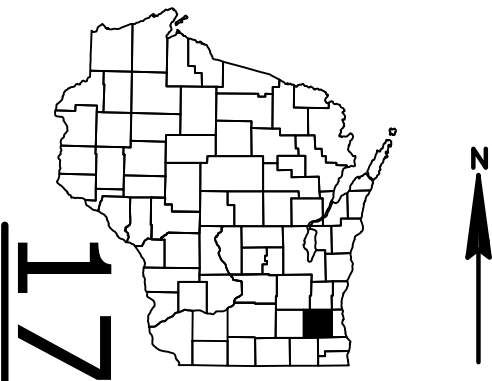


WKE
PROJECT ID: 2025-14-74
WITH: 2025-14-74
COUNTY: WAUKESHA

APRIL 2015	
ORDER OF SHEETS	
Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 150



DESIGN DESIGNATION	
A.A.D.T. (2010)	= 31,400
A.A.D.T. (2030)	= 40,100
D.H.V.	= 3.3
D.D.	= 58/42
T.	= ----
DESIGN SPEED	= 60 MPH
ESALS	= 2,993,000

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)	---
SPECIAL DITCH	---
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	---

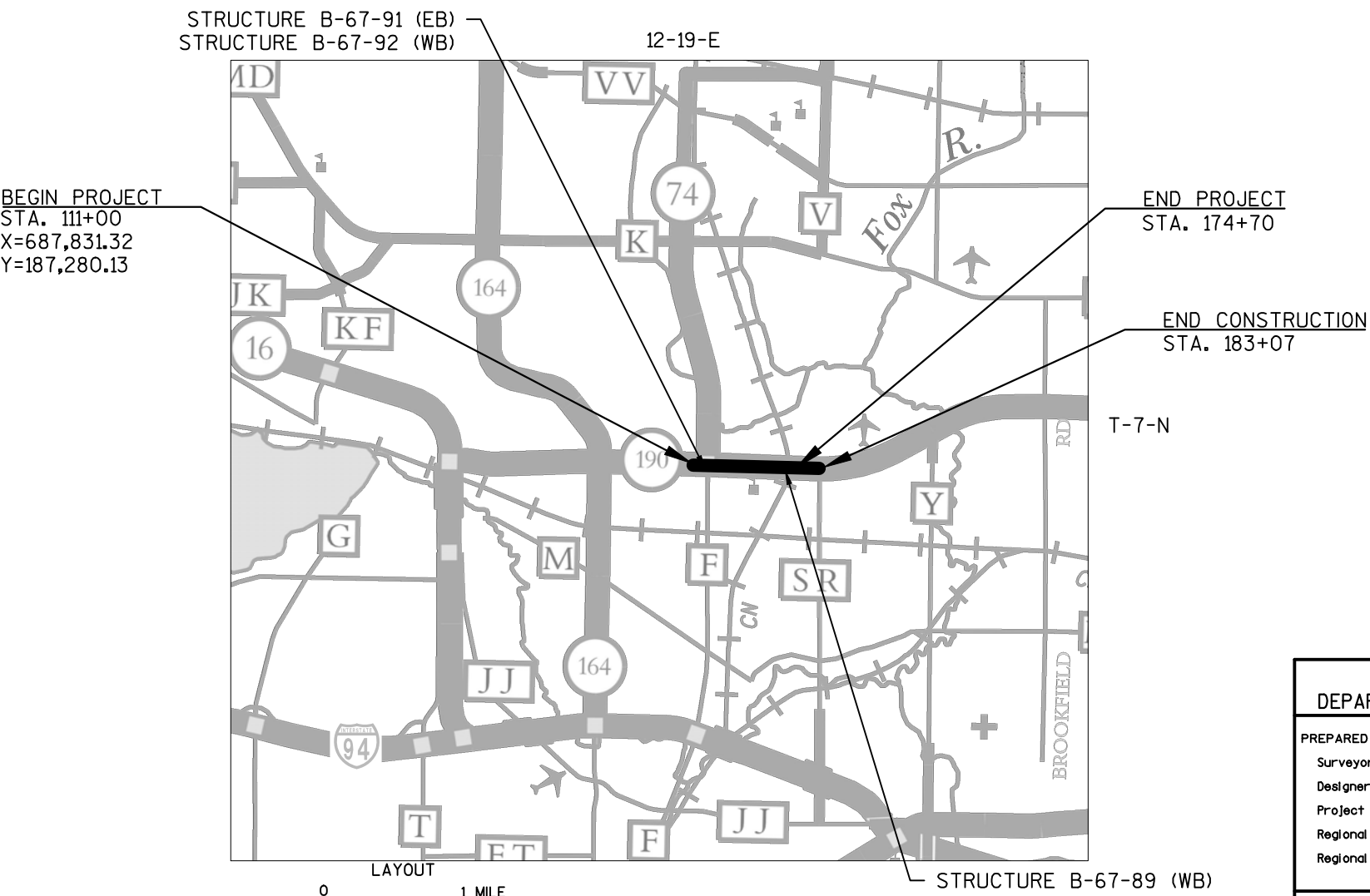
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CAPITOL DRIVE
(FIVE FIELDS RD. TO SPRINGDALE RD.)
STH 190
WAUKESHA COUNTY

STATE PROJECT NUMBER
2025-14-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2025-14-74		



LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 1.206

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NAVD88(1991)
HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY
COORDINATES, WAUKESHA COUNTY, NAD83 ((97)), IN U.S. SURVEY
FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID
DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	EMCS/WISDOT
Designer	LANCE FISCHER
Project Manager	BRIAN PLUEMER
Regional Examiner	
Regional Supervisor	REEM SHAHIN
APPROVED FOR THE DEPARTMENT	
DATE: 12/1/14	Brian Plumer (Signature)

E

UTILITIES CONTACTS

OTHER CONTACTS

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WEST ALLIS, WI 53214
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WE ENERGIES-GAS.
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wis.engineering@twcable.com

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CAPITOL DRIVE AIRPORT
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PEWAUKEE, WI 53072
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FAX: (262) 781-3822

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MR. JEFF CHASE
CITY OF BROOKFIELD
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WAUKESHA COUNTY DPW
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FAX: (262) 896-8097
gevans@waukeshacounty.gov

JOHN WASHBURN
SOUTHEAST WISCONSIN REGIONAL
PLANNING COMMISSION (SEWRPC)
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PHONE: (262) 953-4295
FAX: (262) 547-1103
jwashburn@sewpc.org

WE ENERGIES ELECTRIC EMERGENCY: 1-800-662-4797
WE ENERGIES GAS EMERGENCY: 1-800-261-5325

IF GAS MAIN OR SERVICE IS HIT, PLEASE CALL 911
PRIOR TO CALLING THE WE ENERGIES EMERGENCY
NUMBER



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

GENERAL NOTES

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 LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

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

ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

ALL HOLES OR TRENCHES BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH GRANULAR BACKFILL, UP TO THE LOWER OF EXISTING GROUND OR PROPOSED SUBGRADE, AND BETWEEN 1:1 SLOPES EXTENDED FROM SUBGRADE SHOULDER POINTS. GRANULAR BACKFILL WILL BE INCIDENTAL TO THE REMOVAL OR ABANDONMENT ITEM.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

SIGNS TO BE MOVED WILL BE STORED AND PROTECTED BY THE CONTRACTOR, FREE FROM DAMAGE, UNTIL SUCH TIME AS THEY ARE RE-INSTALLED.

REMOVAL OF EROSION CONTROL DEVICES WILL BE INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, OUTSIDE THE SHOULDERS ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITH IN FIVE (5) CALENDAR DAYS AFTER PALCEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

EXISTING DRAINAGE DITCHES AND CULVERT PIPES WILL REMAIN FUNCTIONAL DURING EXCAVATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTING THE MEDIAN AND RESHAPING PREVIOUSLY PLACED SHOULDERS DAMAGED BY CONSTRUCTION UNDER THIS CONTRACT.

STANDARD ABBREVIATIONS

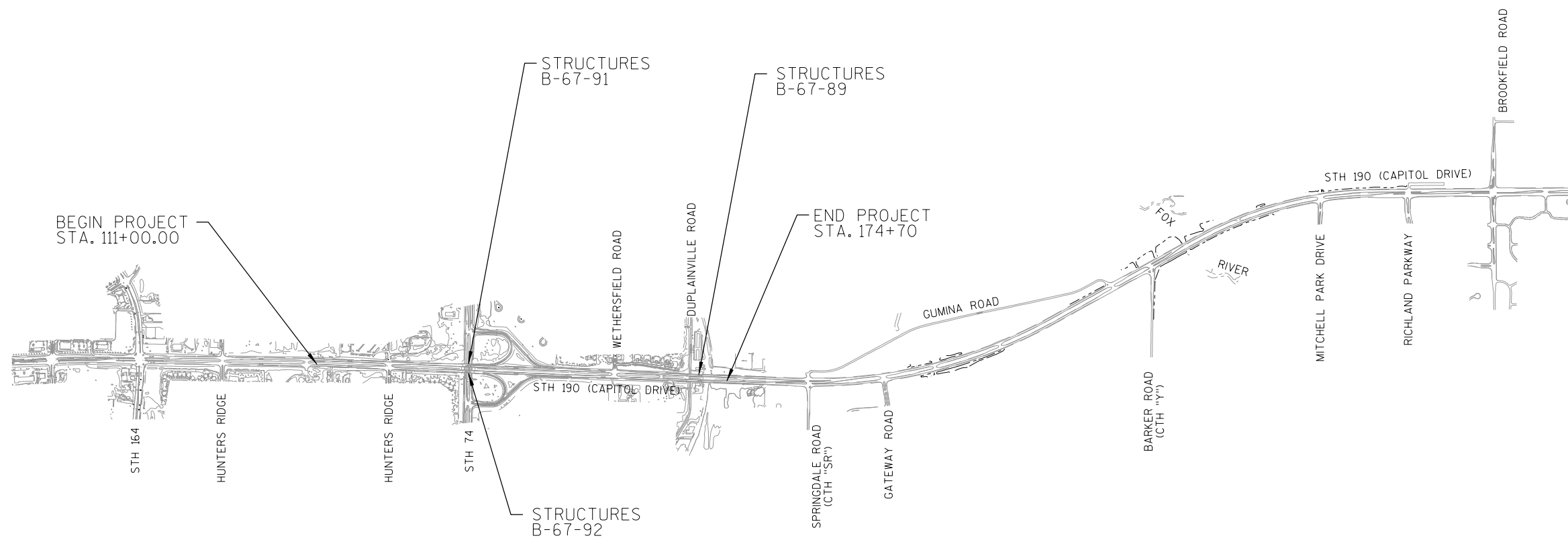
APRON ENDWALL
AGGREGATE
BASE AGGREGATE DENSE
BENCHMARK
CURB & GUTTER
COMMERCIAL ENTRANCE
CENTER LINE
CONCRETE
CORNER
CULVERT PIPE CORRUGATED STEEL
CULVERT PIPE REINFORCED CONCRETE
CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
DISCHARGE
EXCAVATION BELOW SUBGRADE
EXISTING
FIELD ENTRANCE
HOT MIX ASPHALTIC
INVERT
LEFT HAND FORWARD
LEFT
MAXIMUM
MINIMUM
MAINLINE
MONUMENT
NORMAL CROWN
NORMAL
PAVEMENT
PRIVATE ENTRANCE
PERMANENT LIMITED EASEMENT
POWER POLE
RADIUS OF CURVE
REQUIRED
RIGHT HAND FORWARD
REFERENCE LINE
RIGHT
RIGHT OF WAY
SALVAGED
SUPER ELEVATION
SLOPE INTERCEPT
TEMPORARY LIMITED EASEMENT

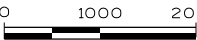
HMA TYPE E-3 PAVEMENTS WILL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS

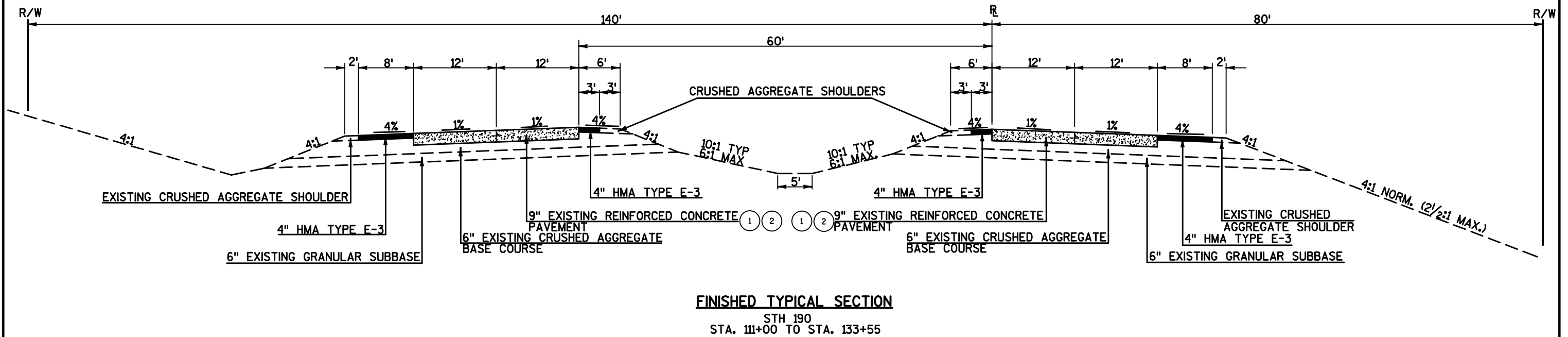
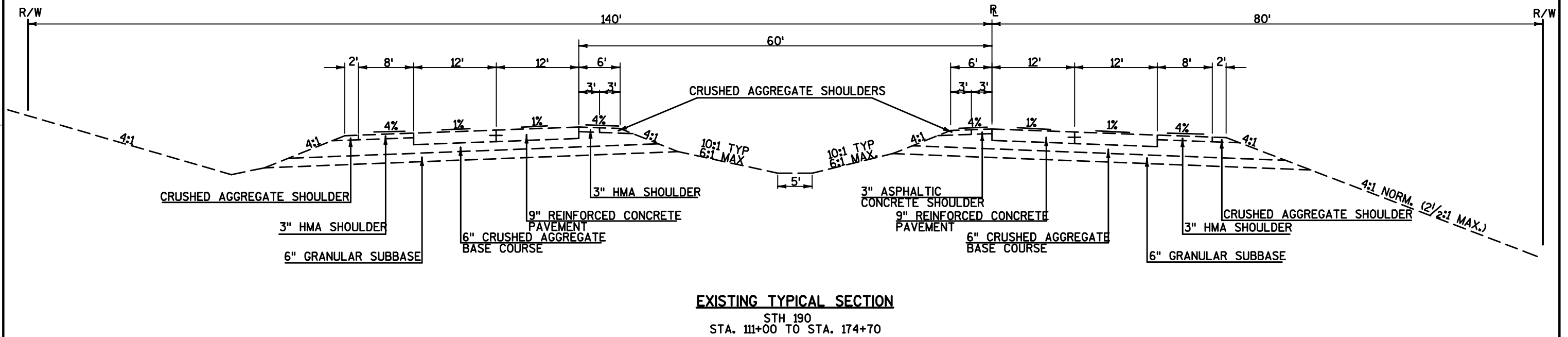
PAVEMENT DEPTH	LAYER DEPTH	GRADATION	ASPHALTIC MATERIAL
		19.0 MM	PG64-28
4 INCH	4 INCH		
6 INCH	6 INCH - ASPHALTIC SURFACE TEMPORARY	25.0 MM	
6 INCH	3 INCH UPPER LAYER	19.0 MM	PG64-28
	3 INCH LOWER LAYER	19.0 MM	PG64-28

ORDER OF SECTION TO DETAIL SHEETS

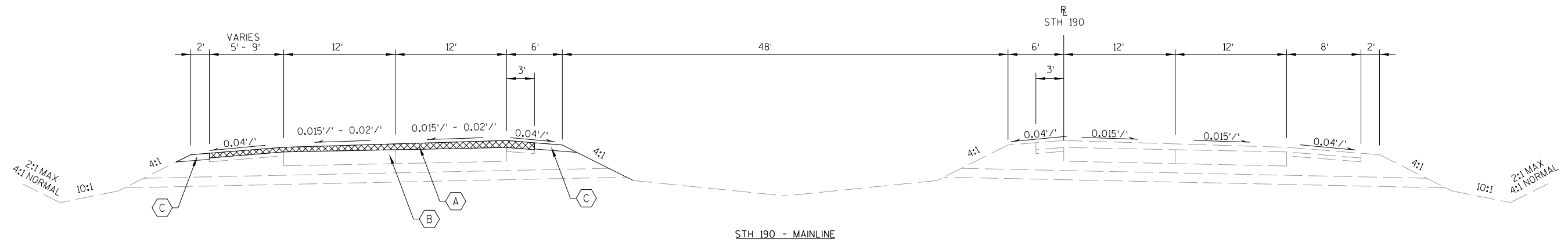
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAIL
PAVEMENT MARKING
TRAFFIC CONTROL
ALTERNATE ROUTE SIGNING
ALIGNMENT PLAN
SURVEY CONTROL POINTS



SCALE, FEET 

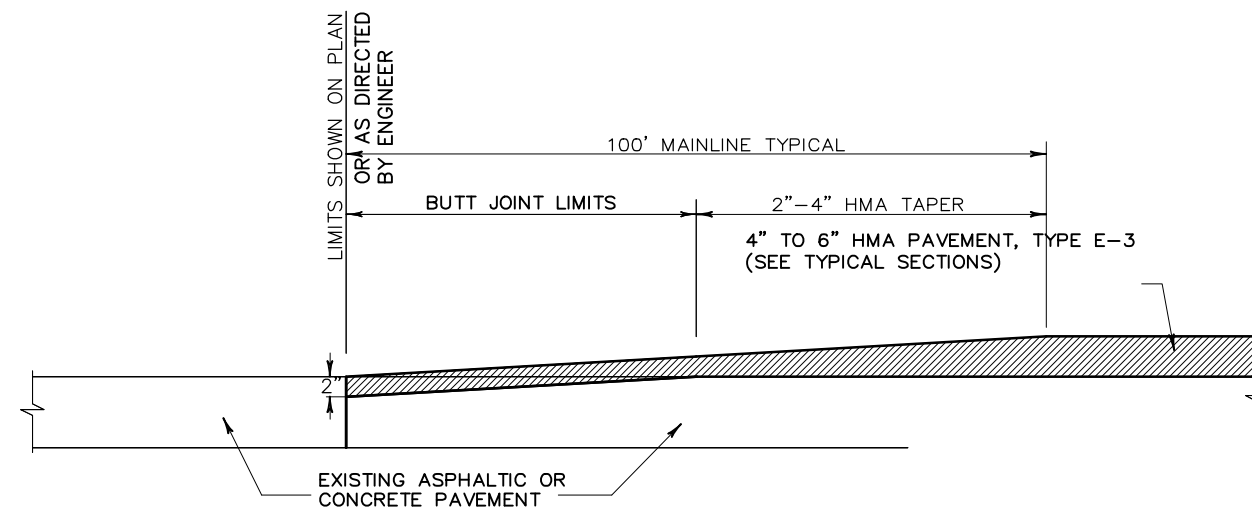
**NOTES:**

- ① CONCRETE PAVEMENT REPAIR & CONCRETE PAVEMENT REPLACEMENT, LOCATIONS TO BE DETERMINED BY FIELD ENGINEER.
- ② CONCRETE PAVEMENT CONTINUOUS DIAMOND GRIND



LEGEND

- A INSTALL BUTT JOINT AND PLACE 4" TO 6" HMA PAVEMENT, TYPE E-3 OVERLAY
- B EXISTING 9" P.C. REINFORCED CONC.
- C 3" MIN BASE AGGREGATE DENSE, 3/4-INCH

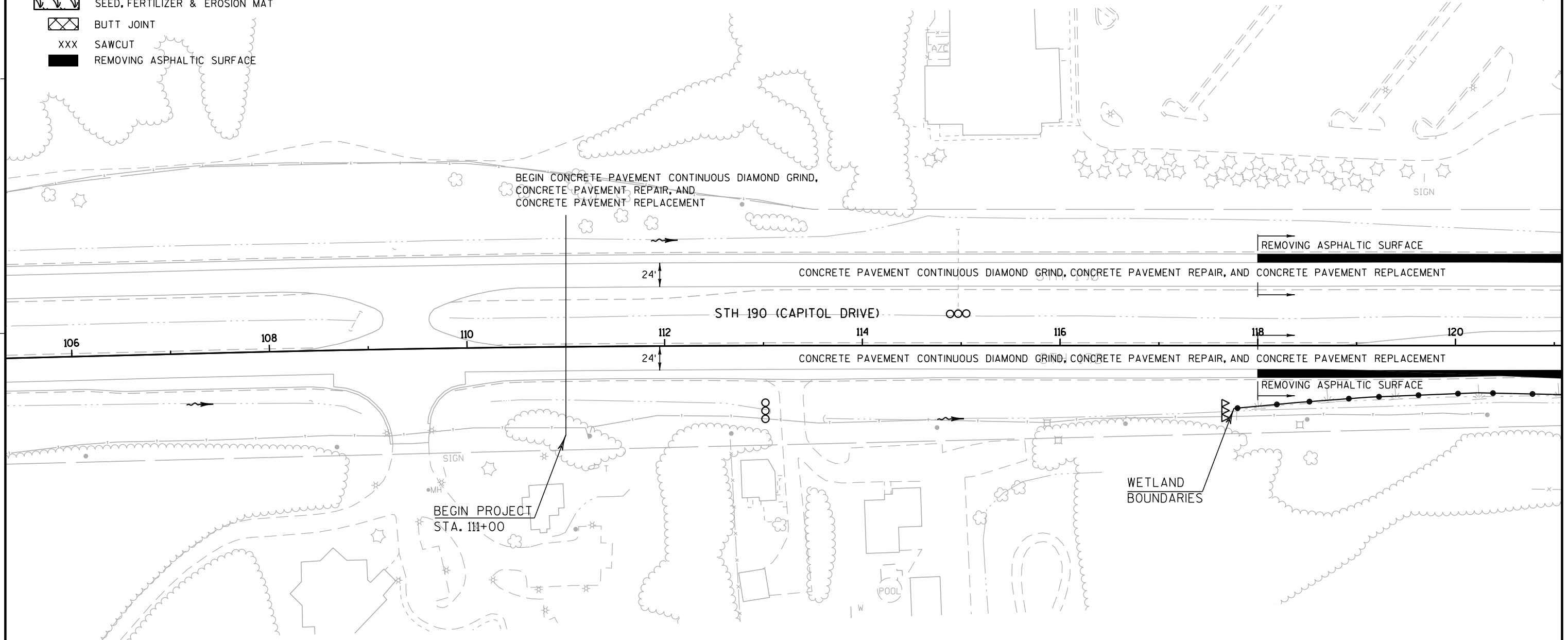


BUTT JOINT DETAIL

- LOCATIONS AND DEPTHS SHALL BE DETERMINED BY FIELD ENGINEER
- USE $\frac{1}{2}$ " TO 25' TYPICAL TAPER RATE

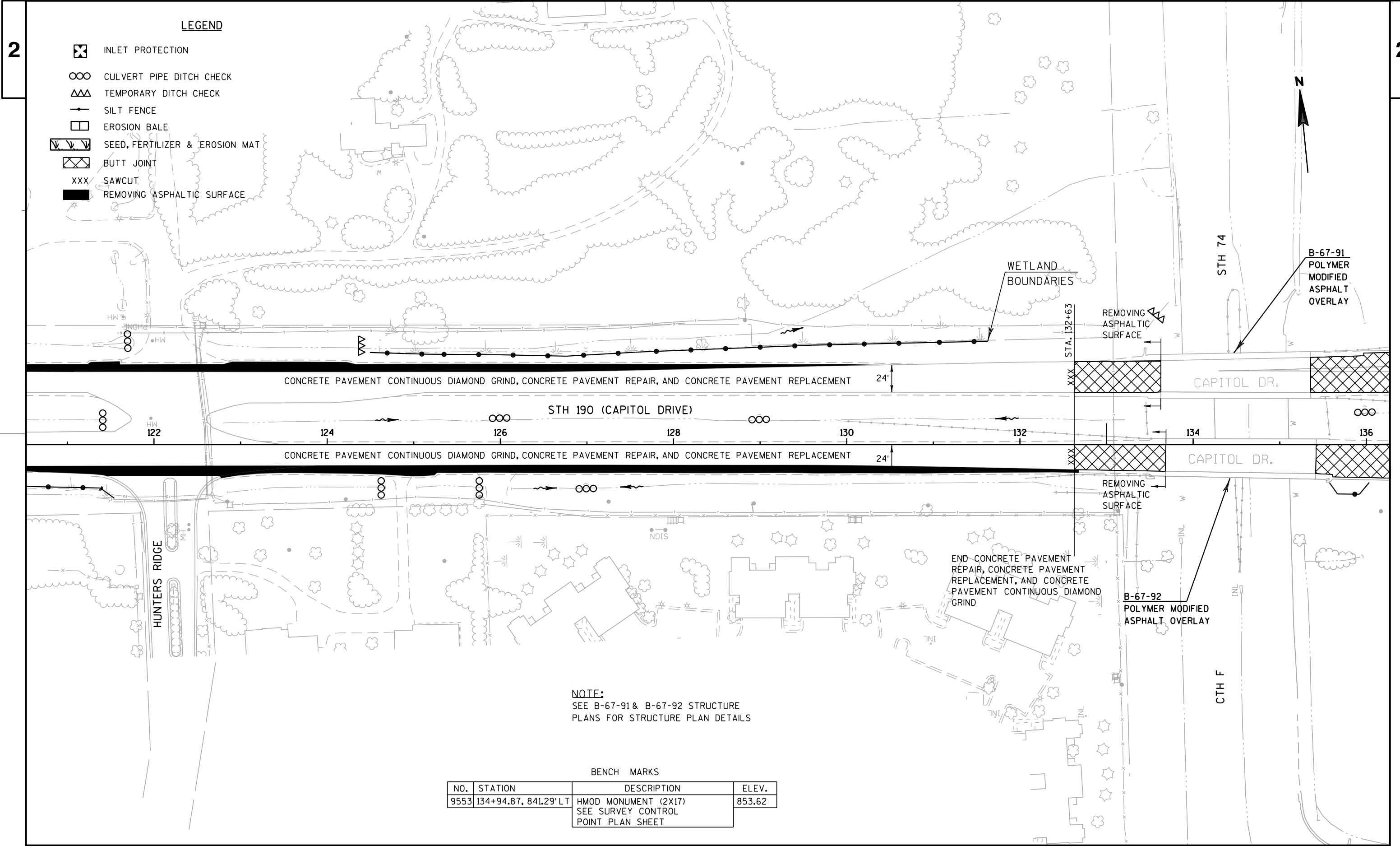
LEGEND

- ✕ INLET PROTECTION
∞∞ CULVERT PIPE DITCH CHECK
△△ TEMPORARY DITCH CHECK
—●— SILT FENCE
□ EROSION BALE
▨ SEED, FERTILIZER & EROSION MAT
▧ BUTT JOINT
XXX SAWCUT
■ REMOVING ASPHALTIC SURFACE

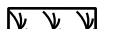


NOTE:

- SEE TRAFFIC CONTROL PLANS FOR CROSS OVER DETAILS
- CONCRETE PAVEMENT REPAIR & CONCRETE REPLACEMENT LOCATIONS TO BE DETERMINED BY FIELD ENGINEER



LEGEND

-  INLET PROTECTION
-  CULVERT PIPE DITCH CHECK
-  TEMPORARY DITCH CHECK
-  SILT FENCE
-  EROSION BALE
-  SEED, FERTILIZER & EROSION MAT
-  BUTT JOINT
-  SAWCUT
-  REMOVING ASPHALTIC SURFACE

N

DR.

STH 190

STH 190 (CAPITOL DRIVE)

136

138

140

142

144

146

148

150

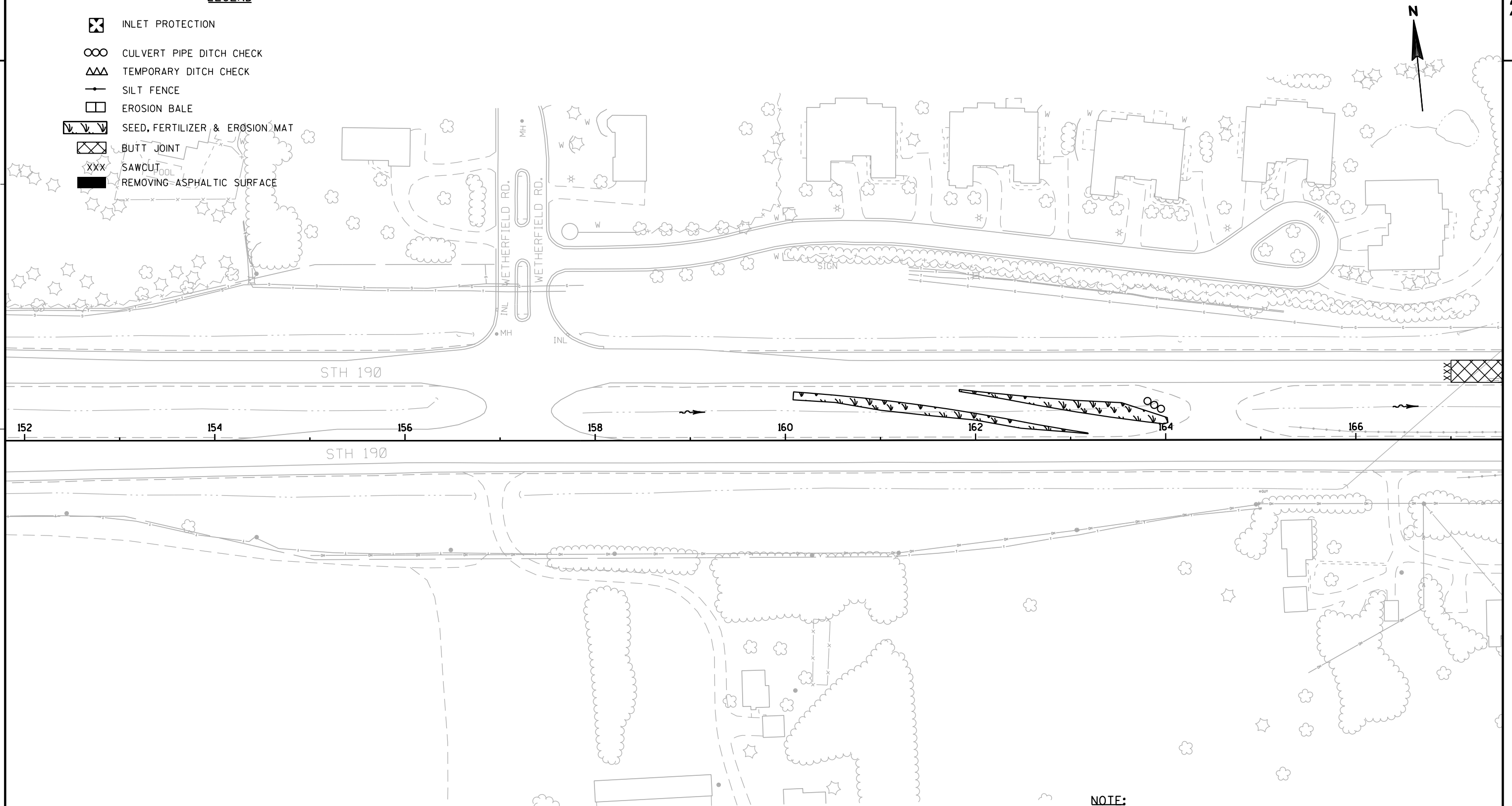
DR.

STH 190

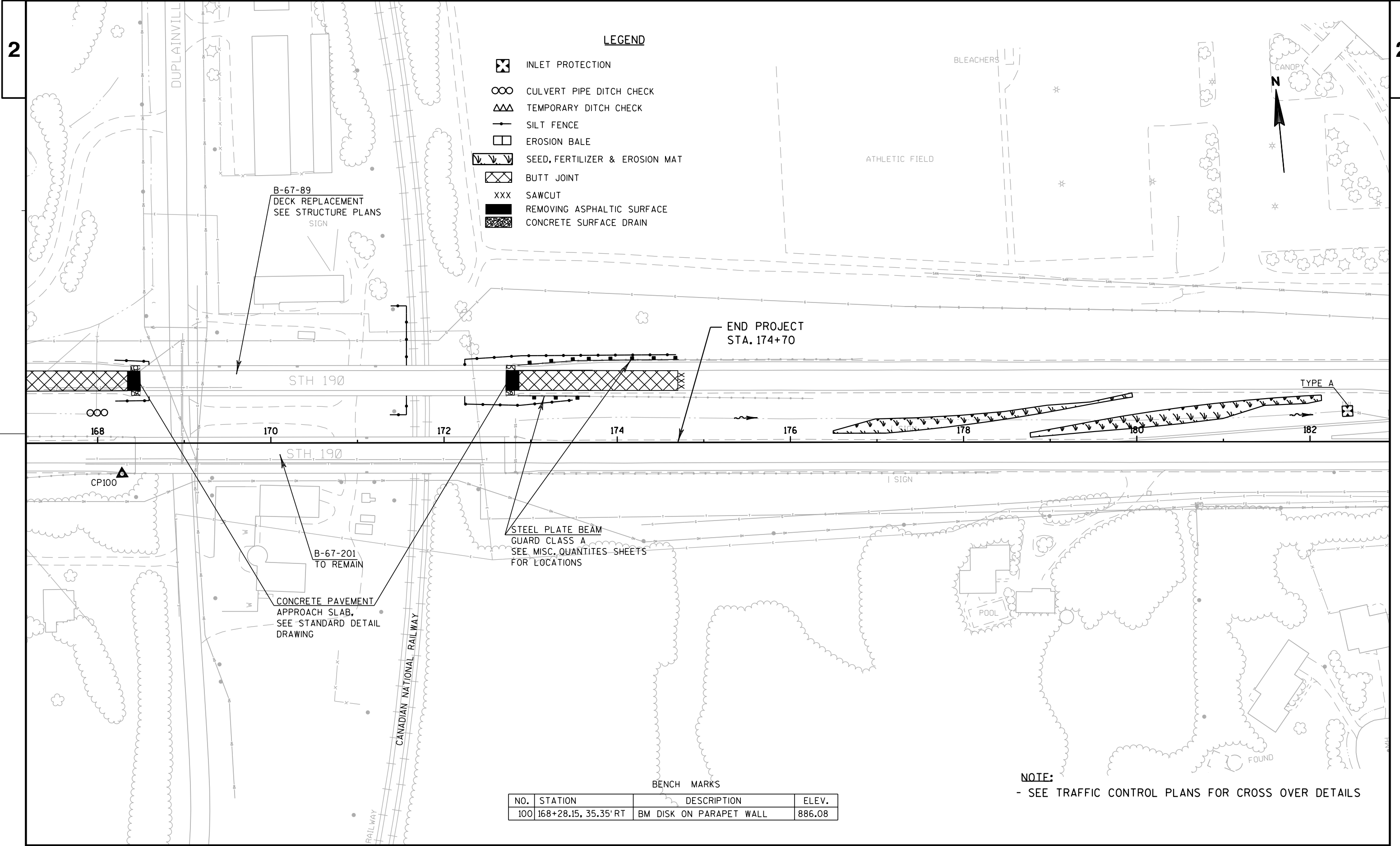
TYPE C

LEGEND

- ☒ INLET PROTECTION
∞∞ CULVERT PIPE DITCH CHECK
△△△ TEMPORARY DITCH CHECK
—●— SILT FENCE
□ EROSION BALE
▽▽▽ SEED, FERTILIZER & EROSION MAT
☒ BUTT JOINT
XXX SAWCUT
■ REMOVING ASPHALTIC SURFACE



NOTE:
- SEE TRAFFIC CONTROL PLANS FOR CROSS OVER DETAILS

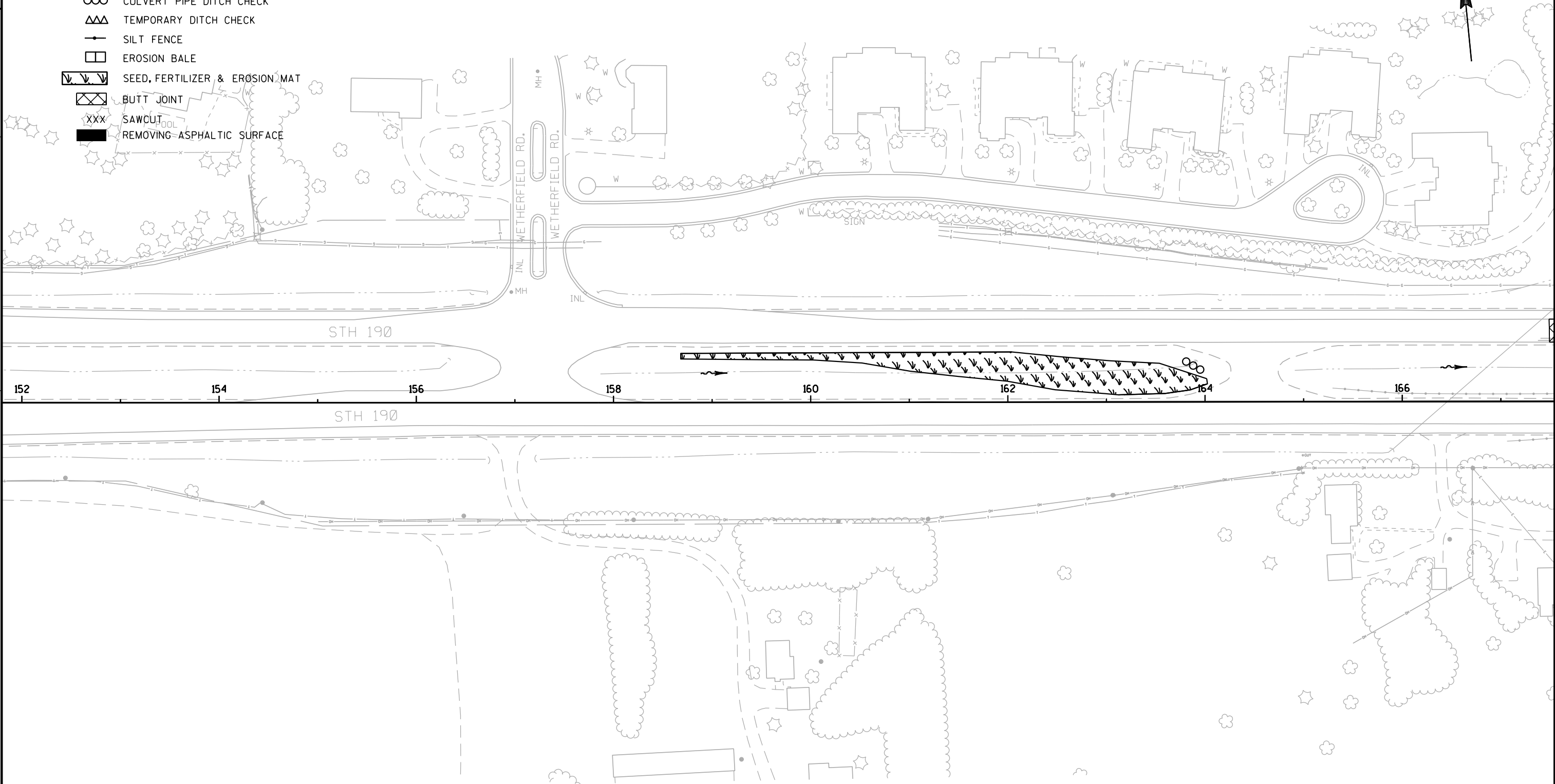


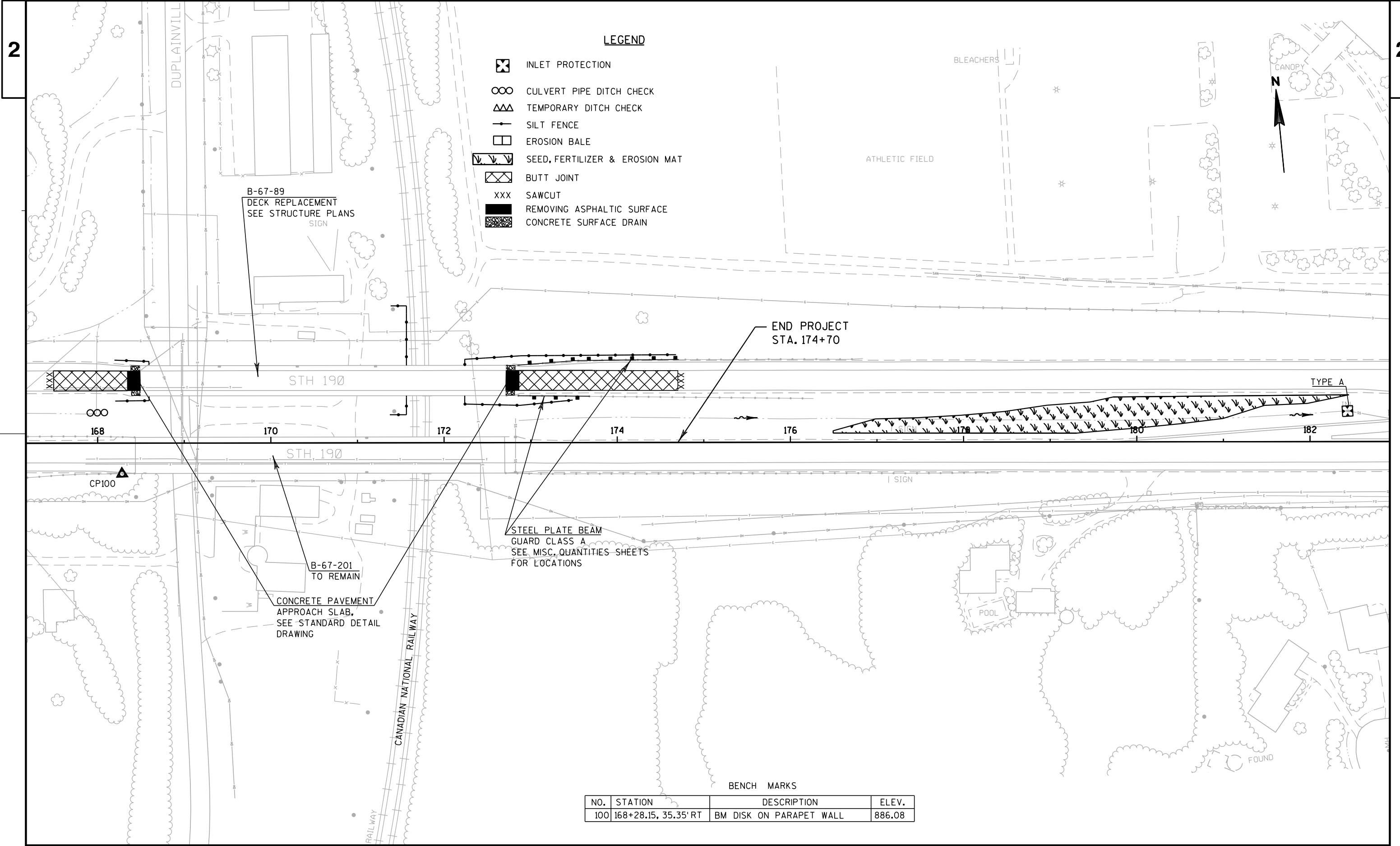
NO.	STATION	DESCRIPTION	ELEV.
100	168+28.15, 35.35' RT	BM DISK ON PARAPET WALL	886.08

NOTE:
- SEE TRAFFIC CONTROL PLANS FOR CROSS OVER DETAILS

LEGEND

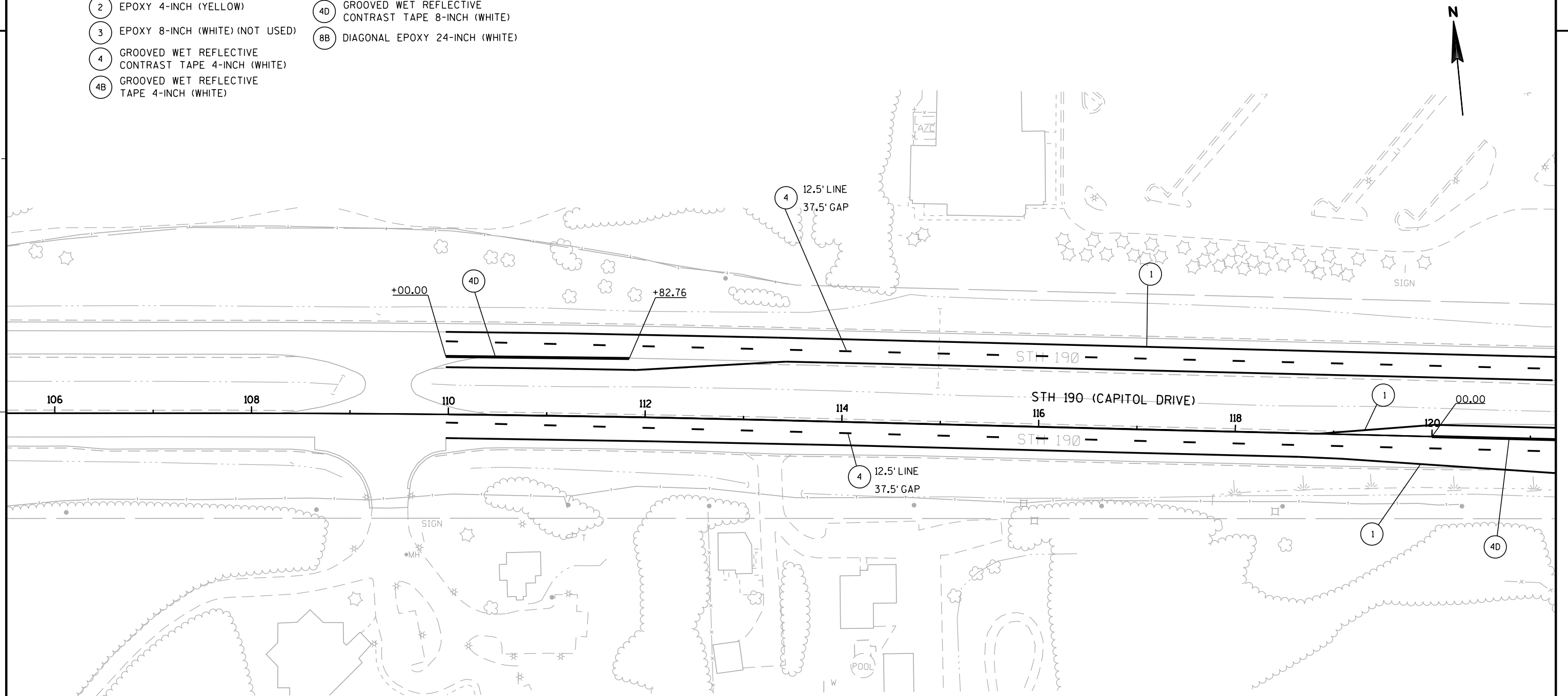
-  INLET PROTECTION
-  CULVERT PIPE DITCH CHECK
-  TEMPORARY DITCH CHECK
-  SILT FENCE
-  EROSION BALE
-  SEED, FERTILIZER & EROSION MAT
-  BUTT JOINT
-  SAWCUT
-  REMOVING ASPHALTIC SURFACE





