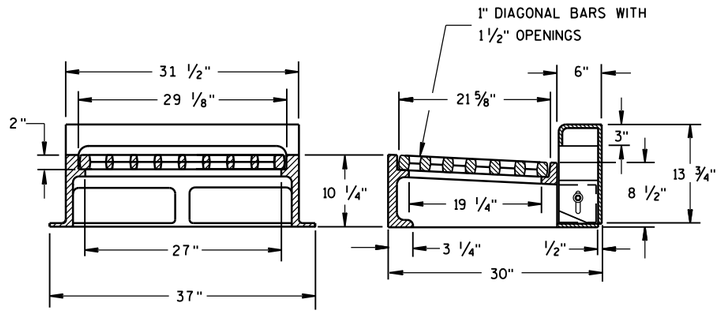


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

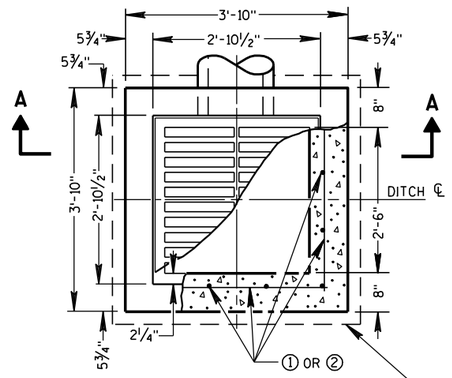
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

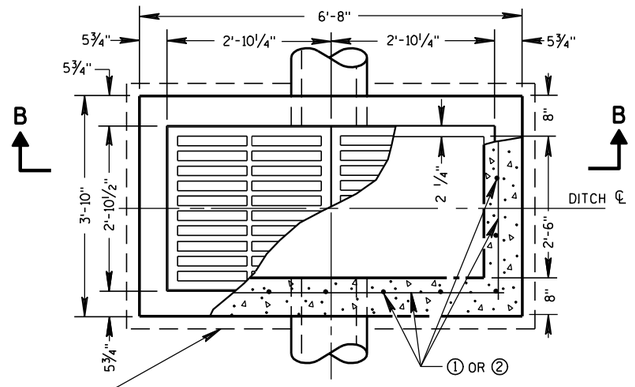
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 A 5-19b

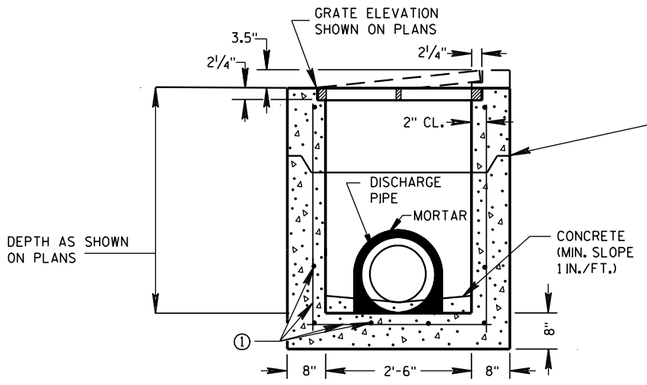


PLAN VIEW

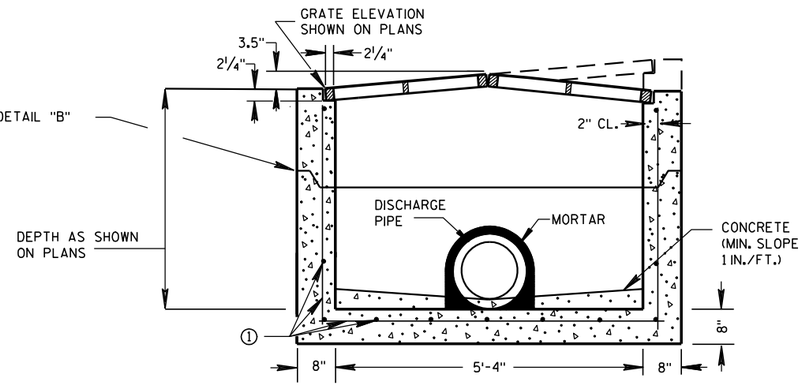


PLAN VIEW

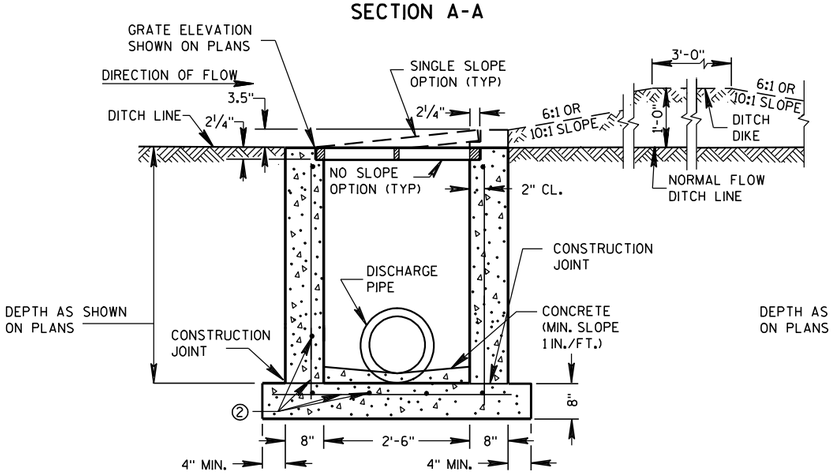
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



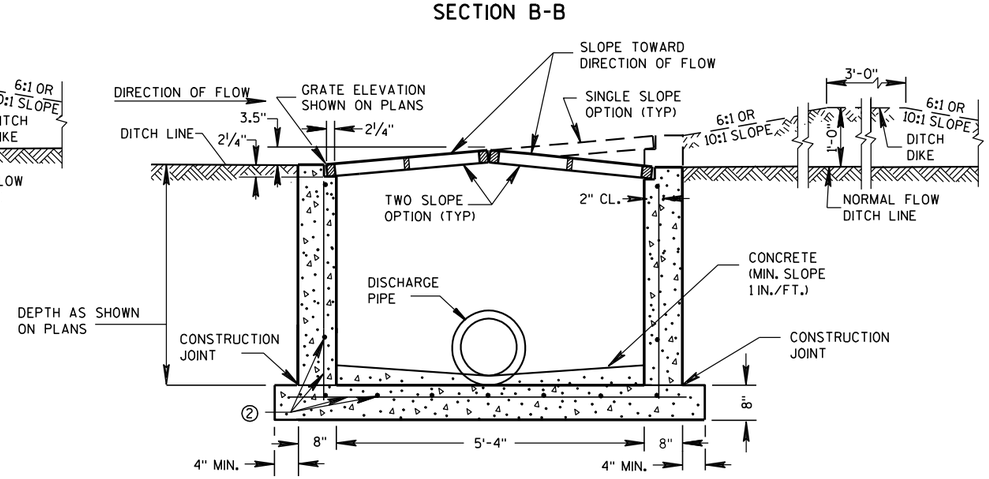
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

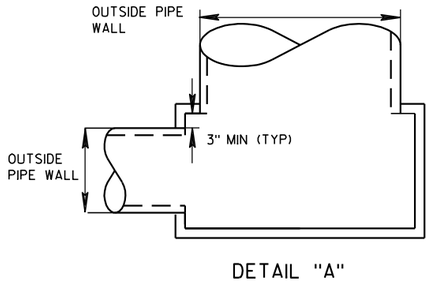
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

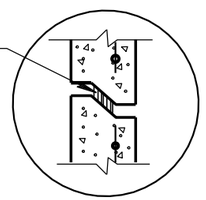
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

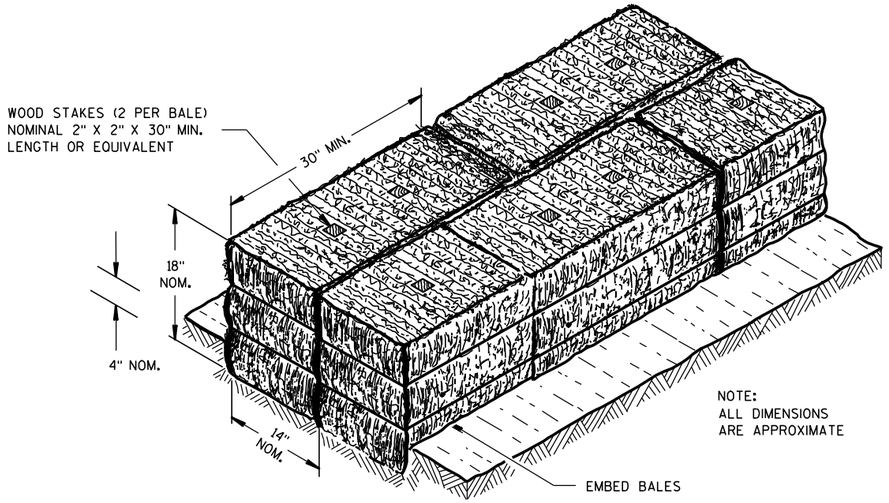
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

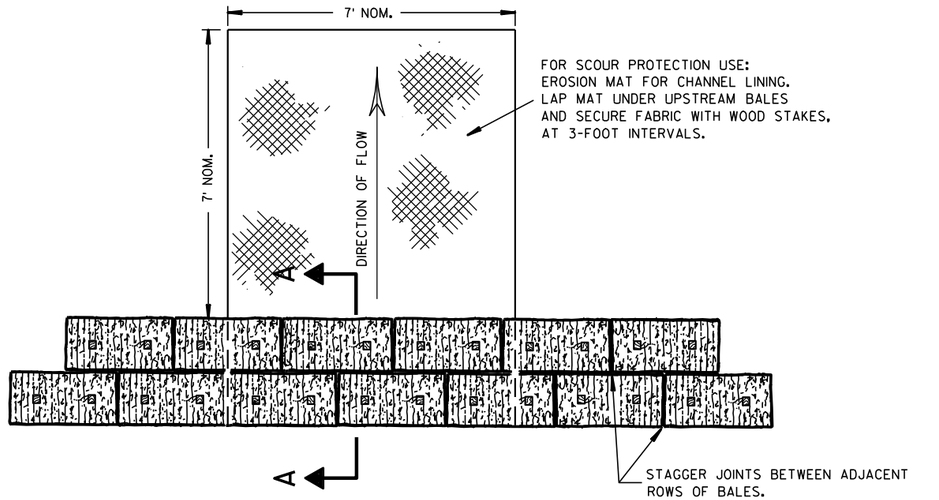
S.D.D. 8 C 8-1

6

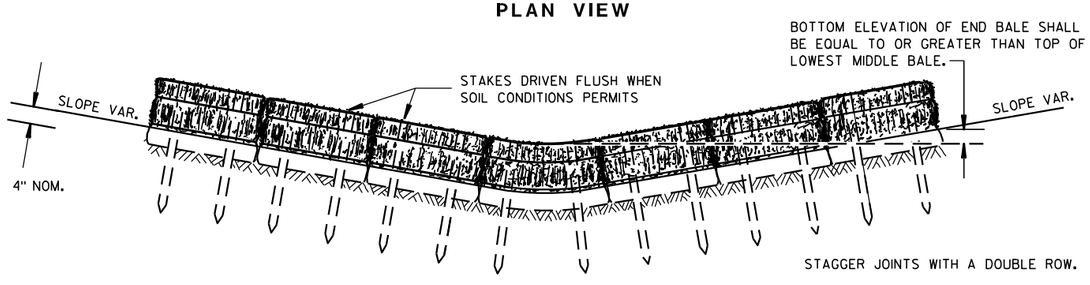
S.D.D. 8 C 8-1



SECTION A-A



PLAN VIEW



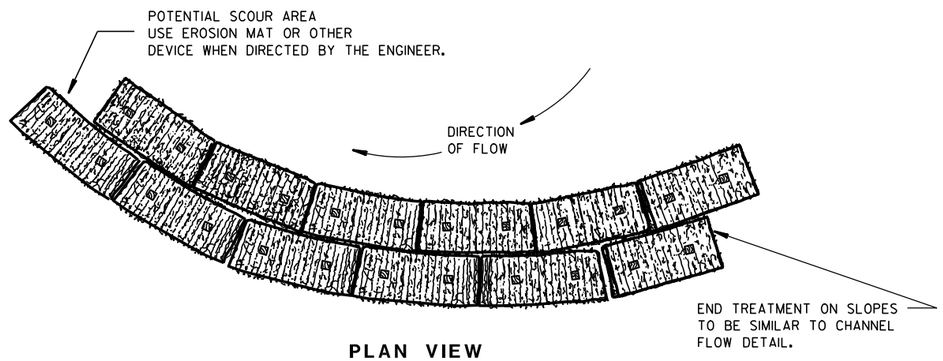
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

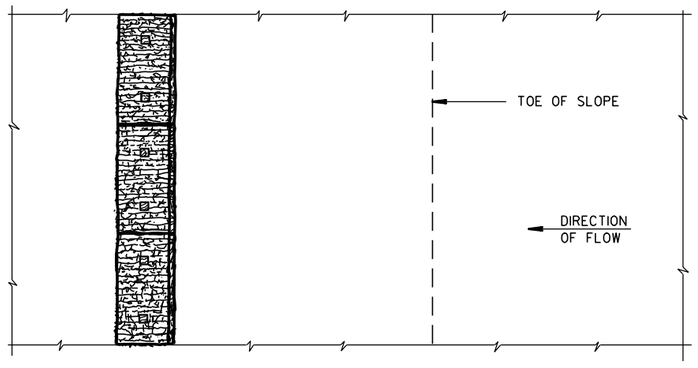
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

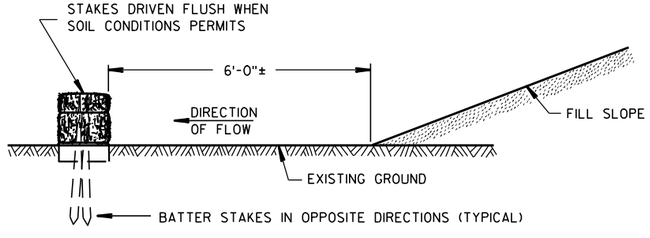


PLAN VIEW

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

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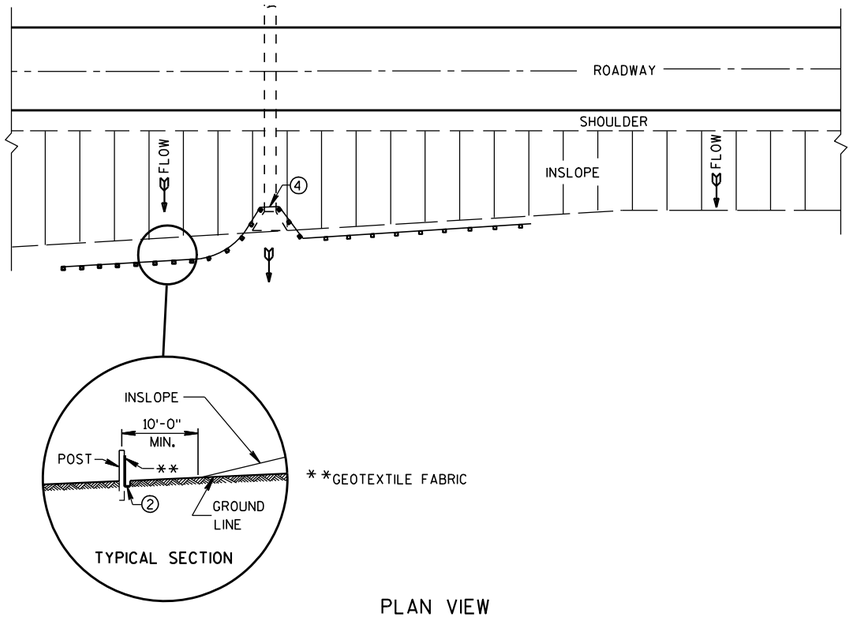
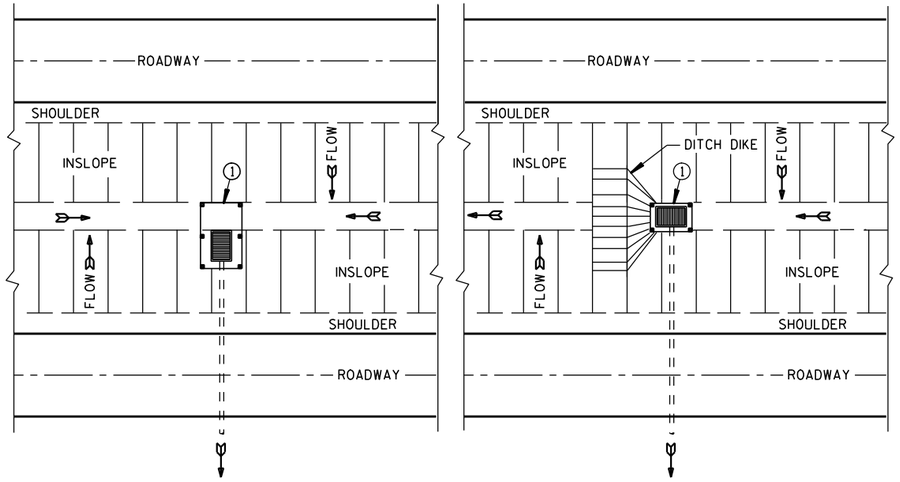
S.D.D. 8 E 8-3



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.

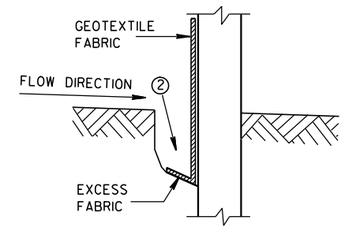
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

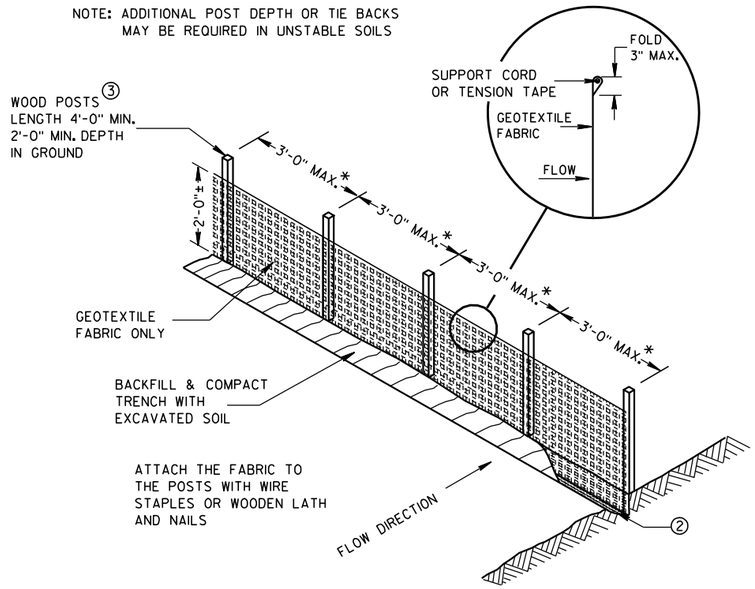
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

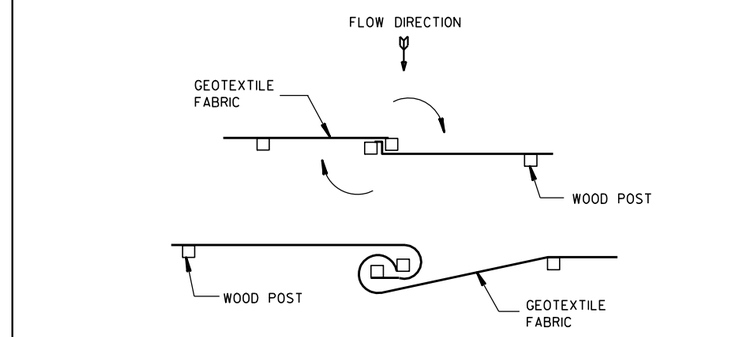


TRENCH DETAIL

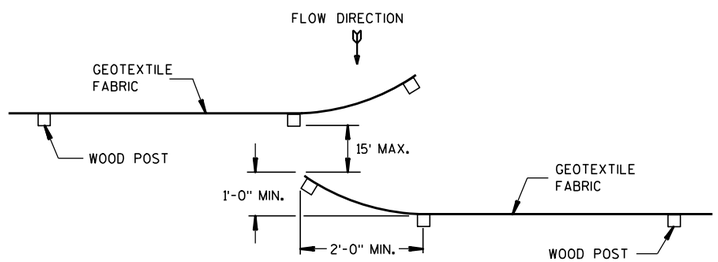


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

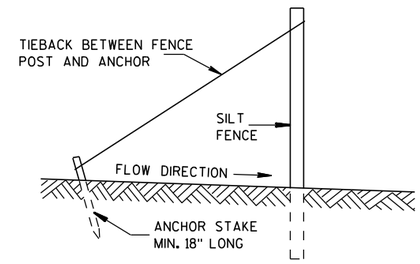


TWIST METHOD



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

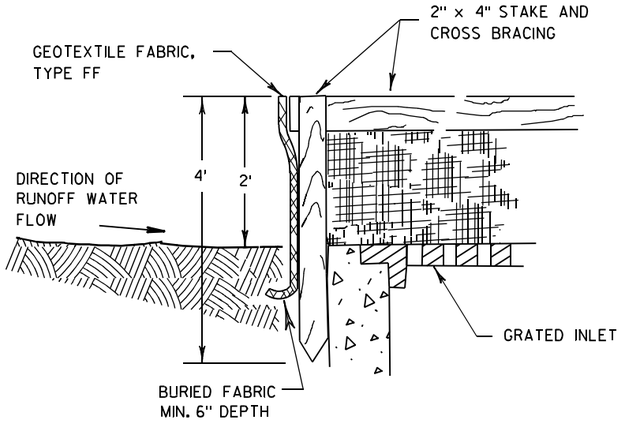
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

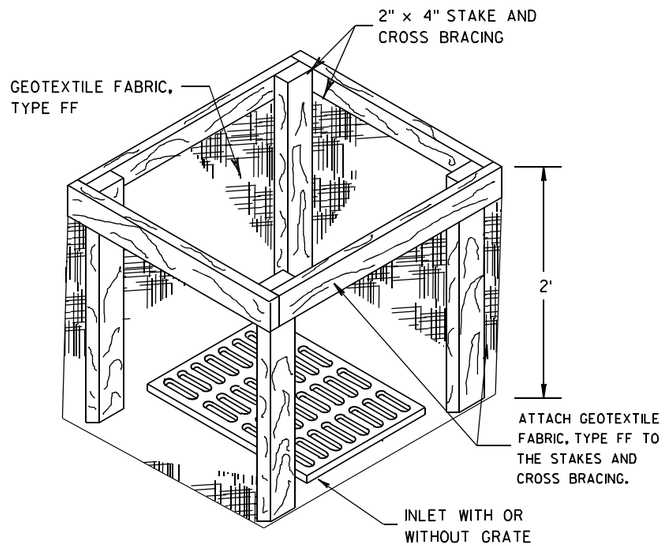
6

S.D.D. 8 E 9-6

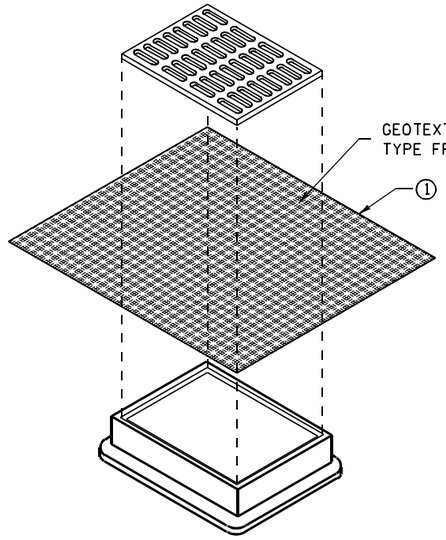
6

S.D.D. 8 E 9-6



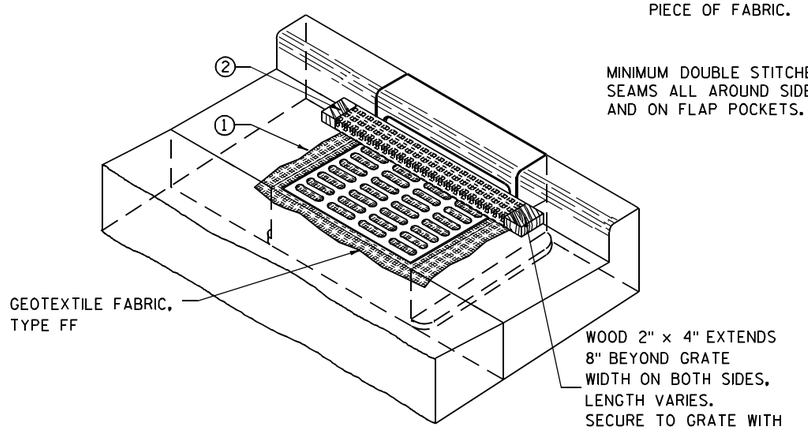


INLET PROTECTION, TYPE A

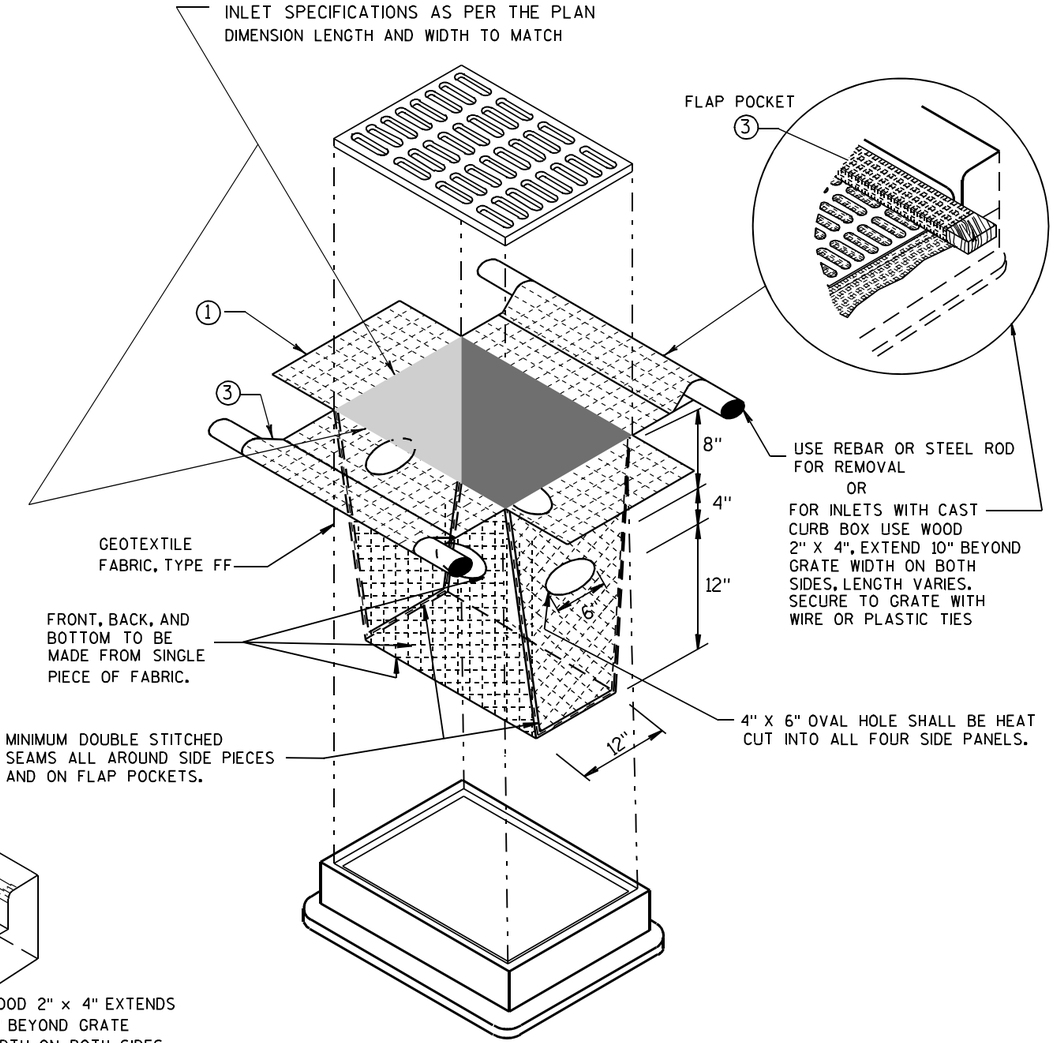


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2

METAL APRON ENDWALLS

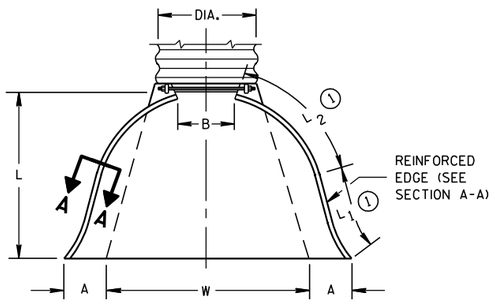
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 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

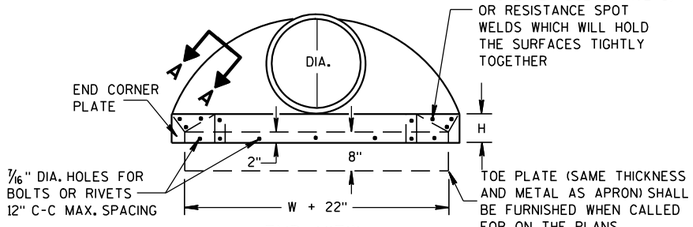
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
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

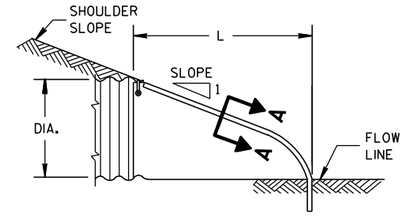
* MINIMUM
** MAXIMUM



PLAN VIEW

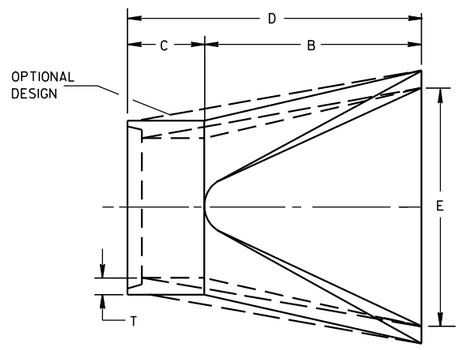


END VIEW

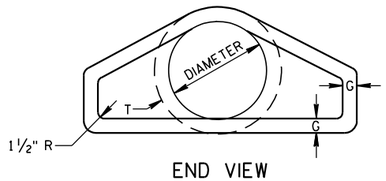


SIDE ELEVATION

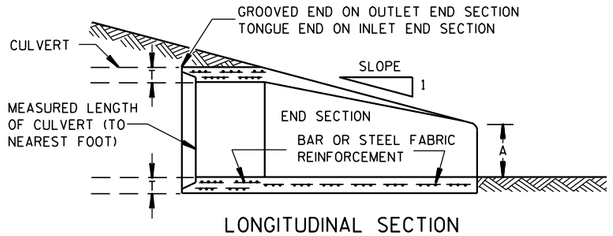
METAL ENDWALLS



PLAN

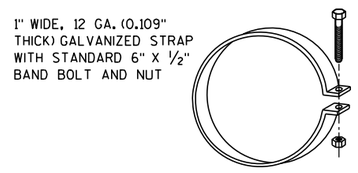


END VIEW



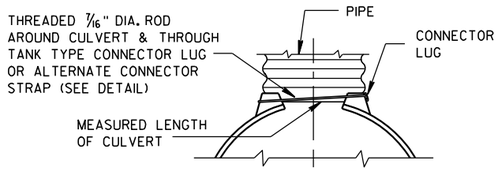
LONGITUDINAL SECTION

CONCRETE ENDWALLS

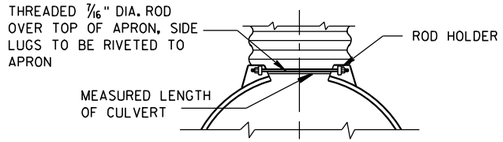


ALTERNATE FOR TYPE 1 CONNECTION

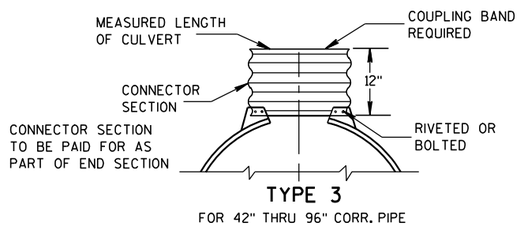
END SECTION CONNECTOR STRAP



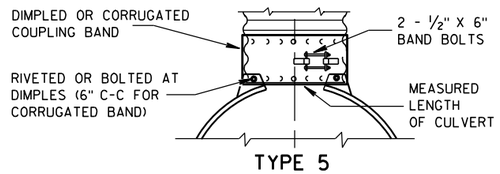
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

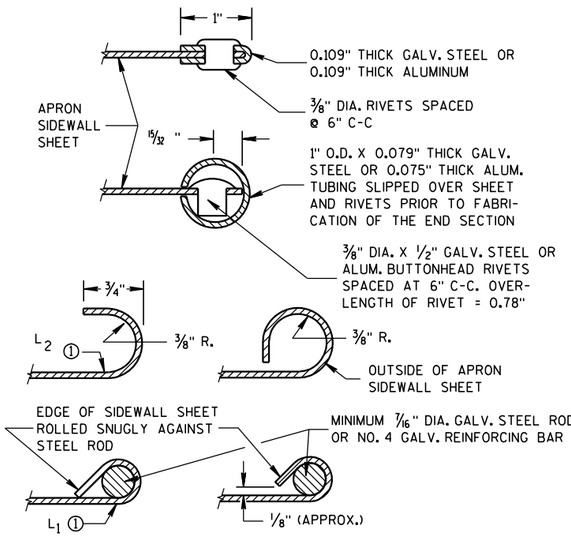
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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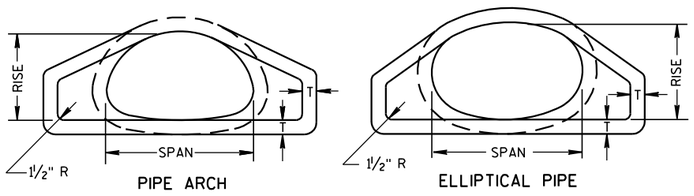
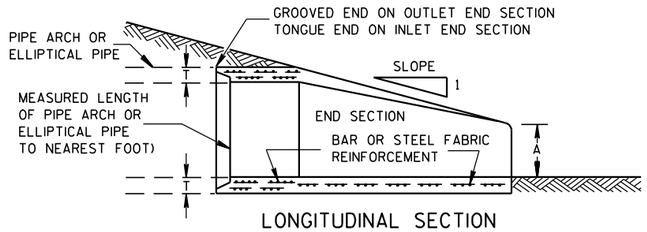
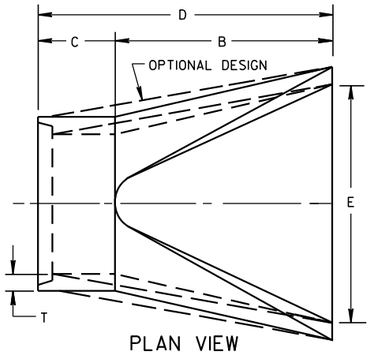
S.D.D. 8 F 1-11



END VIEW

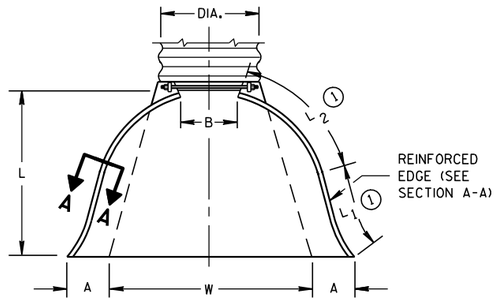


LONGITUDINAL SECTION

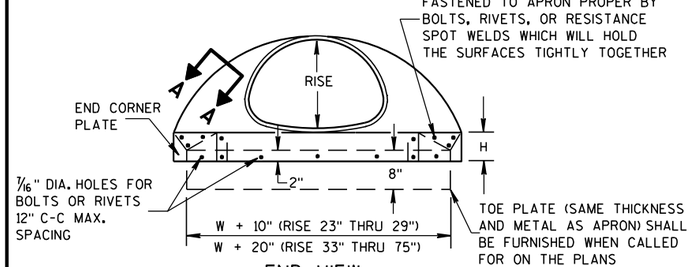


PLAN VIEW

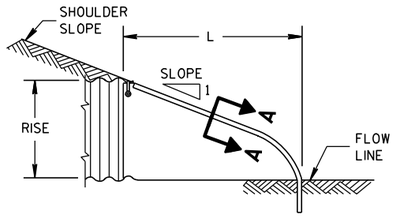
CONCRETE ENDWALLS



PLAN VIEW

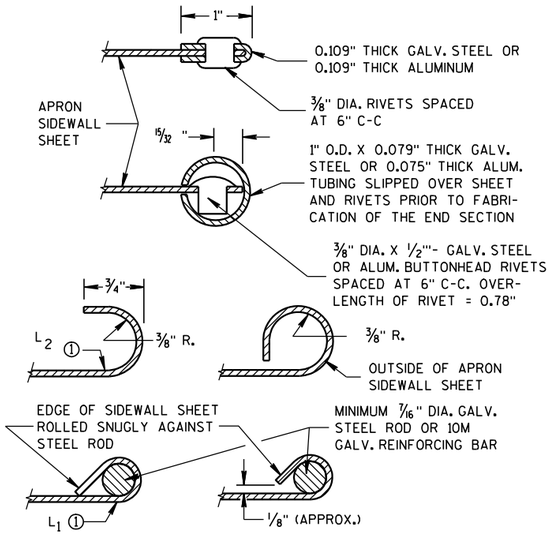


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

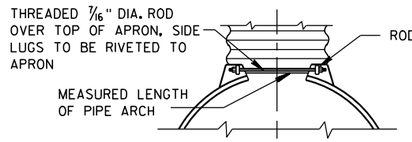
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

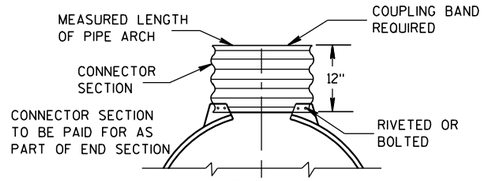
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



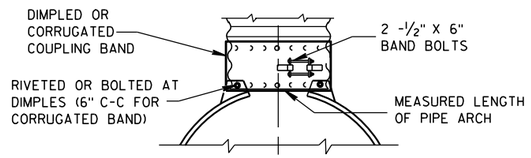
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

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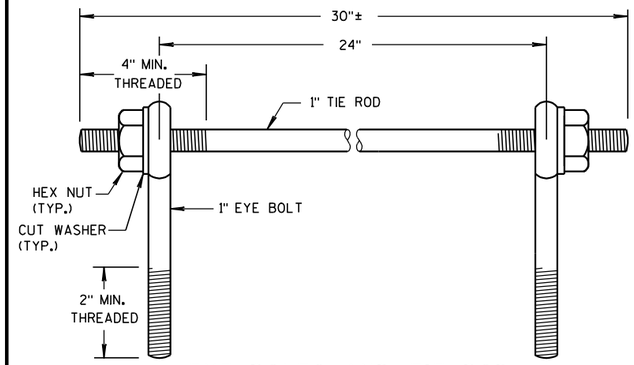
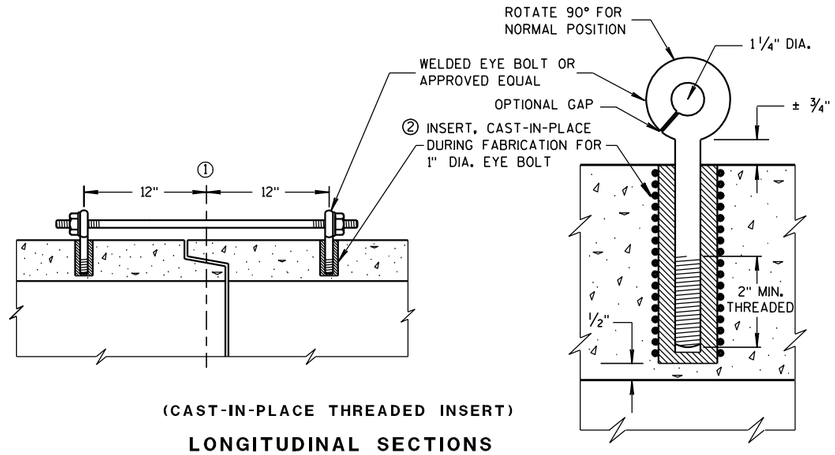


EYE BOLTS AND TIE ROD



(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.

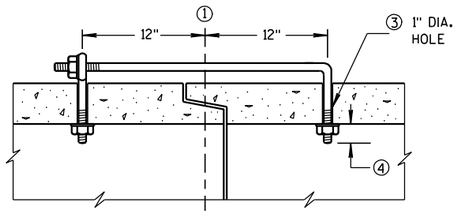
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

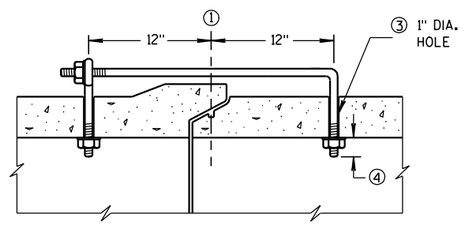
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

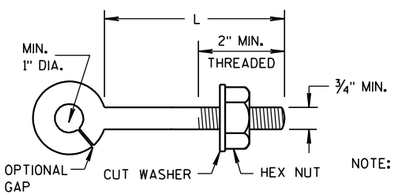


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

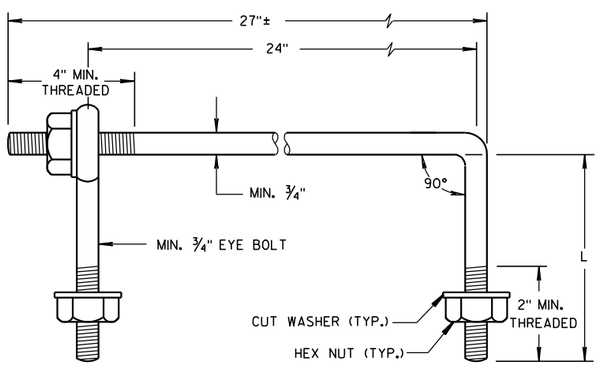
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

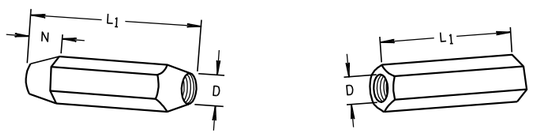
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

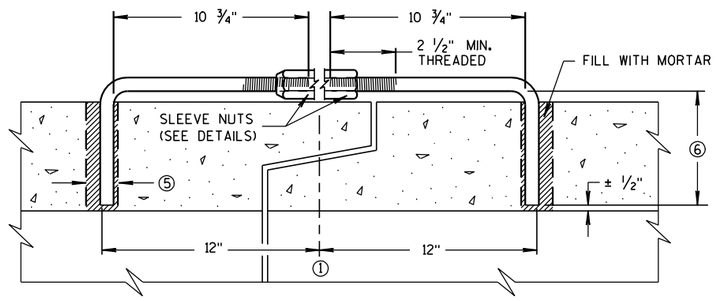
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

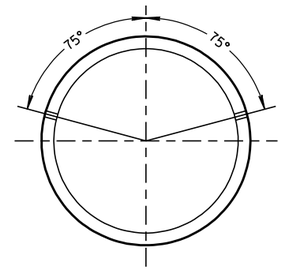
SLEEVE NUTS



LONGITUDINAL SECTION

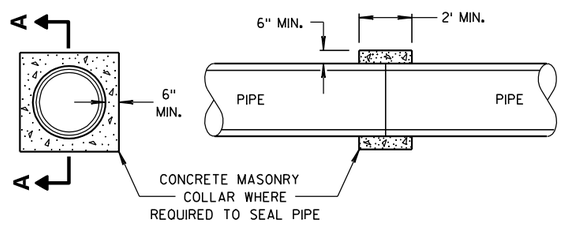
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
74
FHWA

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S.D.D. 8 F 4-7

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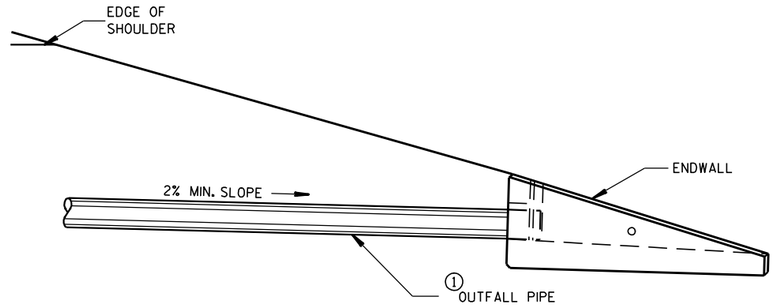
S.D.D. 8 F 4-7

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

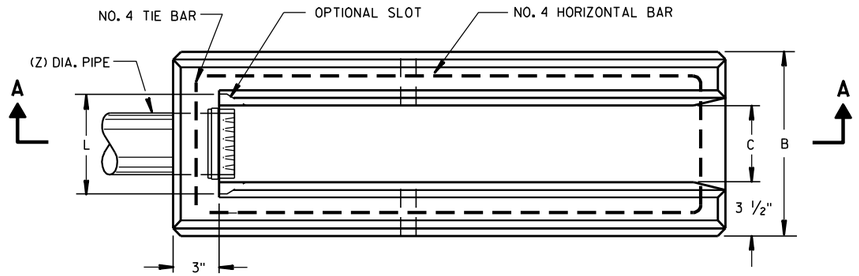
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

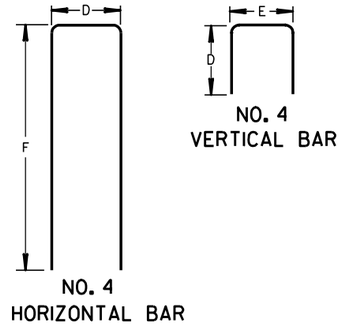
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

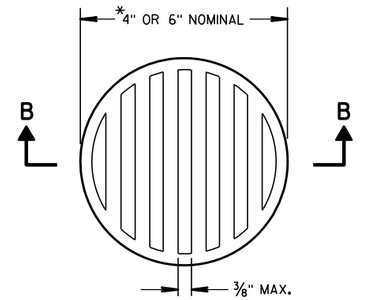
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



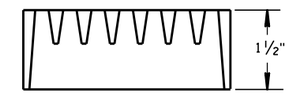
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS



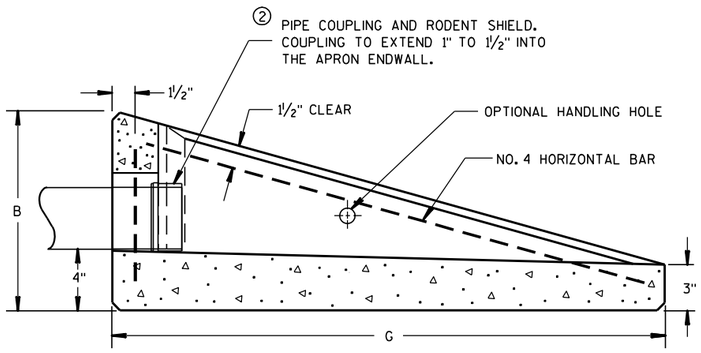
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



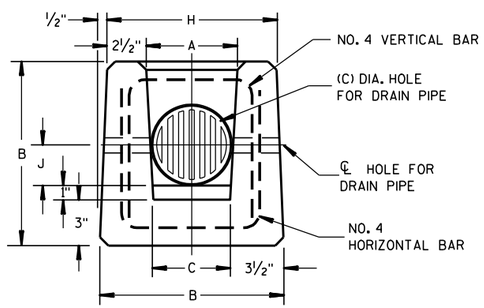
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

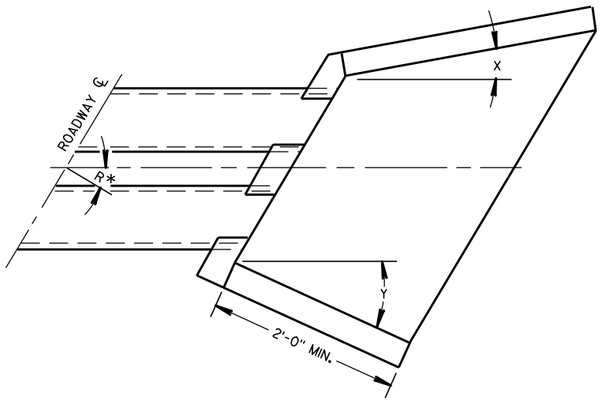
REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 6-4



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

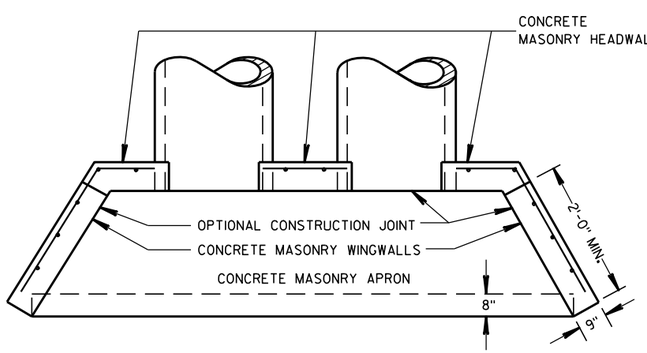
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

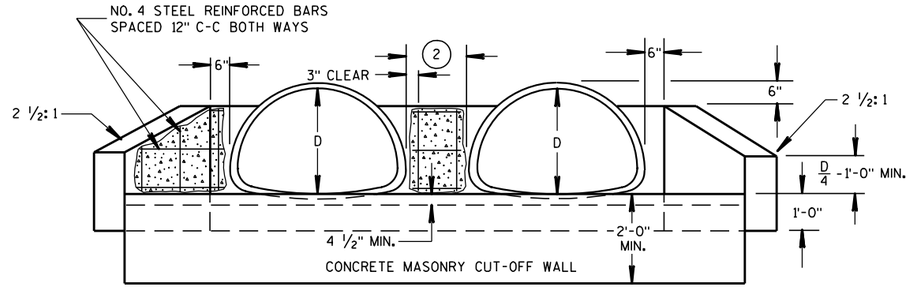
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



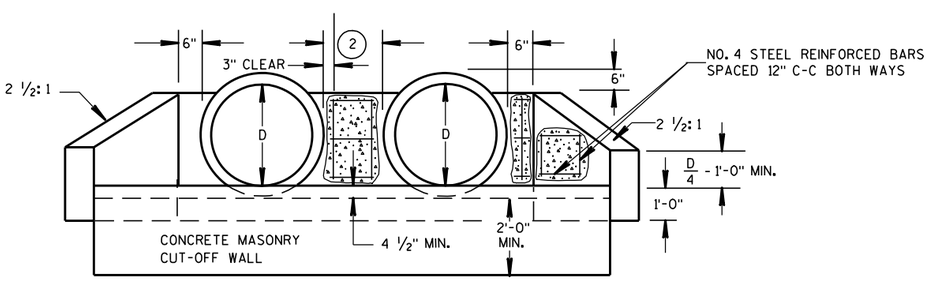
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



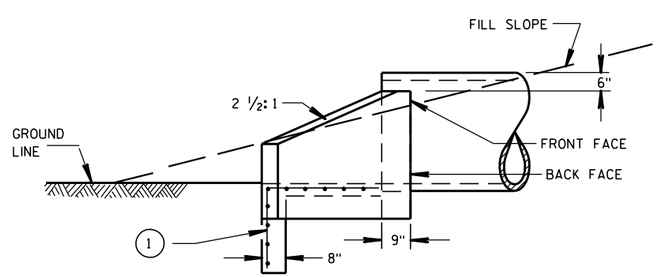
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/14/98 DATE

/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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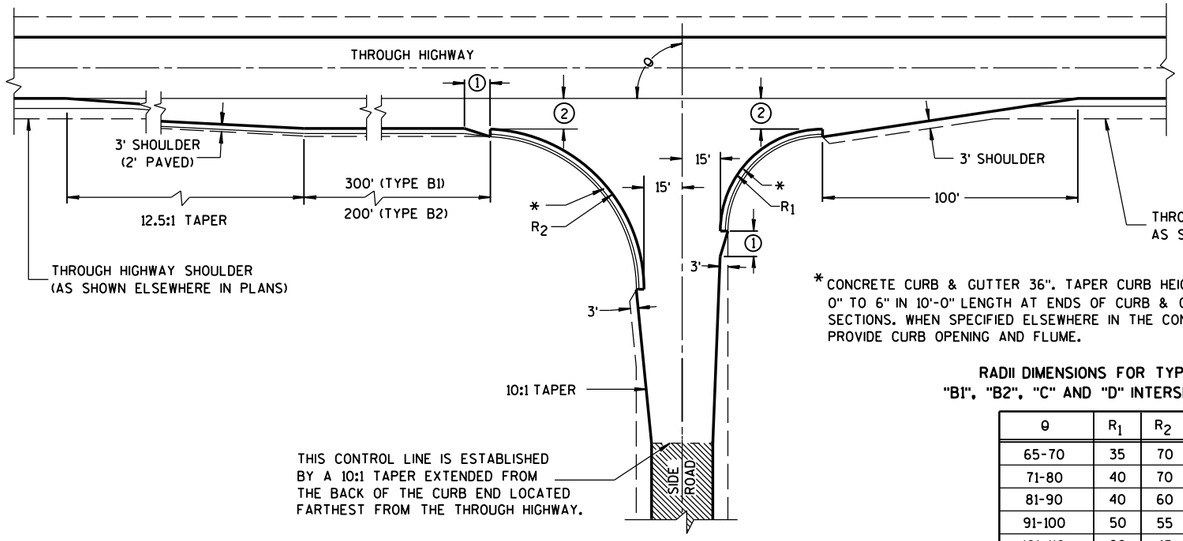
S.D.D. 8 F 10-1

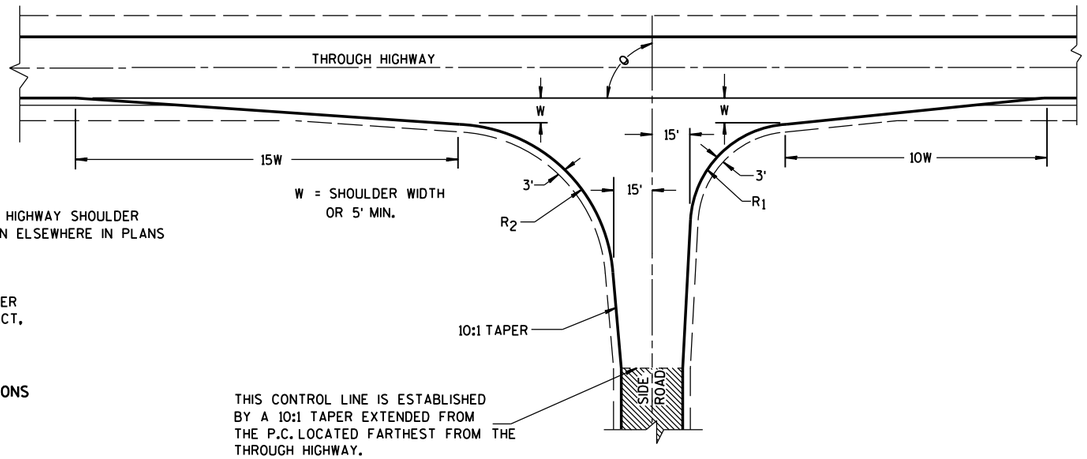


TYPE "B1" AND "B2"

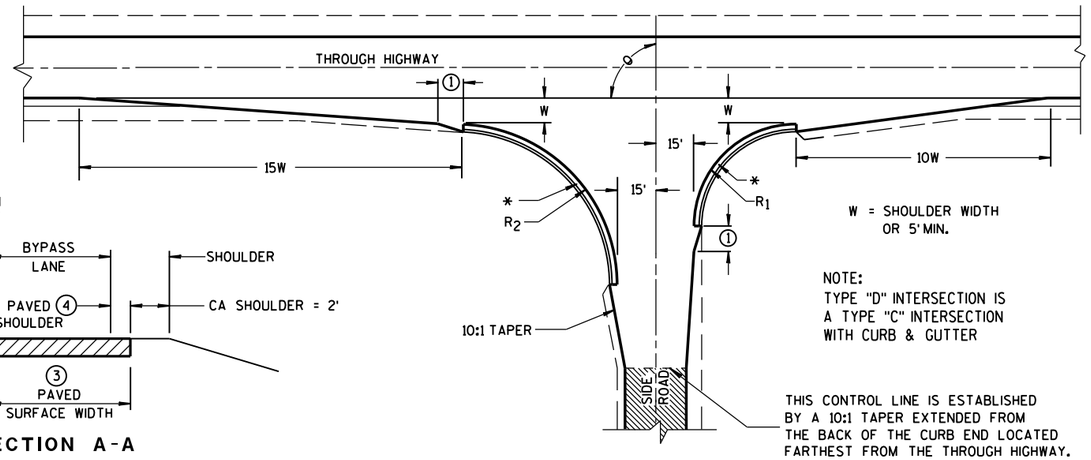
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

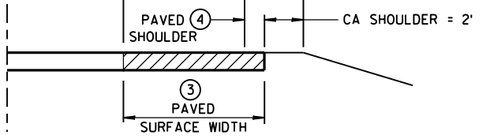
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

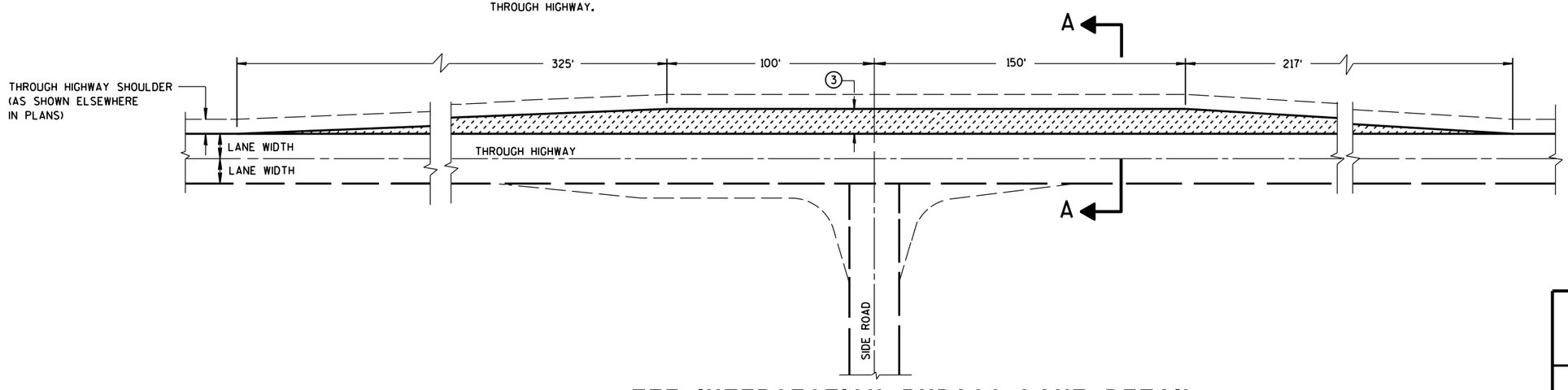
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



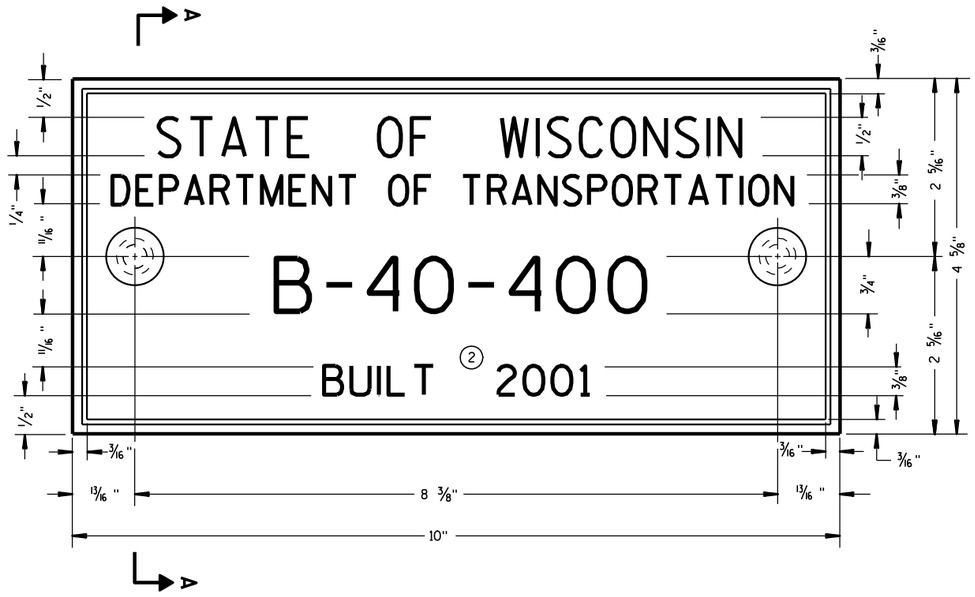
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 9 A 1-13a



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

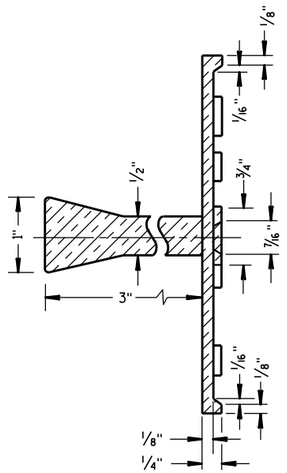
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

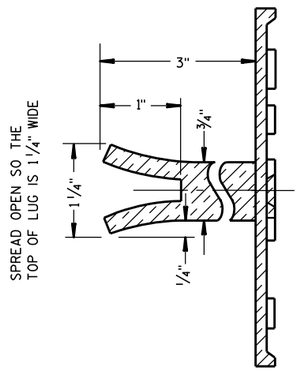
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

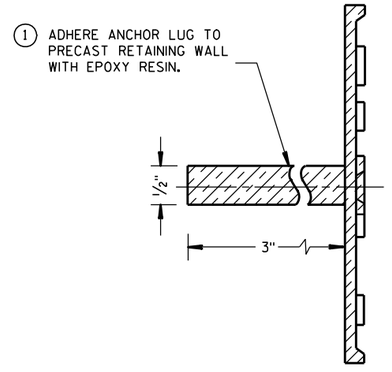
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

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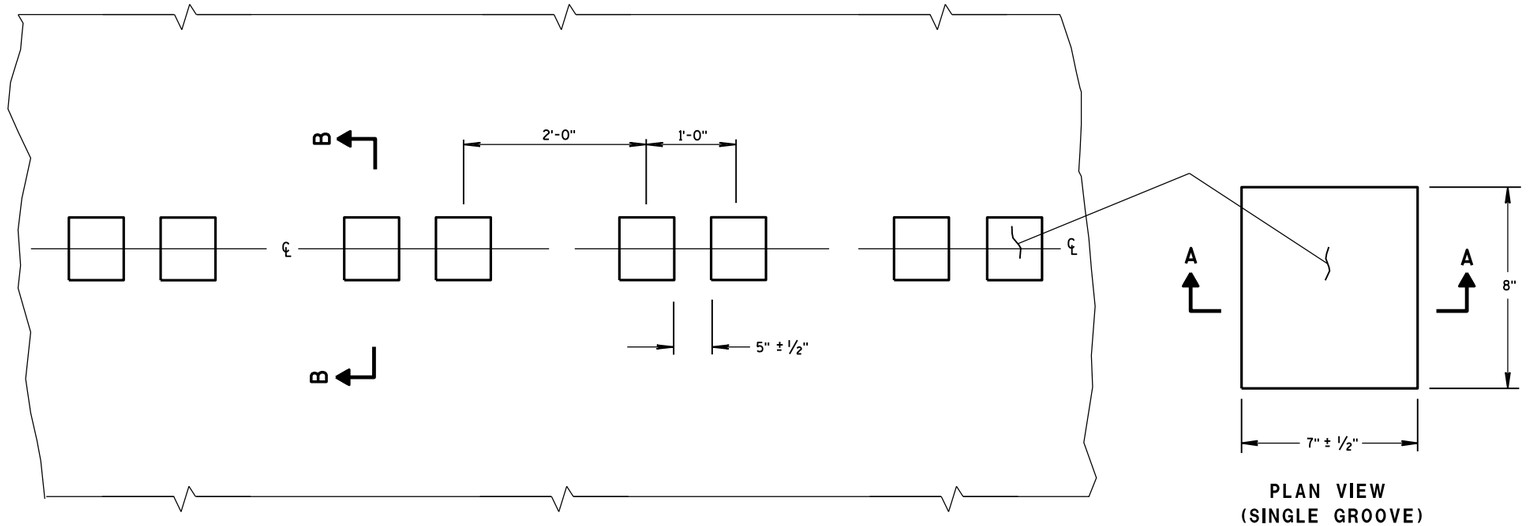
S.D.D. 12 A 3-10



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

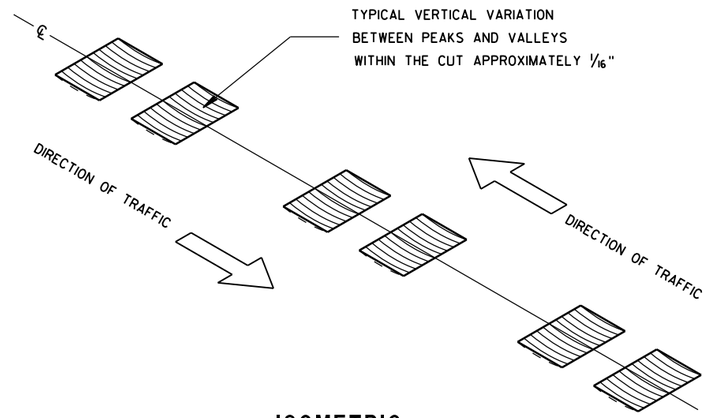
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE 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.



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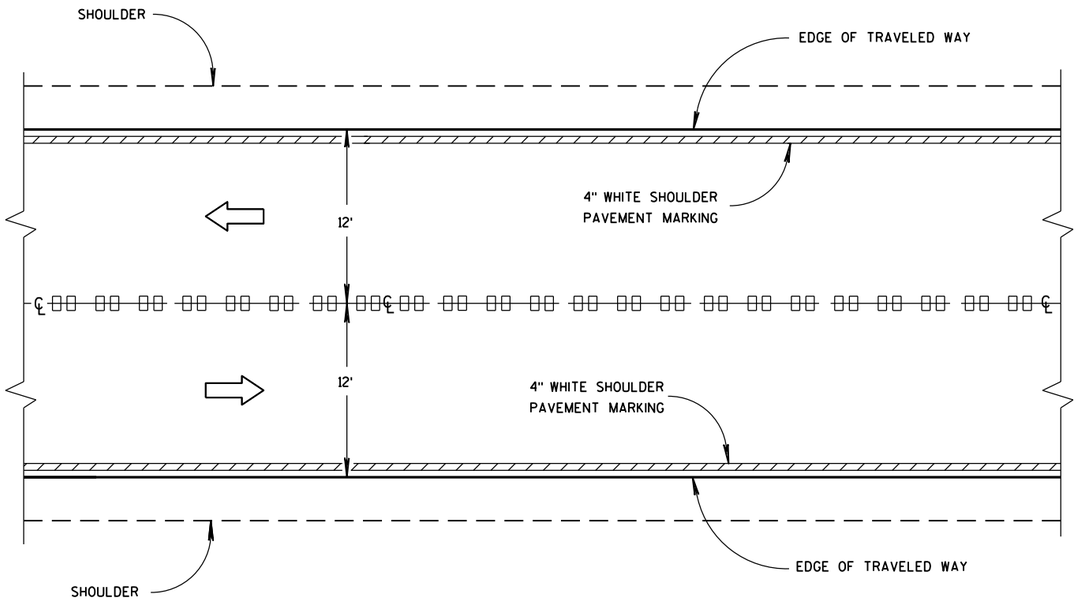
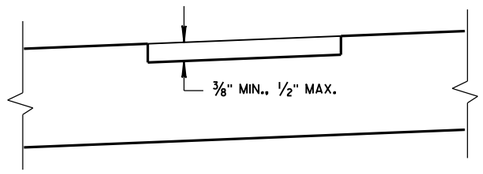
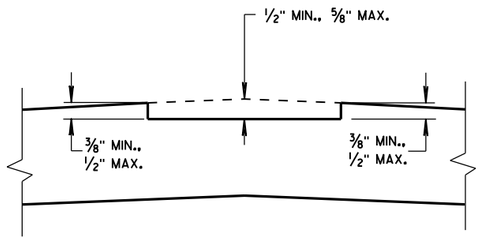


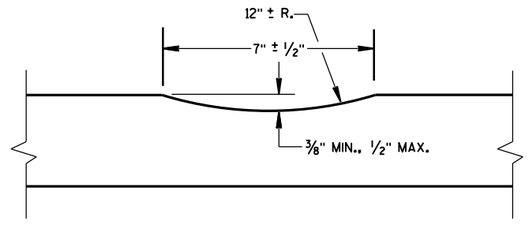
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



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 TRANSPOI 79

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S.D.D. 13 A 11-2a

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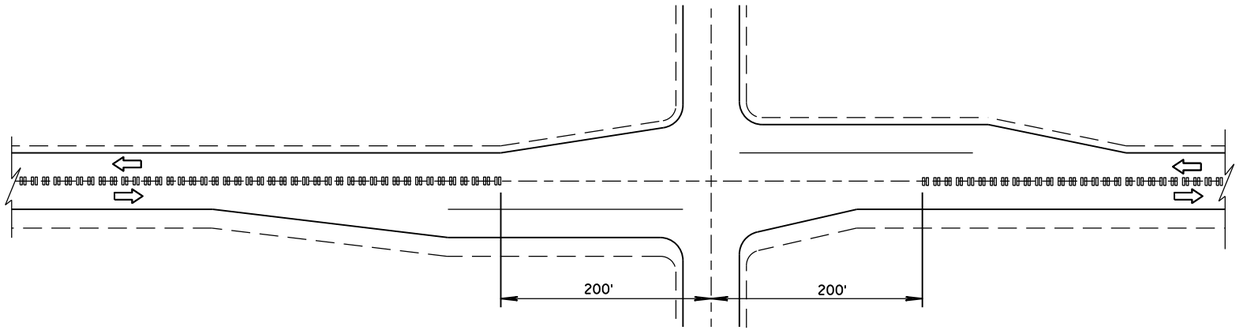
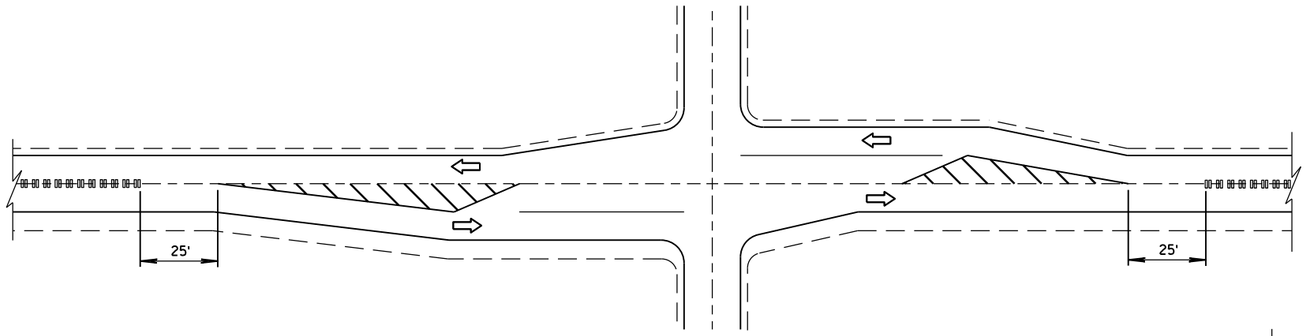
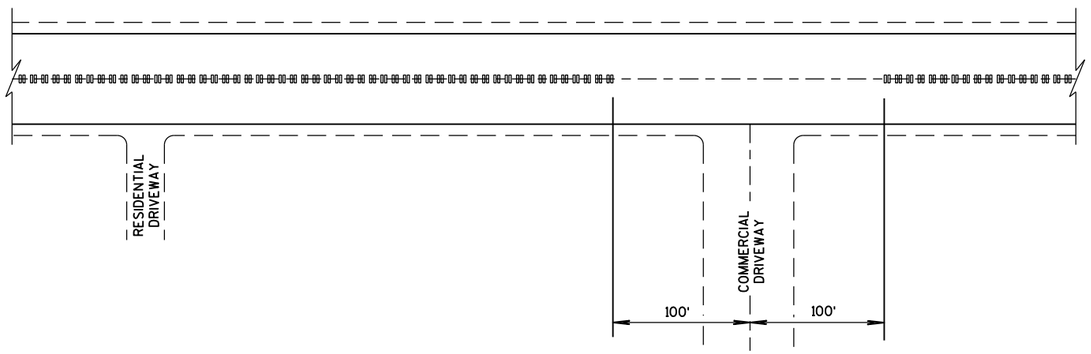
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

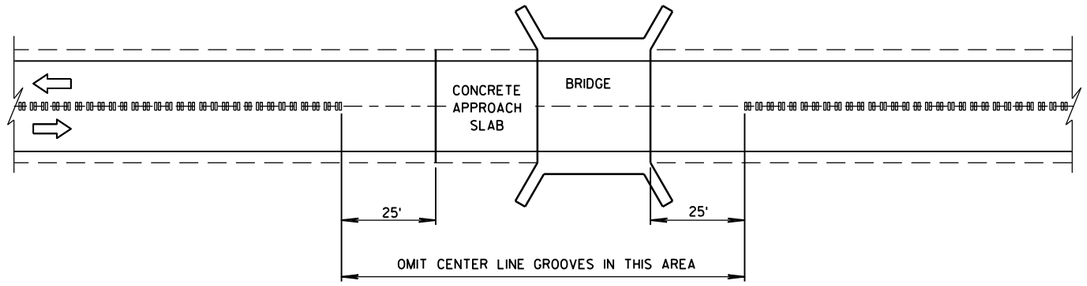


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

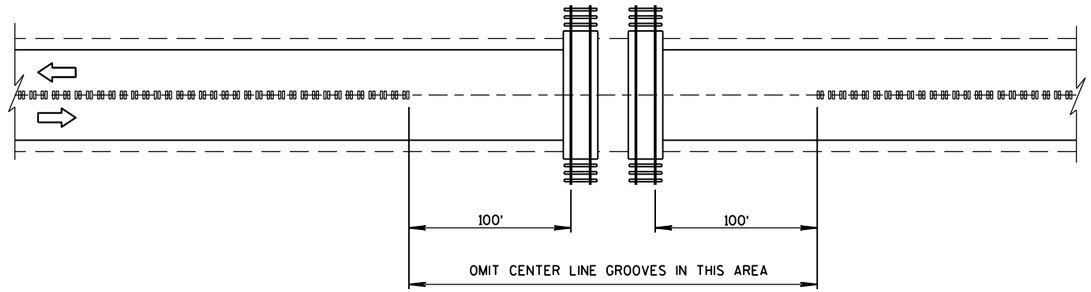


CENTER LINE GROOVES AT DRIVEWAYS (1)

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

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S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

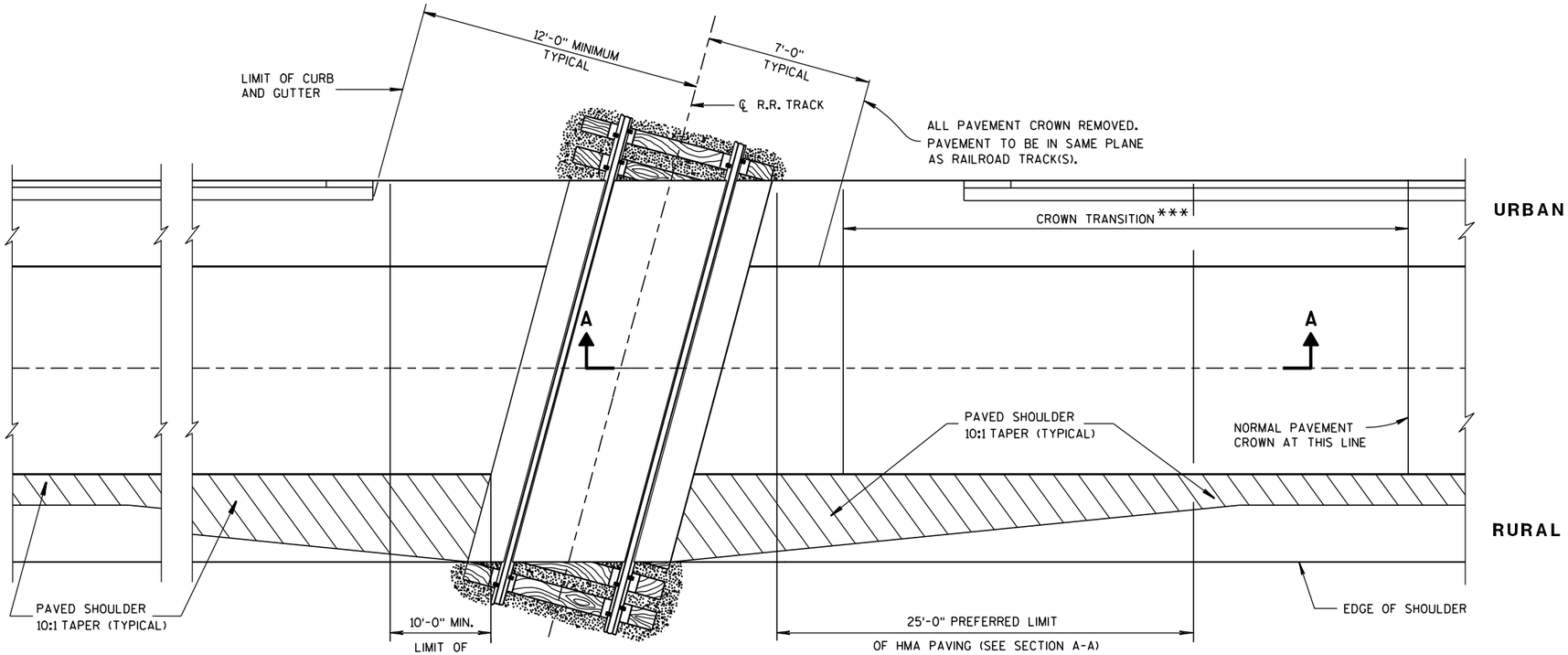
APPROVED

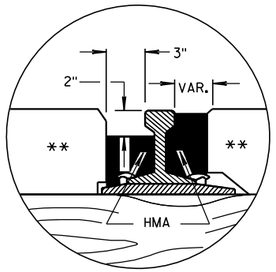
5/15/2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

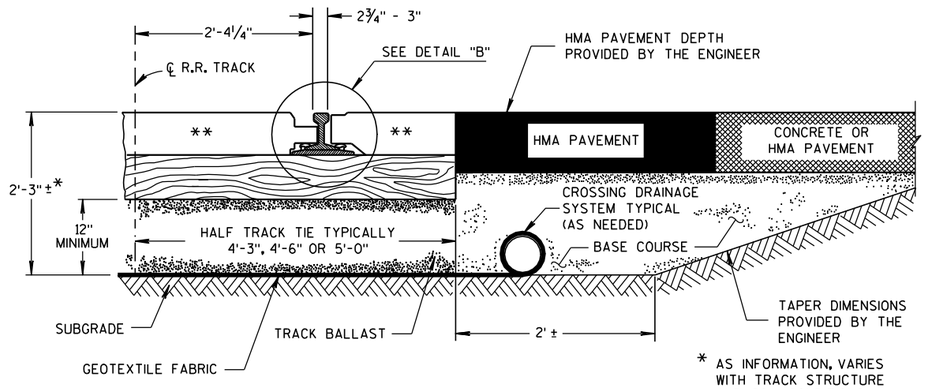
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

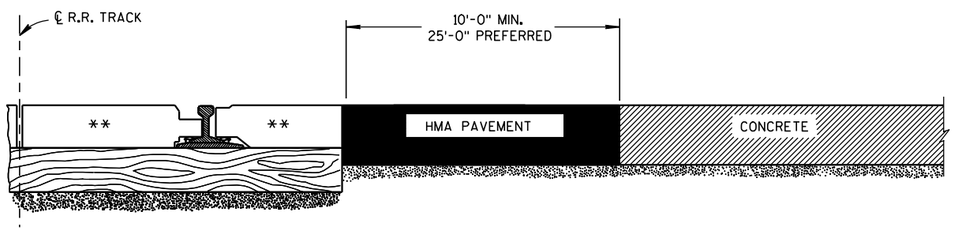
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH

SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI[illegible]CTION
FHWA

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S.D.D. 13 B 1-10

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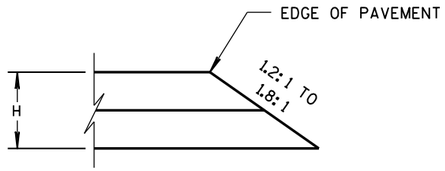
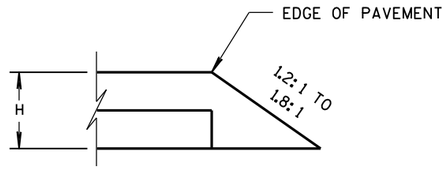
S.D.D. 13 B 1-10



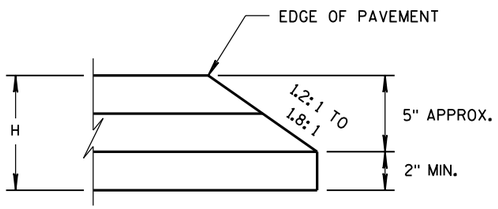
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



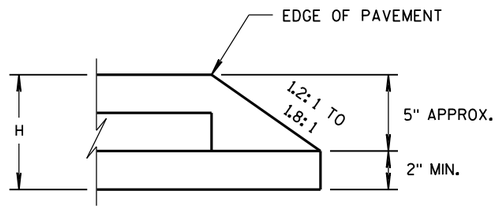
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

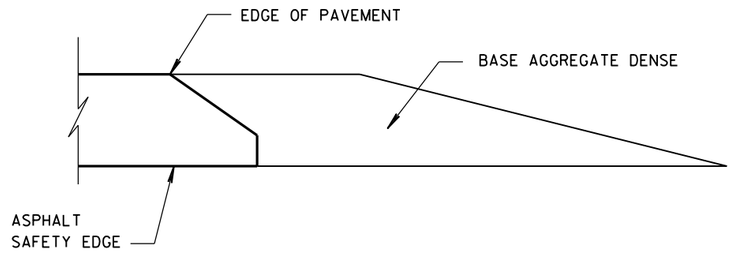
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

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

GENERAL NOTES

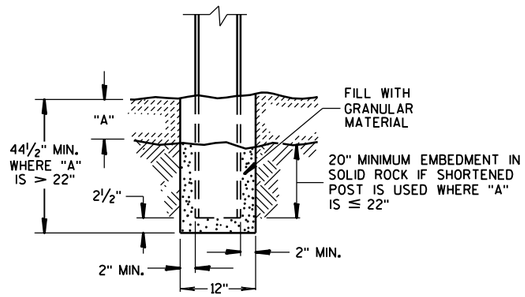
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

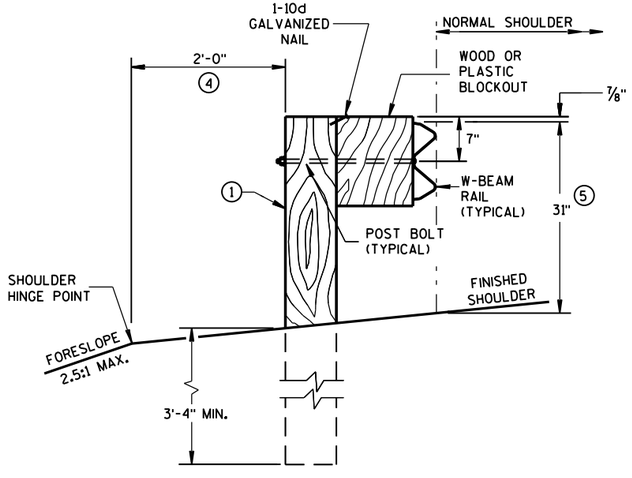
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

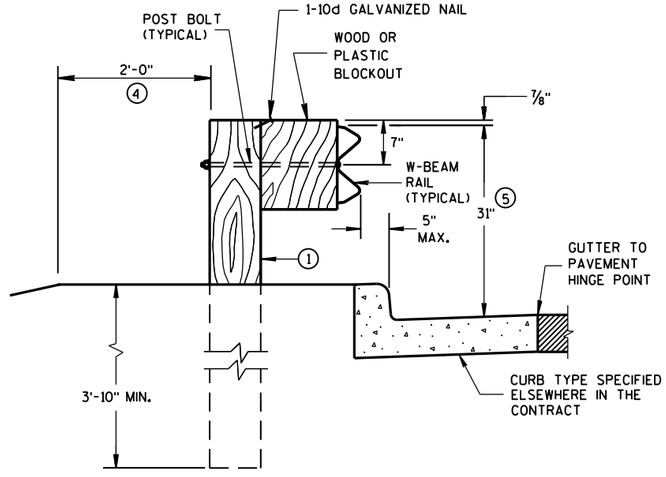


END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



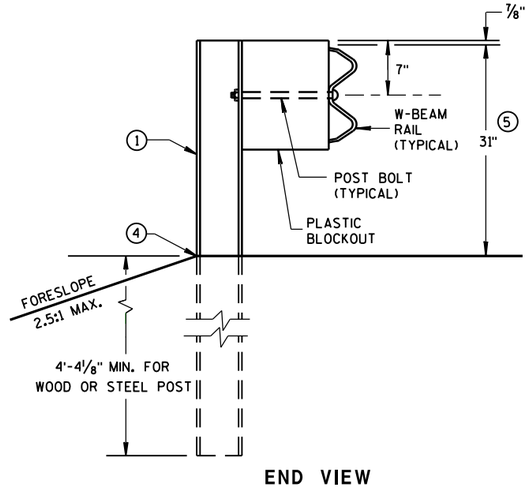
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



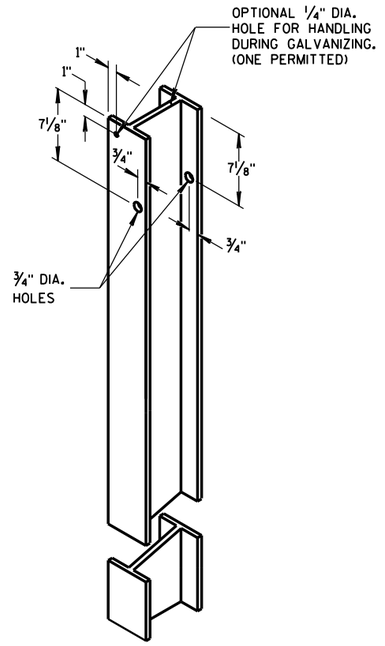
END VIEW

LOCATED ALONG A CURBED ROADWAY

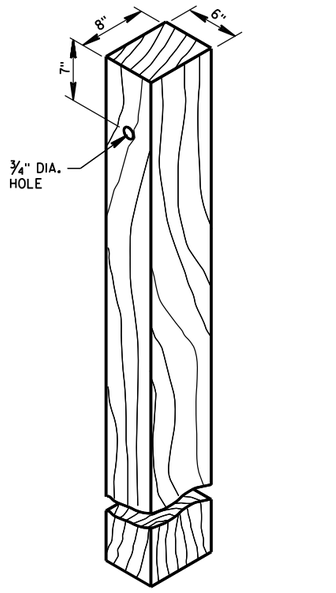


END VIEW

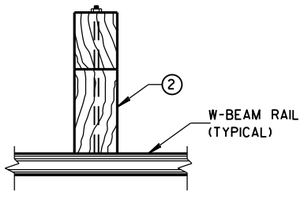
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



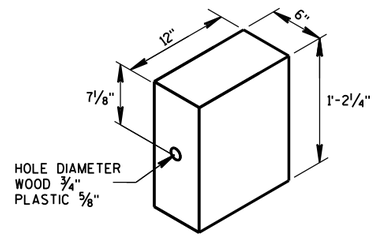
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



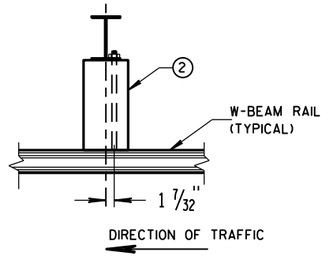
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

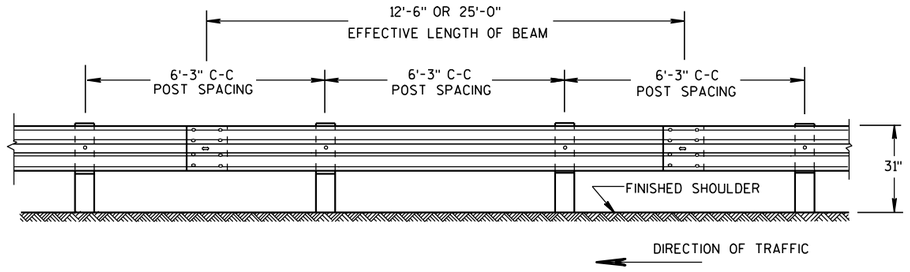


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

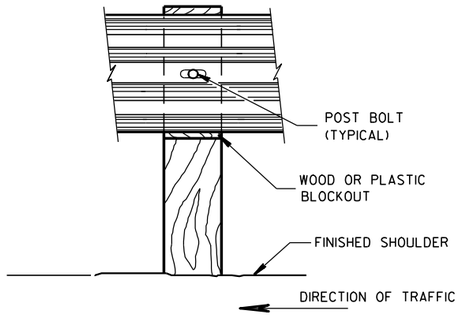
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



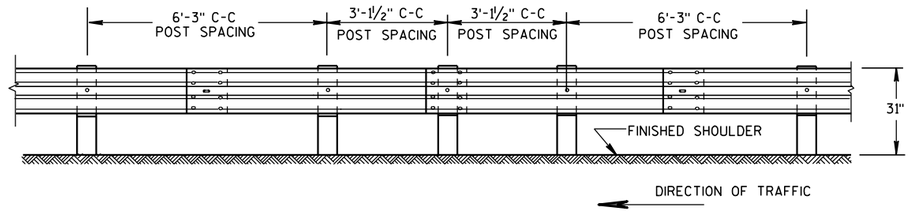
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

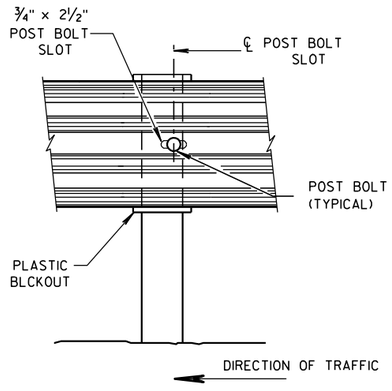
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

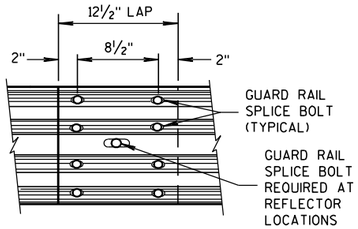


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

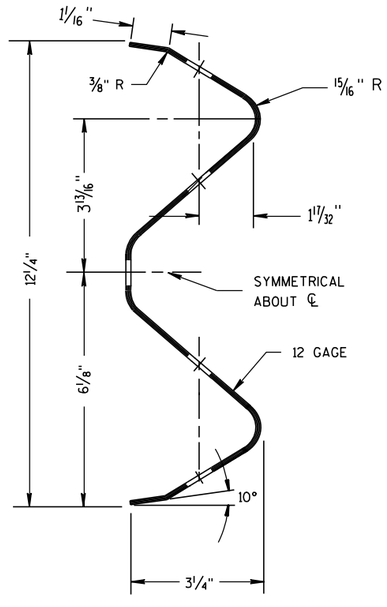


FRONT VIEW AT STEEL POST

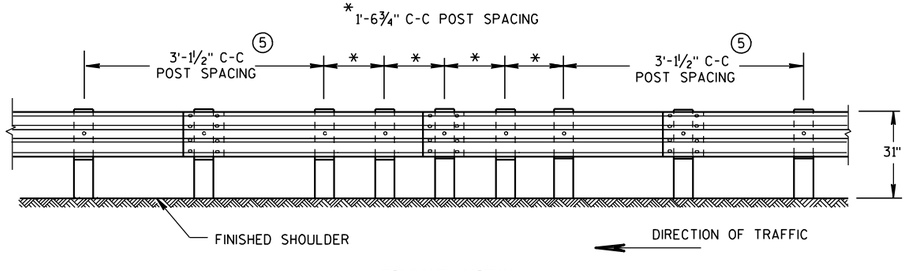


FRONT VIEW

MID-SPAN BEAM SPLICE

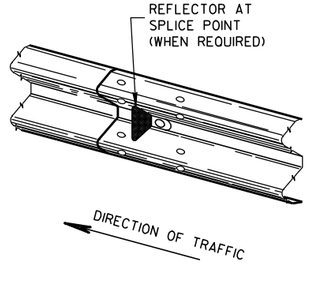


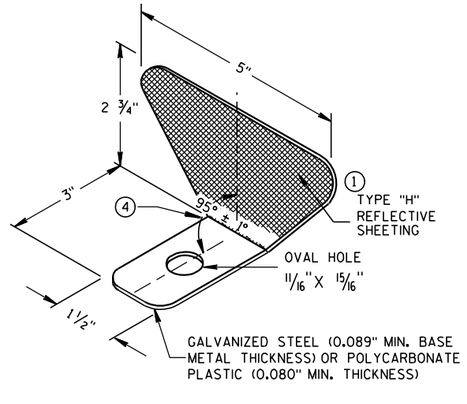
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ③ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 ④ 2	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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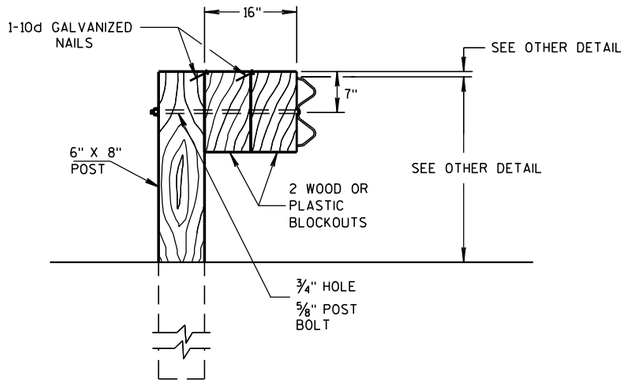
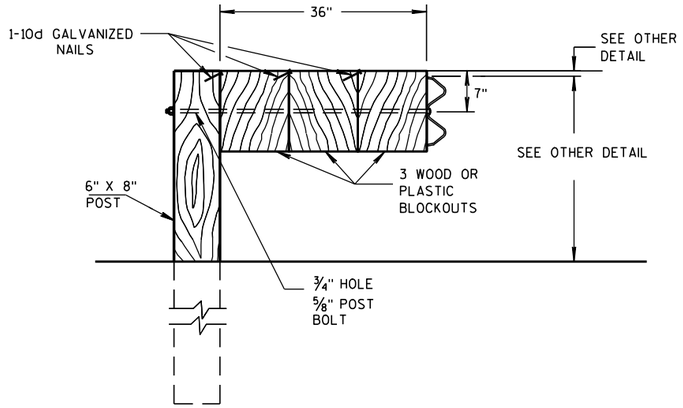
S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

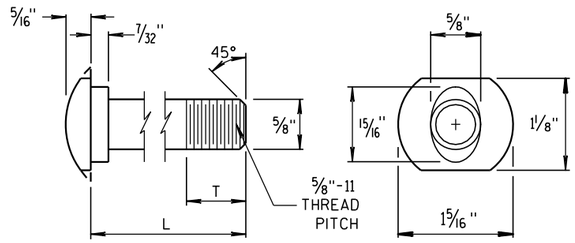


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

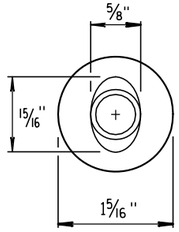
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

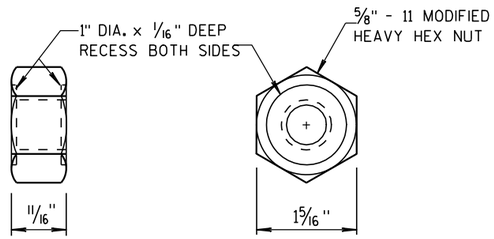


POST BOLT TABLE

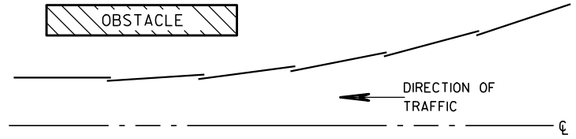
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

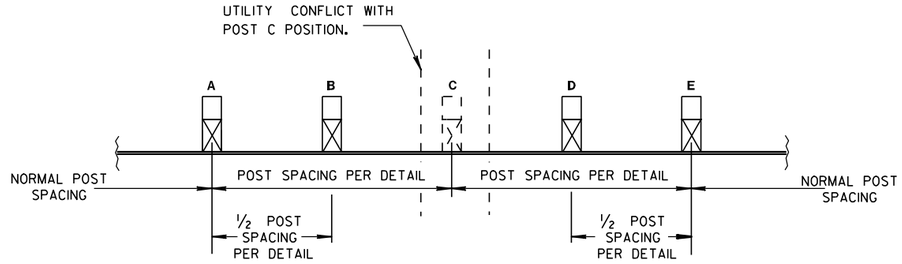


POST BOLT AND RECESS NUT

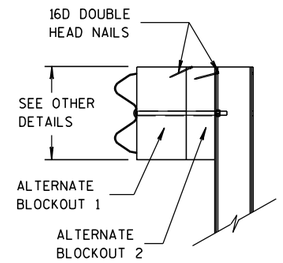


PLAN VIEW

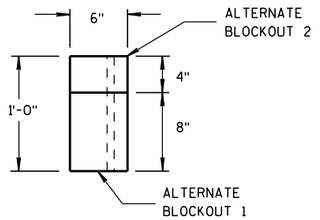
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

85

ENT

6
S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

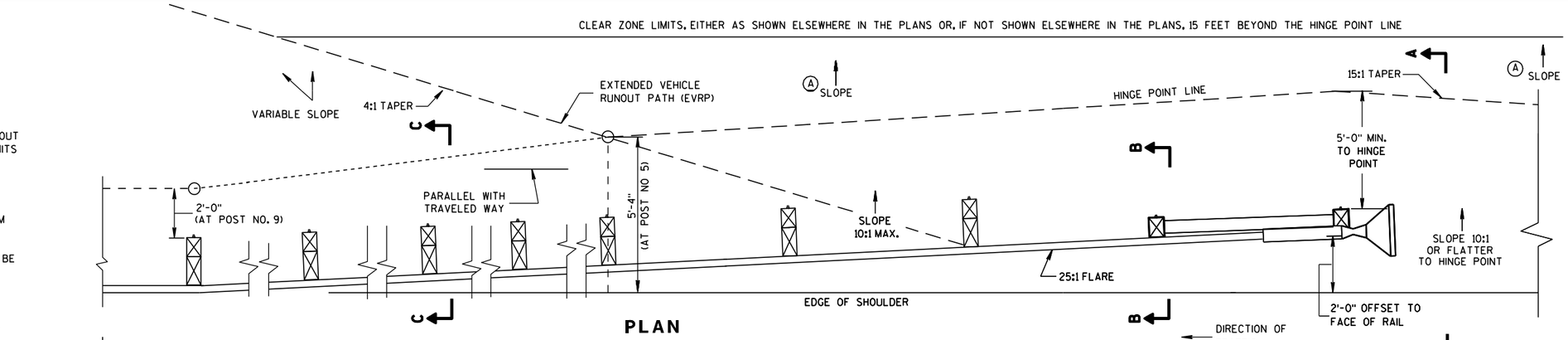
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

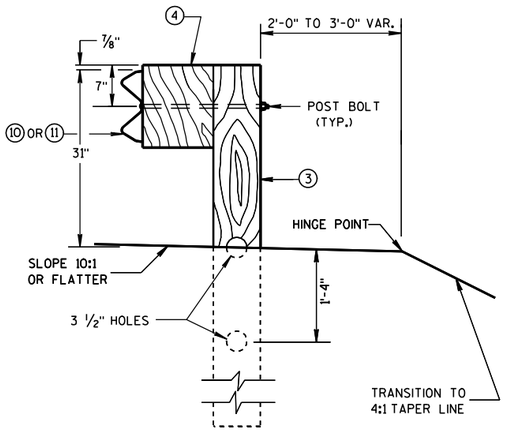
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

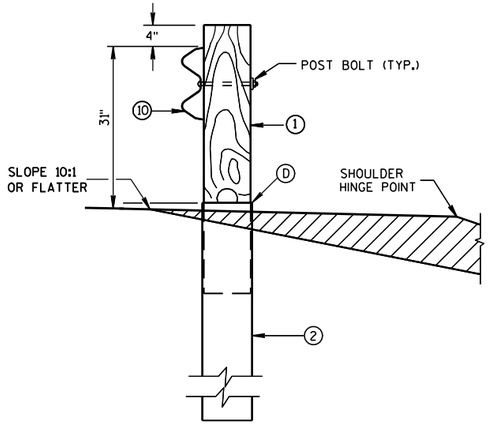
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

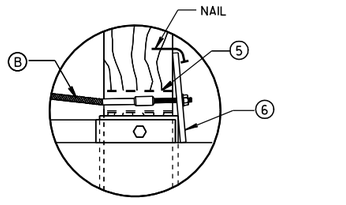


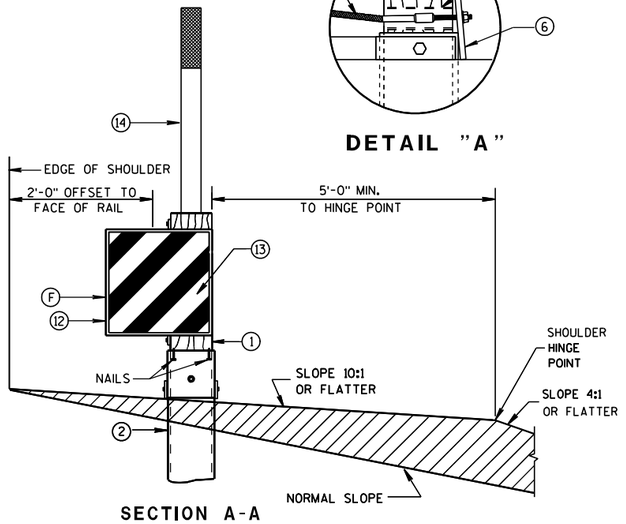


SECTION C-C
TYPICAL AT POST NOS. 3-9

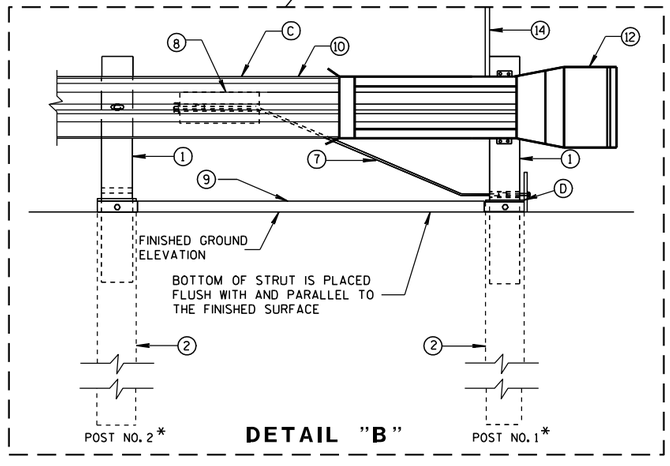


SECTION B-B
TYPICAL AT POST NO. 2*





SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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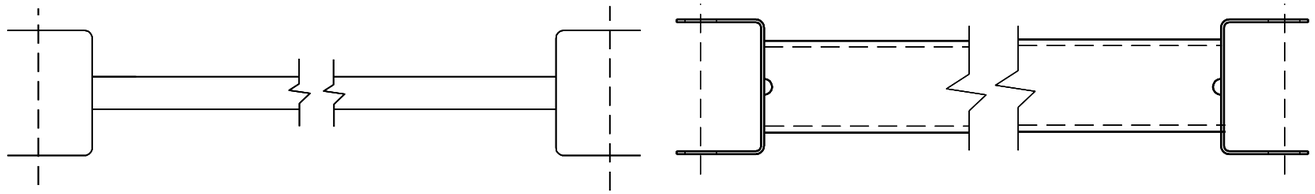
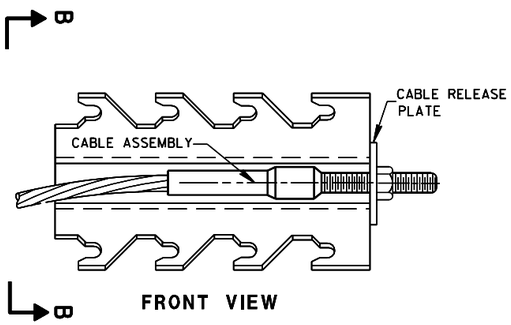
S.D.D. 14 B 44-1a



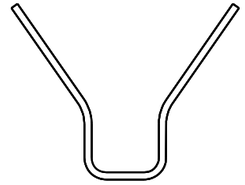
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

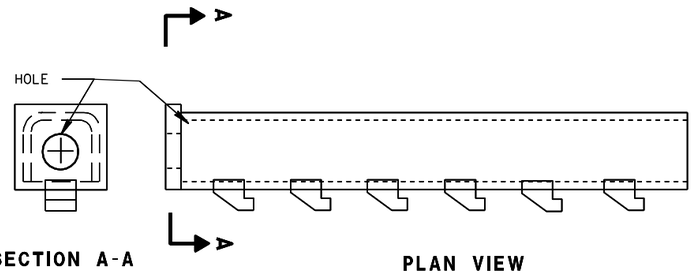
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



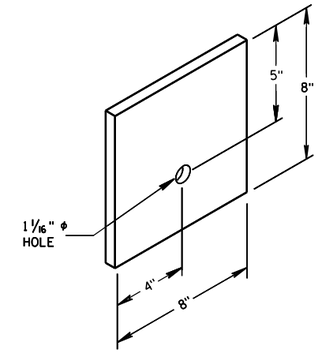
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



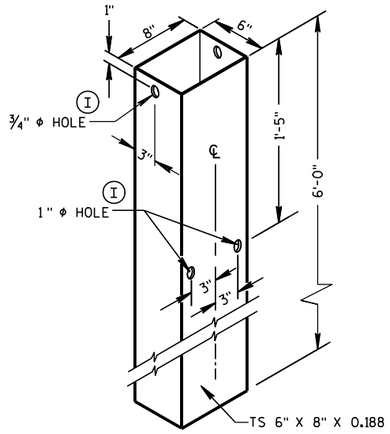
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

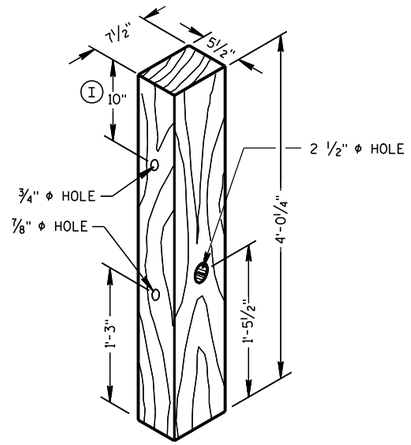
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

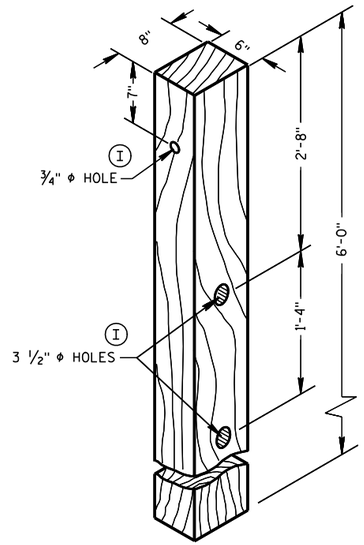


FOUNDATION TUBE (2)



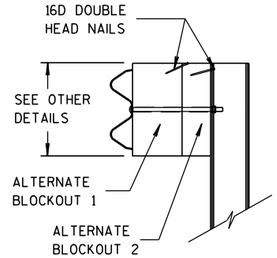
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

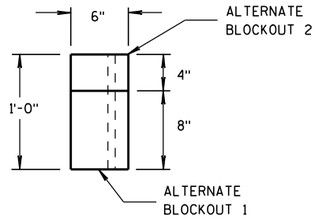


POSTS NUMBER 3-9

WOOD CRT POST (3)

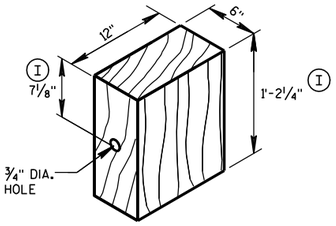


SIDE VIEW



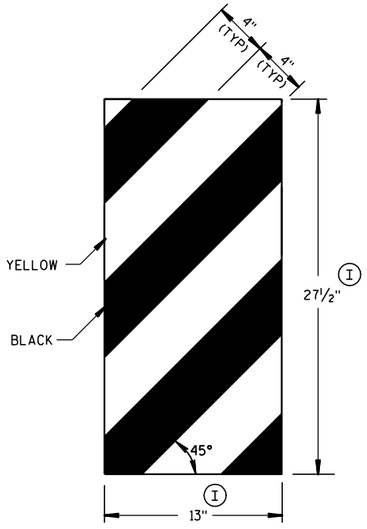
TOP VIEW

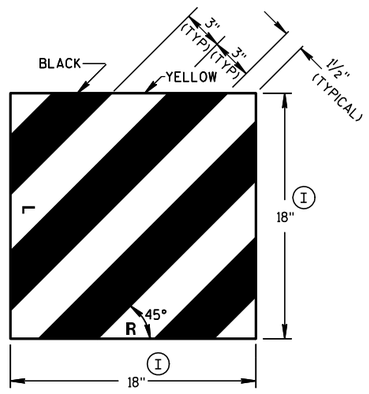
ALTERNATE WOOD BLOCKOUT DETAIL



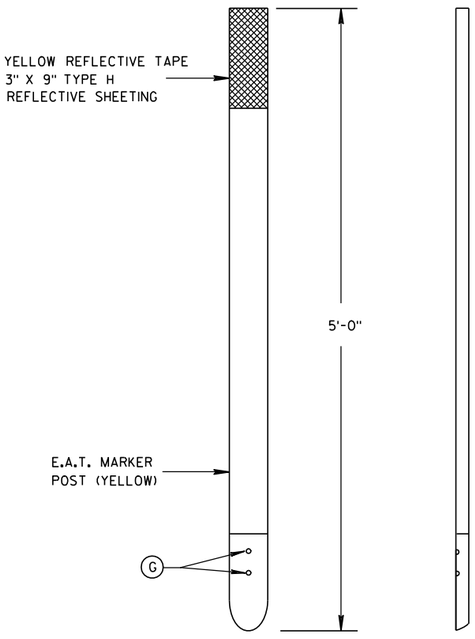
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





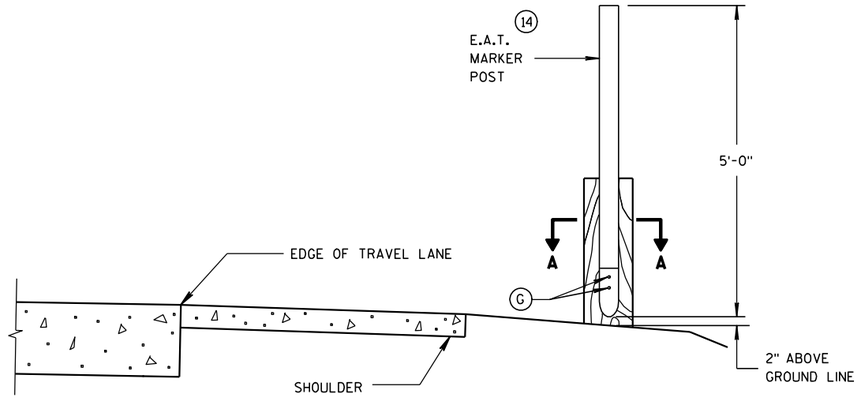
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

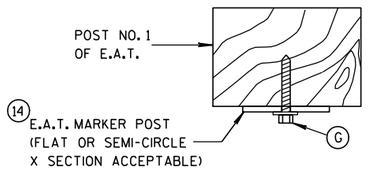
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

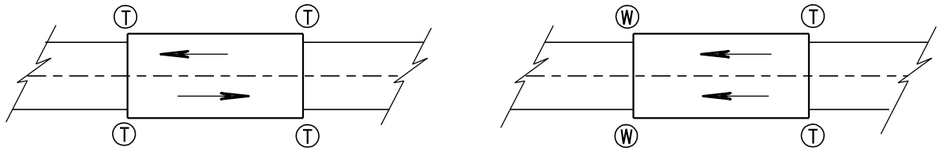
5/23/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS 88
ENGINEER

FHWA

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

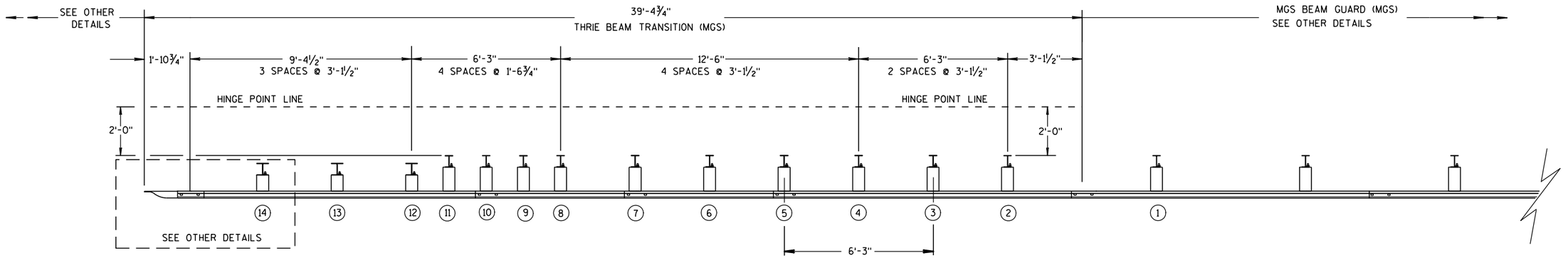
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

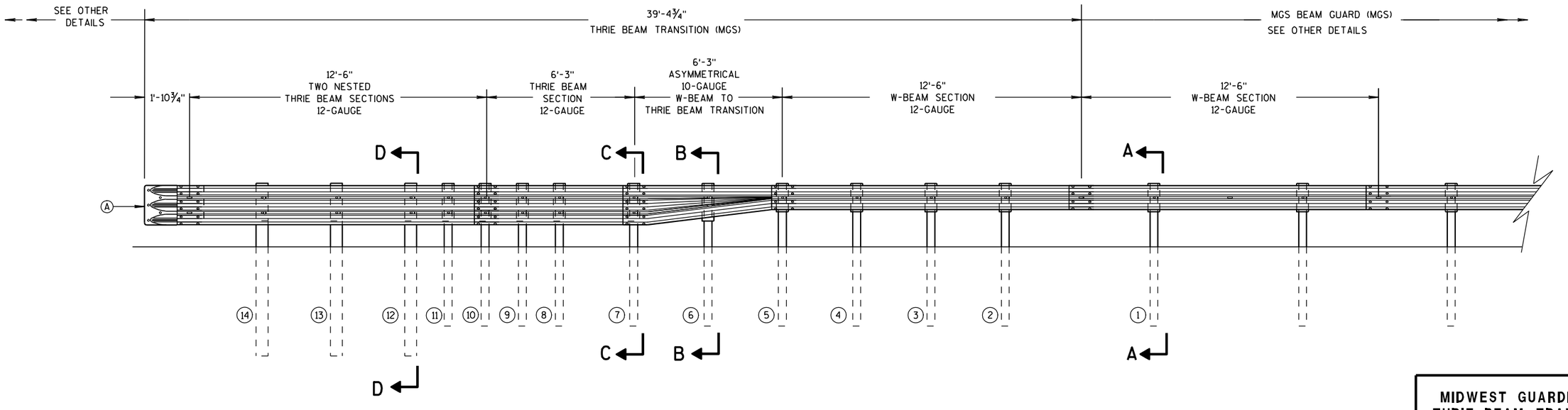
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

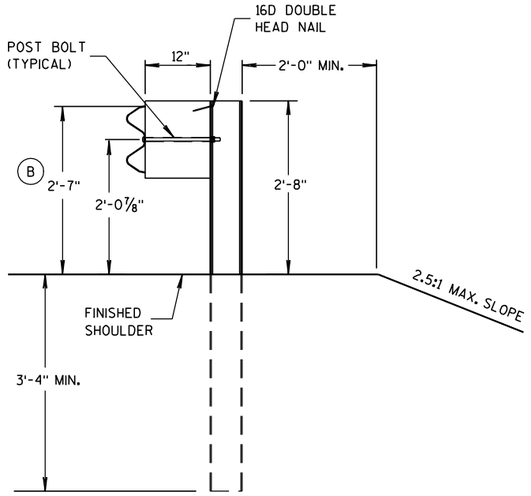
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

6
S.D.D. 14 B 45-3a

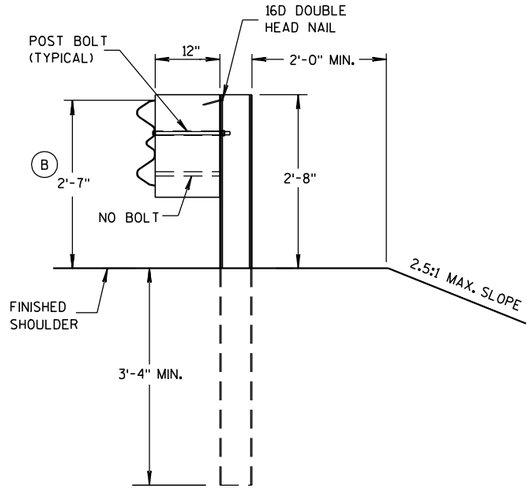
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



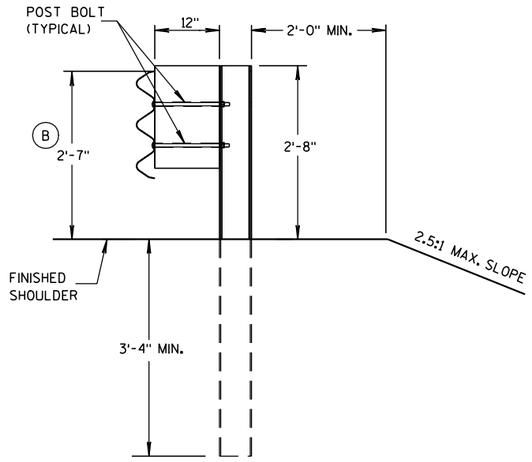
SECTION A-A

POSTS 1-5



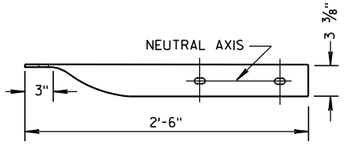
SECTION B-B

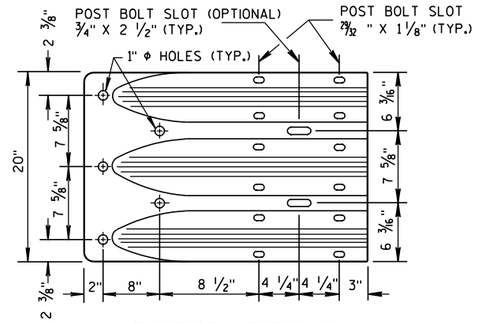
POST 6



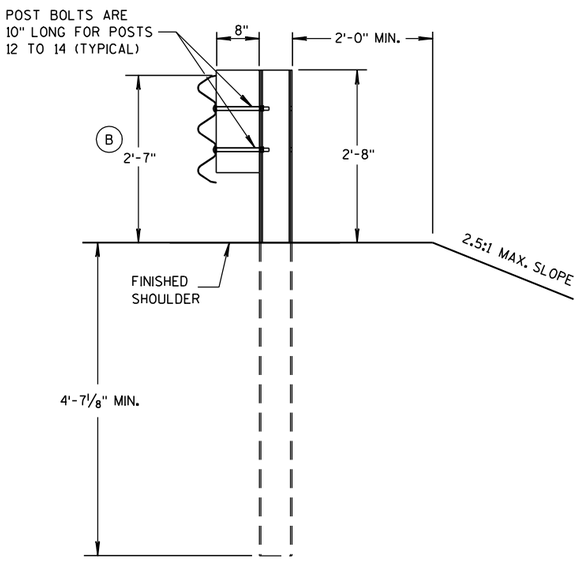
SECTION C-C

POSTS 7-11



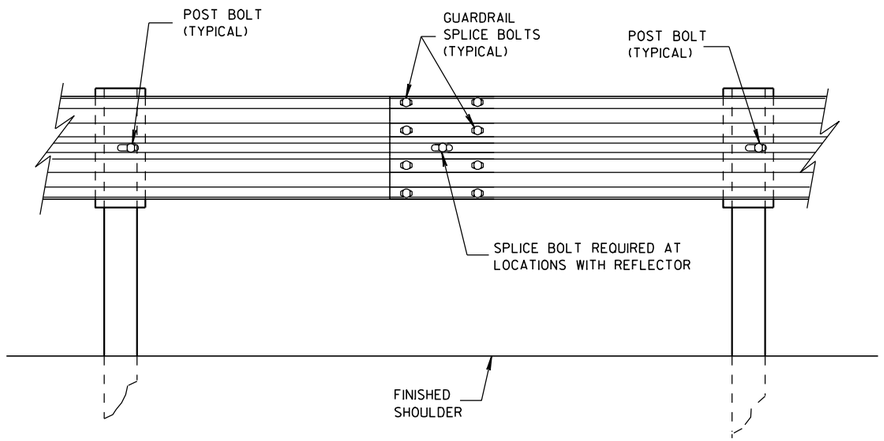


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

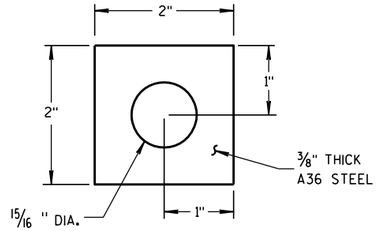
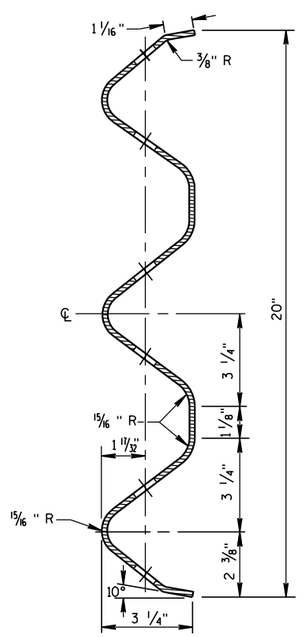


PLATE WASHER DETAIL

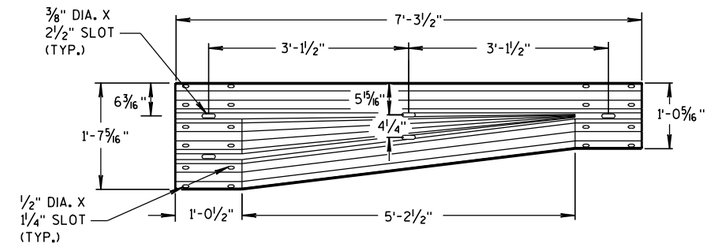


SECTION THRU THRIE BEAM RAIL ELEMENT

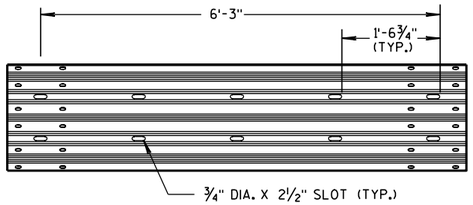
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

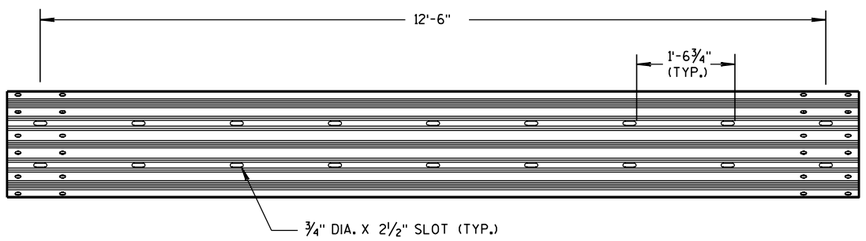
6
S.D.D. 14 B 45-3b



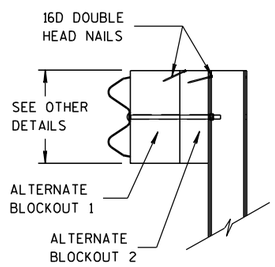
W-BEAM TO THRIE BEAM TRANSITION SECTION



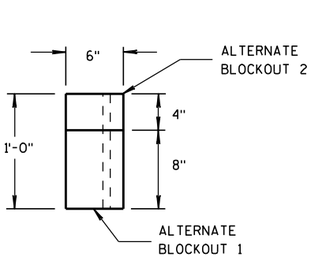
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

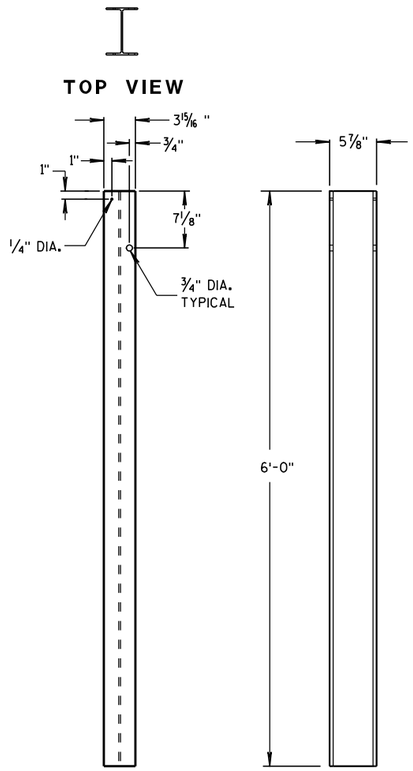


SIDE VIEW

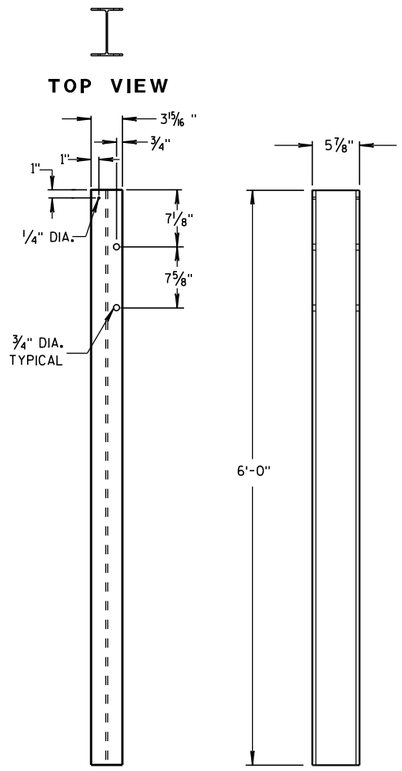


TOP VIEW

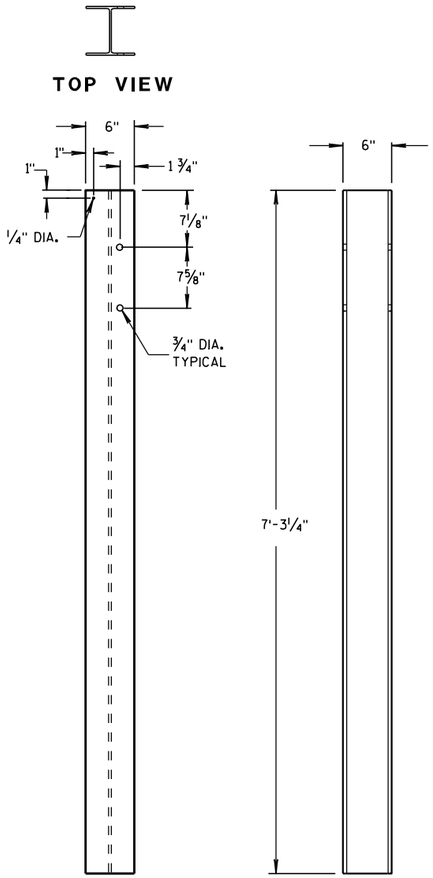
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

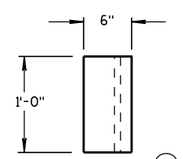


STEEL POSTS 6-11

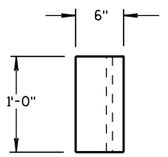


STEEL POSTS 12-14

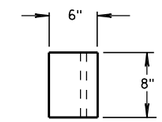
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



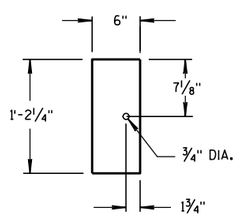
TOP VIEW (1)



TOP VIEW (1)

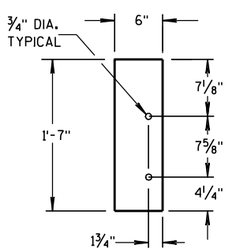


TOP VIEW



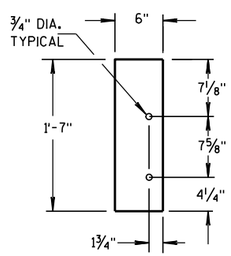
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

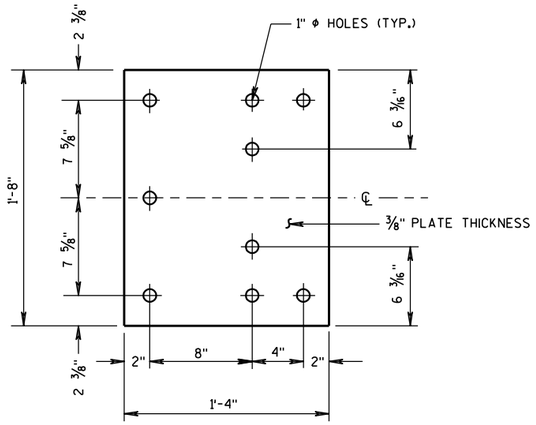
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