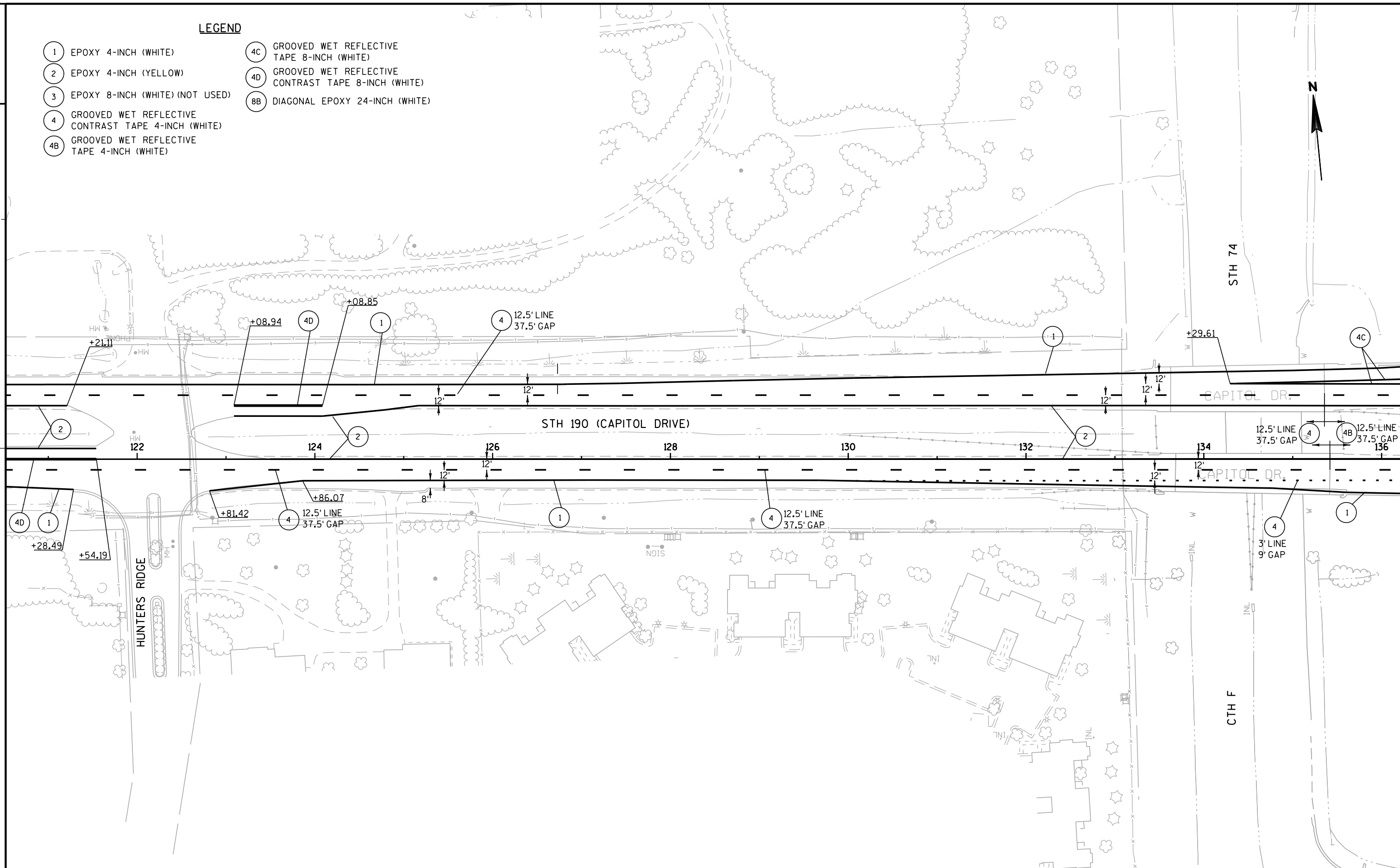
LEGEND

- | | | | |
|----|--|----|--|
| 1 | EPOXY 4-INCH (WHITE) | 4C | GROOVED WET REFLECTIVE
TAPE 8-INCH (WHITE) |
| 2 | EPOXY 4-INCH (YELLOW) | 4D | GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH (WHITE) |
| 3 | EPOXY 8-INCH (WHITE) (NOT USED) | 8B | DIAGONAL EPOXY 24-INCH (WHITE) |
| 4 | GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE) | | |
| 4B | GROOVED WET REFLECTIVE
TAPE 4-INCH (WHITE) | | |



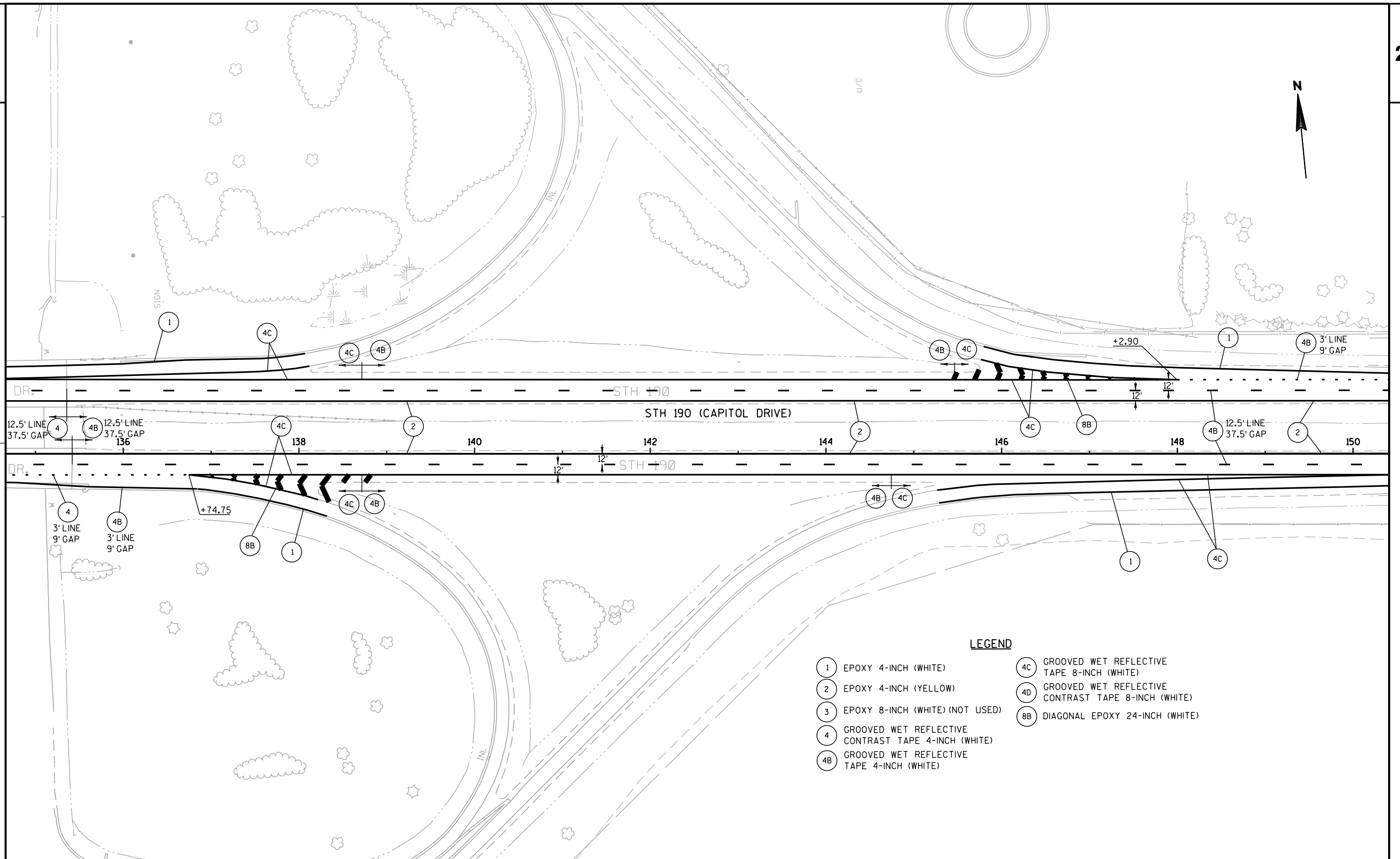
LEGEND

- | | | | |
|----|---|----|---|
| 1 | EPOXY 4-INCH (WHITE) | 4C | GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE) |
| 2 | EPOXY 4-INCH (YELLOW) | 4D | GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) |
| 3 | EPOXY 8-INCH (WHITE) (NOT USED) | 8B | DIAGONAL EPOXY 24-INCH (WHITE) |
| 4 | GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) | | |
| 4B | GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE) | | |



2

2



PROJECT NO: 2025-14-74

HWY: STH 190

COUNTY: WAUKESHA

PAVEMENT MARKING

SHEET

E

LEGEND

- 1

EPOXY 4-INCH (WHITE)
- 2

EPOXY 4-INCH (YELLOW)
- 3

EPOXY 8-INCH (WHITE) (NOT USED)
- 4

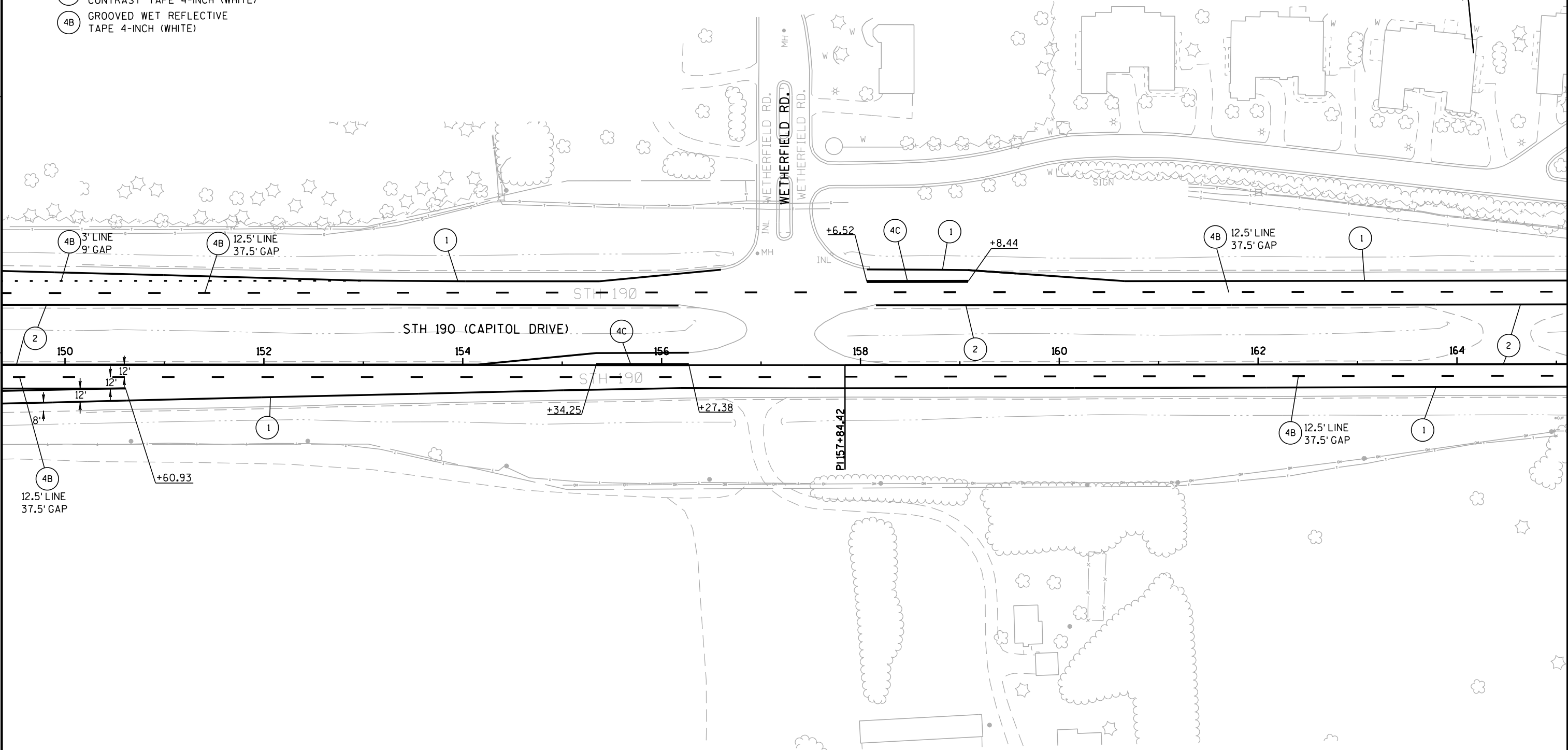
GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE)
- 4B

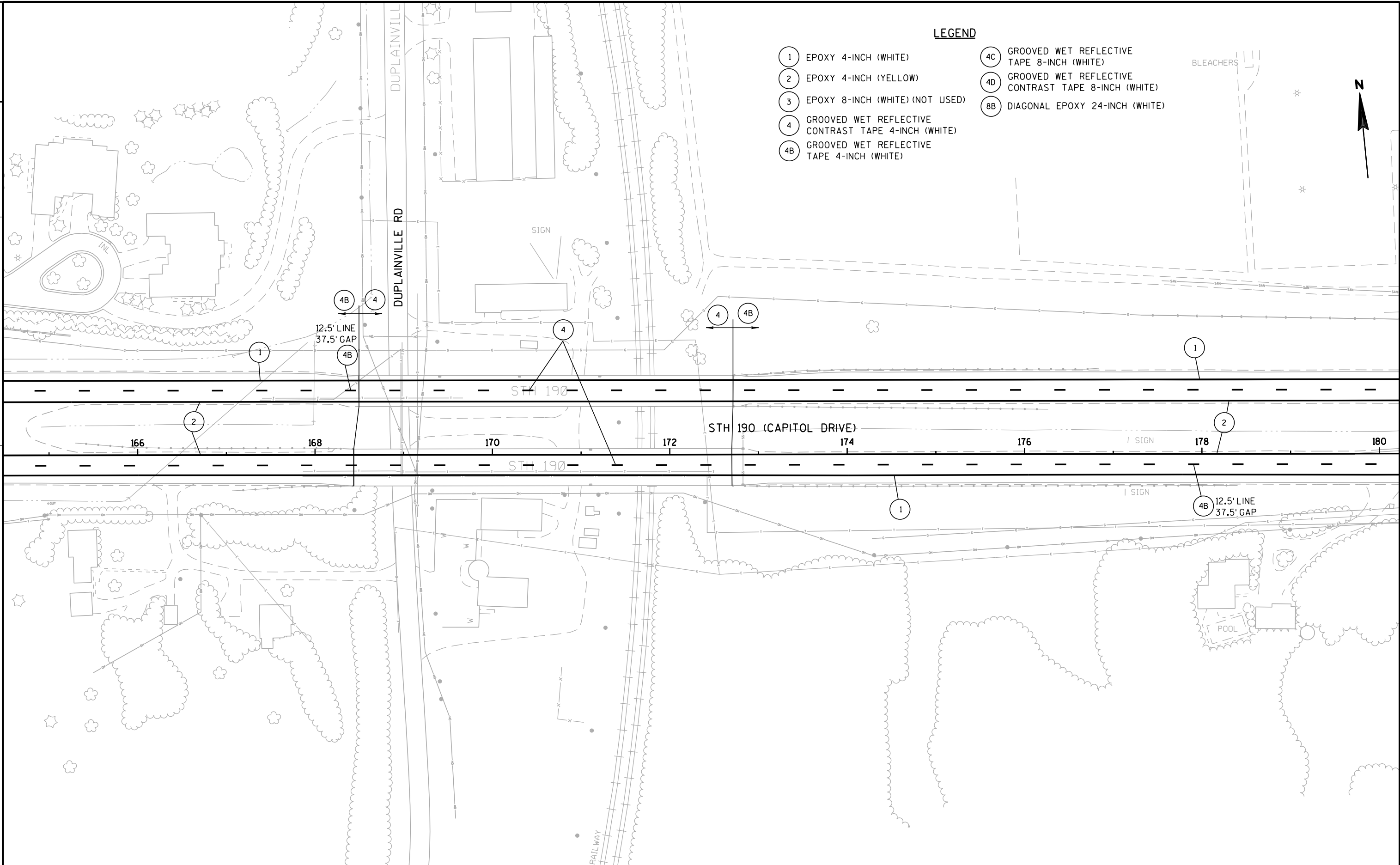
GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
- 4C

GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- 4D

GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
- 8B

DIAGONAL EPOXY 24-INCH (WHITE)



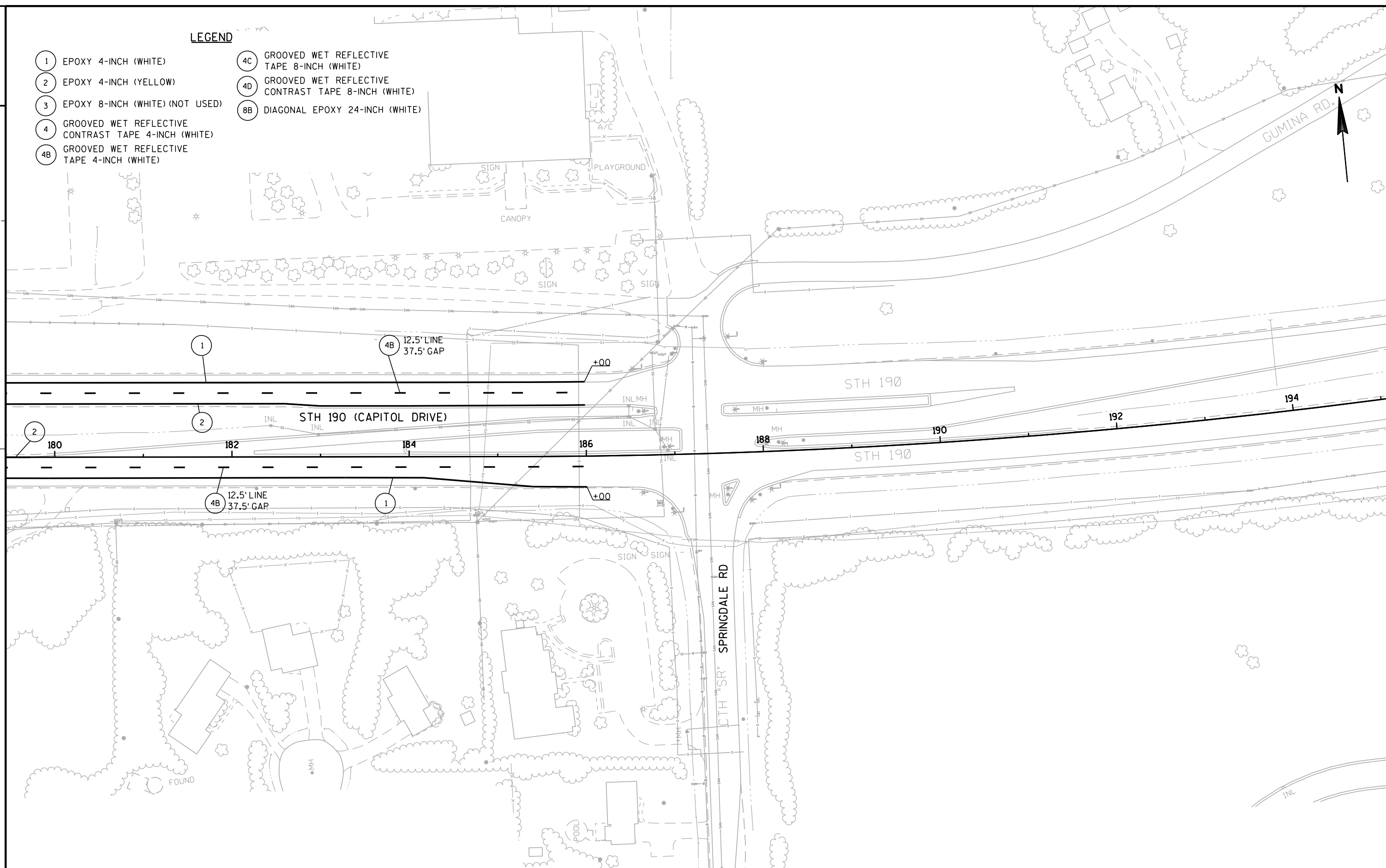


LEGEND

- 1 EPOXY 4-INCH (WHITE)
- 2 EPOXY 4-INCH (YELLOW)
- 3 EPOXY 8-INCH (WHITE) (NOT USED)
- 4 GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE)
- 4B GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
- 4C GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- 4D GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
- 8B DIAGONAL EPOXY 24-INCH (WHITE)

LEGEND

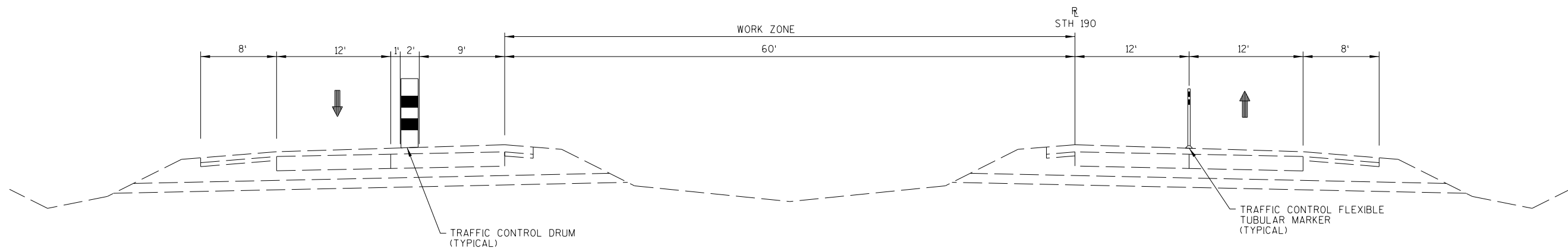
- 1 EPOXY 4-INCH (WHITE)
- 2 EPOXY 4-INCH (YELLOW)
- 3 EPOXY 8-INCH (WHITE) (NOT USED)
- 4 GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE)
- 4B GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
- 4C GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- 4D GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
- 8B DIAGONAL EPOXY 24-INCH (WHITE)

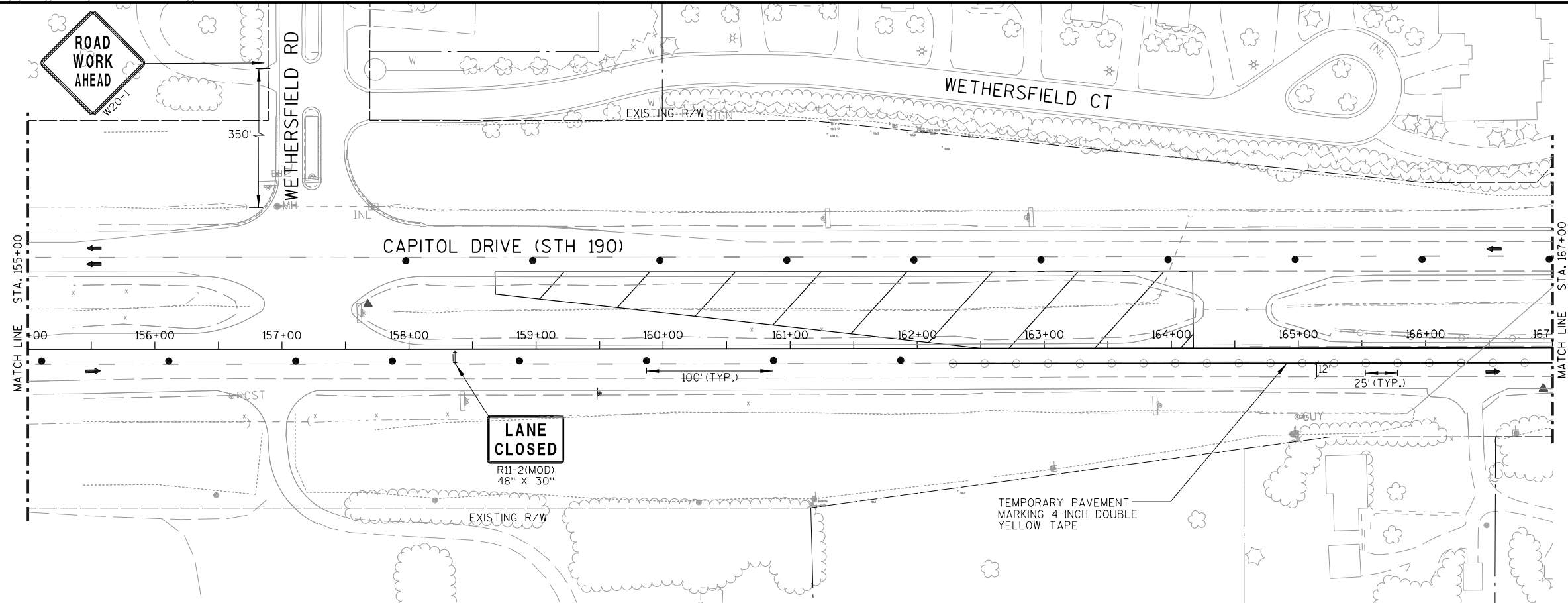
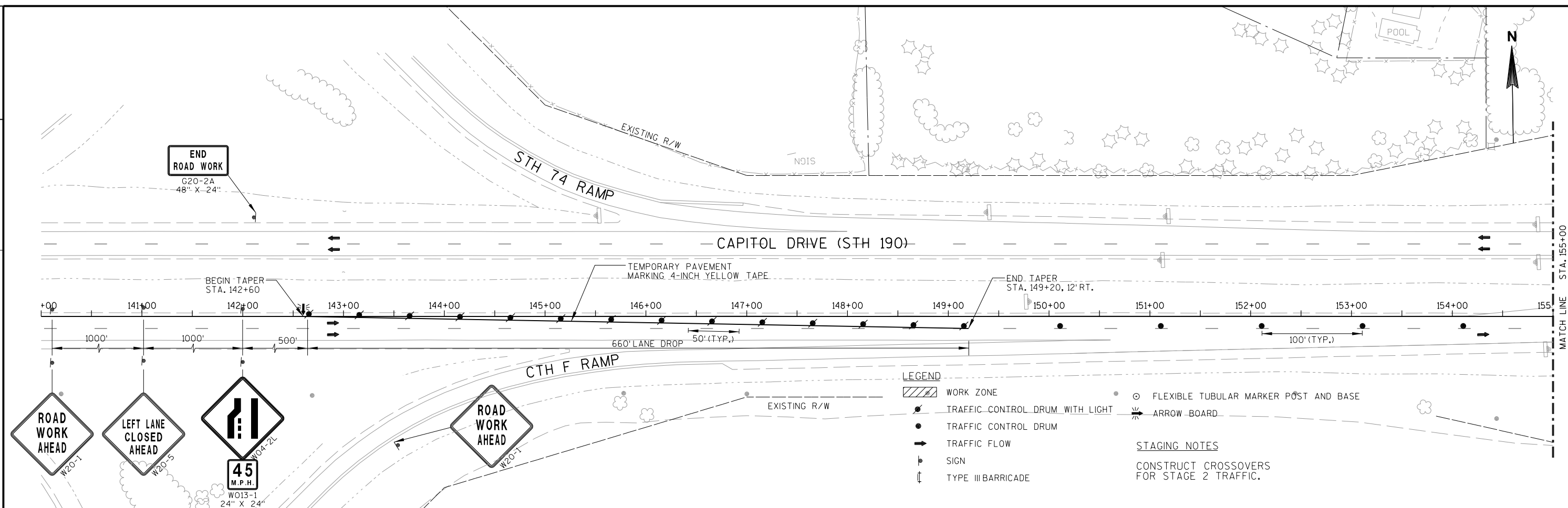


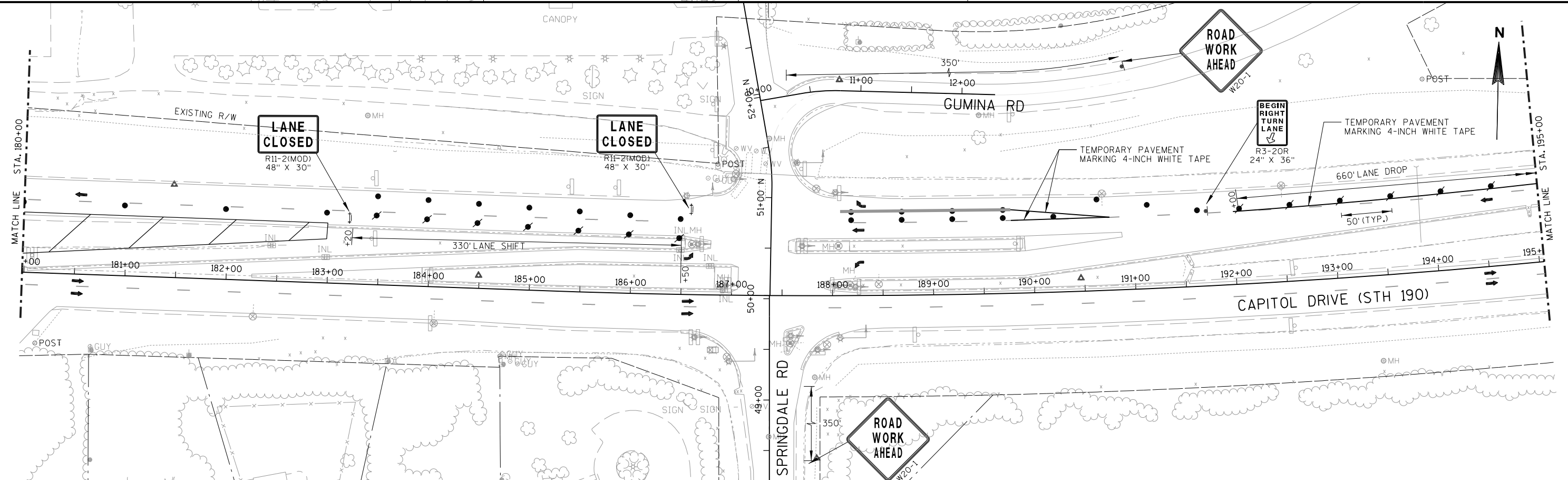
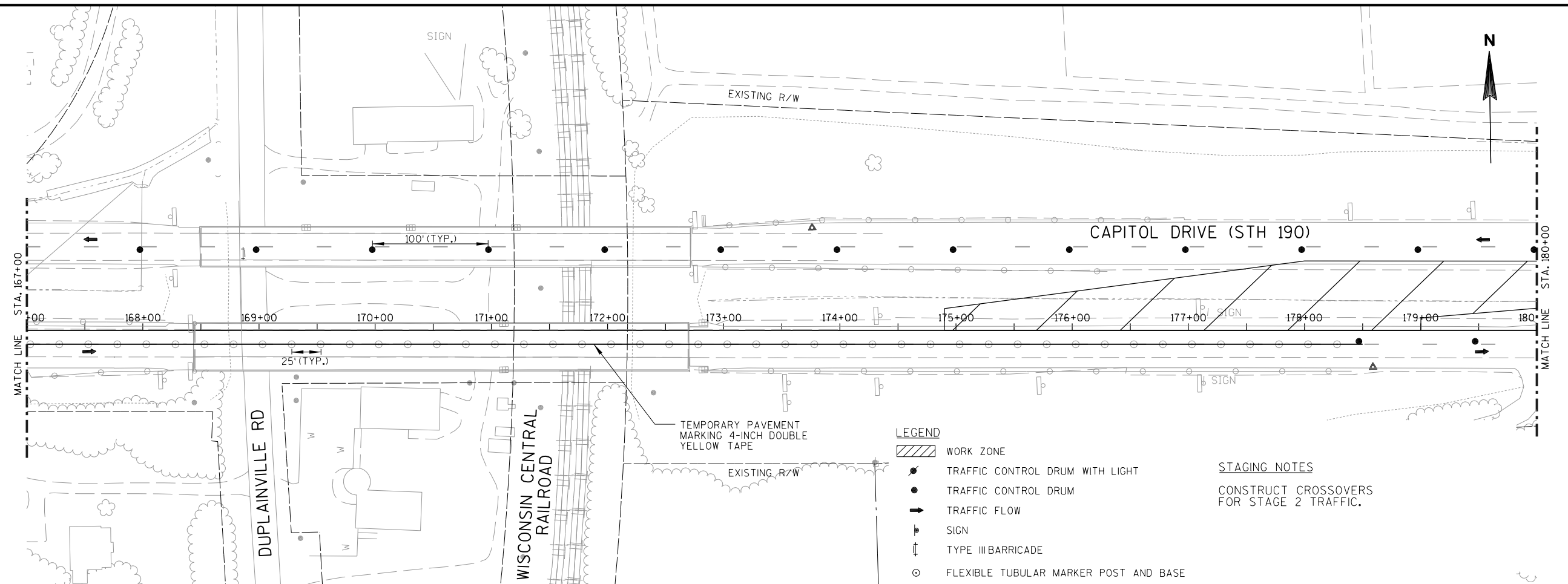
PROJECT NO: 2025-14-74	HWY: STH 190	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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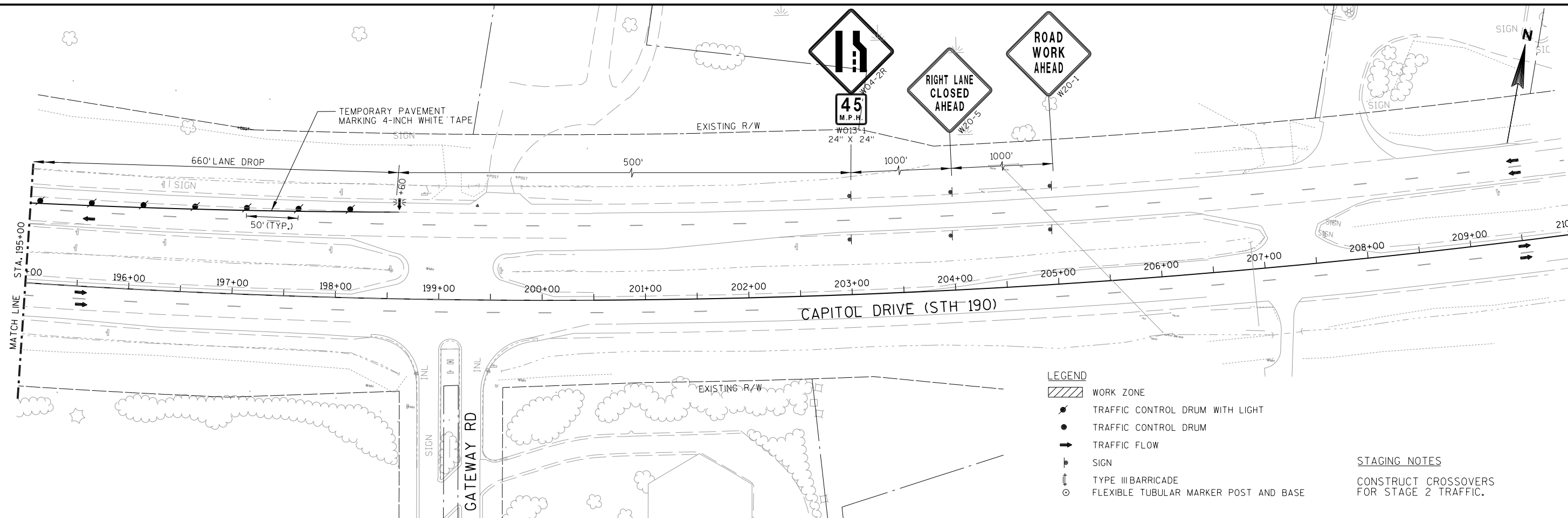
TRAFFIC CONTROL GENERAL NOTES:

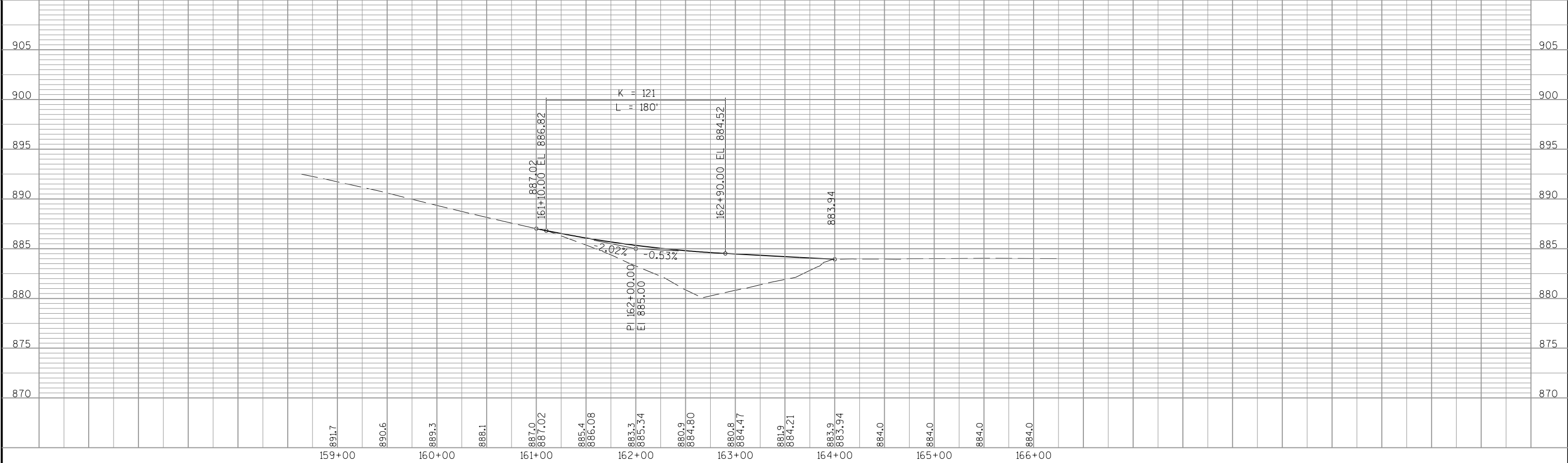
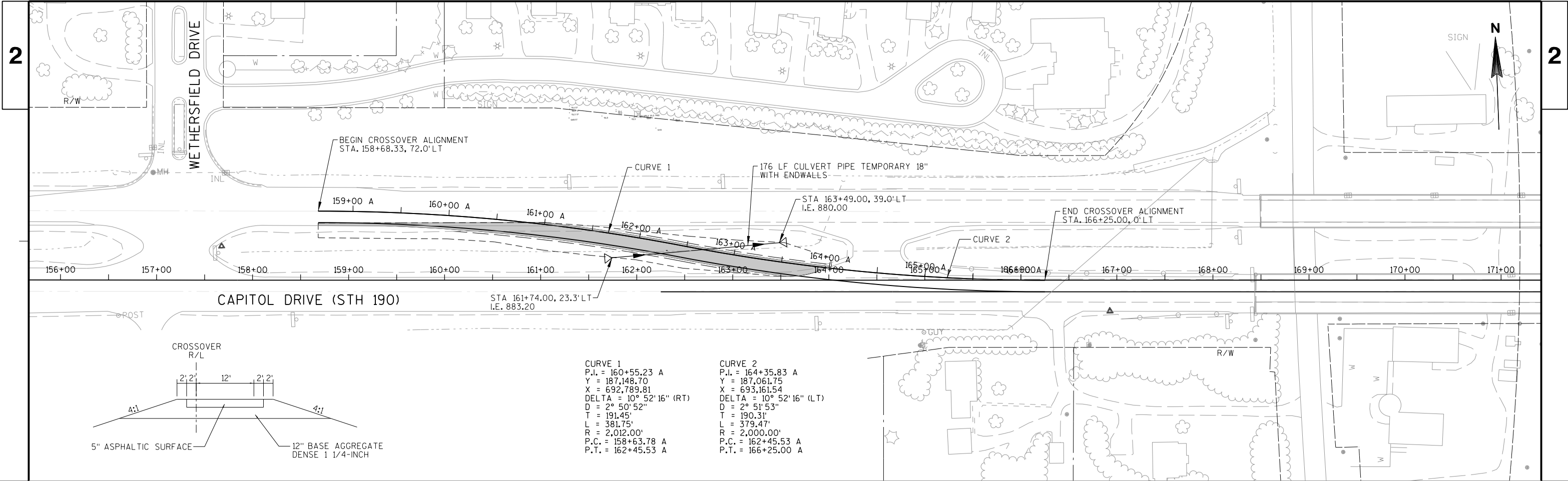
1. MAINTAIN ONE 11-FOOT MINIMUM LANE AT ALL TIMES.
2. TRAFFIC CONTROL DRUMS ARE SPACED AT 100' O.C. EXCEPT AT DRIVEWAYS AND INTERSECTIONS, WHERE THE SPACING IS 25' AND IN LANE CLOSURE TAPERS WHERE THE SPACING IS 50'.
3. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL.
4. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS IS INCLUDED IN "TRAFFIC CONTROL" ITEM.
5. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DIRECTIONAL ARROWS, LIGHTS, TEMPORARY MARKINGS, FLAGMEN, AND SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHOD OR SEQUENCES OF OPERATION.
7. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
8. ALL SIGNS ARE 48" X 48" EXCEPT OTHERWISE NOTED.
9. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD LOCATIONS AS APPROVED BY THE ENGINEER IN THE FIELD.
10. BOTH STEADY BURN LIGHTS AND FLASHING LIGHTS SHALL BE ONE WAY WITH THE LIGHT SOURCE SHOWING TOWARDS ADJACENT APPROACHING TRAFFIC.
11. CHANNELIZING DEVICES SHALL BE DRUMS WITH ATTACHED TYPE "C" STEADY BURN LIGHT (TAPERS ONLY).
12. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.
13. ARROW BOARDS SHALL BE LOCATED AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE ENGINEER.