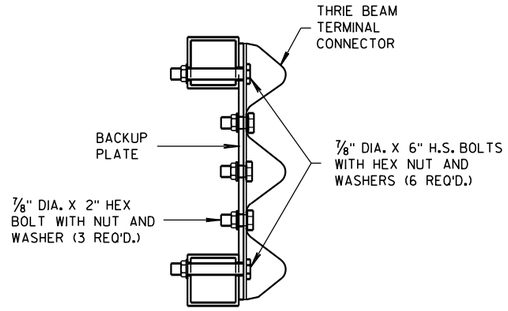
S.D.D. 14 B 45-3c

6

S.D.D. 14 B 45-3c



BACK-UP PLATE DETAIL

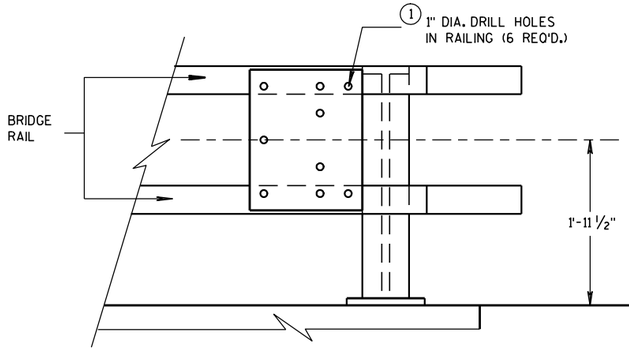


SECTION J-J

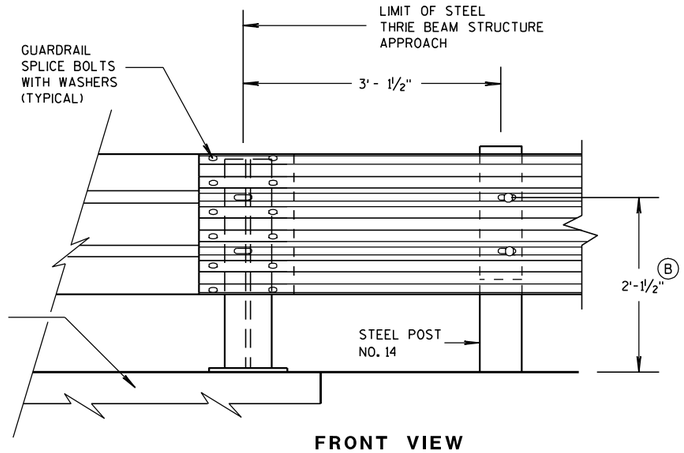
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

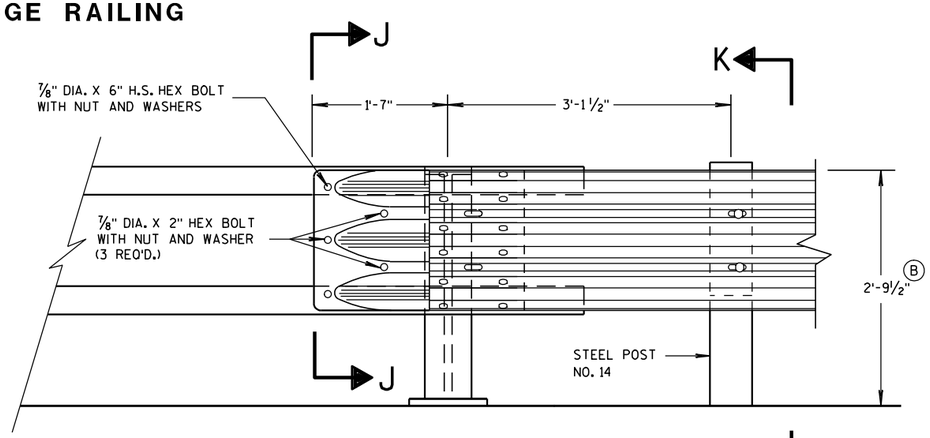


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

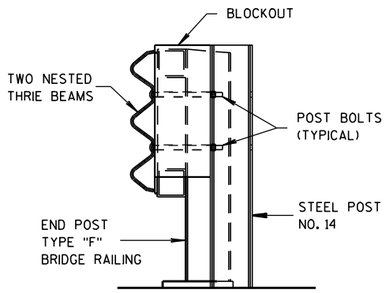


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

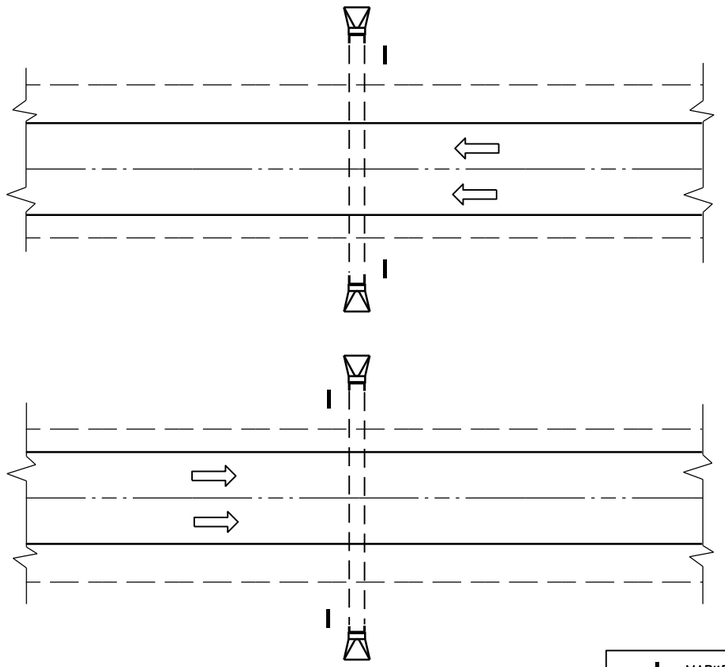
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

6

S.D.D. 14 B 45-3g

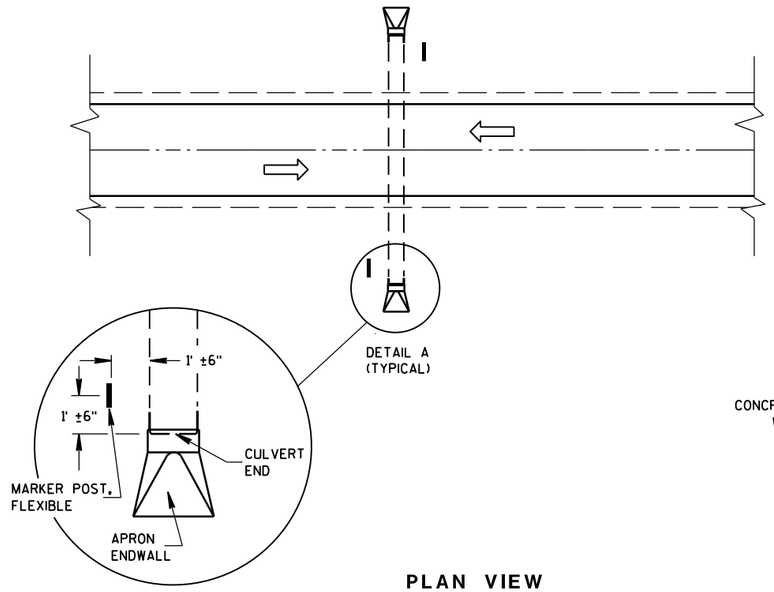
6

S.D.D. 14 B 45-3g



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

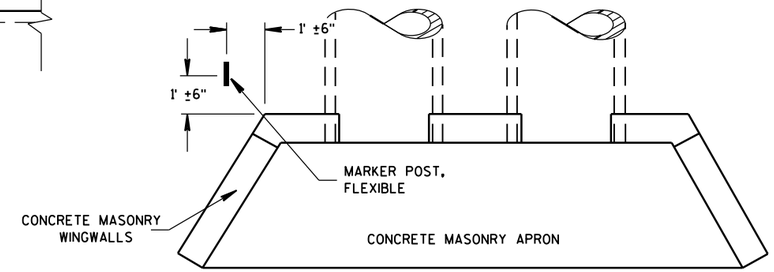
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

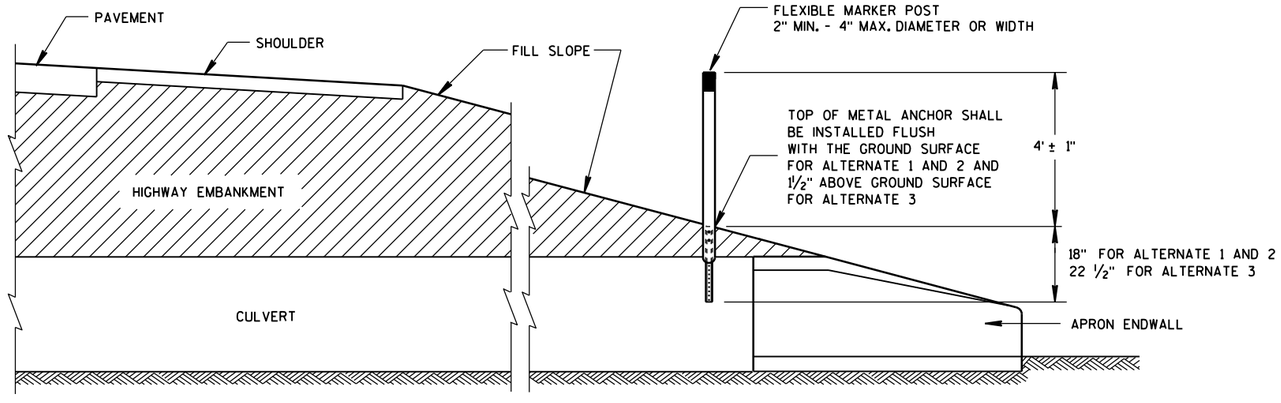
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

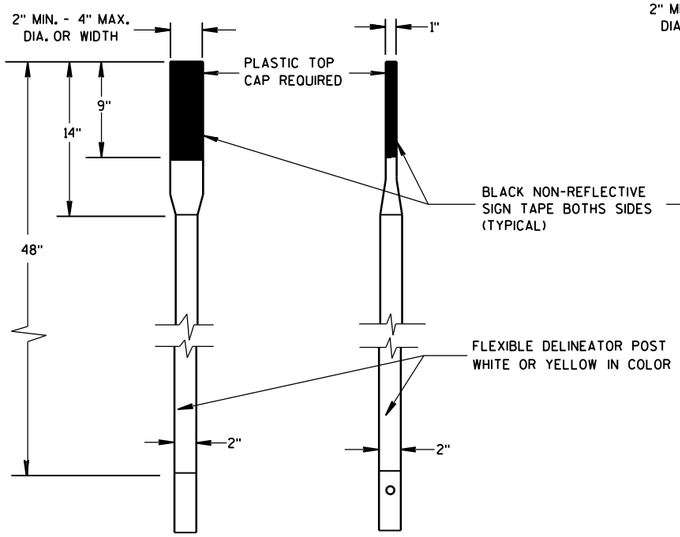
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

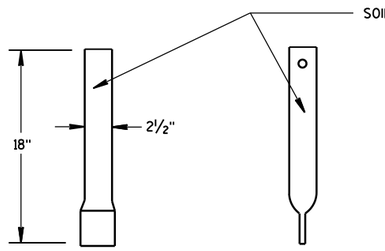
6

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

6

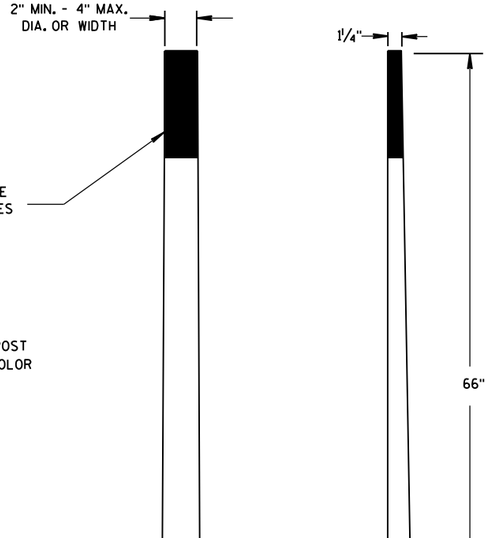
S.D.D. 15 A 3-2a





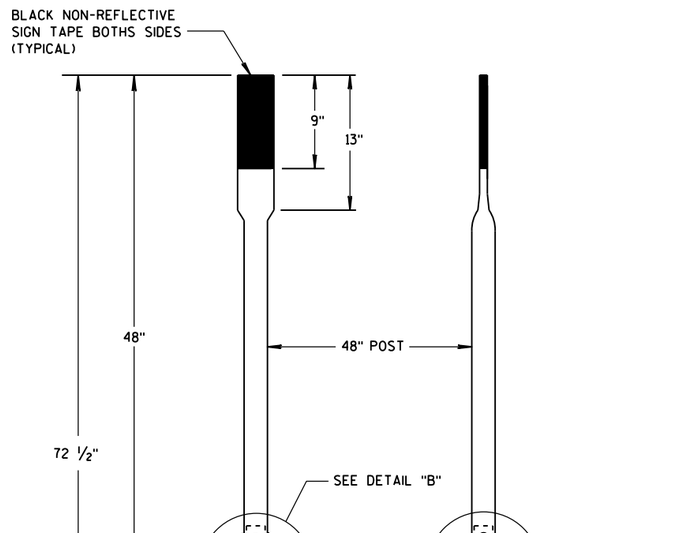
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

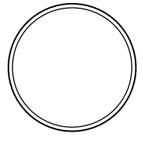
ALTERNATE 2



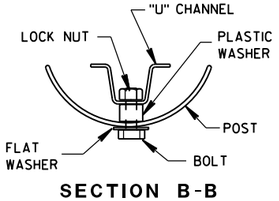
FRONT VIEW SIDE VIEW

ALTERNATE 3

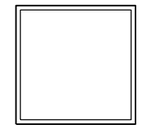
FLEXIBLE MARKER POSTS



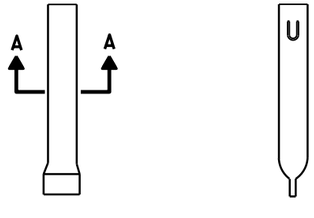
SECTION A-A



SECTION B-B

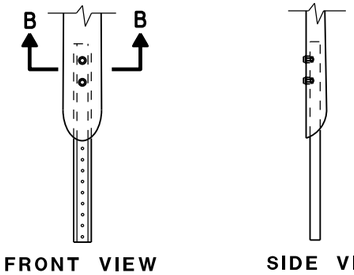


SECTION C-C



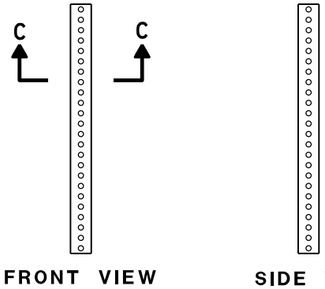
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

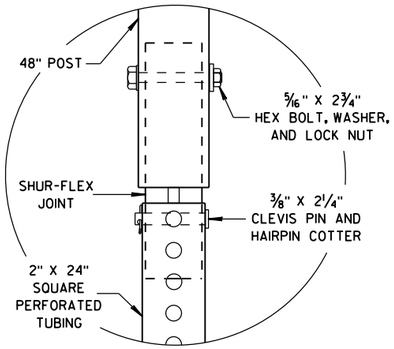
ALTERNATE 2



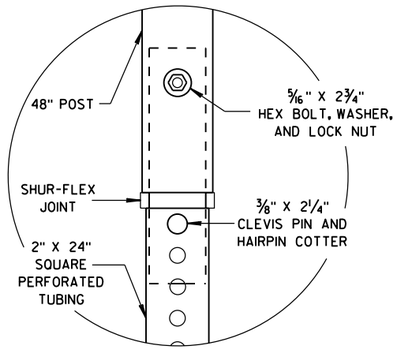
FRONT VIEW SIDE VIEW

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

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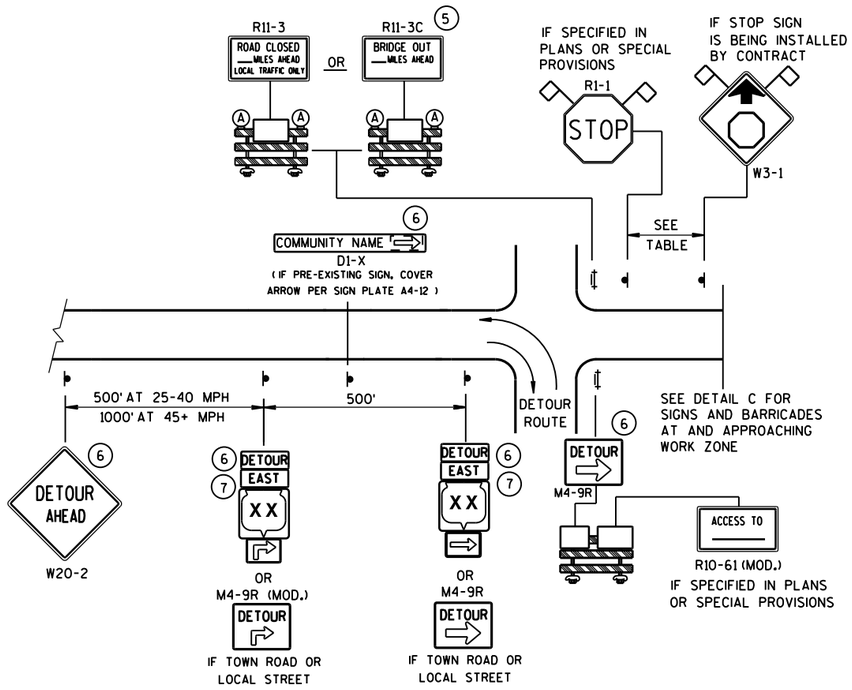
S.D.D. 15 A 3-2b

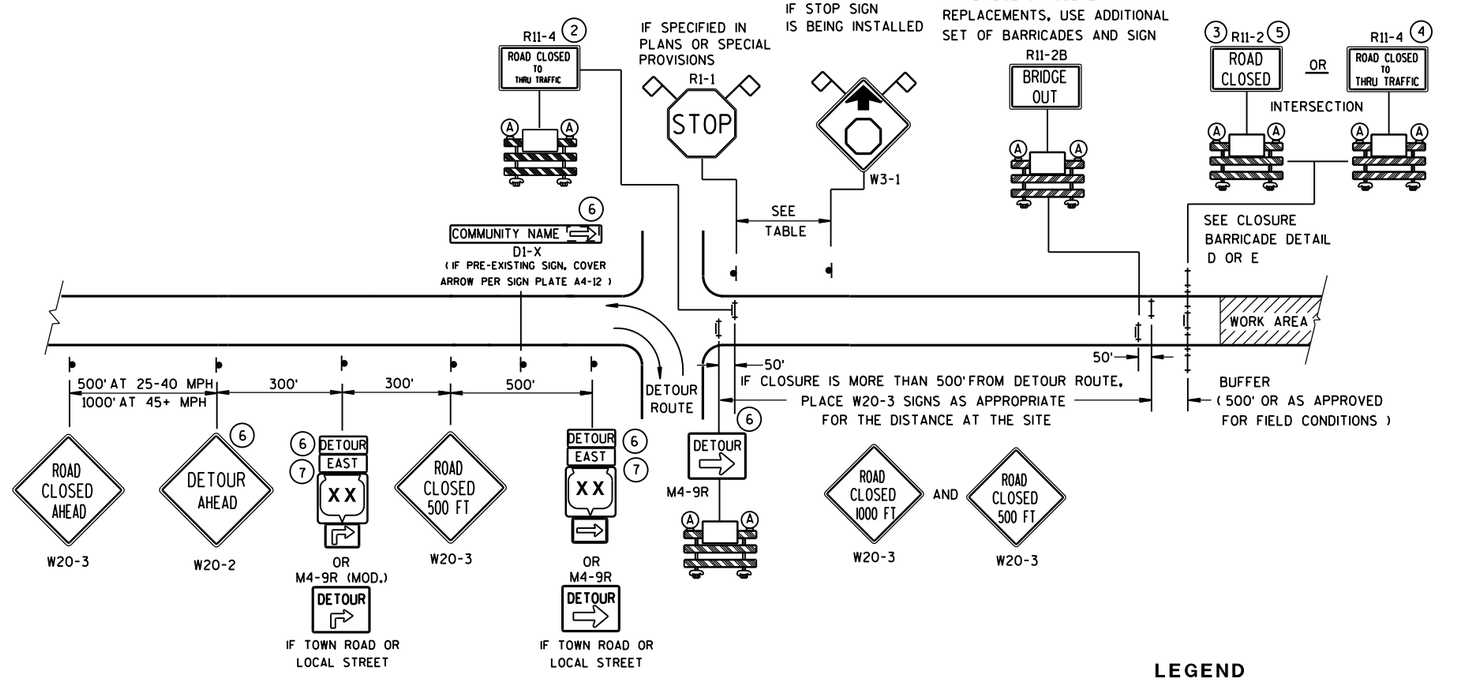
6

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



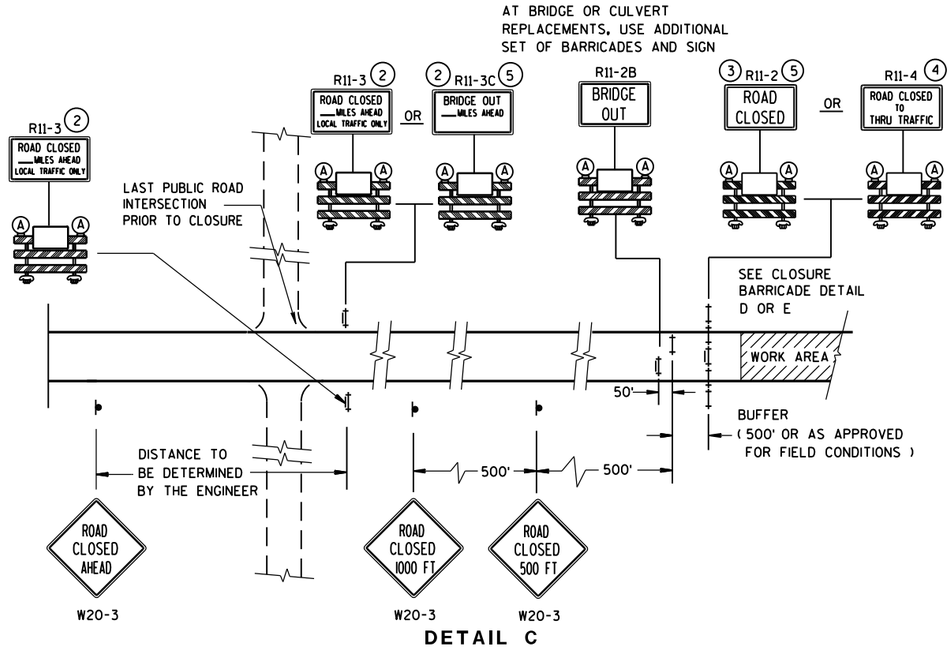
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "**b**"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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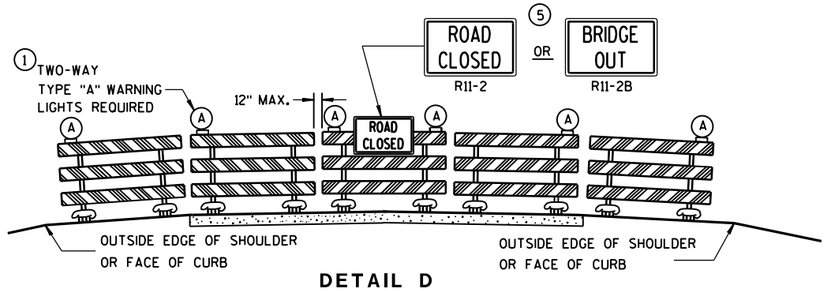
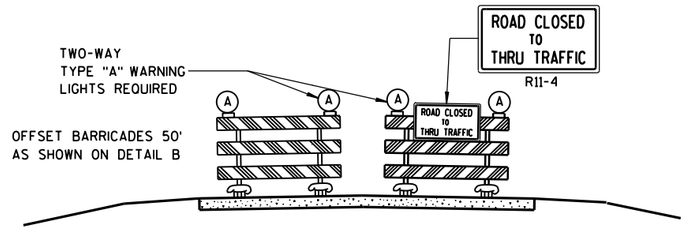
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 C 2-5b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

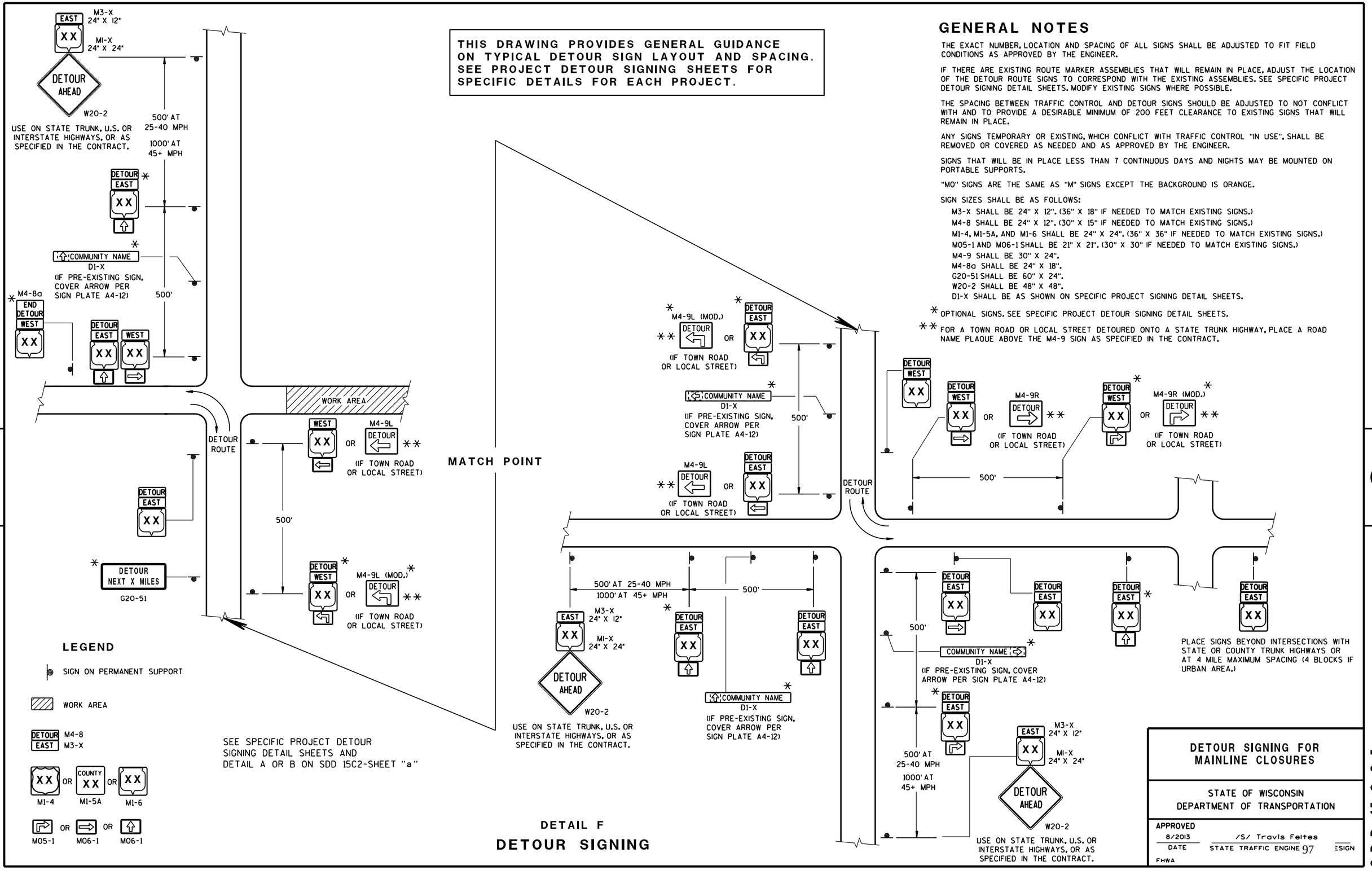
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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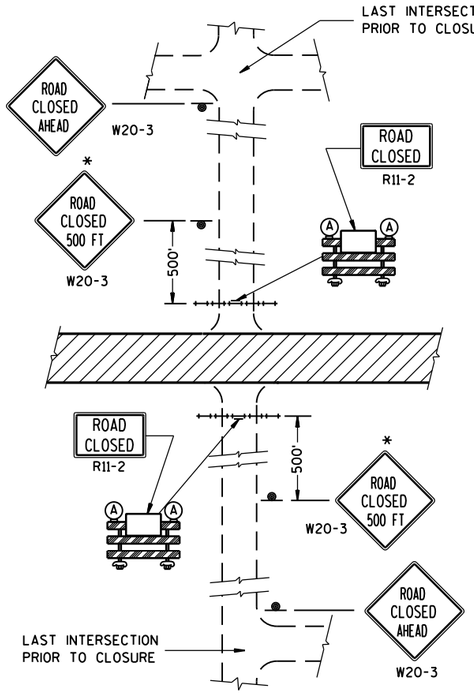
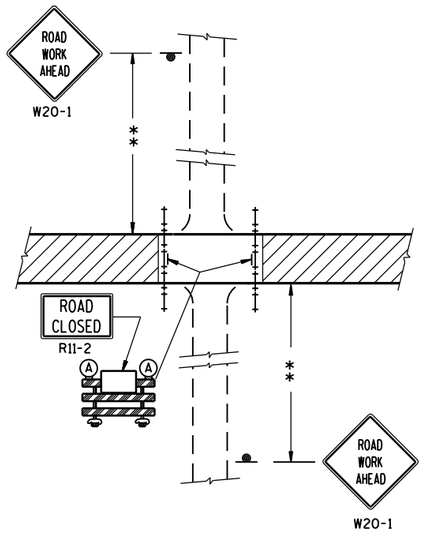
S.D.D. 15 C 2-5c



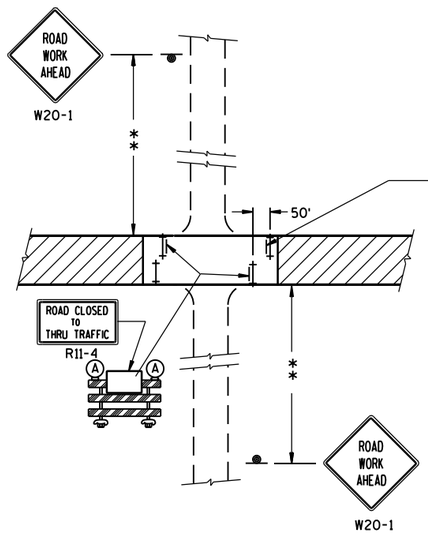
DETAIL 1

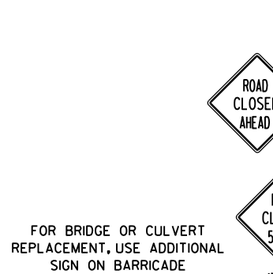
(NO ACCESS TO PROJECT)



DETAIL 2

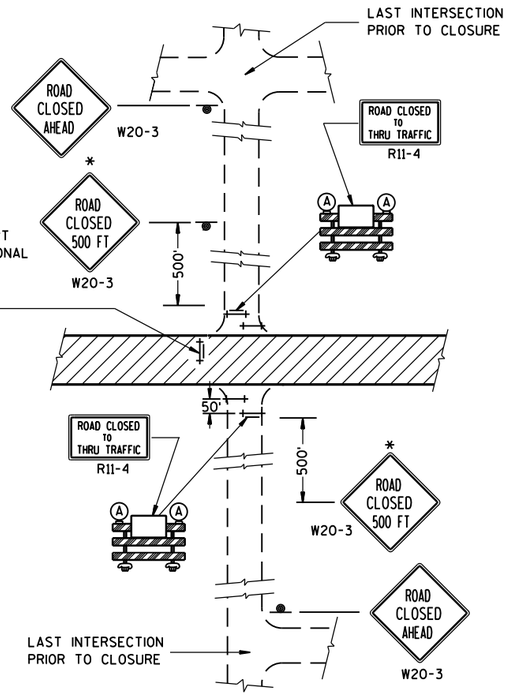
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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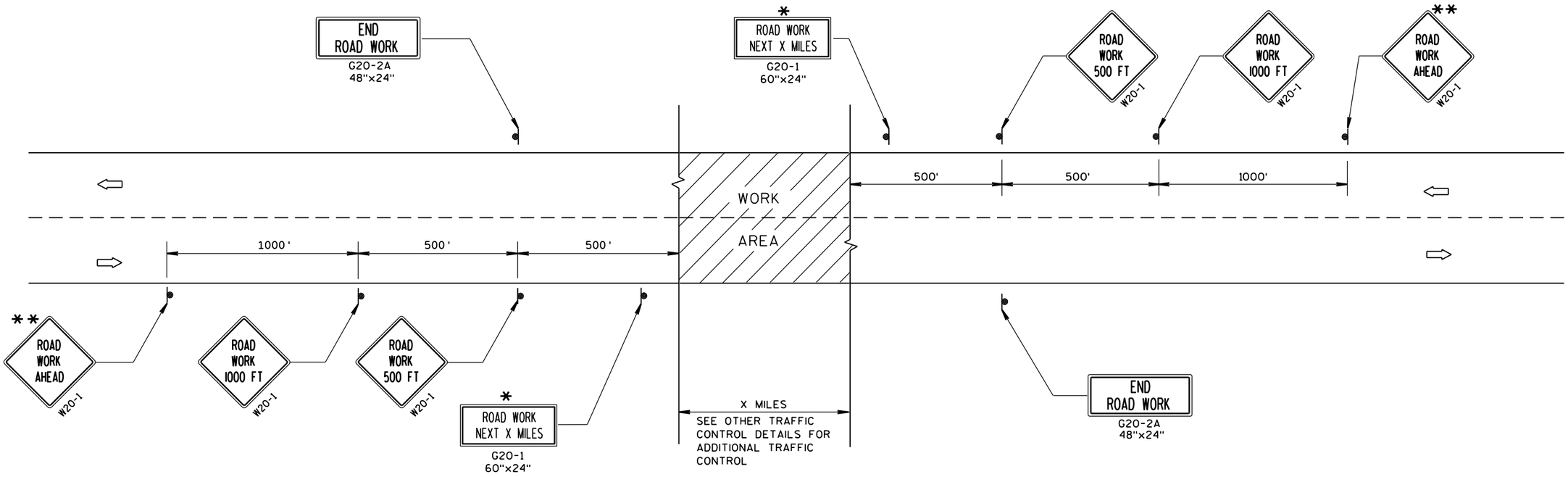
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2

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.

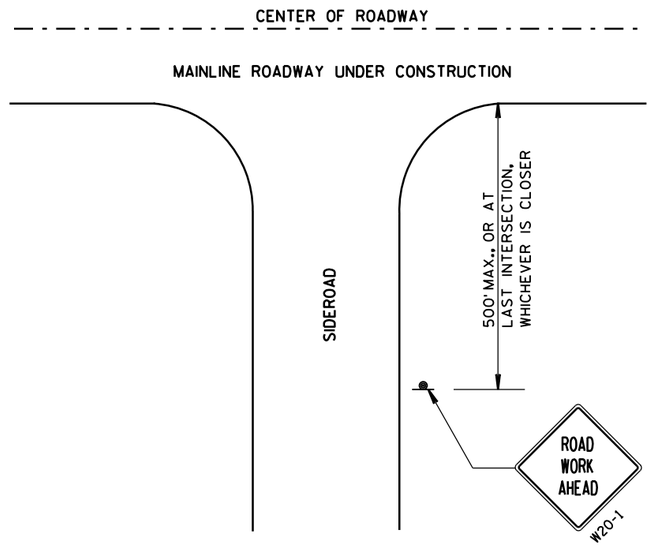
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 W20-1 "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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

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SIGN

FHWA

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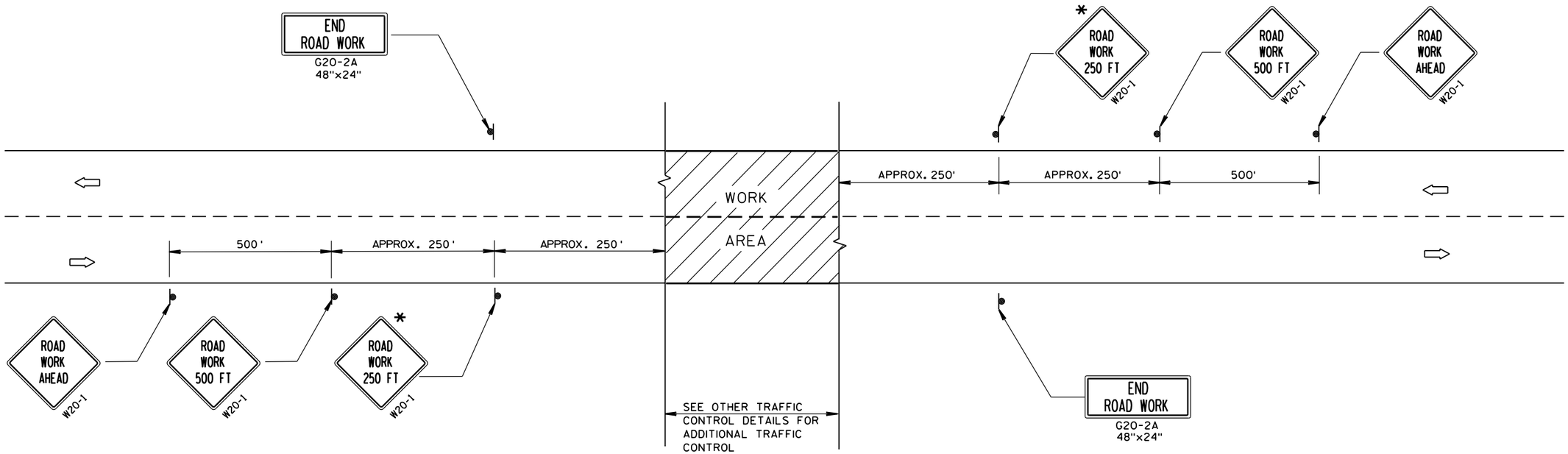
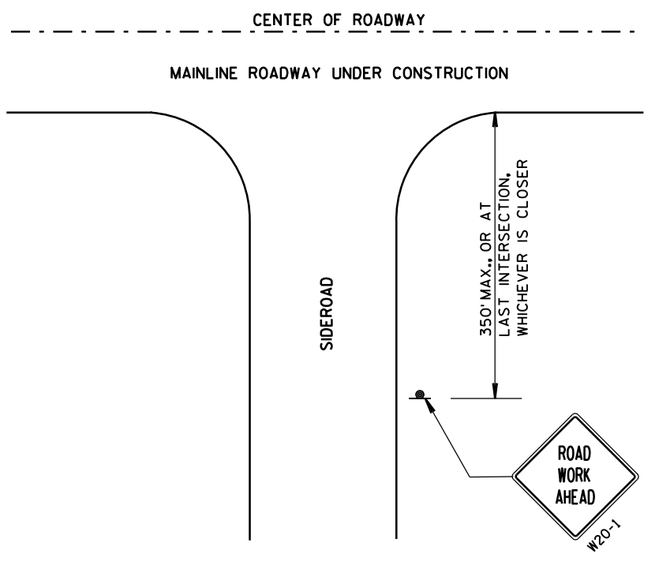
S.D.D. 15 C 4-2



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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN

6

S.D.D. 15 C 5-2

6

S.D.D. 15 C 5-2

GENERAL NOTES

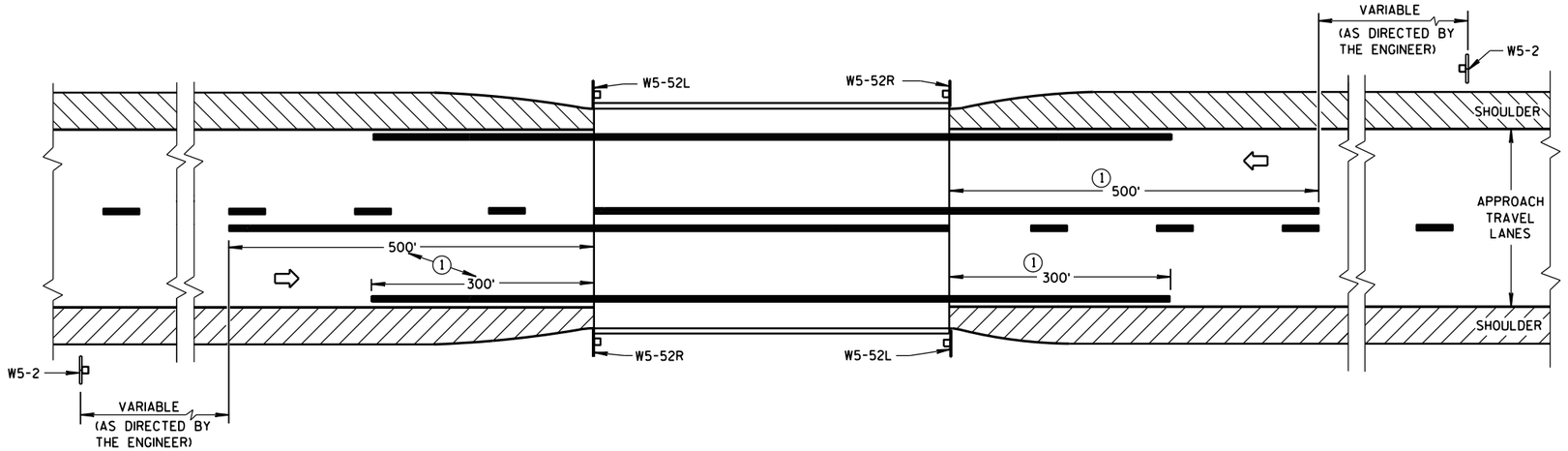
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

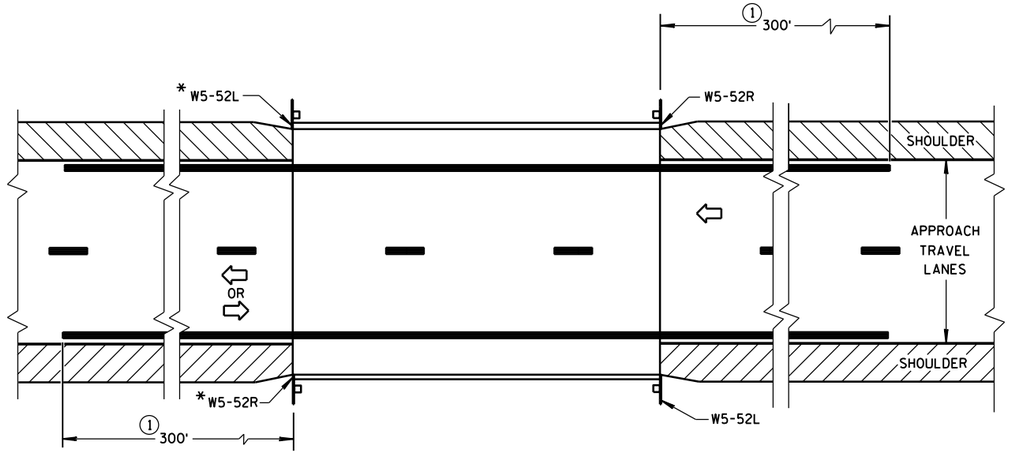
(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET

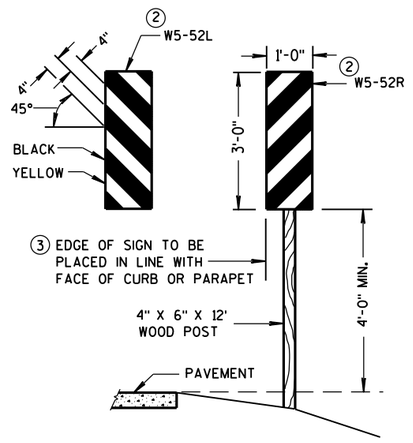


*OMIT ON ONE-WAY TRAVELLED WAYS

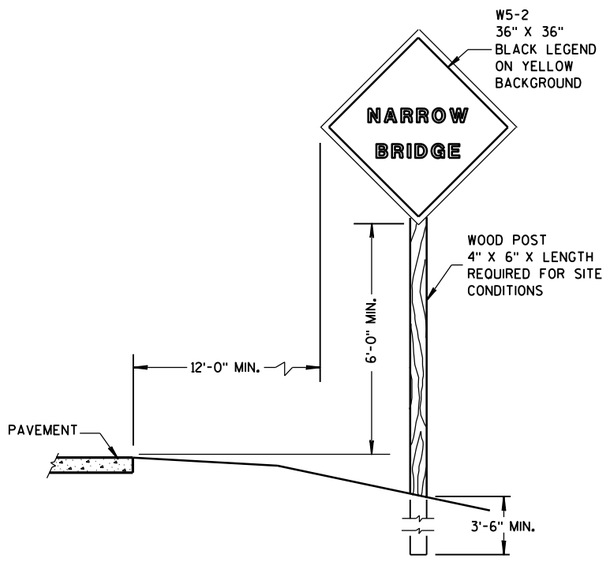
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

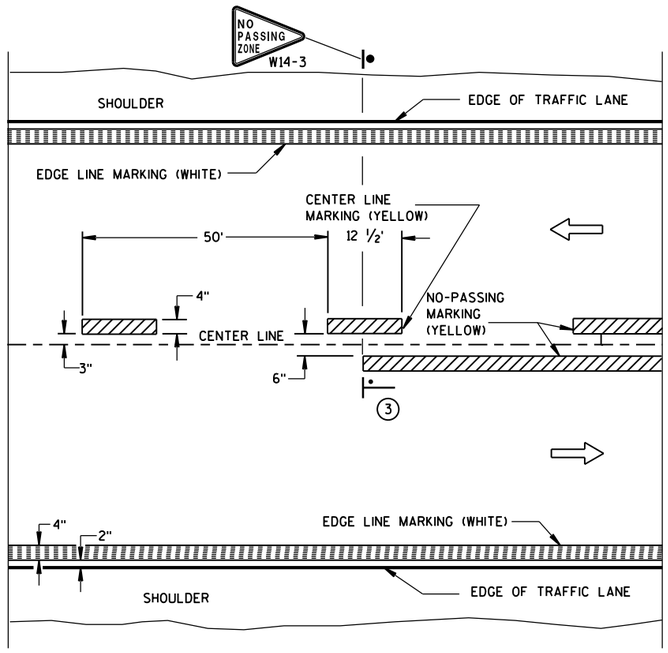
3/4/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

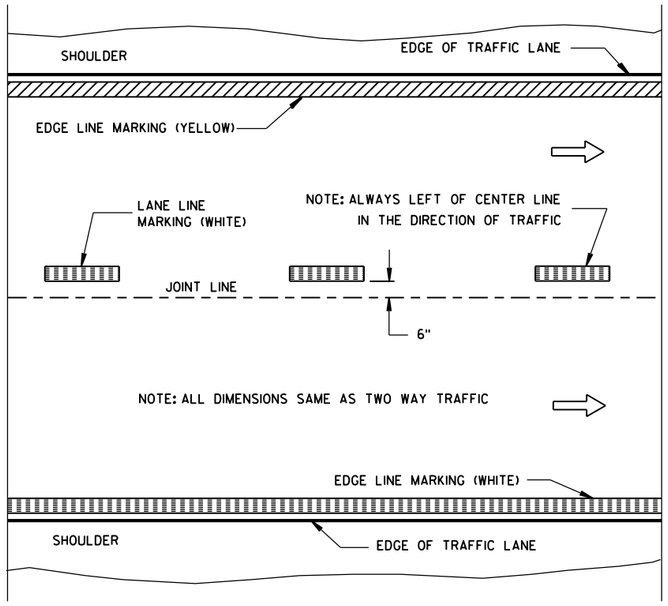
FHWA

6

S.D.D. 15 C 6-6

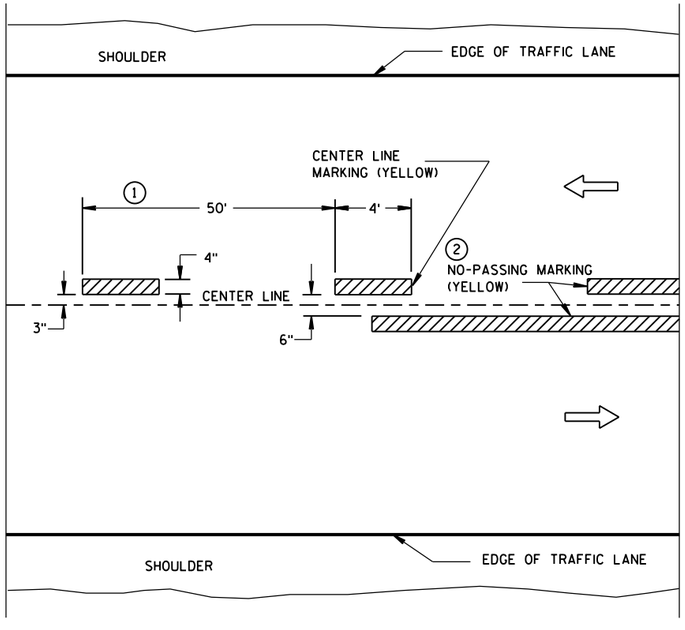


TWO WAY TRAFFIC

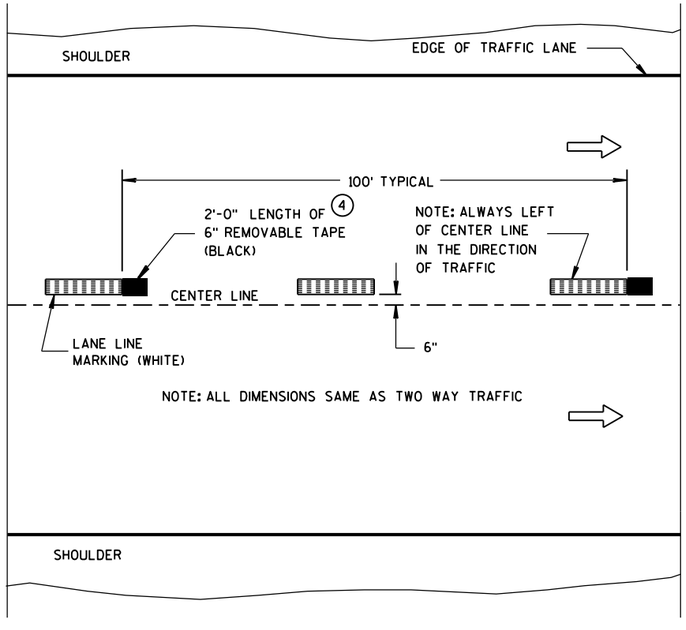


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

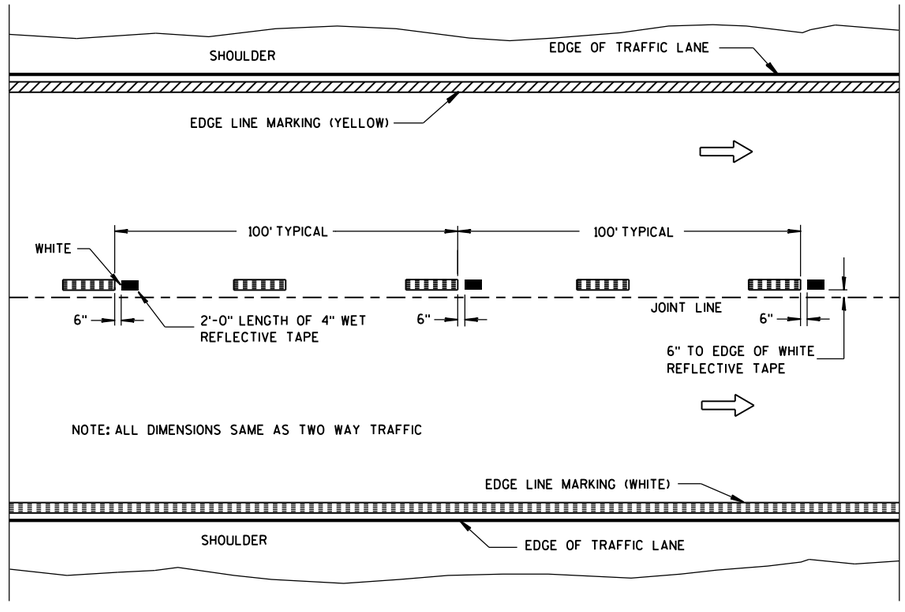
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 DATE

/S/ Travis Feltes STATE TRAFFIC E

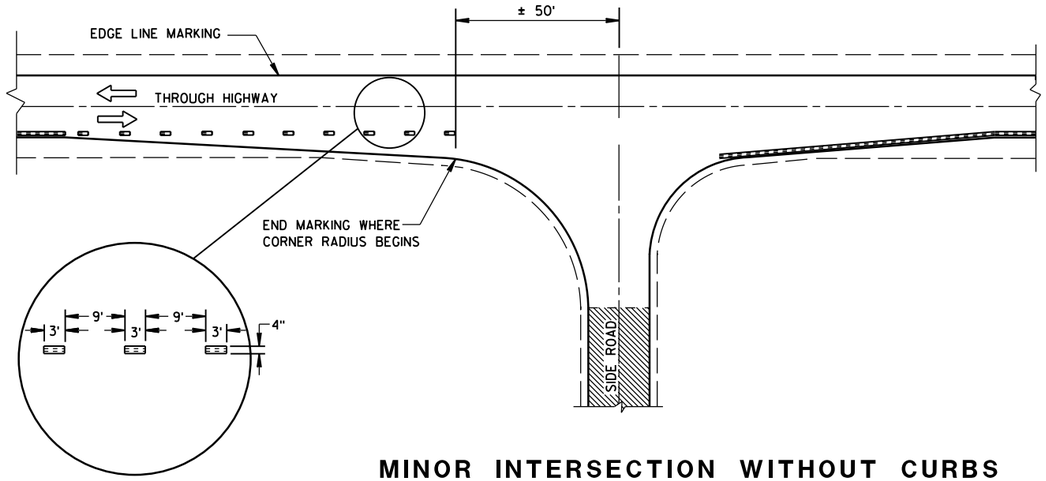
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED 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) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

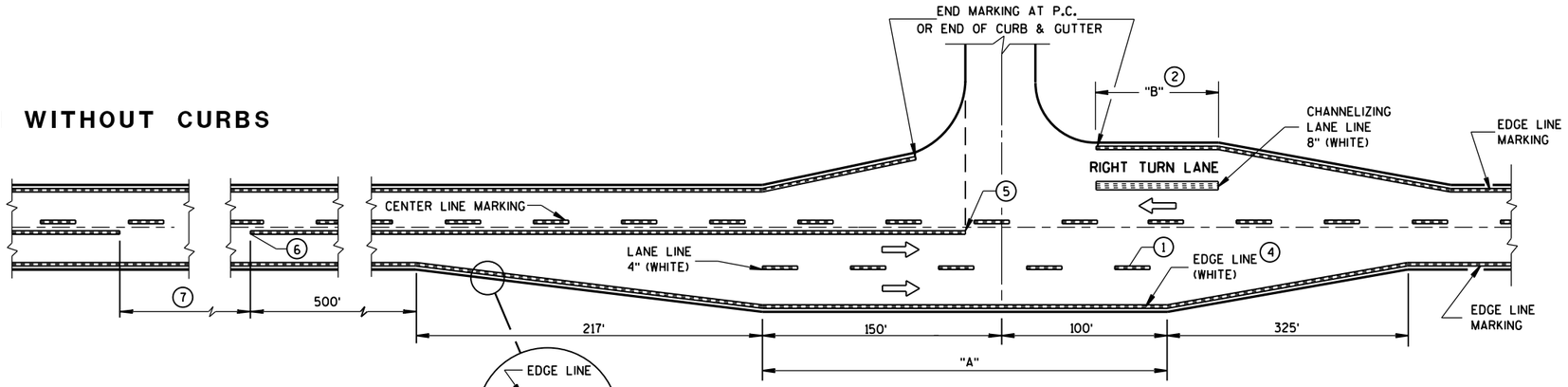
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

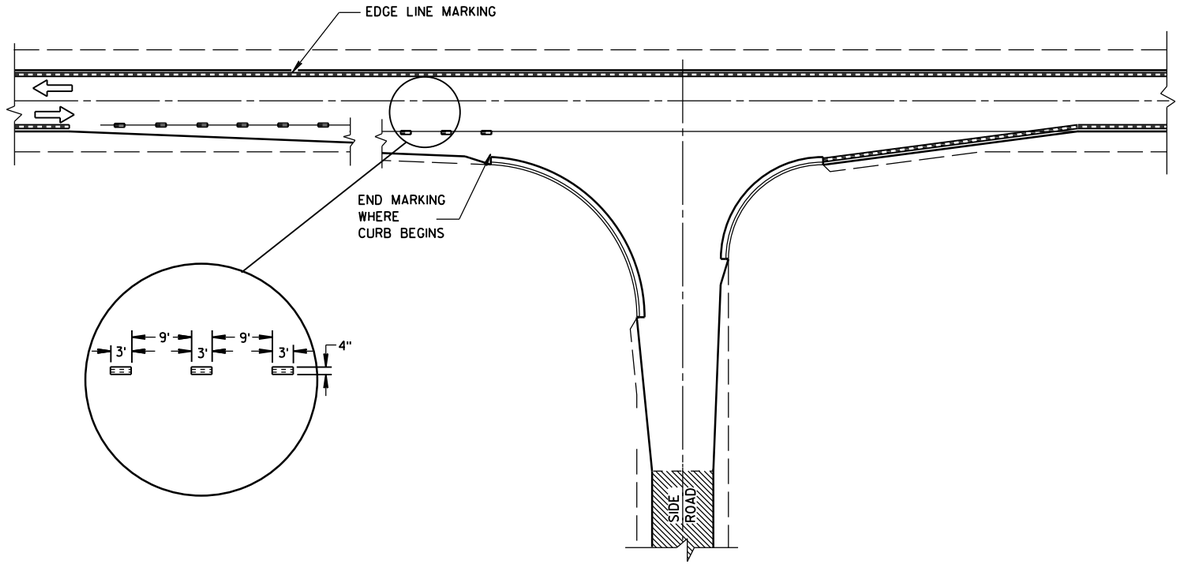
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



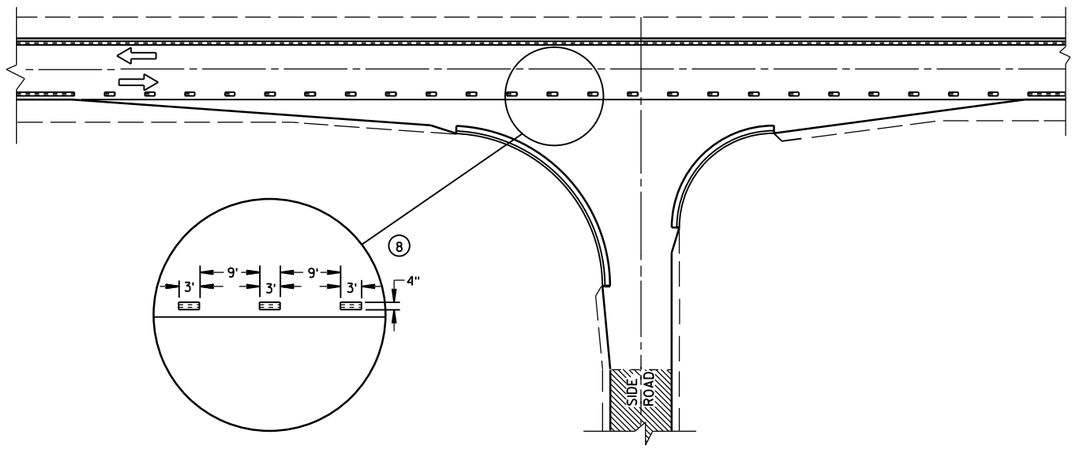
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

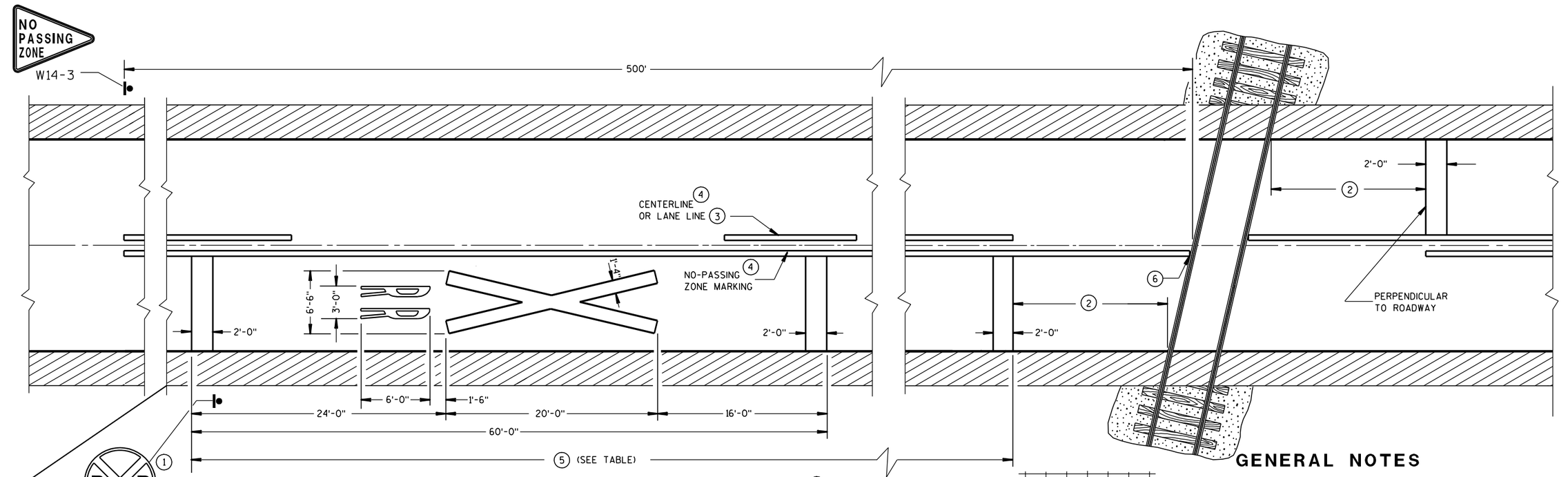
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

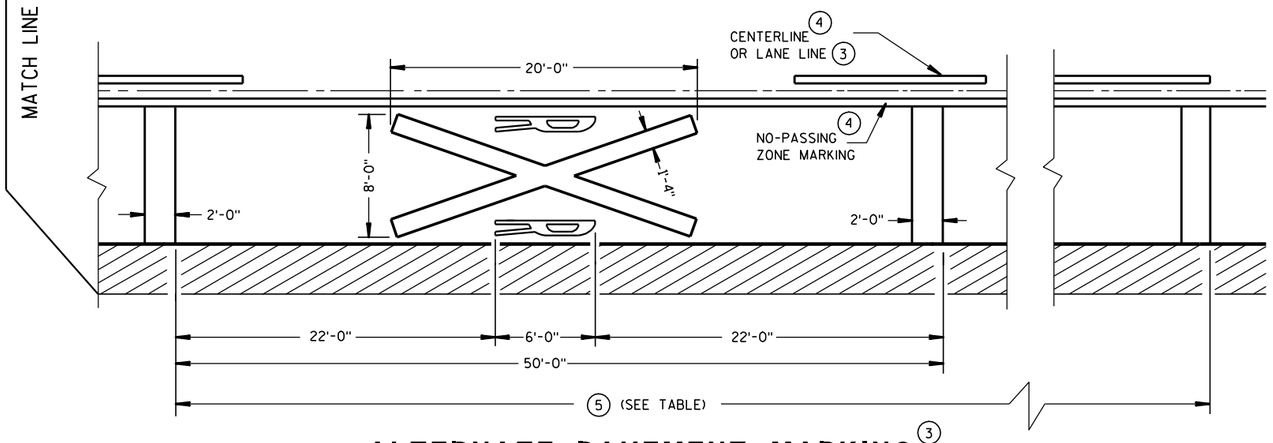
S.D.D. 15 C 8-16b

6

S.D.D. 15 C 8-16b



PREFERRED PAVEMENT MARKING 3

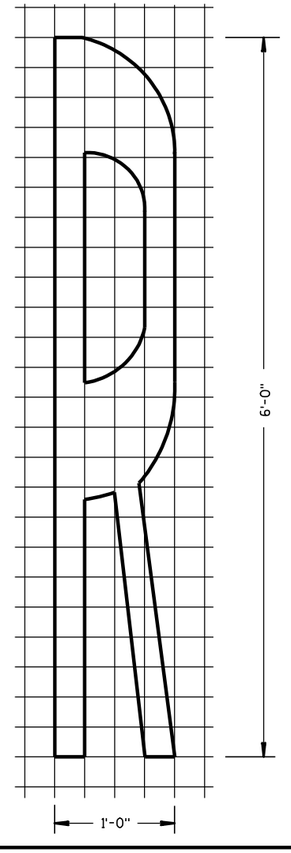


ALTERNATE PAVEMENT MARKING 3

5

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



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.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
2. MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
3. REFLECTIVE WHITE.
4. REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
5. TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1-9-2012
DATE

/S/ Thomas N. [illegible]
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 9-9a

6

S.D.D. 15 C 9-9a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

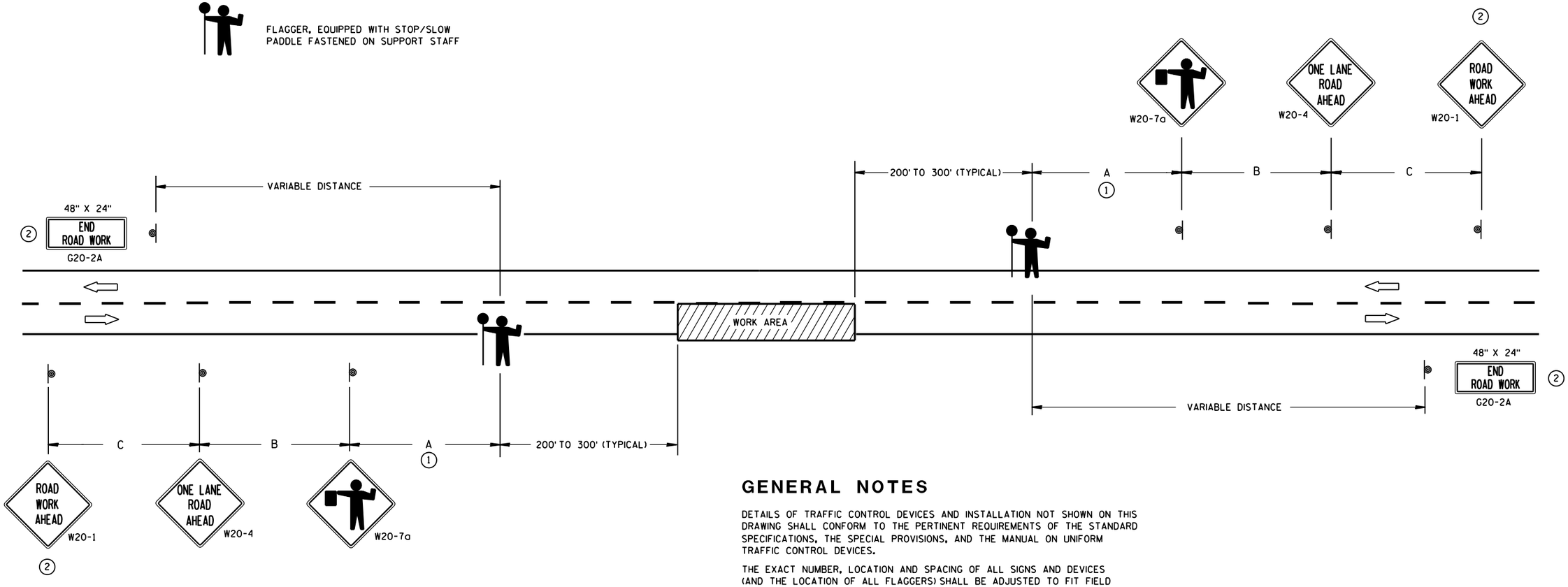
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT 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.

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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

GENERAL NOTES

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

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

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

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

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

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

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

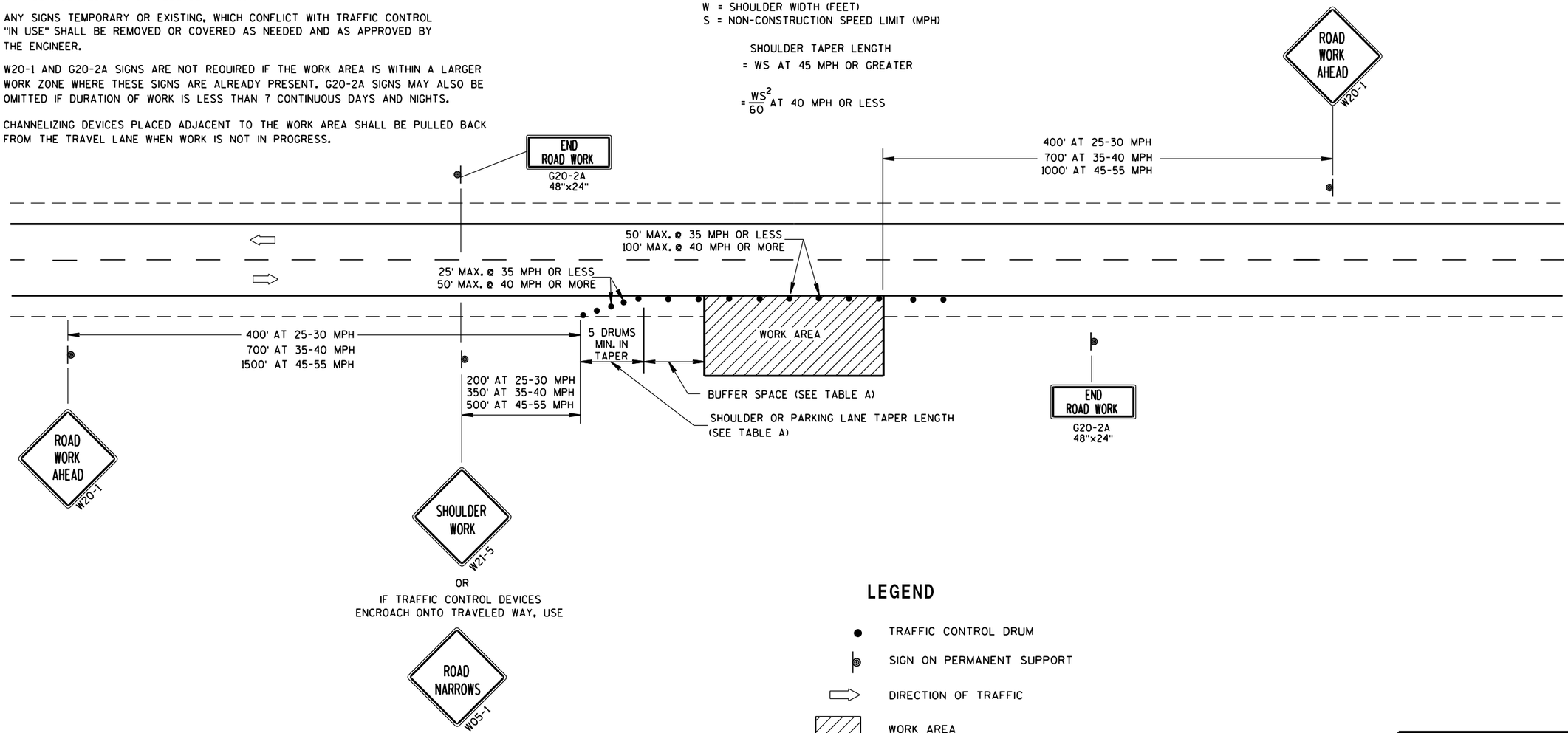
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

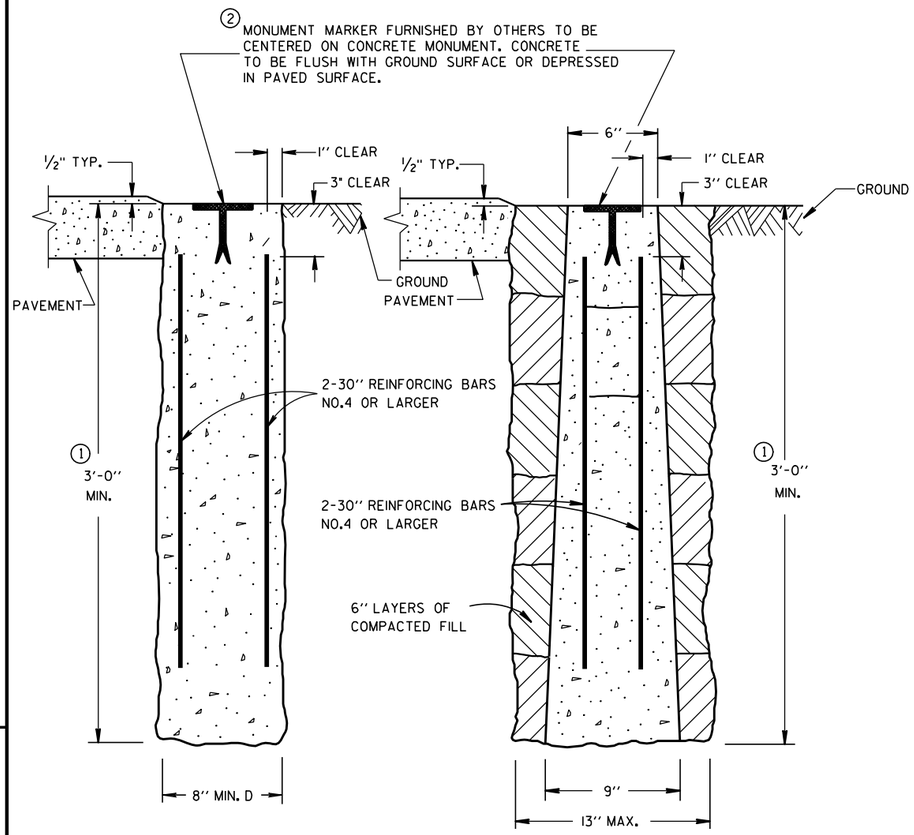
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

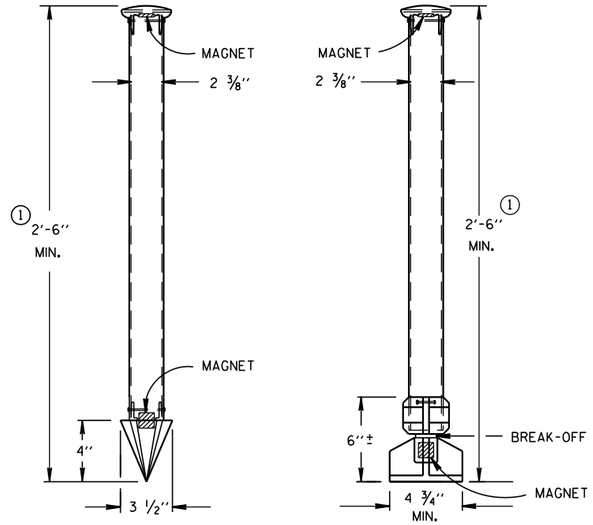
S.D.D. 15 D 28-2



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

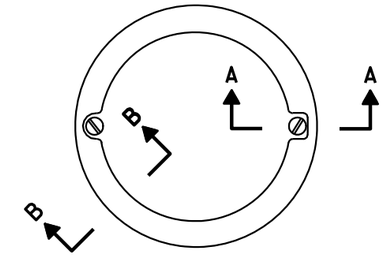
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

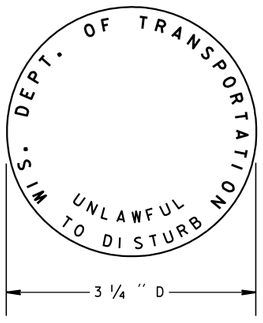
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

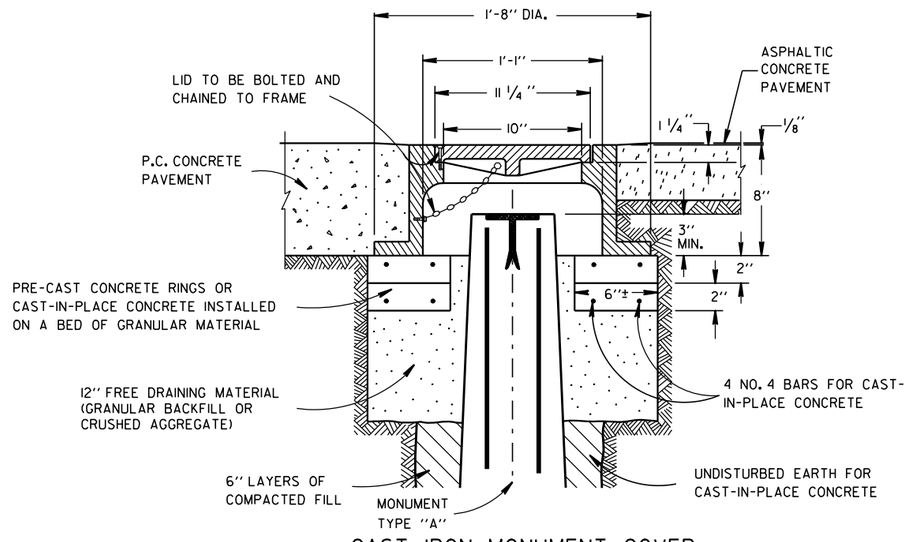
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

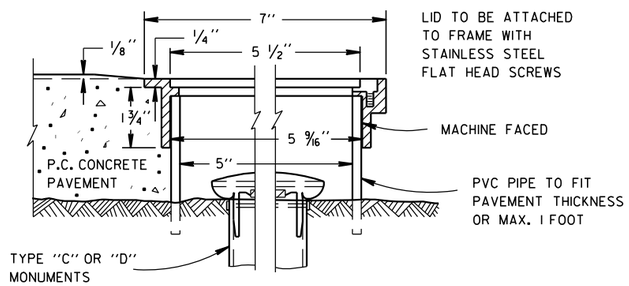


② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

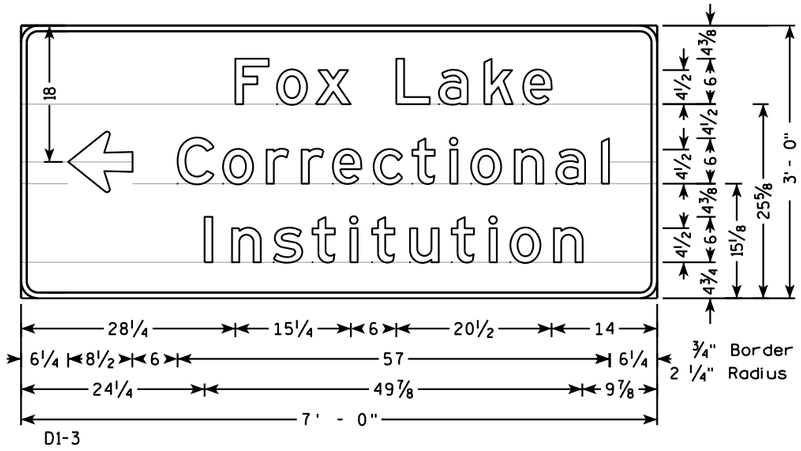
9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP NEER

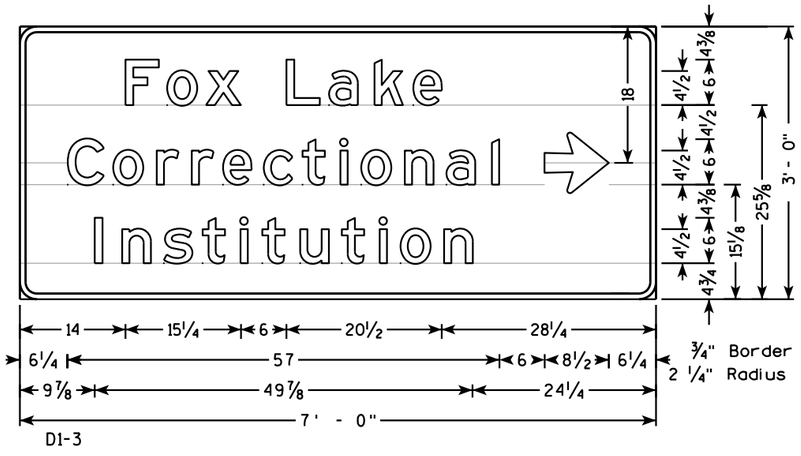
FHWA

6

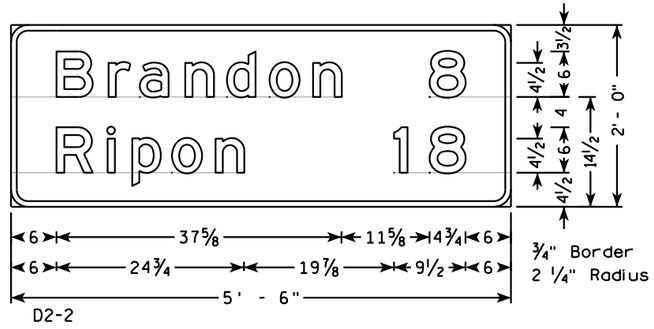
S.D.D. 16 A 1-6



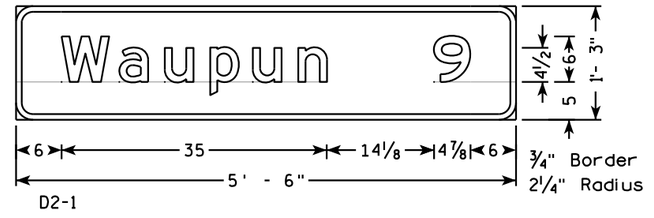
D1-3



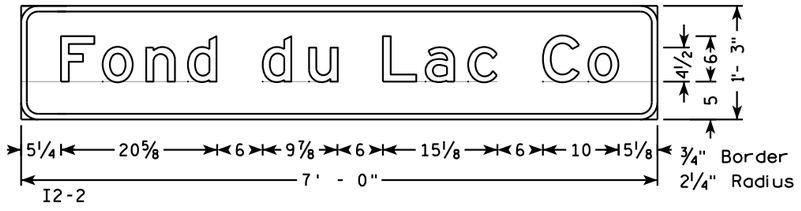
D1-3



D2-2



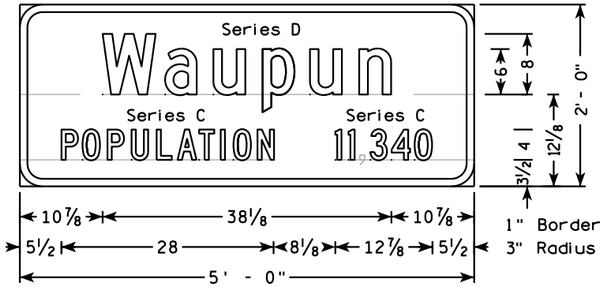
D2-1



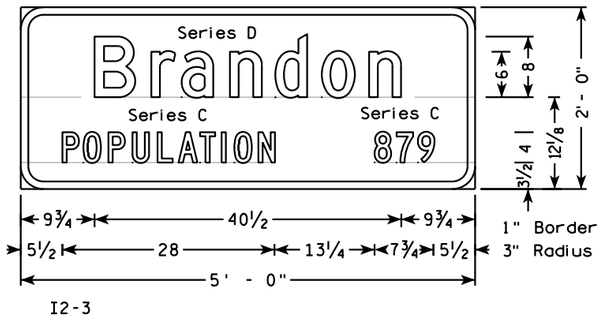
I2-2

NOTES

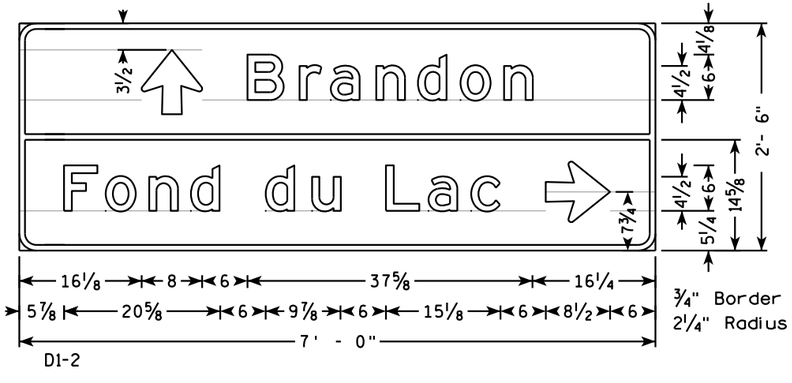
1. All SignsType II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green except as noted
   Message - White
3. Message Series - E except as noted



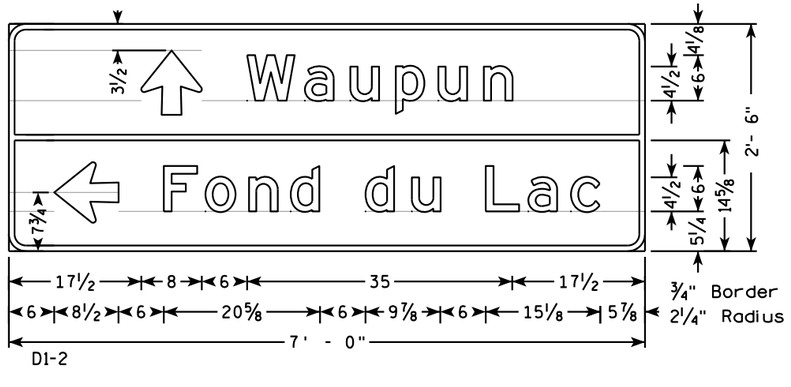
I2-3



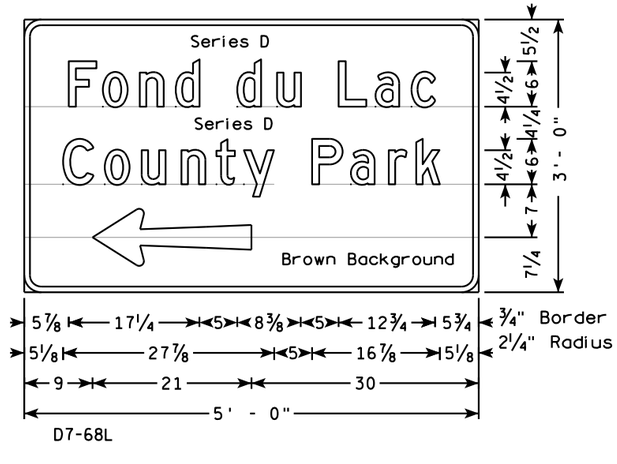
I2-3



D1-2



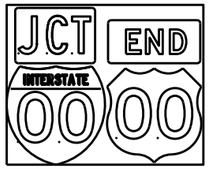
D1-2



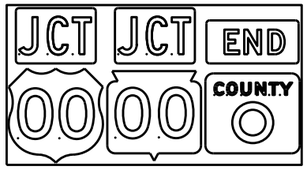
D7-68L

TYPICAL ASSEMBLIES

J1-1

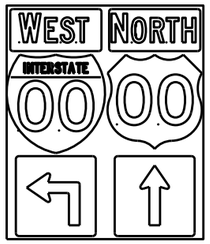


J1-2

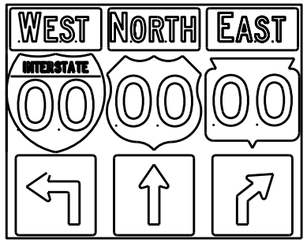


J1-3

J2-1



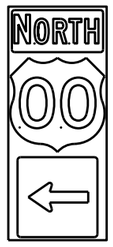
J2-2



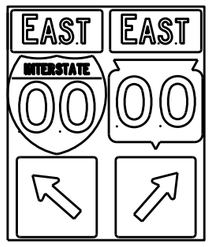
J2-3

JV

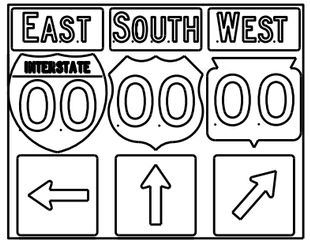
(Typical Vertical J-Assembly
See Note 10 and 11)



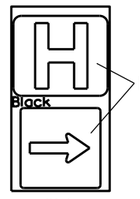
J3-1



J3-2

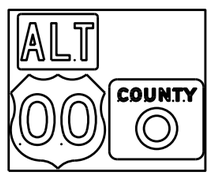


J3-3

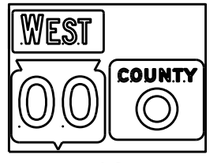


JH-1

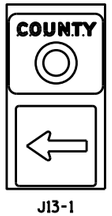
J4-1



J4-2



J4-2



J13-1

J12-1

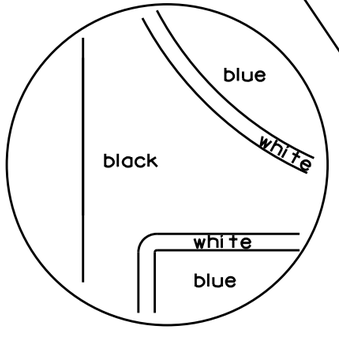
J32-1

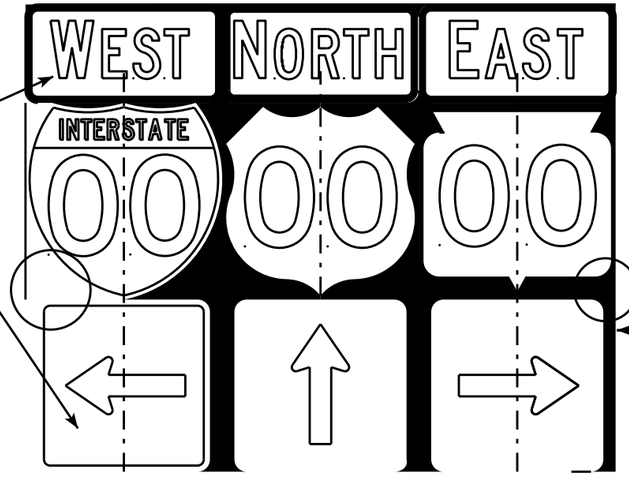
J33-1

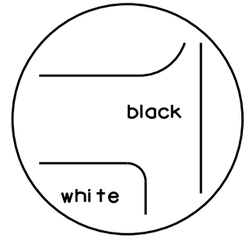
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

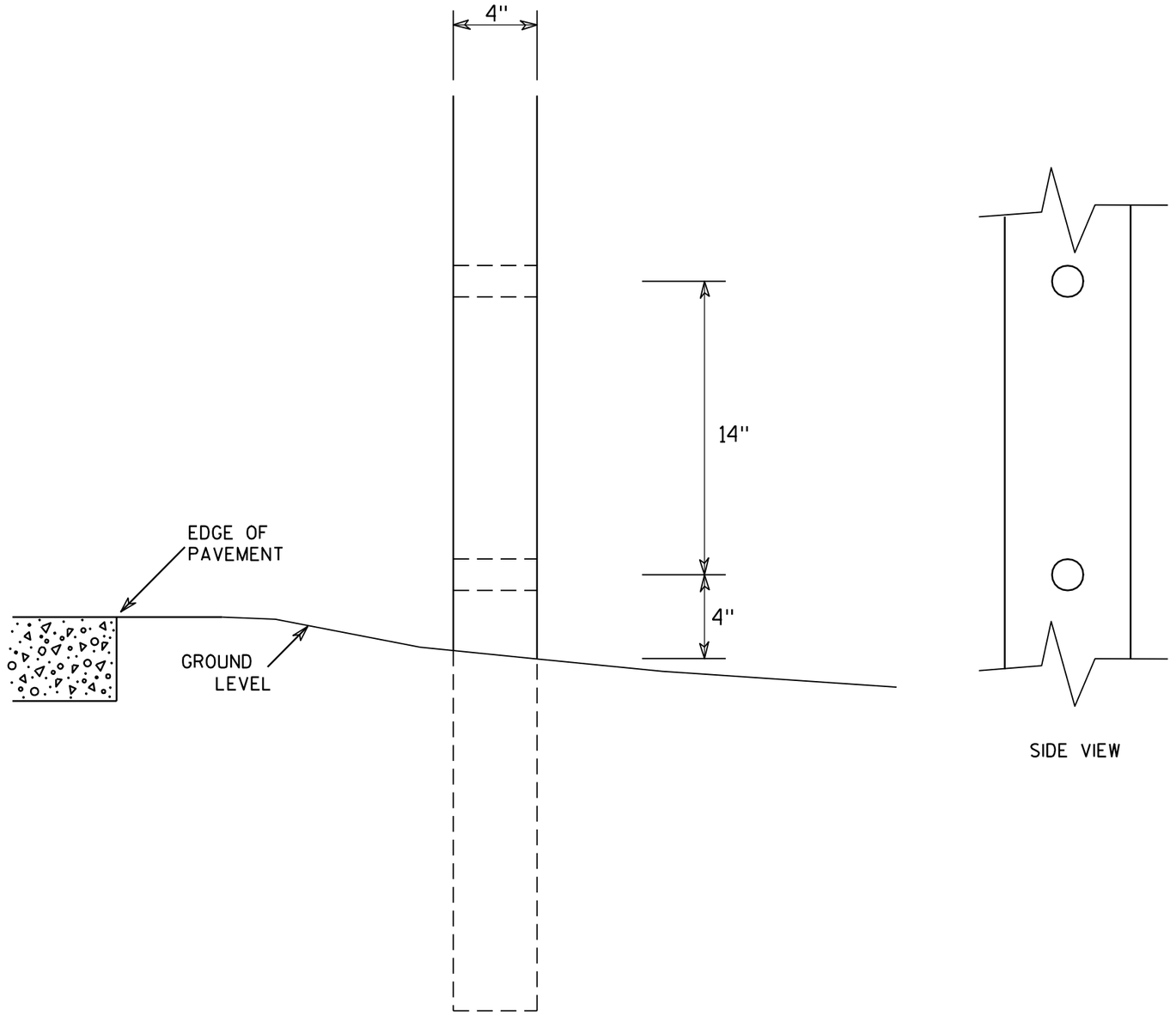
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL A2-1S.8

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

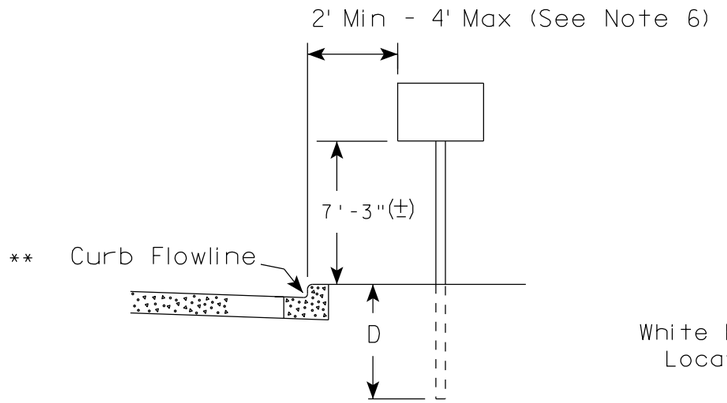
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

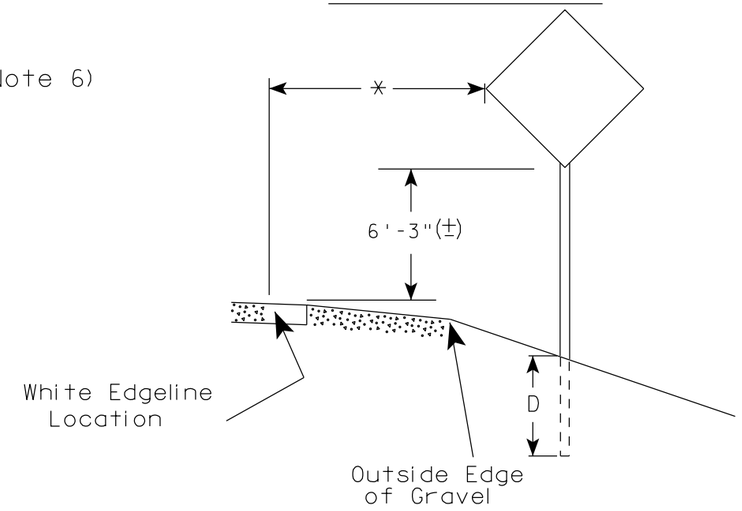
DATE 3/27/97 PLATE NO. A4-11.2

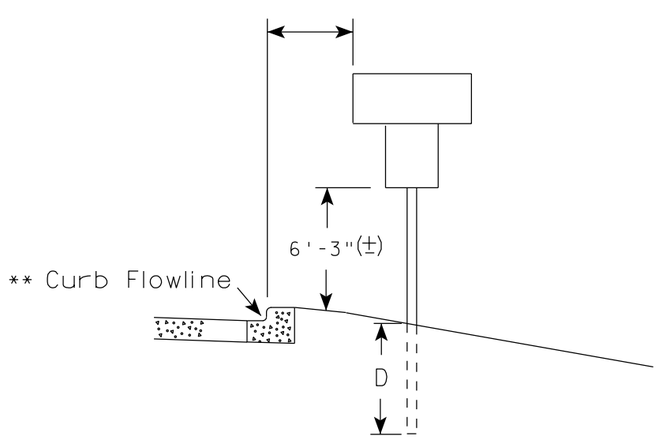
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E

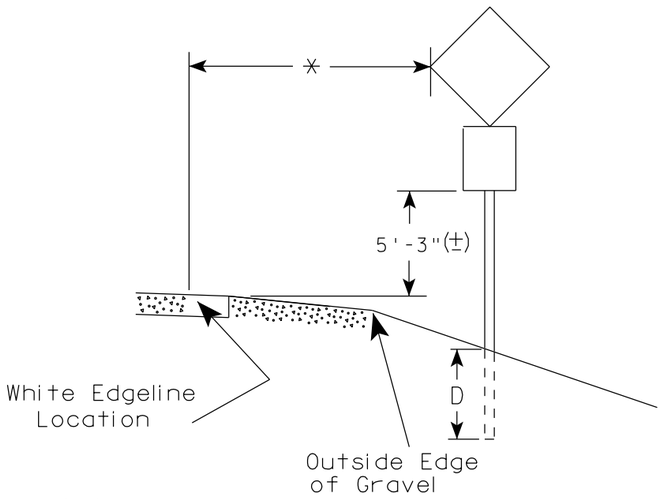
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

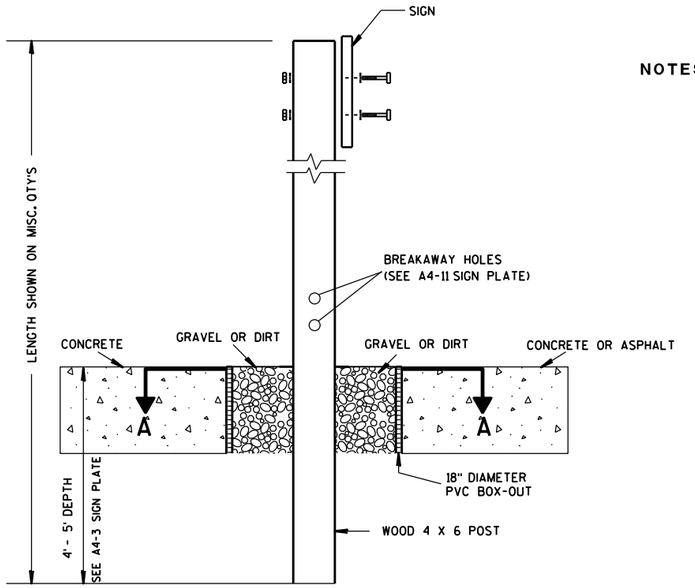
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

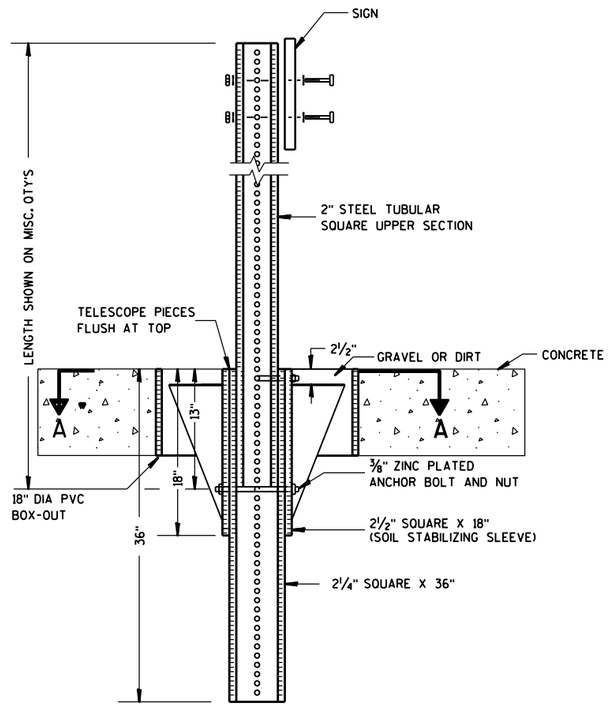
7



ELEVATION VIEW

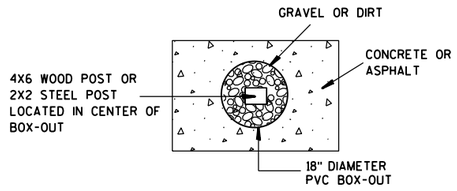
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

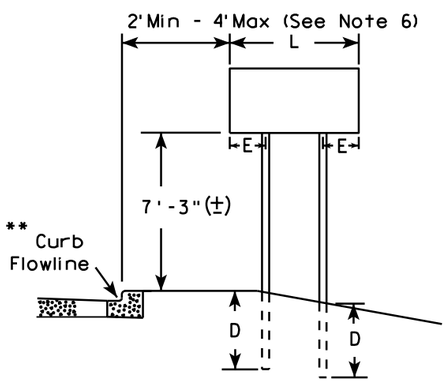
APPROVED Matthew R Rauch
for State Traffic Engineer

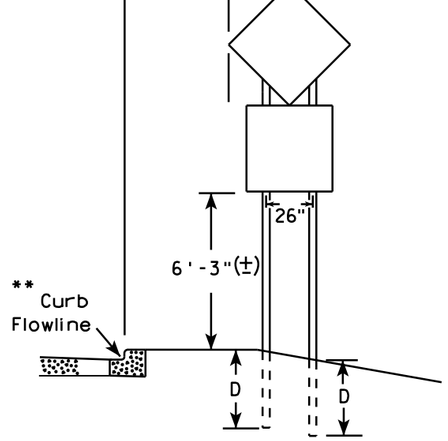
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

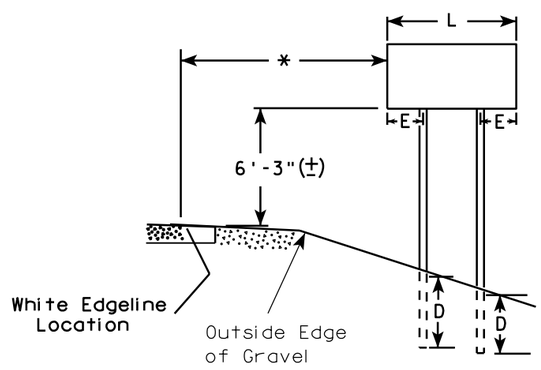
URBAN AREA

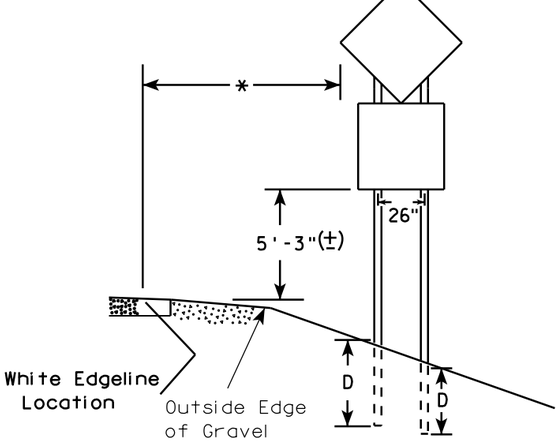




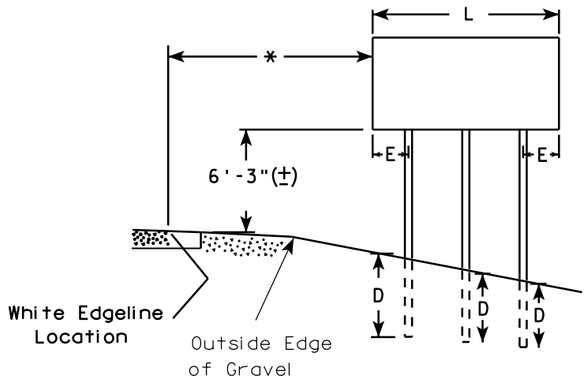
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** 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. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

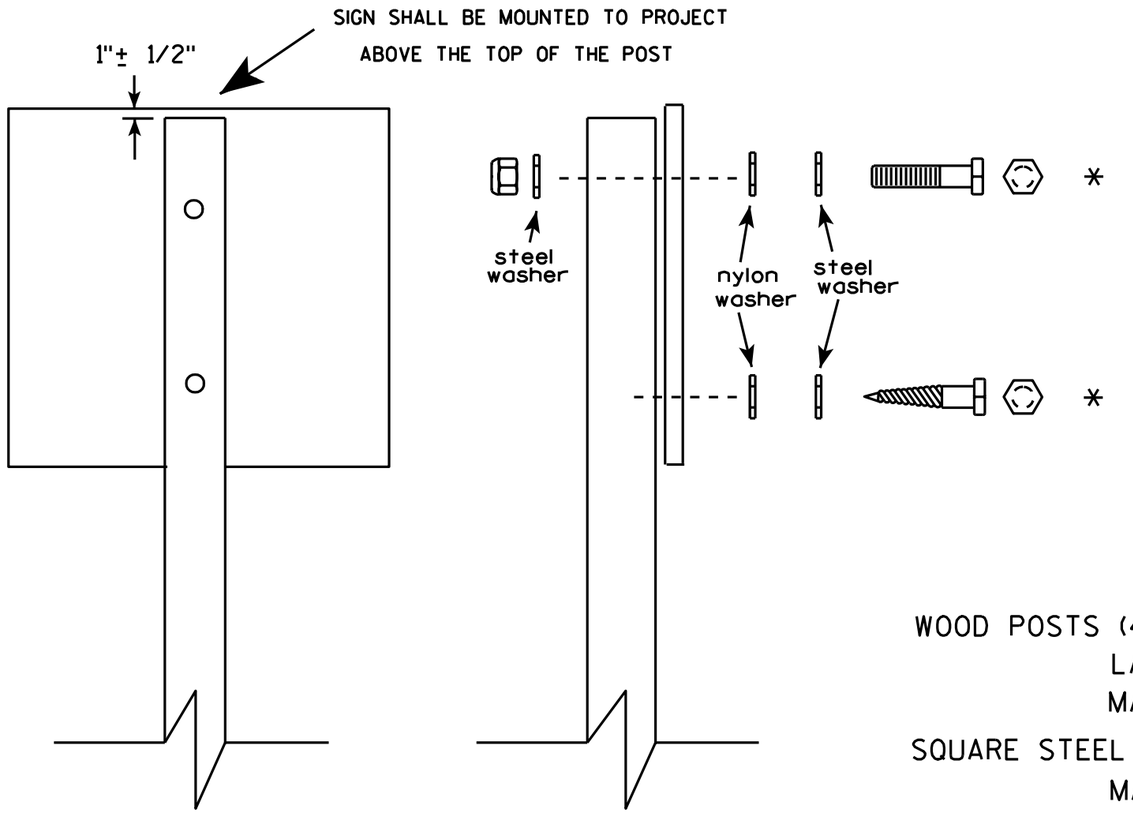
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42



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

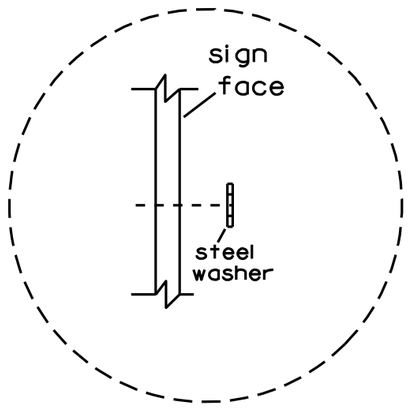
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

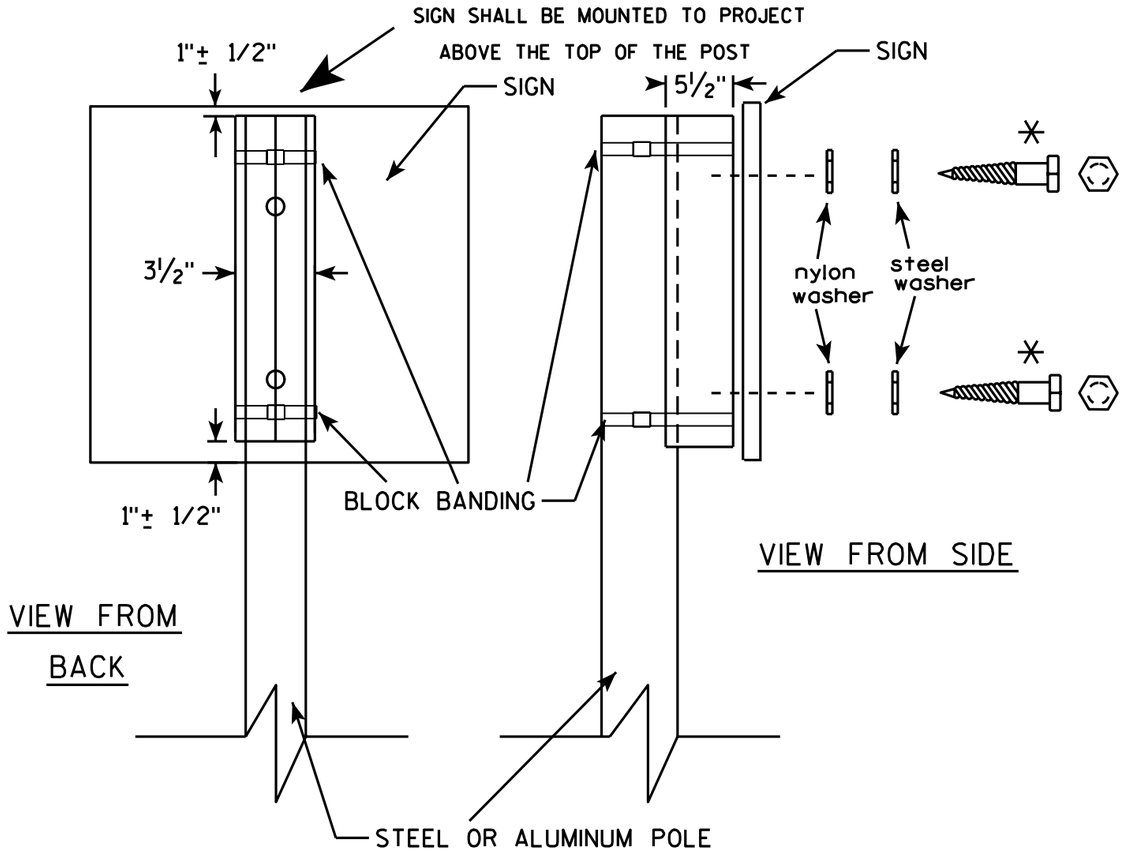
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

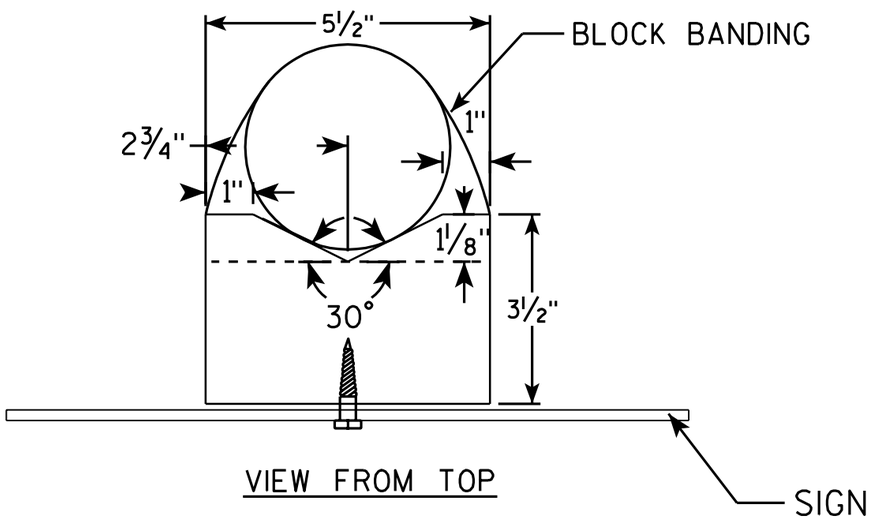
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

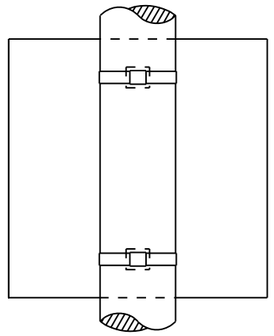
SHEET NO: 115 E

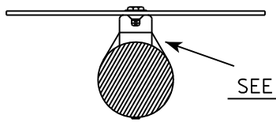
FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

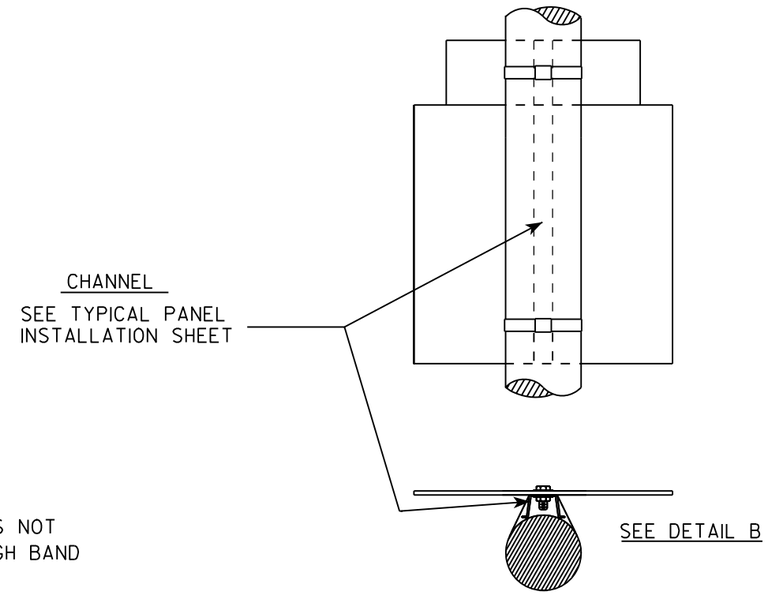
BANDING

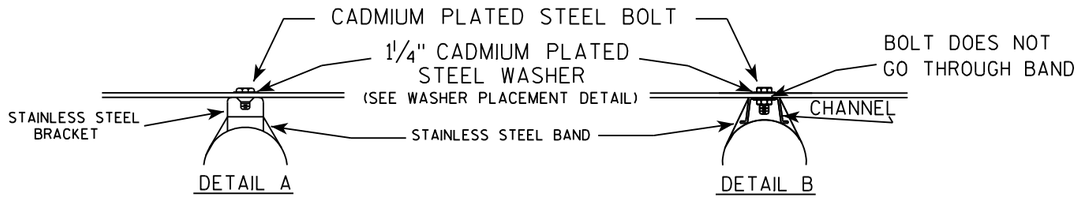
SINGLE SIGN



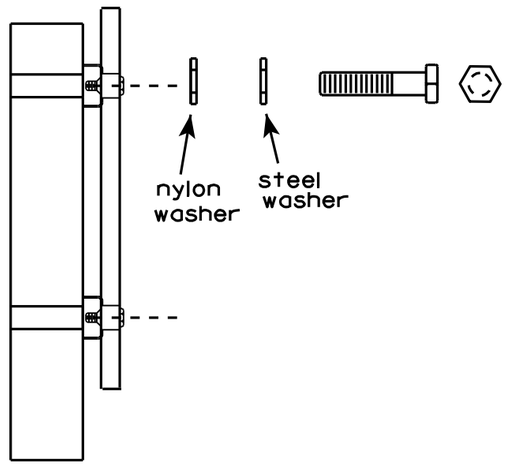


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

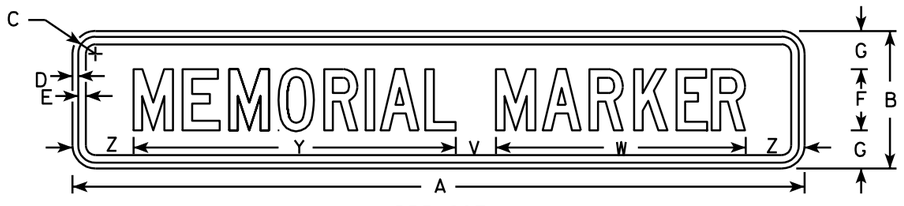
DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E

DB5-69B
DG5-69B
DN5-69B

DB5-69E

DB5-69G
DG5-69G
DN5-69G



DB5-69F

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - White - Type H Reflective
3. Message Series - See note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

DB5-69B, DB5-69E, DB5-69F, DB5-69G	Background BLUE
DG5-69B, DG5-69G	Background GREEN
DN5-69B, DN5-69G	Background BROWN

6. All signs are series D except for DB5-69E & DB5-69F which are Series C.

Metric equivalent for this sign is:

SIZE	
1	1200 mm X 225 mm
2	1200 mm X 225 mm
3	
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	48	9	1 1/8	3/8	1/2	4	2 1/2	12	24	5 3/4	12 1/4	2 3/4	22	5 1/4	3			4 1/2	19 1/2	4 1/4	23 1/4	2 5/8	16 3/8	2 7/8	21	2	3.0	.27
2	48	9	1 1/8	3/8	1/2	4	2 1/2	12	24	5 3/4	12 1/4	2 3/4	22	5 1/4	3			4 1/2	19 1/2	4 1/4	23 1/4	2 5/8	16 3/8	2 7/8	21	2	3.0	.27
3																												
4																												
5																												

STANDARD SIGN
DB5-69 & DG5-69
& DN5-69 Series

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/04 PLATE NO. DB5-69.5

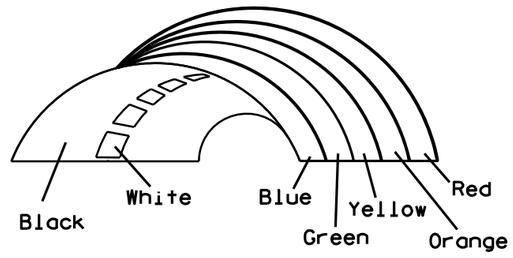
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 117 | E

* VARIES

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - (See Note 5)
3. Message Series - (See Note 6)
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Border - Blue
   Line 1 - Red
   Line 2 - Black
   Line 3-5 - Blue
6. Line 1 - Dutch 8011L
   Line 2 - Series E
   Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

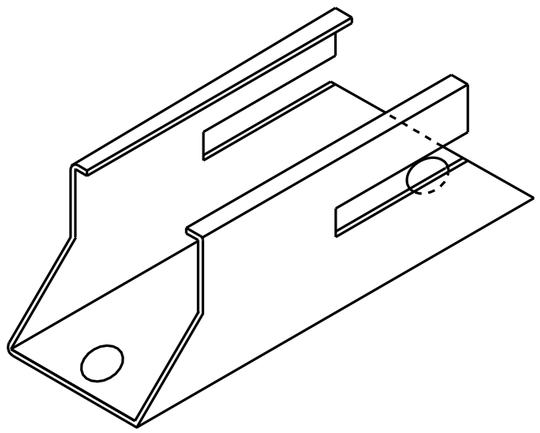
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118

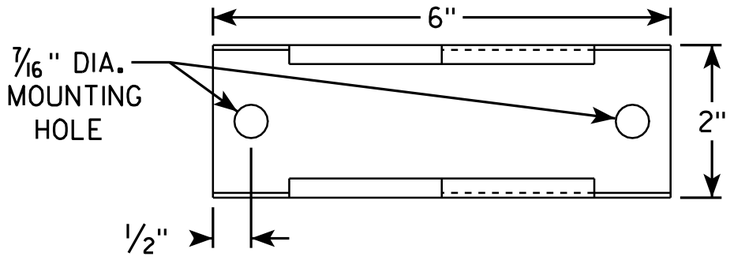
ISOMETRIC VIEW



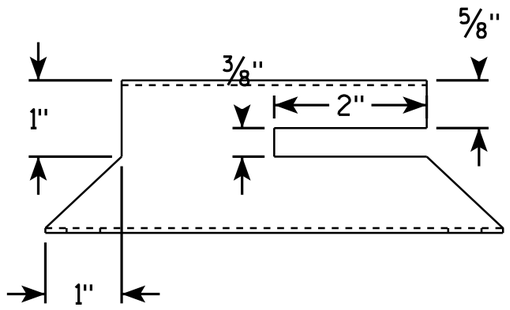
NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

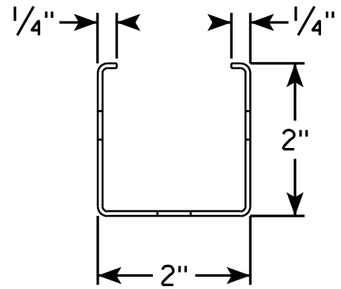
TOP VIEW



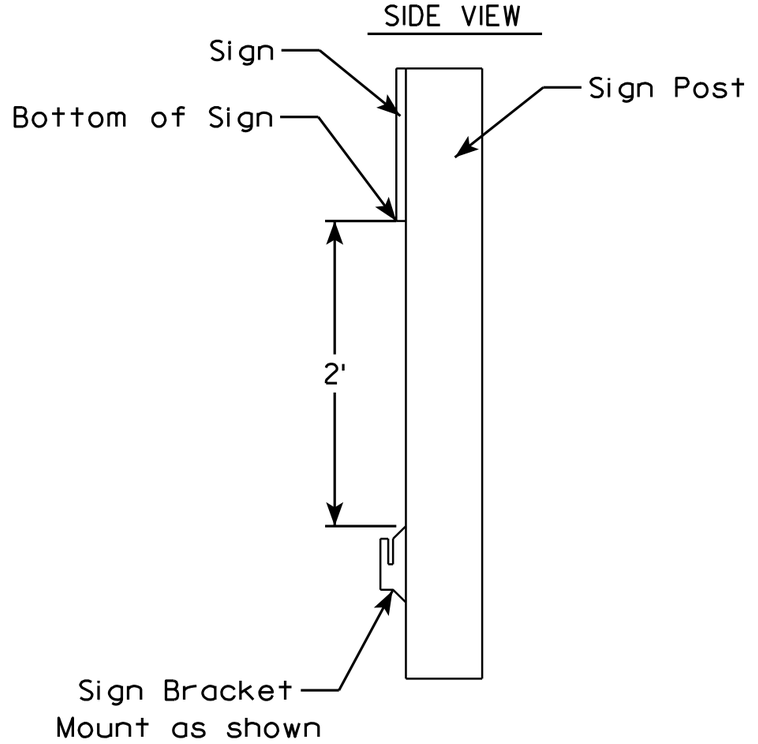
SIDE VIEW



END VIEW



SIDE VIEW



7

7

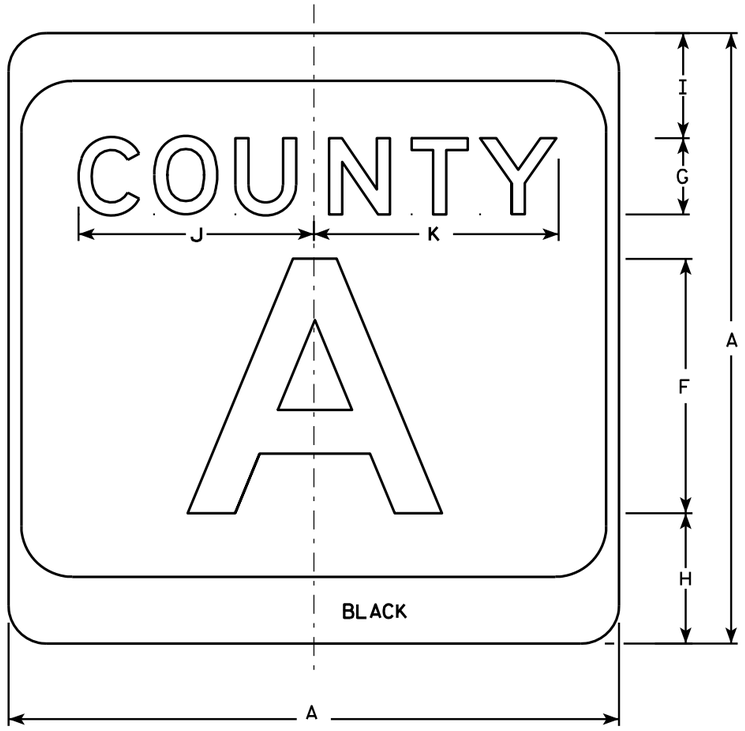
ROLLUP SIGN BRACKET I55-56B

WISCONSIN DEPT OF TRANSPORTATION

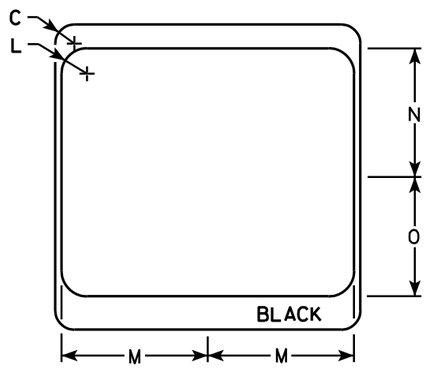
APPROVED Matthew R Rauch for State Traffic Engineer

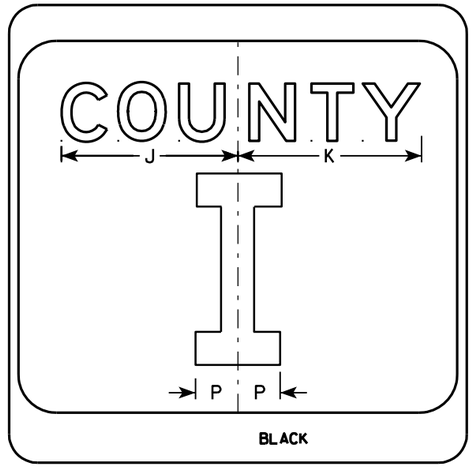
DATE 2/5/10 PLATE NO. I55-56B.1

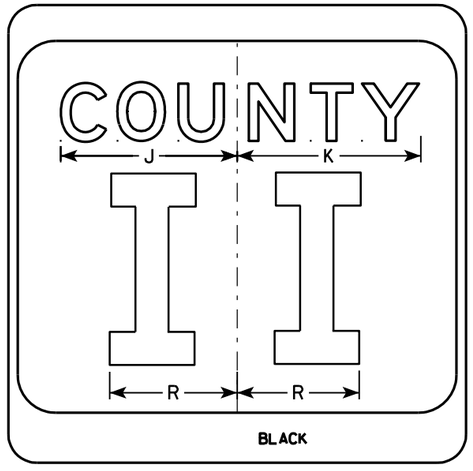
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 119	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

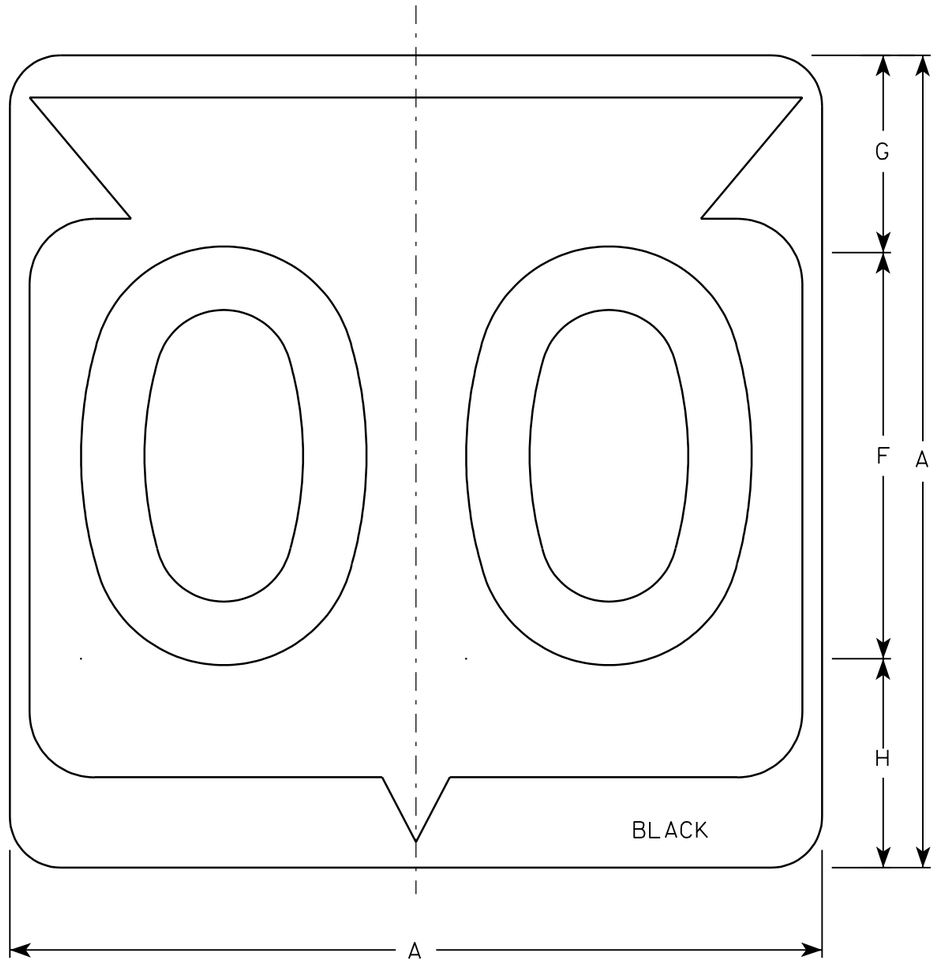
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

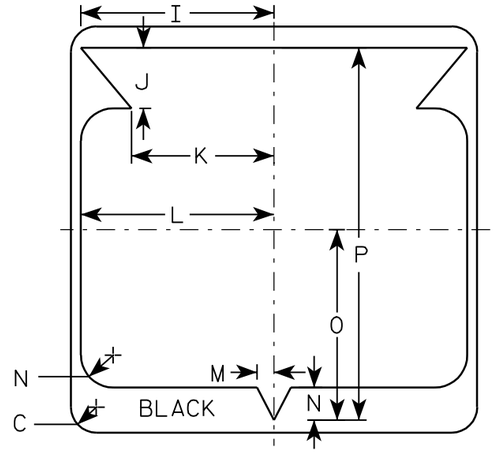
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

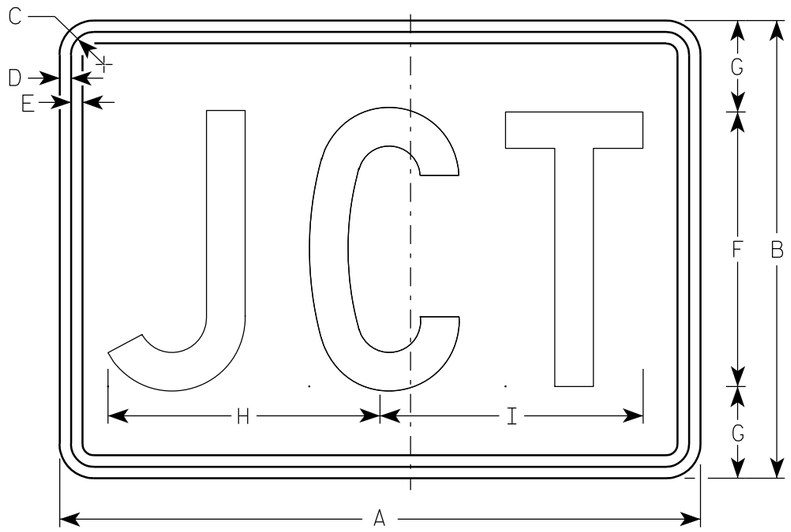
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