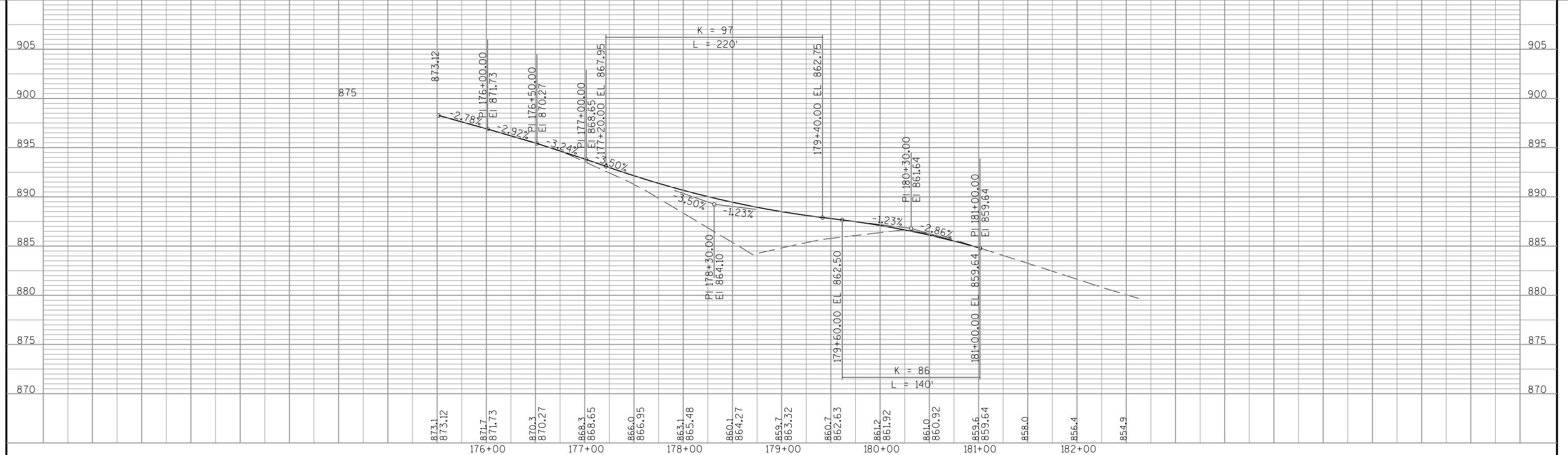
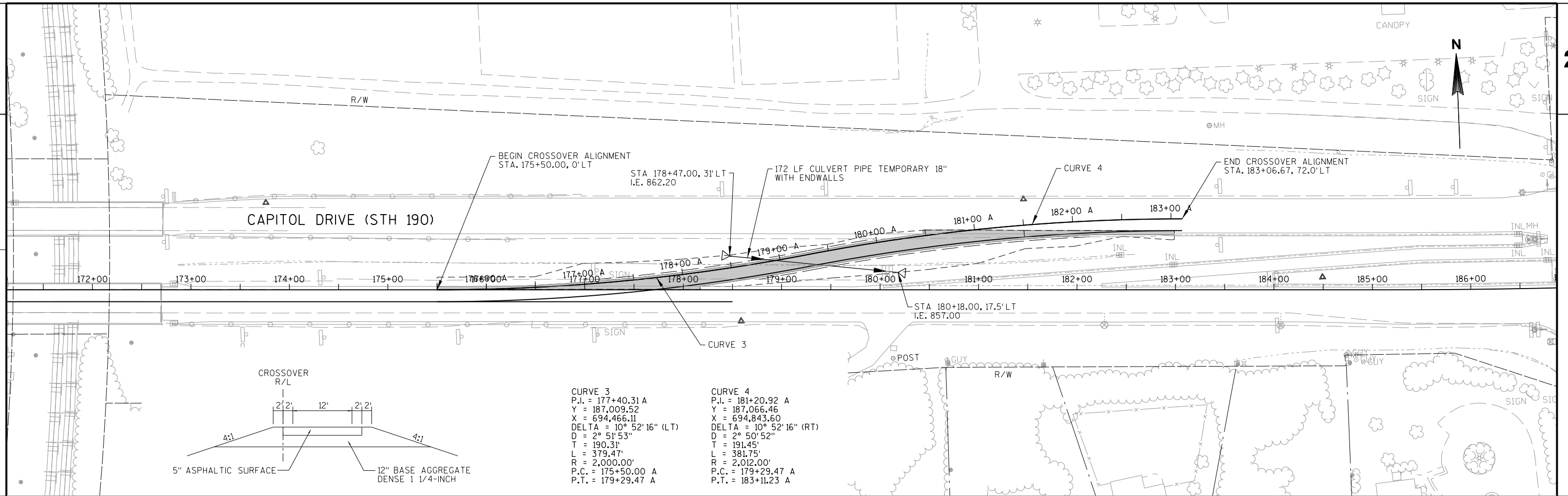




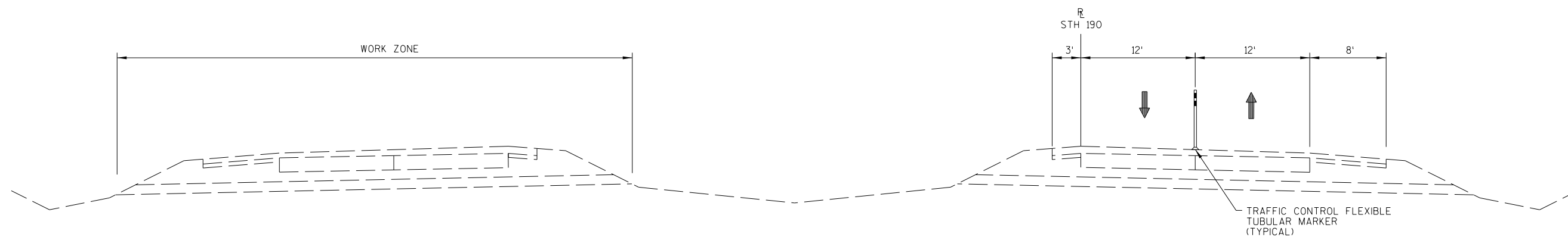


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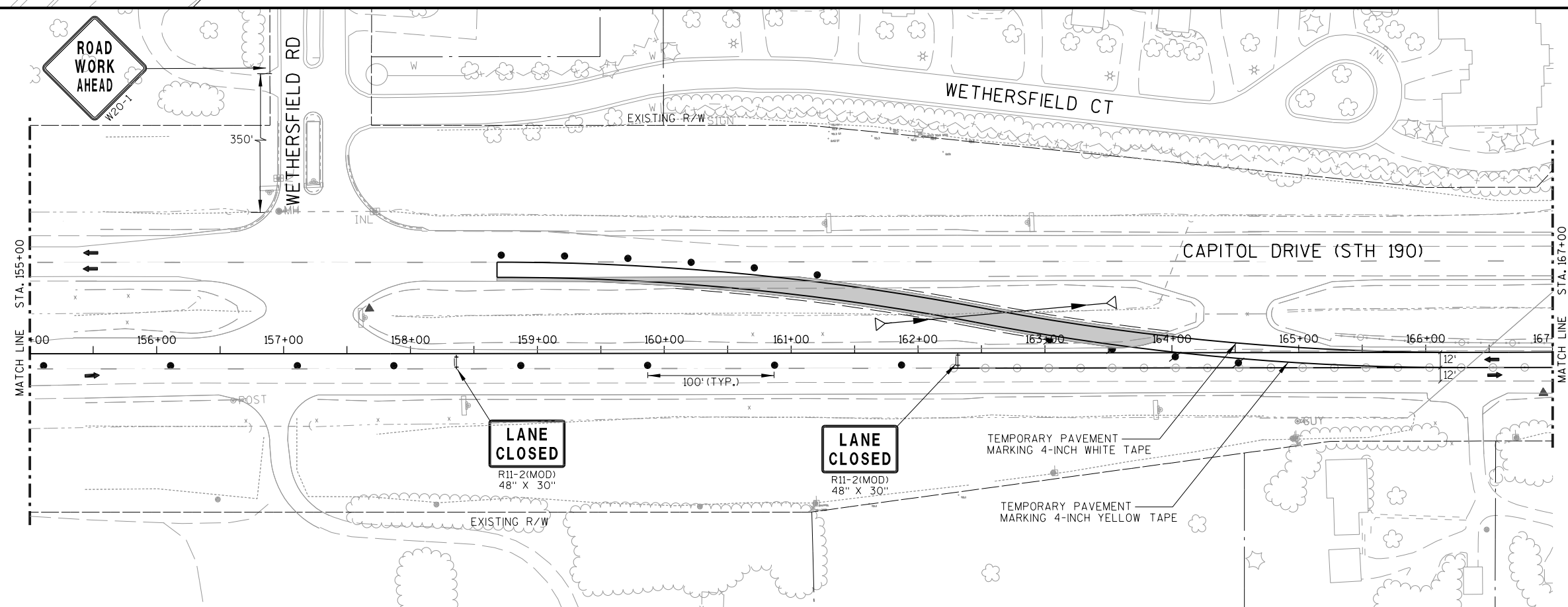
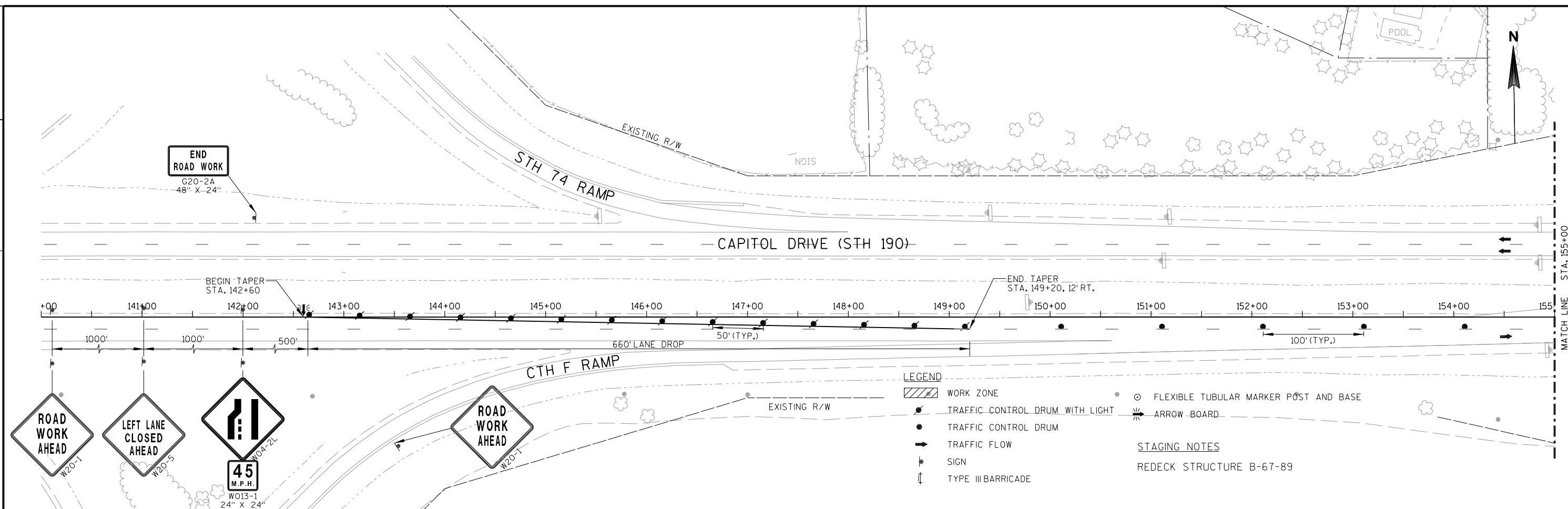
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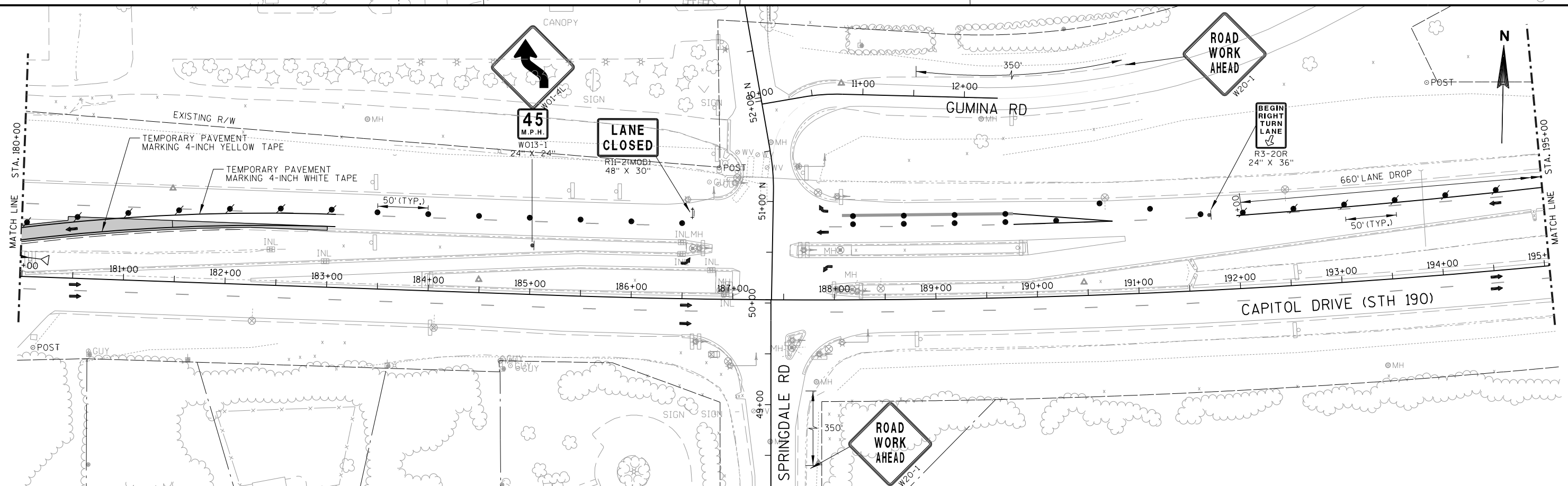


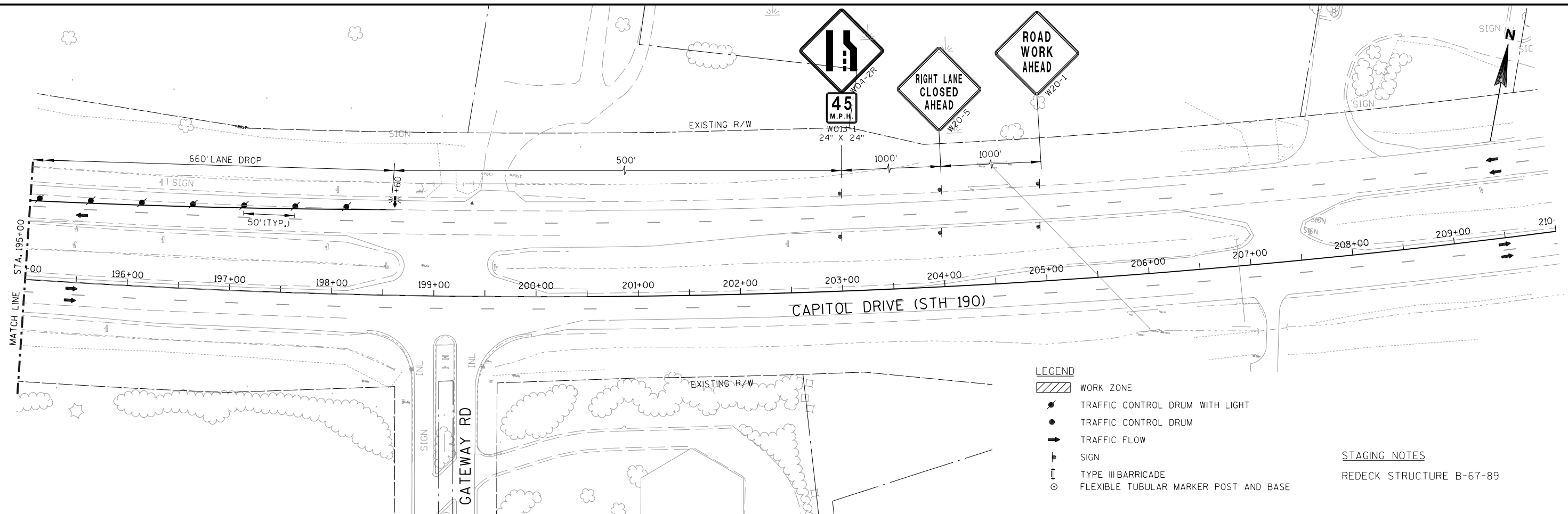
PROJECT NO: 2025-14-74	HWY: STH 190	COUNTY: WAUKESHA	STAGE 1 CROSSOVER DETAIL	SHEET	E
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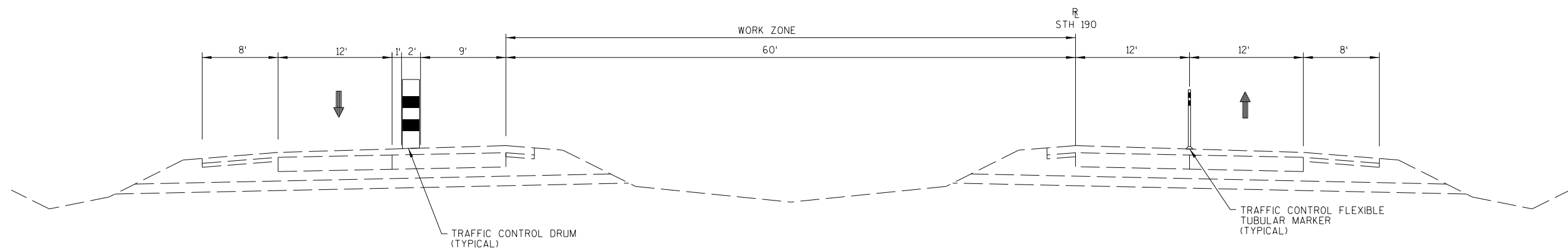


STAGE 2
STA. 162+00 - STA. 178+50





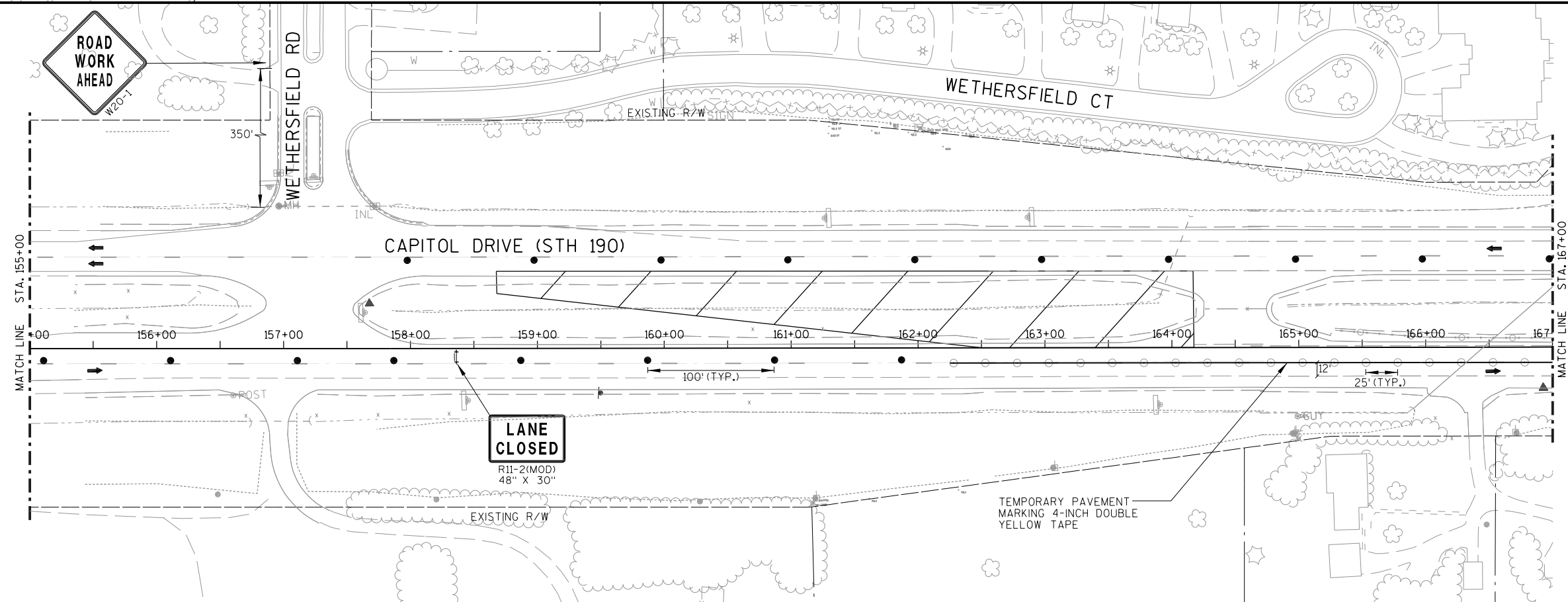
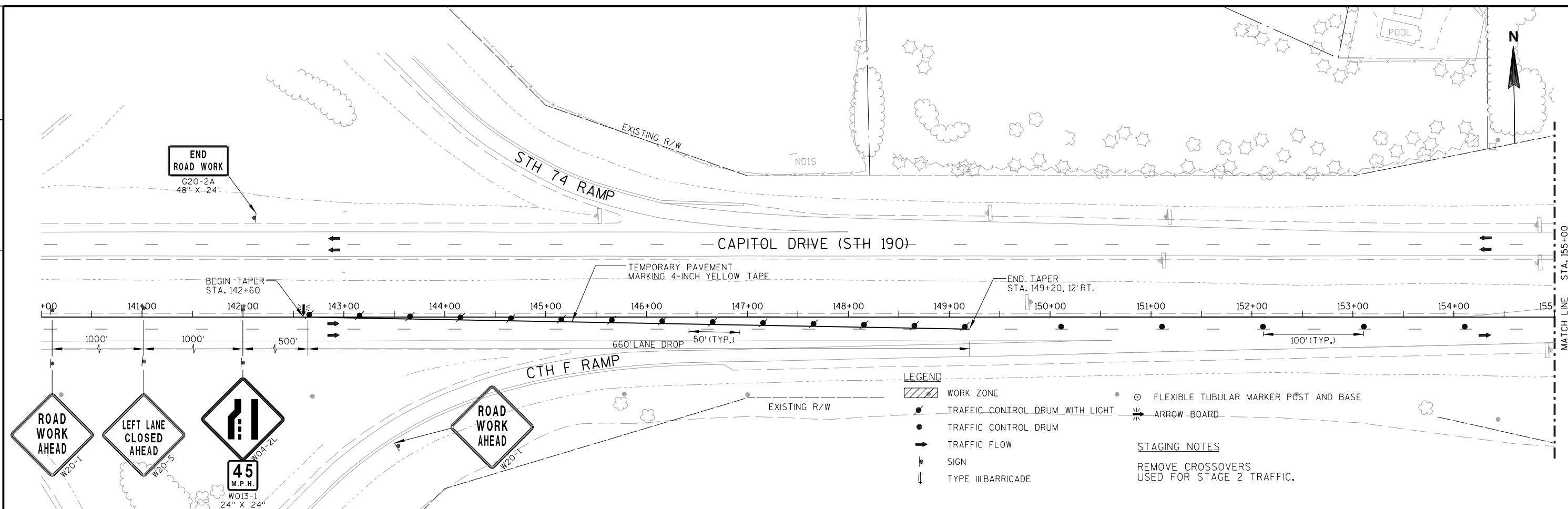




STAGE 3
STA. 162+00 - STA. 178+50

2

2



PROJECT NO: 2025-14-74

HWY: STH 190

COUNTY: WAUKESHA

TRAFFIC CONTROL - STAGE 3

SHEET

E

FILE NAME : L:\Jobs2007\20070073\CAD\WISDOT\dgn\00\2025-14-74\026201_s3.dgn

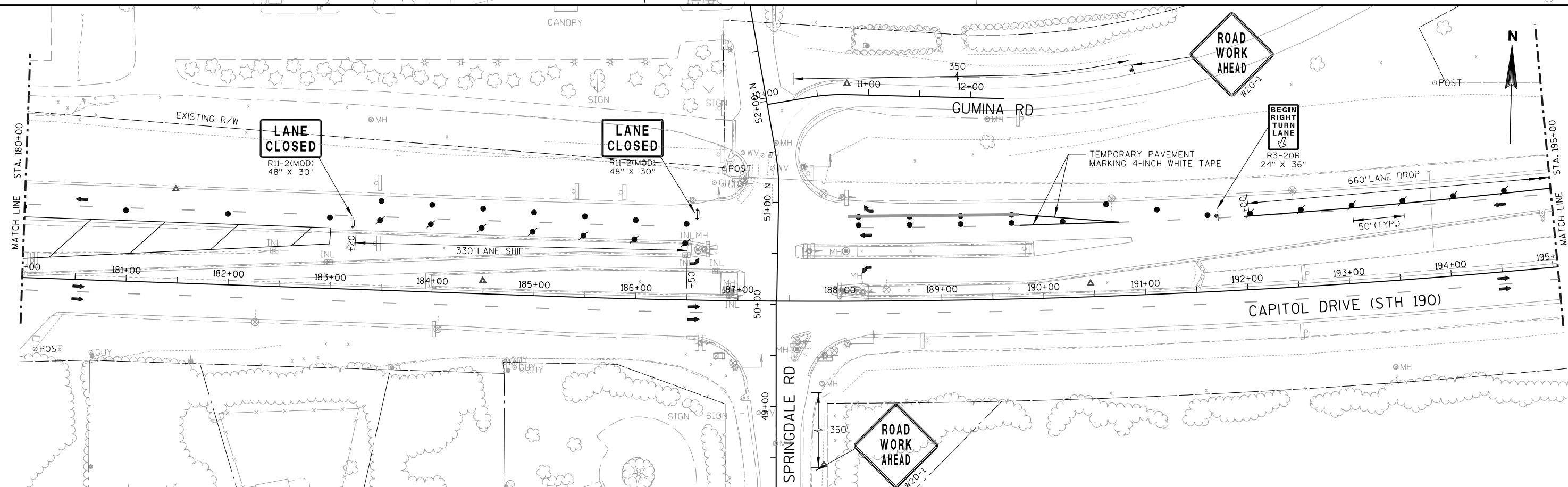
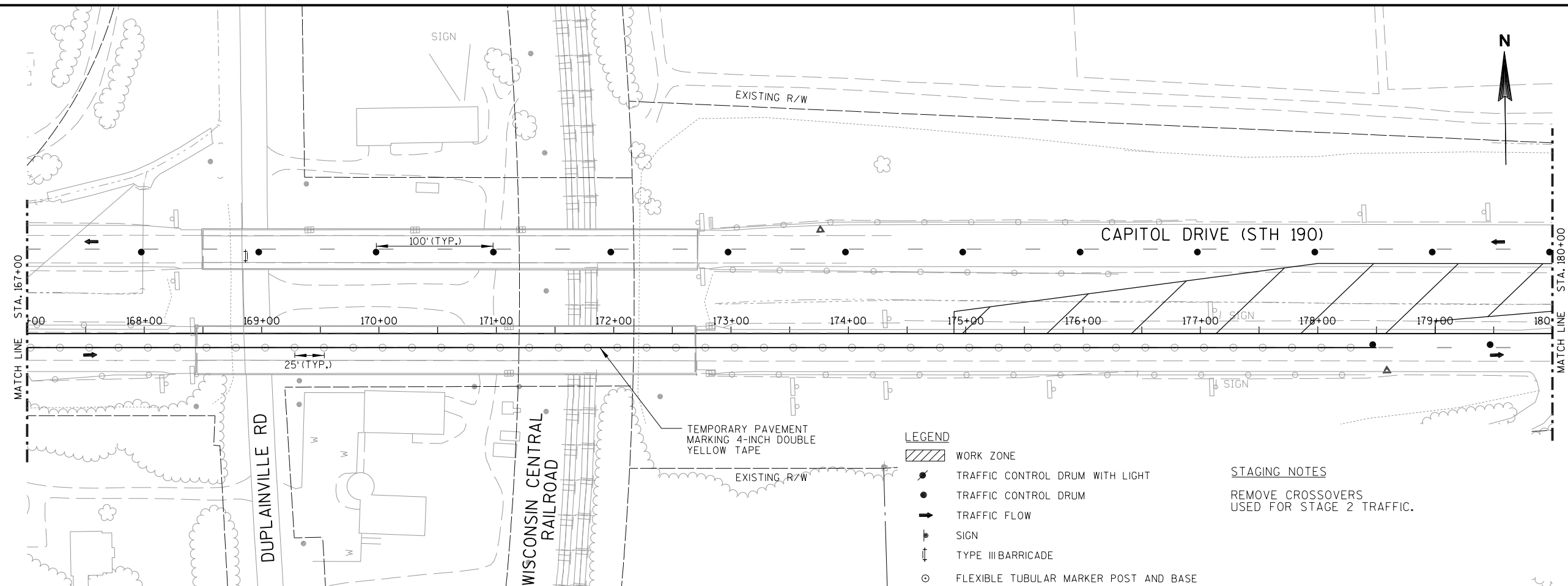
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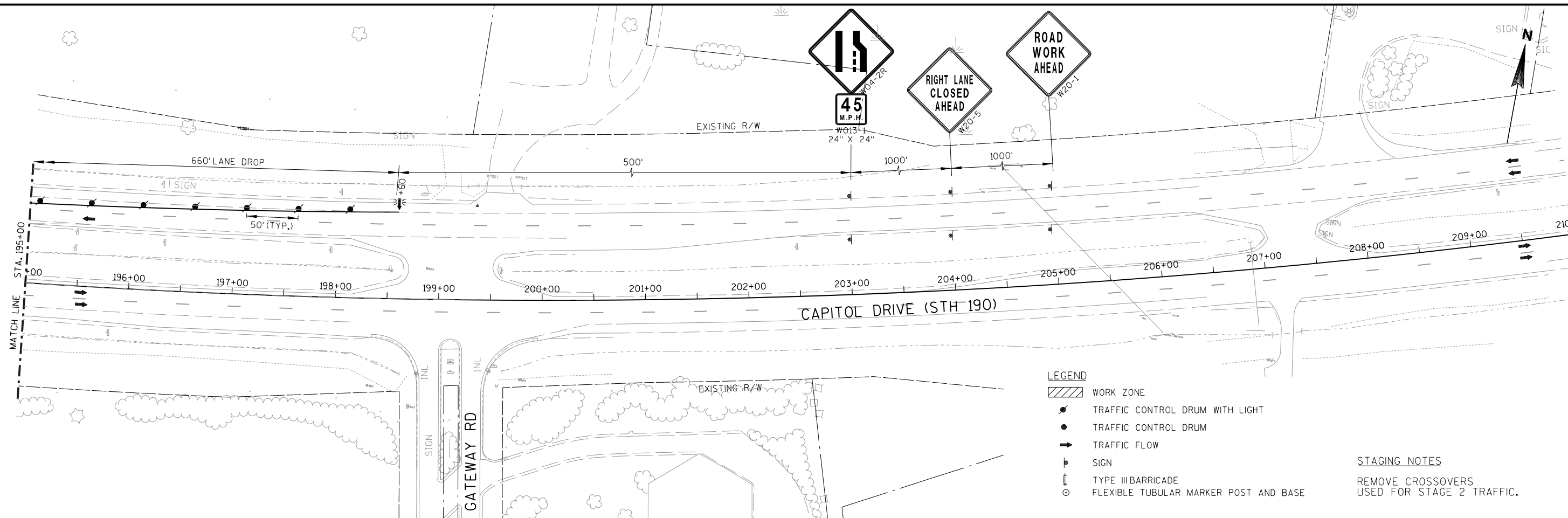
PLOT BY : GRAEF

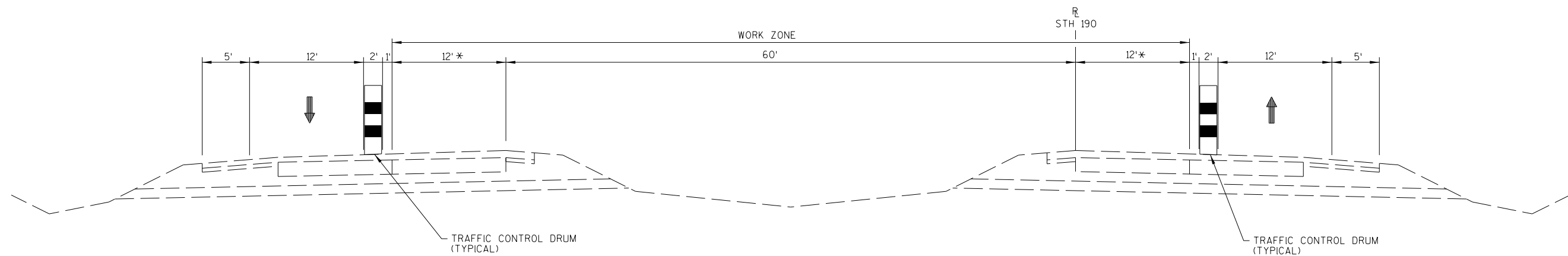
PLOT NAME :

PLOT SCALE : 100.0000 sf / in.

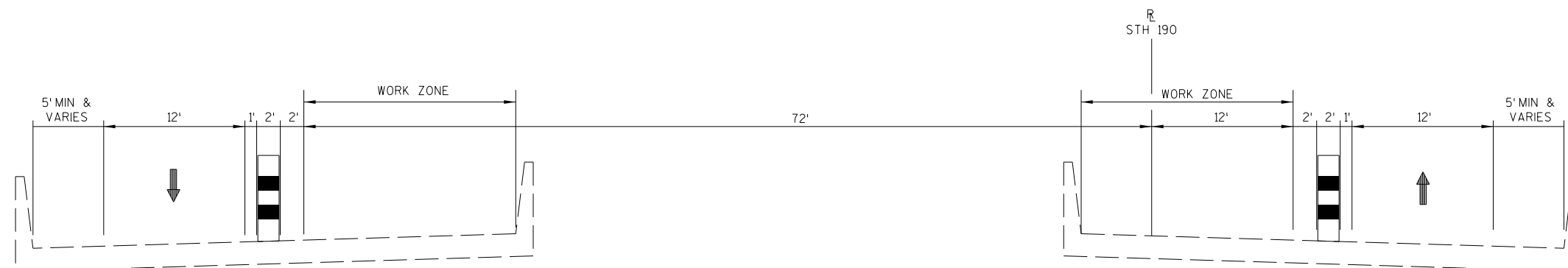
WISDOT/CADDs SHEET 42



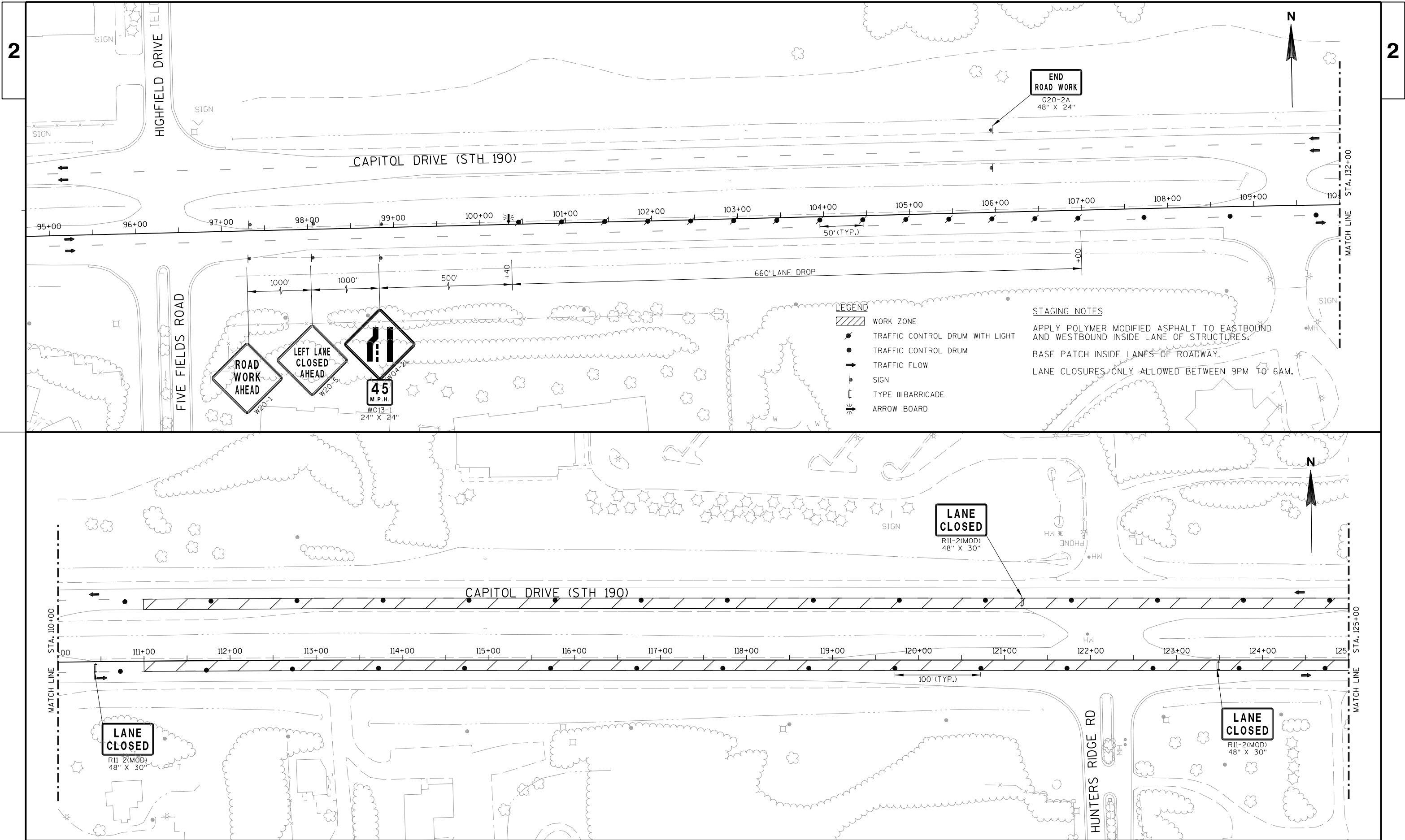


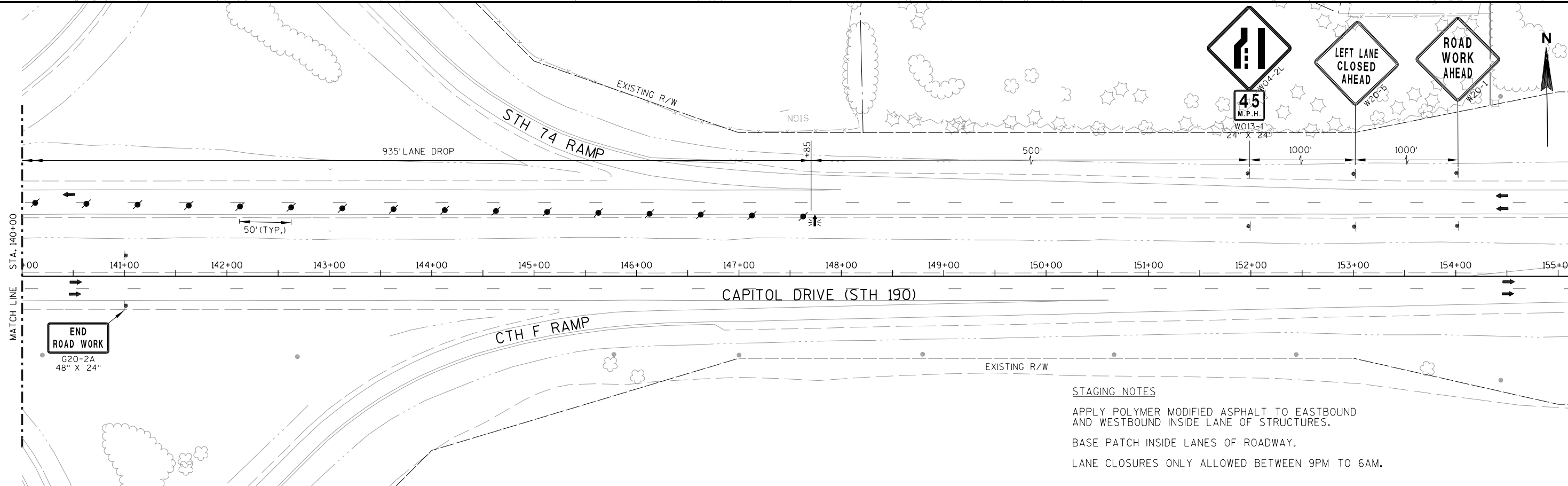
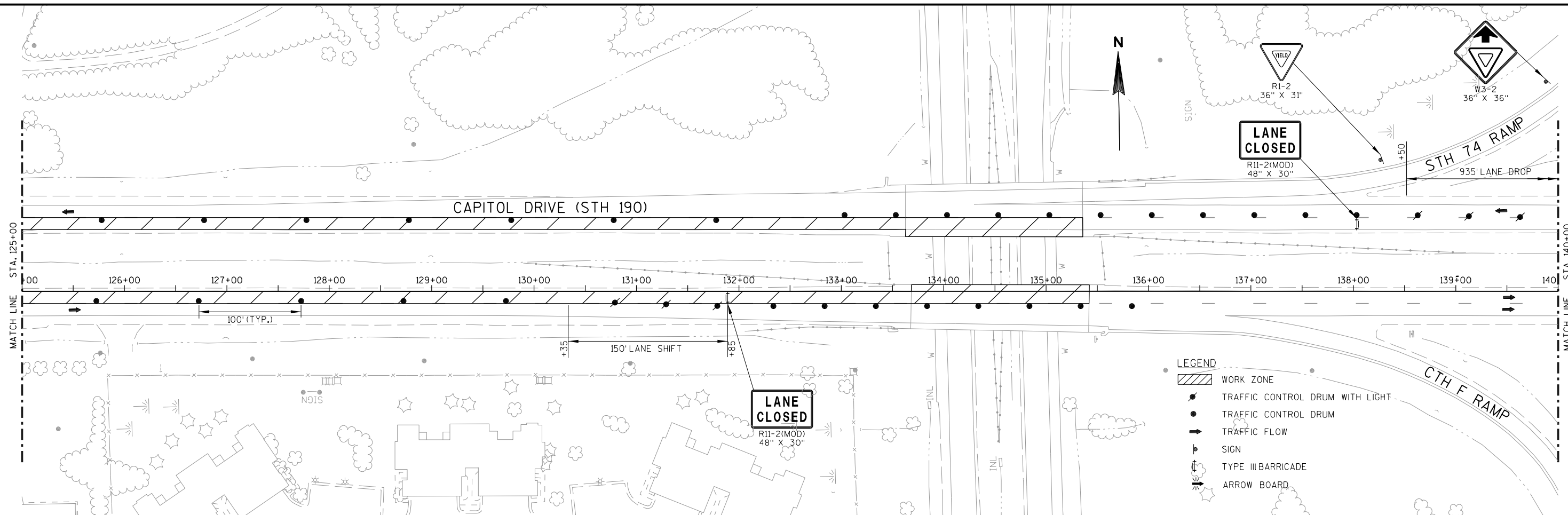
STAGE 4

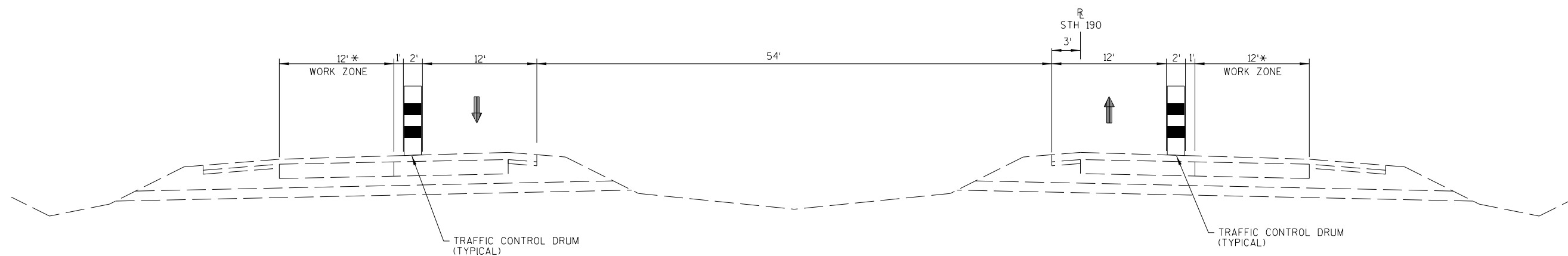
STA. 111+00 - STA. 133+60

* PULL BACK DRUMS TO INSIDE LANE
IN LOCATIONS WHERE THERE IS NO
ACTIVE WORK TAKING PLACE.STAGE 4

STA. 133+60 - STA. 135+45



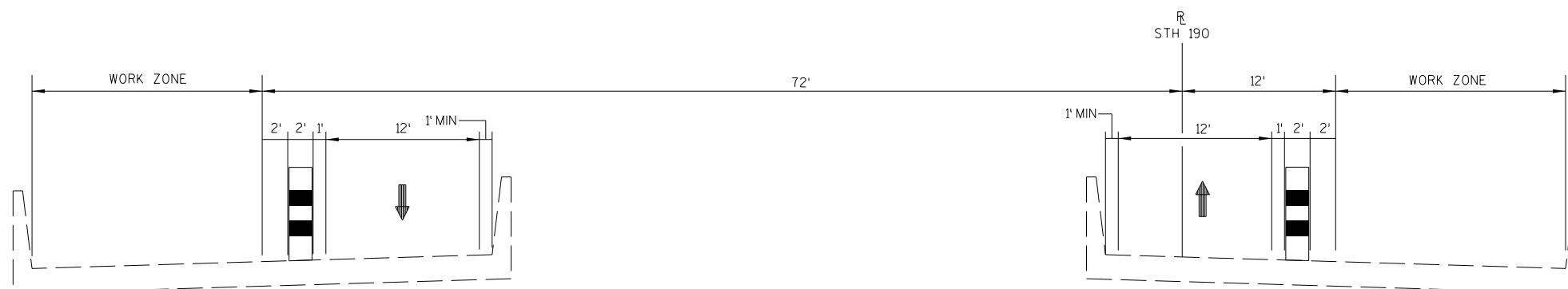




STAGE 5

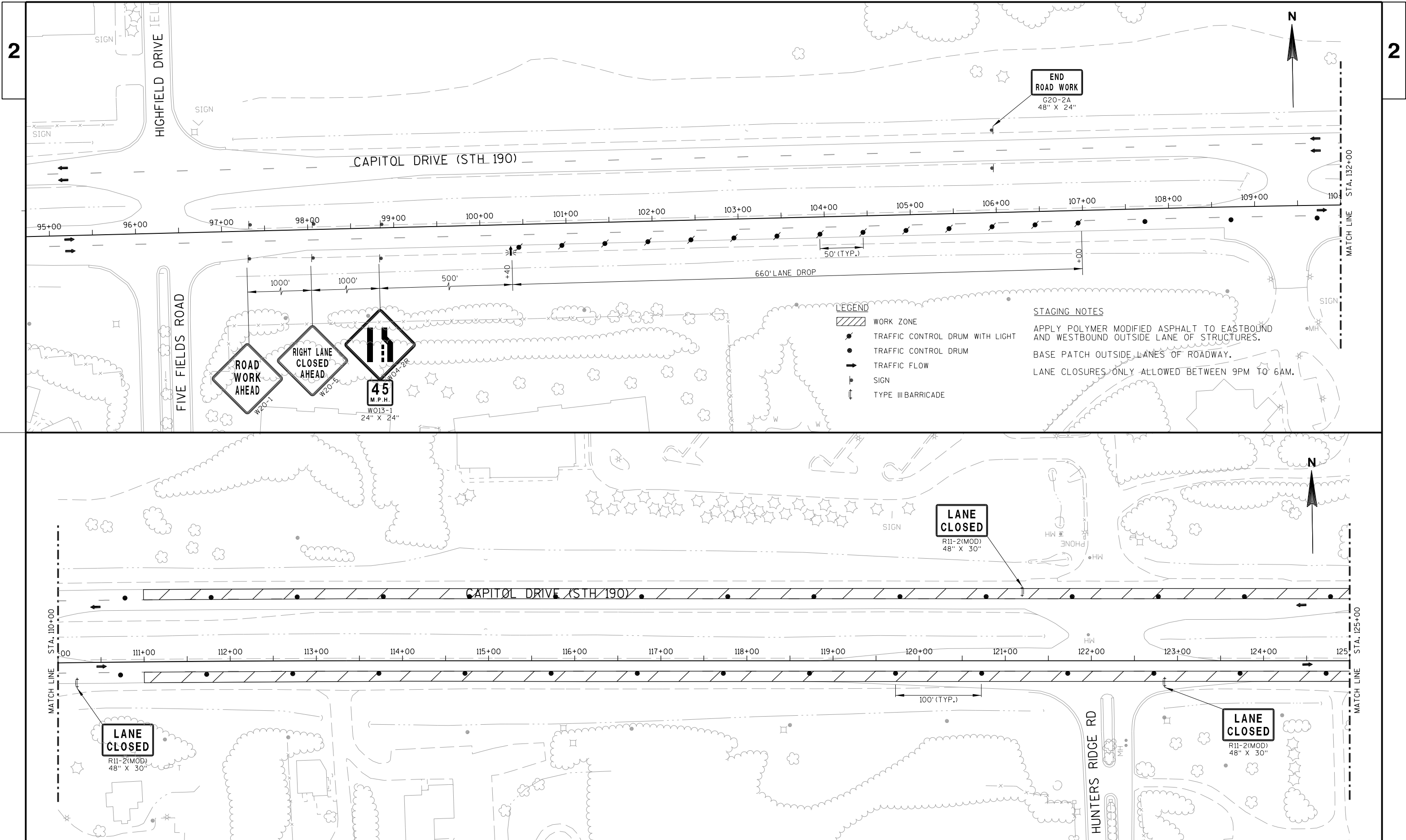
STA. 111+00 - STA. 133+60

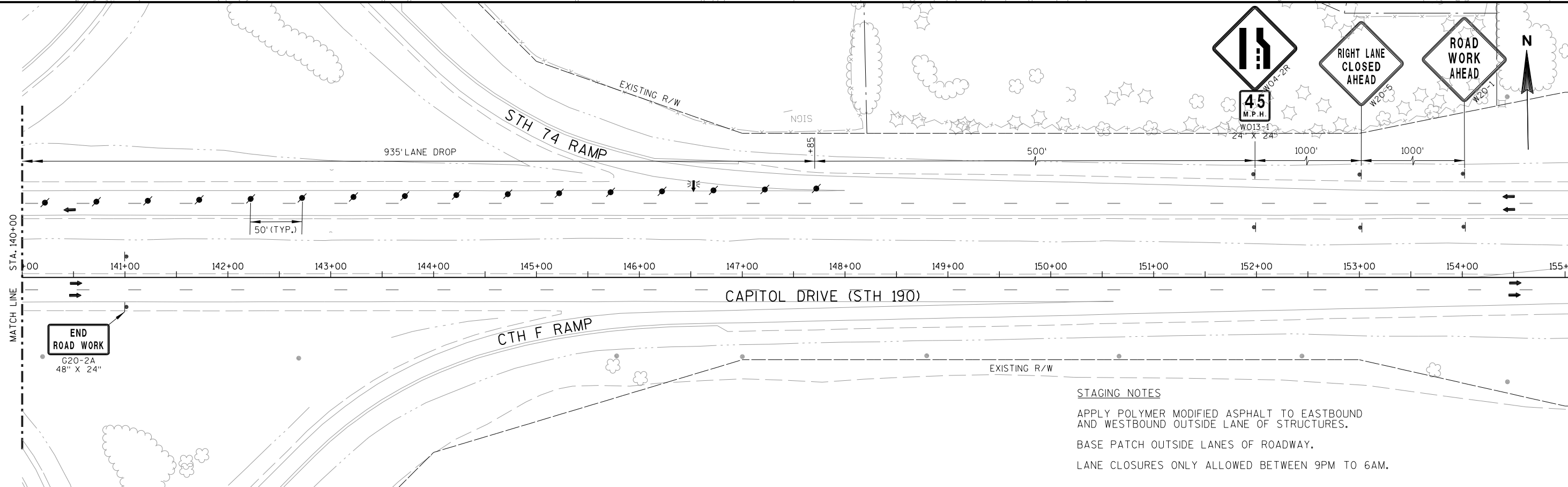
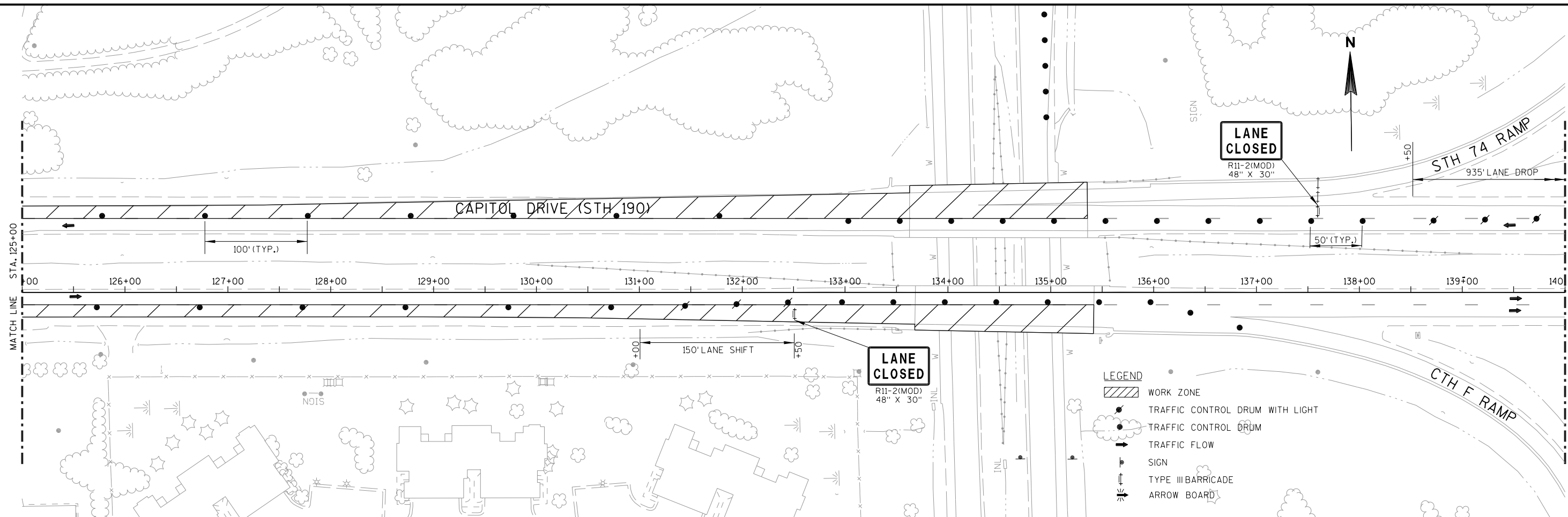
* PULL BACK DRUMS TO OUTSIDE LANE
IN LOCATIONS WHERE THERE IS NO
ACTIVE WORK TAKING PLACE.

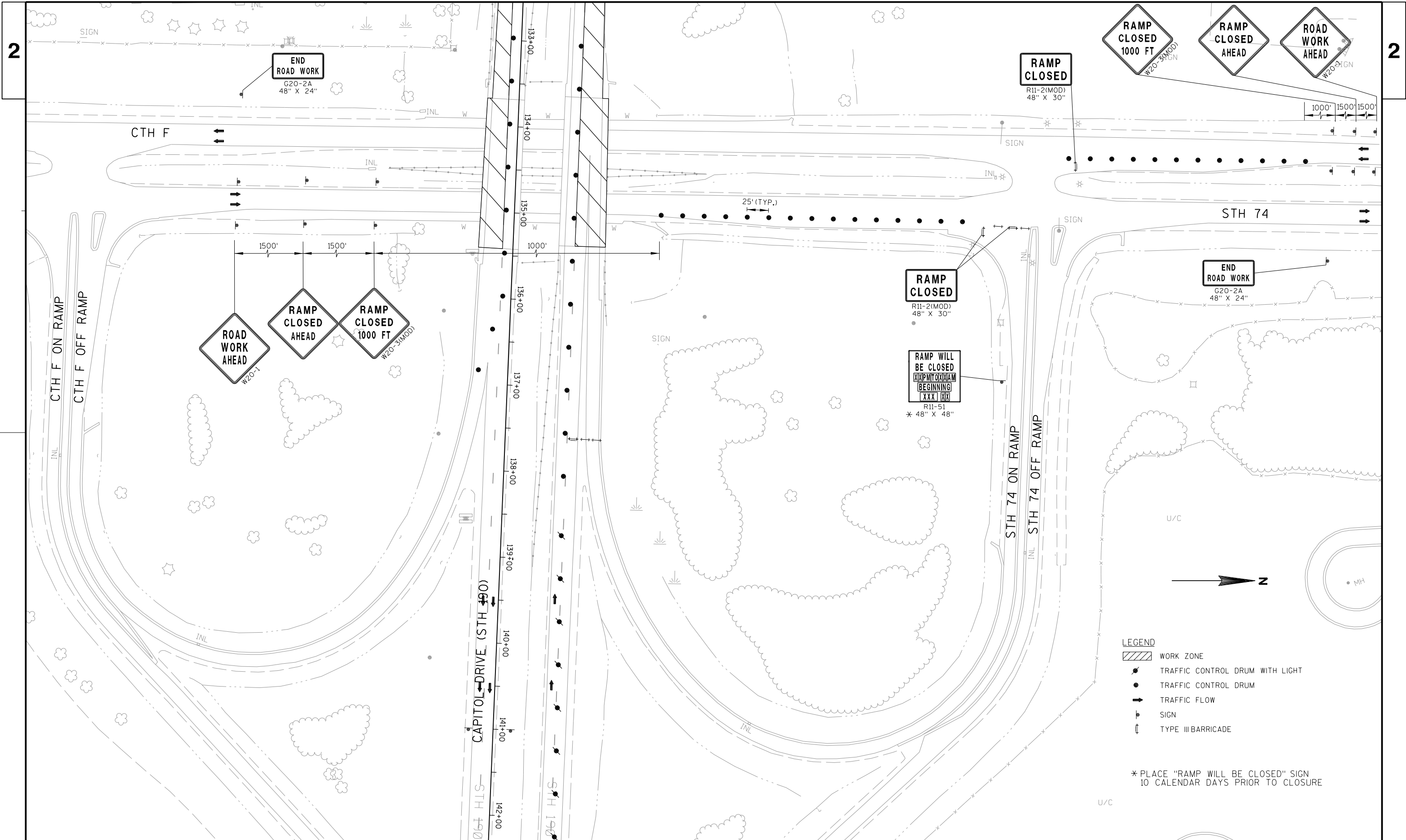


STAGE 5

STA. 133+60 - STA. 135+45







PROJECT NO: 2025-14-74

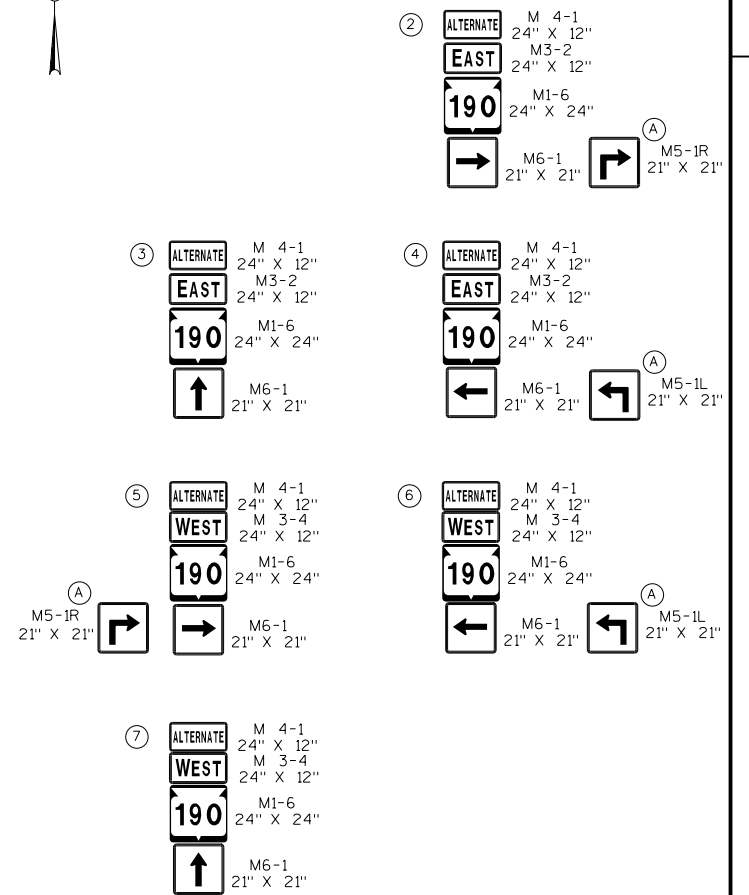
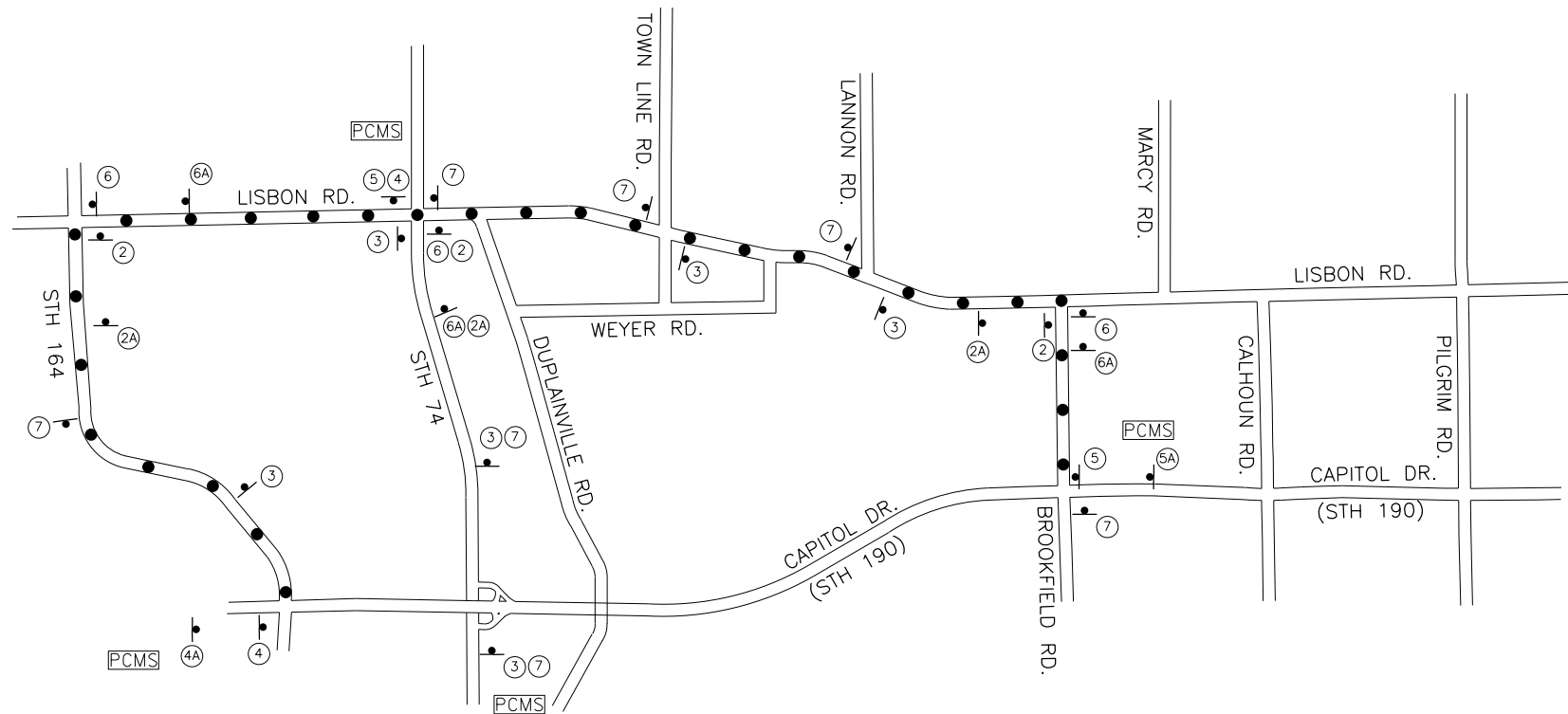
HWY: STH 190

COUNTY: WAUKESHA

TRAFFIC CONTROL STAGE 5

SHEET

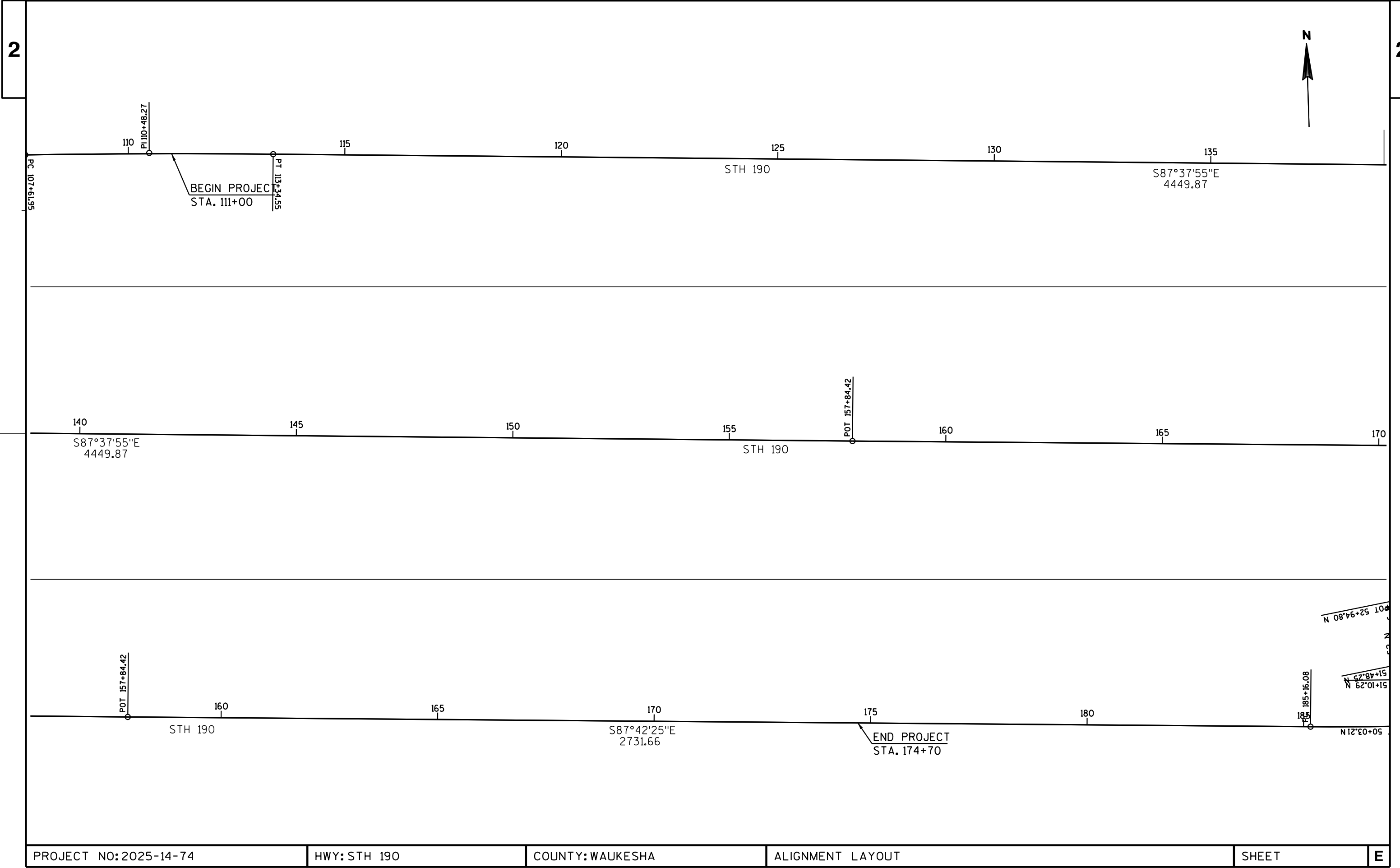
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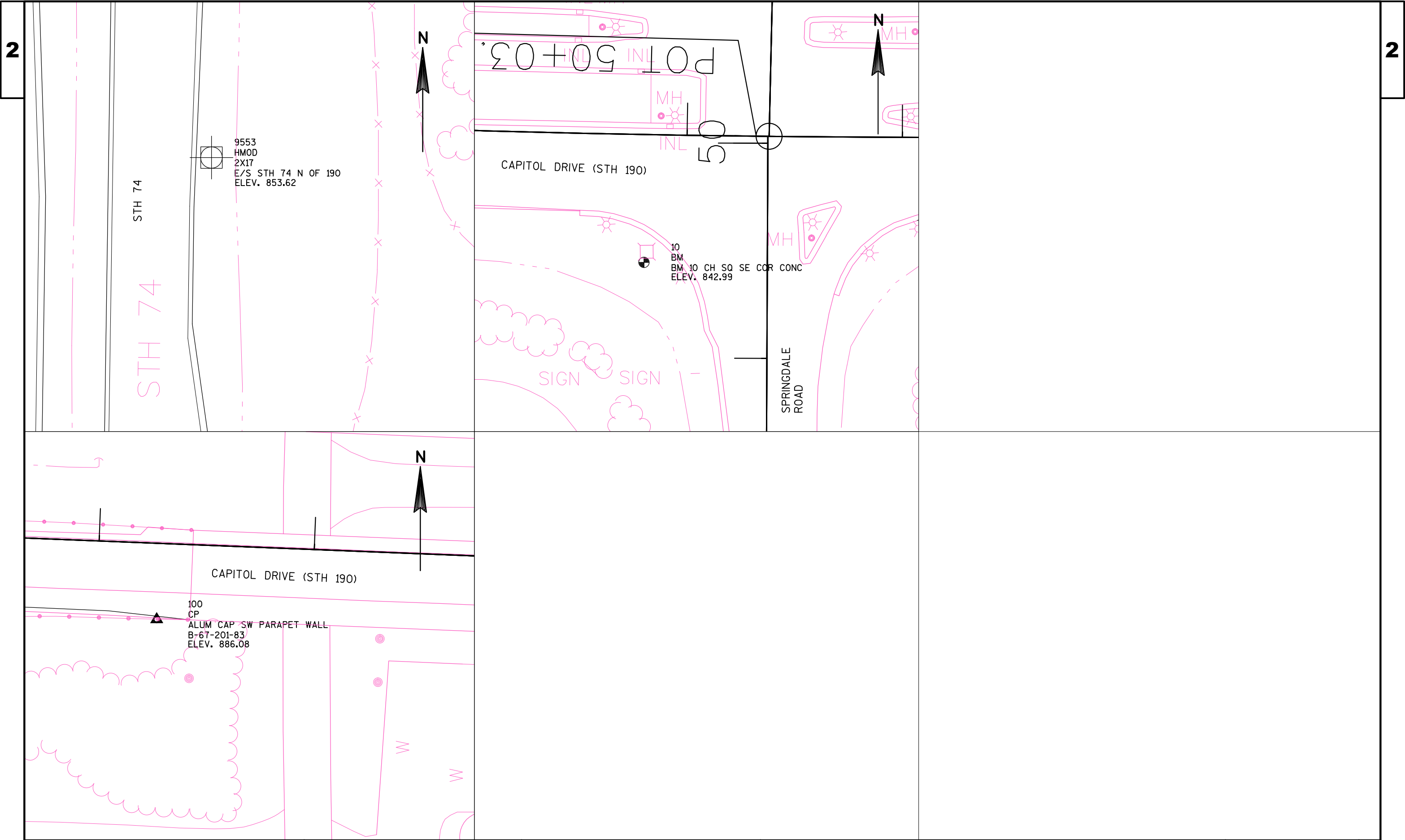


NOTE: PROVIDE A MINIMUM OF 100' SPACING BETWEEN ADVANCE DETOUR SIGNAGE.

LEGEND

- TEMPORARY TRAFFIC CONTROL SIGN POST
- ALTERNATE ROUTE
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN





DATE 03FEB15		E S T I M A T E O F Q U A N T I T I E S			
LINE					2025-14-74
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0200	Removing Old Structure (station) 01. 170+61.27	LS	1.000	1.000
0020	203.0225.S	Debris Containment (structure) 01. B-67-89	LS	1.000	1.000
0030	204.0100	Removing Pavement	SY	1,411.000	1,411.000
0040	204.0105	Removing Pavement Butt Joints	SY	2,303.000	2,303.000
0050	204.0110	Removing Asphaltic Surface	SY	4,183.000	4,183.000
0060	204.0165	Removing Guardrail	LF	305.000	305.000
0070	204.0175	Removing Concrete Slope Paving	SY	27.000	27.000
0080	205.0100	Excavation Common **p**	CY	2,248.000	2,248.000
0090	206.1000	Excavation for Structures Bridges (structure) 01. B-67-89	LS	1.000	1.000
0100	208.0100	Borrow **p**	CY	749.000	749.000
0110	210.0100	Backfill Structure	CY	126.000	126.000
0120	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	96.000	96.000
0130	213.0100	Finishing Roadway (project) 01. 2025-14-74	EACH	1.000	1.000
0140	305.0110	Base Aggregate Dense 3/4-Inch	TON	498.000	498.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,290.000	1,290.000
0160	415.0410	Concrete Pavement Approach Slab	SY	112.000	112.000
0170	416.0610	Drilled Tie Bars	EACH	108.000	108.000
0180	416.0620	Drilled Dowel Bars	EACH	1,608.000	1,608.000
0190	416.1010	Concrete Surface Drains	CY	12.000	12.000
0200	416.1710	Concrete Pavement Repair	SY	632.000	632.000
0210	416.1715	Concrete Pavement Repair SHES	SY	16.000	16.000
0220	416.1720	Concrete Pavement Replacement	SY	667.000	667.000
0230	416.1725	Concrete Pavement Replacement SHES	SY	40.000	40.000
0240	420.1000.S	Concrete Pavement Continuous Diamond Grinding	SY	12,720.000	12,720.000
0250	455.0120	Asphaltic Material PG64-28	TON	83.000	83.000
0260	455.0605	Tack Coat	GAL	82.000	82.000
0270	460.1103	HMA Pavement Type E-3	TON	1,362.000	1,362.000
0280	465.0125	Asphaltic Surface Temporary	TON	430.000	430.000
0290	502.0100	Concrete Masonry Bridges	CY	649.000	649.000
0300	502.3100	Expansion Device (structure) 01. B-67-89	LS	1.000	1.000
0310	502.3200	Protective Surface Treatment	SY	1,982.000	1,982.000
0320	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	236.000	236.000
0330	502.6102	Masonry Anchors Type S 1/2-Inch	EACH	24.000	24.000
0340	503.0145	Prestressed Girder Type I 45-Inch	LF	563.000	563.000
0350	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	166,710.000	166,710.000
0360	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0370	506.2610	Bearing Pads Elastomeric Laminated	EACH	8.000	8.000
0380	506.4000	Steel Diaphragms (structure) 01. B-67-89	EACH	18.000	18.000
0390	509.1500	Concrete Surface Repair	SF	20.000	20.000
0400	509.3500.S	HMA Overlay Polymer-Modified	TON	265.000	265.000
0410	514.0445	Floor Drains Type GC	EACH	12.000	12.000
0420	514.2625	Downspout 6-Inch	LF	116.000	116.000
0430	516.0500	Rubberized Membrane Waterproofing	SY	23.000	23.000
0440	520.4018	Culvert Pipe Temporary 18-Inch	LF	348.000	348.000
0450	521.1503	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 4 to 1	EACH	4.000	4.000
0460	604.0400	Slope Paving Concrete	SY	27.000	27.000
0470	604.0500	Slope Paving Crushed Aggregate	SY	234.000	234.000

DATE 03FEB15		E S T I M A T E O F Q U A N T I T I E S			
LINE					2025-14-74
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0480	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	2.000	2.000
0490	614.0200	Steel Thrie Beam Structure Approach	LF	42.000	42.000
0500	614.0305	Steel Plate Beam Guard Class A	LF	263.000	263.000
0510	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2025-14-74	EACH	1.000	1.000
0520	619.1000	Mobilization	EACH	1.000	1.000
0530	625.0100	Topsoil	SY	2,634.000	2,634.000
0540	628.1504	Silt Fence	LF	1,684.000	1,684.000
0550	628.1520	Silt Fence Maintenance	LF	1,684.000	1,684.000
0560	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0570	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0580	628.2006	Erosion Mat Urban Class I Type A	SY	4,021.000	4,021.000
0590	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0600	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0610	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0620	628.7555	Culvert Pipe Checks	EACH	11.000	11.000
0630	629.0210	Fertilizer Type B	CWT	2.400	2.400
0640	630.0140	Seeding Mixture No. 40	LB	47.500	47.500
0650	630.0200	Seeding Temporary	LB	36.100	36.100
0660	633.1100	Delineators Temporary	EACH	30.000	30.000
0670	638.2102	Moving Signs Type II	EACH	6.000	6.000
0680	638.4000	Moving Small Sign Supports	EACH	10.000	10.000
0690	642.5401	Field Office Type D	EACH	1.000	1.000
0700	643.0100	Traffic Control (project) 01. 2025-14-74	EACH	1.000	1.000
0710	643.0300	Traffic Control Drums	DAY	15,001.000	15,001.000
0720	643.0420	Traffic Control Barricades Type III	DAY	973.000	973.000
0730	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	65.000	65.000
0740	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	65.000	65.000
0750	643.0705	Traffic Control Warning Lights Type A	DAY	1,329.000	1,329.000
0760	643.0715	Traffic Control Warning Lights Type C	DAY	4,080.000	4,080.000
0770	643.0800	Traffic Control Arrow Boards	DAY	184.000	184.000
0780	643.0900	Traffic Control Signs	DAY	3,597.000	3,597.000
0790	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0800	643.1050	Traffic Control Signs PCMS	DAY	396.000	396.000
0810	643.2000	Traffic Control Detour (project) 01. 2025-14-74	EACH	1.000	1.000
0820	643.3000	Traffic Control Detour Signs	DAY	11,408.000	11,408.000
0830	646.0106	Pavement Marking Epoxy 4-Inch	LF	27,286.000	27,286.000
0840	646.0600	Removing Pavement Markings	LF	1,005.000	1,005.000
0850	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	1,651.000	1,651.000
0860	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	3,217.000	3,217.000
0870	646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF	3,723.000	3,723.000
0880	646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF	195.000	195.000
0890	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	220.000	220.000
0900	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	10,720.000	10,720.000
0910	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	200.000	200.000

DATE 03FEB15		E S T I M A T E O F Q U A N T I T I E S			
LINE		2025-14-74			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0920	650.4500	Construction Staking Subgrade	LF	1,289.000	1,289.000
0930	650.5000	Construction Staking Base	LF	1,289.000	1,289.000
0940	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0950	650.6500	Construction Staking Structure Layout (structure) 01. B-67-89	LS	1.000	1.000
0960	650.9910	Construction Staking Supplemental Control (project) 01. 2025-14-74	LS	1.000	1.000
0970	652.0125	Conduit Rigid Metallic 2-Inch	LF	24.000	24.000
0980	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	891.000	891.000
0990	653.0222	Junction Boxes 18x12x6-Inch	EACH	2.000	2.000
1000	690.0150	Sawing Asphalt	LF	134.000	134.000
1010	690.0250	Sawing Concrete	LF	2,757.000	2,757.000
1020	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1030	715.0502	Incentive Strength Concrete Structures 01. B-67-89	DOL	3,894.000	3,894.000
1040	SPV.0060	Special 01. Section Corner Monuments Special	EACH	1.000	1.000
1050	SPV.0090	Special 01. Bridge Joint Rout And Seal	LF	190.000	190.000
1060	SPV.0090	Special 02. Joint And Crack Repair	LF	786.000	786.000

REMOVING PAVEMENT			
STATION TO	STATION	LOCATION	204.0100 SY
111+00	- 133+85	WB STH 190 CONC REPAIR	392
111+00	- 133+85	EB STH 190 CONC REPAIR	240
111+00	- 133+85	WB STH 190 CONC REPLACEMENT	667
TOTAL 0010			1299
168+34	- 168+49	DUPLAINVILLE BRIDGE APPROACH WEST END	56
172+73	- 172+88	DUPLAINVILLE BRIDGE APPROACH EAST END	56
TOTAL 0040			112
PROJECT TOTAL			1411

REMOVING ASPHALTIC SURFACE			
STATION TO	STATION	LOCATION	204.0110 SY
112+50	- 133+85	WB INSIDE SHOULDER	712
118+00	- 133+85	WB OUTSIDE SHOULDER	1409
110+00	- 119+00	EB INSIDE SHOULDER	300
123+25	- 133+85	EB INSIDE SHOULDER	353
118+00	- 133+85	EB OUTSIDE SHOULDER	1409
TOTAL 0010			4183

REMOVING PAVEMENT BUTT JOINTS			
STATION TO	STATION	LOCATION	204.0105 SY
132+85	- 133+85	WB STH 190 STH 74 BRIDGE WEST END	401
135+58	- 136+58	WB STH 190 STH 74 BRIDGE EAST END	478
132+91	- 133+91	EB STH 190 STH 74 BRIDGE WEST END	335
135+65	- 136+65	EB STH 190 STH 74 BRIDGE EAST END	420
167+00	- 168+00	DUPLAINVILLE BRIDGE WEST END	389
174+00	- 174+70	DUPLAINVILLE BRIDGE EAST END	280
TOTAL 0010			2303

REMOVING GUARDRAIL			
STATION TO	STATION	LOCATION	204.0165 LF
172+79	- 174+63	LT (OUTSIDE)	184
172+79	- 174+00	LT (MEDIAN)	121
TOTAL 0010			305

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION TO	STATION	LOCATION	211.0400 STA
110+00 -	133+85	WB OUTSIDE SHOULDER STH 190	24
110+00 -	133+85	WB INSIDE SHOULDER STH 190	24
110+00 -	133+85	EB OUTSIDE SHOULDER STH 190	24
110+00 -	133+85	EB INSIDE SHOULDER STH 190	24
TOTAL 0010			96

BASE AGGREGATE DENSE 3/4-INCH

STATION TO	STATION	LOCATION	305.0110 TON
118+00 -	135+85	WB OUTSIDE SHOULDER	102
110+00 -	135+85	WB INSIDE SHOULDER	74
118+00 -	135+85	EB OUTSIDE SHOULDER	102
110+00 -	135+85	EB INSIDE SHOULDER	74
135+58 -	136+58	WB OUTSIDE SHOULDER	14
135+58 -	136+58	WB INSIDE SHOULDER	10
135+65 -	136+65	EB OUTSIDE SHOULDER	14
135+65 -	136+65	EB INSIDE SHOULDER	10
167+00 -	168+30	WB OUTSIDE SHOULDER	18
167+00 -	168+30	WB INSIDE SHOULDER	14
172+83 -	174+70	WB OUTSIDE SHOULDER	40
172+83 -	174+70	WB INSIDE SHOULDER	26
TOTAL 0010			498

BASE AGGREGATE DENSE 1 1/4-INCH

STATION TO	STATION	LOCATION	305.0120 TON
159+00 -	164+00	WEST CROSSOVER	594
175+50 -	183+00	EAST CROSSOVER	660
168+35 -	168+50	MAINLINE	18
172+73 -	172+88	MAINLINE	18
TOTAL 0010			1290

CONCRETE PAVEMENT APPROACH SLAB

STATION TO	STATION	LOCATION	415.0410 SY
168+34 -	168+49	DUPLAINVILLE BRIDGE WEST END	56
172+73 -	172+88	DUPLAINVILLE BRIDGE EAST END	56
TOTAL 0040			112

CONCRETE SURFACE DRAINS

	416.1010
LOCATION	CY
SW CORNER DUPLAINVILLE BRIDGE	3
SE CORNER DUPLAINVILLE BRIDGE	3
NW CORNER DUPLAINVILLE BRIDGE	3
SE CORNER DUPLAINVILLE BRIDGE	3
TOTAL 0040	12

DRILLED DOWEL BARS

STATION TO	STATION	LOCATION	416.0620 EACH
111+00 -	133+85	STH 190 WB	1212
111+00 -	133+85	STH 190 EB	396
TOTAL 0010			1608

DRILLED TIE BARS

STATION TO	STATION	LOCATION	416.0610 EACH
111+00 -	133+85	STH 190 WB	108
TOTAL 0010			108

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow (15)	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.20			(item #208.0100)	
West Crossover	158+63.78 to 164+00	Mainline	182	0	0	182	372	447	-265		265	
East Crossover	175+50 to 183+00	Mainline	252	0	0	252	613	736	-484		484	
Capitol Drive	168+34 to 168+49	Mainline	28	0	28	0	0	0	0			
Capitol Drive	172+73 to 172+88	Mainline	28	0	28	0	0	0	0			
West Crossover Removal	158+63.78 to 164+00	Mainline	683	0	0	683	0	0	683			
East Crossover Removal	175+50 to 183+00	Mainline	975	0	0	975	0	0	975			
Crossover	Undistributed	Mainline	100	0	0	100	0	0	100			
			2248	0								
CATEGORY 0010 SUBTOTAL			Total Common Exc		2248	56	2192	985	1182	1010	1010	749

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 13) Expanded Fill. Factor = 1.20
- 14) 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.
- 15) Borrow Excavation item number 208.0100

ASPHALTIC MATERIAL PG64-28				HMA PAVEMENT TYPE E-3				TACK COAT							
STATION TO		STATION	LOCATION	455.0120 TON	STATION TO		STATION	LOCATION	460.1103 TON	STATION TO		STATION	LOCATION	455.0605 GAL	
167+70	-	168+35	MAINLINE PAVEMENT	5	167+70	-	168+35	MAINLINE PAVEMENT	80	167+30	-	168+35	MAINLINE PAVEMENT	10	
172+88	-	174+70	MAINLINE PAVEMENT	8	172+88	-	174+70	MAINLINE PAVEMENT	135	172+88	-	174+70	MAINLINE PAVEMENT	17	
118+00	-	133+85	EB OUTSIDE SHOULDER	19	118+00	-	133+85	EB OUTSIDE SHOULDER	310						
110+00	-	119+00	EB INSIDE SHOULDER	4	110+00	-	119+00	EB INSIDE SHOULDER	66				TOTAL 0010	27	
123+25	-	133+85	EB INSIDE SHOULDER	5	123+25	-	133+85	EB INSIDE SHOULDER	78						
118+00	-	129+00	WB OUTSIDE SHOULDER	13	118+00	-	129+00	WB OUTSIDE SHOULDER	215	132+63	-	135+35	B-67-91 APPROACH	29	
129+00	-	133+85	WB OUTSIDE SHOULDER (ON RAMP)	2	129+00	-	133+85	WB OUTSIDE SHOULDER (ON RAMP)	36				TOTAL 0020	29	
112+50	-	121+50	WB INSIDE SHOULDER	4	112+50	-	121+50	WB INSIDE SHOULDER	66						
124+75	-	133+85	WB INSIDE SHOULDER	4	124+75	-	133+85	WB INSIDE SHOULDER	67	132+63	-	135+40	B-67-92 APPROACH	26	
132+85	-	133+85	WB WEST END BUTT JOINT	5	132+85	-	133+85	WB WEST END BUTT JOINT	77						
													TOTAL 0030	26	
135+35	-	136+35	WB EAST END BUTT JOINT	5	135+35	-	136+35	WB EAST END BUTT JOINT	91						
132+85	-	133+85	EB WEST END BUTT JOINT	4	132+85	-	133+85	EB WEST END BUTT JOINT	65				PROJECT TOTAL	82	
135+35	-	136+35	EB EAST END BUTT JOINT	5	135+35	-	136+35	EB EAST END BUTT JOINT	76						
TOTAL 0010				83	TOTAL 0010				1362						

CONCRETE PAVEMENT REPLACEMENT

			416.1720
STATION TO	STATION	LOCATION	SY
111+00	-	133+85	WB STH 190
			667
TOTAL 0010			667

NOTE: LOCATIONS TO BE DETERMINED
BY FIELD ENGINEER

CONCRETE PAVEMENT REPAIR

			416.1710
STATION TO	STATION	LOCATION	SY
111+00	-	133+85	WB STH 190
			392
111+00	-	133+85	EB STH 190
			240
TOTAL 0010			632

NOTE: LOCATIONS TO BE DETERMINED
BY FIELD ENGINEER

STEEL THRIE BEAM STRUCTURE APPROACH

			614.0200	
STATION TO	STATION	LOCATION	LF	REMARKS
172+79	-	173+00	SOUTH RAIL STH 190 WB	21
				55' LT
172+79	-	173+00	NORTH RAIL STH 190 WB	21
				89' LT
TOTAL 0010			42	

STEEL PLATE BEAM GUARD CLASS A

			614.0305	
STATION TO	STATION	LOCATION	LF	REMARKS
173+00	-	174+00	SOUTH RAIL STH 190 WB	100
				54' -55' LT
173+00	-	174+63	NORTH RAIL STH 190 WB	163
				89' -95' LT
TOTAL 0010			263	

CONCRETE PAVEMENT REPLACEMENT SHES

		416.1725
LOCATION		SY
UNDISTRIBUTED		40
TOTAL 0010		40

NOTE: LOCATIONS TO BE DETERMINED
BY FIELD ENGINEER

CONCRETE PAVEMENT REPAIR SHES

		416.1715
LOCATION		SY
UNDISTRIBUTED		16
TOTAL 0010		16

NOTE: LOCATIONS TO BE DETERMINED
BY FIELD ENGINEER

CONCRETE PAVEMENT CONTINUOUS DIAMOND GRINDING

			420.1000.S
STATION TO	STATION	LOCATION	SY
110+00	-	133+85	STH 190 WB
			6360
110+00	-	133+85	STH 190 EB
			6360
TOTAL 0010			12720

ASPHALTIC SURFACE TEMPORARY

			465.0125
STATION TO	STATION	LOCATION	TON
158+70	-	164+00	TC STAGE 1
			187
175+50	-	183+00	TC STAGE 1
			243
TOTAL 0010			430

SILT FENCE

CULVERT PIPE CHECKS

			SILT FENCE 628.1504	SILT FENCE MAINTENANCE 628.1520	
STATION TO	STATION	LOCATION	LF	LF	REMARKS
117+79	-	121+52	373	373	BETWEEN FIVE FIELDS AND HUNTERS RIDGE
124+33	-	132+04	771	771	BETWEEN STH 74 AND CHURCH ENTRANCE
135+90	-	136+10	30	30	AROUND ASPH FLUME AT EAST END OF BRIDGE
168+20	-	168+65	90	90	
172+00	-	174+70	420	420	
TOTAL 0010			1684	1684	

STATION	LOCATION	628.7555 EACH
113+00	STH 190 EB SIDE	1
115+00	MEDIAN	1
121+50	MEDIAN	1
121+75	STH 190 WB SIDE	1
124+50	STH 190 EB SIDE	1
125+75	STH 190 EB SIDE	1
126+00	MEDIAN	1
127+00	STH 190 EB SIDE	1
129+00	MEDIAN	1
136+00	MEDIAN	1
163+90	MEDIAN	1
TOTAL 0010		11

SEEDING, FERTILIZER & EROSION MAT

			EROSION MAT URBAN CLASS I TYPE A 628.2006	FERTILIZER TYPE B 629.0210	SEEDING MIXTURE NO. 40 630.0140	SEEDING TEMPORARY 630.0200	
STATION TO	STATION	LOCATION	SY	CWT	LB	LB	REMARKS
158+50	-	164+00	492	0.3	0.0	13.3	STAGE 1
175+50	-	183+00	845	0.5	0.0	22.8	STAGE 1
158+50	-	164+00	1164	0.7	21.0	0.0	STAGE 3
175+50	-	183+00	1470	0.9	26.5	0.0	STAGE 3
UNDISTRIBUTED			50				
TOTAL 0010			4021	2.4	47.5	36.1	

TOPSOIL

STATION TO	STATION	LOCATION	625.0100 SY
158+50	-	164+00	1164
175+50	-	183+00	1470
TOTAL 0010			2634

INLET PROTECTION TYPE A

INLET PROTECTION TYPE C

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7005 EACH
182+45	MEDIAN	1
TOTAL 0010		1

STATION	LOCATION	628.7015 EACH
141+50	STH 74 ON RAMP WB	1
142+00	STH 74 OFF RAMP EB	1
TOTAL 0010		2

STATION	LOCATION	628.7504 LF
117+50	STH 190 EB SIDE	5
124+50	STH 190 WB SIDE	5
133+50	STH 190 WB SIDE	5
TOTAL 0010		15

CULVERT PIPE TEMP 18 INCH

			APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 4 TO 1 520.4018	521.1503
STATION TO	STATION	LF	EACH	
161+74	-	163+49	176	2
176+47	-	180+18	172	2
			348	4

PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH

646.0843.S
LF

STATION TO	STATION	LOCATION	LF
110+00 -	111+83	WB LEFT TURN LANE INTO FOX RIVER CHURCH	187
120+00 -	121+54	EB LEFT TURN LANE AT HUNTERS RIDGE	154
123+09 -	124+09	WB LEFT TURN LANE AT HUNTERS RIDGE	100
134+30 -	138+70	STH 190 WB ON RAMP AT STH 74	824
136+75 -	138+75	STH 190 EB OFF RAMP AT STH 74	347
144+75 -	150+61	STH 190 EB ON RAMP AT STH 74	1121
145+50 -	148+03	STH 190 WB OFF RAMP AT STH 74	484
TOTAL 0010			3217

PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH

646.0881.S
LF

STATION TO	STATION	LOCATION	LF	REMARKS
135+40 -	186+00	STH 190 WB END OF STH 74 BRIDGE TO END OF PROJECT	1160	C/L
135+45 -	186+00	STH 190 EB END OF STH 74 BRIDGE TO END OF PROJECT	1158	C/L
138+70 -	144+70	EB STH 190 AT STH 74 GORE	603	
138+70 -	145+50	WB STH 190 AT STH 74 GORE	675	
148+03 -	153+09	STH 190 WB AT STH 74 OFF RAMP	127	
TOTAL 0010			3723	

PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH

646.0883.S
LF

STATION TO	STATION	LOCATION	LF
155+34 -	156+27	EB LEFT TURN LANE AT WETHERFIELD RD	93
159+09 -	158+07	WB RIGHT TURN LANE AT WETHERFIELD RD	102
TOTAL 0010			195

PAVEMENT MARKING DIAGONAL EPOXY 24-INCH

647.0746
LF

STATION TO	STATION	LOCATION	LF
145+46.31 -	147+84.10	STH 190 WB OFF RAMP AT STH 74	88
136+74.75 -	138+71.67	STH 190 EB OFF RAMP AT STH 74	132
TOTAL 0010			220

PAVEMENT MARKING EPOXY 4-INCH

646.0106
LF

STATION TO	STATION	LOCATION	LF	REMARKS
WB LANE				
110+00 -	121+21	BEGINNING OF PROJECT TO CHURCH ENT	1125	YELLOW
123+09 -	156+25	CHURCH ENT TO WETHERFIELD RD	3309	YELLOW
158+00 -	186+00	WETHERFIELD TO END OF PROJECT	2783	YELLOW
110+00 -	138+00	BEGINNING OF PROJECT TO STH 74 ON RAMP	2813	WHITE
146+00 -	156+75	STH 74 OFF RAMP TO WETHERFIELD RD	1083	WHITE
158+00 -	186+00	WETHERFIELD RD TO END OF PROJECT	2792	WHITE
EB LANE				
110+00 -	121+54	BEGINNING OF PROJECT TO HUNTERS RIDGE	1155	YELLOW
123+50 -	156+27	HUNTERS RIDGE TO WETHERFIELD RD	3278	YELLOW
158+00 -	186+00	WEHTERFIELD RD TO END OF PROJECT	2188	YELLOW
110+00 -	121+29	BEGINNING OF PROJECT TO HUNTERS RIDGE	1131	WHITE
121+81 -	138+00	HUNTERS RIDGE TO ON RAMP AT STH 74	1555	WHITE
145+00 -	186+00	STH 74 ON RAMP TO END OF PROJECT	4074	WHITE
TOTAL 0010			27286	

PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH

646.0841.S
LF

STATION TO	STATION	LOCATION	LF	REMARKS
110+00 -	135+40	WB STH 190 PROJECT BEGINNING TO END OF STH 74 BRIDGE	635	C/L
110+00 -	135+45	EB STH 190 PROJECT BEGINNING TO END OF STH 74 BRIDGE	636	C/L
130+09 -	136+75	EB STH 190 OFF RAMP AT STH 74	167	
168+50 -	169+56	WB STH 190 AT DUPLAINVILLE BRIDGE	106	C/L
168+40 -	169+47	EB STH 190 AT DUPLAINVILLE BRIDGE	107	C/L
TOTAL 0010			1651	

TRAFFIC CONTROL																						
		DRUMS 643.0300		BARRICADES TYPE III 643.0420		FLEXIBLE TUBULAR MARKER POSTS 643.0500		FLEXIBLE TUBULAR MARKER BASES 643.0600		WARNING LIGHTS TYPE A 643.0705		WARNING LIGHTS TYPE C 643.0715		ARROW BOARDS 643.0800		SIGNS 643.0900		REMOVING PAVEMENT MARKINGS 646.0600	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH 649.0400		TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE) 649.0801	
STAGE	DAYS	DRUMS	EACH	BARRICADE	DAY	EACH	EACH	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	LF	LF (WHITE)	LF (YELLOW)	LF	REMARKS		
STAGE 1	6	126	756	6	36	65		65		8	48	28	168	2	12	27	162	330	860	3910	0	
STAGE 2	48	108	5184	8	384	0		0		5	240	37	1776	2	96	32	1536	0	1530	1530	0	
STAGE 2A	16	248	3968	15	240	0		0		29	464	60	960	2	32	52	832	675	0	1595	0	
STAGE 2B	16	266	4256	16	256	0		0		31	496	63	1008	2	32	53	848	0	635	660	200	
STAGE 2B	3	27	81	7	21	0		0		11	33	0	0	0	0	19	57	0	0	0	0	RAMP CLOSURE
STAGE 3	6	126	756	6	36	0		0		8	48	28	168	2	12	27	162	0	0	0	0	
		15001		973		65		65		1329		4080		184		3597		1005	3025	7695		
																		649.0400 TOTAL		10720		

DELINEATORS TEMPORARY

MOVING SIGNS TYPE II

MOVING SMALL SIGN SUPPORTS

STATION TO STATION		633.1100
		EACH
158+50 -	164+00	14
175+50 -	182+50	16
TOTAL 0010		30

STATION	DESCRIPTION	638.2102
		EACH
161+30	WESTERFIELD DRIVE	2
163+00	ALT 94 WEST	2
177+00	GUMINA ROAD	2
TOTAL 0010		6

STATION	DESCRIPTION	638.4000
		EACH
161+30	WESTERFIELD DRIVE	4
163+00	ALT 94 WEST	2
177+00	GUMINA ROAD	4
TOTAL 0010		10

TRAFFIC CONTROL COVERING SIGNS TYPE II

TRAFFIC CONTROL SIGNS PCMS

TRAFFIC CONTROL DETOUR SIGNS

CATEGORY	LOCATION	643.0920	SIGNS	CYCLES
		EACH		
0010	UNDISTRIBUTED	5	5	5
TOTAL 0010		5		

LOCATION	DAYS	NO.	643.1050	REMARKS
			DAY	
STH 190	7	4	28	PRE STAGE
STH 190	92	4	368	STAGES 1-3
TOTAL 0010			396	

LOCATION	DAYS	NO.	643.3000
			DAY
STH 190	92	124	11408
TOTAL 0010			11408

CONSTRUCTION STAKING SUBGRADE

STATION TO	STATION	LOCATION	650.4500 LF
158+68.33	- 164+00	CROSSOVER WEST OF DUPLAINVILLE	532
175+50	- 183+06.67	CROSSOVER EAST OF DUPLAINVILLE	757
TOTAL 0010			1289

CONSTRUCTION STAKING BASE

STATION TO	STATION	LOCATION	650.5000 LF
158+68.33	- 164+00	CROSSOVER WEST OF DUPLAINVILLE	532
175+50	- 183+06.67	CROSSOVER EAST OF DUPLAINVILLE	757
TOTAL 0010			1289

CONSTRUCTION STAKING STRUCTURE LAYOUT (B-67-89)

LOCATION	650.6500 LS
B-67-89	1
TOTAL 0040	1

CONSTRUCTION STAKING PIPE CULVERTS

STATION	OFFSET	650.6000 EACH
161+74	23.3' LT	1
163+49	39' LT	1
178+47	31' LT	1
180+18	17.5' LT	1
TOTAL 0010		4

SAWING CONCRETE

STATION TO	STATION	LOCATION	690.0250 LF	REMARKS
111+00	- 133+85	WB SINGLE LANES	408	CONCRETE REPAIR CUTS
111+00	- 133+85	EB SINGLE LANES	384	CONCRETE REPAIR CUTS
111+00	- 133+85	WB MULTI LANES	768	CONCRETE REPAIR CUTS
111+00	- 133+85	EB MULTI LANES	336	CONCRETE REPAIR CUTS
111+00	- 133+85	WB SINGLE LANES	48	CONCRETE REPLACE CUTS
111+00	- 133+85	WB MULTI LANES	288	CONCRETE REPLACE CUTS
120+00	- 124+00	HUNTERS RIDGE	400	EB SHOULDER CUT
121+25	- 122+50	CHURCH ENT	125	WB SHOULDER CUT
TOTAL 0010			2757	