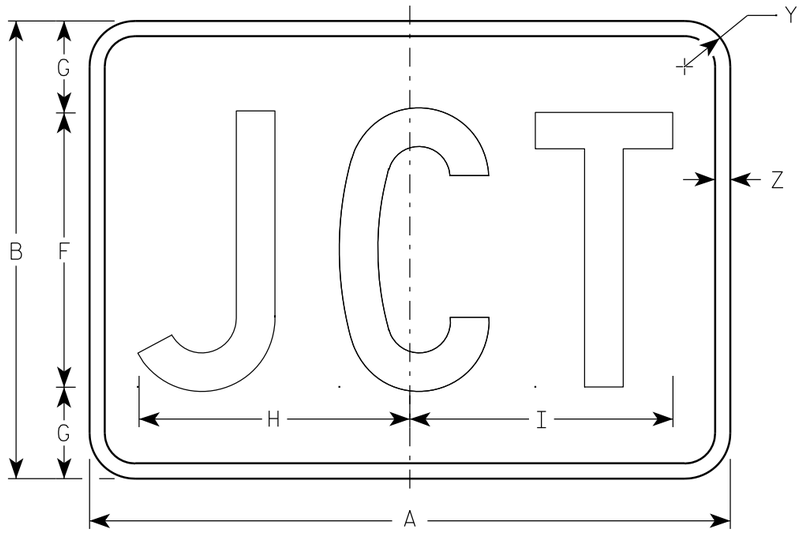
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

NOTES

1. Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB2-1 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG2-1 Background - Green
   Message - White - Type H Reflective
   MK2-1 Background - Green
   Message - White - Type H Reflective
   MM2-1 Background - White - Type H Reflective
   Message - Green
   MN2-1 Background - Brown
   Message - White - Type H Reflective
   MR2-1 Background - Brown
   Message - Yellow - Type H Reflective

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

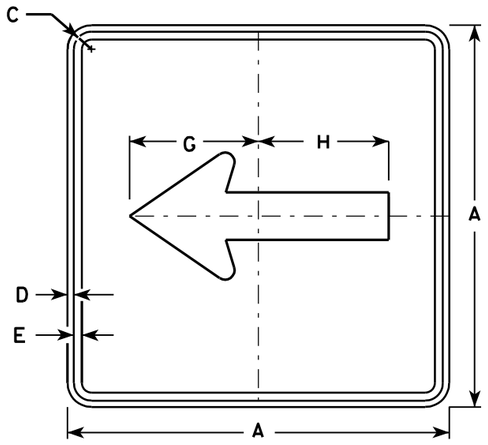
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

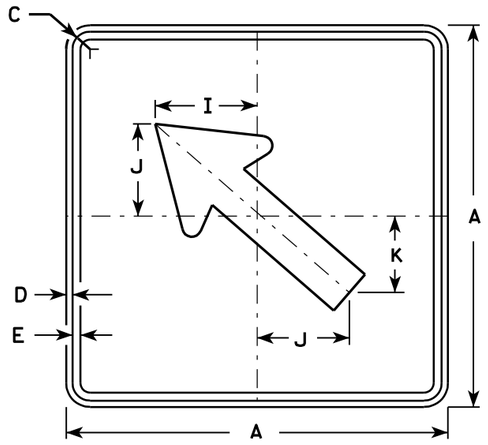
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M2-1.10

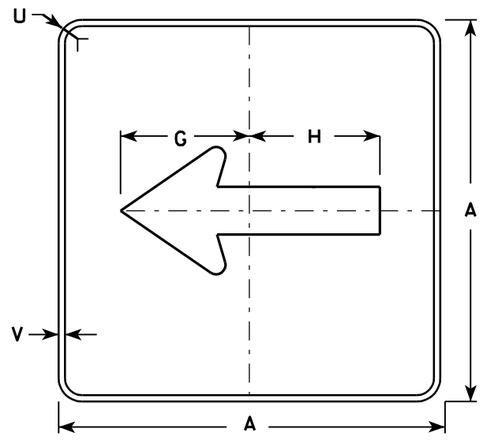
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 122	E



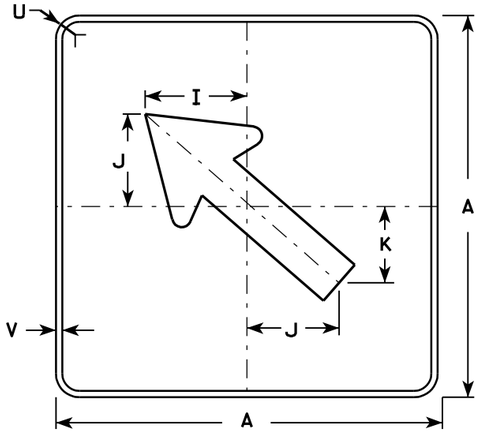
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - Type H Reflective
   Message - Black

   MB6-1 and MB6-2 Background - Blue
   Message - White - Type H Reflective

   MG6-1 and MG6-2 Background - Green
   Message - White - Type H Reflective

   MK6-1 and MK6-2 Background - Green
   Message - White - Type H Reflective

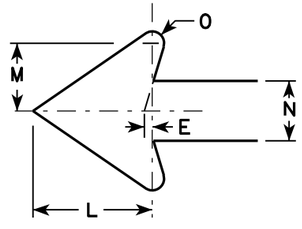
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green

   MN6-1 and MN6-2 Background - Brown
   Message - White - Type H Reflective

   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black

   MP6-1 and MP6-2 Background - White - Type H Reflective
   Message - Blue

   MR6-1 and MR6-2 Background - Brown
   Message - Yellow - Type H Reflective



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

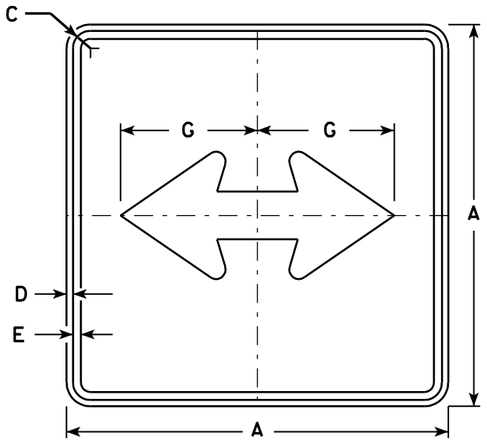
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

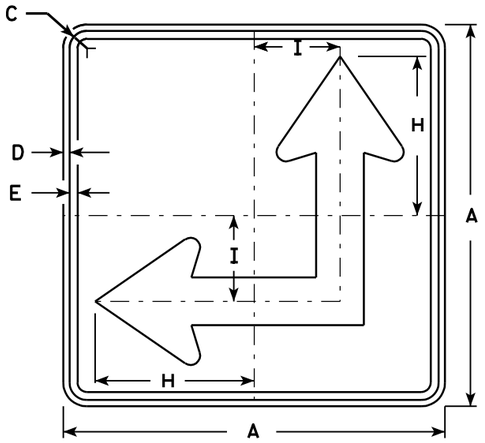
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

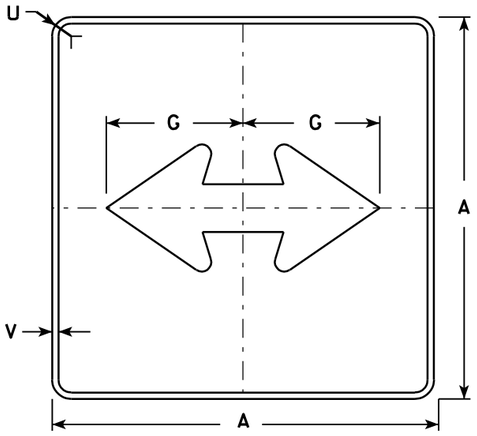
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 123	E



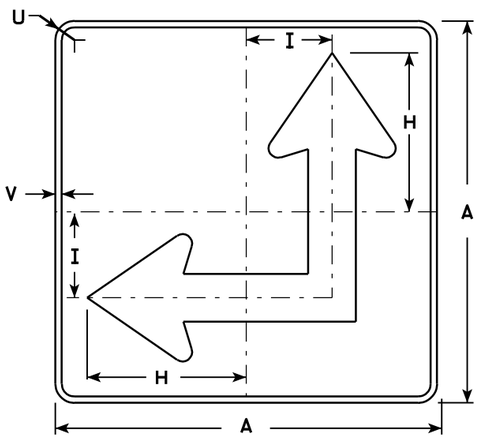
M6-4
MK6-4
MM6-4
MO6-4
MP6-4
MR6-4



M6-6
MK6-6
MM6-6
MO6-6
MP6-6
MR6-6



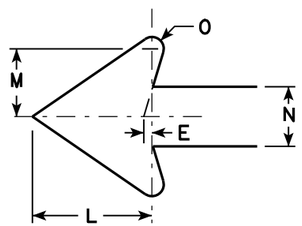
MB6-4
MG6-4
MN6-4



MB6-6
MG6-6
MN6-6

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White - Type H Reflective
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White - Type H Reflective
   MG6-4 and MG6-6 Background - Green
   Message - White - Type H Reflective
   MK6-4 and MK6-6 Background - Green
   Message - White - Type H Reflective
   MM6-4 and MM6-6 Background - White - Type H Reflective
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White - Type H Reflective
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White - Type H Reflective
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - White - Type H Reflective
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

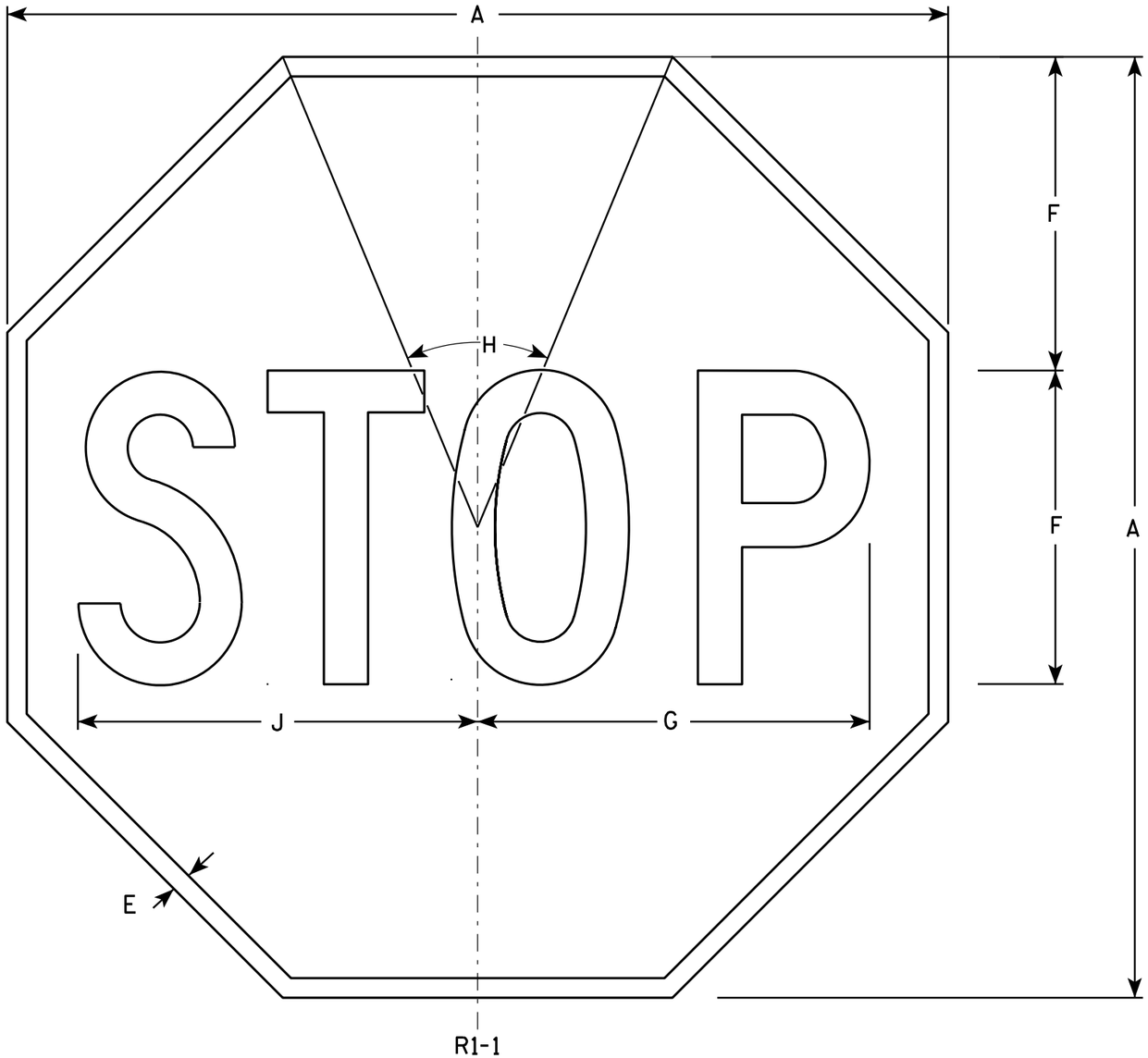
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-4.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 124 | E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

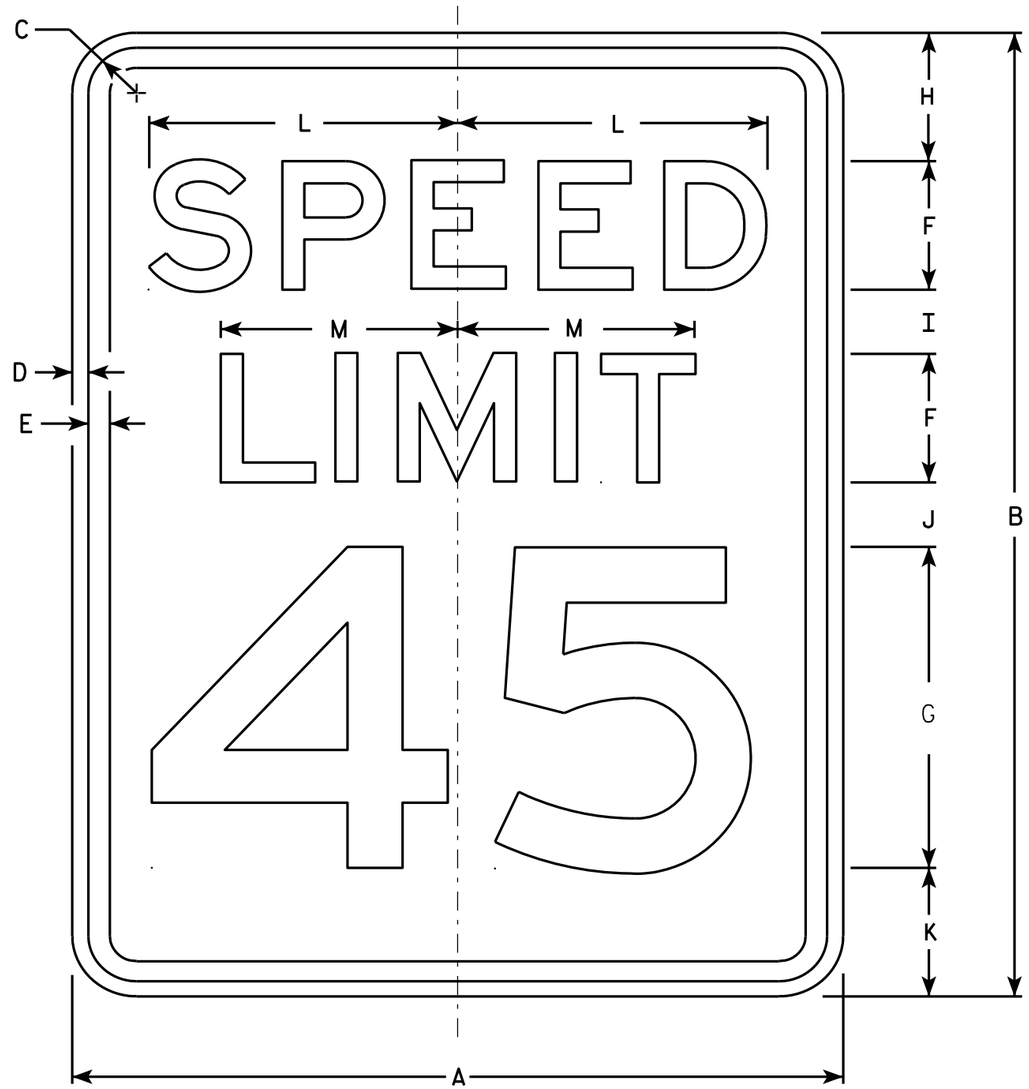
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 125	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

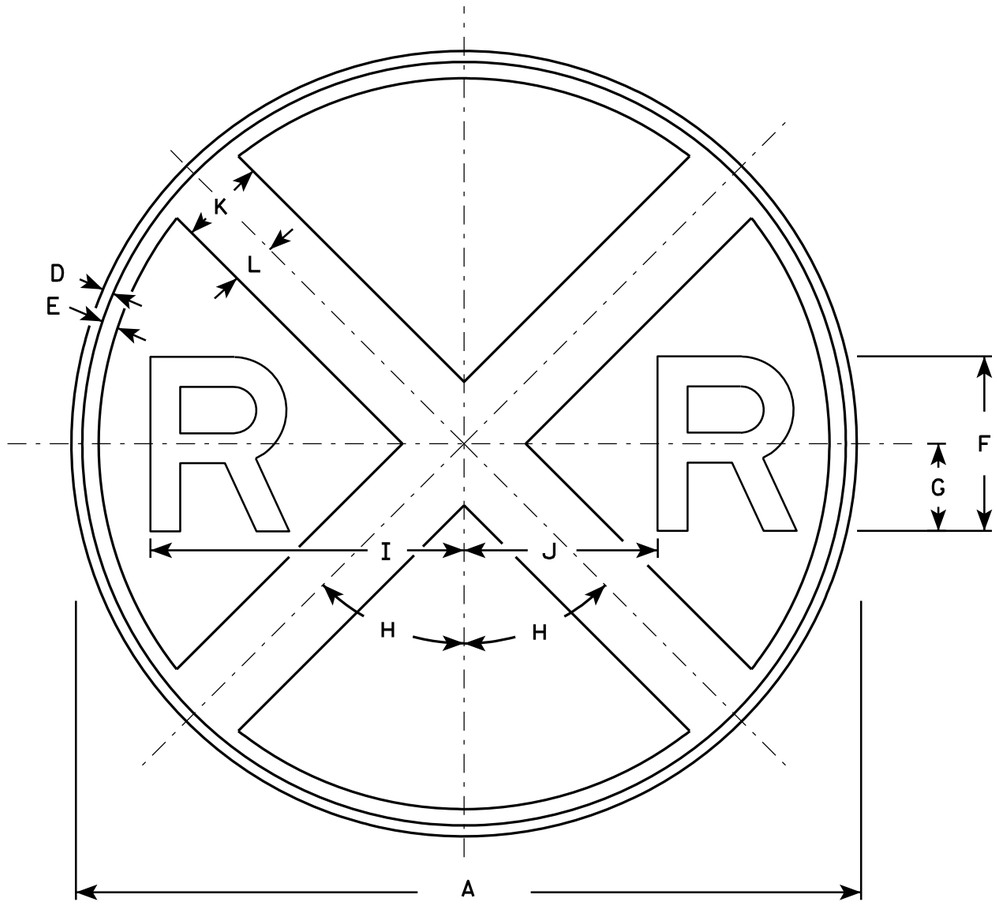
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 126 | E



W10-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

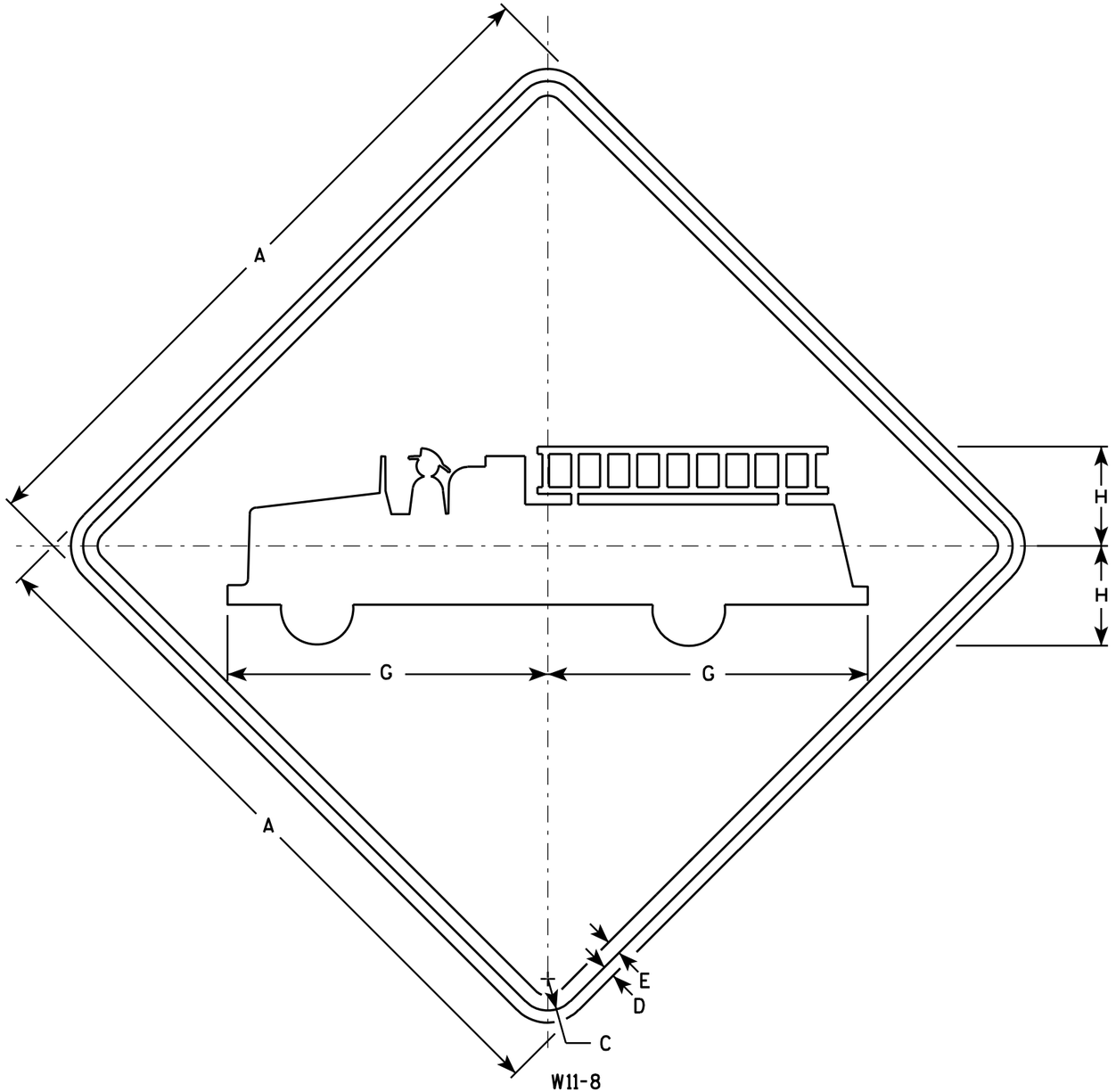
STANDARD SIGN
W10-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 127	E



W11-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN
W11-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

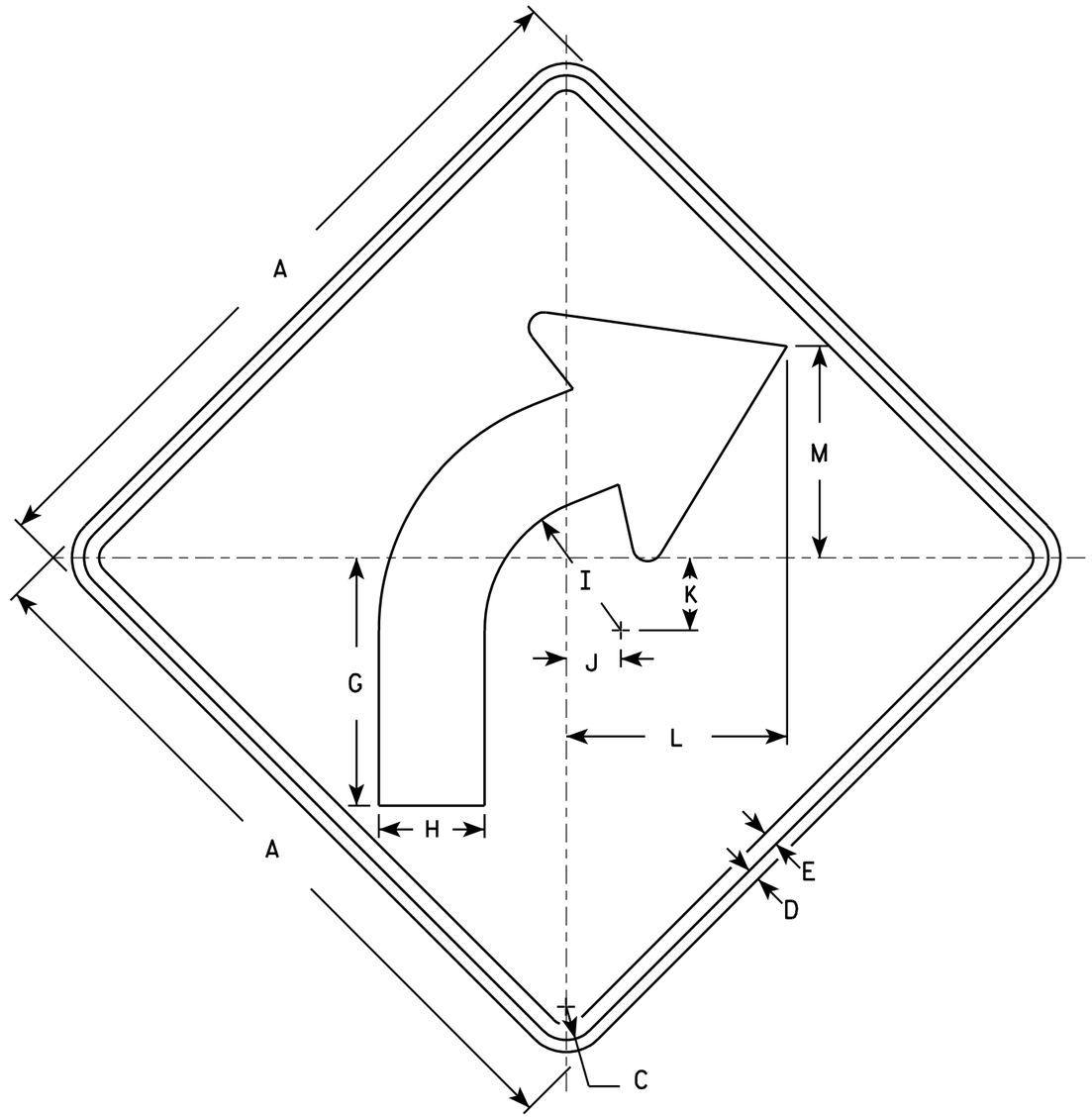
DATE 3/13/13 PLATE NO. W11-8.7

PROJECT NO:

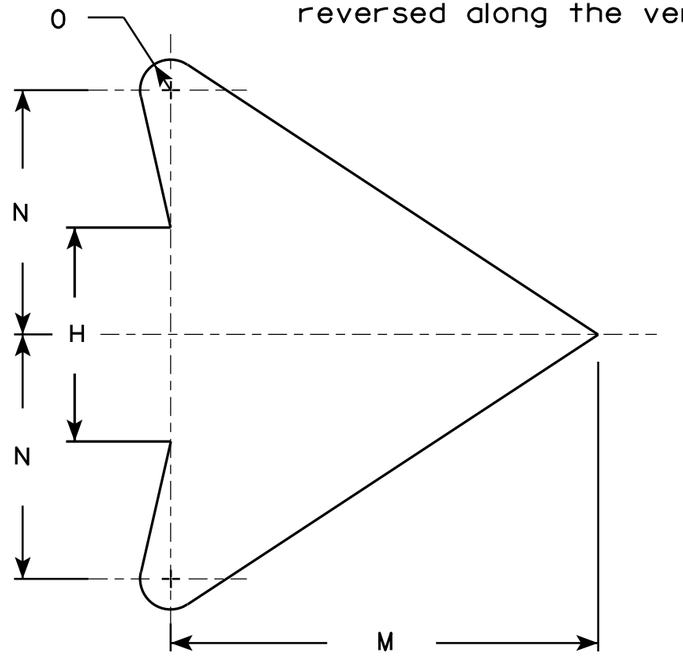
SHEET NO: 128 E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

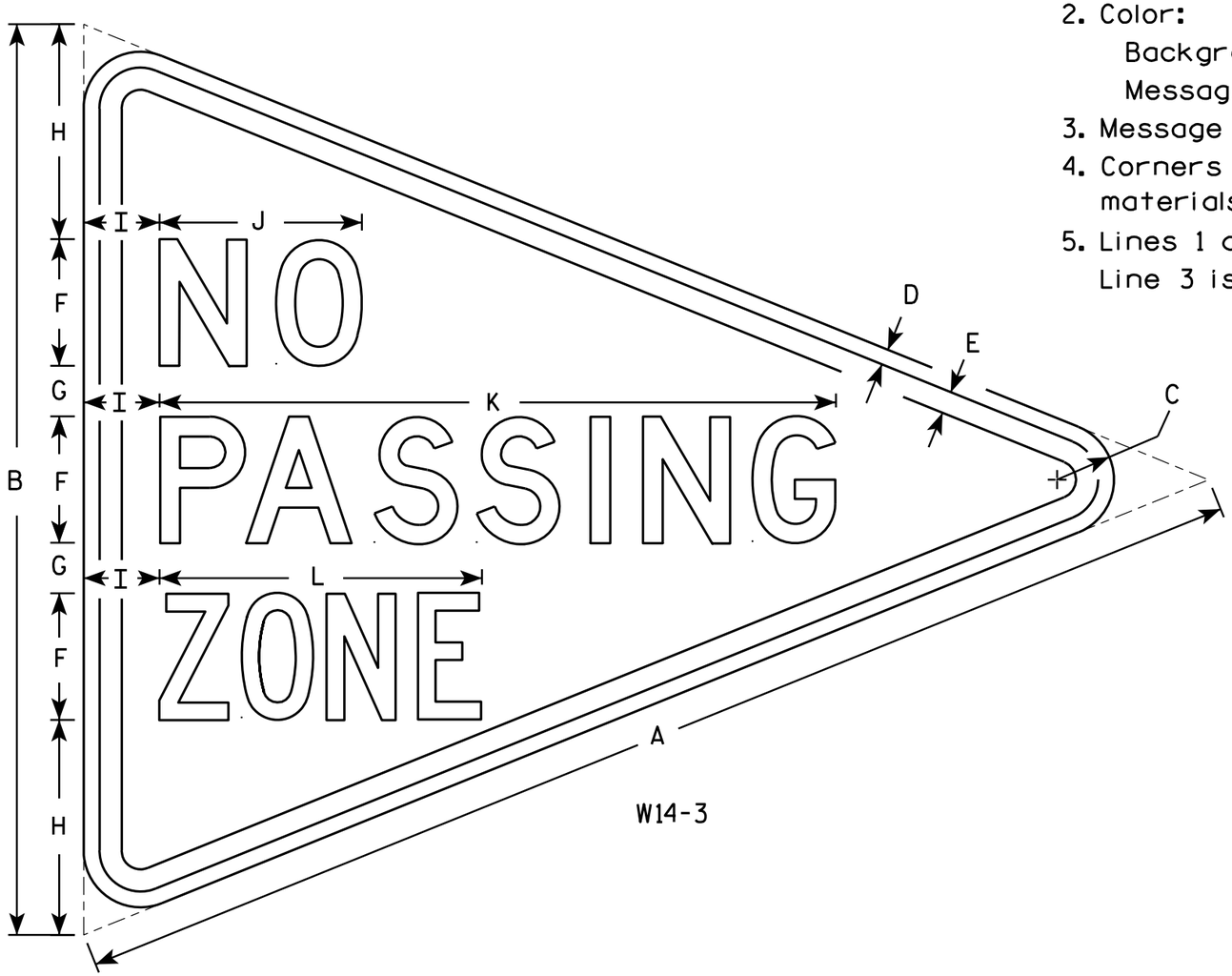
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 129	E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

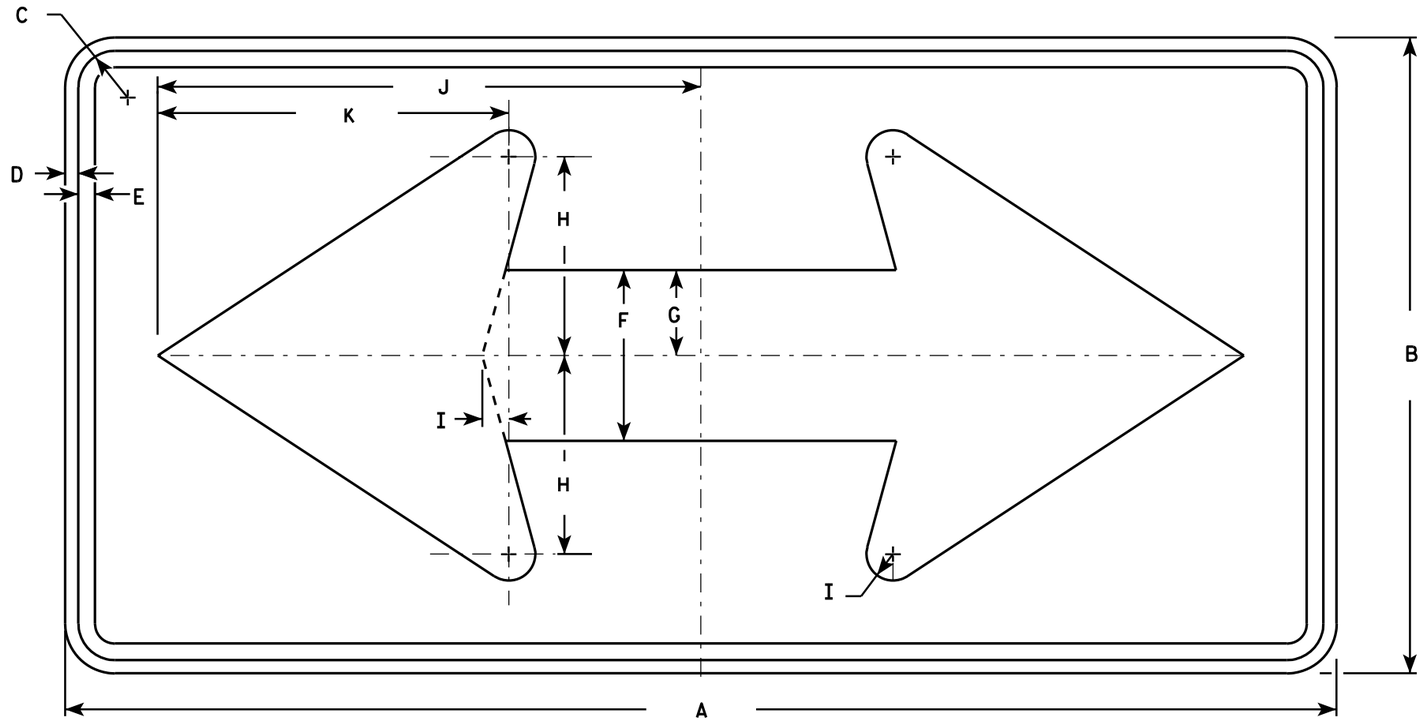
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 130	E



W1-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

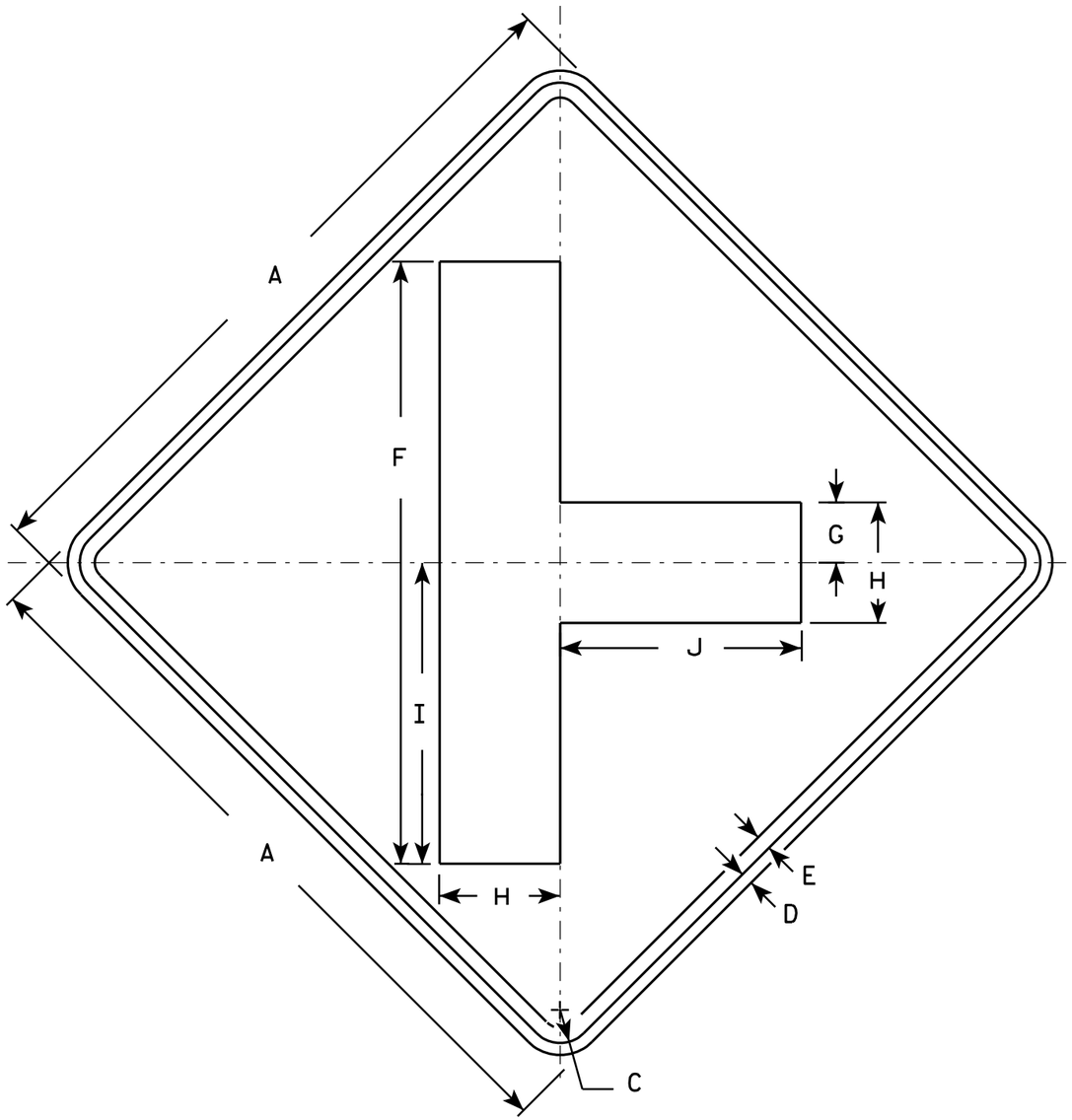
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 131 | E



W2-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

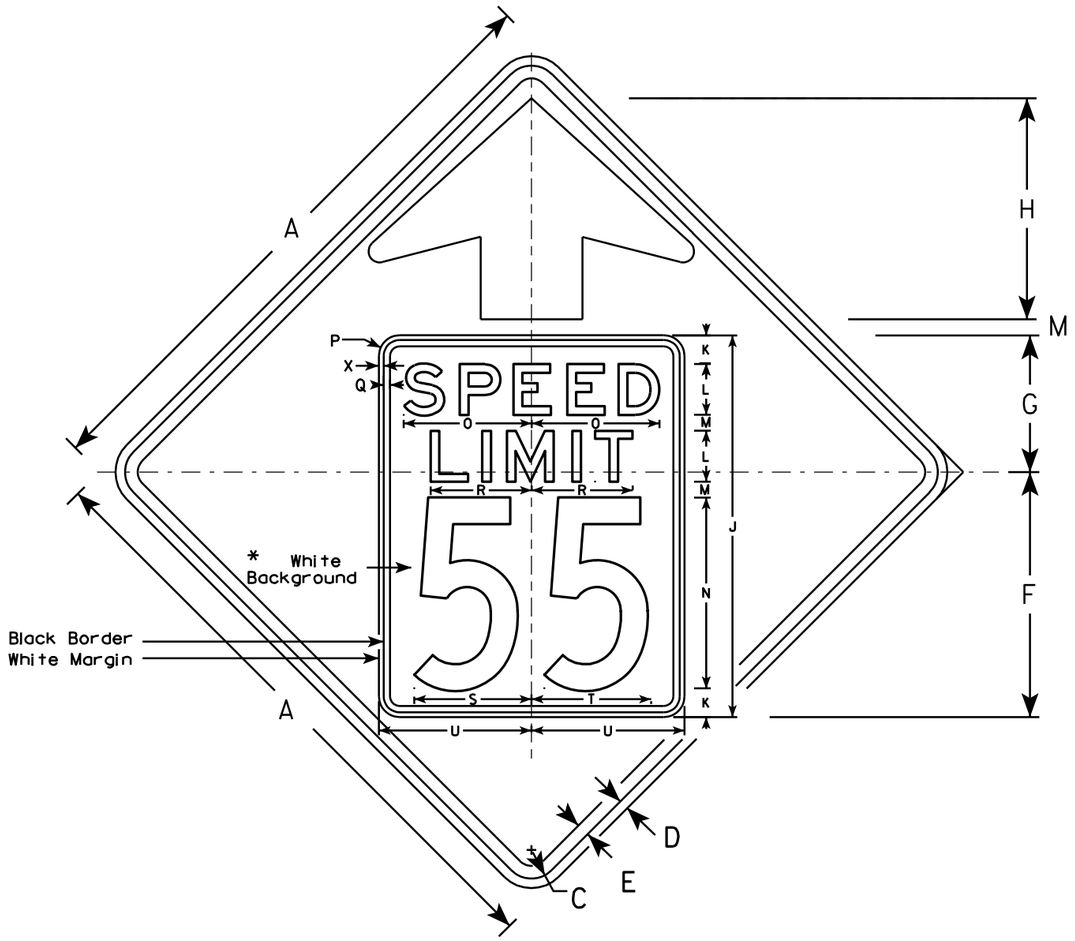
STANDARD SIGN
W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 132 | E

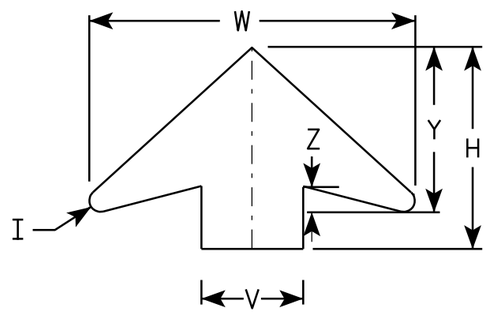


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

WISCONSIN DEPT OF TRANSPORTATION

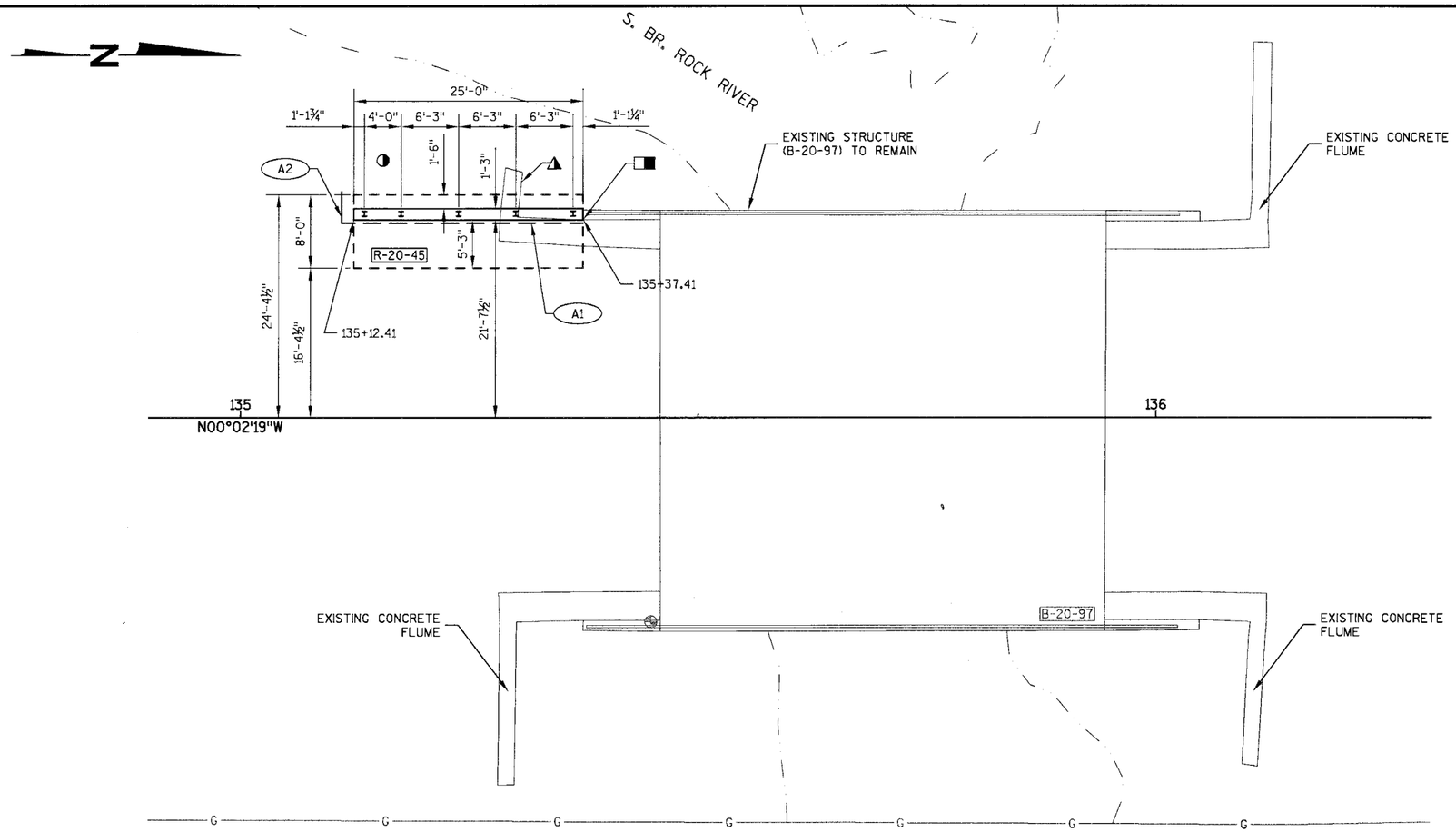
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

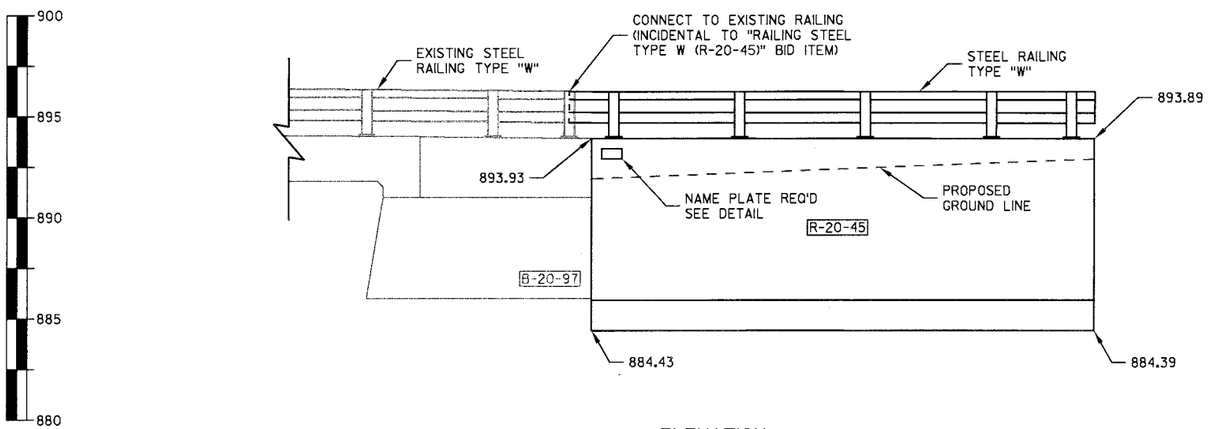
PROJECT NO:

SHEET NO: 133 E

STATE PROJECT NUMBER
6090-07-71

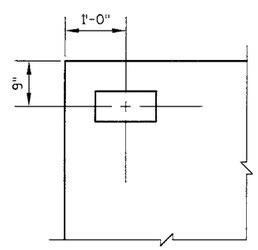


PLAN



ELEVATION

(LOOKING EAST AT F.F. WALL)



NAME PLATE DETAIL

ULTIMATE DESIGN STRESSES

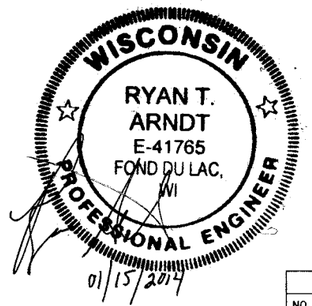
CONCRETE MASONRY, CAST-IN-PLACE f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. NOTES & QUANTITIES
3. WALL DETAILS
4. STEEL RAILING TYPE "W"
5. SUBSURFACE EXPLORATION

LEGEND

- RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND CONTINUOUS BETWEEN STRUCTURES, FROM FOOTING TO TOP OF STRUCTURE, TO BE PLACED FLUSH WITH SURFACE OF CONCRETE.
- SEE SHEET 3 FOR RIPRAP LIMITS.
- REMOVAL OF CONCRETE FLUME IS INCIDENTAL TO THE "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-20-45)" BID ITEM.
- (A1) PIPE UNDERDRAIN WRAPPED, 6 INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE.
- (A2) PIPE UNDERDRAIN UNPERFORATED, 6 INCH. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3.



CONSULTANT CONTACT:
THOMAS LANSER 920-924-5720

BRIDGE OFFICE CONTACT:
BILL DREHER 608-266-8489

NO.	DATE	REVISION	BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/21/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-20-45

WALL NEXT TO STRUCTURE B-20-97

COUNTY	TOWN/~~CITY/VILLAGE~~
FOND DU LAC	ALTO

DESIGN SPEC
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D	DRAWN BY	PLANS CK'D
RTA	ALK	AJS	ALK

GENERAL PLAN & ELEVATION

SHEET 1 OF 5

134

SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL BEHIND THE WALL	30#	0	120
FOUNDATION BELOW THE WALL	34	0	120
BOR-2, 135+41.4			
SILT, ELEVATION 893.25 +/- to 882.50 +/-	34	0	120
BEDROCK, ELEVATION 882.50 +/- & BELOW	0	100,000	140

#A VALUE HIGHER CAN BE USED WITH A CERTIFIED TEST.

NOTES:
THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT THAT VARIES FROM 1.0 FEET TO 2.0 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
2. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL PEDESTRIAN AND LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
3. AN ADDITIONAL SURCHARGE LOAD EQUIVALENT TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT IS ALSO INCLUDED IN THE DESIGN.
4. GLOBAL STABILITY FACTOR OF SAFETY WAS DETERMINED BY THE SIMPLIFIED JANBU METHOD.
5. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
6. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

GEOMETRY TABLE

WALL STATION	~ OFFSET TO F.F. WALL	TOP OF WALL ELEV.	FINISHED GRADE ELEV. @ F.F. WALL
135+12.4	22.87' LT	893.89	892.89
135+24.9	22.87' LT	893.91	892.41
135+37.4	22.87' LT	893.93	891.93

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	QUANTITY
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-20-45)	LS	1
210.0100	BACKFILL STRUCTURE	CY	55
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	21
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1938
513.7050	RAILING STEEL TYPE W (R-20-45)	LS	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6
606.0300	RIPRAP HEAVY	CY	28
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	17
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	25
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	40

SAFETY FACTORS & REQUIRED WALL MODIFICATIONS

DIMENSIONS		
WALL HEIGHT (FEET)[1]	9.5	9.5
EXPOSED WALL HEIGHT (FEET)	1	2
WALL STATION	135+12	135+37
BORING USED	BOR-2	BOR-2
CAPACITY TO DEMAND RATIO (CDR)[2]		
SLIDING (CDR ≥ 1.0)	2.7	2.7
ECCENTRICITY (CDR ≥ 1.0)	1.0	1.0
GLOBAL STABILITY (CDR ≥ 1.0)	1.3	1.3
BEARING RESISTANCE (CDR ≥ 1.0)	6.1	6.1
REQUIRED BEARING RESISTANCE (PSF)	4870	4870

NOTES:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 7.5 TO 8.5 FEET.
2. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.

NOTES:

THE SETTLEMENT OF THE FOUNDATION WAS ESTIMATED TO BE LESS THEN 2 INCHES AND SHOULD OCCUR WITHIN MONTHS OF LOADING OF THE WALL. THE SUBSURFACE SOILS ARE RELATIVELY UNIFORM; THEREFORE, DIFFERENTIAL SETTLEMENT SHOULD NOT BE AN ISSUE.

REMOVE THE TOPSOIL AND ANY ORGANICS PRIOR TO BEGINNING CONSTRUCTION OF THE CIP WALL. BACKFILL THE EXCAVATION WITH COMPACTED STRUCTURAL BACKFILL.

THE BACKFILL BEHIND THE CIP WALL SHOULD BE GRANULAR AND FREE DRAINING.

THE ENGINEER SHOULD REVIEW THE SUBSURFACE CONDITIONS OF THE EXCAVATION PRIOR TO CONSTRUCTION OF THE CIP WALL.

THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING/PEDESTRIAN/LIGHT EQUIPMENT ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL, OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTORS FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

GROUNDWATER MAY BE ENCOUNTERED DURING CONSTRUCTION. ANY DEWATERING AND/OR TREATMENT REQUIRED IS CONSIDERED INCIDENTAL TO ITEM 206.3000 – EXCAVATION FOR STRUCTURES RETAINING WALLS (R-20-45)

STATE PROJECT NUMBER
6090-07-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

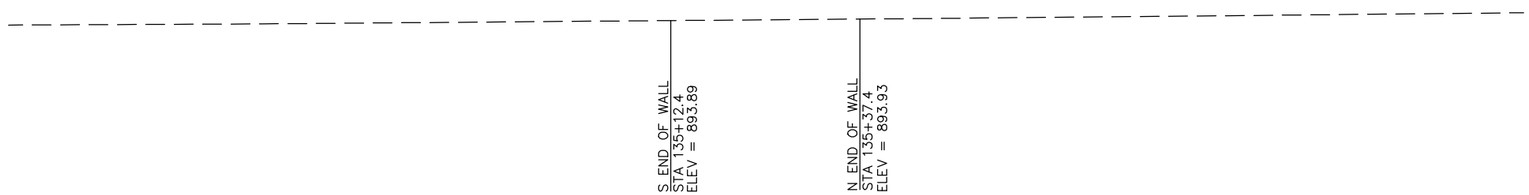
BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL (R-20-45).

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.



PROFILE GRADE LINE – R-20-45

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

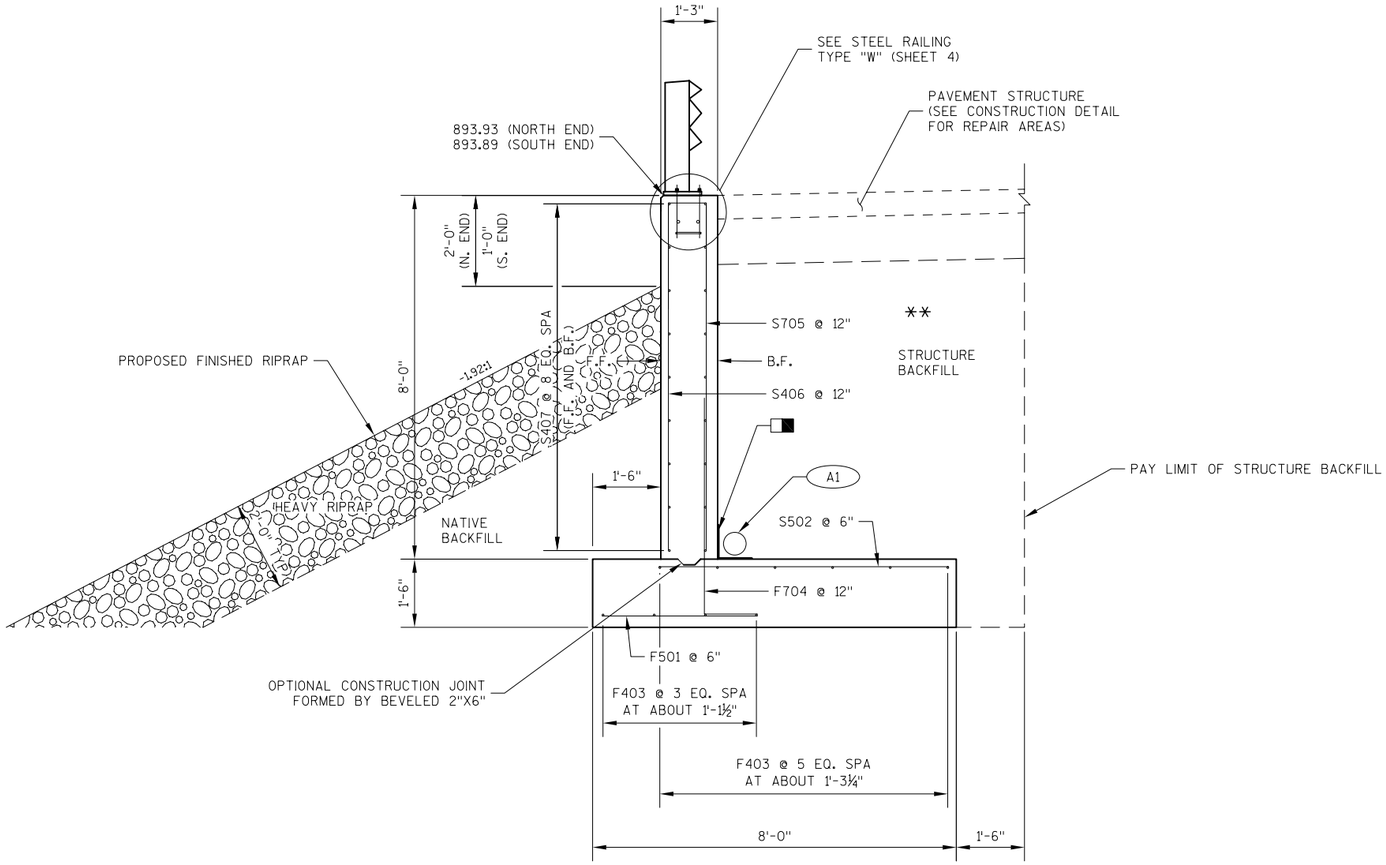
R-20-45

DRAWN BY AJS | PLANS CK'D ALK

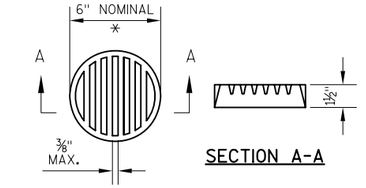
NOTES & QUANTITIES

SHEET 2
135

STATE PROJECT NUMBER
6090-07-71



TYPICAL SECTION THRU WALL



SECTION A-A

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

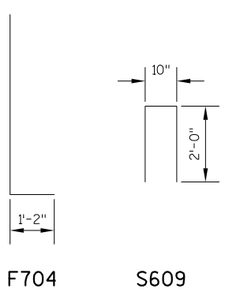
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN UNPERFORATED".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

RODENT SHIELD DETAIL

LEGEND

- ◨ RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND CONTINUOUS BETWEEN STRUCTURES, FROM FOOTING TO TOP OF STRUCTURE, TO BE PLACED FLUSH WITH SURFACE OF CONCRETE. ALSO EXTEND HORIZONTALLY ALONG FOOTING/ STEM JOINT.
- (A1) PIPE UNDERDRAIN WRAPPED, 6 INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE.
- ** COST OF EXCAVATION SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-20-45)"



F704 S609

BILL OF BARS

BAR MARK	COAT	NO. REQUIRED	LENGTH	BENT	LOCATION
F501	X	50	3'-5"		FOOTING - TOE
F502	X	50	6'-5"		FOOTING - HEEL
F403	X	10	24'-8"		FOOTING - LONGITUDINAL
F704	X	25	5'-11"	X	FOOTING - HOOK
S705	X	25	7'-8"		STEM - B.F. - VERTICAL
S406	X	25	7'-8"		STEM - F.F. - VERTICAL
S407	X	18	24'-8"		STEM - LONGITUDINAL
S608	X	2	24'-8"		STEM - RAILING - LONGITUDINAL
S609	X	10	4'-6"	X	STEM - RAILING - TRANSVERSE

NOTES:

1. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

R-20-45

DRAWN BY AJS | PLANS CK'D ALK

WALL DETAILS

SHEET 3

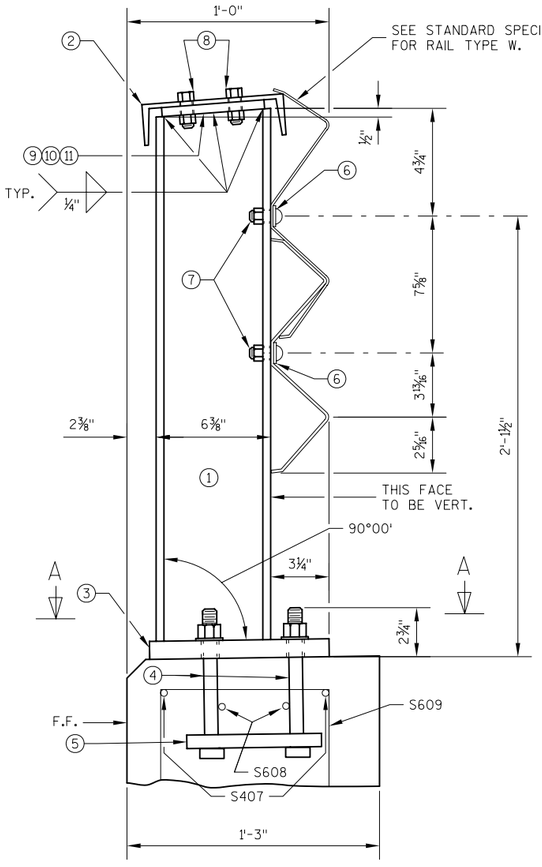
136

8

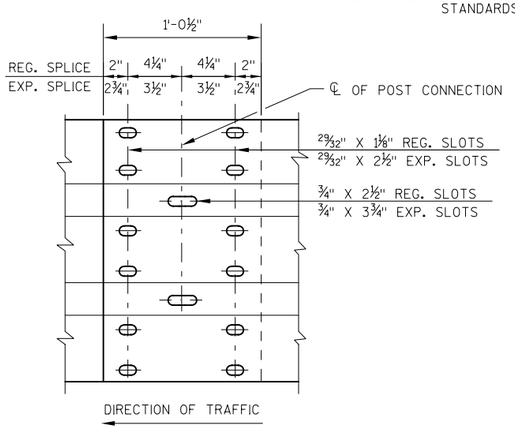
8

FILE NAME : 60900771_080103_BR PLOT DATE : 23 MAY 2013 13:21:44 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1

STATE PROJECT NUMBER
6090-07-71



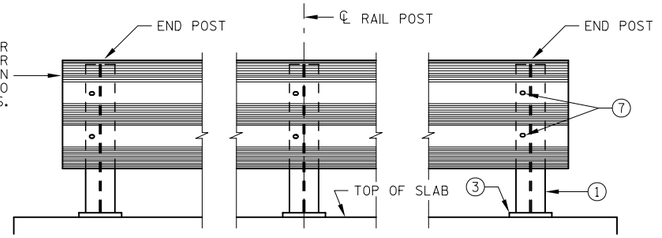
SECTION THRU RAILING



RAIL MEMBER SPLICE

⅝" DIA. BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX NUTS AT ALL SLOTS.

AT END POSTS, RAIL MEMBER SHALL HAVE PROVISIONS FOR A THRIE BEAM CONNECTION AS SHOWN ON SDD 14 B 20 STANDARDS.



ELEVATION

LEGEND

(1) W6X25 WITH 2 - ¾" X 2½" VERT. SLOTS IN FLG. (SLOT ON OTHER SIDE OF WEB IS OPTIONAL) FOR NO. 7. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POSTS VERTICAL AND NORMAL TO GRADE LINE.

(2) C8X11.5 WITH ¹³⁄₁₆" DIA. HOLES FOR NO. 8.

(3) BASE PLATE 1" X 9½" X 10" WITH 1⅛" X 1½" SLOTTED HOLES FOR ANCHOR BOLTS NO. 4. WELD TO NO. 1 AS SHOWN.

(4) A325 - ⅞" DIA. HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 14" LONG. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 3. CHAMFER TOP OF BOLTS BEFORE THREADING.

(5) ¼" X 8" X 8" FLAT BAR WITH ¹⁵⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 4.

(6) 1¾" X 3" MOUNTING BOLT WASHER (GALVANIZED).

(7) ⅝" DIA. BUTTON HEAD POST MOUNTING BOLT WITH ROUND WASHER AND NUT.

(8) ⅝" DIA. X 2" HEX BOLTS WITH NUT AND TWO WASHERS EACH.