SECTION CORNER MONUMENTS SPECIAL

LOCATION	SPV.0060.01 EACH
B-67-91	1
TOTAL 0020	1

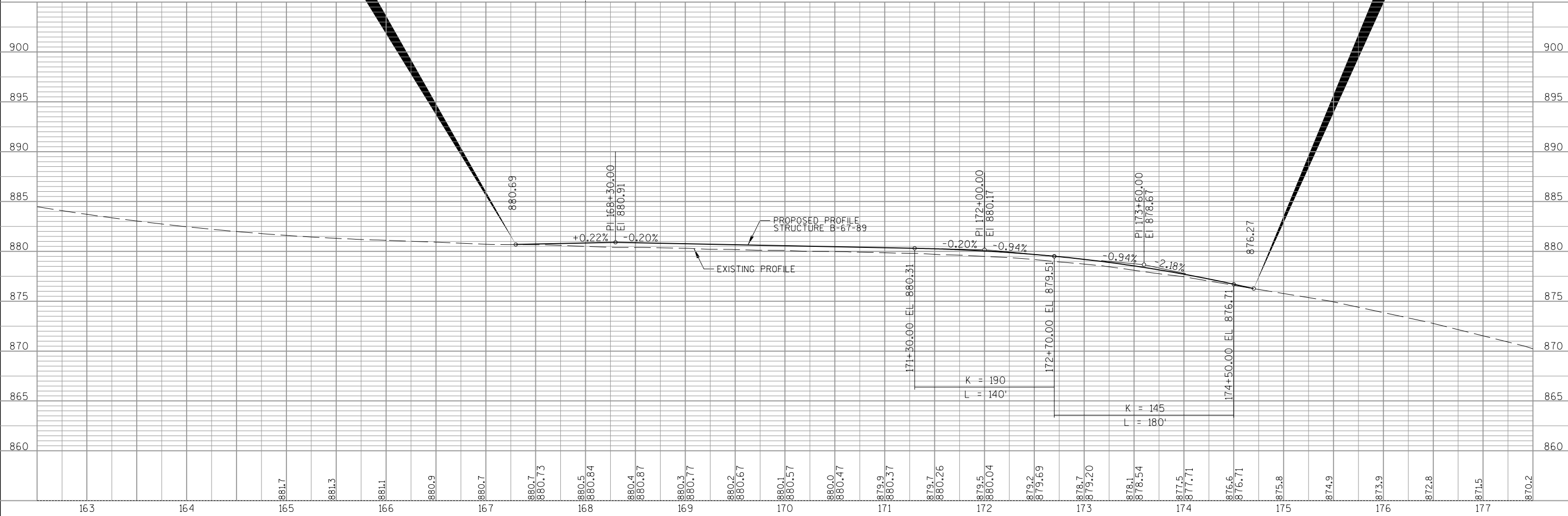
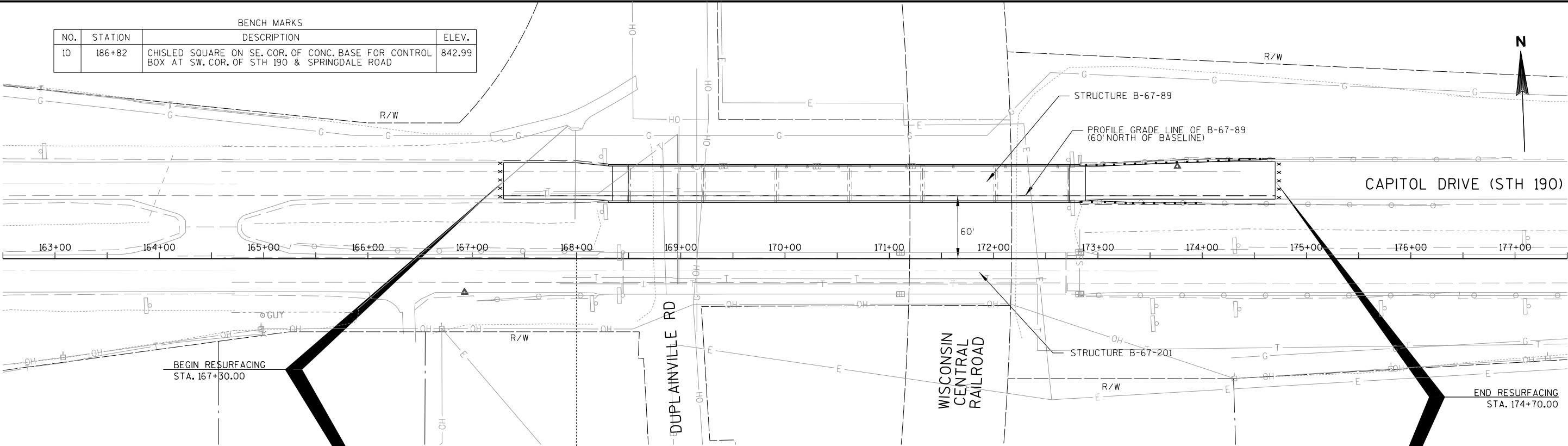
JOINT AND CRACK REPAIR

STATION TO	STATION	LOCATION	SPV.0090.02 LF
111+00	- 133+85	WB STH 190	331
111+00	- 133+85	EB STH 190	455
TOTAL 0010			786

SAWING ASPHALT

STATION TO	STATION	LOCATION	690.0150 LF	REMARKS
138+58	- 138+58	STH 190 WB AT STH 74 BRIDGE	46	BUTT JOINT SAW LINE
138+65	- 138+65	STH 190 EB AT STH 74 BRIDGE	40	BUTT JOINT SAW LINE
167+30	- 167+30	DUPLAINVILLE RD BRIDGE WEST END	24	BUTT JOINT SAW LINE
174+70	- 174+70	DUPLAINVILLE RD BRIDGE EAST END	24	BUTT JOINT SAW LINE
TOTAL 0010			134	

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
10	186+82	CHISELED SQUARE ON SE. COR. OF CONC. BASE FOR CONTROL BOX AT SW. COR. OF STH 190 & SPRINGDALE ROAD	842.99

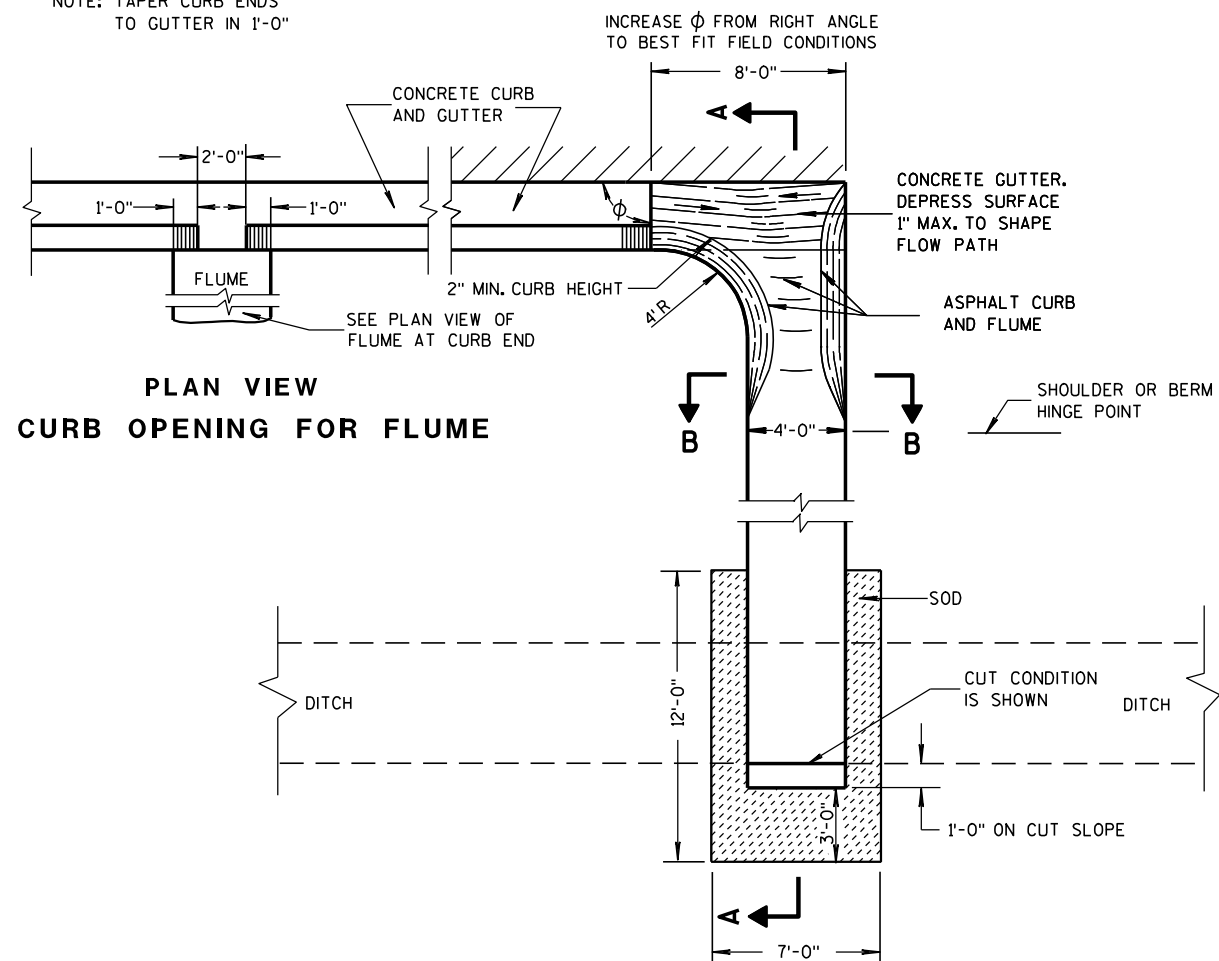


Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F08-02	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDERoadS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15D11-05	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

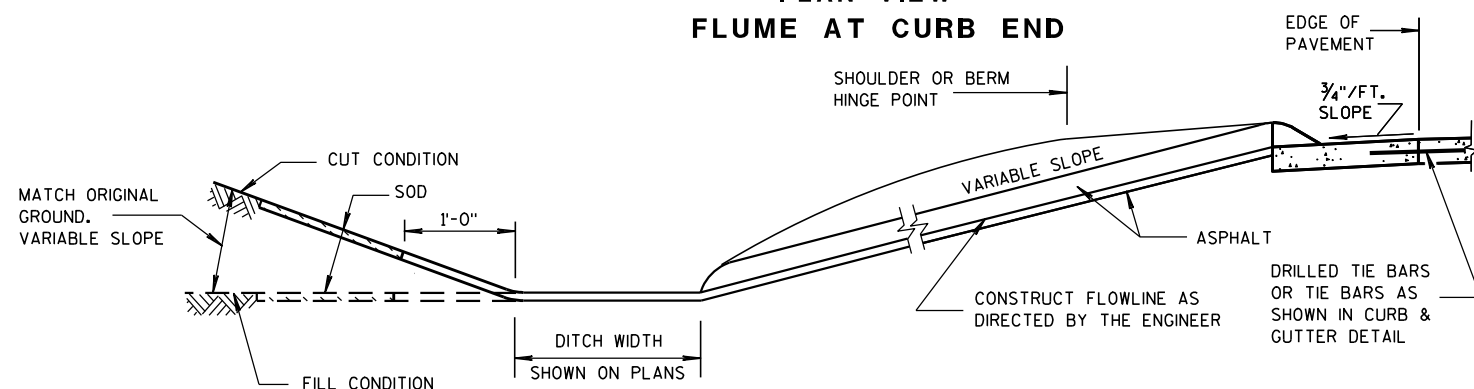
ASPHALTIC FLUME

NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"

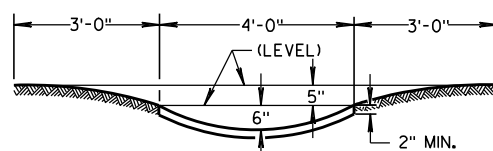


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

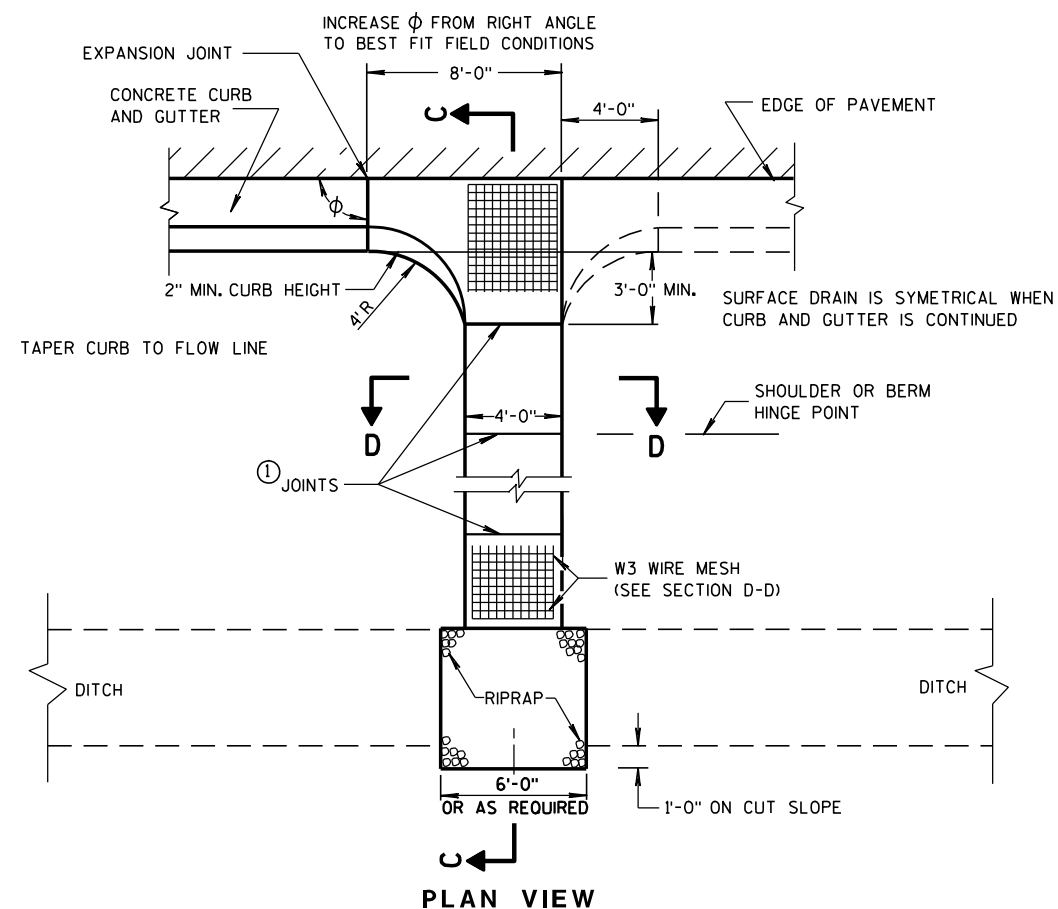
GENERAL NOTES

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

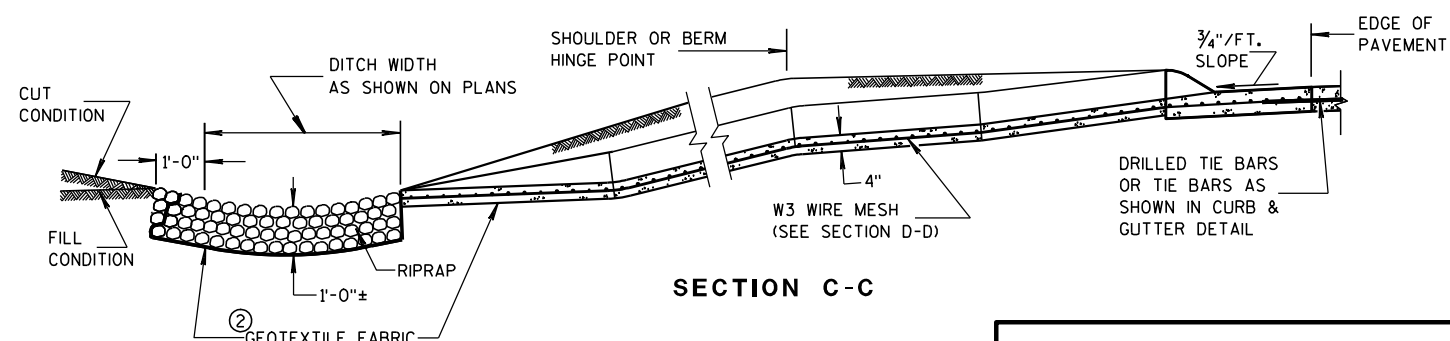
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

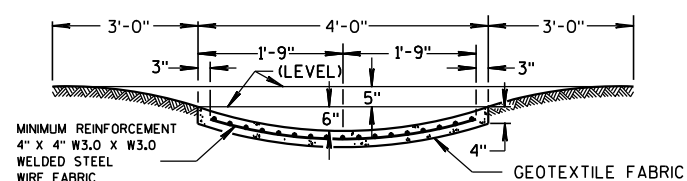
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

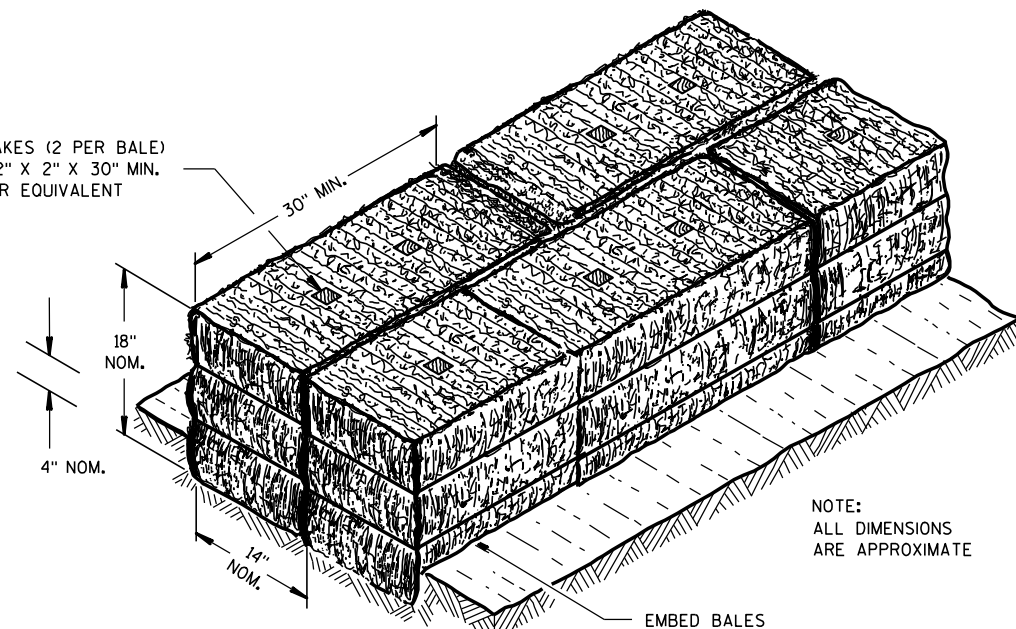
9-4-08

DATE

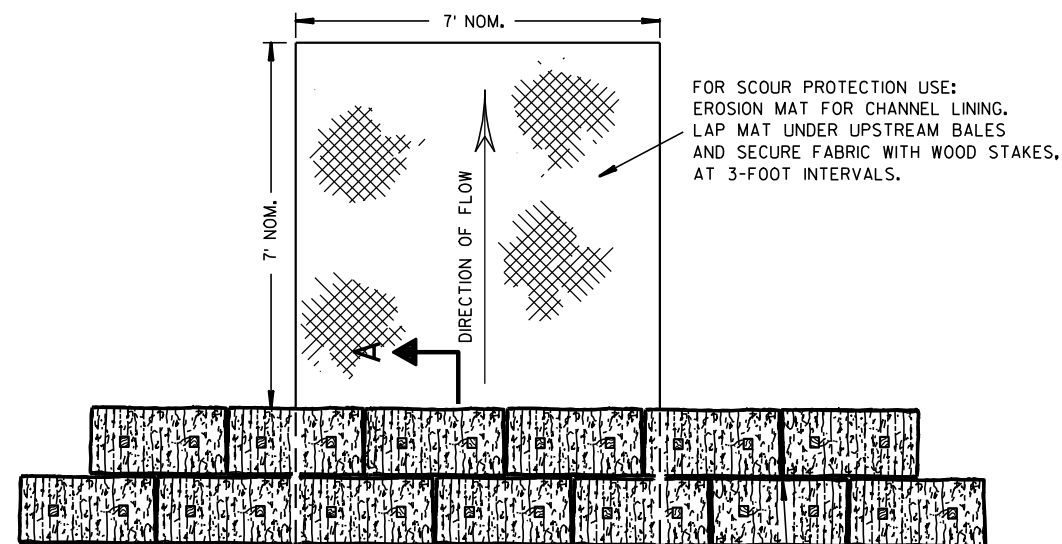
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

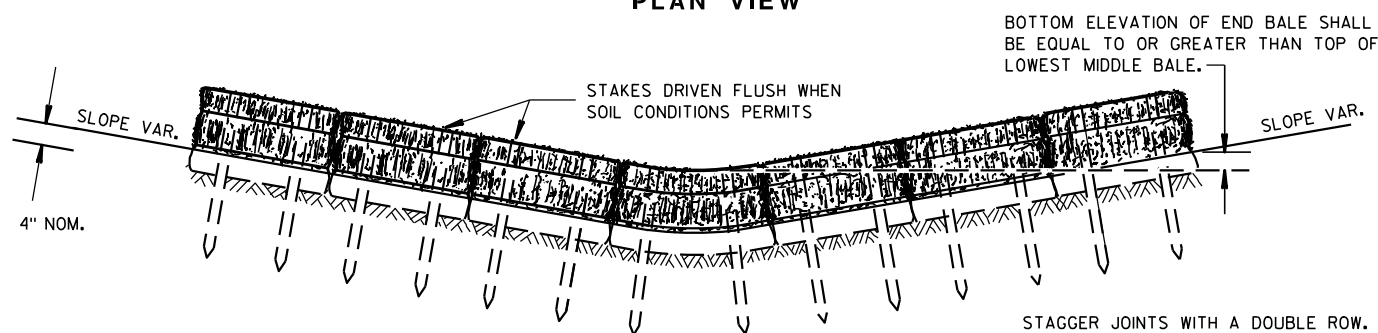
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A



PLAN VIEW



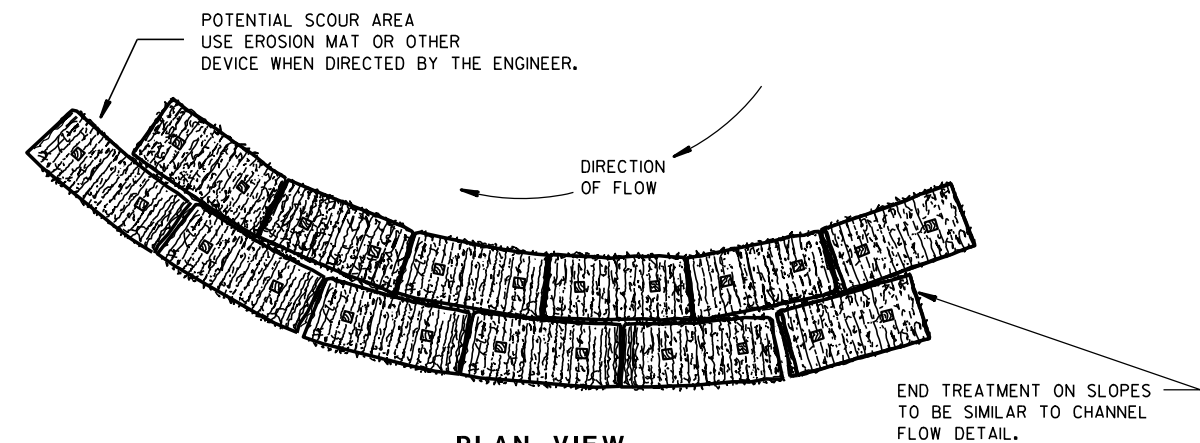
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

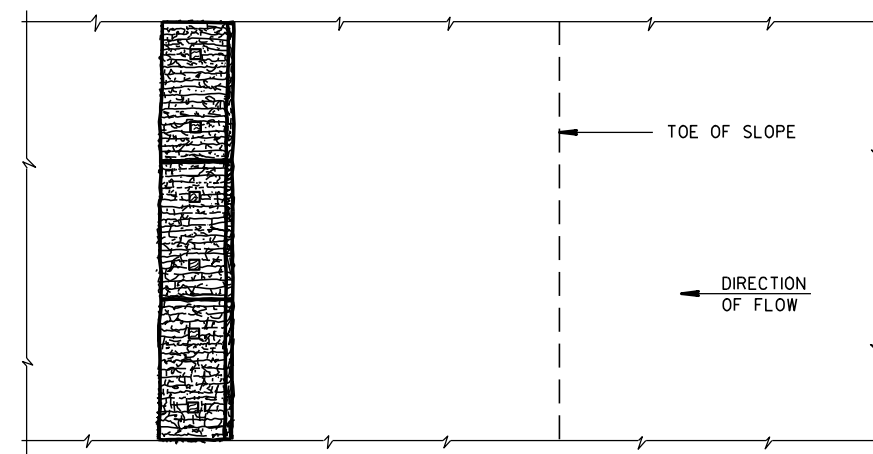
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

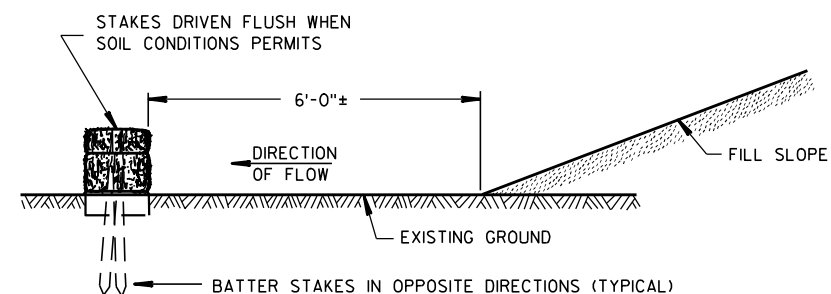


PLAN VIEW

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

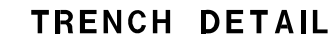
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

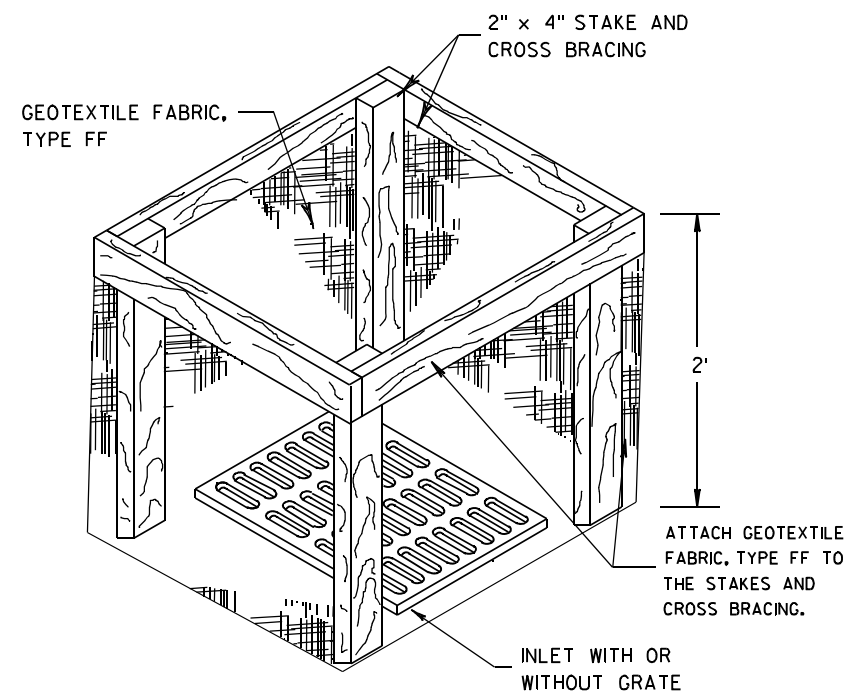
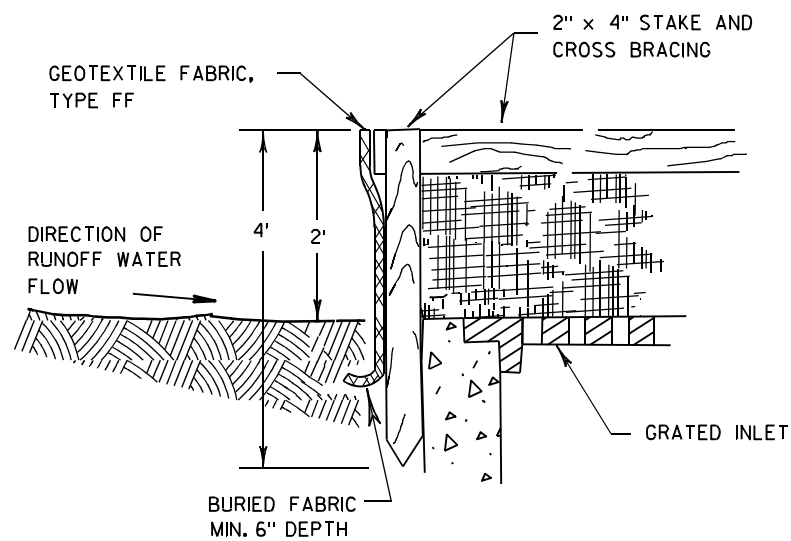
FHWA



- 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 1 1/8" X 1 1/8" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

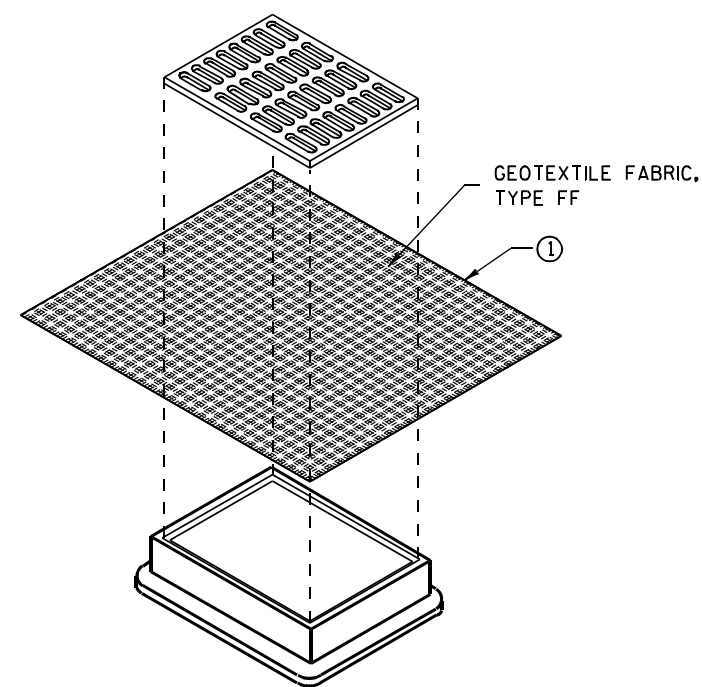
GENERAL NOTES

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.

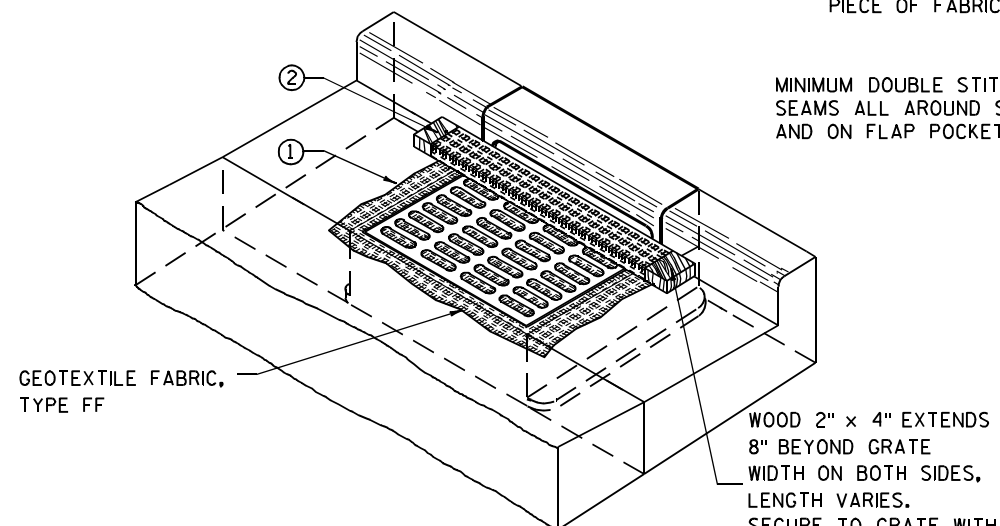
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

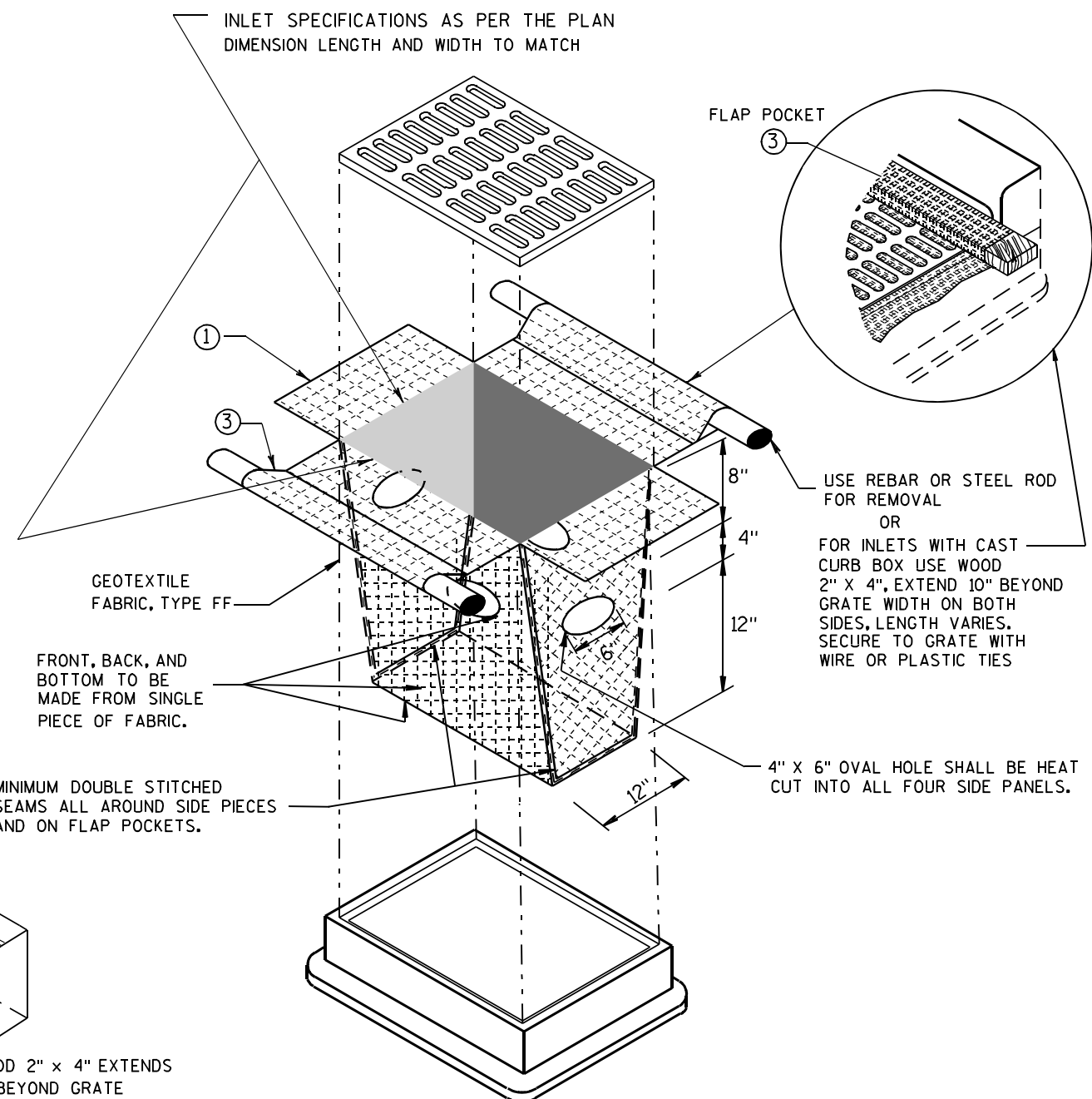
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



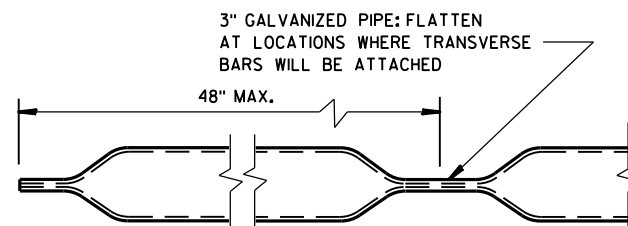
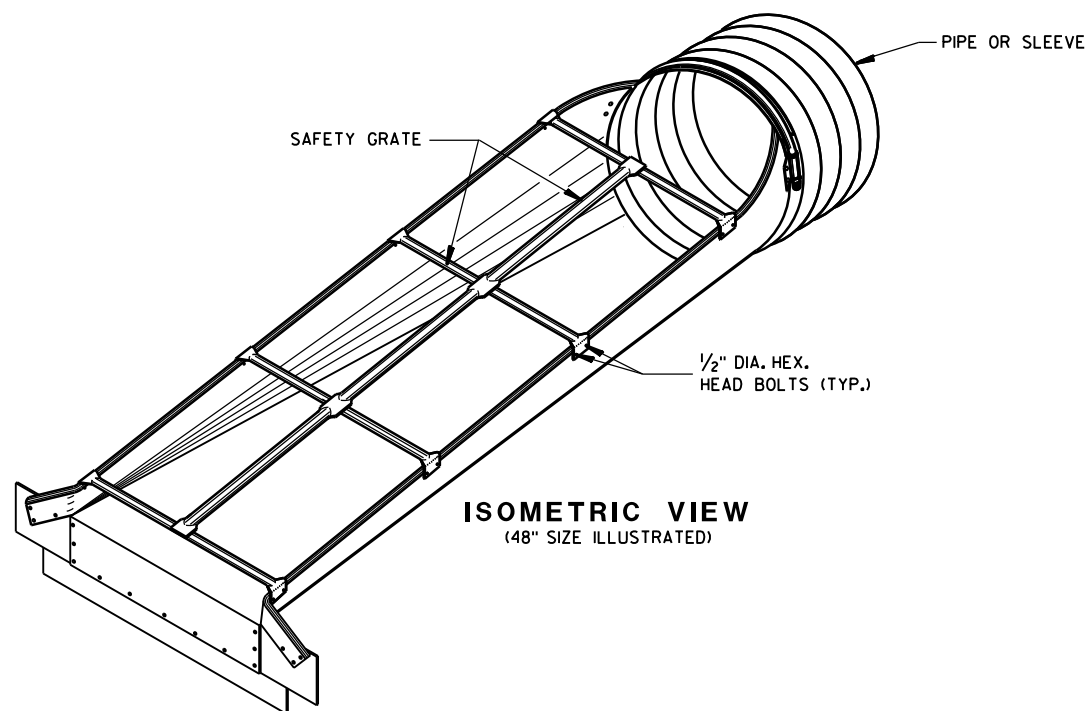
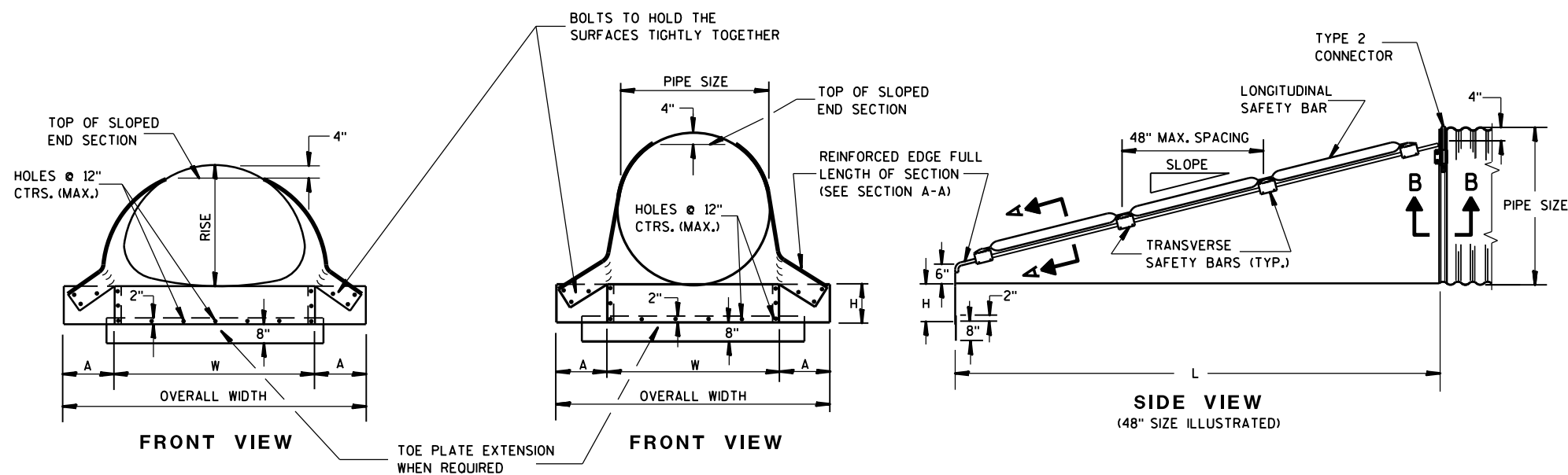
INLET PROTECTION, TYPE D

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

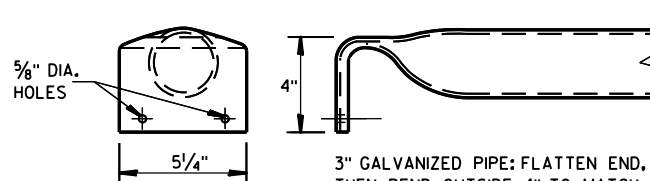
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



LONGITUDINAL SAFETY BAR



TRANSVERSE SAFETY BAR

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.

SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

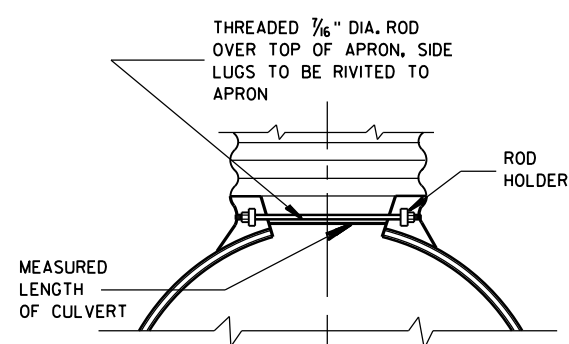
SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS

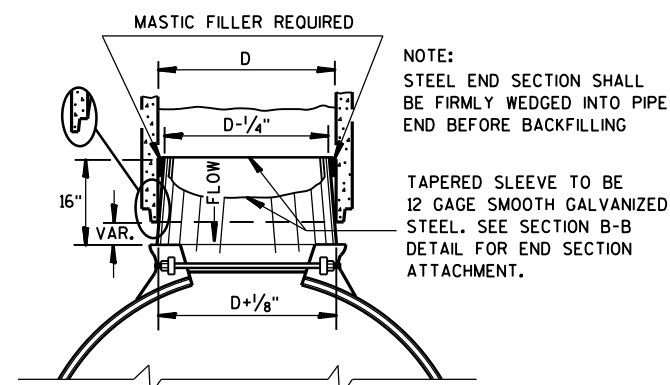
PIPE DIA. (IN.)	MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
36	.109	12	12	9	42	66	4:1	104	6:1	156
42	.109	12	16	12	48	80	4:1	128	6:1	192
48	.109	12	16	12	54	86	4:1	152	6:1	228
54	.109	12	16	12	60	92	4:1	176	6:1	264
60	.109	12	16	12	66	98	4:1	200	6:1	300

STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS

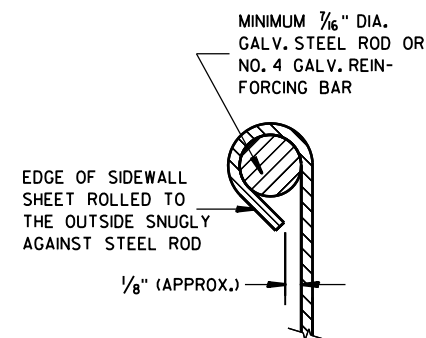
EQUIV. DIA. (IN.)	INCHES		MIN. THICK. IN.	GAGE	DIMENSIONS (inches)				L DIMENSIONS			
	SPAN	RISE			A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
30	35	24	.079	14	12	9	41	65	4:1	56	6:1	84
36	42	29	.109	12	12	9	48	72	4:1	76	6:1	114
42	49	33	.109	12	16	12	55	87	4:1	92	6:1	138
48	57	38	.109	12	16	12	63	95	4:1	112	6:1	168
54	64	43	.109	12	16	12	70	102	4:1	132	6:1	198
60	71	47	.109	12	16	12	77	109	4:1	148	6:1	222



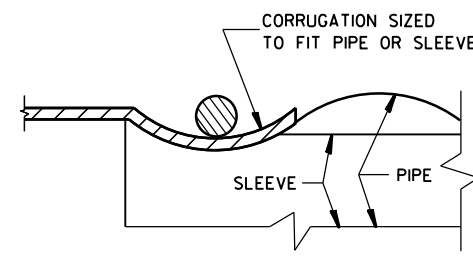
TYPE 2 CONNECTOR DETAIL



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



SECTION A-A



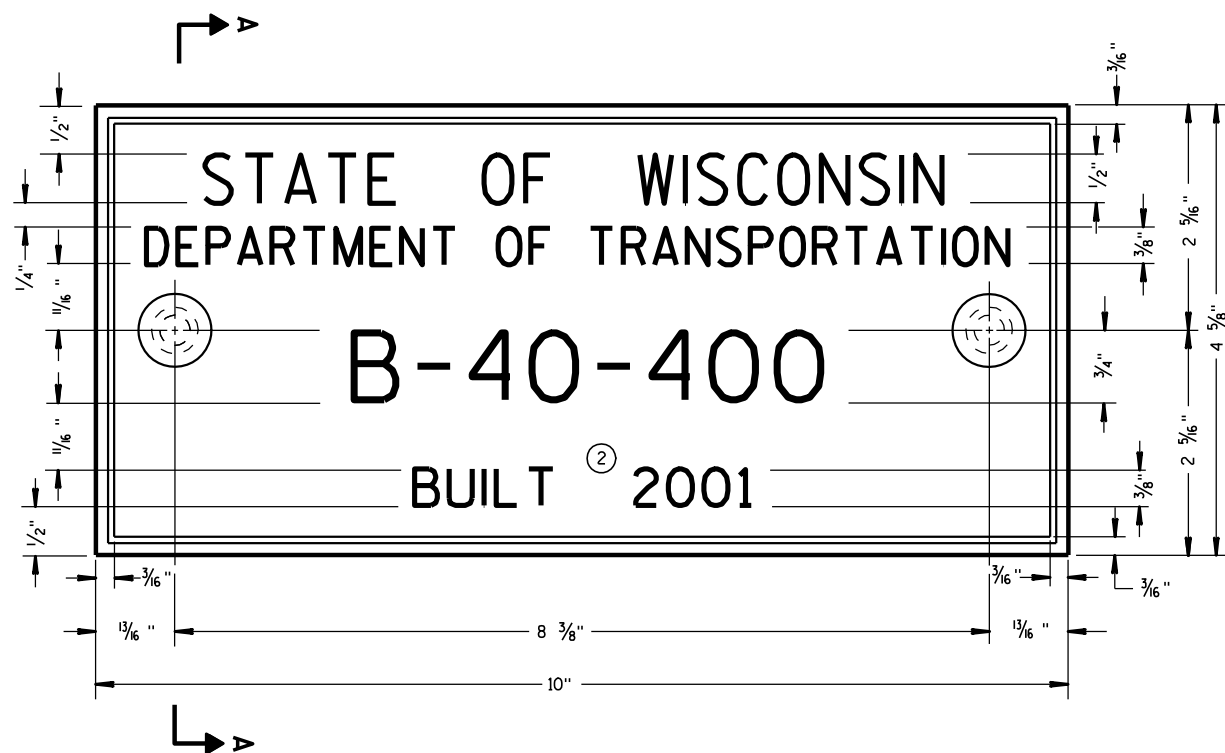
SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS

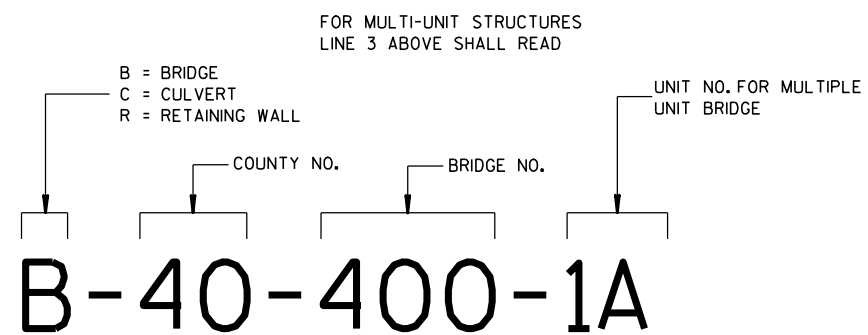
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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



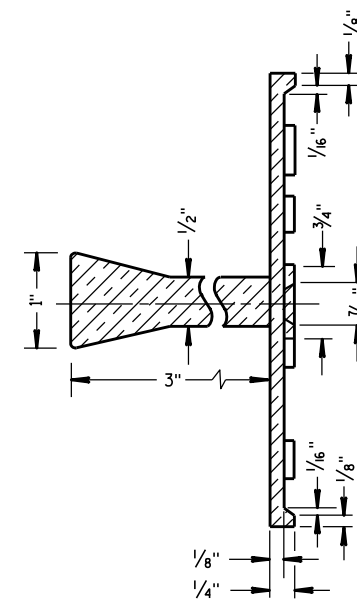
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

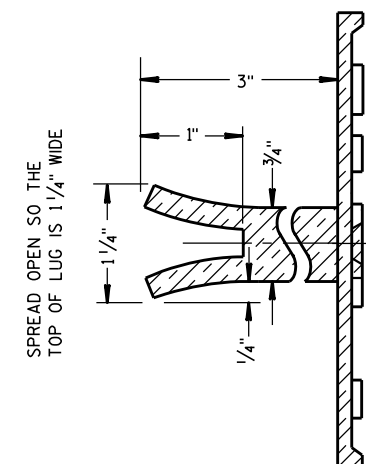
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

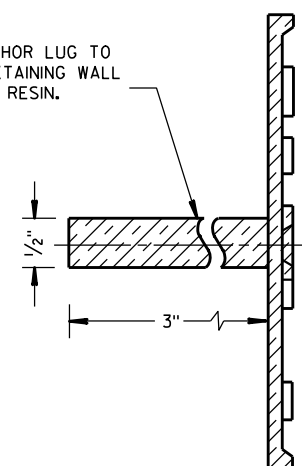


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

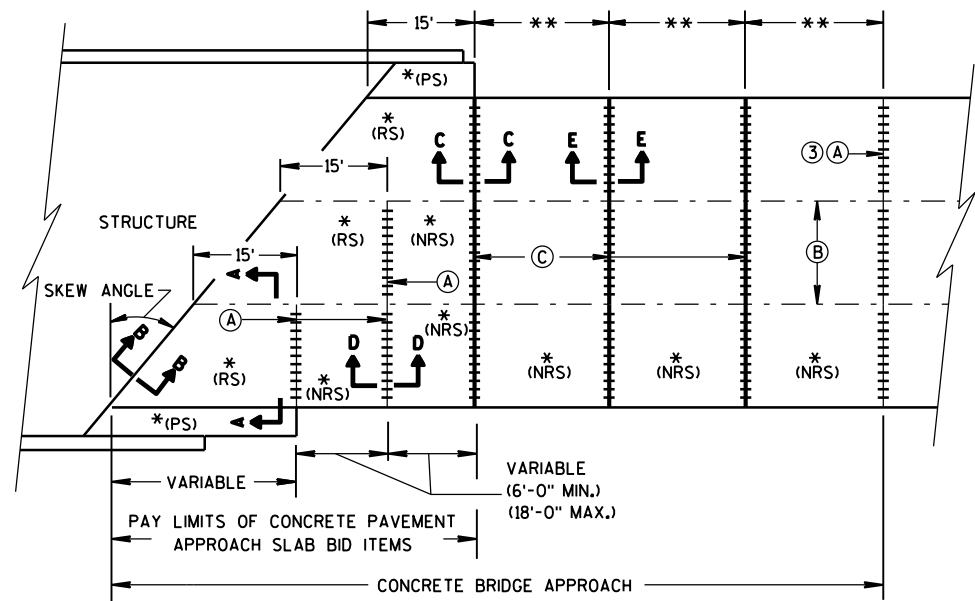
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

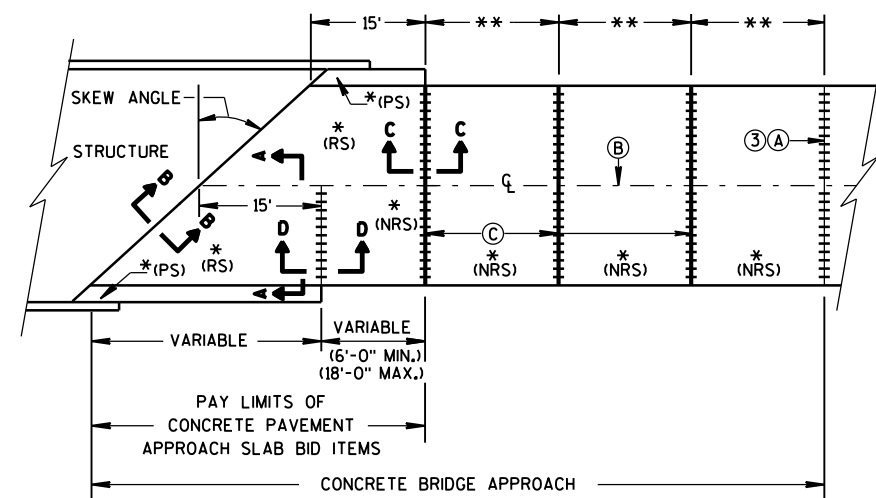
3/26/10
DATE

FHWA

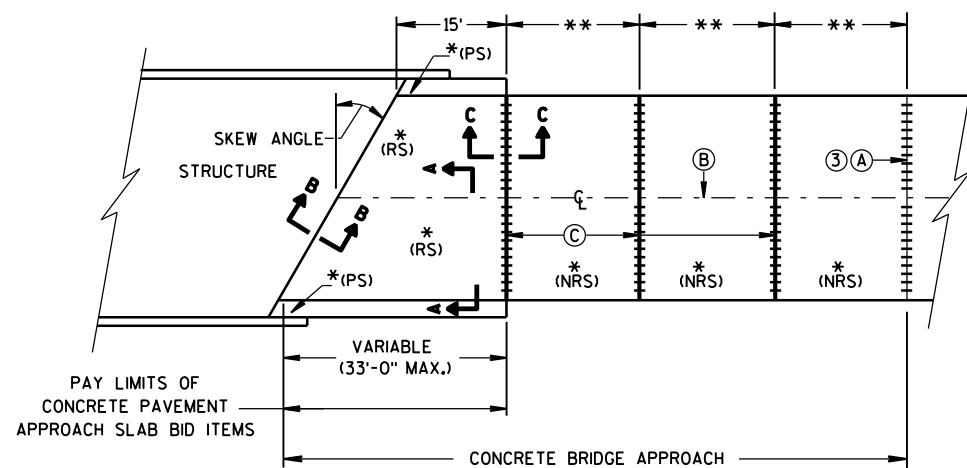
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)



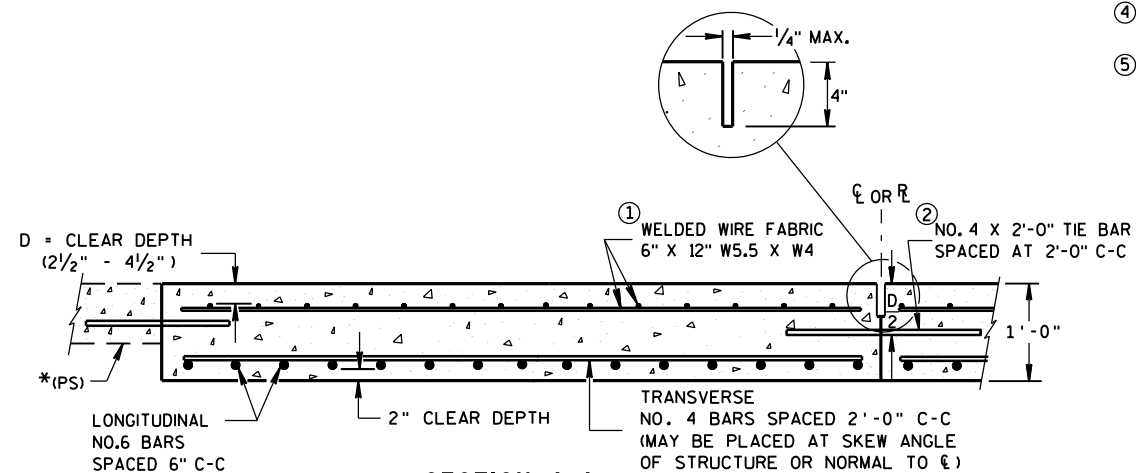
SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')



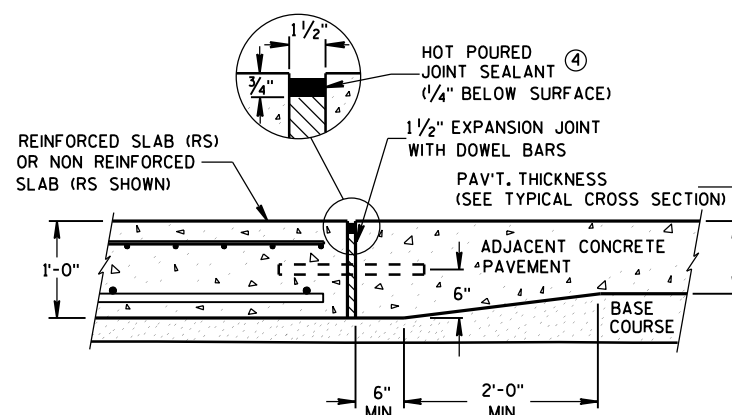
SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT

- *(RS) = REINFORCED CONCRETE SLAB
 *(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 *(NRS) = NON-REINFORCED CONCRETE SLAB
 **STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 ***STANDARD DOWEL BAR DIAMETER
 (SEE SDD 13C11, & SDD 13C13)

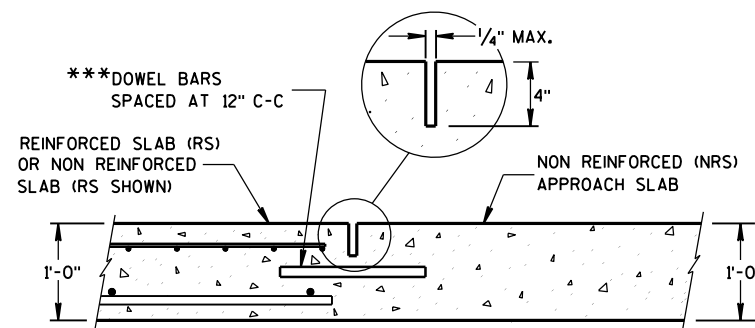
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
 (C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



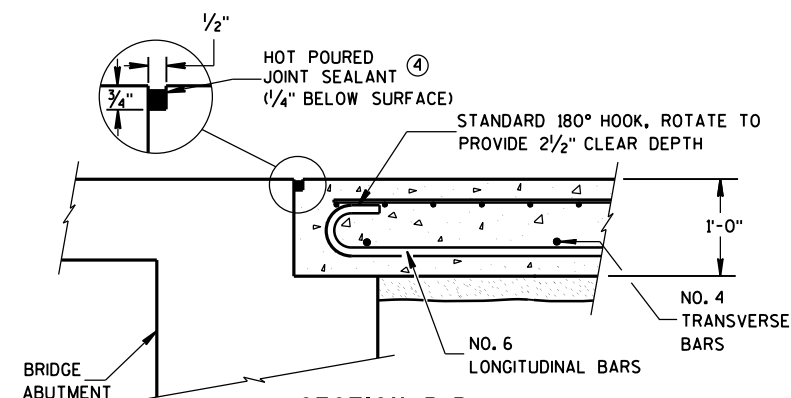
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

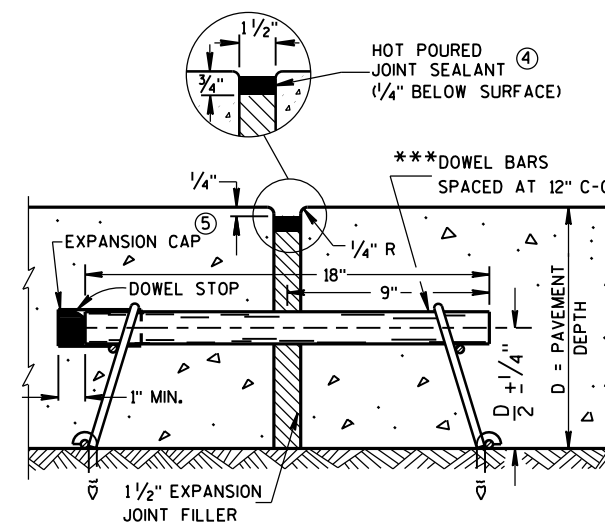
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

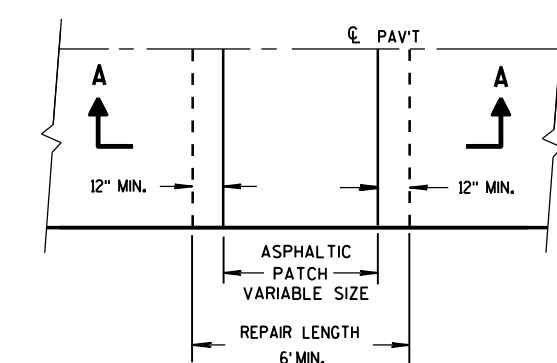
APPROVED

June, 2014

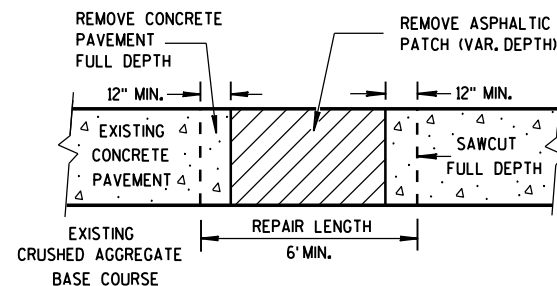
DATE

FHWA

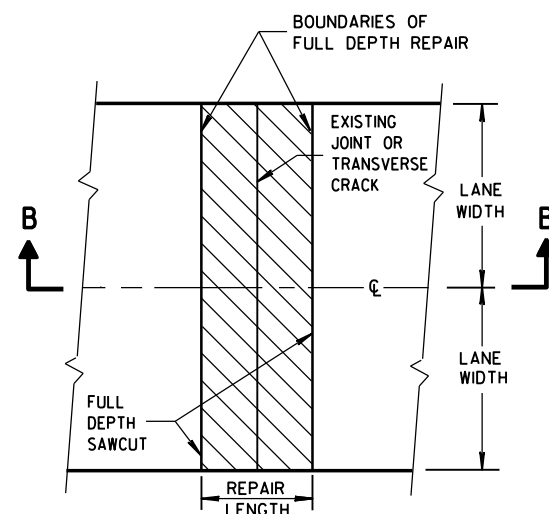
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



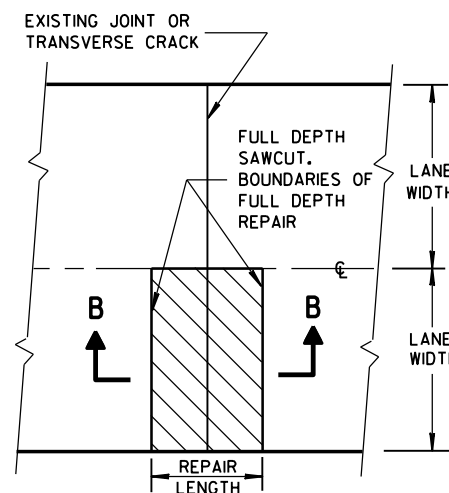
PLAN VIEW



SECTION A-A
HMA PATCH REMOVAL



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

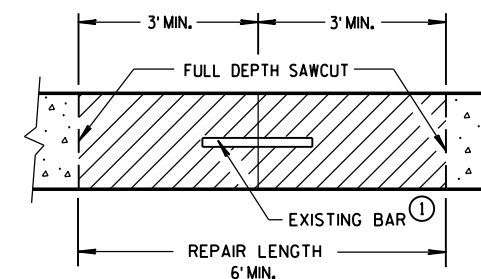
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

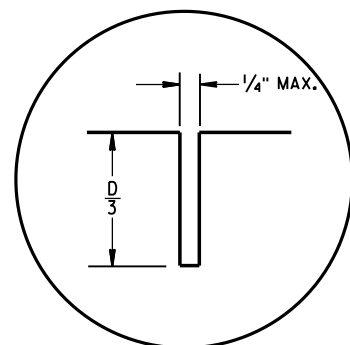
① DOWEL BARS MIGHT NOT EXIST.



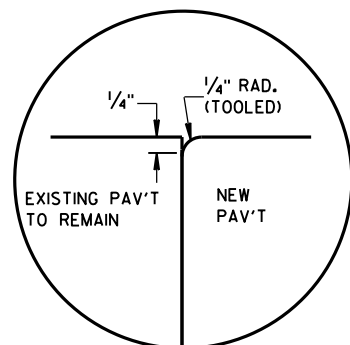
SECTION B-B
CONCRETE REMOVAL

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"

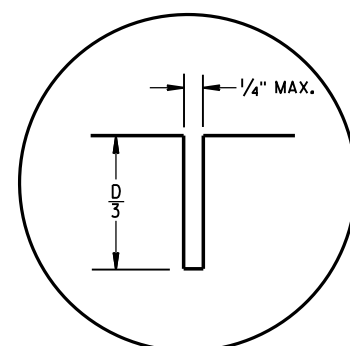


C1

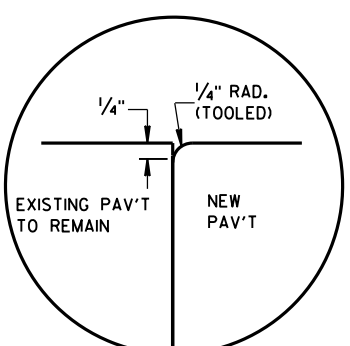


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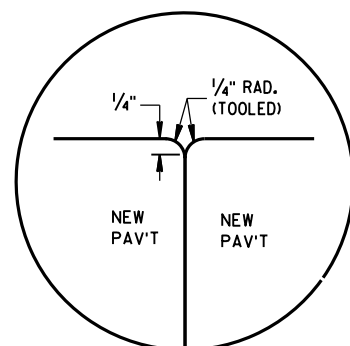
TRANSVERSE JOINTS



L1

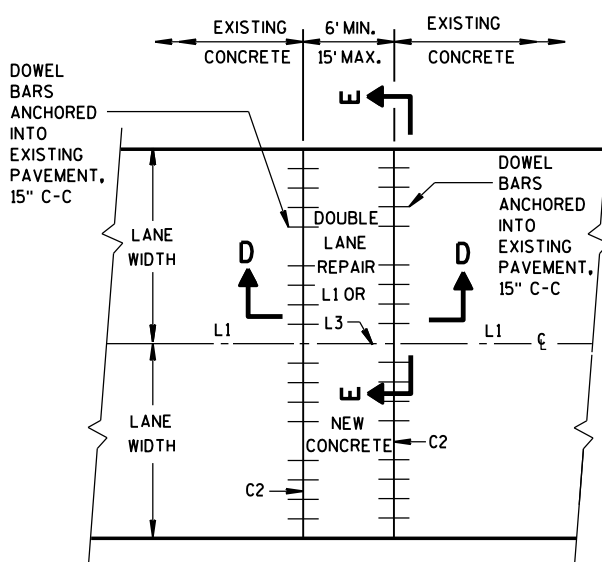


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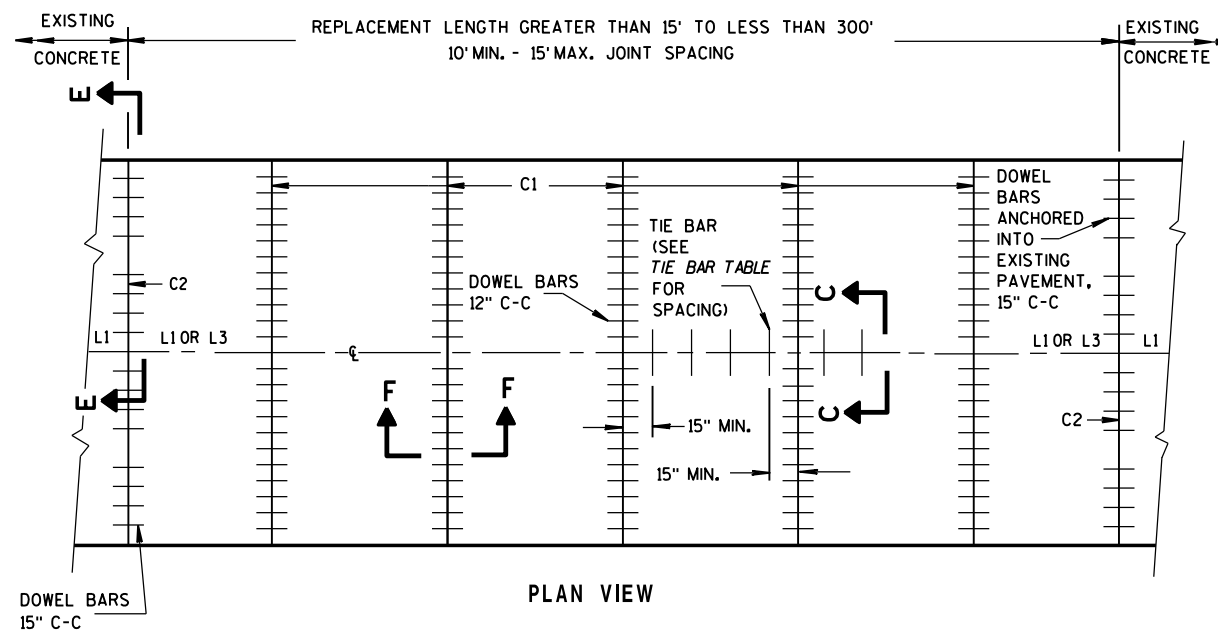
L3

LONGITUDINAL JOINTS



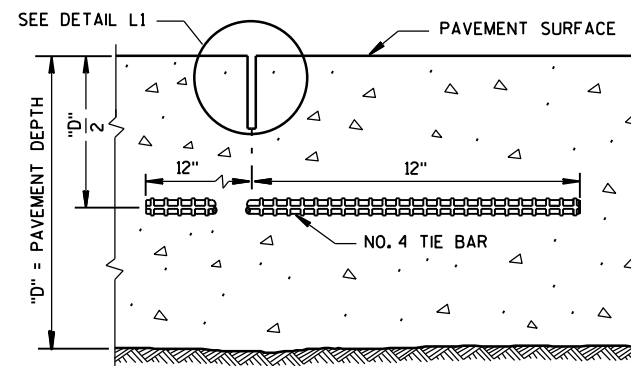
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



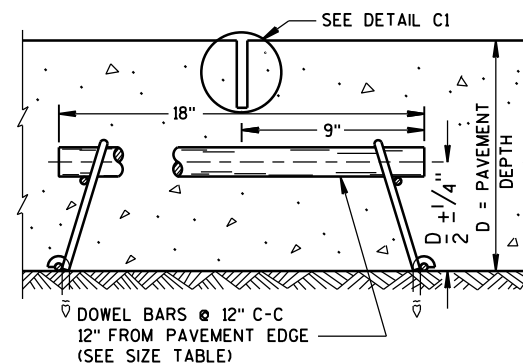
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT



SECTION C-C

SAWED LONGITUDINAL JOINT

SECTION F-F
CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

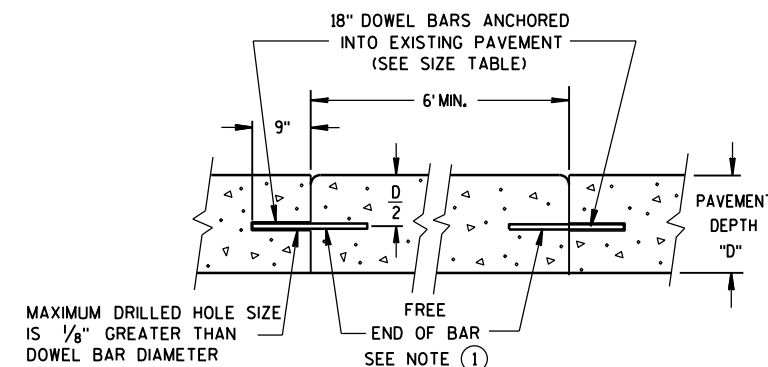
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

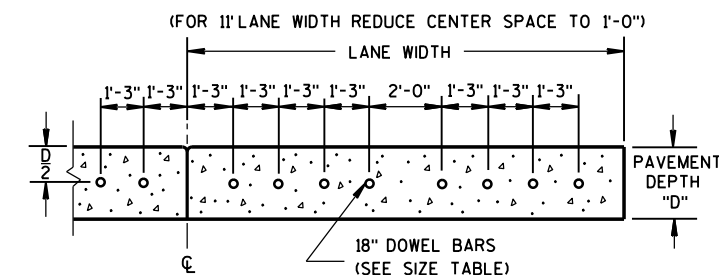
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D-D



SECTION E-E

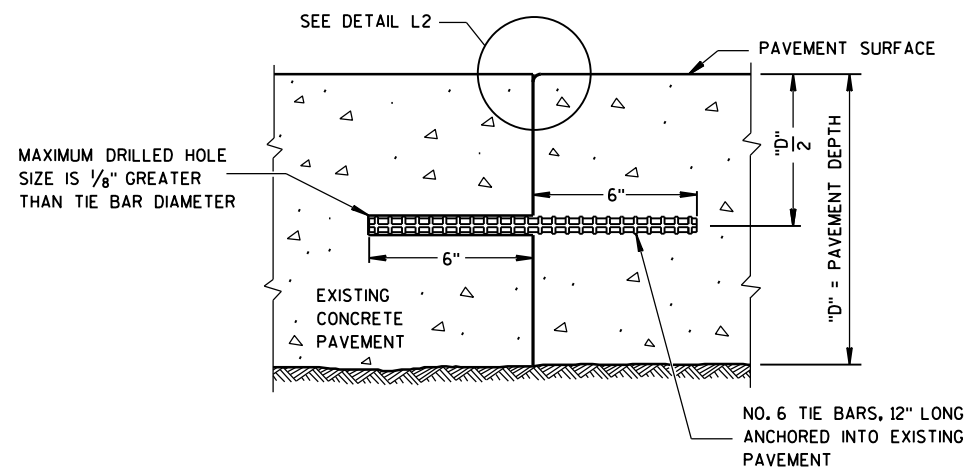
DRILLED DOWEL BAR CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6, 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

CONCRETE PAVEMENT
REPAIR AND REPLACEMENT

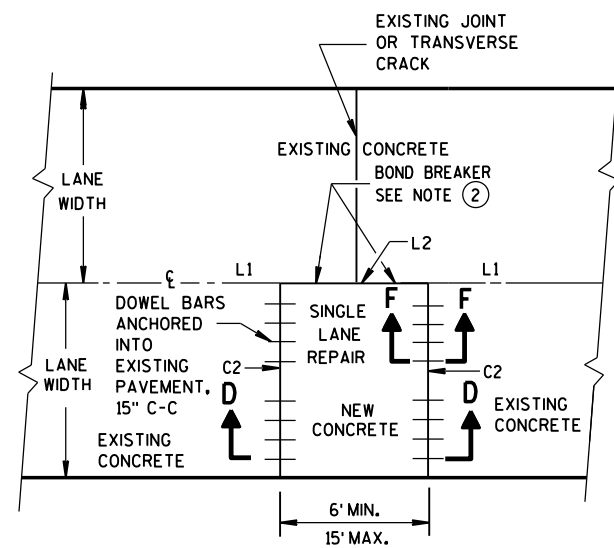
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



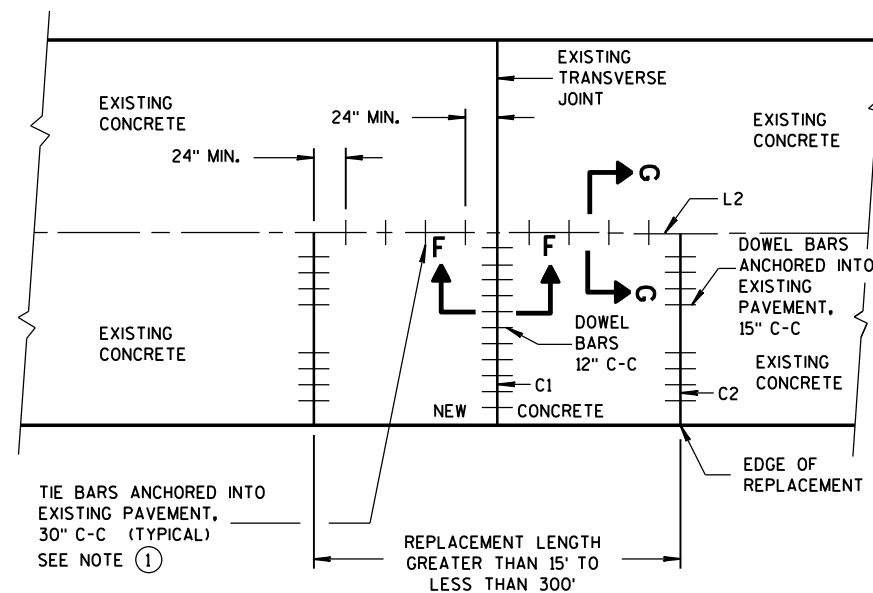
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPAIR



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

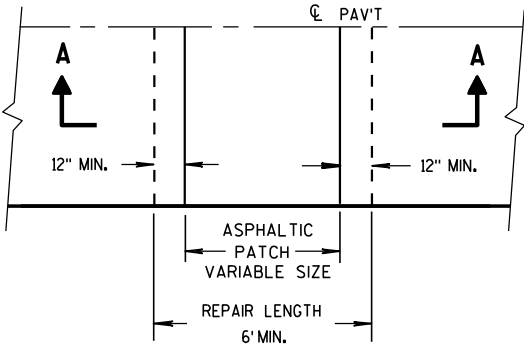
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

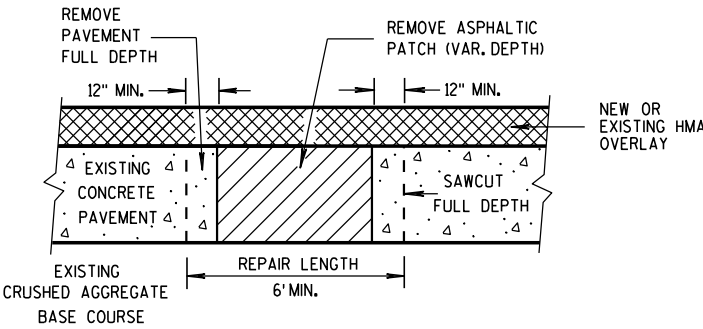
12-2013
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

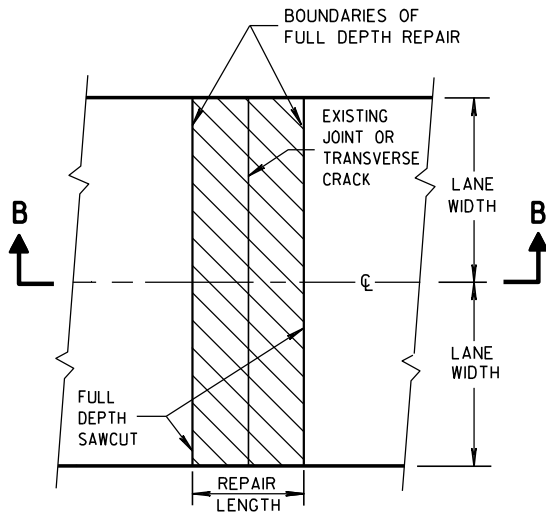


PLAN VIEW

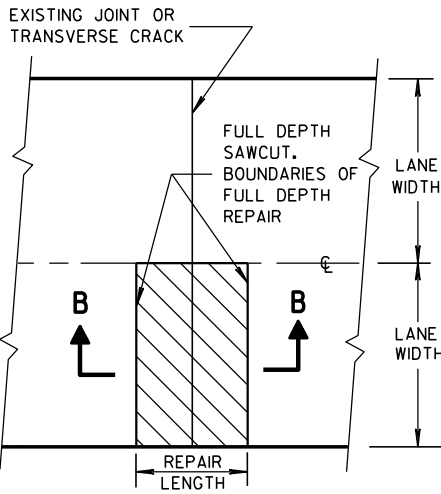


SECTION A-A

HMA PATCH REMOVAL



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

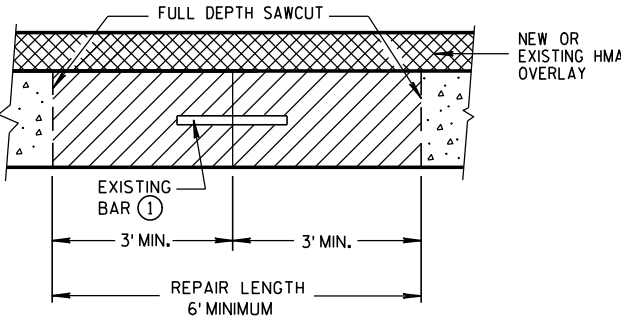
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

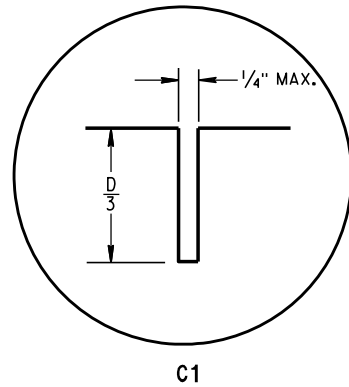
① DOWEL BARS MIGHT NOT EXIST.



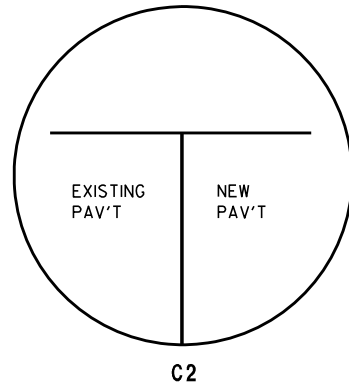
SECTION B-B
CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

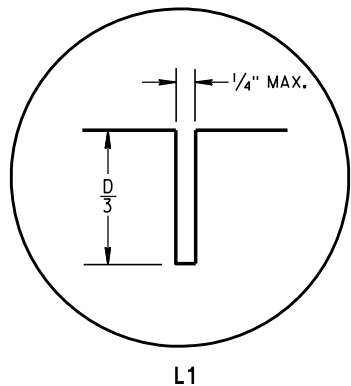


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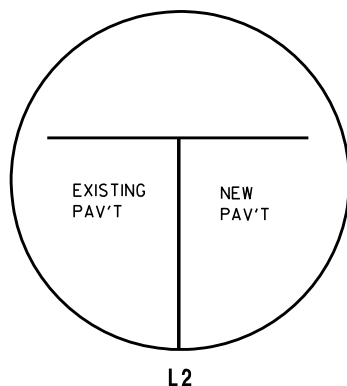


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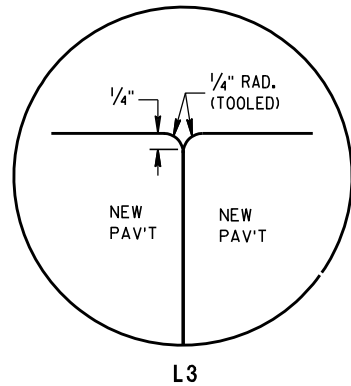
TRANSVERSE JOINTS



L1

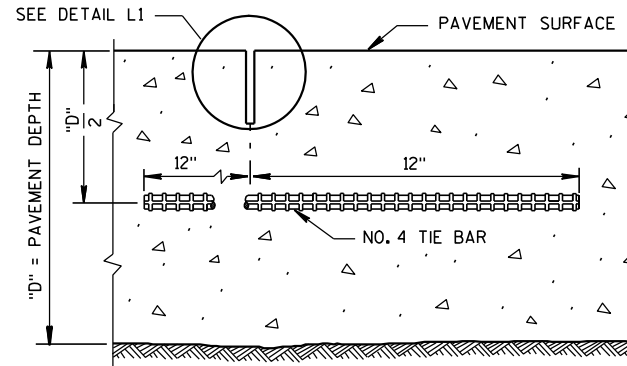


L2

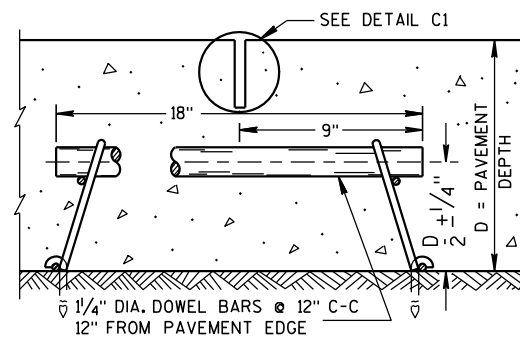


L3

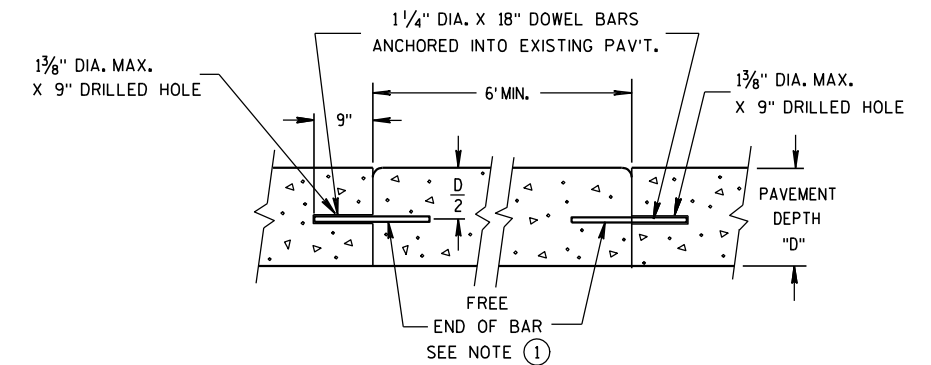
LONGITUDINAL JOINTS



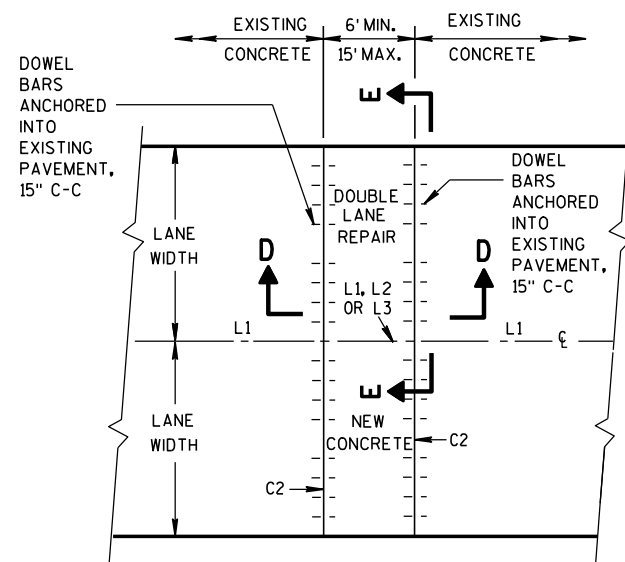
SECTION C-C
SAWED LONGITUDINAL JOINT



SECTION F-F
CONTRACTION JOINT

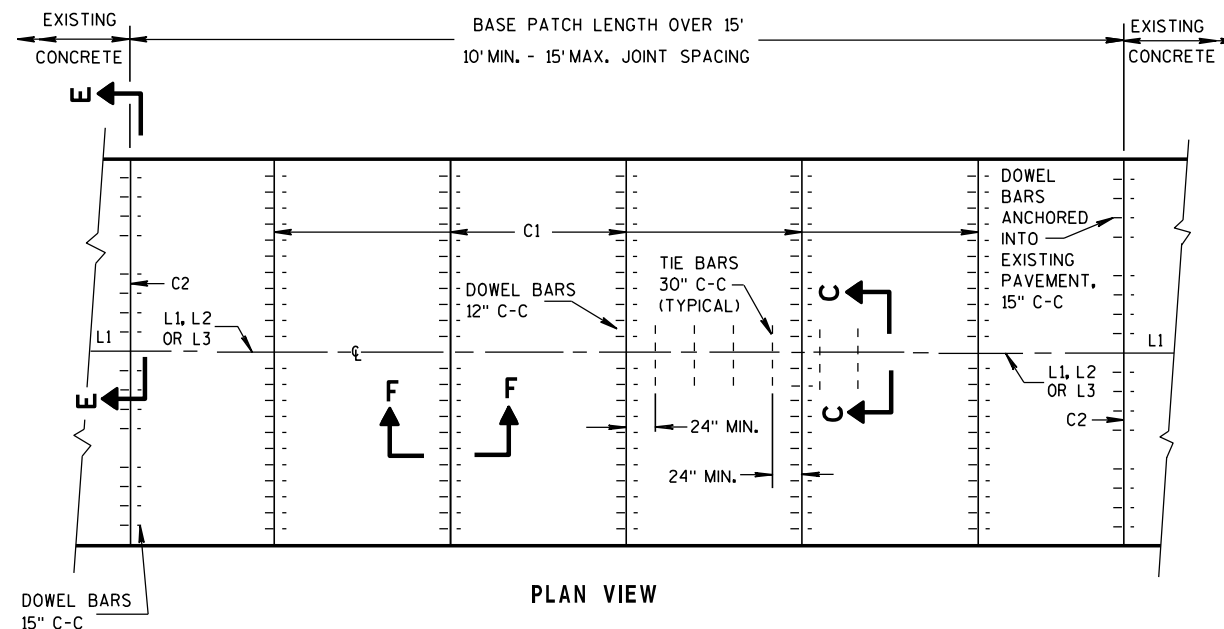


SECTION D-D



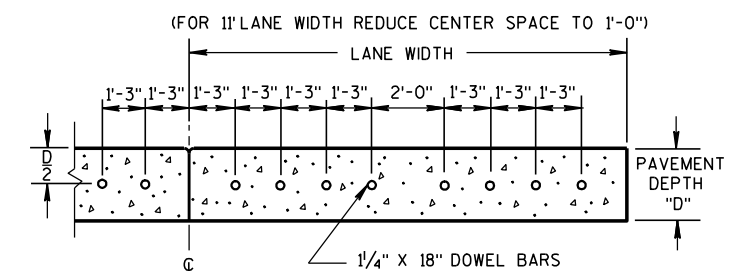
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH



SECTION E-E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

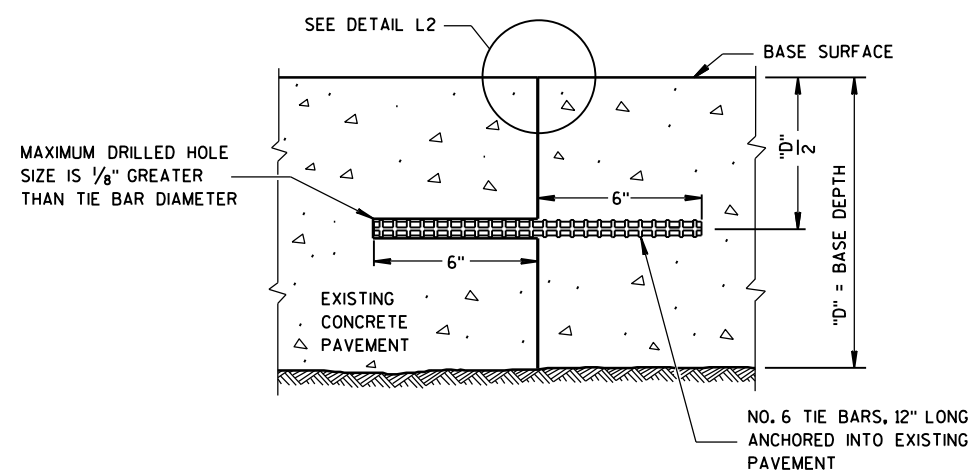
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

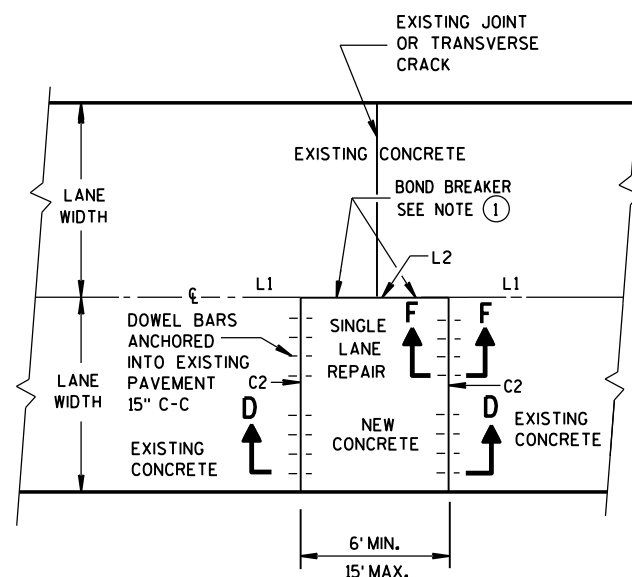
- APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

GENERAL NOTES

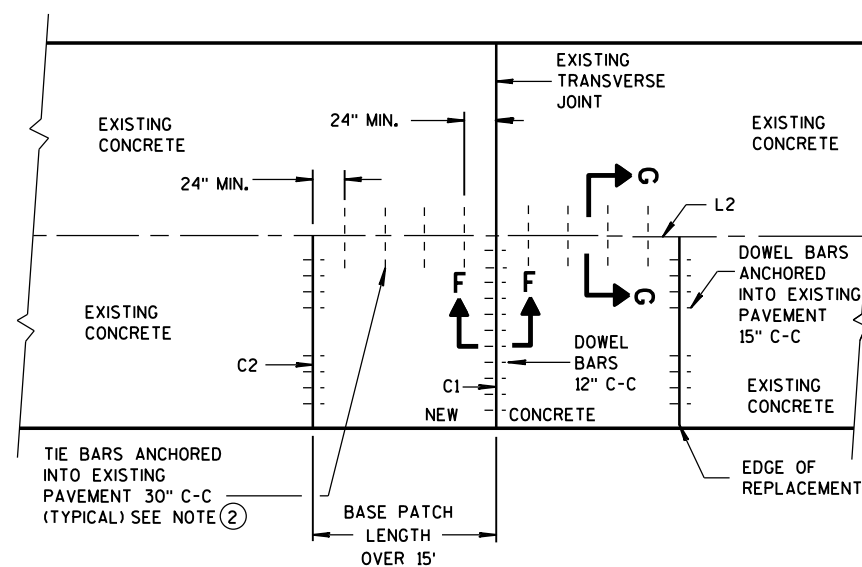
- ① USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.
- ② WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-11-2009
DATE/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA

6

S.D.D. 14 B 15-8a

- 6

S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a

S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a



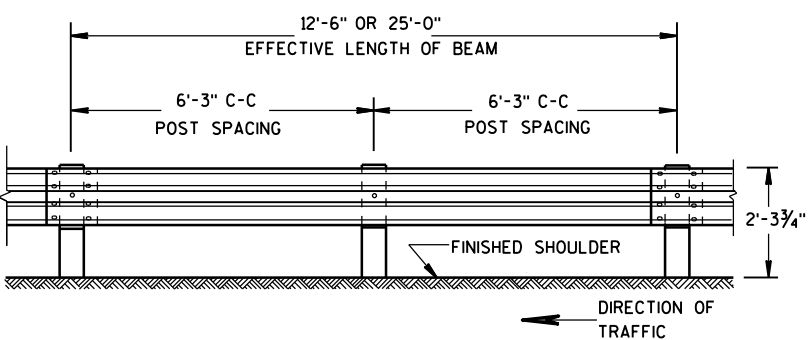
S.D.D. 14 B 15-8a



S.D.D. 14 B 15-8a

S.D.D. 14 B 15-8a

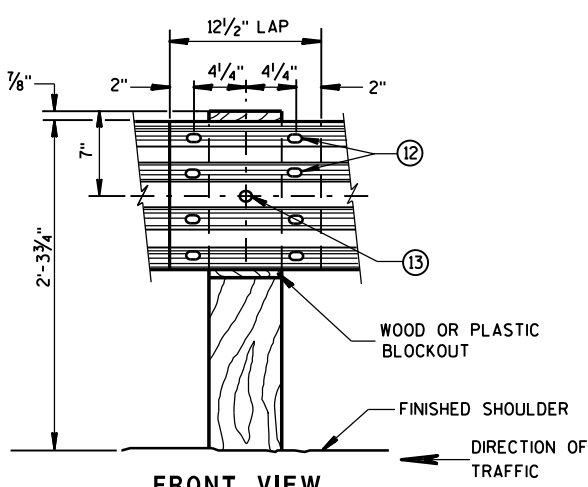
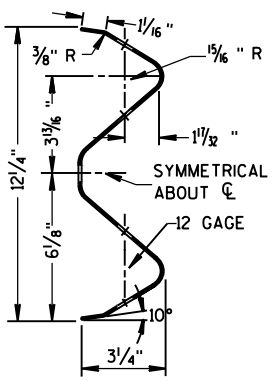
S.D.D. 14 B 15-8a



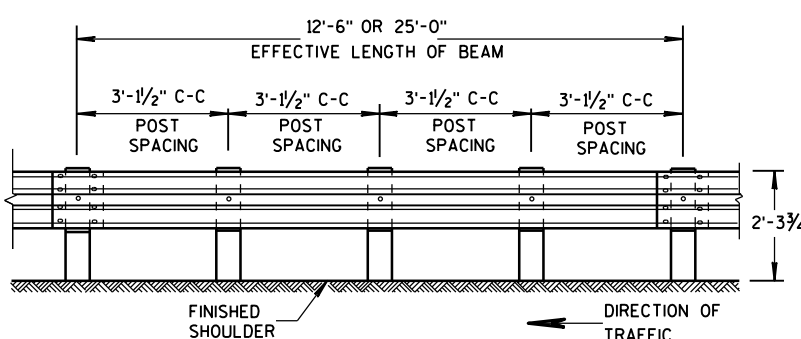
FRONT VIEW

POST SPACING STANDARD INSTALLATION

SECTION THRU W BEAM

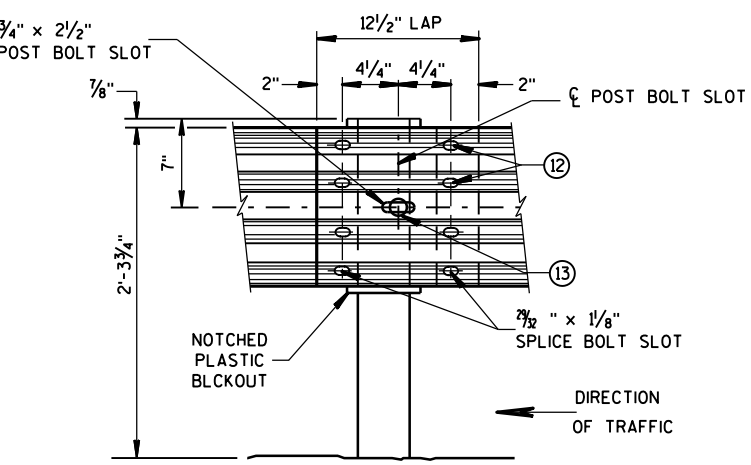


FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL



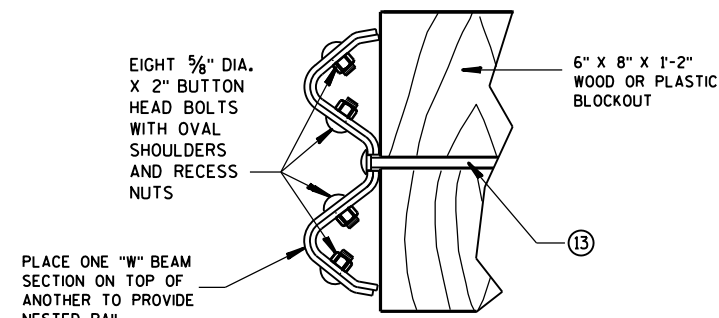
FRONT VIEW

POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW
BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

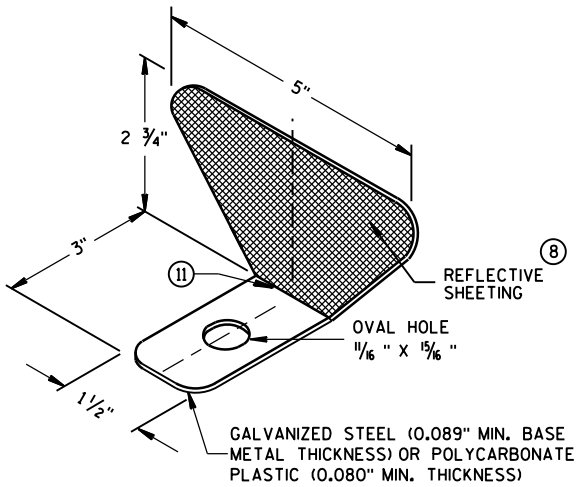
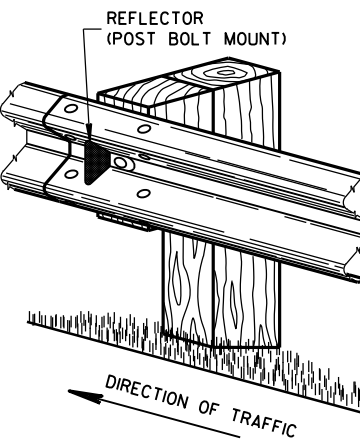


NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING^⑨

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	3
TWO WAY TRAFFIC	< 200'	25' C-C	1 ^⑩	6
	> 200'	50' C-C	1 ^⑩	6
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^⑪	3
	> 200'	100' C-C	2 ^⑪	3



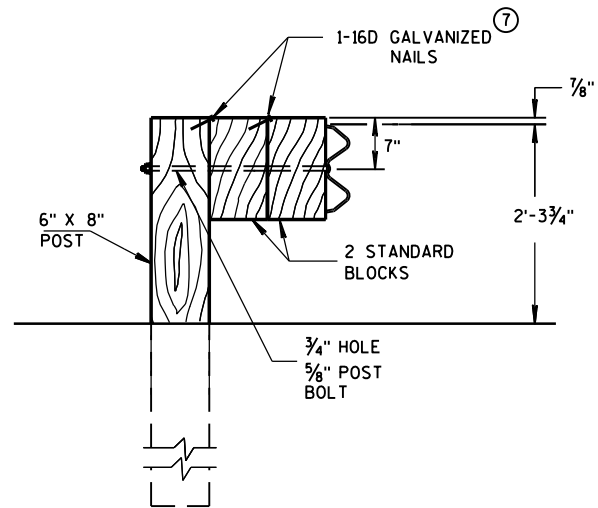
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

- ⑧ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- ⑩ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑪ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
- ⑫ 8 - 5/8" φ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

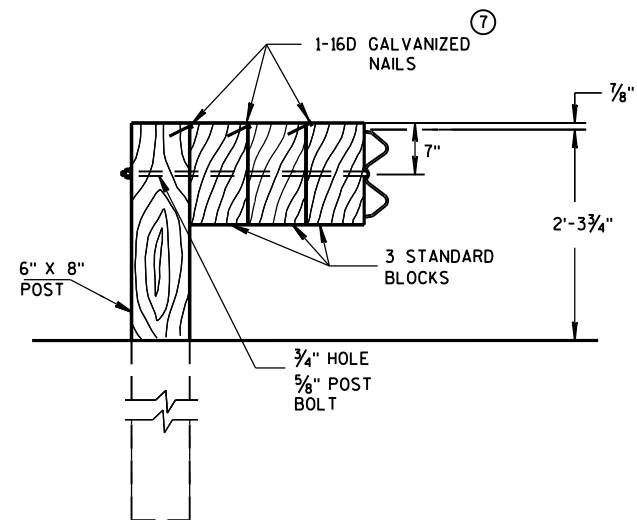
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

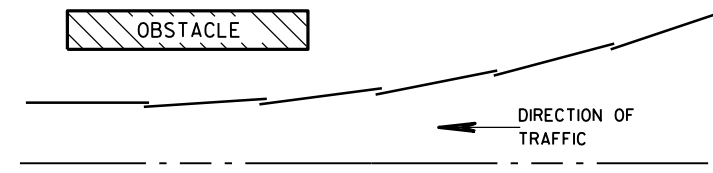


DETAIL FOR TRIPLE BLOCKS

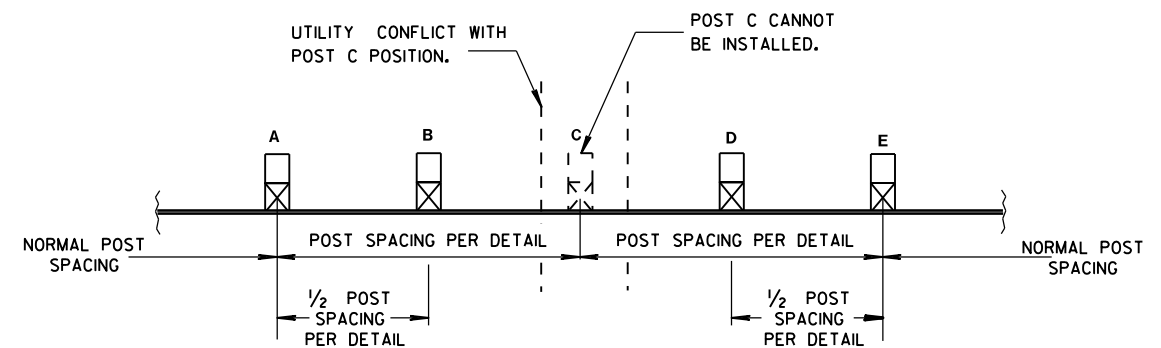
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014

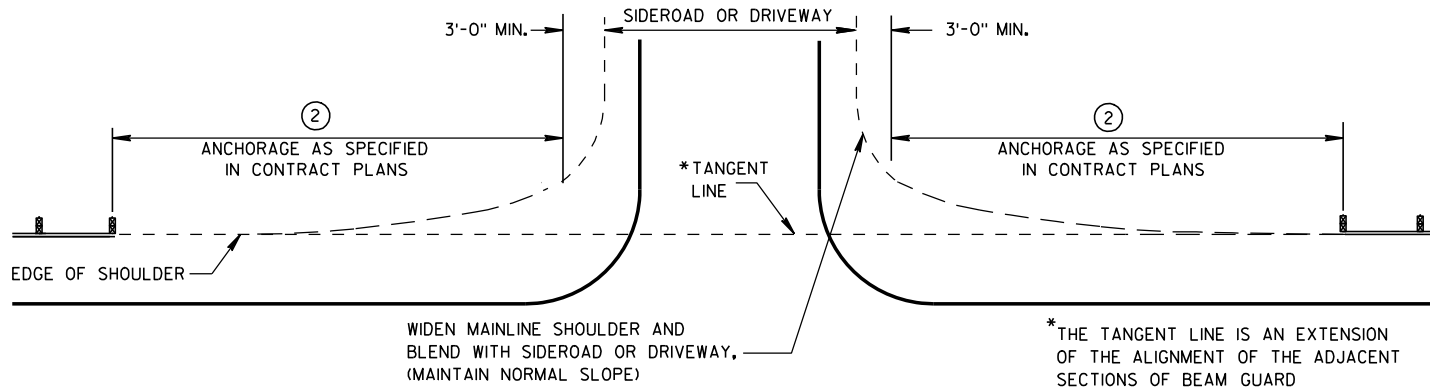
DATE

FHWA

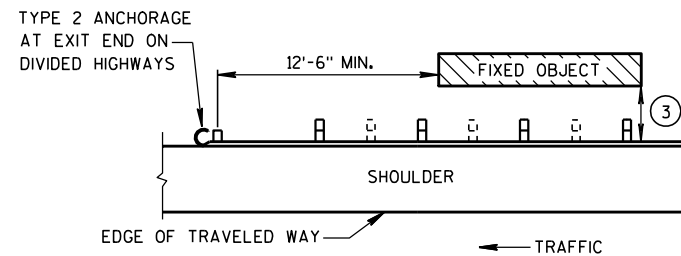
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

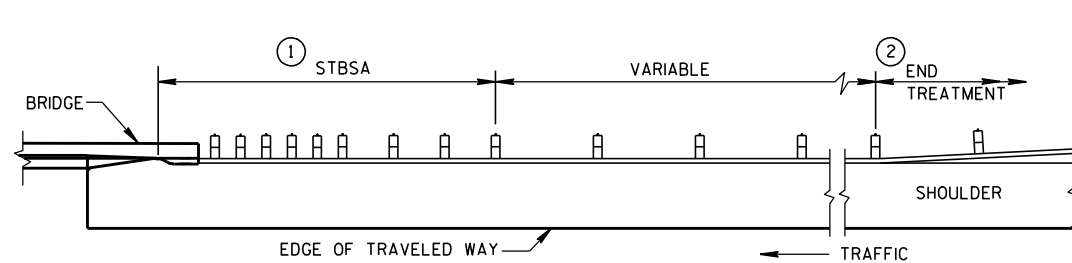
ENGINEER



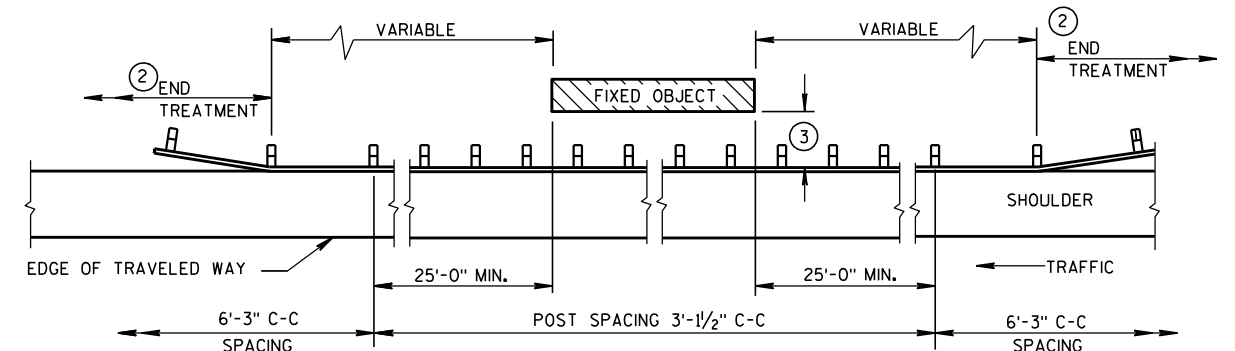
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES

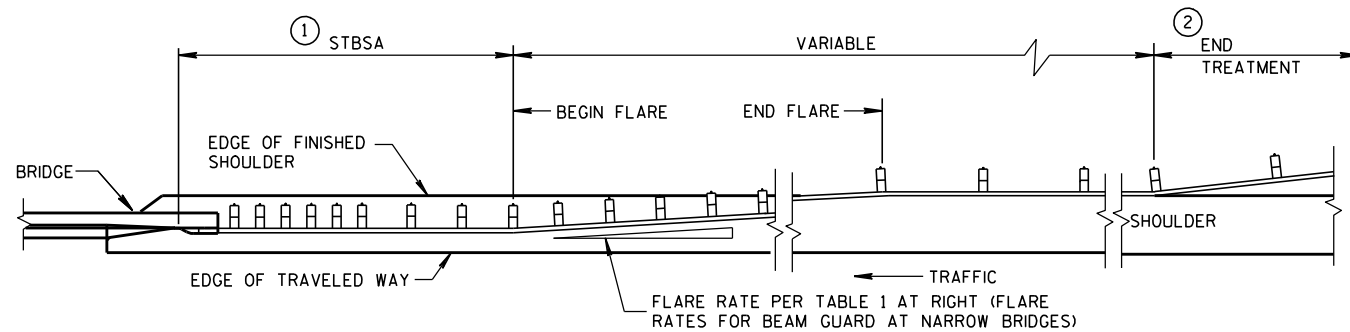


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1



BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

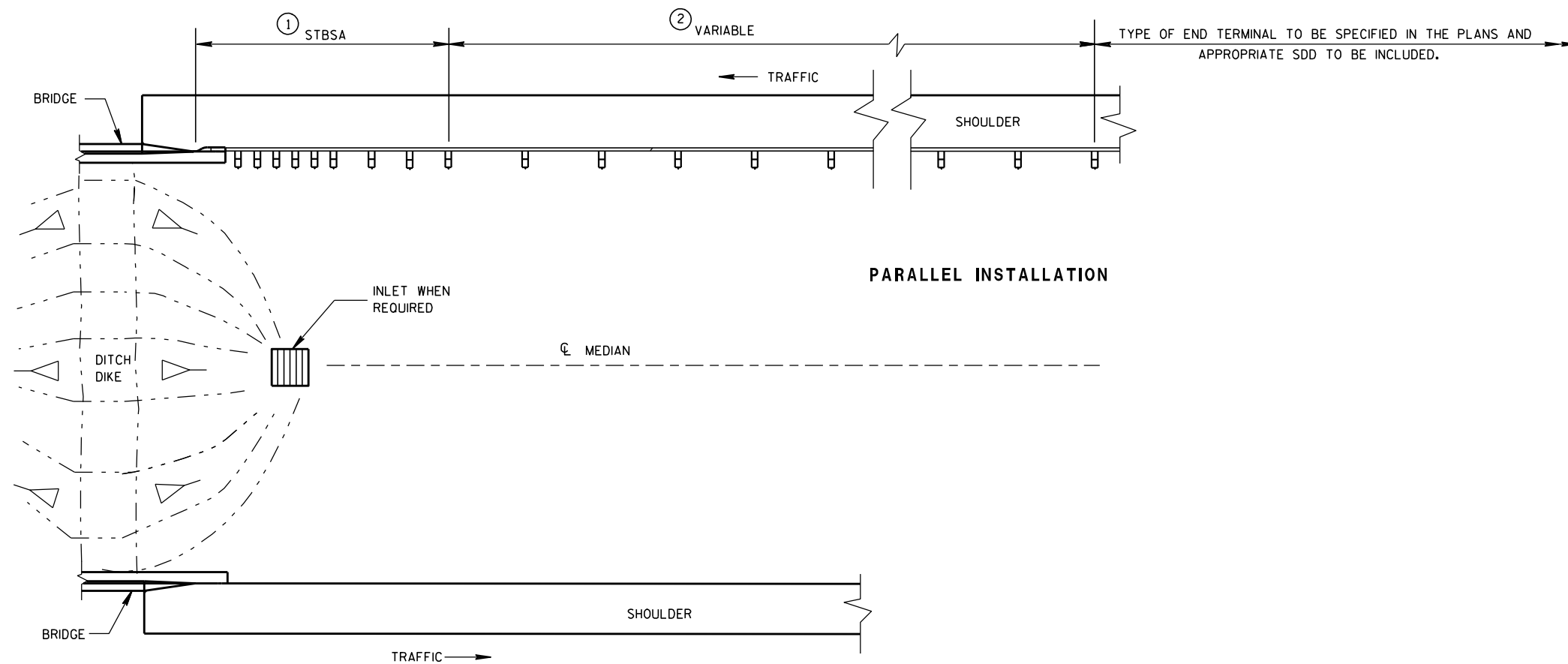
- STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1 1/2"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

GENERAL NOTES

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

STEEL PLATE BEAM GUARD
CLASS "A" AT
MEDIAN APPROACH TO BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

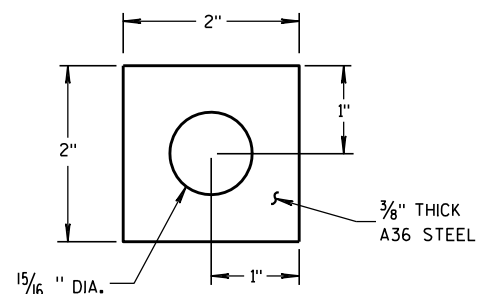
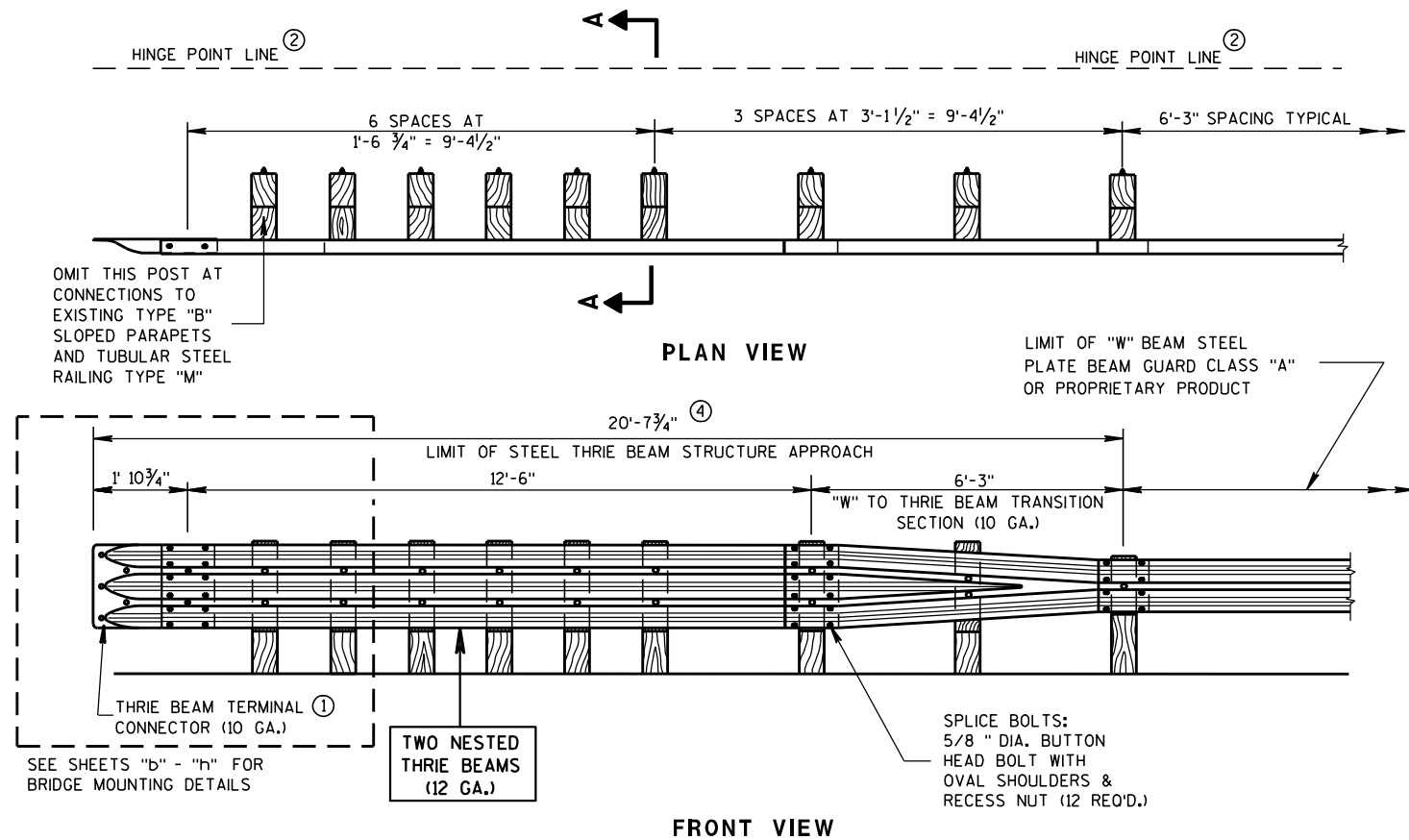


PLATE WASHER DETAIL

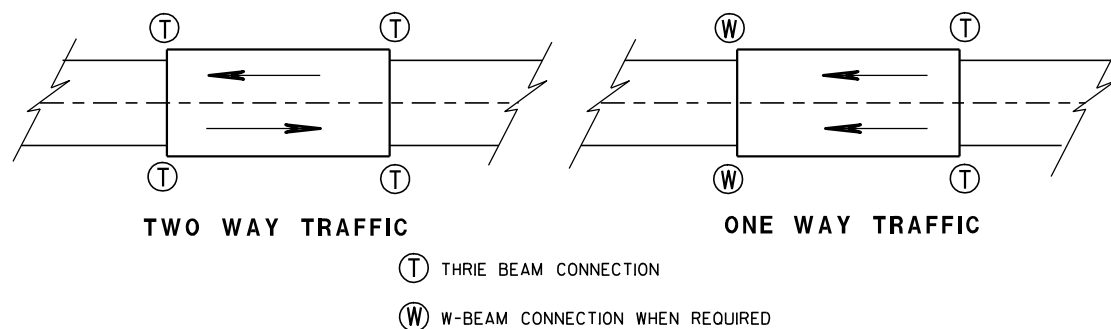
GENERAL NOTES

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".

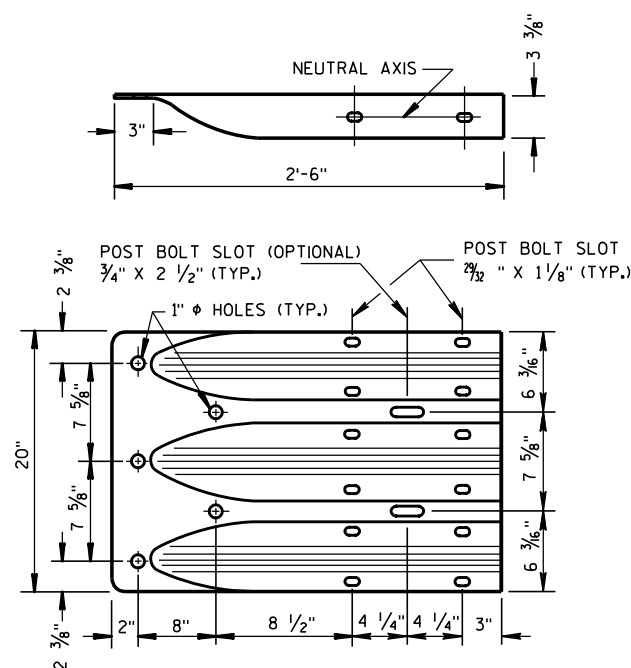
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

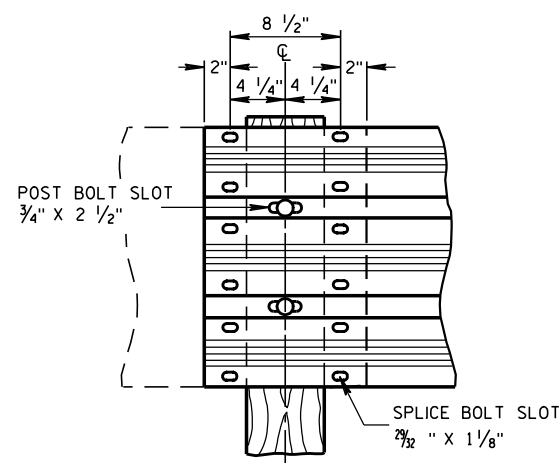
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



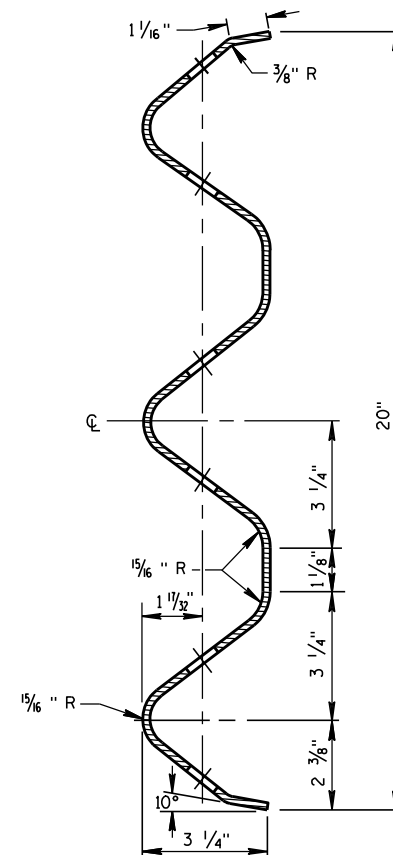
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



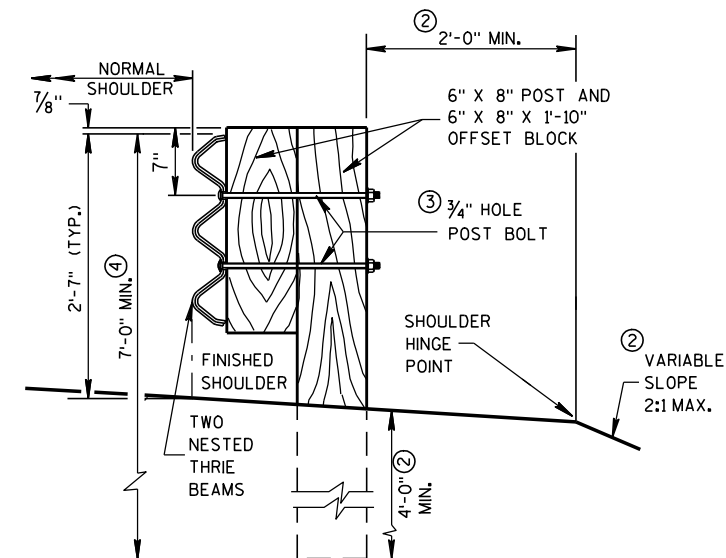
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

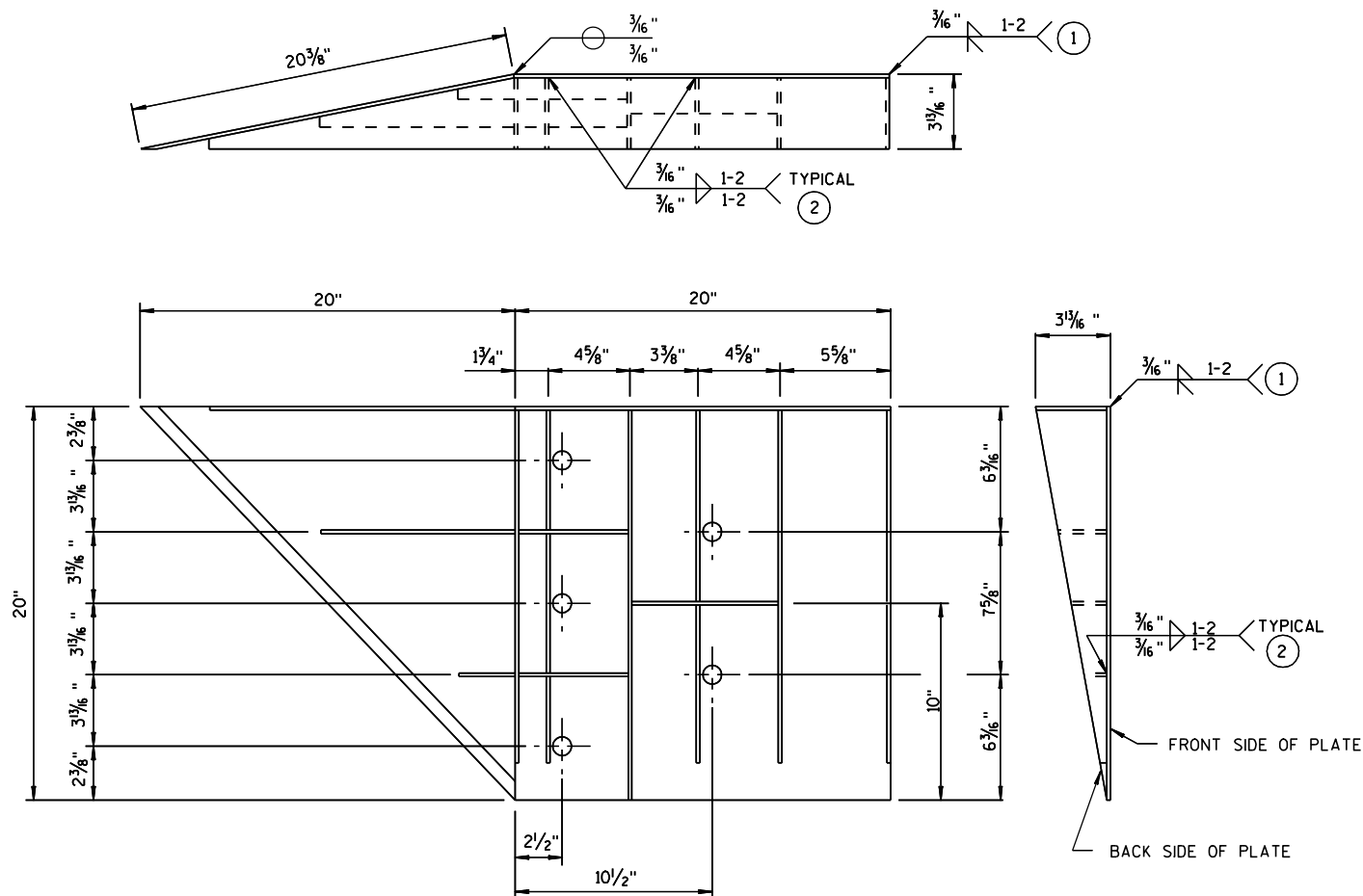
DATE

FHWA

/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 5/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 7/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

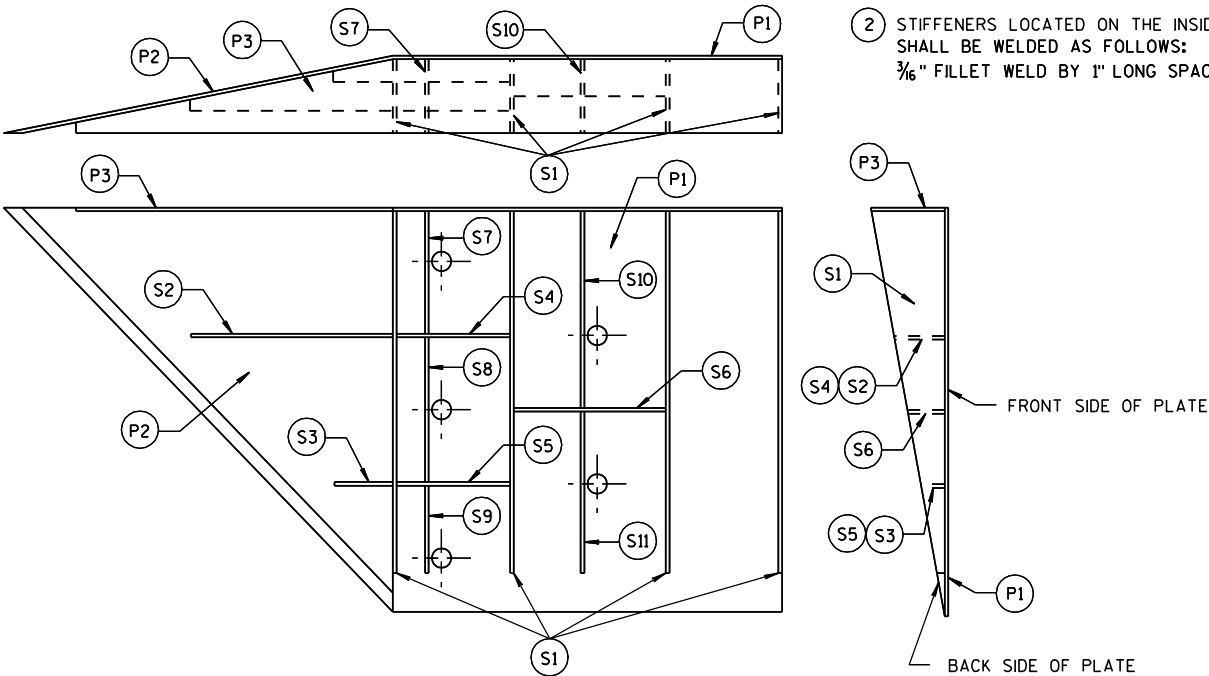


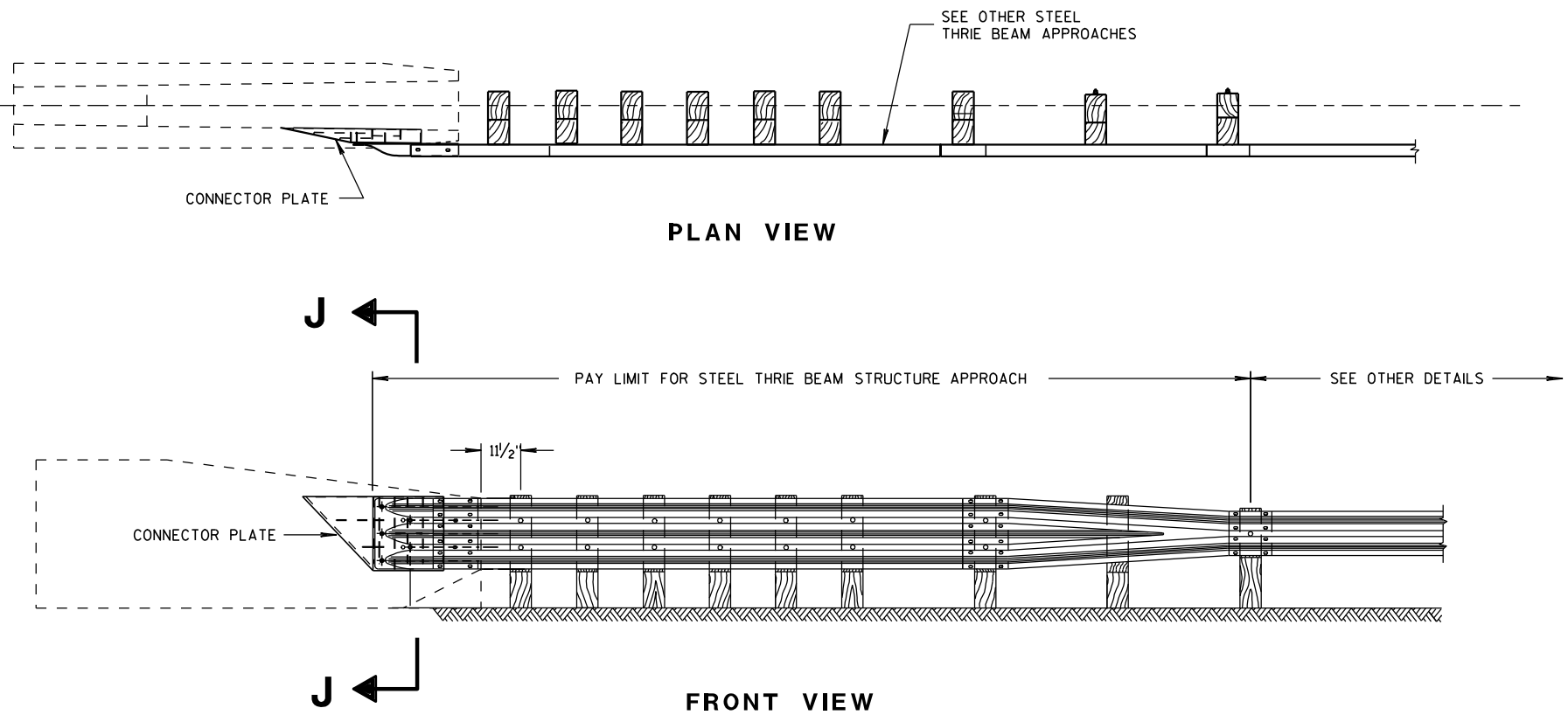
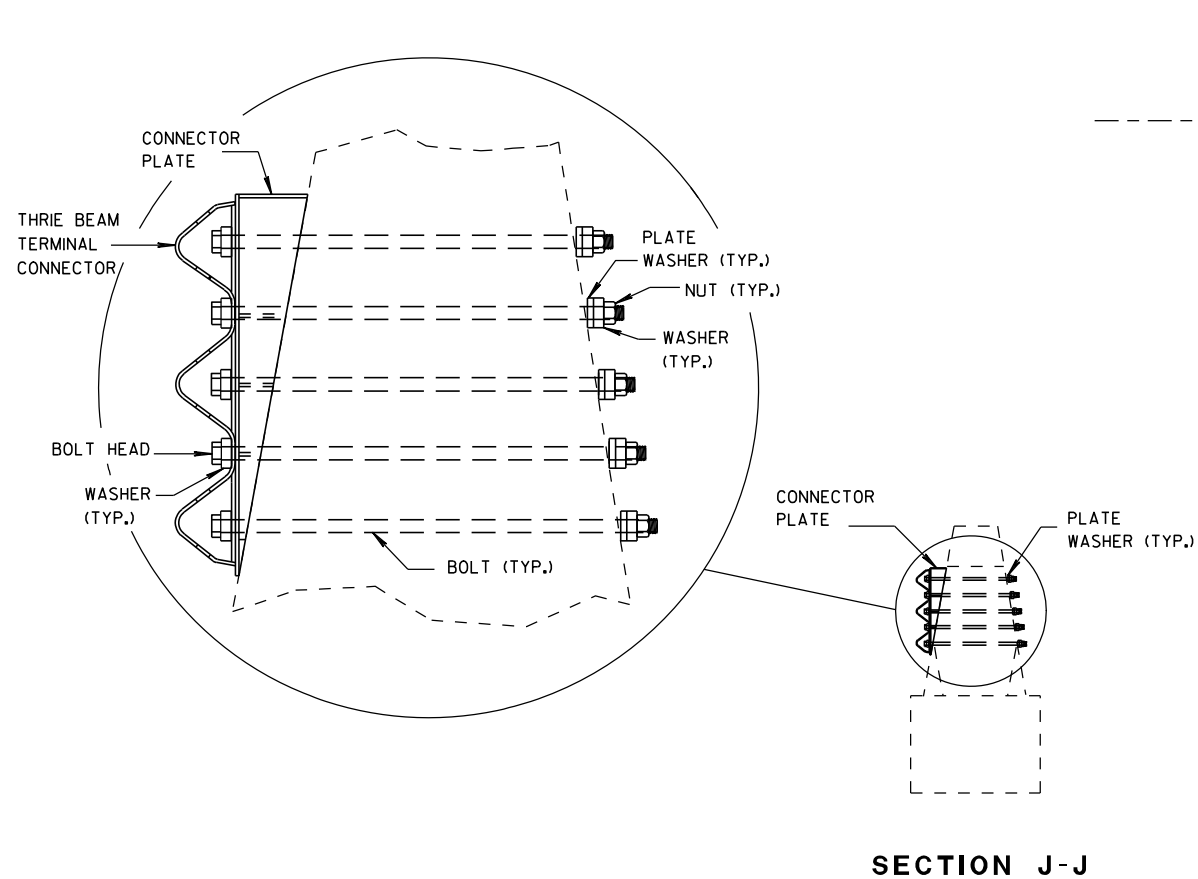
PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

**STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



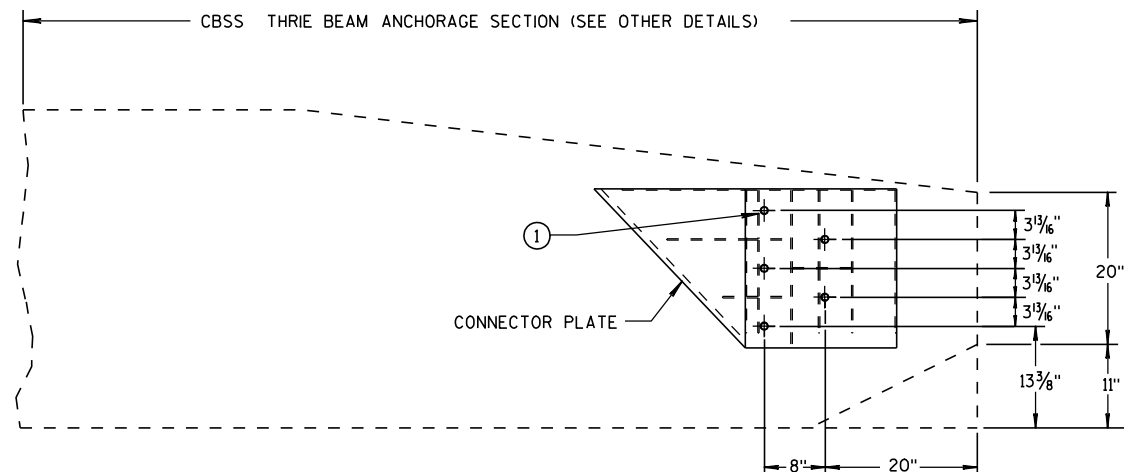
SECTION J-J

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



CONNECTOR PLATE LOCATION

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM
STRUCTURE APPROACH,
SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

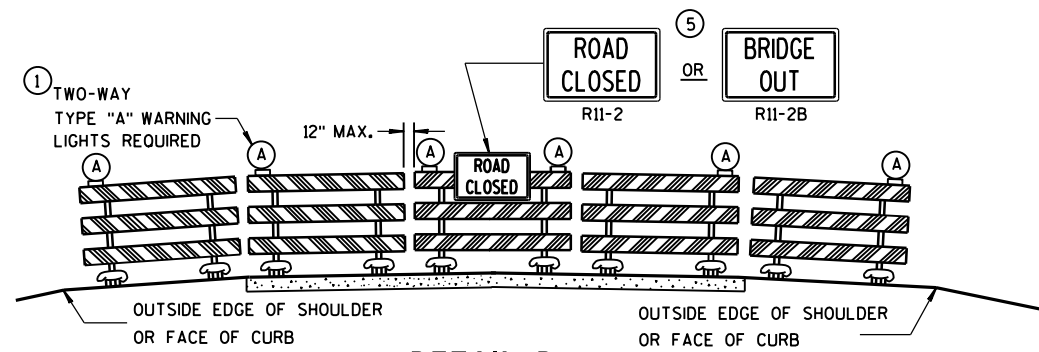
DATE

FHWA

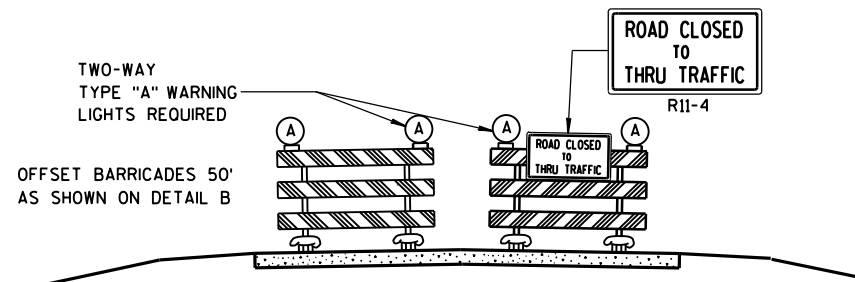
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



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.