(9) PLATE ½" X 5¾" X 6" AT BASIC POST CONNECTION. 1¼" DIA. HOLES IN PLATE. ¹³⁄₁₆" DIA. HOLES IN CHANNEL.

(10) PLATE ½" X 5¾" X 1'-2½". 1¼" DIA. HOLES IN PLATE. ¹³⁄₁₆" DIA. HOLES IN CHANNEL. EXPANSION SLOTS ON JOINT SIDE OF POST, 1⅛" X 2¼" IN PLATE, ¹³⁄₁₆" X 2¼" IN CHANNEL. (AT EXPANSION SPLICE.)

(11) PLATE ½" X 5¾" X 11½". 1¼" DIA. HOLES IN PLATE, ¹³⁄₁₆" DIA. HOLES IN CHANNEL. (AT TYPICAL SPLICE.)

GENERAL NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE W (R-20-45)" WHICH INCLUDES ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL NO. 5 SHALL BE GALVANIZED AFTER FABRICATION.

PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND CHANNELS SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY SSPC SPECS.

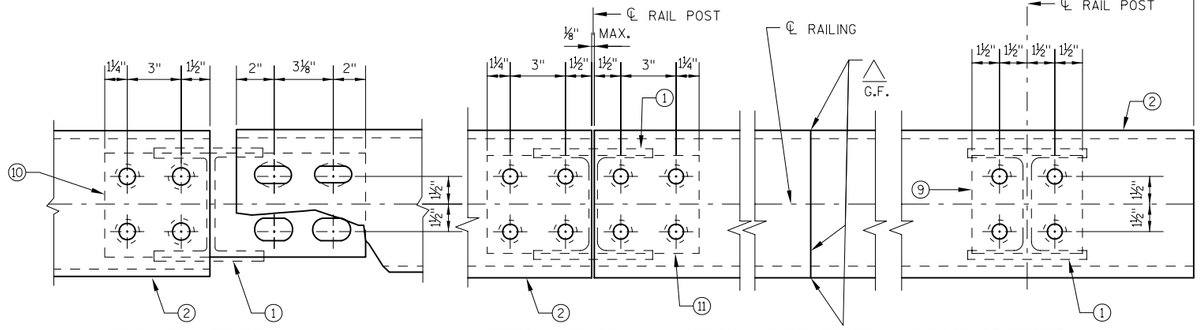
ALL MATERIAL USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO ASTM DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

FILL BOLT SLOT OPENINGS IN POST SHIMS & PLATE NO. 3 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

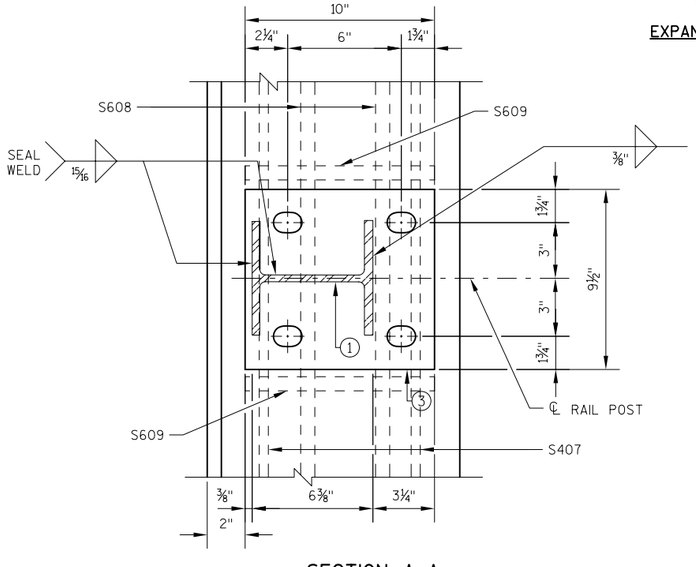
CHANNEL MEMBER SHALL BE ATTACHED CONTINUOUSLY TO A MINIMUM OF FOUR POSTS AND A MAXIMUM OF EIGHT (EXCEPT AT ABUTMENTS).

AT EXPANSION SLOTS IN RAIL AND CHANNEL MEMBERS, TIGHTEN BOLTS, BACK OFF ONE HALF TURN AND BURR THREADS. RAIL MEMBERS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC AND THE UPPER RAIL SHALL LAP THE LOWER RAIL.

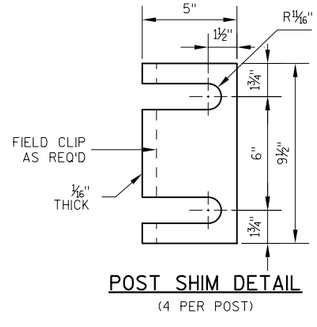
STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.



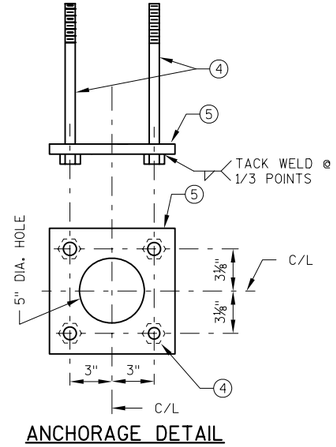
CHANNEL MEMBER DETAILS



SECTION A-A



POST SHIM DETAIL
(4 PER POST)



ANCHORAGE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

R-20-45

DRAWN BY AJS | PLANS CK'D ALK

STEEL RAILING TYPE "W"

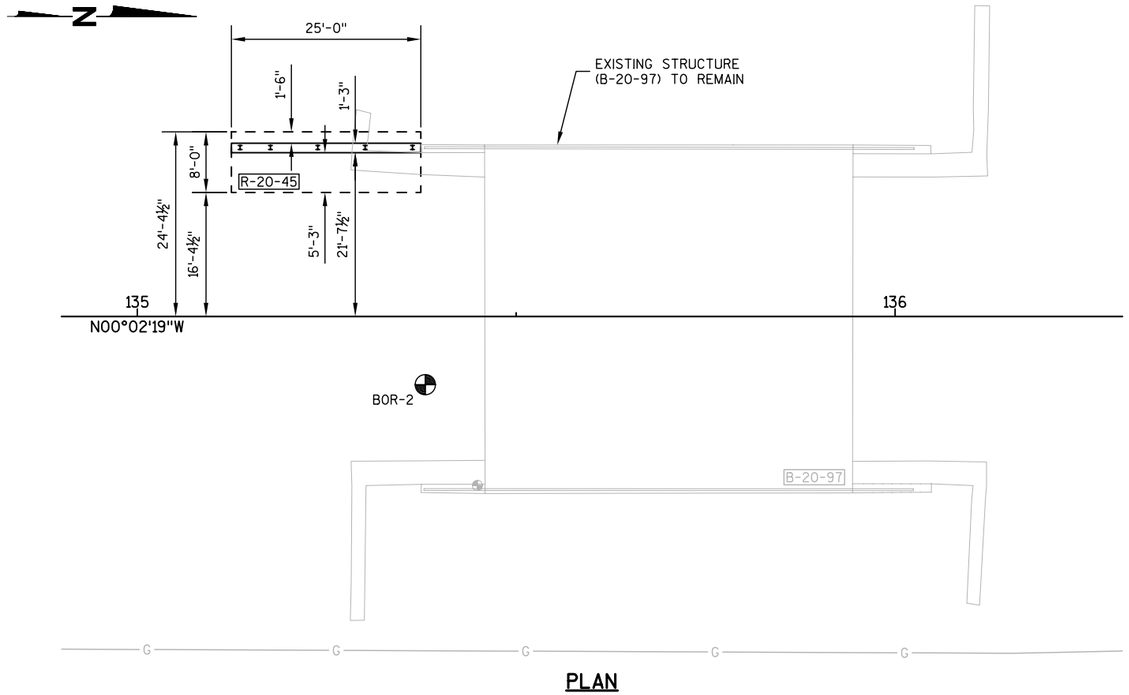
SHEET 4

137

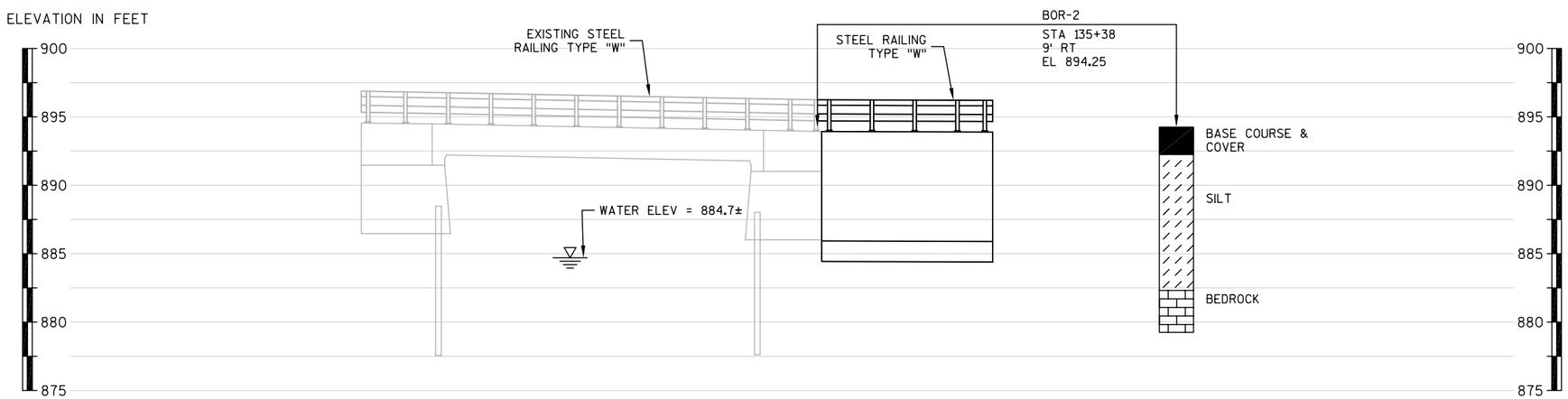
8

8

FILE NAME : 60900771_080104_BR PLOT DATE : 30 APR 2013 20:37:38 PLOT BY : GAAJS PLOT NAME : PLOT SCALE : 1:1



PLAN



ELEVATION

(LOOKING EAST AT F.F. WALL)

STATE PROJECT NUMBER

6090-07-71

ABBREVIATIONS

F --- FINE M --- MEDIUM C --- COARSE

WS --- WEATHERED SO --- SOUND

MATERIAL SYMBOLS

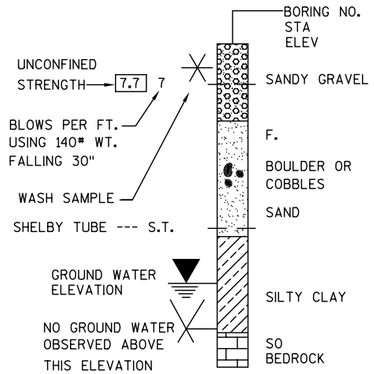
TOPSOIL, SILT, SANDSTONE, SAND, PEAT, BEDROCK, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

R-20-45

DRAWN BY AJS | PLANS CK'D ALK

SUBSURFACE EXPLORATION

SHEET 5

138

8

8

STH 49
MAINLINE
AVERAGE ENDAREA VOLUMES

FILL EXPANSION FACTOR= ***1.00***

STATION	END-AREA (SF) CUT	FILL	EXPAND FILL	INCREMENTAL VOLUME (CY) CUT	EXP FILL	CUMULATIVE VOLUME (CY) CUT	EXP FILL	MASS HAUL (CY)
58+50	0.0	0.0	0.0	0.0	0.0	0	0	0
59+00	0.0	0.5	0.5	0.0	0.5	0	1	-1
59+50	0.0	5.3	5.3	0.0	5.4	0	6	-6
60+00	0.0	3.2	3.2	0.0	7.9	0	14	-14
60+50	0.0	2.0	2.0	0.0	4.8	0	19	-19
61+00	0.0	2.5	2.5	0.0	4.2	0	23	-23
61+50	0.0	3.3	3.3	0.0	5.4	0	28	-28
62+00	0.0	0.5	0.5	0.0	3.6	0	32	-32
62+50	0.0	5.4	5.4	0.0	5.6	0	37	-37
63+00	0.0	6.5	6.5	0.0	11.1	0	49	-49
63+50	0.0	10.3	10.3	0.0	15.6	0	64	-64
64+00	0.0	1.6	1.6	0.0	11.1	0	75	-75
64+50	0.0	8.6	8.6	0.0	9.5	0	85	-85
65+00	0.0	9.1	9.1	0.0	16.4	0	101	-101
65+50	0.0	12.0	12.0	0.0	19.6	0	121	-121
66+00	0.0	8.7	8.7	0.0	19.2	0	140	-140
66+50	0.0	9.2	9.2	0.0	16.6	0	157	-157
67+00	0.0	4.1	4.1	0.0	12.4	0	169	-169
67+50	0.0	6.4	6.4	0.0	9.8	0	179	-179
68+00	0.0	2.7	2.7	0.0	8.5	0	187	-187
68+50	0.0	7.6	7.6	0.0	9.6	0	197	-197
69+00	0.0	9.5	9.5	0.0	15.9	0	213	-213
69+50	0.0	15.0	15.0	0.0	22.7	0	235	-235
70+00	0.0	12.8	12.8	0.0	25.8	0	261	-261
70+50	0.0	27.9	27.9	0.0	37.7	0	299	-299
71+00	0.0	32.5	32.5	0.0	55.9	0	355	-355
71+50	0.0	18.9	18.9	0.0	47.6	0	402	-402
72+00	0.0	12.1	12.1	0.0	28.8	0	431	-431
72+50	0.0	16.8	16.8	0.0	26.8	0	458	-458
73+00	0.0	12.5	12.5	0.0	27.2	0	485	-485
73+50	0.0	14.4	14.4	0.0	25.0	0	510	-510
74+00	0.0	9.1	9.1	0.0	21.8	0	532	-532
74+50	0.0	7.6	7.6	0.0	15.5	0	548	-548
75+00	0.0	1.0	1.0	0.0	8.1	0	556	-556
75+50	0.0	2.8	2.8	0.0	3.6	0	559	-559
76+00	0.0	1.3	1.3	0.0	3.8	0	563	-563
76+50	0.0	0.0	0.0	0.0	1.2	0	564	-564
85+50	0.0	0.0	0.0	0.0	0.0	0	564	-564
86+00	5.4	0.4	0.4	5.0	0.4	5	565	-560
86+50	5.6	0.3	0.3	10.2	0.7	15	565	-550
87+00	5.4	1.2	1.2	10.2	1.4	25	567	-541
87+50	5.5	0.3	0.3	10.1	1.4	36	568	-533
88+00	4.3	0.8	0.8	9.1	1.0	45	569	-525
88+50	3.5	0.5	0.5	7.3	1.2	52	570	-518
89+00	3.4	0.5	0.5	6.4	0.9	58	571	-513
89+50	3.2	0.1	0.1	6.2	0.5	65	572	-507
90+00	7.0	1.5	1.5	9.5	1.5	74	573	-499
90+50	9.1	0.0	0.0	15.0	1.4	89	575	-486
91+00	8.6	0.1	0.1	16.4	0.2	105	575	-469
91+50	5.8	0.1	0.1	13.4	0.3	119	575	-456
92+00	3.5	0.5	0.5	8.7	0.6	128	576	-448
92+50	3.0	0.6	0.6	6.1	1.1	134	577	-443
93+00	2.8	0.4	0.4	5.4	1.0	139	578	-439
93+50	3.2	1.3	1.3	5.6	1.7	145	580	-435

STH 49
MAINLINE (CONTINUED)
AVERAGE ENDAREA VOLUMES

FILL EXPANSION FACTOR= ***1.00***

STATION	END-AREA (SF) CUT	FILL	EXPAND FILL	INCREMENTAL VOLUME (CY) CUT	EXP FILL	CUMULATIVE VOLUME (CY) CUT	EXP FILL	MASS HAUL (CY)
94+00	7.4	0.0	0.0	9.9	1.3	155	581	-426
94+50	0.0	2.7	2.7	6.9	2.5	161	583	-422
95+00	5.6	0.7	0.7	5.2	3.2	167	587	-420
95+50	11.2	0.0	0.0	15.6	0.7	182	587	-405
96+00	0.0	0.0	0.0	10.4	0.1	193	587	-395
96+50	7.4	0.0	0.0	6.9	0.1	200	587	-388
97+00	13.8	0.0	0.0	19.7	0.1	219	588	-368
97+50	2.5	0.0	0.0	15.1	0.0	234	588	-353
98+00	1.5	0.0	0.0	3.8	0.1	238	588	-350
98+50	1.3	0.1	0.1	2.6	0.2	241	588	-347
99+00	1.0	1.0	1.0	2.2	1.1	243	589	-346
99+50	1.0	1.9	1.9	1.9	2.7	245	592	-347
100+00	0.9	2.1	2.1	1.8	3.8	247	595	-349
100+50	0.9	1.6	1.6	1.7	3.5	248	599	-351
101+00	0.9	1.1	1.1	1.7	2.5	250	601	-351
101+50	0.7	1.5	1.5	1.5	2.5	252	604	-352
102+00	0.0	2.0	2.0	0.7	3.3	252	607	-355
102+50	0.0	2.3	2.3	0.0	4.1	252	611	-359
103+00	0.0	2.2	2.2	0.0	4.2	252	616	-363
103+50	0.0	0.6	0.6	0.0	2.6	252	618	-366
104+00	0.0	0.0	0.0	0.0	0.6	252	619	-367
119+50	0.0	0.0	0.0	0.0	0.0	252	619	-367
120+00	0.9	0.4	0.4	0.9	0.4	253	619	-366
120+50	0.6	0.6	0.6	1.4	1.0	255	620	-366
121+00	0.6	1.6	1.6	1.2	2.1	256	622	-367
121+50	0.0	1.2	1.2	0.6	2.6	256	625	-369
122+00	0.7	1.6	1.6	0.7	2.6	257	627	-370
122+50	0.0	2.1	2.1	0.7	3.5	258	631	-373
123+00	0.0	0.7	0.7	0.0	2.6	258	634	-376
123+50	0.0	1.3	1.3	0.0	1.9	258	635	-378
124+00	0.0	1.2	1.2	0.0	2.4	258	638	-380
124+50	0.0	0.8	0.8	0.0	2.0	258	640	-382
125+00	0.7	1.4	1.4	0.7	2.1	258	642	-384
125+50	0.0	3.8	3.8	0.7	4.8	259	647	-388
126+00	0.0	3.6	3.6	0.0	6.9	259	654	-395
126+50	1.3	3.7	3.7	1.3	6.8	260	660	-400
127+00	0.0	2.7	2.7	1.3	5.9	262	666	-405
127+50	0.0	2.7	2.7	0.0	5.0	262	671	-410
128+00	0.0	3.7	3.7	0.0	6.0	262	677	-416
128+50	0.0	3.6	3.6	0.0	6.8	262	684	-422
129+00	0.0	3.2	3.2	0.0	6.3	262	690	-429
129+50	0.0	0.0	0.0	0.0	3.0	262	693	-432
132+00	0.0	0.0	0.0	0.0	0.0	262	693	-432
132+50	0.0	1.8	1.8	0.0	1.7	262	695	-433
133+00	0.0	3.9	3.9	0.0	5.3	262	700	-439
133+50	0.6	24.9	24.9	0.6	26.7	262	727	-465
134+00	3.9	57.2	57.2	4.2	76.1	267	803	-537
134+50	4.8	47.4	47.4	8.1	96.9	275	900	-626
135+00	0.0	44.4	44.4	4.5	85.0	279	985	-706
135+12	0.0	38.7	38.7	0.0	19.1	279	1004	-725
135+13	0.0	38.7	38.7	0.0	0.2	279	1004	-725
135+46	0.0	88.9	88.9	0.0	78.5	279	1083	-804
135+46	0.0	88.9	88.9	0.0	0.6	279	1084	-804

STH 49
MAINLINE (CONTINUED)
AVERAGE ENDAREA VOLUMES

FILL EXPANSION FACTOR= 1.00

STATION	END-AREA (SF) CUT	FILL	EXPAND FILL	INCREMENTAL VOLUME (CY) CUT	EXP FILL	CUMULATIVE VOLUME (CY) CUT	EXP FILL	MASS HAUL (CY)
135+94	0.0	111.5	111.5	0.0	180.3	279	1264	-985
136+00	0.0	69.9	69.9	0.0	18.8	279	1283	-1004
136+50	0.0	42.4	42.4	0.0	104.1	279	1387	-1108
137+00	0.0	65.9	65.9	0.0	100.3	279	1487	-1208
137+50	0.0	29.6	29.6	0.0	88.4	279	1575	-1296
138+00	0.0	1.8	1.8	0.0	29.1	279	1605	-1325
138+50	0.0	0.8	0.8	0.0	2.4	279	1607	-1328
138+75	0.0	0.0	0.0	0.0	0.4	279	1607	-1328
142+75	0.0	0.0	0.0	0.0	0.0	279	1607	-1328
143+00	0.0	2.8	2.8	0.0	1.3	279	1609	-1330
143+50	0.0	1.6	1.6	0.0	4.1	279	1613	-1334
144+00	0.0	1.3	1.3	0.0	2.7	279	1615	-1336
144+50	0.0	2.9	2.9	0.0	3.9	279	1619	-1340
145+00	0.0	3.6	3.6	0.0	6.0	279	1625	-1346
145+50	0.0	1.4	1.4	0.0	4.7	279	1630	-1351
146+00	0.0	0.5	0.5	0.0	1.8	279	1632	-1353
146+50	0.0	1.1	1.1	0.0	1.6	279	1633	-1354
147+00	0.0	5.1	5.1	0.0	5.9	279	1639	-1360
147+50	0.0	19.8	19.8	0.0	23.1	279	1662	-1383
148+00	0.0	49.5	49.5	0.0	64.2	279	1727	-1448
148+50	0.0	69.6	69.6	0.0	110.3	279	1837	-1558
149+00	0.0	48.2	48.2	0.0	109.2	279	1946	-1667
149+50	0.0	31.6	31.6	0.0	73.9	279	2020	-1741
150+00	0.0	17.8	17.8	0.0	45.8	279	2066	-1787
150+50	0.0	4.3	4.3	0.0	20.6	279	2086	-1807
151+00	0.0	2.9	2.9	0.0	6.7	279	2093	-1814
151+50	0.0	4.5	4.5	0.0	6.8	279	2100	-1821
152+00	0.0	4.0	4.0	0.0	7.9	279	2108	-1829
152+50	0.0	3.8	3.8	0.0	7.3	279	2115	-1836
153+00	0.0	2.8	2.8	0.0	6.1	279	2121	-1842
153+50	0.0	12.3	12.3	0.0	14.0	279	2135	-1856
154+00	0.0	19.7	19.7	0.0	29.6	279	2165	-1886
154+50	0.0	8.3	8.3	0.0	26.0	279	2191	-1912
155+00	0.0	6.8	6.8	0.0	14.1	279	2205	-1926
155+50	8.0	0.3	0.3	7.5	6.7	287	2212	-1925
157+50	0.0	0.4	0.4	29.7	2.8	316	2214	-1898
158+00	0.0	0.9	0.9	0.0	1.3	316	2216	-1899
158+50	0.7	1.6	1.6	0.7	2.4	317	2218	-1901
159+00	0.0	3.9	3.9	0.7	5.1	318	2223	-1906
159+50	0.0	5.8	5.8	0.0	9.0	318	2232	-1915
160+00	0.0	3.1	3.1	0.0	8.3	318	2241	-1923
160+50	0.0	2.5	2.5	0.0	5.2	318	2246	-1928
161+00	0.0	3.0	3.0	0.0	5.1	318	2251	-1933
161+50	0.0	2.4	2.4	0.0	5.1	318	2256	-1938
162+00	0.0	3.4	3.4	0.0	5.4	318	2261	-1944
162+50	0.0	3.6	3.6	0.0	6.5	318	2268	-1950
163+00	0.0	3.8	3.8	0.0	6.9	318	2275	-1957
163+50	0.0	2.3	2.3	0.0	5.7	318	2280	-1963
164+00	0.0	2.5	2.5	0.0	4.5	318	2285	-1967
164+25	0.0	0.0	0.0	0.0	1.2	318	2286	-1968
165+75	0.0	0.0	0.0	0.0	0.0	318	2286	-1968
166+00	5.9	2.3	2.3	2.8	1.1	321	2287	-1967
166+50	7.6	0.5	0.5	12.5	2.6	333	2290	-1957

STH 49
MAINLINE (CONTINUED)
AVERAGE ENDAREA VOLUMES

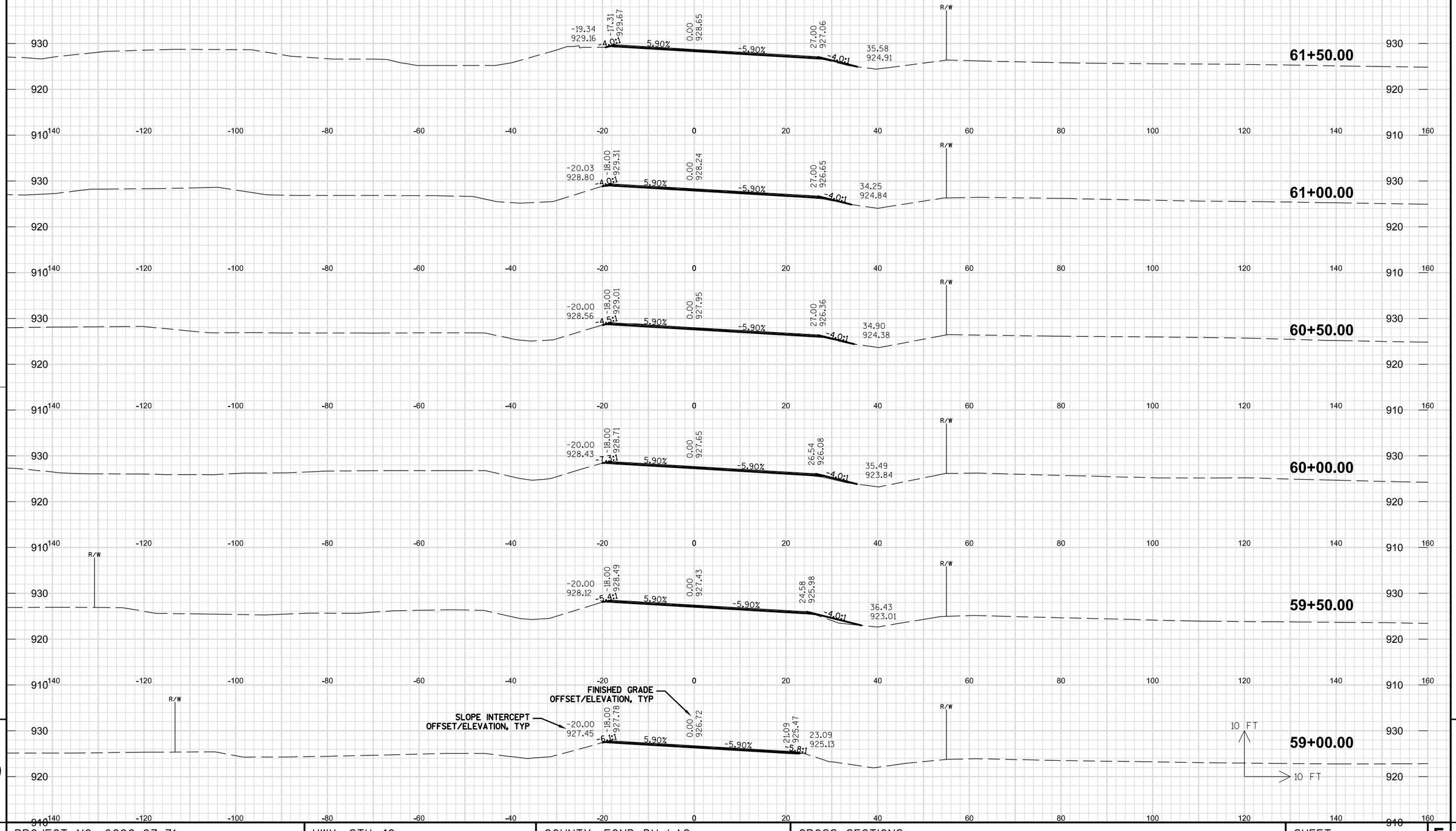
FILL EXPANSION FACTOR= 1.00

STATION	END-AREA (SF) CUT	FILL	EXPAND FILL	INCREMENTAL VOLUME (CY) CUT	EXP FILL	CUMULATIVE VOLUME (CY) CUT	EXP FILL	MASS HAUL (CY)
167+00	10.0	2.3	2.3	16.3	2.6	349	2292	-1943
167+50	12.5	4.7	4.7	20.9	6.5	370	2299	-1929
168+00	14.0	4.3	4.3	24.6	8.4	395	2307	-1913
168+50	23.1	0.0	0.0	34.4	4.0	429	2311	-1882
169+00	13.7	2.1	2.1	34.1	2.0	463	2313	-1850
169+50	9.9	2.8	2.8	21.9	4.6	485	2318	-1833
170+00	8.2	3.6	3.6	16.8	6.0	502	2324	-1822
170+50	6.5	5.0	5.0	13.7	8.0	516	2332	-1816
171+00	10.7	1.8	1.8	16.0	6.3	532	2338	-1807
171+50	2.0	2.8	2.8	11.8	4.3	544	2343	-1799
172+00	0.5	3.9	3.9	2.4	6.3	546	2349	-1803
172+50	0.8	0.4	0.4	1.3	4.0	547	2353	-1806
173+00	1.2	0.0	0.0	1.9	0.4	549	2353	-1804
173+25	0.0	0.0	0.0	0.6	0.1	550	2353	-1804
195+75	0.0	0.0	0.0	0.0	0.0	550	2353	-1804
196+00	6.2	36.9	36.9	2.9	17.2	553	2371	-1818
196+50	0.0	86.0	86.0	5.8	113.9	558	2484	-1926
197+00	0.0	98.3	98.3	0.0	170.7	558	2655	-2097
197+50	0.0	120.9	120.9	0.0	203.0	558	2858	-2300
198+00	0.0	100.3	100.3	0.0	204.9	558	3063	-2505
198+50	0.0	86.4	86.4	0.0	172.9	558	3236	-2678
199+00	0.0	72.1	72.1	0.0	146.9	558	3383	-2824
199+50	0.0	33.5	33.5	0.0	97.9	558	3481	-2922
200+00	0.0	8.4	8.4	0.0	38.9	558	3520	-2961
200+25	0.0	0.0	0.0	0.0	4.0	558	3524	-2965
283+65	0.0	0.0	0.0	0.0	0.0	558	3524	-2965
283+75	0.0	3.7	3.7	0.0	0.7	558	3524	-2966
284+00	0.0	9.8	9.8	0.0	6.3	558	3531	-2972
284+50	0.0	2.9	2.9	0.0	11.7	558	3542	-2984
284+75	0.0	2.8	2.8	0.0	2.7	558	3545	-2987
285+00	0.0	0.0	0.0	0.0	1.4	558	3546	-2988
390+25	0.0	0.0	0.0	0.0	0.0	558	3546	-2988
390+50	0.0	6.6	6.6	0.0	3.1	558	3550	-2991
391+00	0.0	9.8	9.8	0.0	15.2	558	3565	-3006
391+50	0.0	29.5	29.5	0.0	36.4	558	3601	-3043
392+00	0.0	28.5	28.5	0.0	53.8	558	3655	-3097
392+50	0.0	18.2	18.2	0.0	43.3	558	3698	-3140
392+75	0.0	14.9	14.9	0.0	15.4	558	3714	-3155
393+25	0.0	12.9	12.9	0.0	25.8	558	3739	-3181
393+50	0.0	26.0	26.0	0.0	18.1	558	3758	-3199
394+00	5.9	20.6	20.6	5.5	43.2	564	3801	-3237
394+50	36.4	25.9	25.9	39.2	43.2	603	3844	-3241
395+00	15.6	15.8	15.8	48.2	38.7	651	3883	-3231
395+50	10.9	29.2	29.2	24.6	41.7	676	3924	-3248
396+00	3.3	11.0	11.0	13.2	37.2	689	3962	-3272
396+50	0.0	4.9	4.9	3.1	14.7	692	3976	-3284
397+00	0.0	2.9	2.9	0.0	7.3	692	3984	-3291
397+50	0.0	3.0	3.0	0.0	5.5	692	3989	-3297
398+00	0.0	3.9	3.9	0.0	6.4	692	3995	-3303
398+50	0.0	2.7	2.7	0.0	6.1	692	4002	-3309
399+00	3.5	0.5	0.5	3.3	3.0	696	4005	-3309
399+25	0.0	0.0	0.0	1.7	0.3	697	4005	-3308

STH 49
MAINLINE (CONTINUED)
AVERAGE ENDAREA VOLUMES

FILL EXPANSION FACTOR= ***1.00***

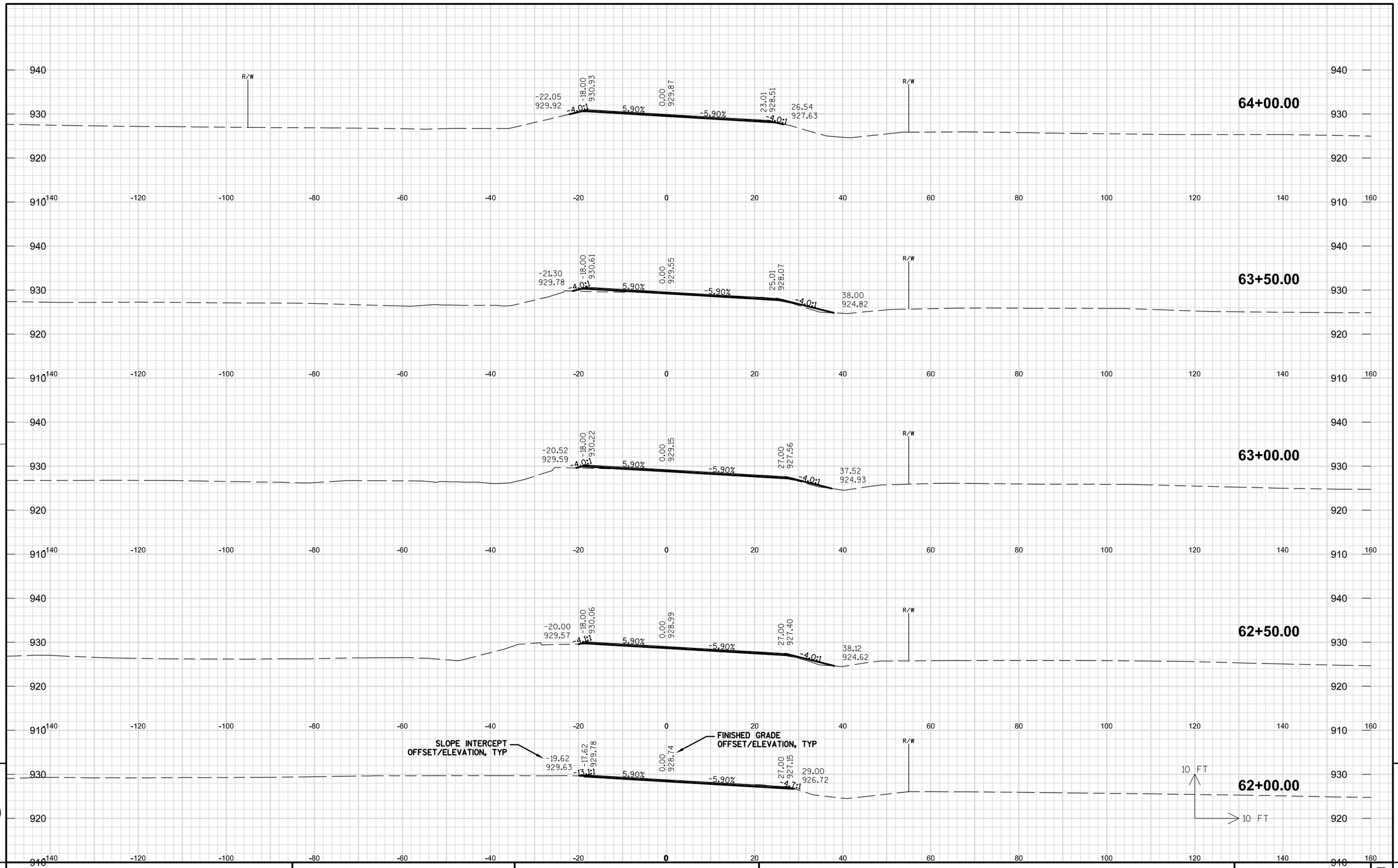
STATION	END-AREA (SF) CUT	FILL	EXPAND FILL	INCREMENTAL VOLUME (CY) CUT	EXP FILL	CUMULATIVE VOLUME (CY) CUT	EXP FILL	MASS HAUL (CY)
404+75	0.0	0.0	0.0	0.0	0.0	697	4005	-3308
405+00	9.6	0.4	0.4	4.5	0.2	702	4005	-3303
405+50	11.1	0.1	0.1	19.3	0.4	721	4005	-3284
406+00	8.6	0.5	0.5	18.3	0.6	739	4006	-3267
406+50	8.3	3.7	3.7	15.6	4.0	755	4010	-3255
407+00	10.3	3.1	3.1	17.3	6.4	772	4016	-3244
407+50	0.0	3.6	3.6	9.6	6.3	782	4023	-3241
408+00	0.0	1.3	1.3	0.0	4.5	782	4027	-3245
408+50	0.0	6.7	6.7	0.0	7.4	782	4035	-3253
409+00	0.0	5.7	5.7	0.0	11.5	782	4046	-3264
409+50	0.0	0.2	0.2	0.0	5.5	782	4052	-3270
410+00	0.0	5.4	5.4	0.0	5.3	782	4057	-3275
410+50	0.0	5.4	5.4	0.0	10.0	782	4067	-3285
411+00	0.0	2.4	2.4	0.0	7.3	782	4074	-3292
411+50	0.0	0.0	0.0	0.0	2.3	782	4077	-3295
412+00	0.0	0.0	0.0	0.0	0.0	782	4077	-3295
412+25	0.0	0.0	0.0	0.0	0.0	782	4077	-3295



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 142 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

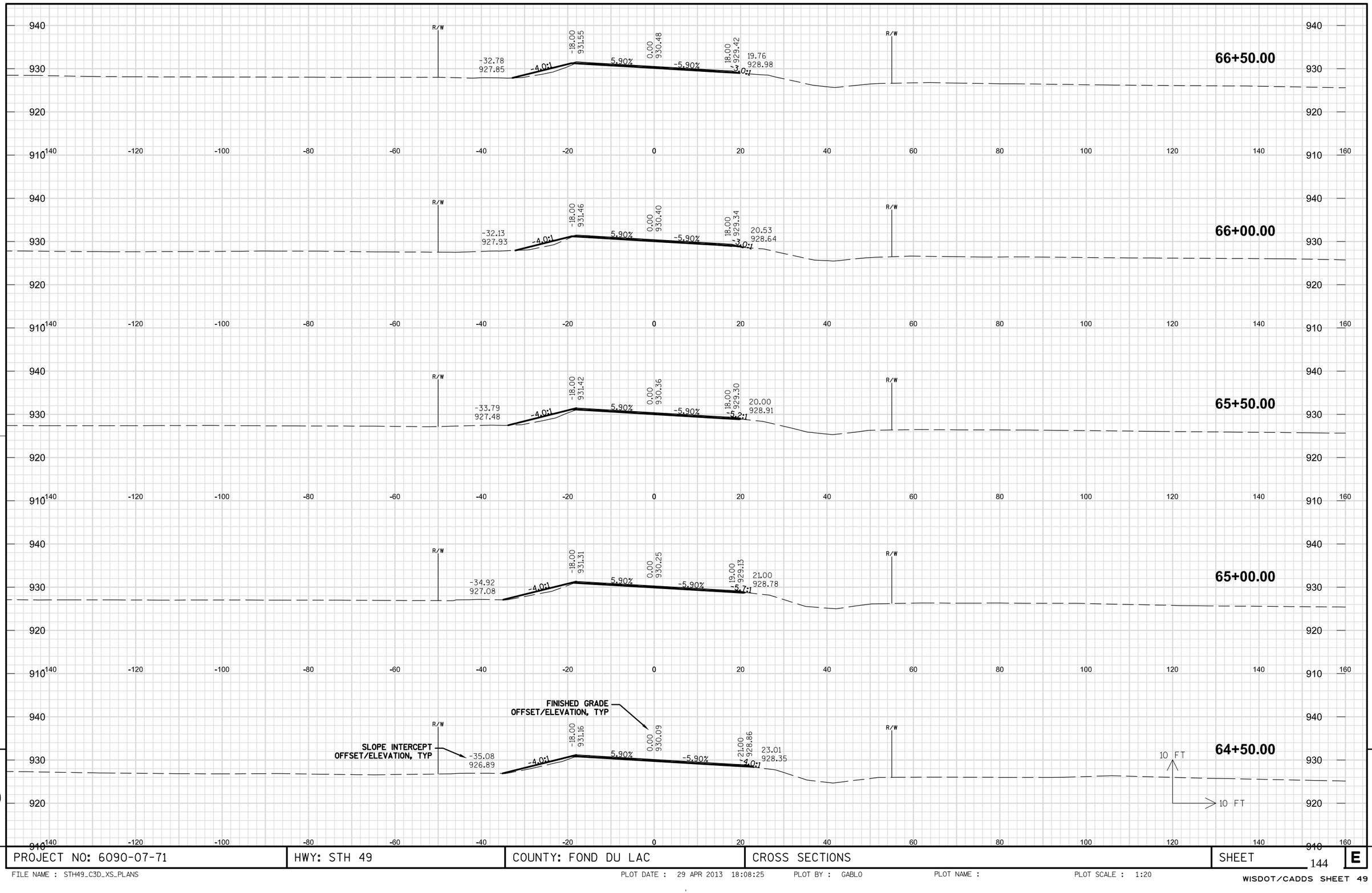
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 143 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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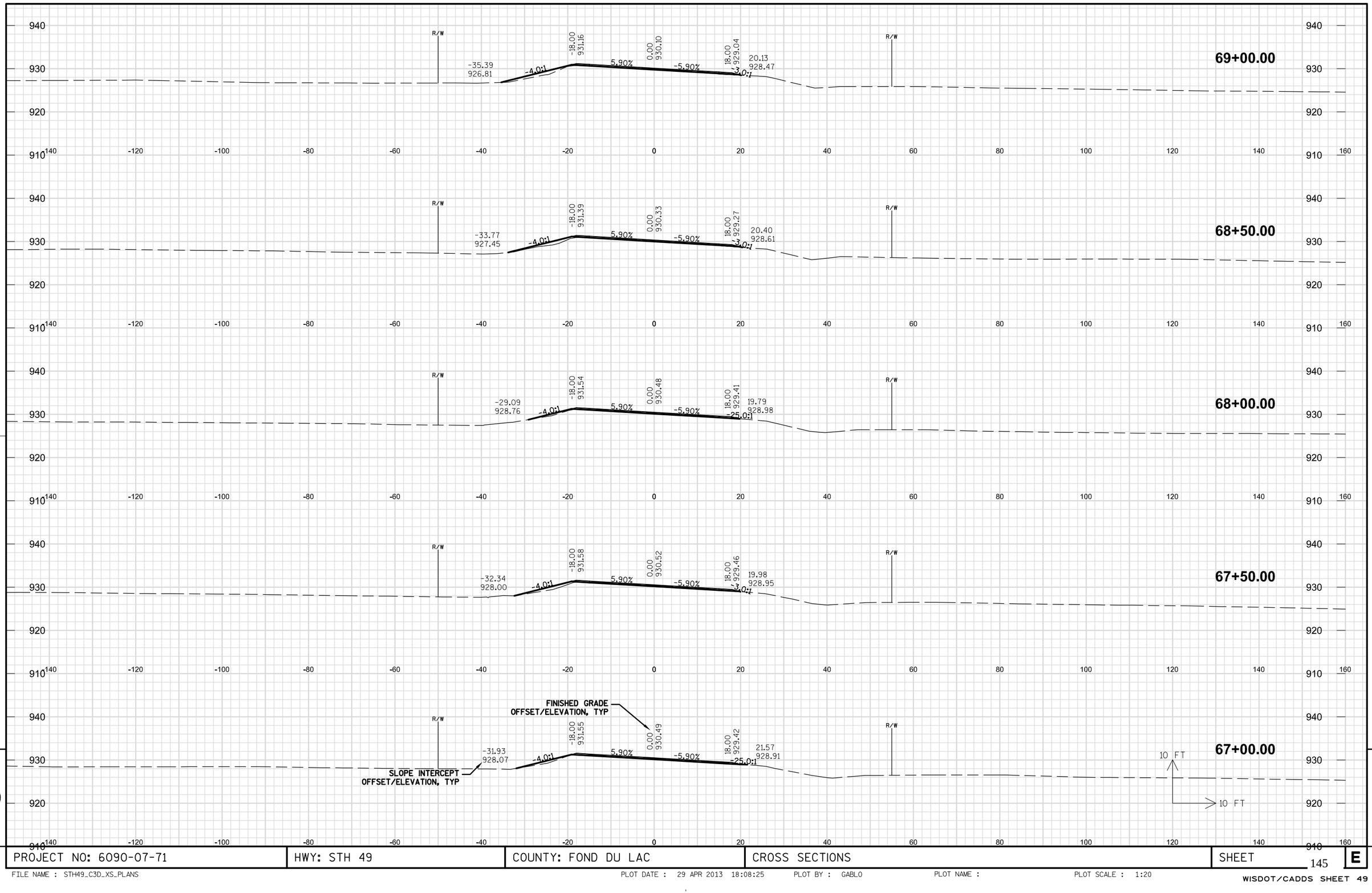
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 144 E



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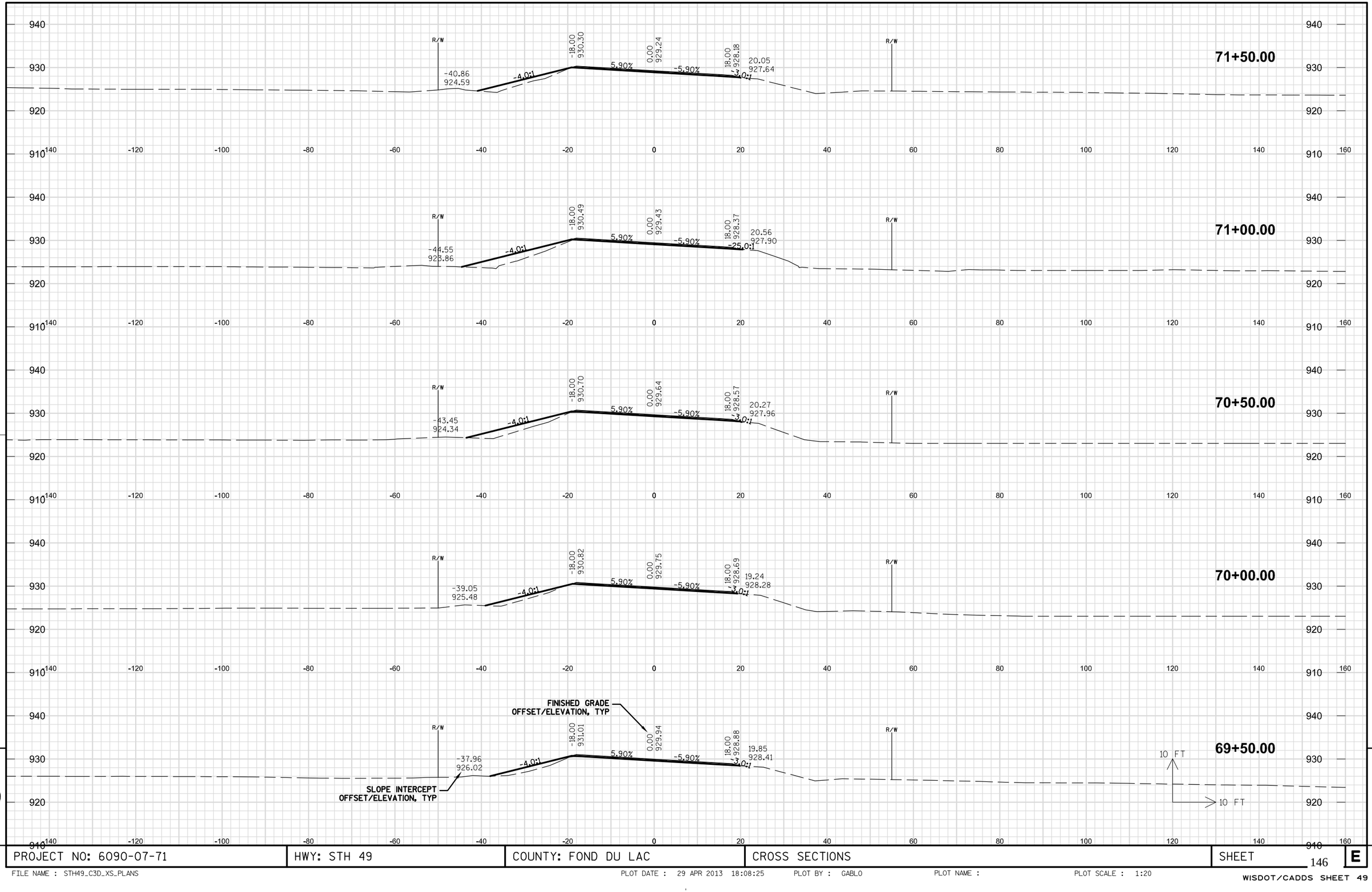
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 145 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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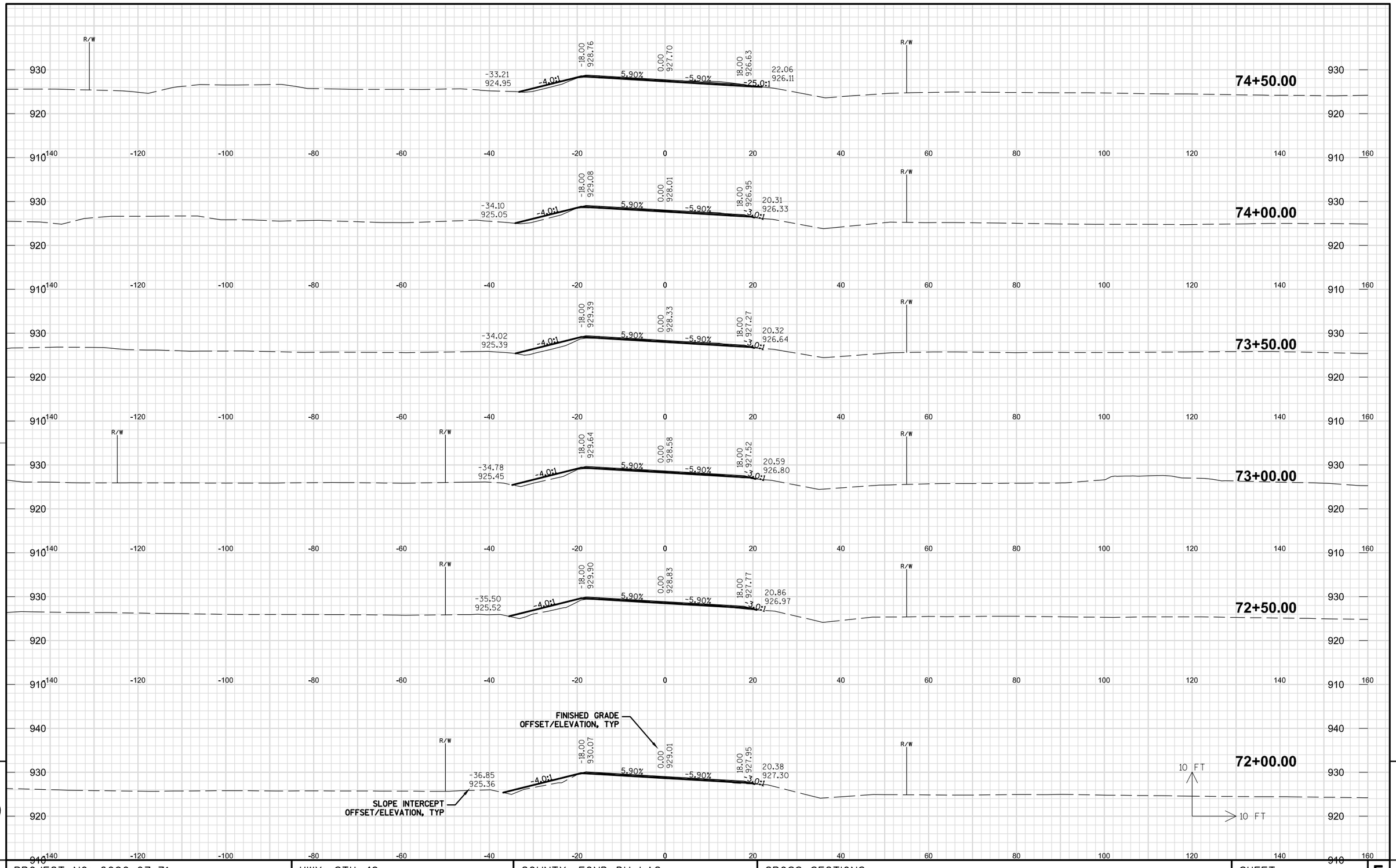
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 146 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

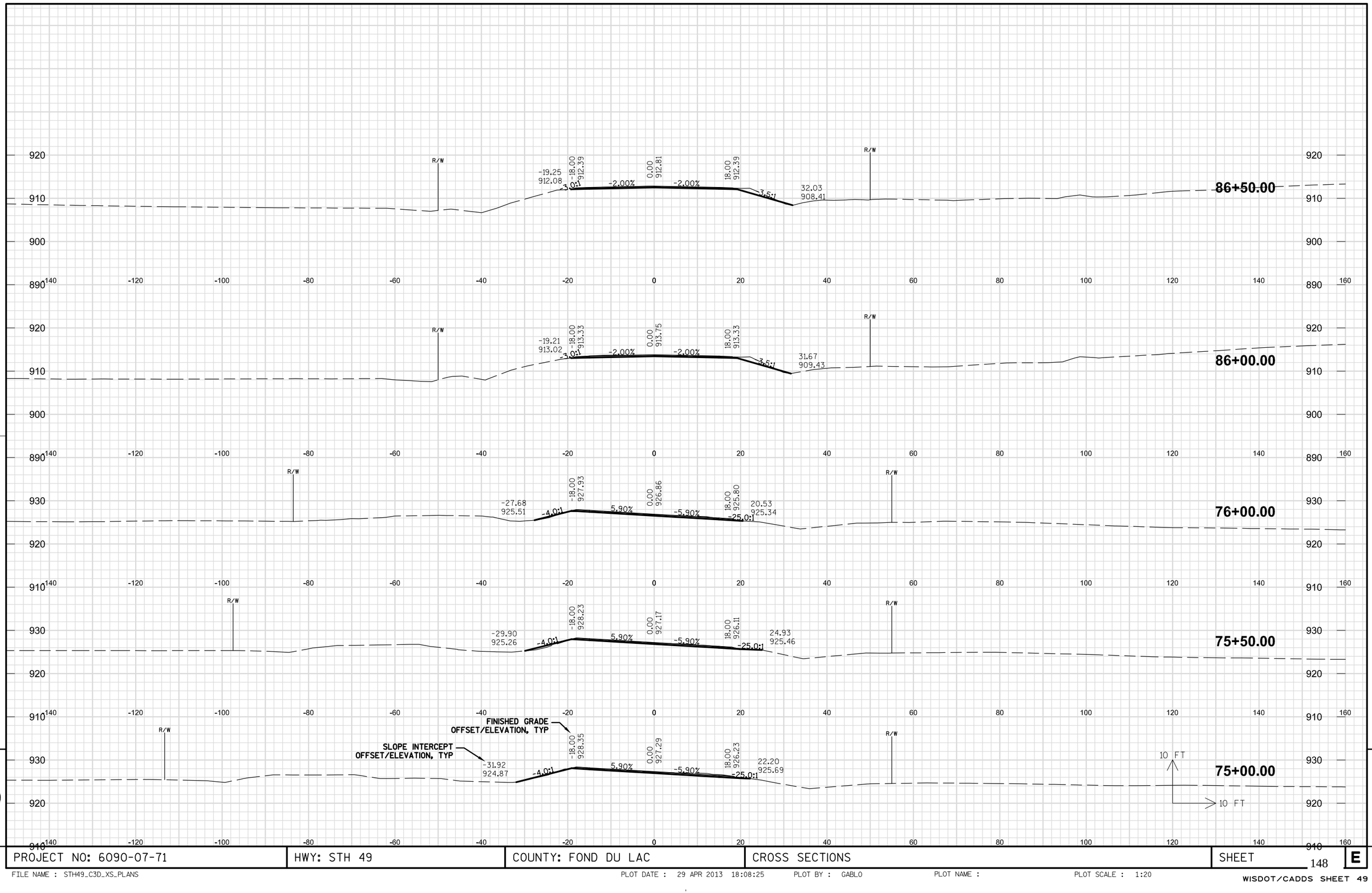
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 147	E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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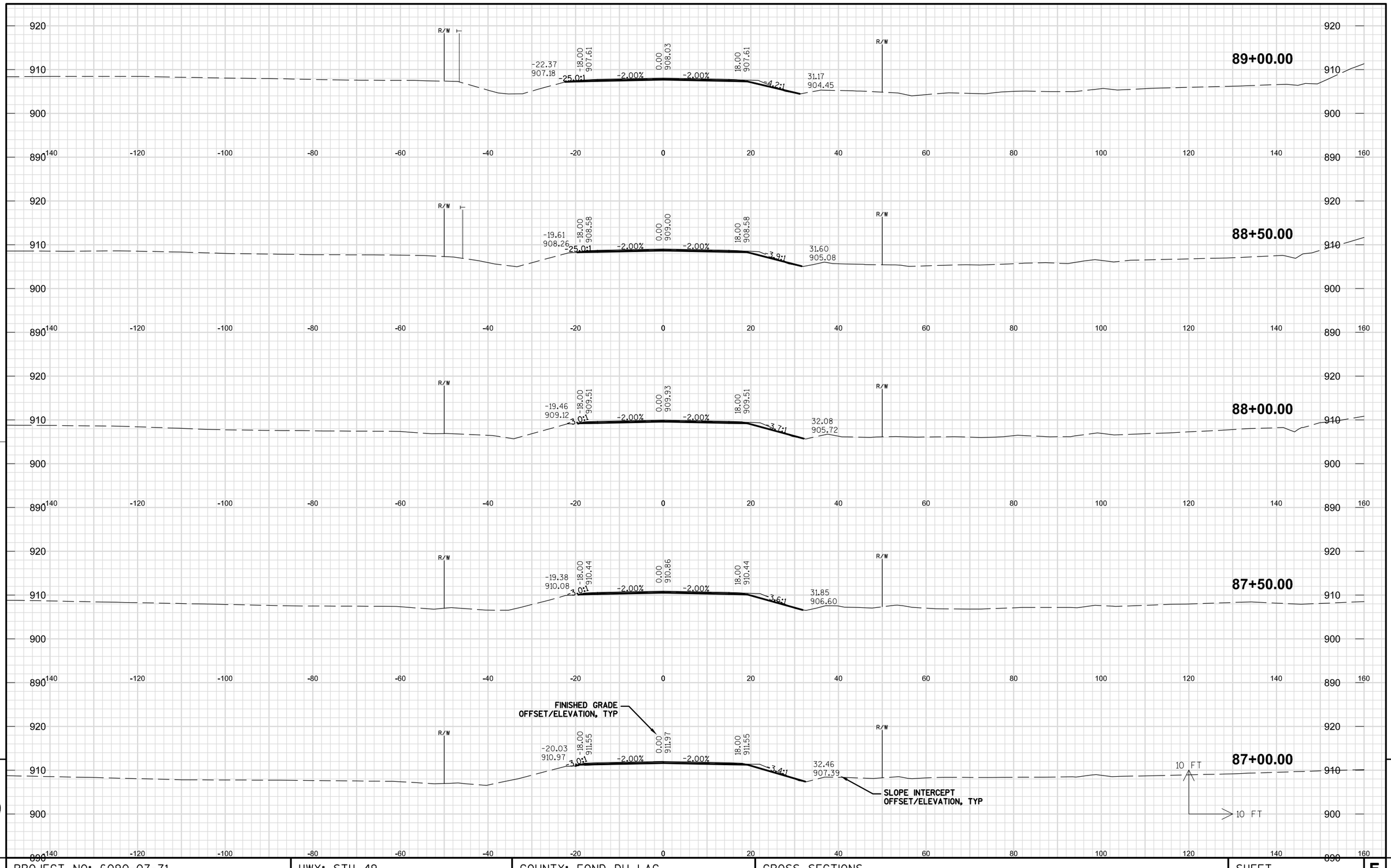
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 148	E



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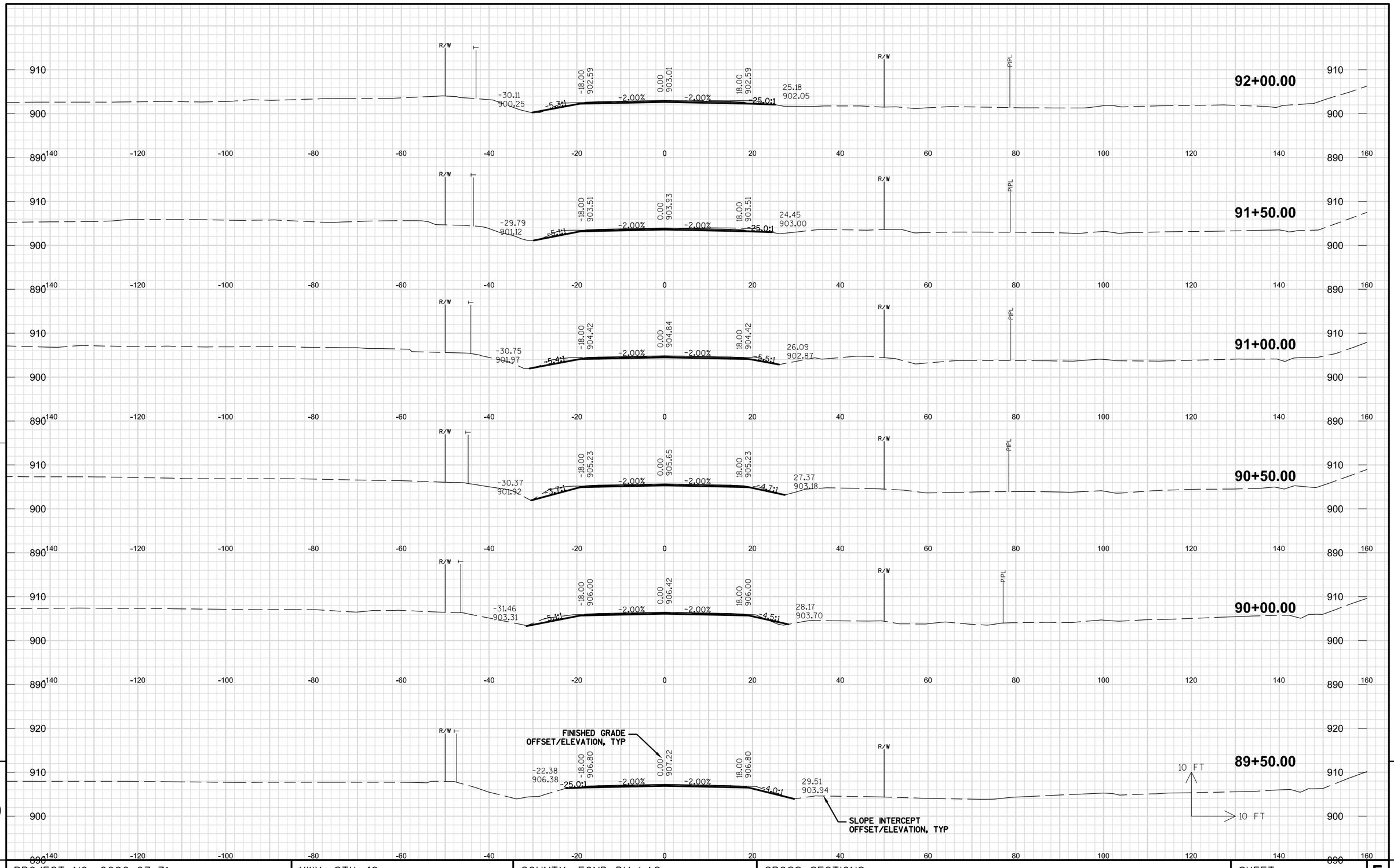
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 149 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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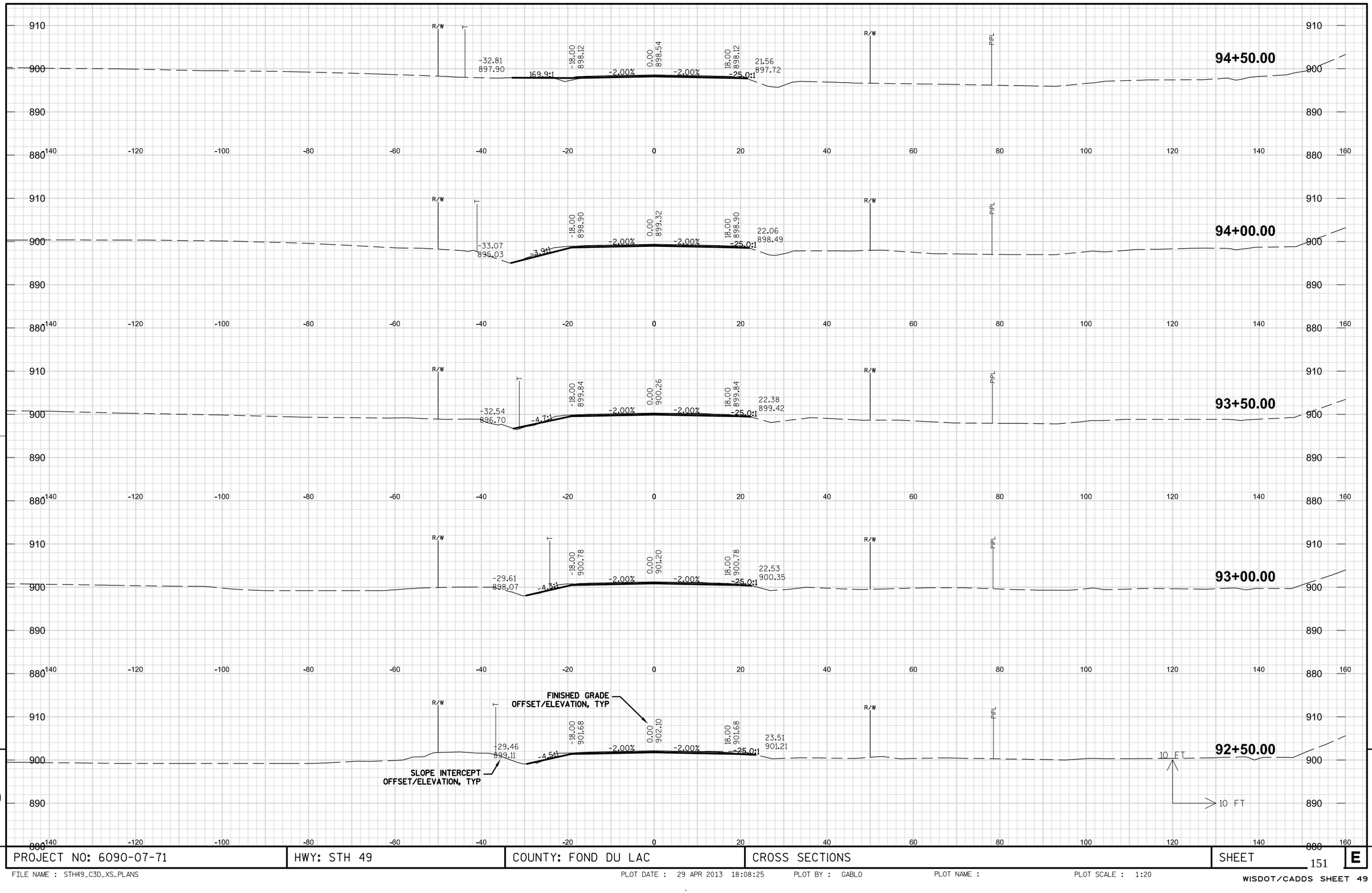
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 150 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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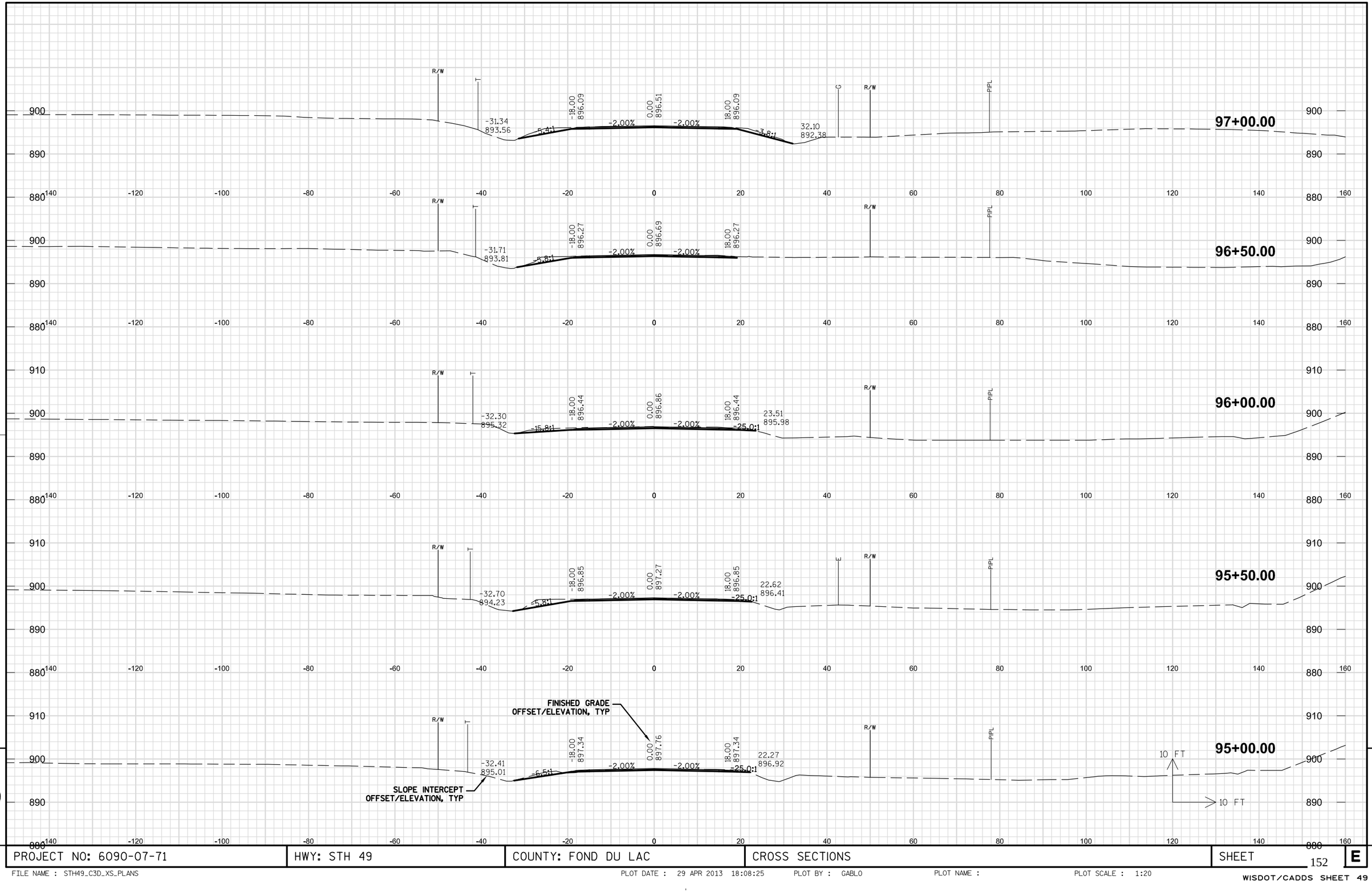
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 151 E



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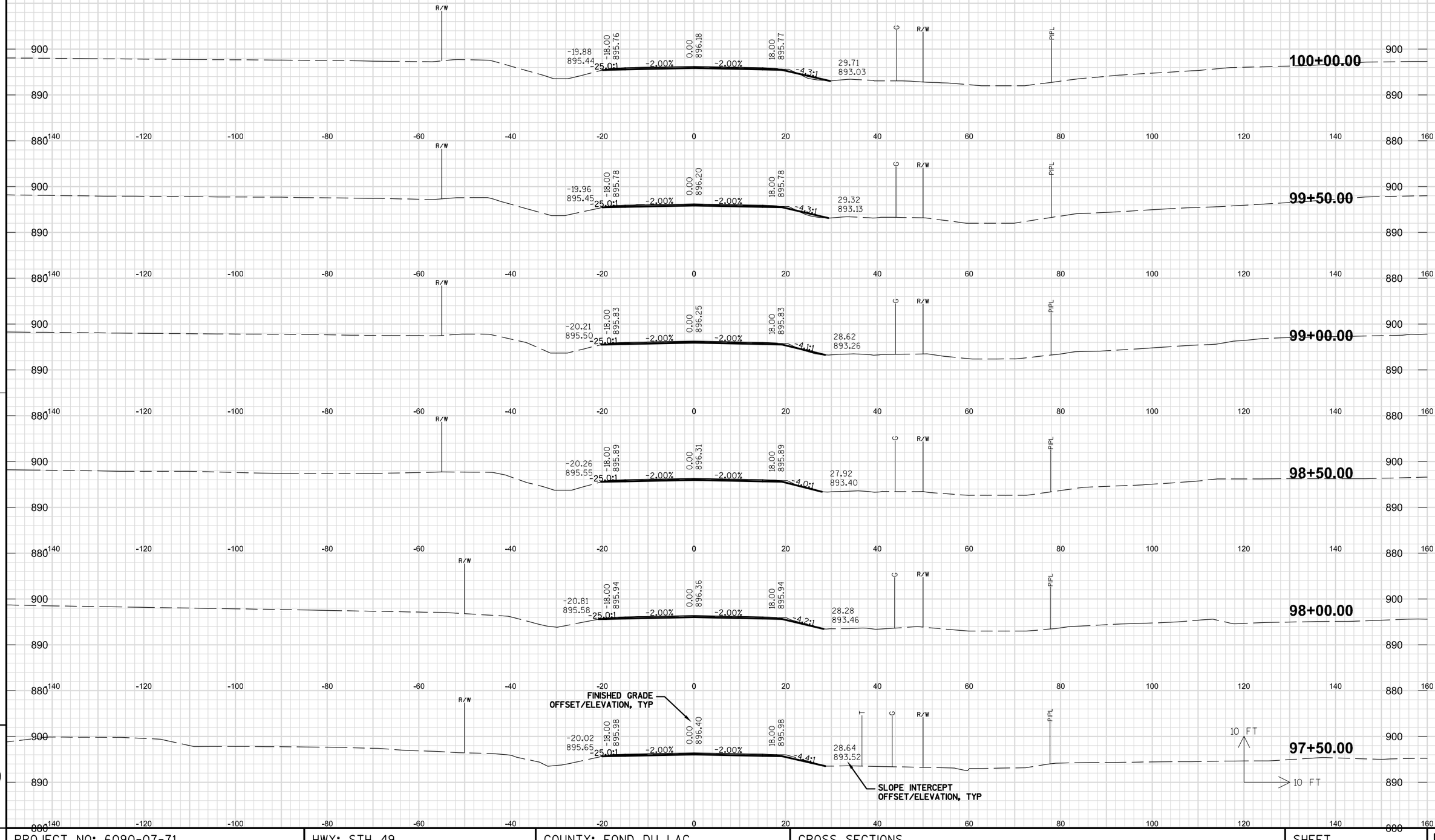
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 152 E



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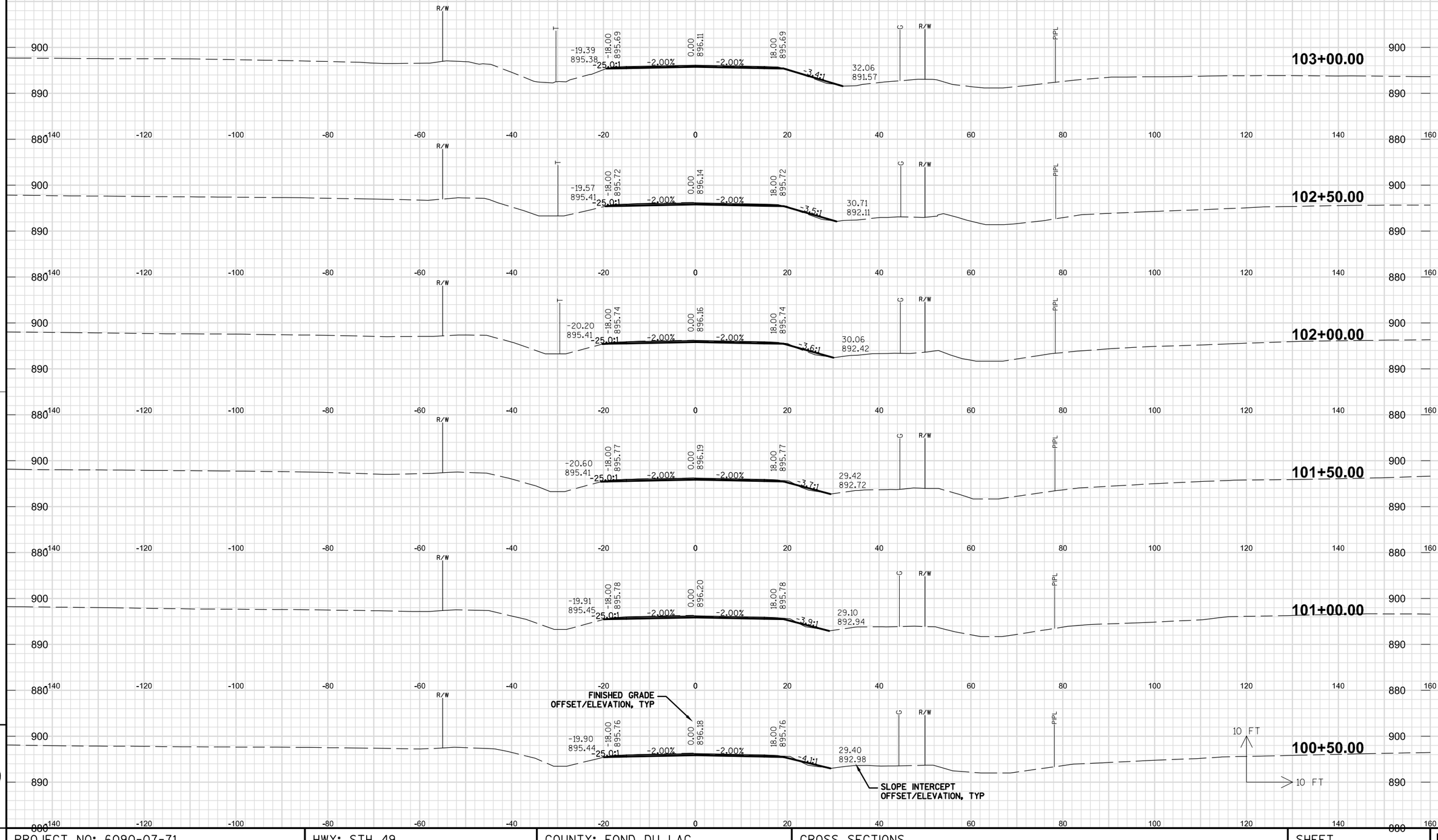
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 153 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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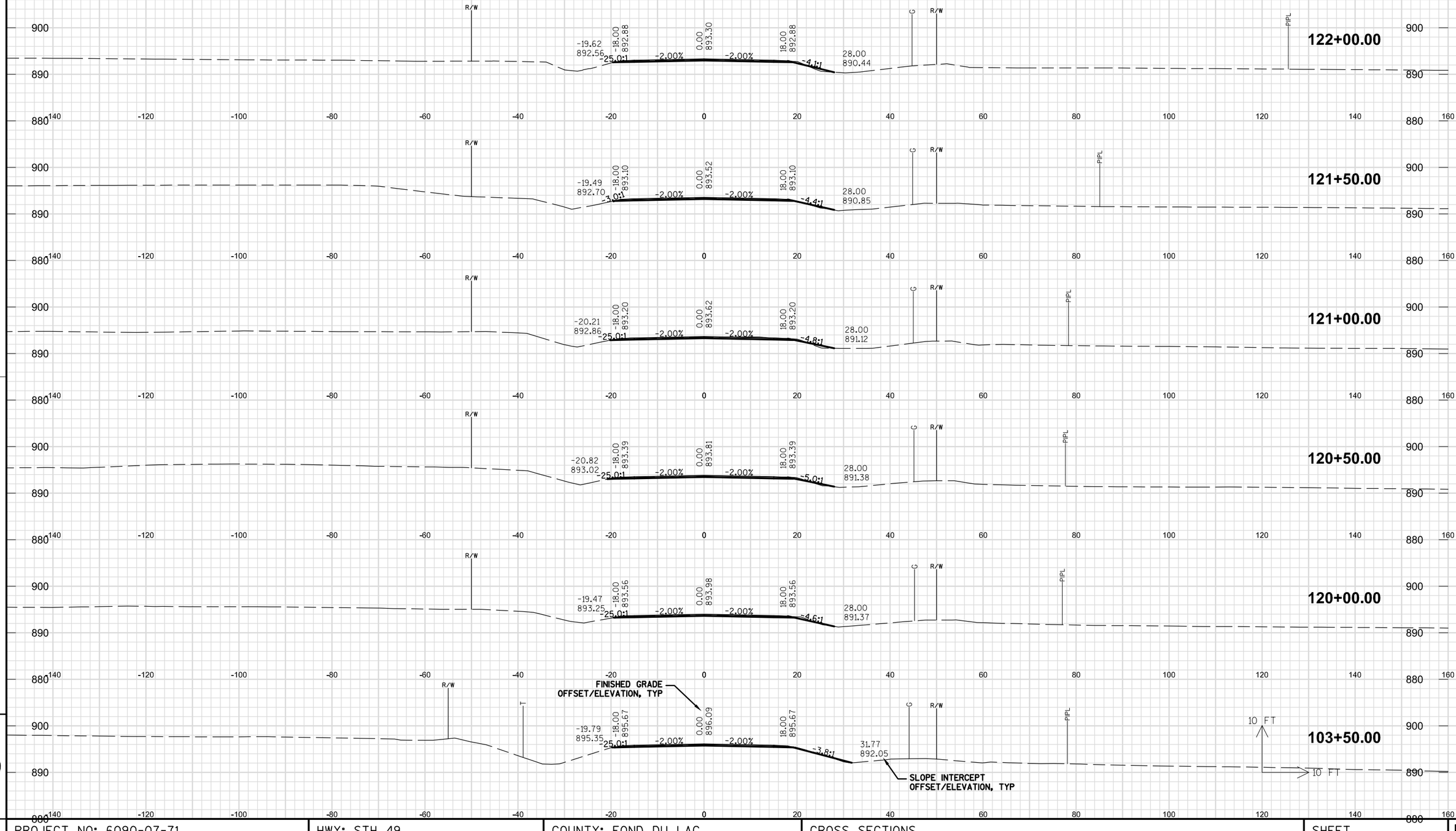
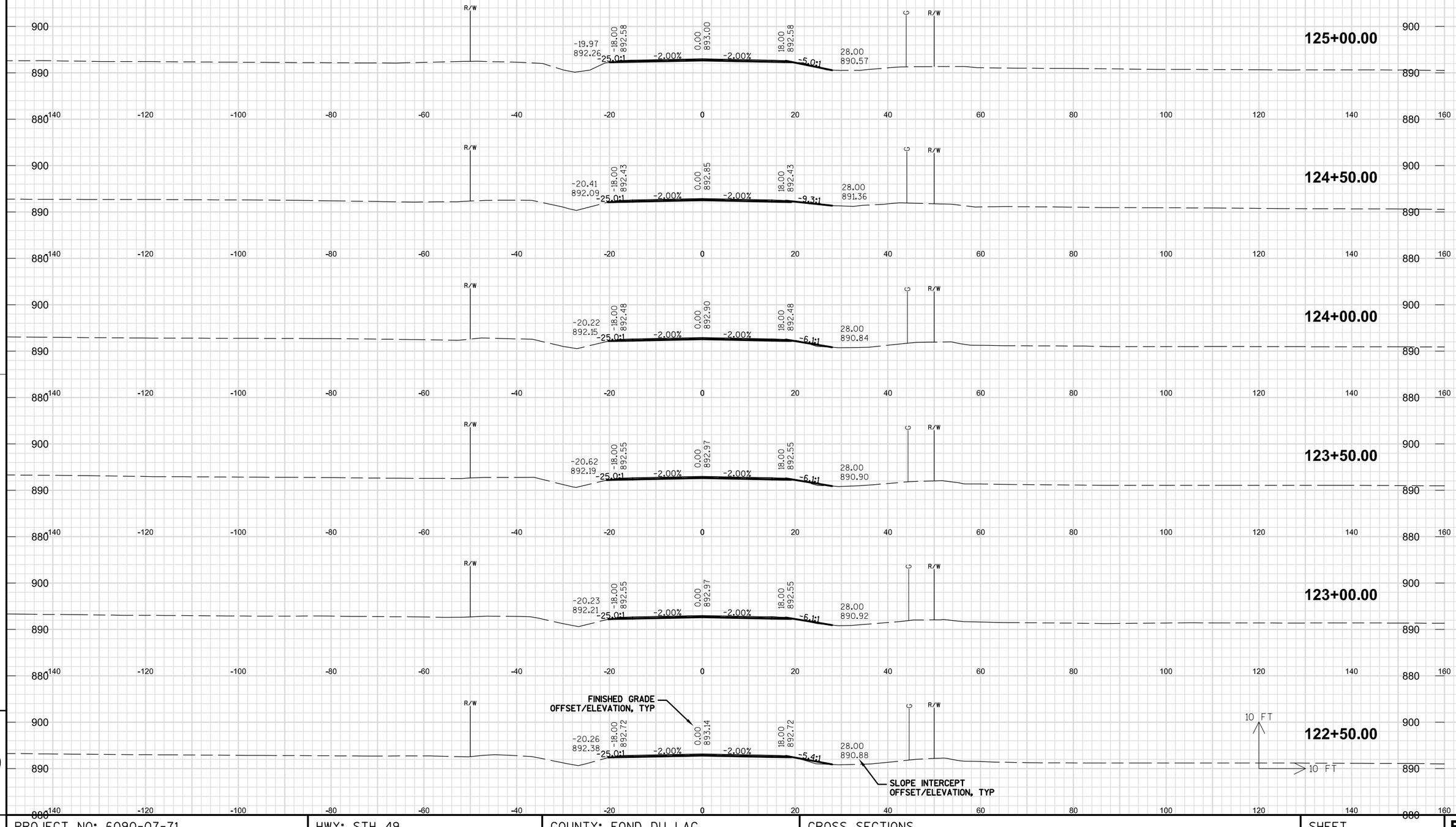
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 154 E



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 155 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

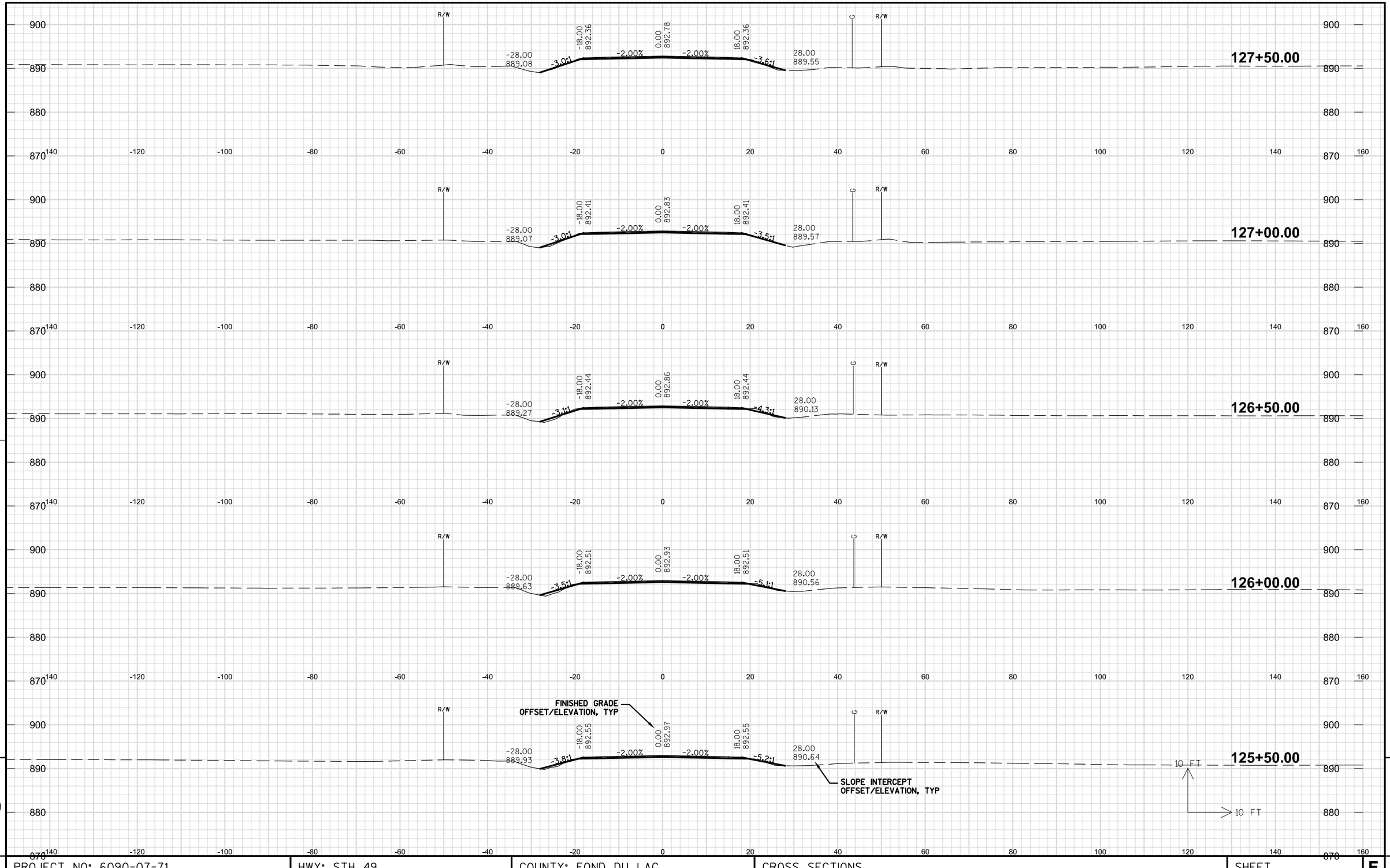
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 156 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

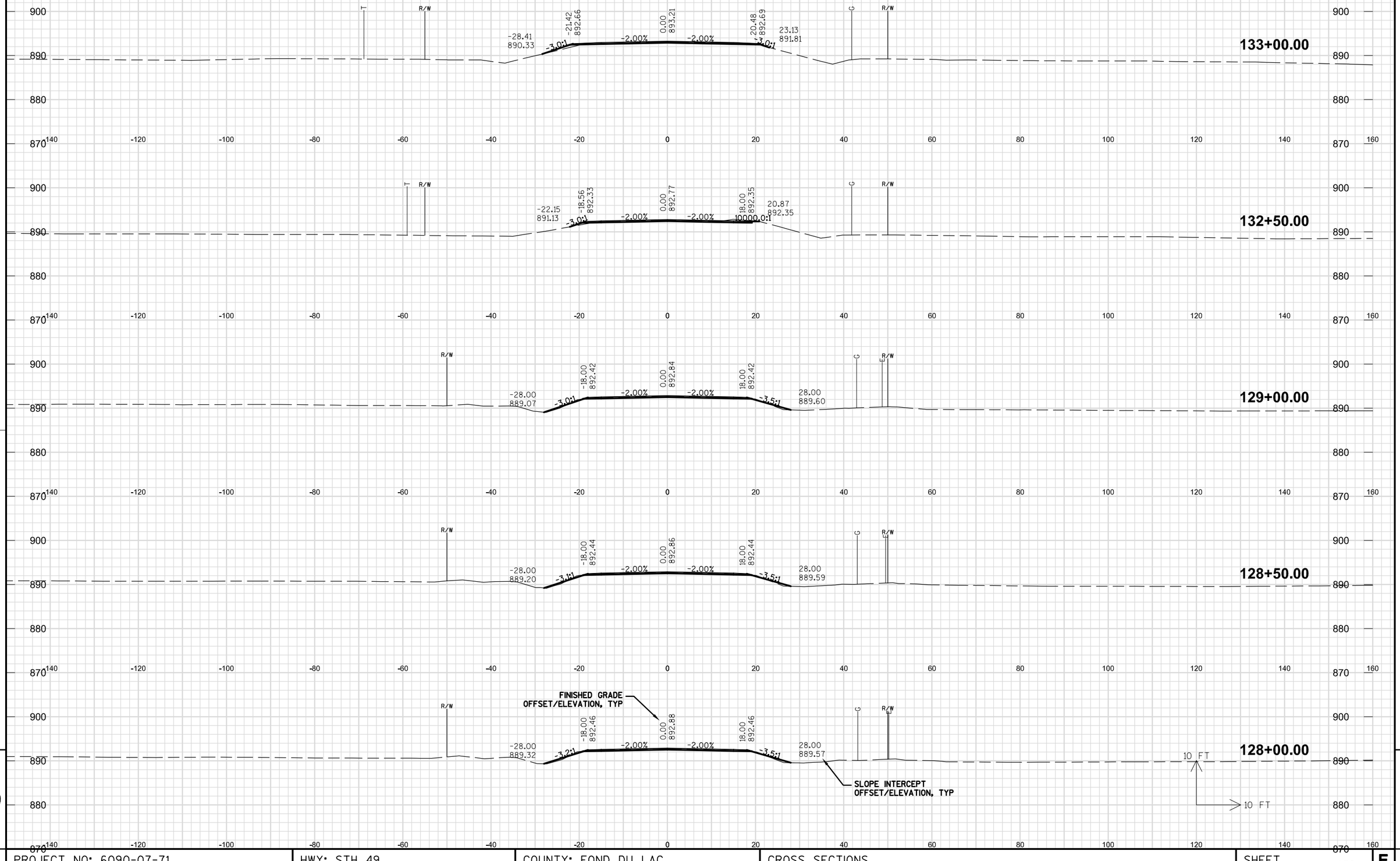
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 157 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

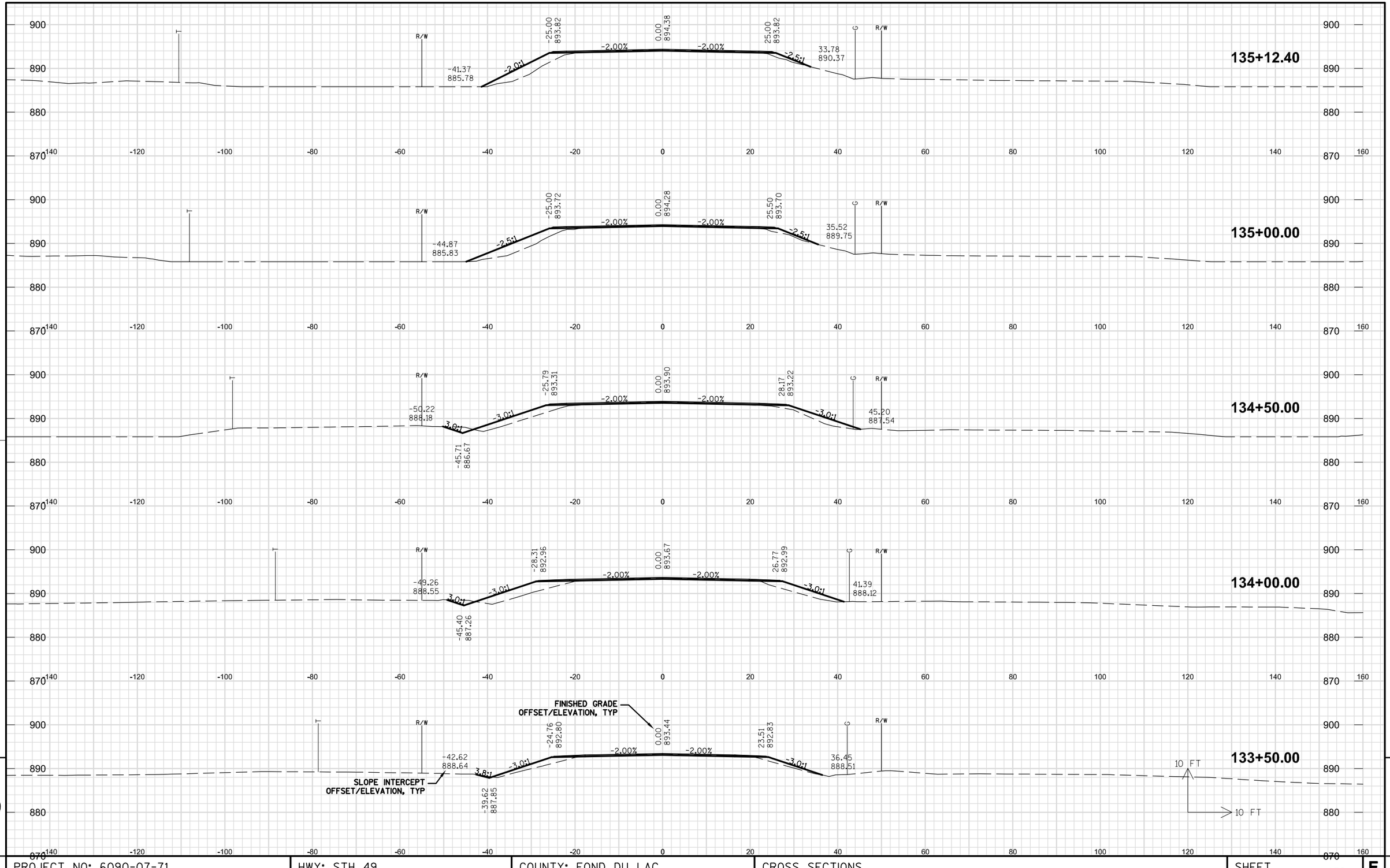
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 158	E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

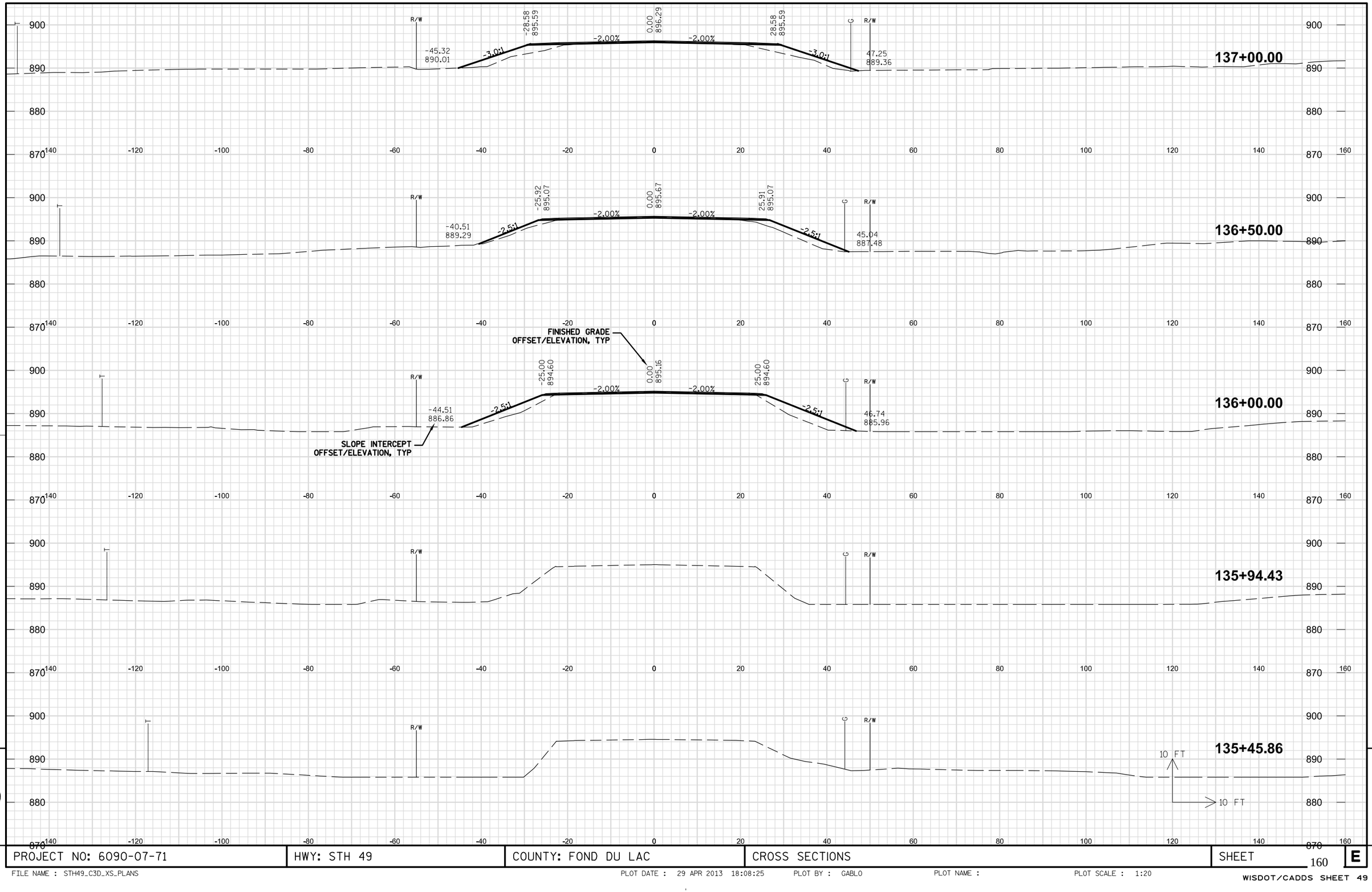
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 159 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

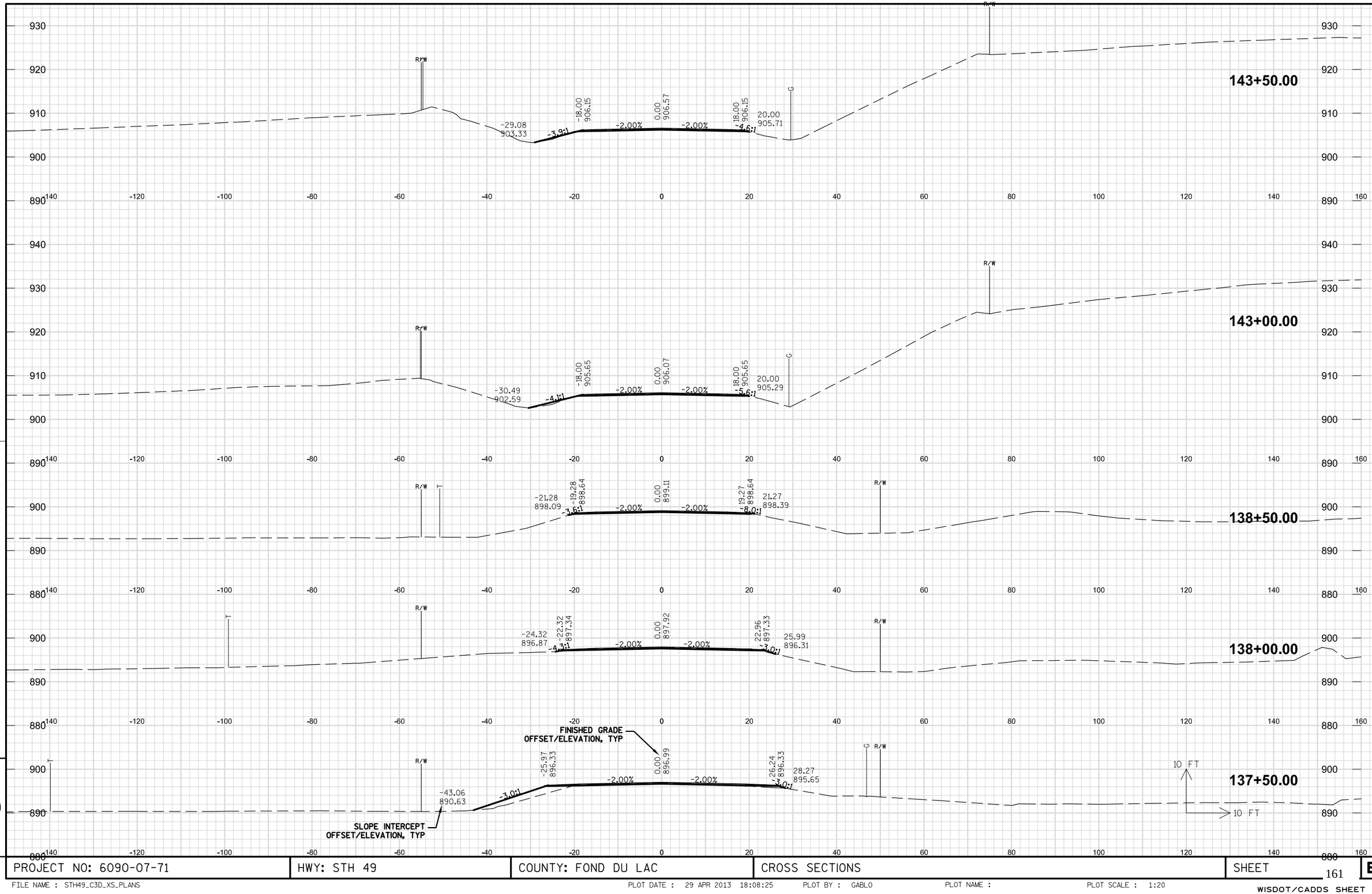
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 160 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

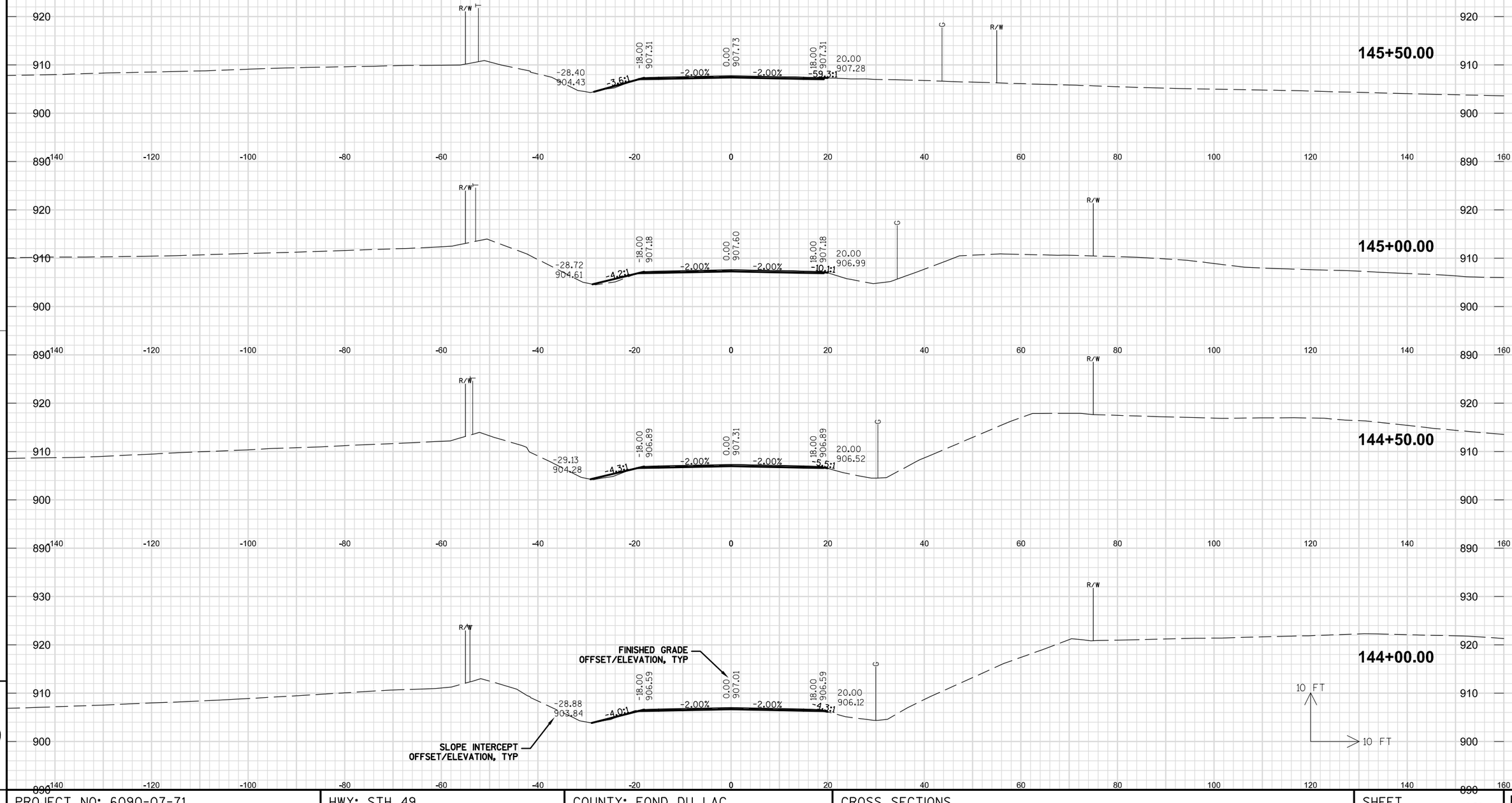
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 161 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

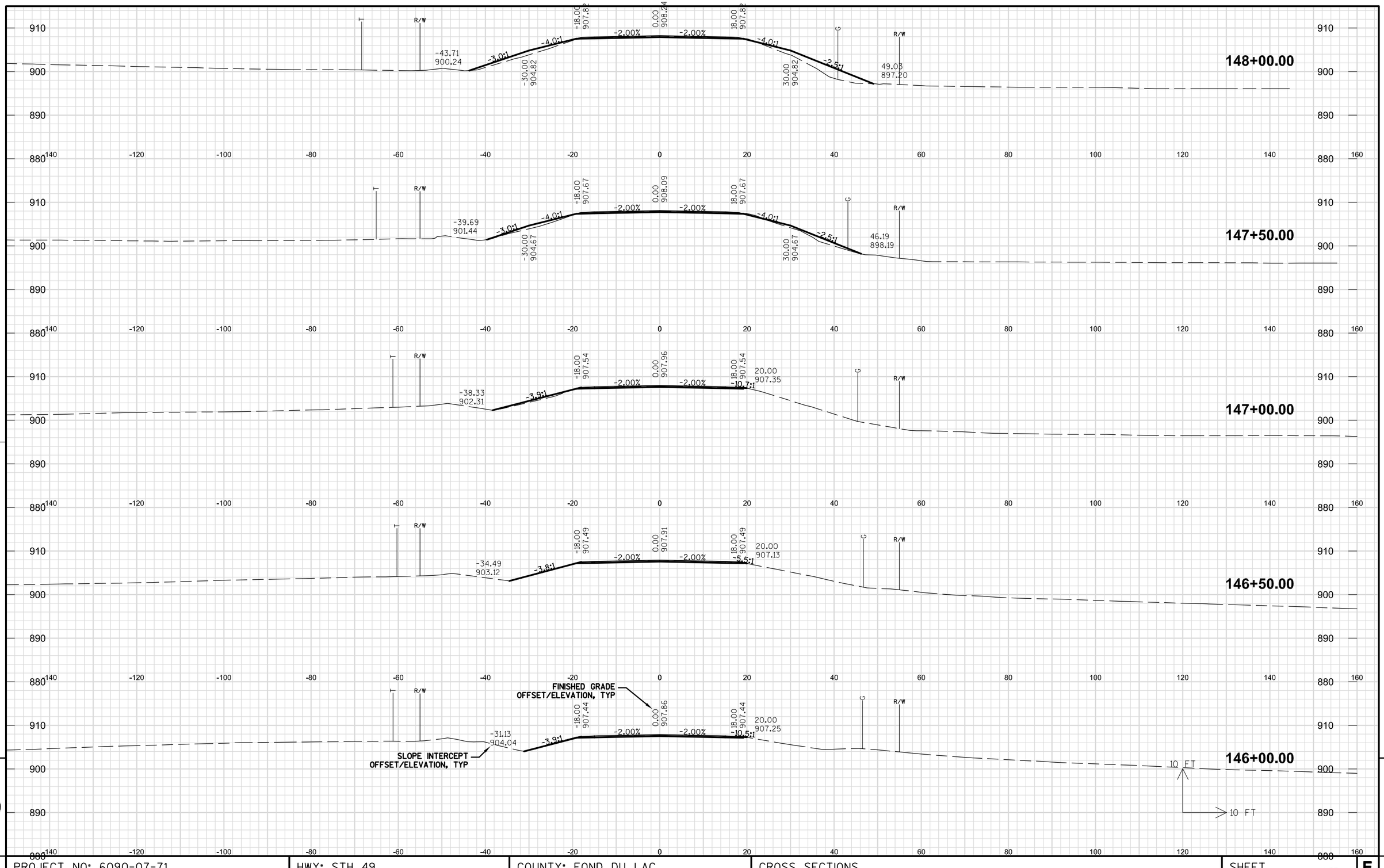
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 162 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

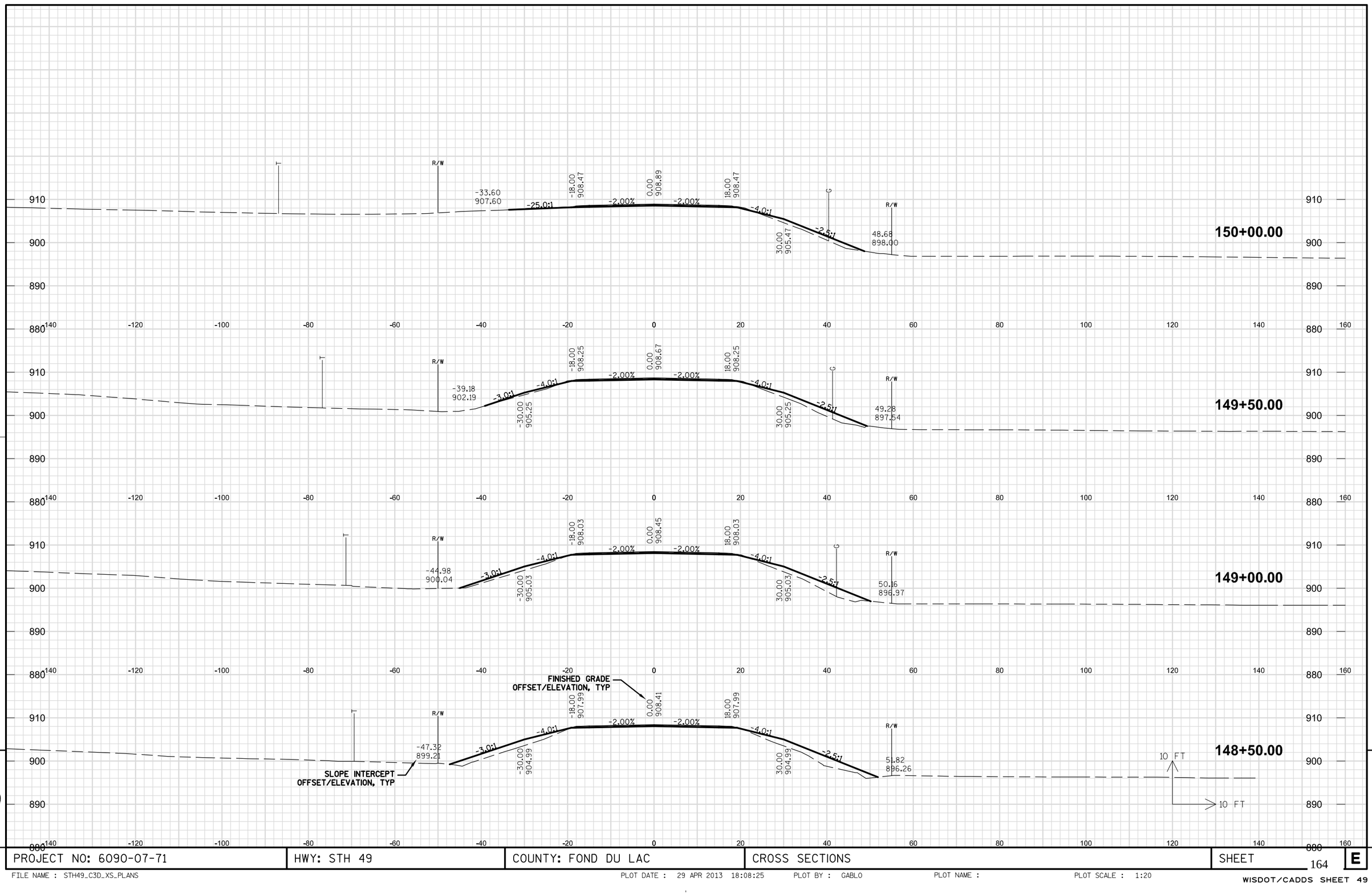
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 163 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

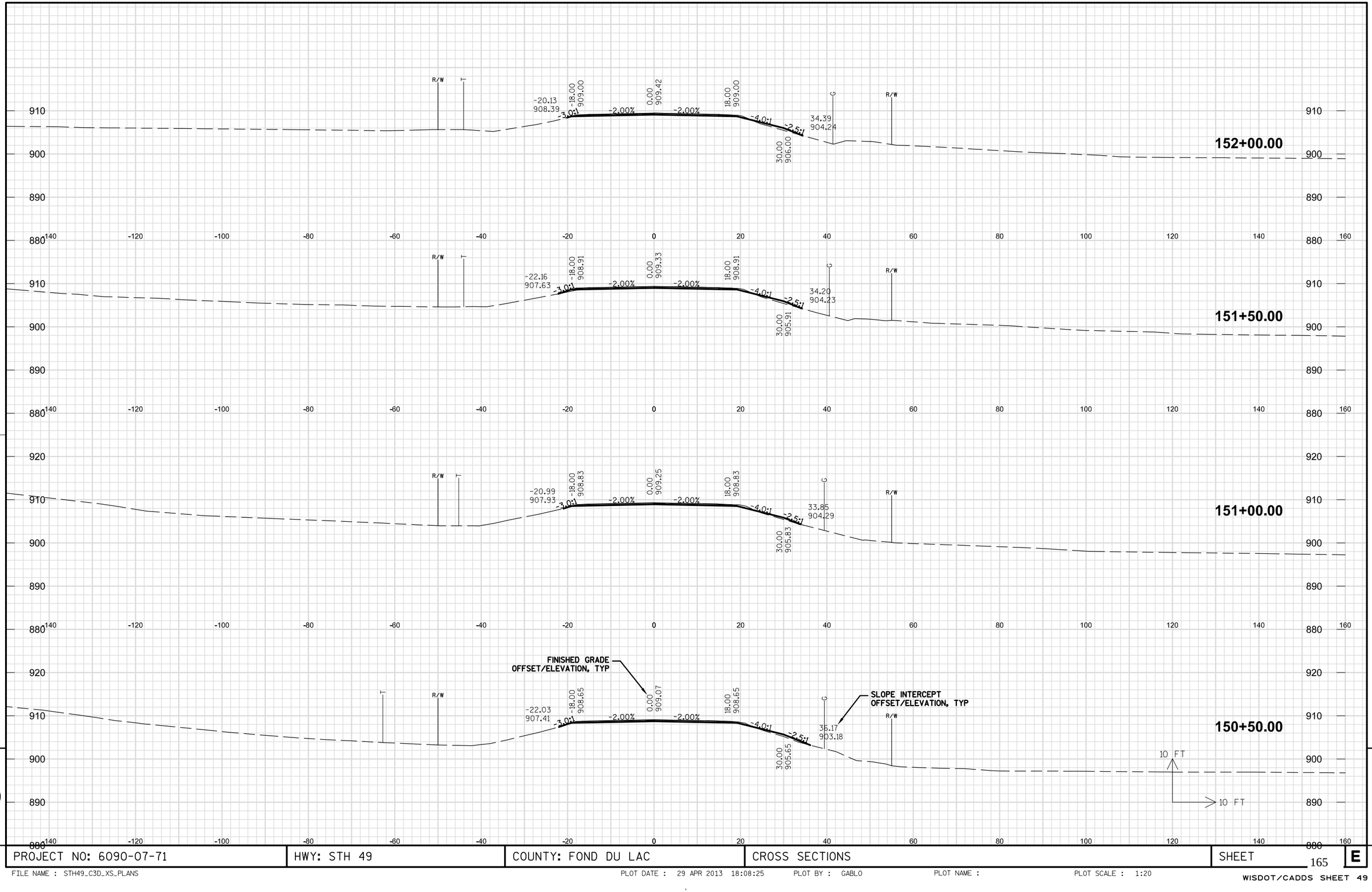
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 164 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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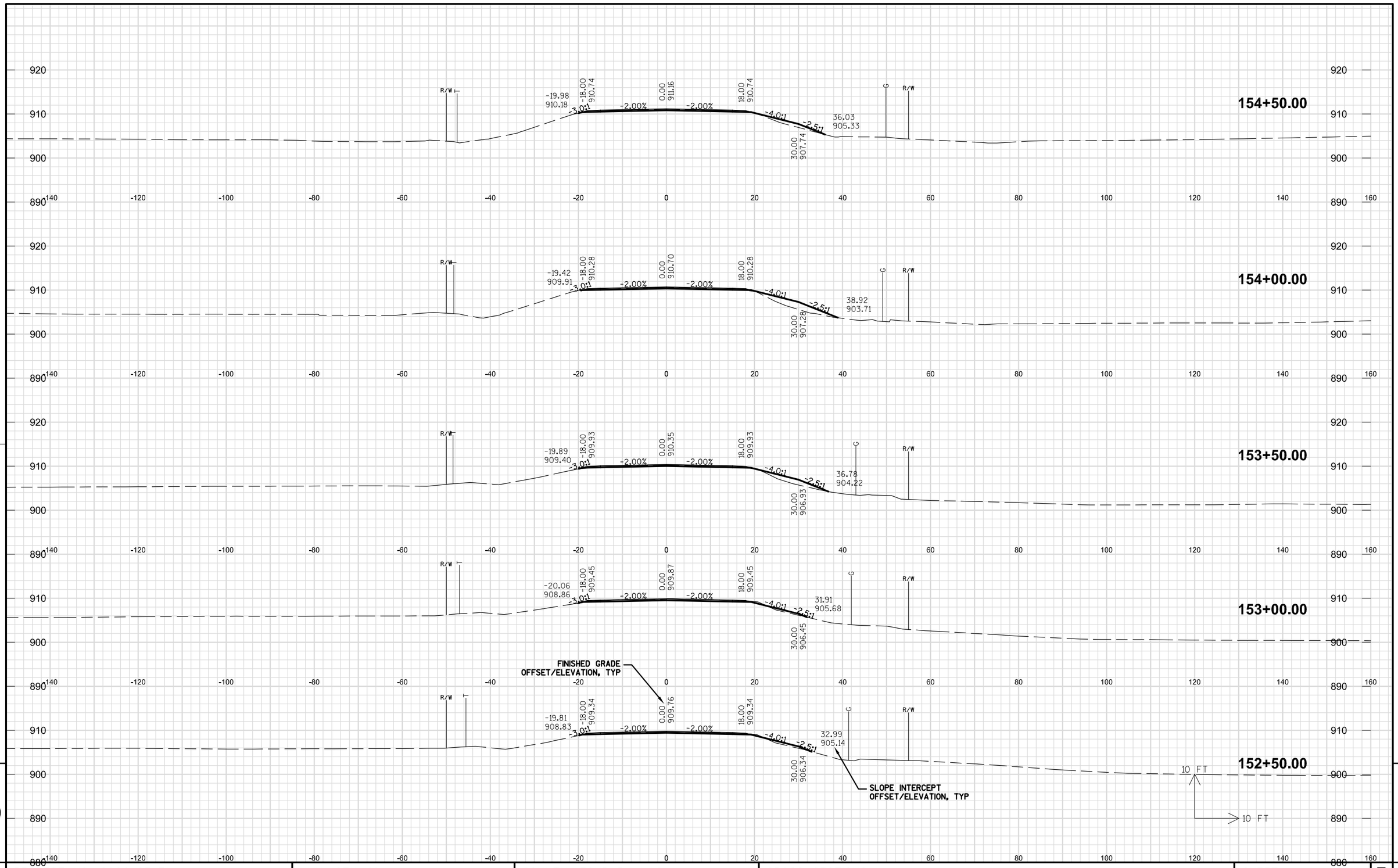
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 165	E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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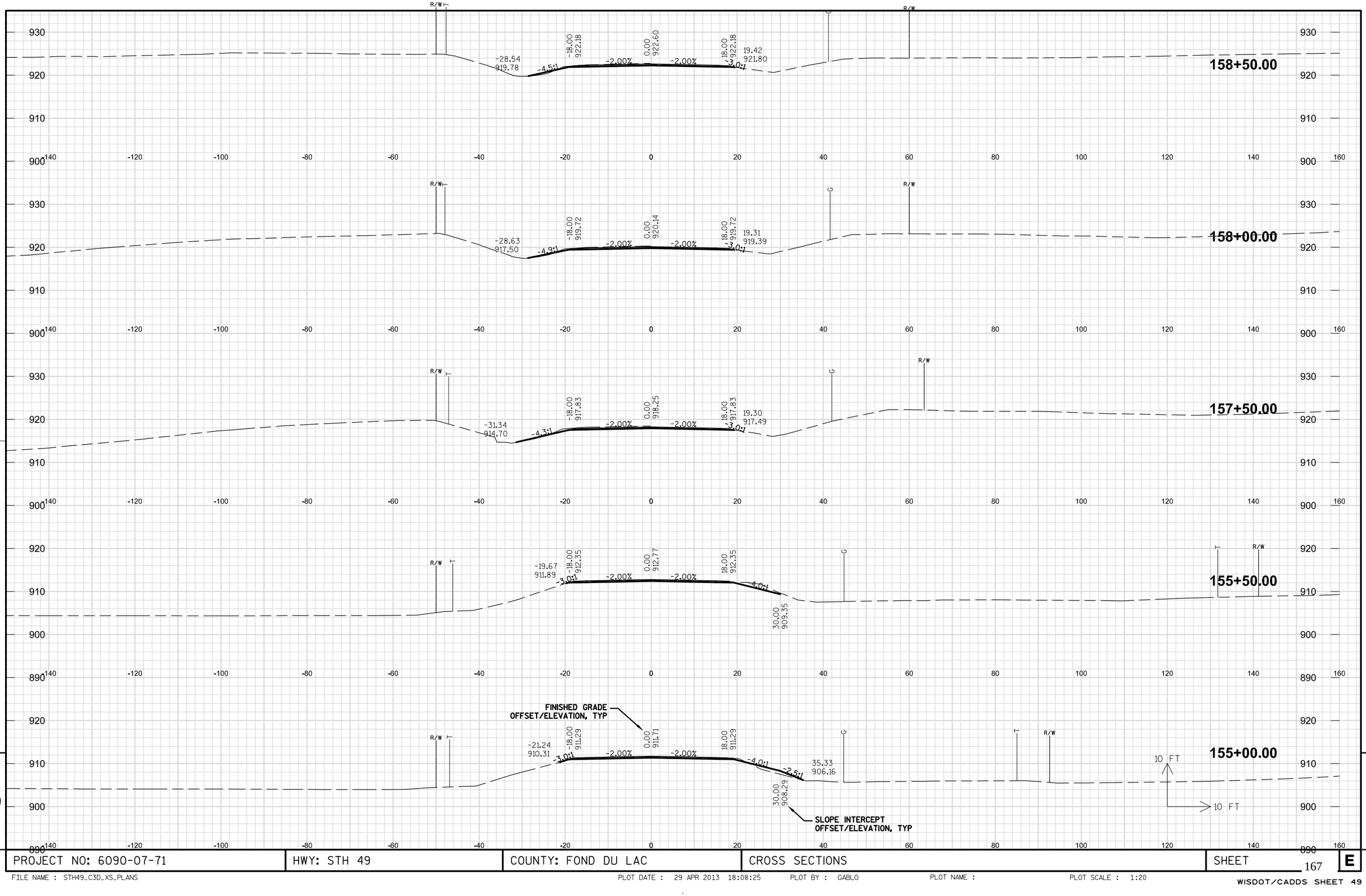
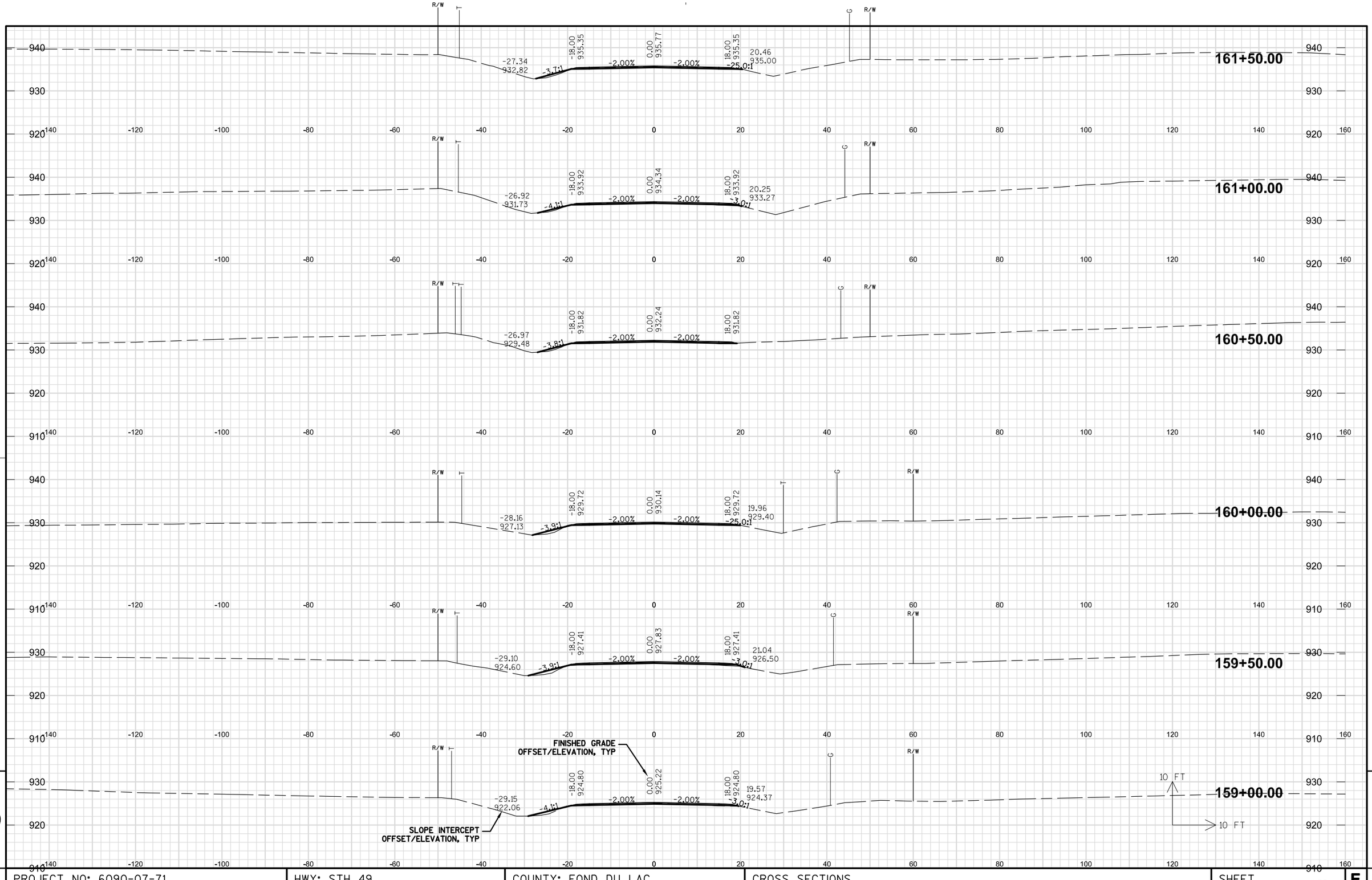
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 166 E



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 167 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

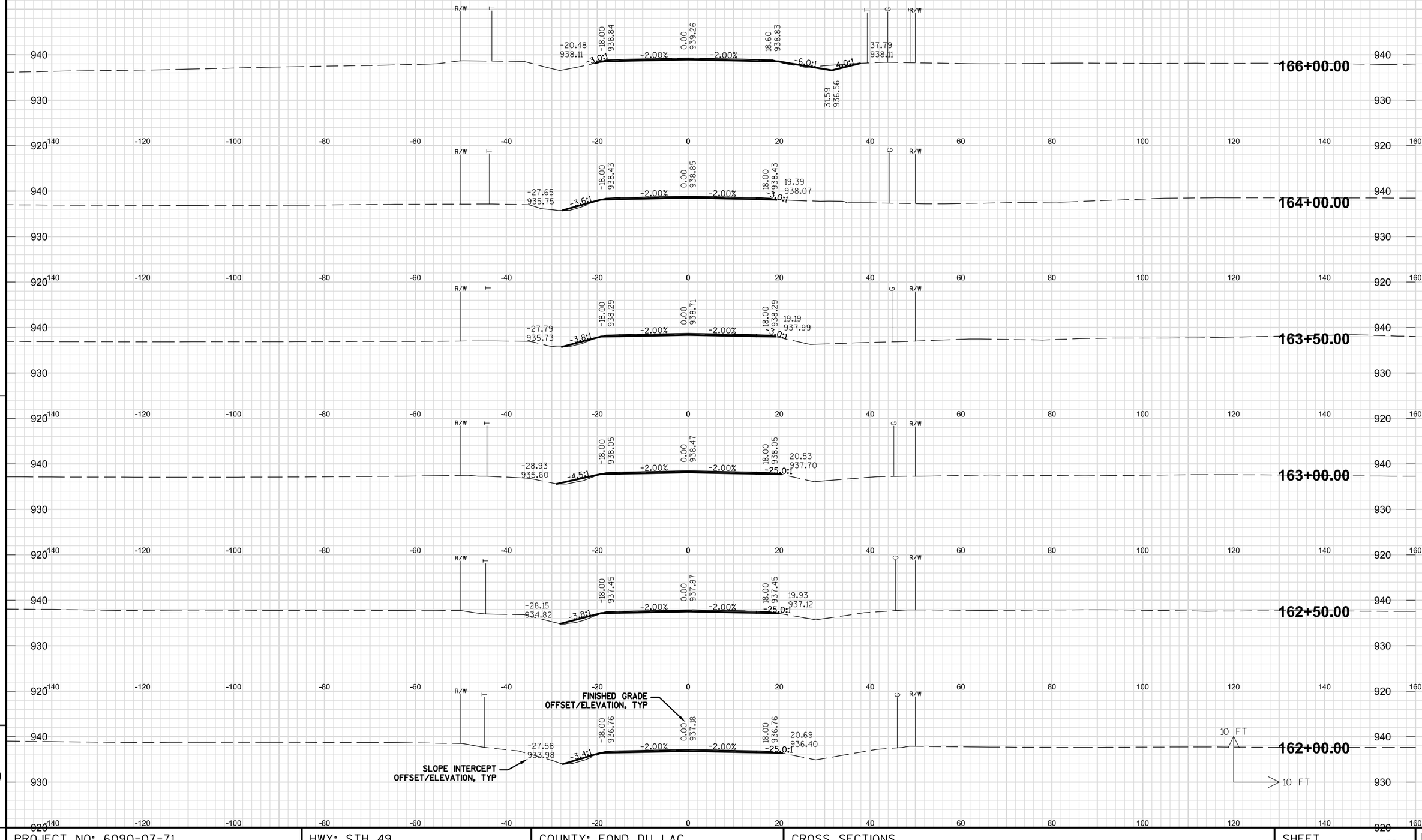
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 168 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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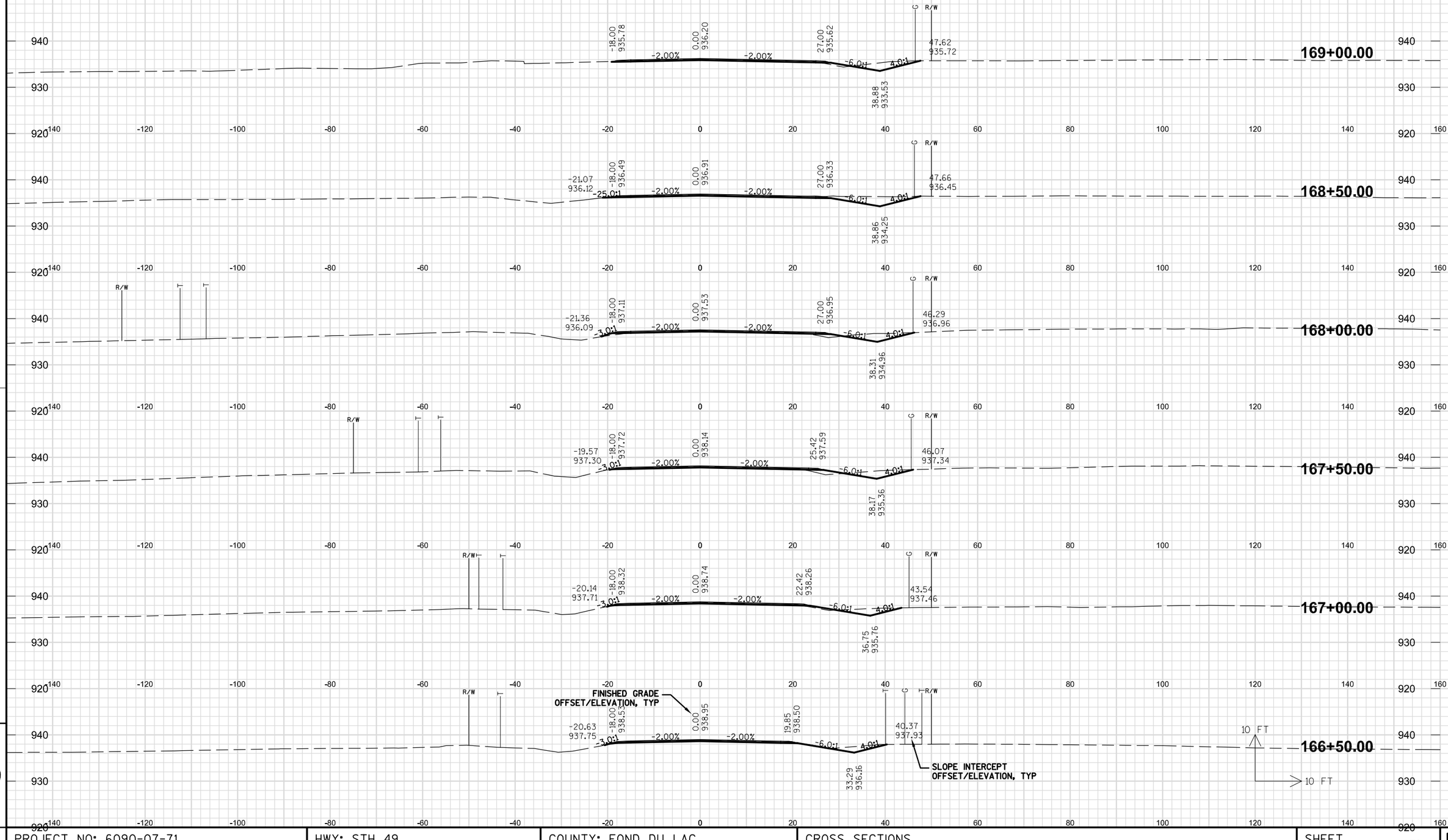
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 169 E

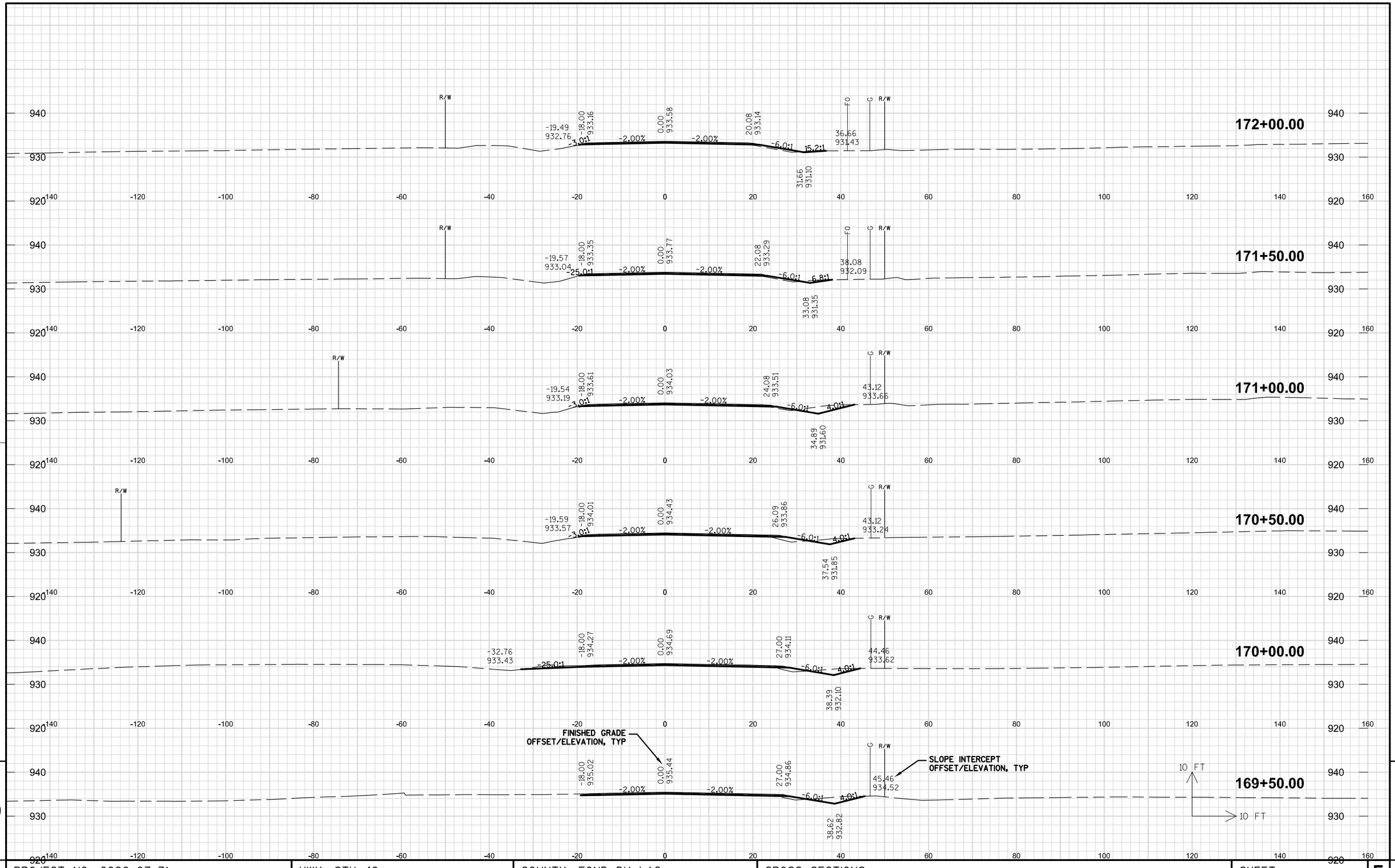
FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 170 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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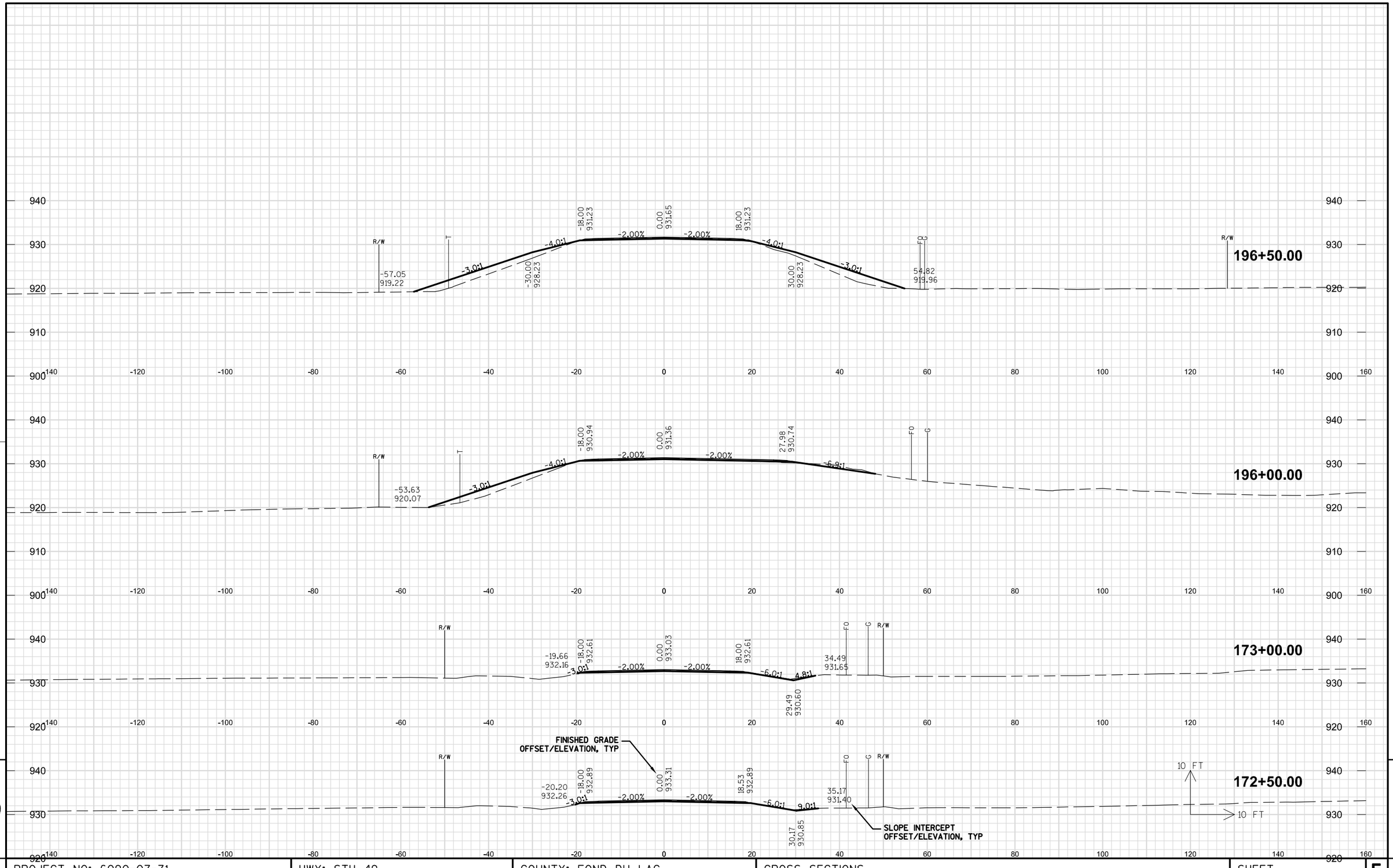
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 171	E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 172 E

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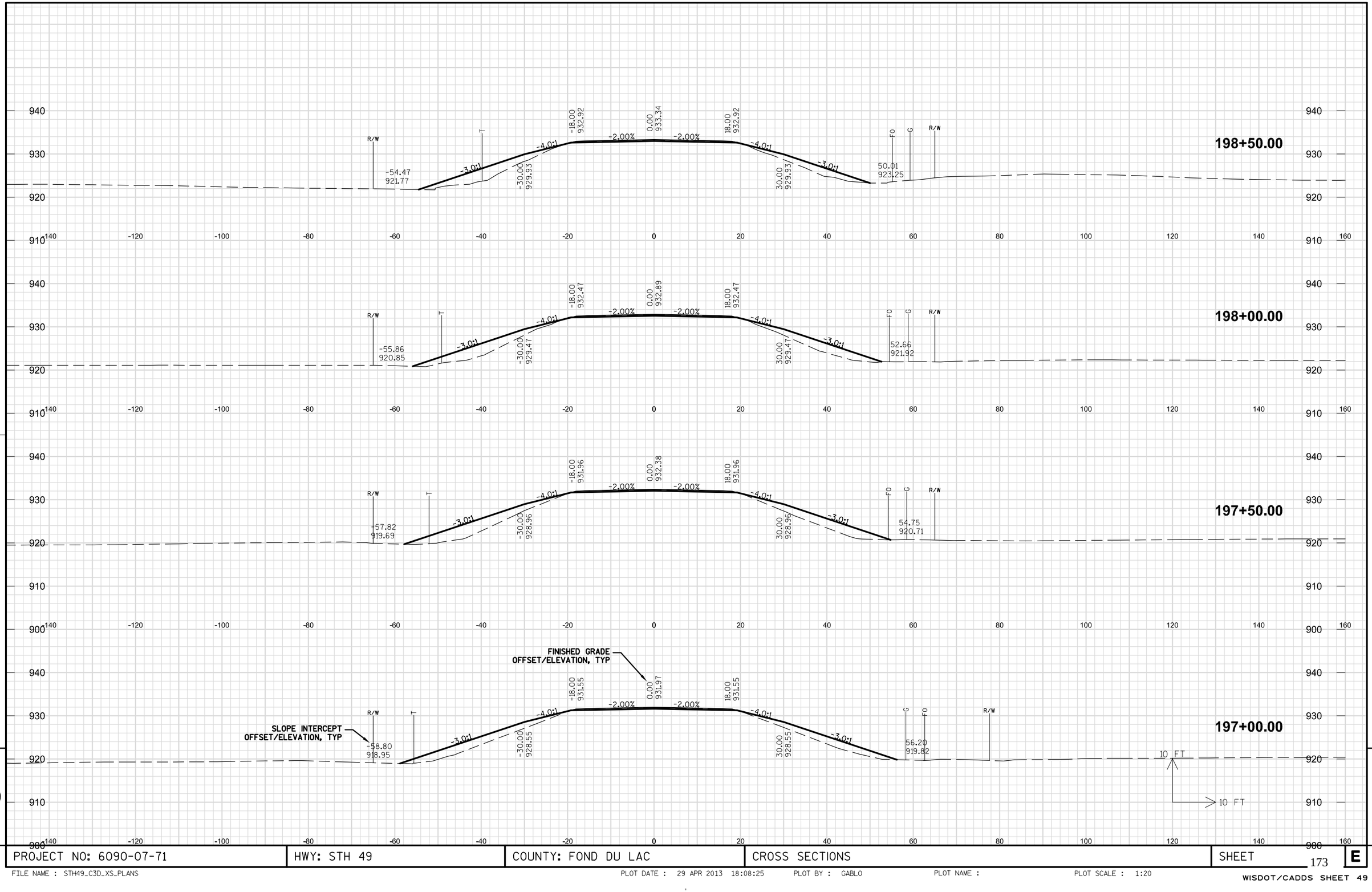
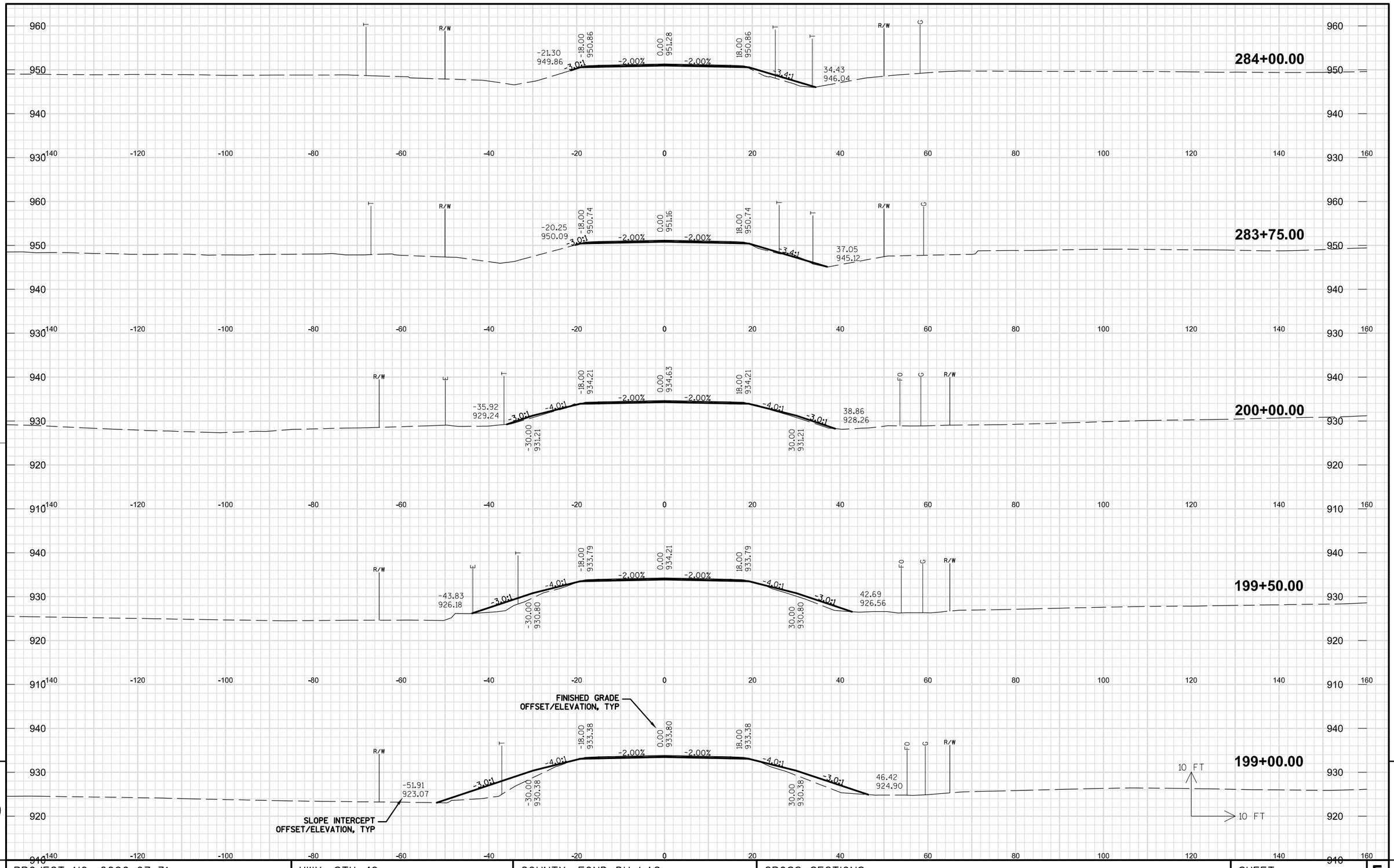
FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 173 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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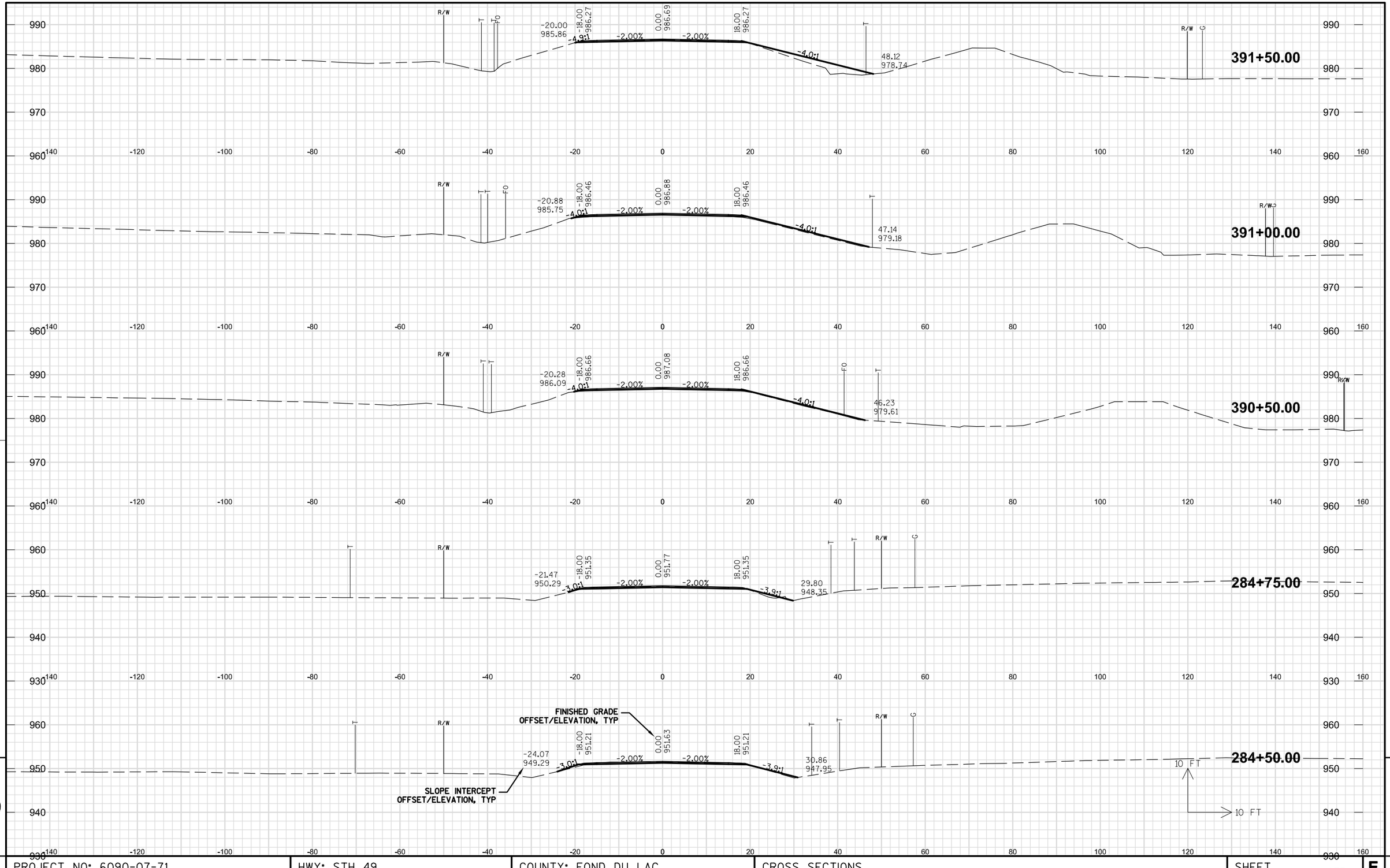
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 174 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

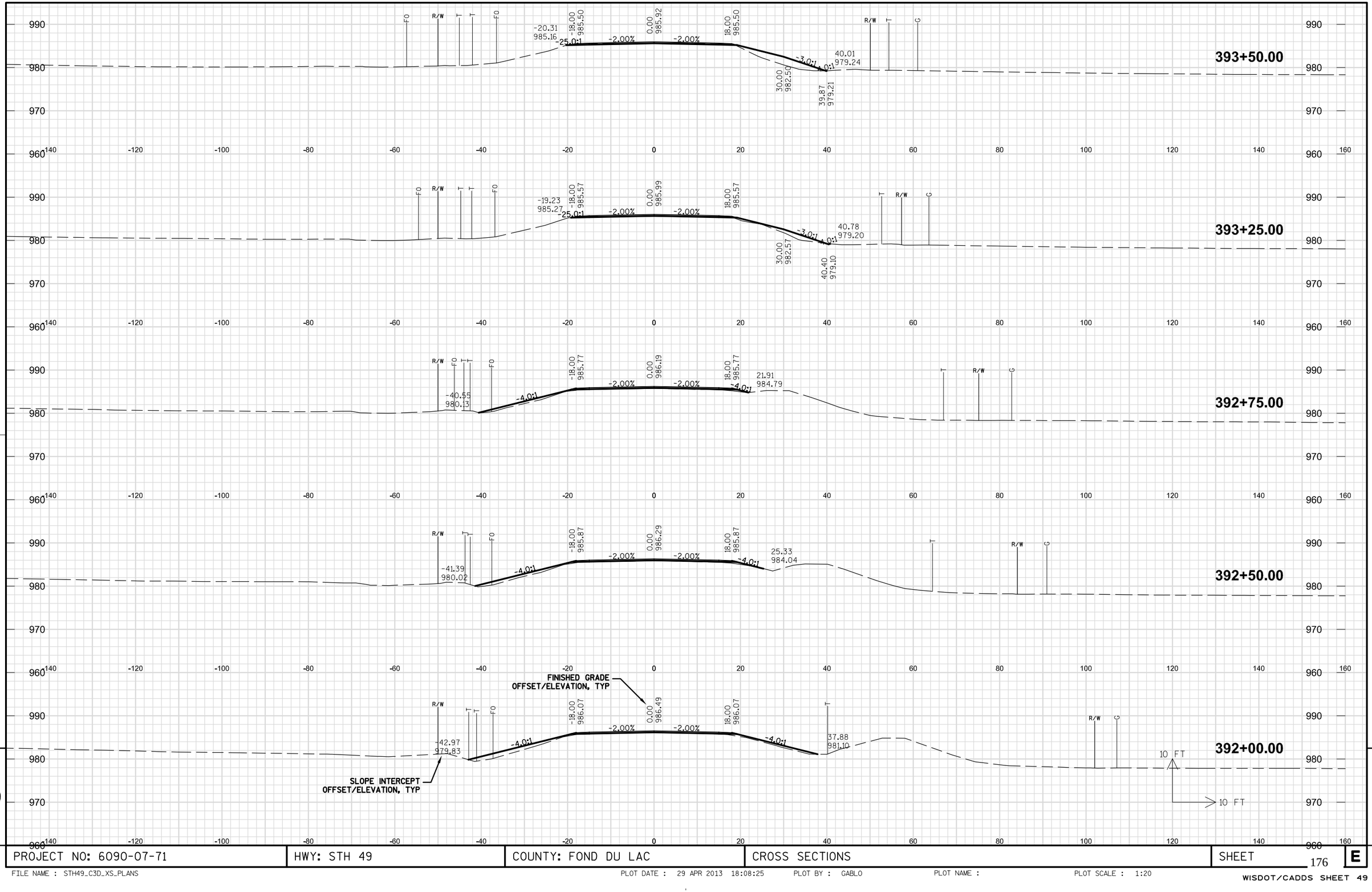
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 175 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

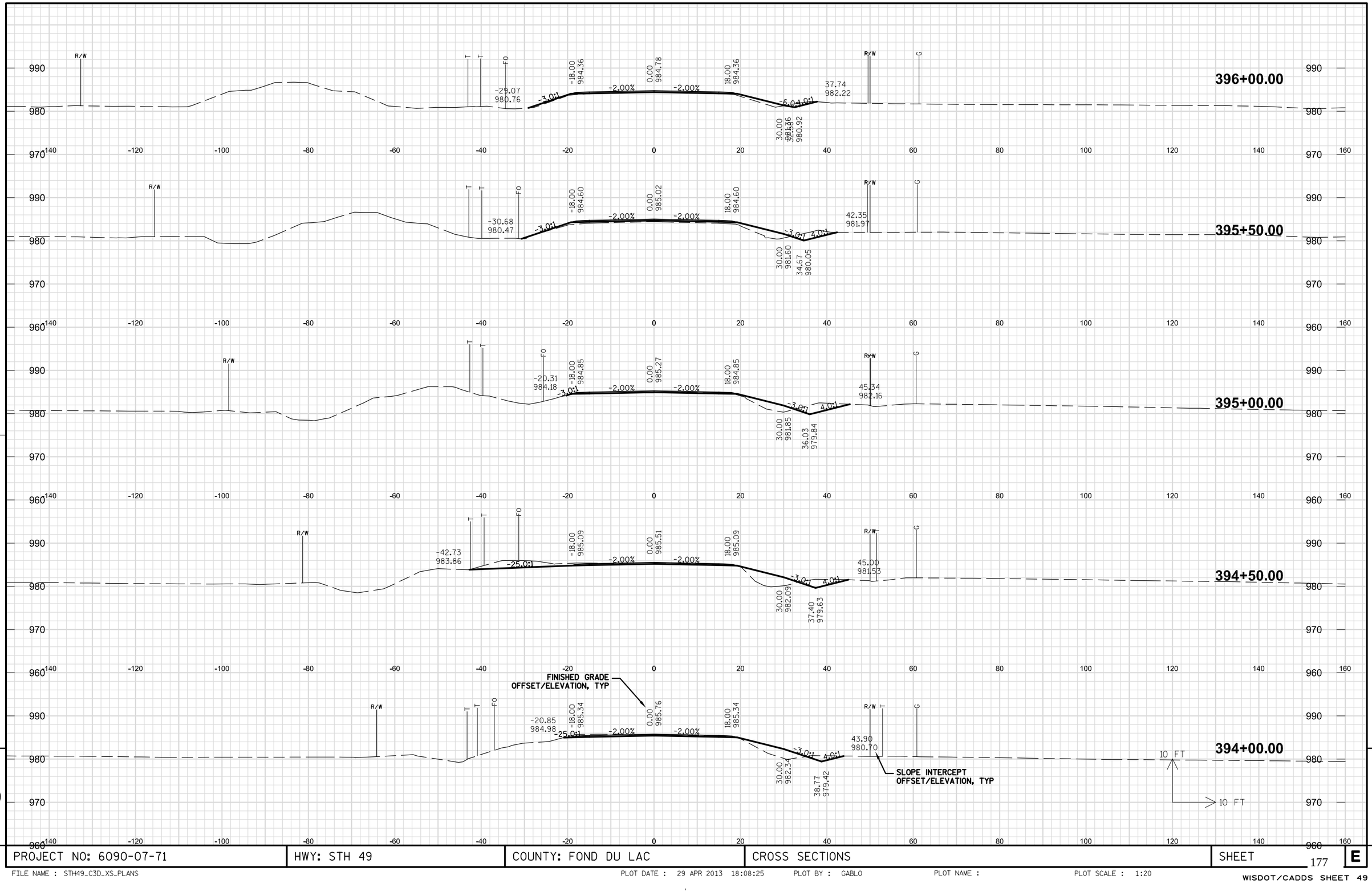
WISDOT/CADDS SHEET 49



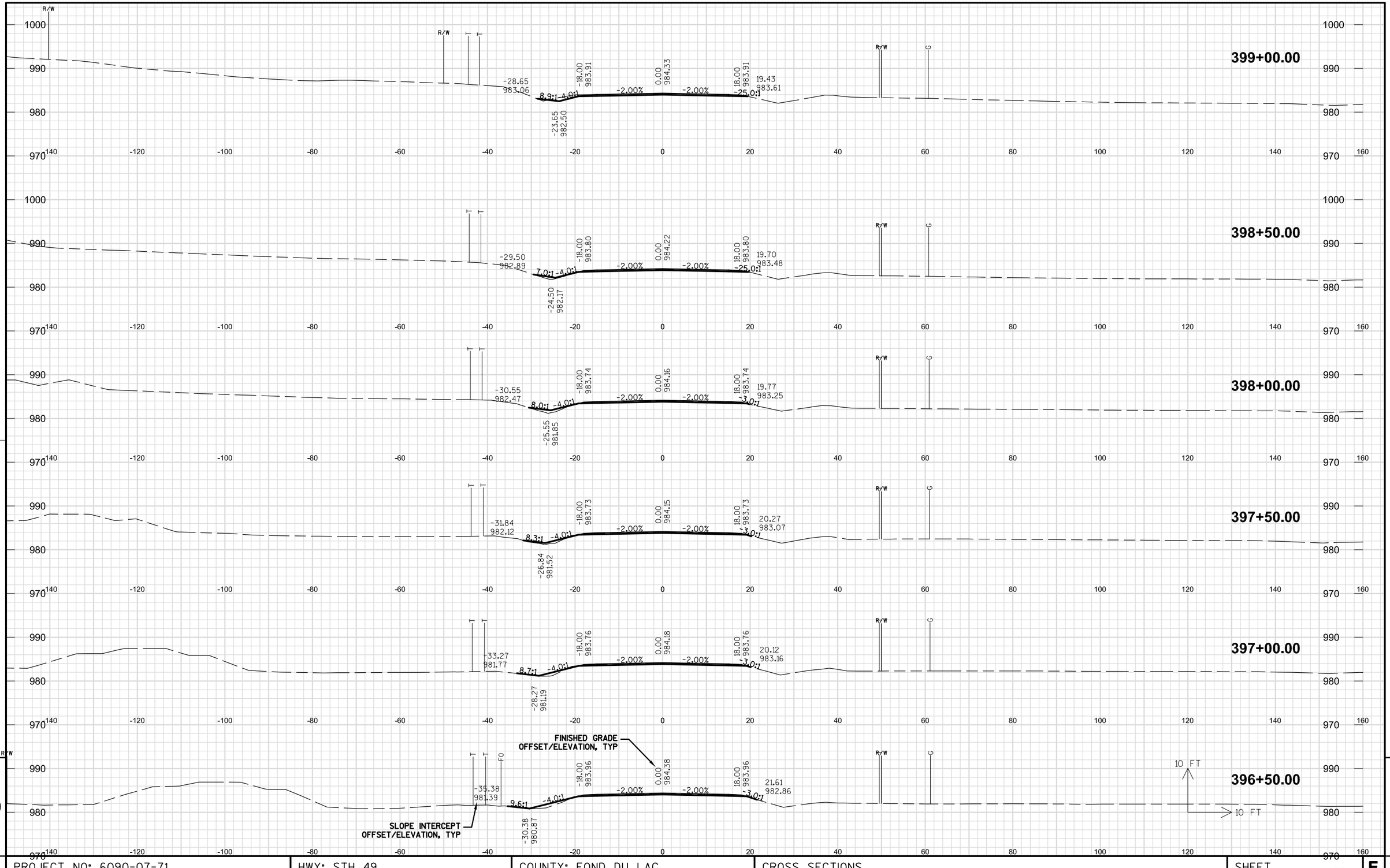
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 176 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET E



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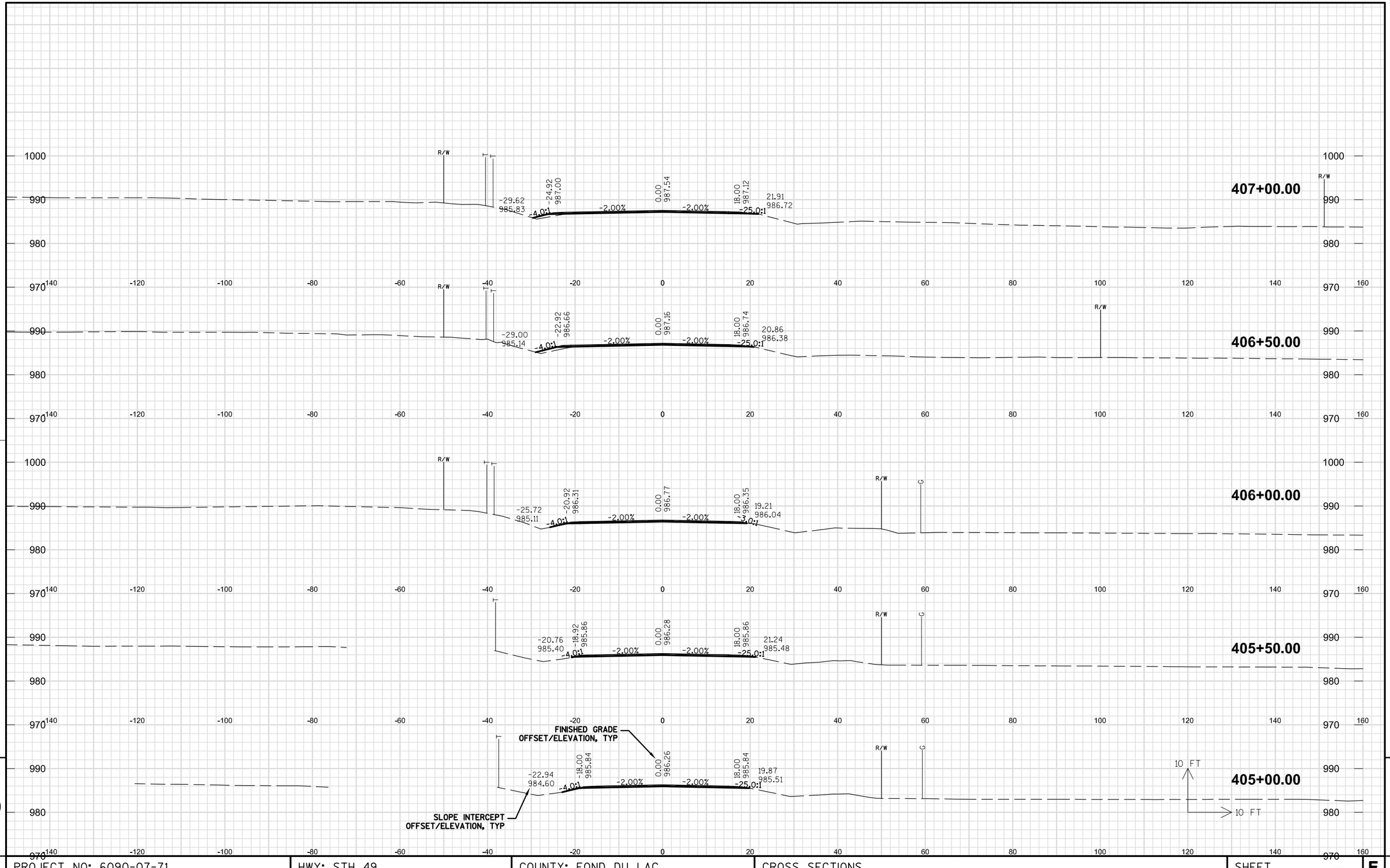
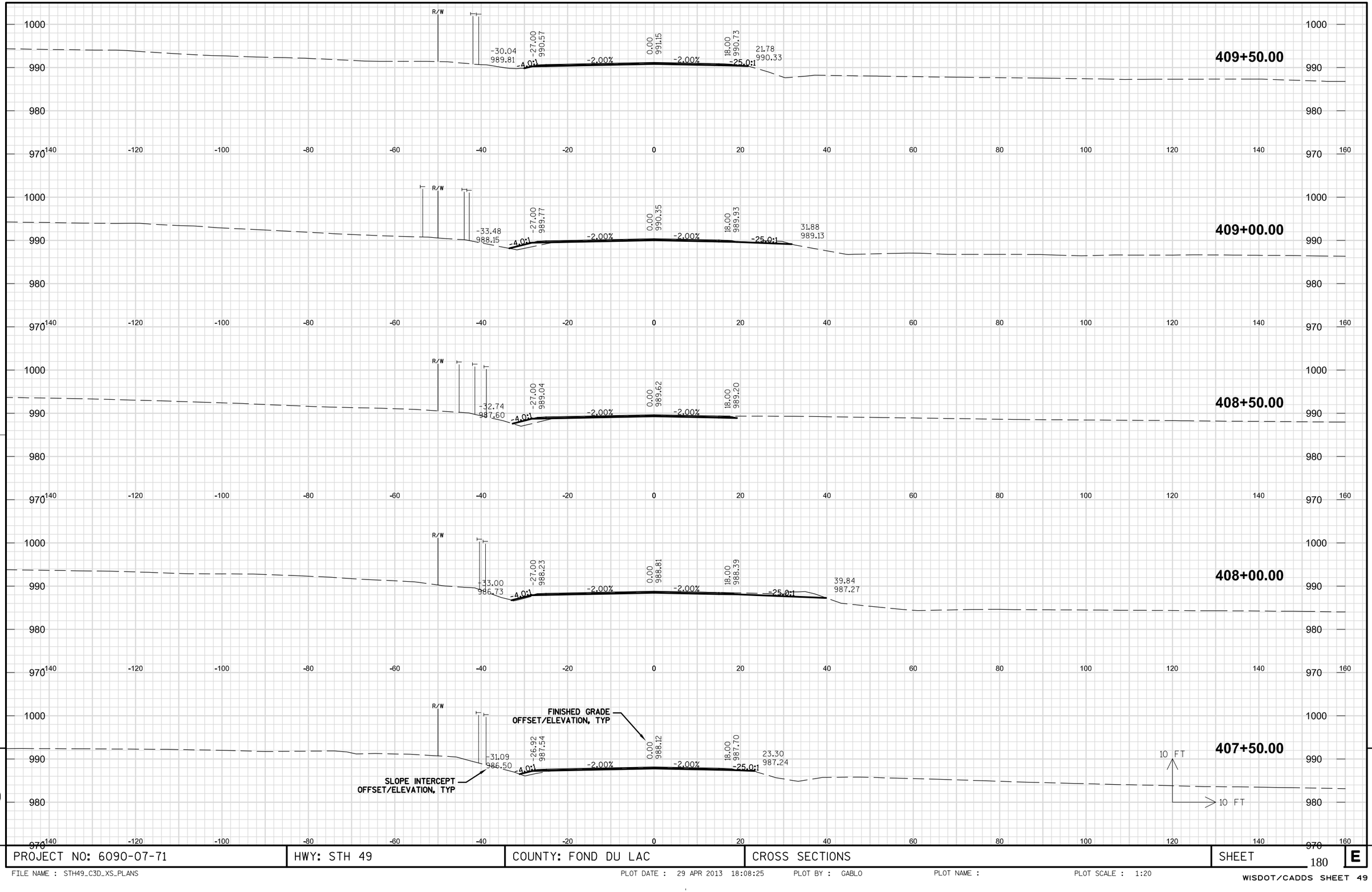
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 178 E



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 179 E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

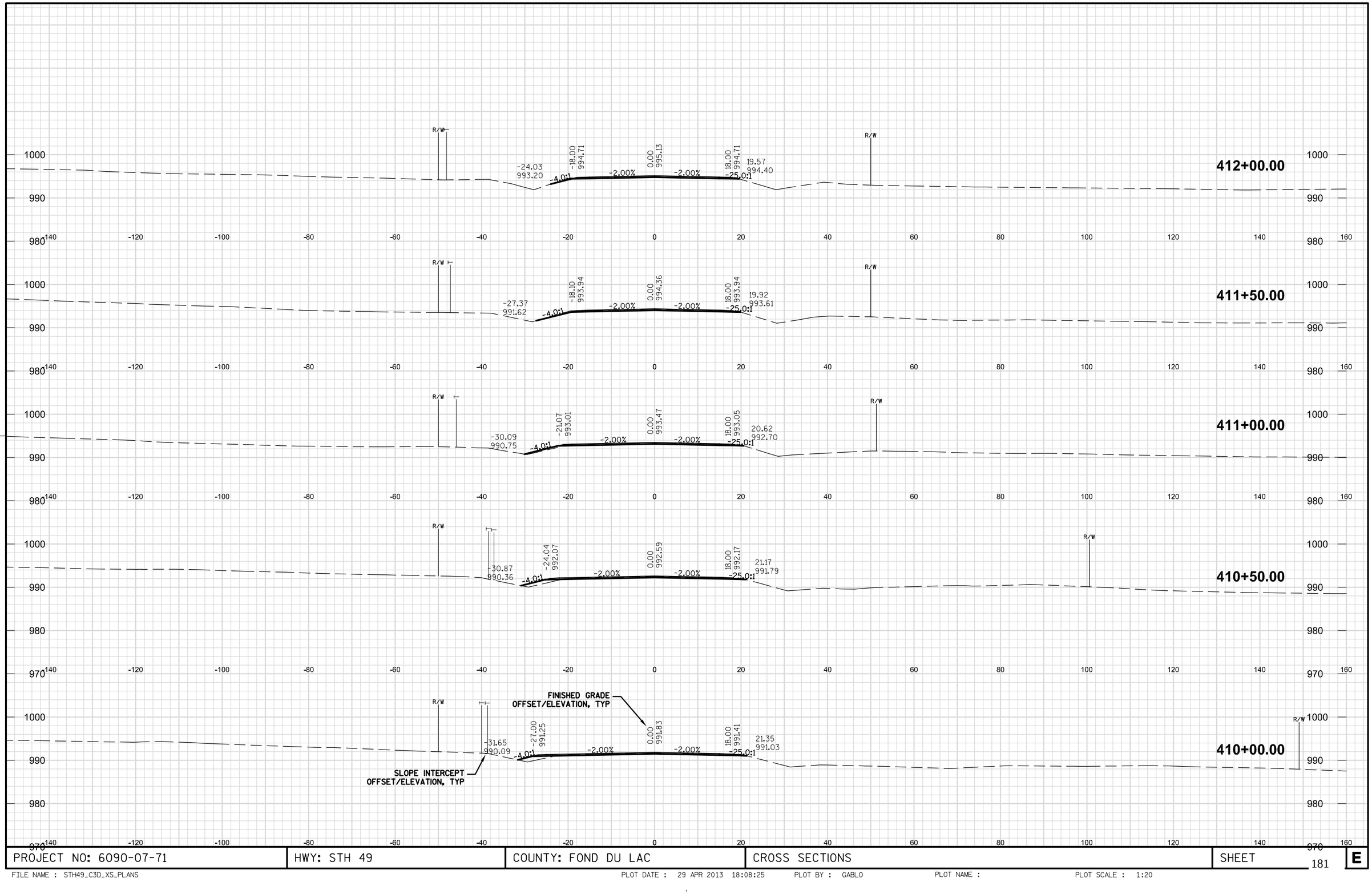
WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 180 E

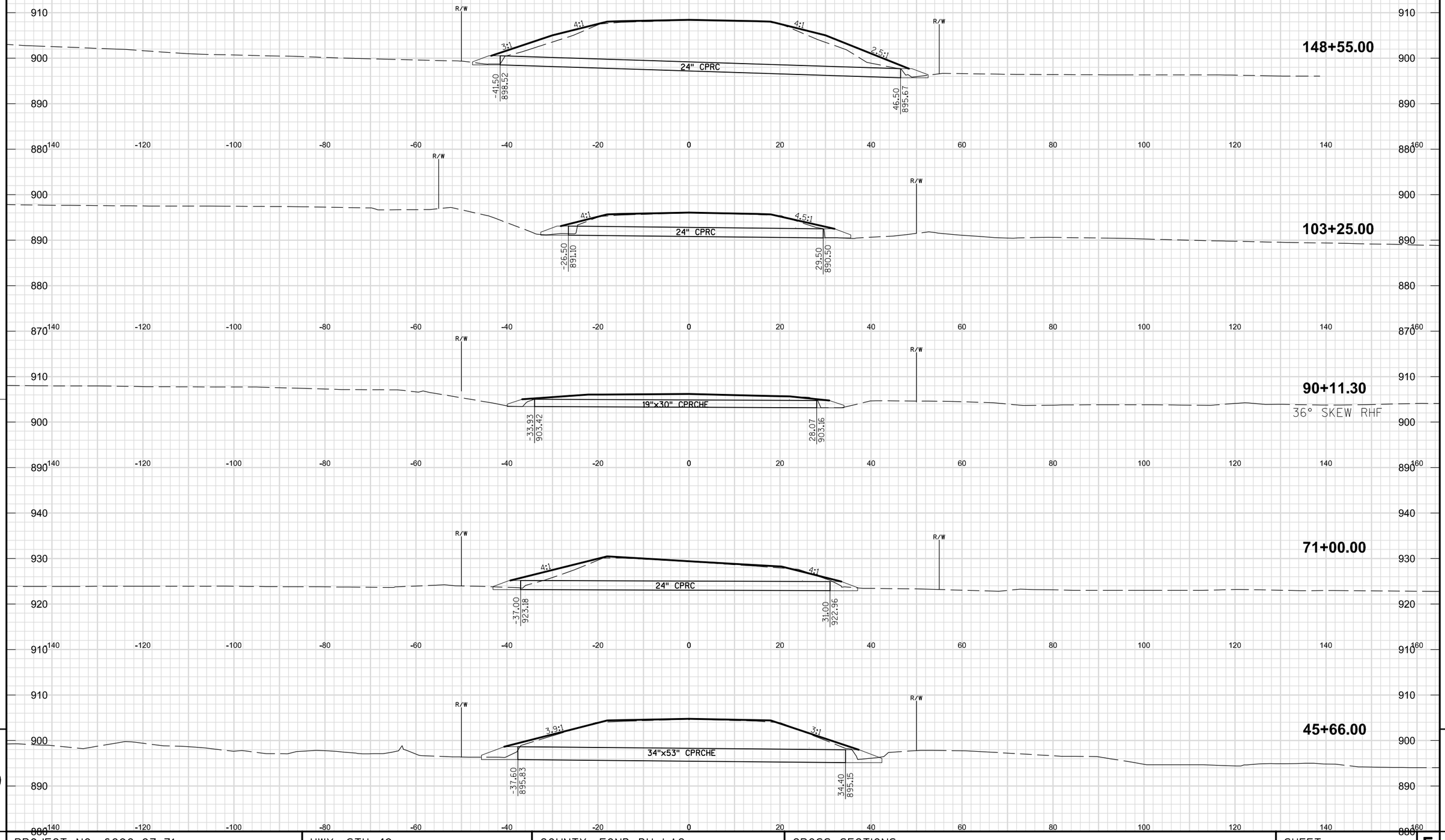
FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET	E

FILE NAME : STH49_C3D_XS_PLANS PLOT DATE : 29 APR 2013 18:08:25 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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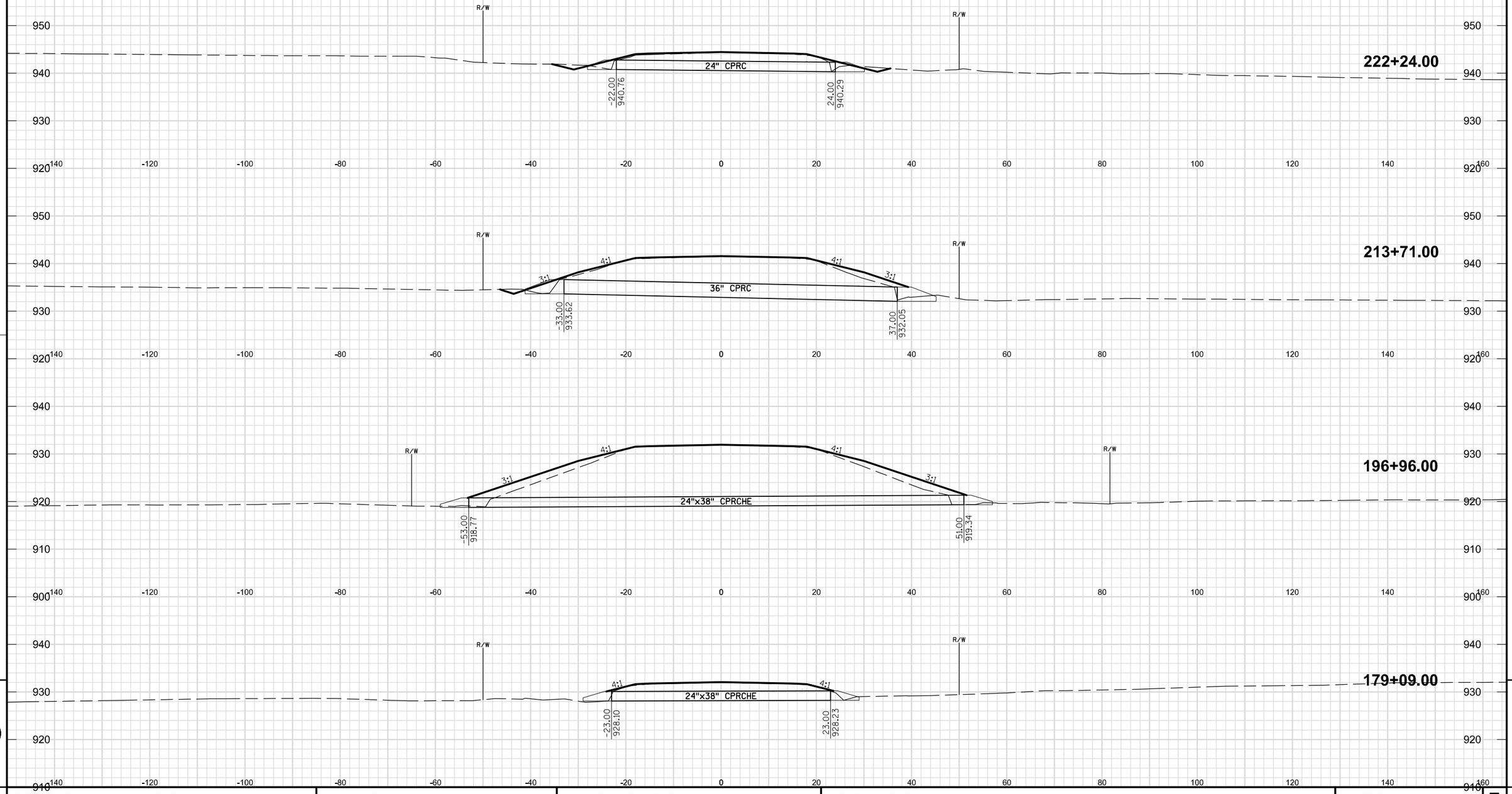
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 182 E

FILE NAME : STH49_C3D_CULVERTS PLOT DATE : 30 APR 2013 08:11:08 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20



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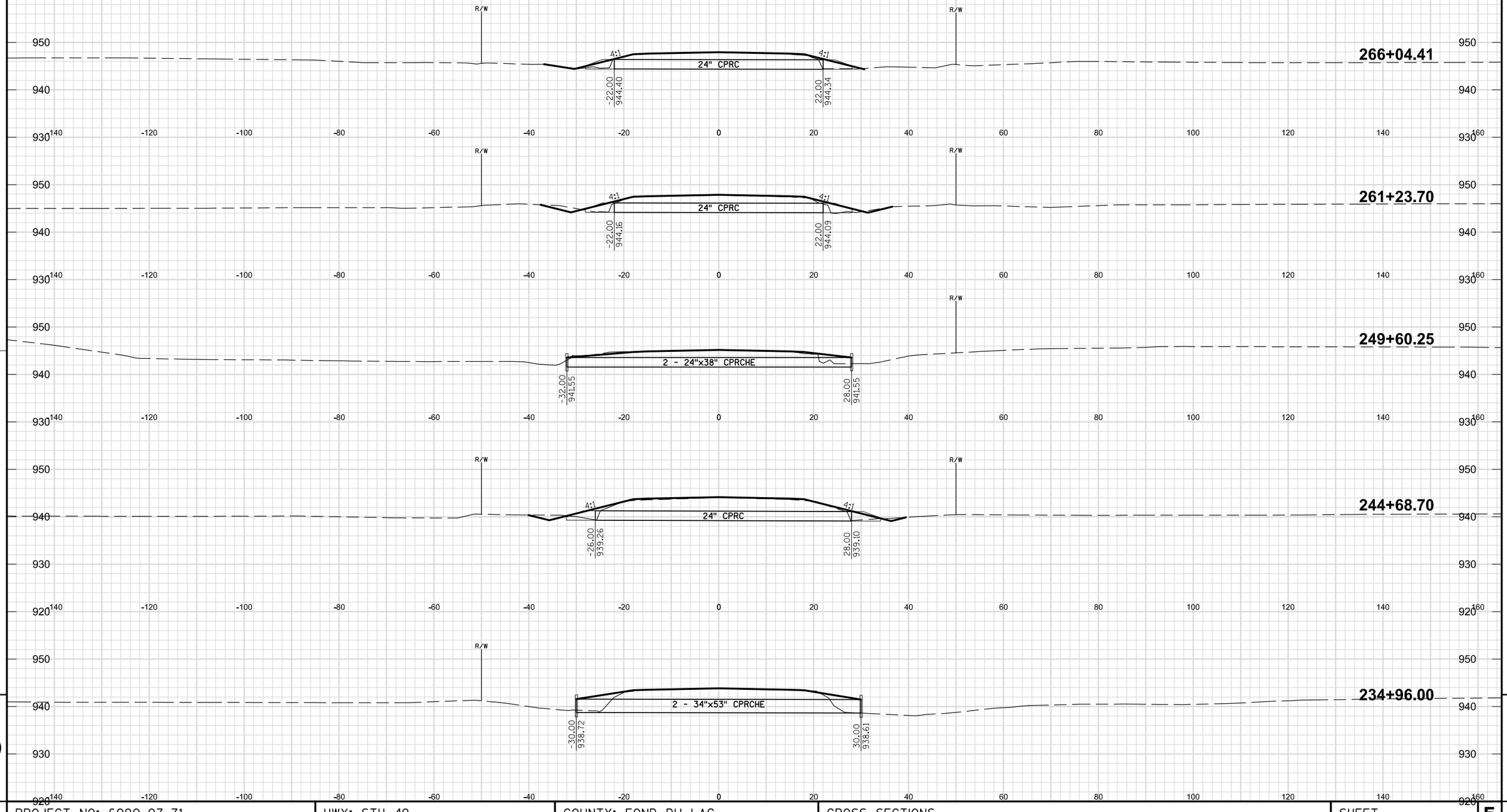
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 183 E

FILE NAME : STH49_C3D_CULVERTS PLOT DATE : 30 APR 2013 08:11:08 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



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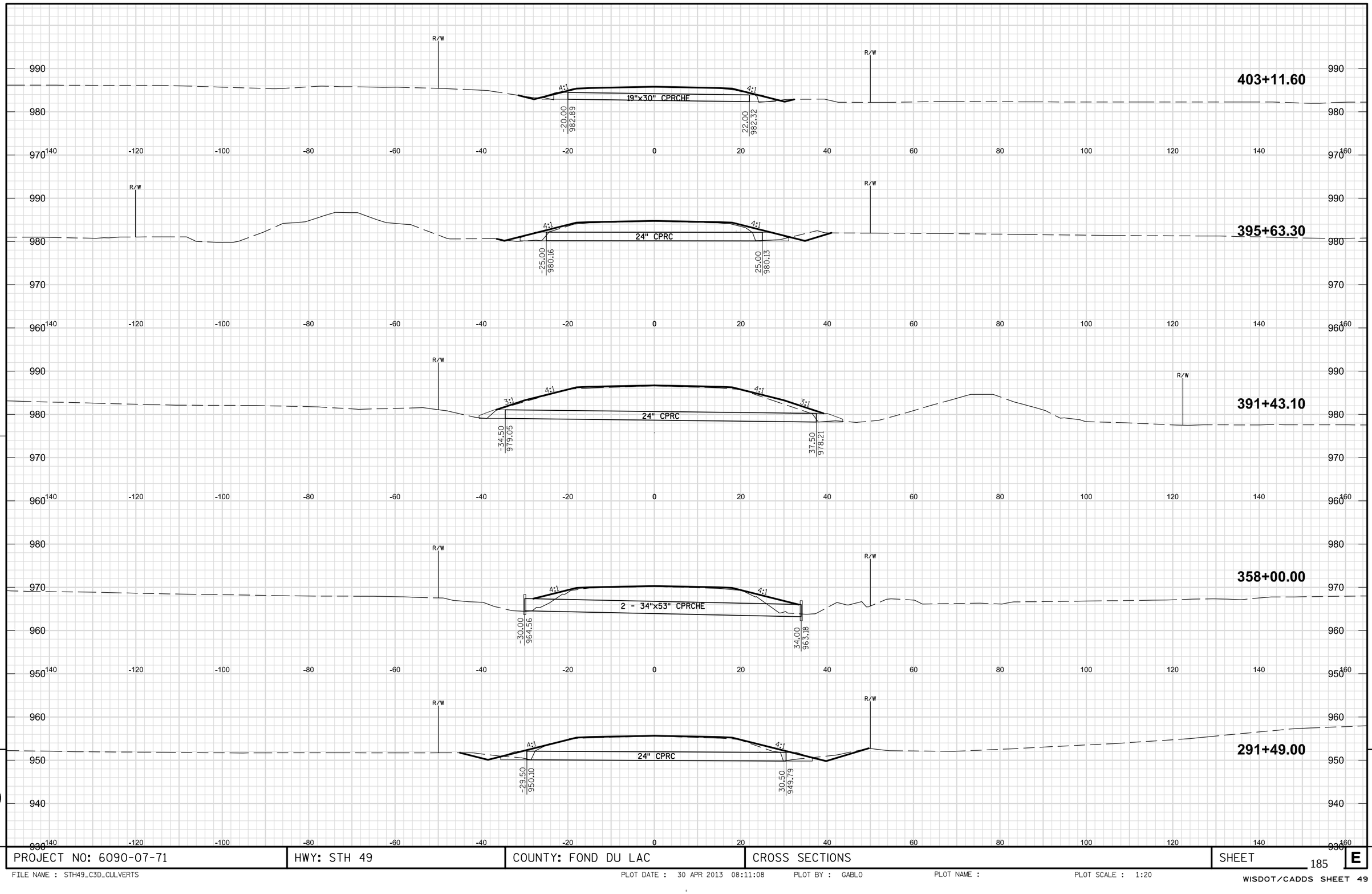
PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET 184 E

FILE NAME : STH49_C3D_CULVERTS PLOT DATE : 30 APR 2013 08:11:08 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 49



PROJECT NO: 6090-07-71	HWY: STH 49	COUNTY: FOND DU LAC	CROSS SECTIONS	SHEET E

FILE NAME : STH49_C3D_CULVERTS PLOT DATE : 30 APR 2013 08:11:08 PLOT BY : GABLO PLOT NAME : PLOT SCALE : 1:20

Wisconsin Department of Transportation

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