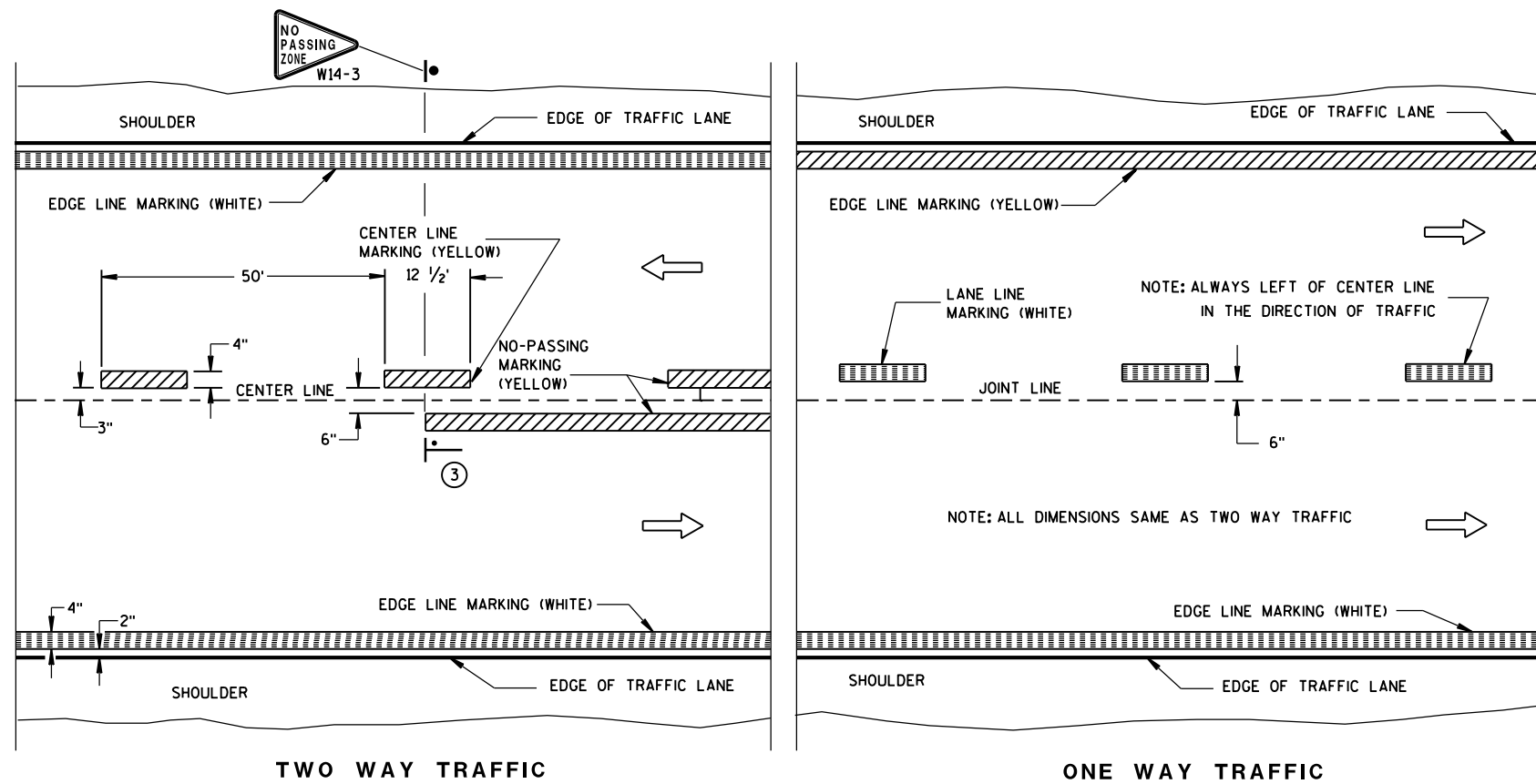
R1-1 SHALL BE 36" X 36".

- 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 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



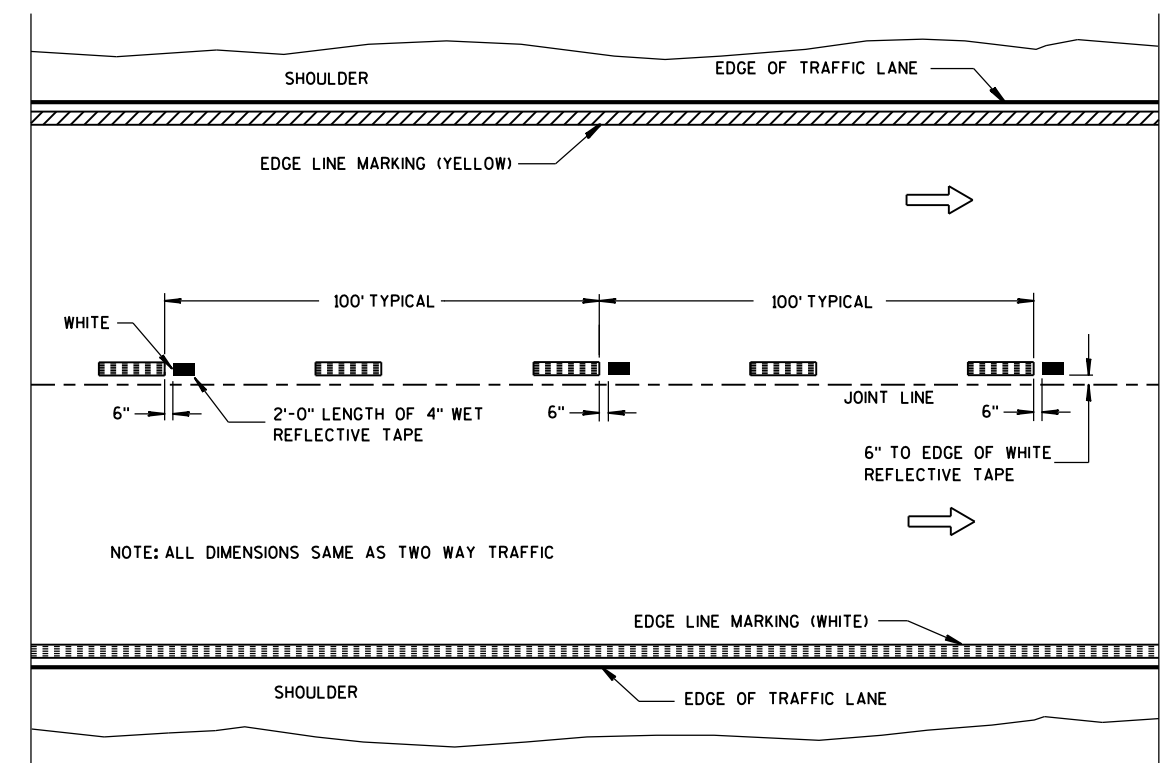
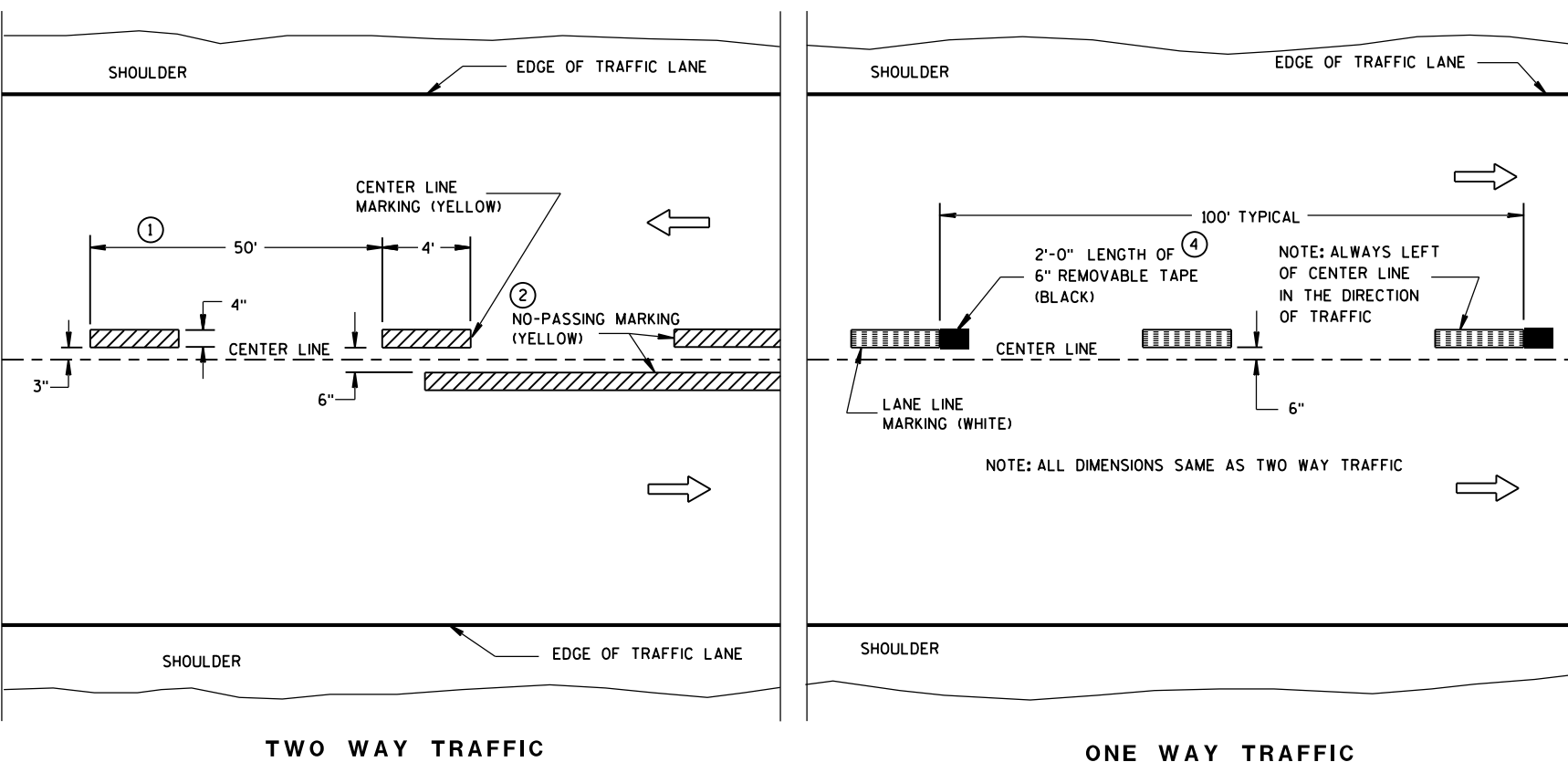
GENERAL NOTES

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)

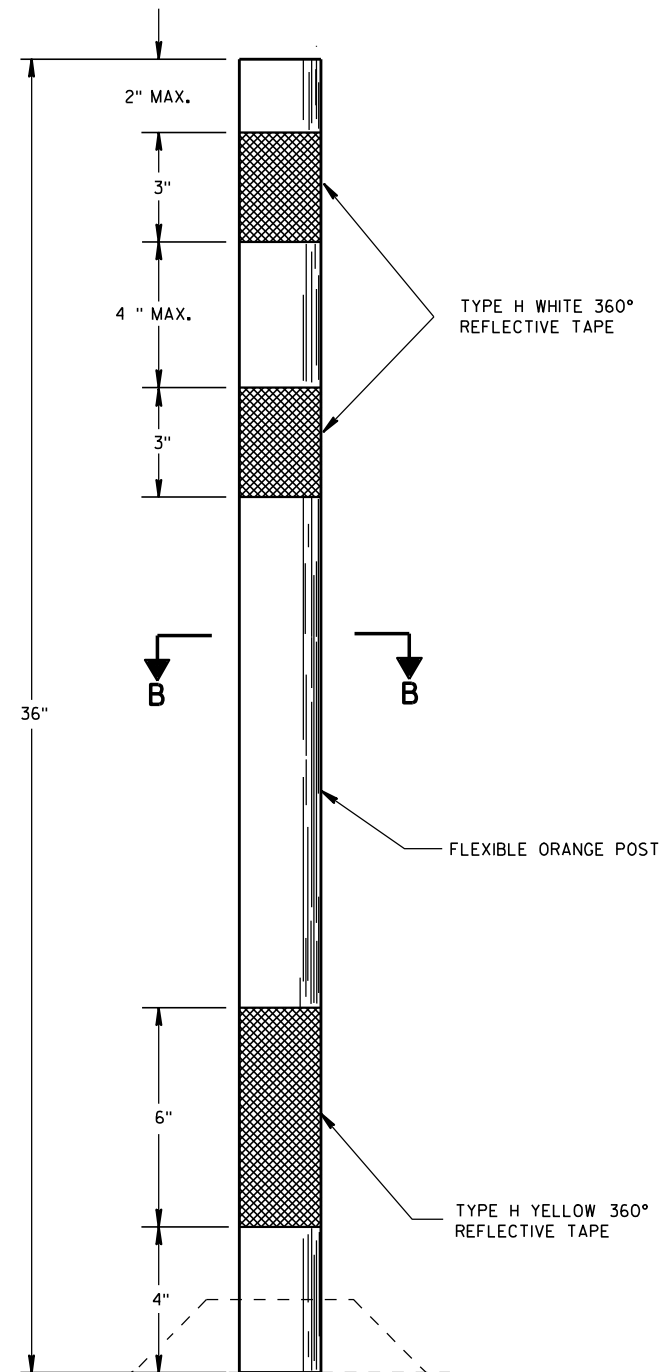
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

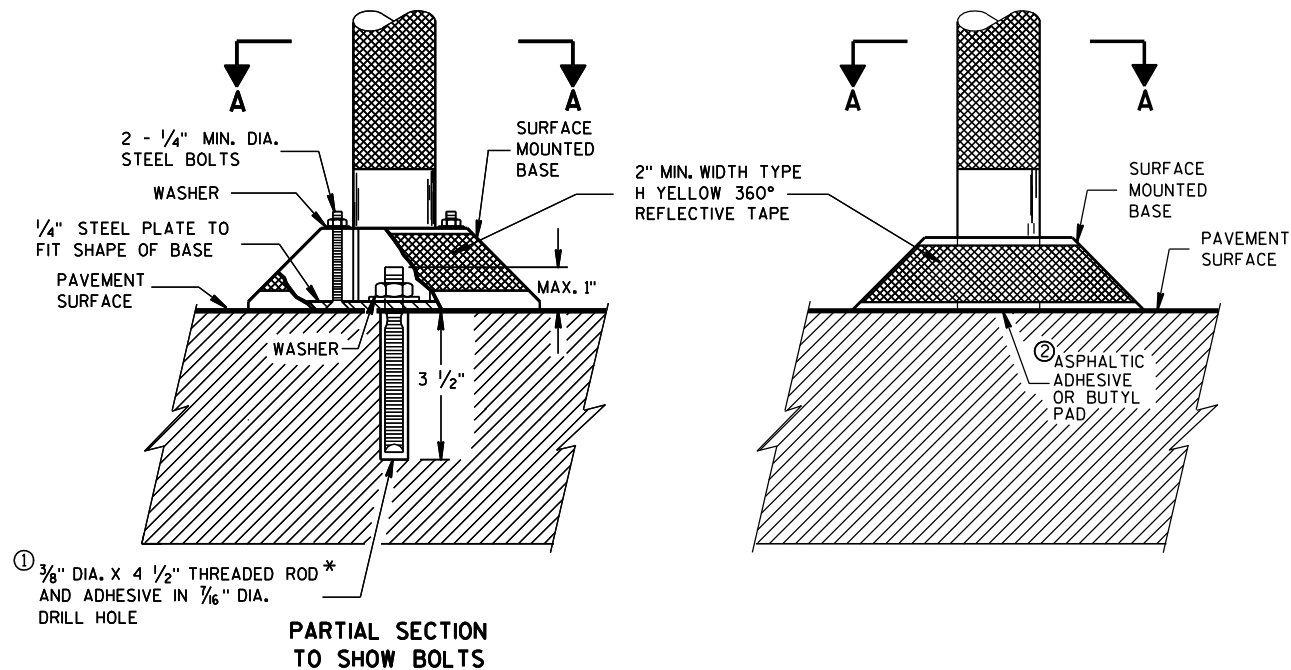
5-13-2013
DATE

FHWA

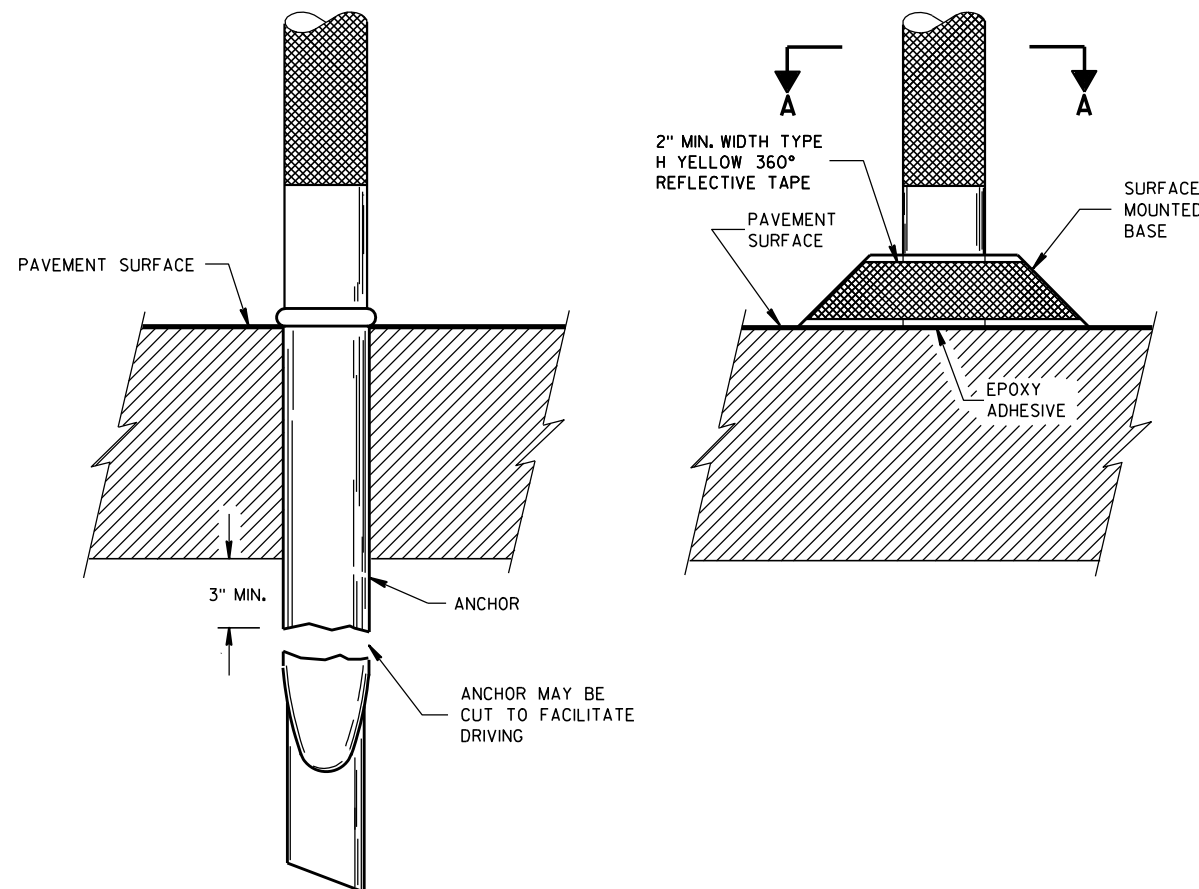
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



FLEXIBLE TUBULAR MARKER POST

PARTIAL SECTION
TO SHOW BOLTS

POST BASES ON NEW OR EXISTING PAVEMENT



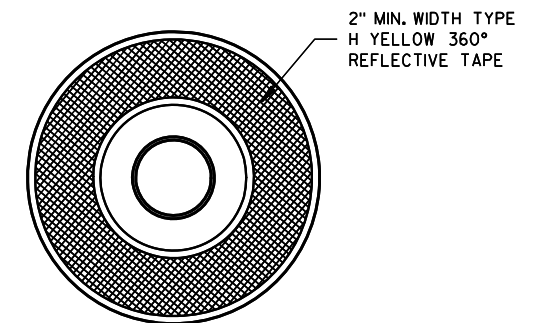
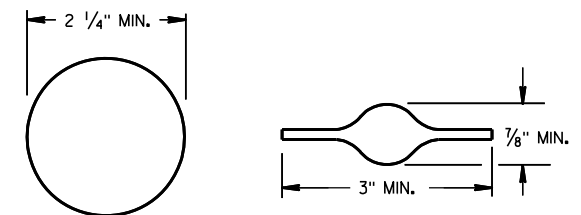
POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

- ① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.
- ② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

SECTION A-A
SURFACE MOUNTED BASESECTION B-B
ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER
POST, ANCHOR & BASES

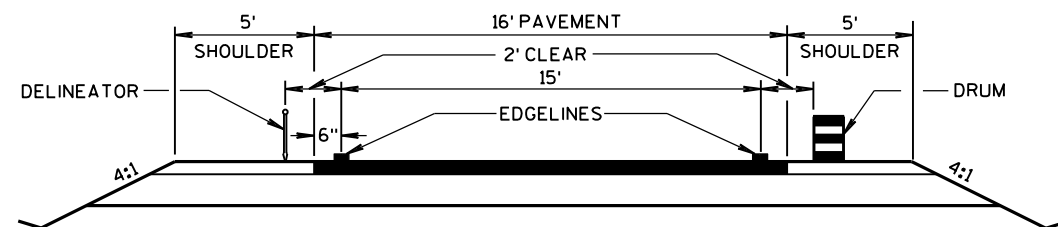
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94
DATE

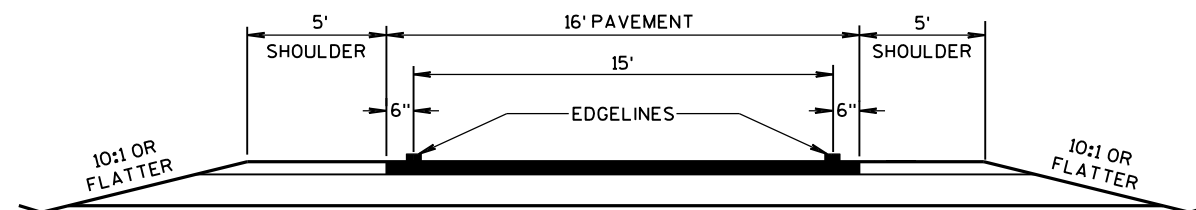
FHWA

/S/ Chester J. Spang
DIRECTOR, OFFICE OF TRAFFIC



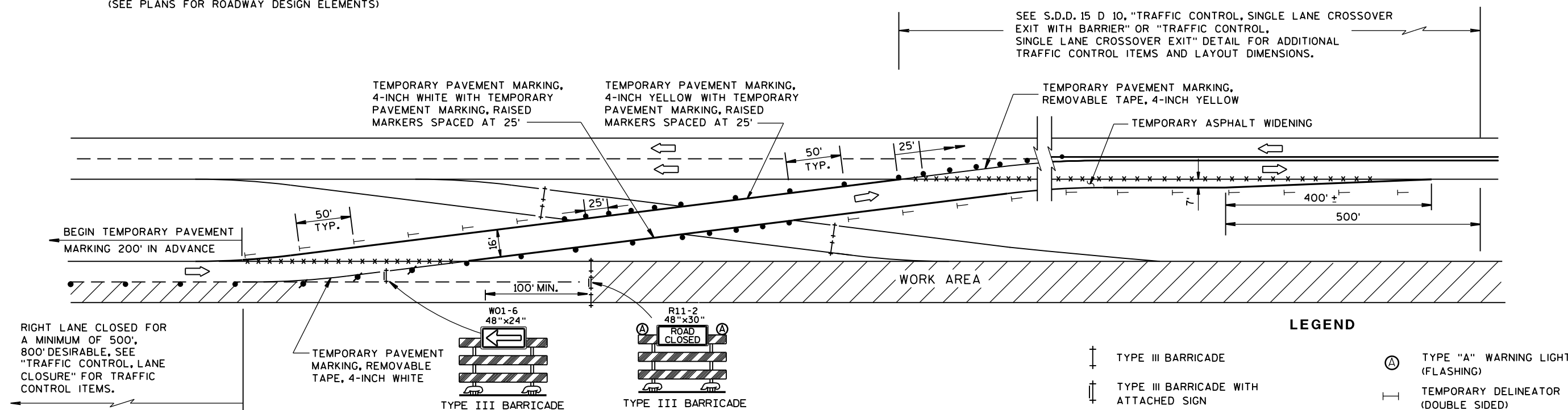
TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLANS FOR ROADWAY DESIGN ELEMENTS)



LEGEND

- | | |
|--|-------------------------------------|
| TYPE III BARRICADE | TYPE "A" WARNING LIGHT (FLASHING) |
| TYPE III BARRICADE WITH ATTACHED SIGN | TEMPORARY DELINEATOR (DOUBLE SIDED) |
| TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT | REMOVING PAVEMENT MARKINGS |
| TRAFFIC CONTROL DRUM | DELINEATOR FLEXIBLE/TUBULAR MARKER |
| TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) | DIRECTION OF TRAFFIC |
| COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING | WORK AREA |

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.

THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

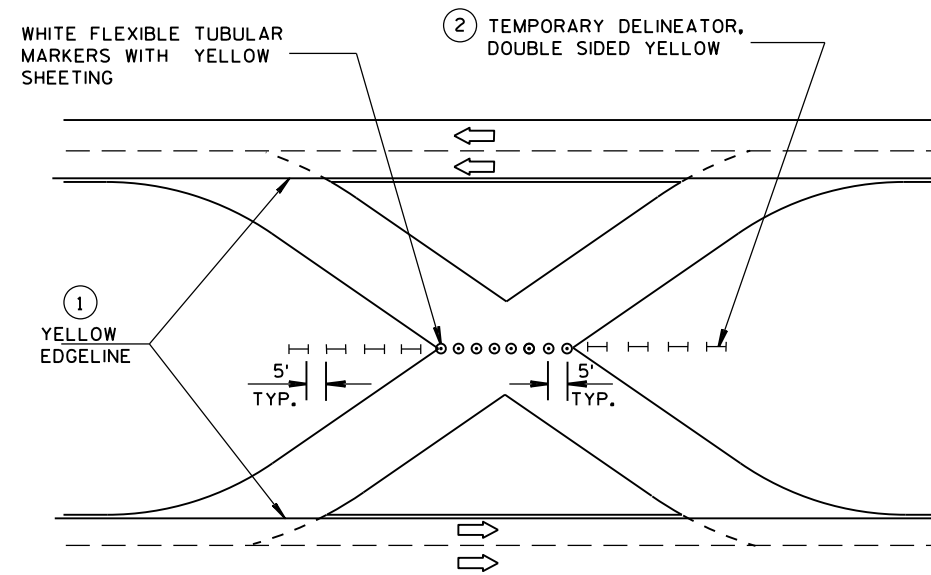
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

- 1 FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.
- 2 FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.

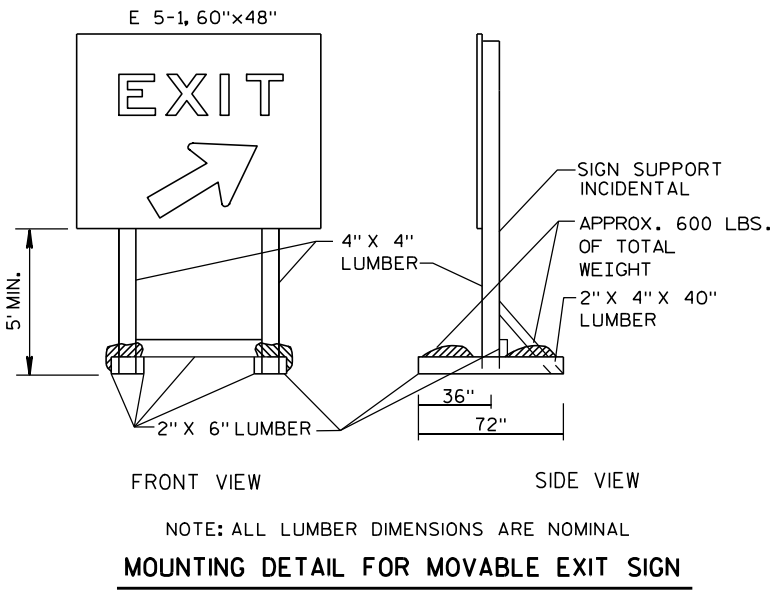
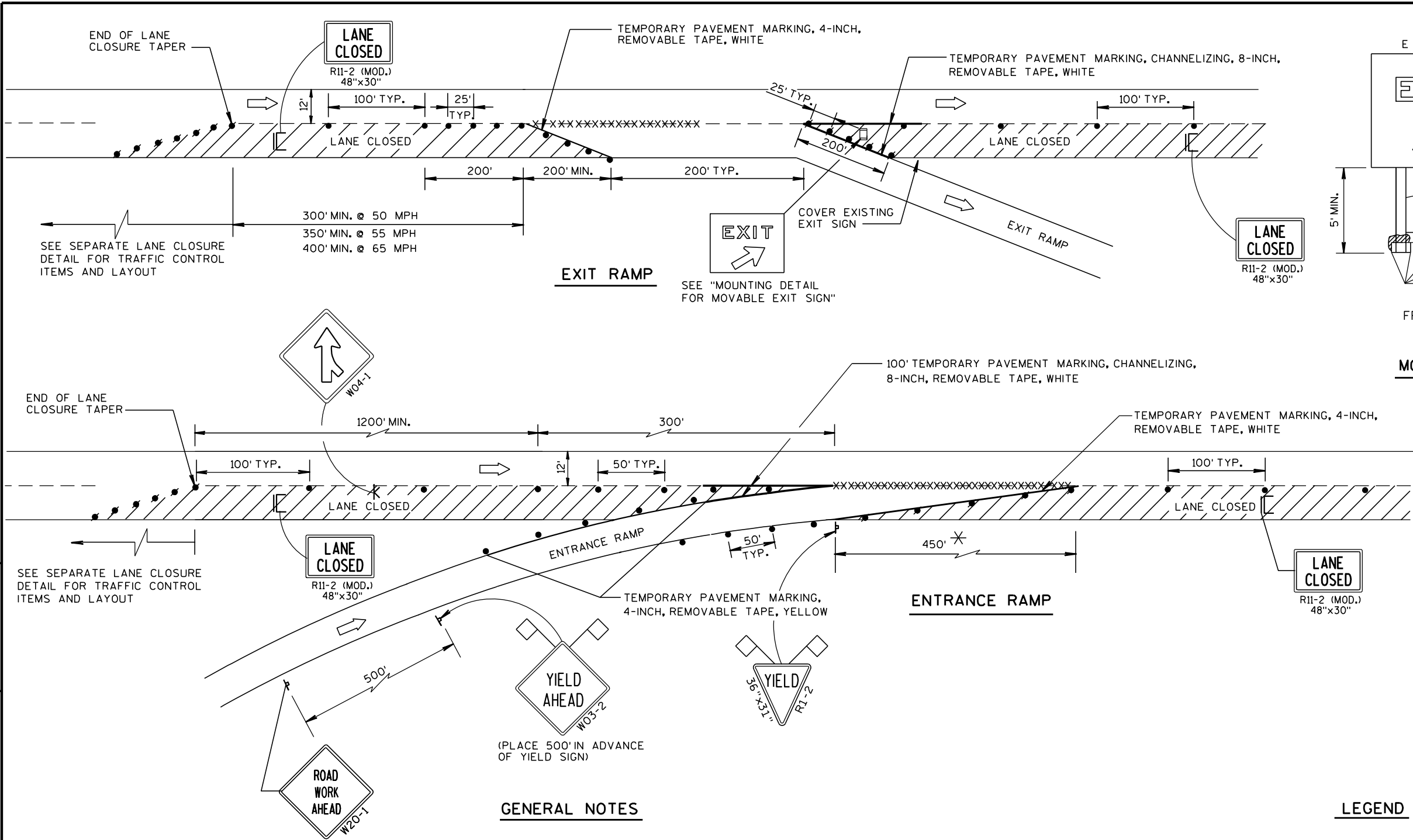


TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

**TRAFFIC CONTROL,
SINGLE LANE CROSSOVER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 9/2014 /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000
DATE

/S/ Chester J. Spang
CHIEF SIGNS AND MARKING ENGINEER

FHWA

LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  SIGN ON PERMANENT SUPPORT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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" X 48" UNLESS OTHERWISE NOTED.

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.

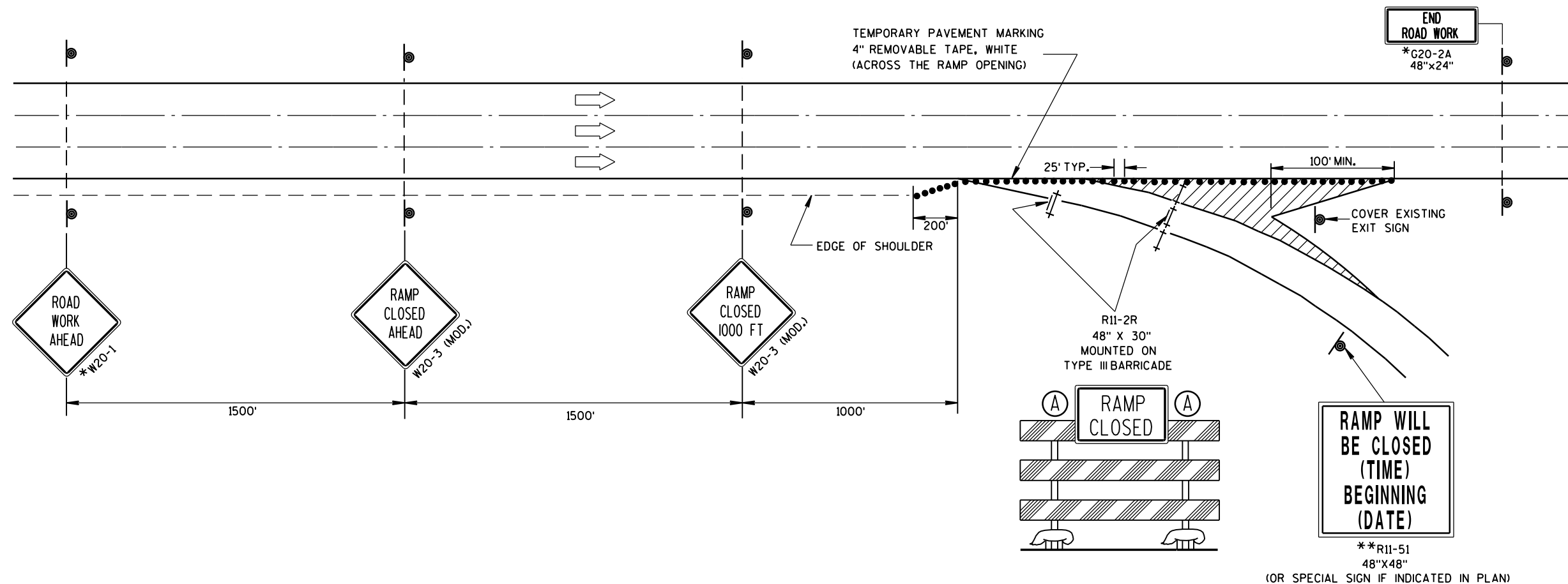
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

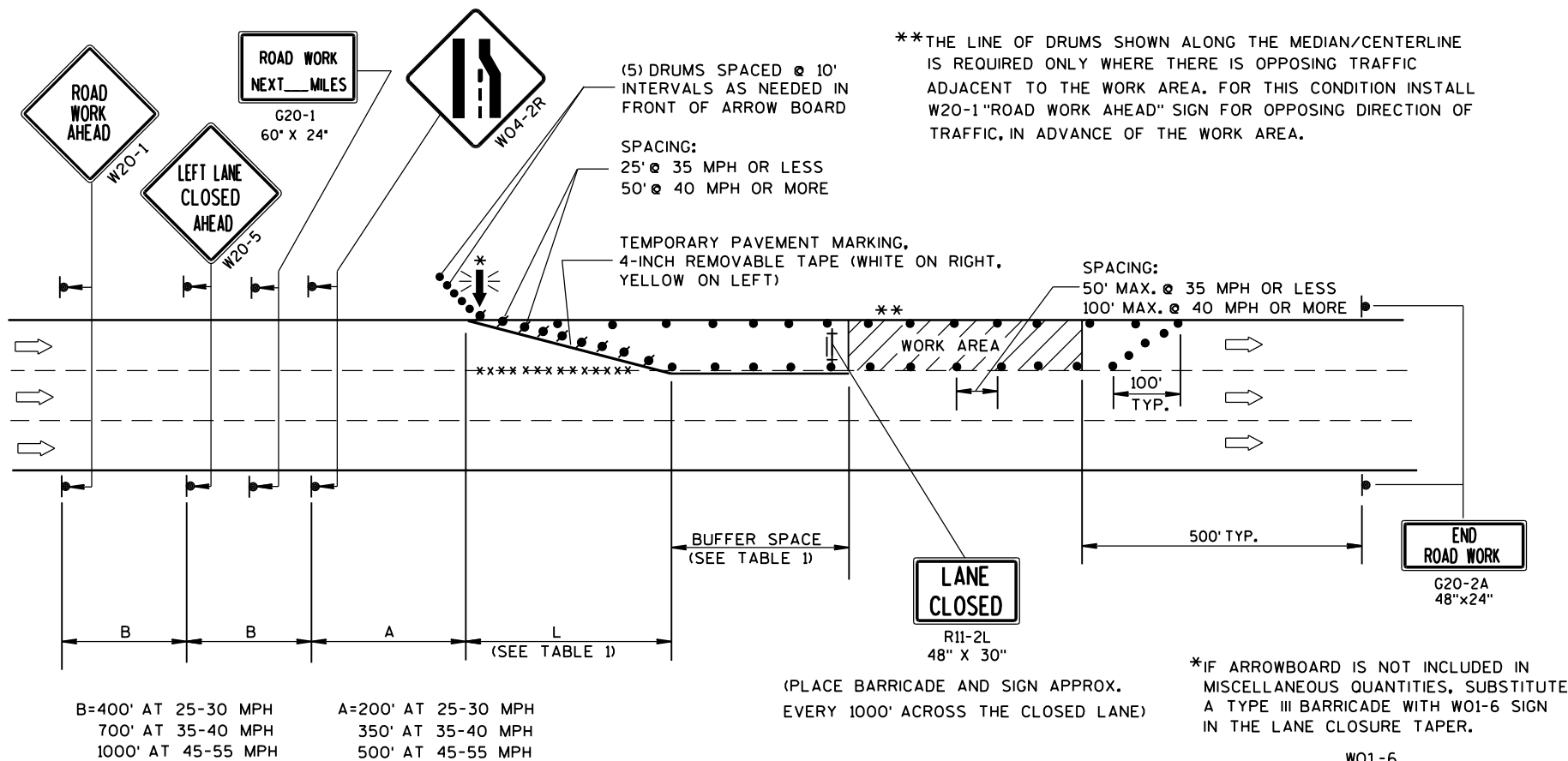
APPROVED

8/2013

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY 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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE 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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

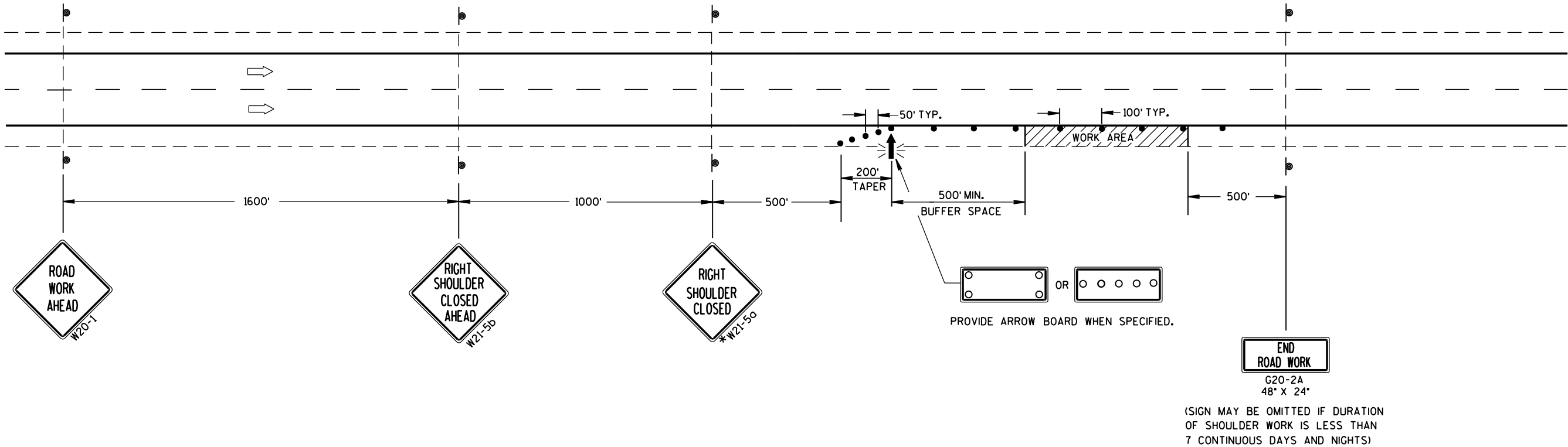
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A 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.

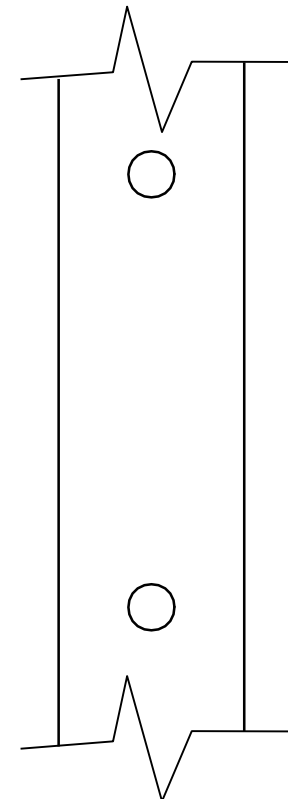
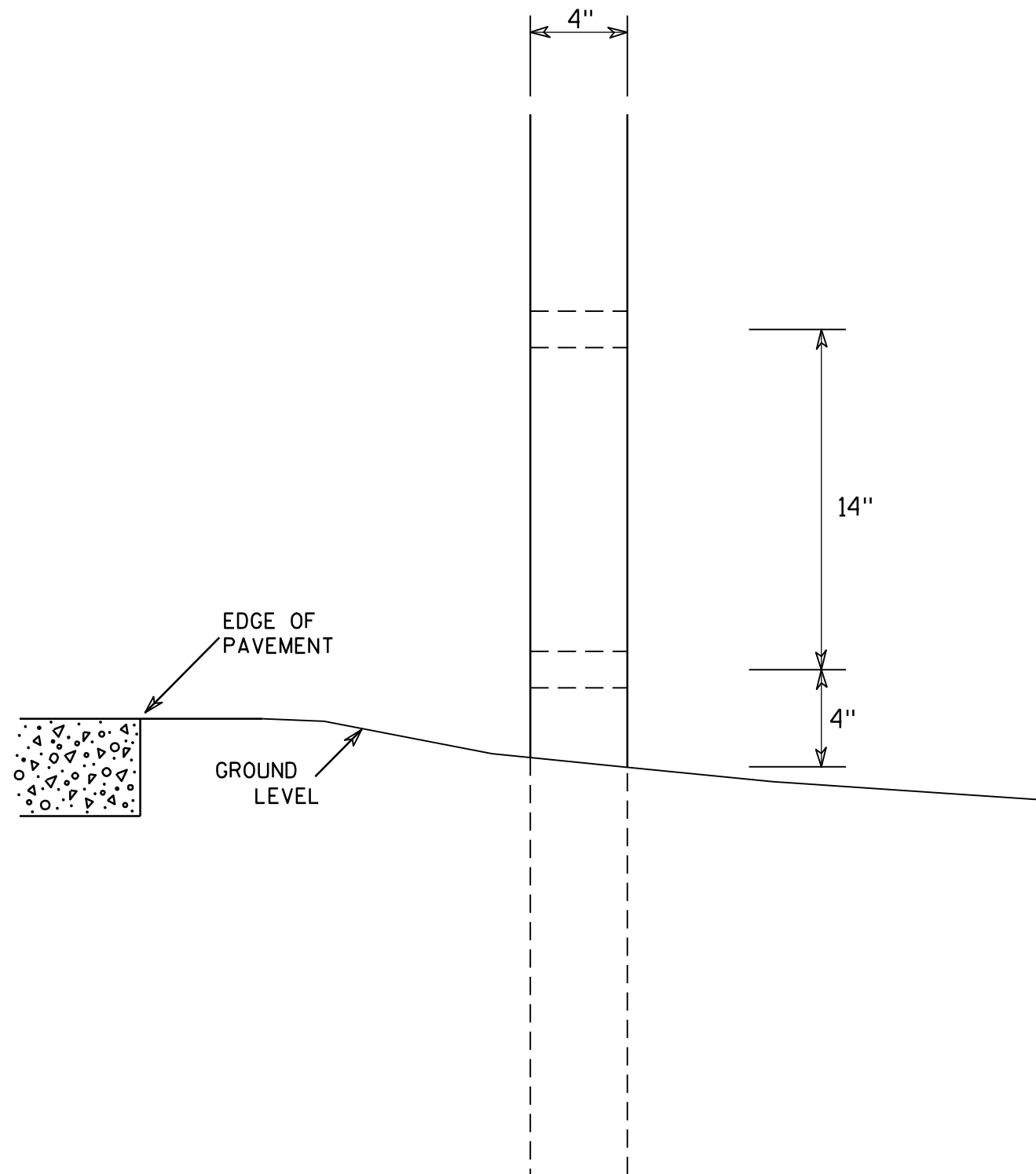
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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:

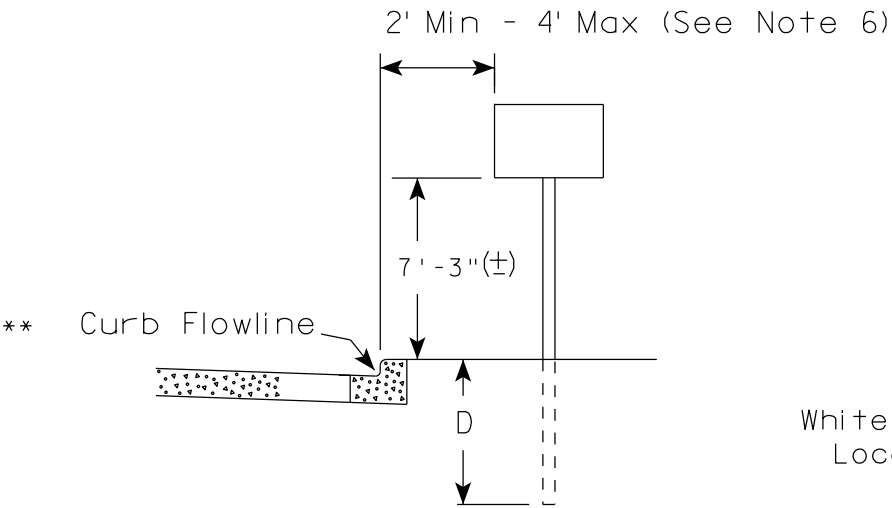
HWY:

COUNTY:

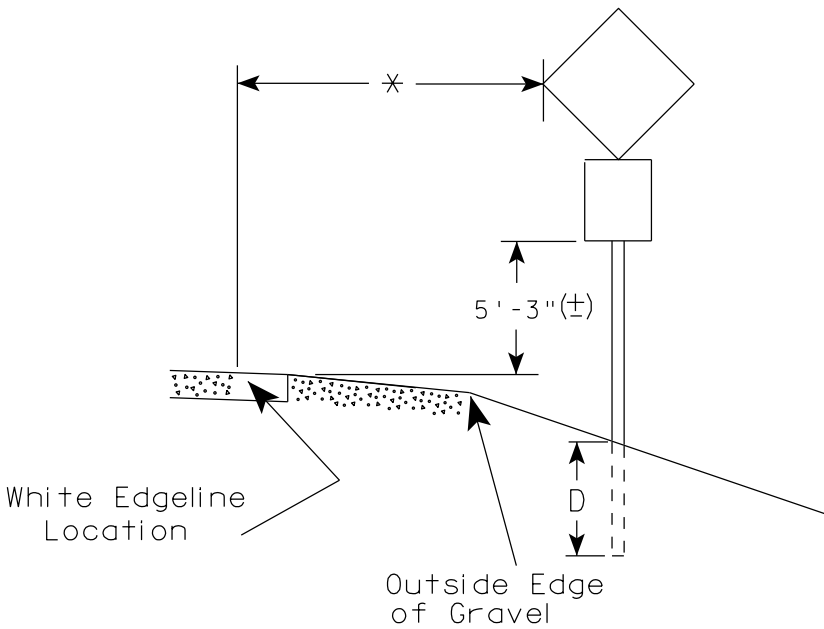
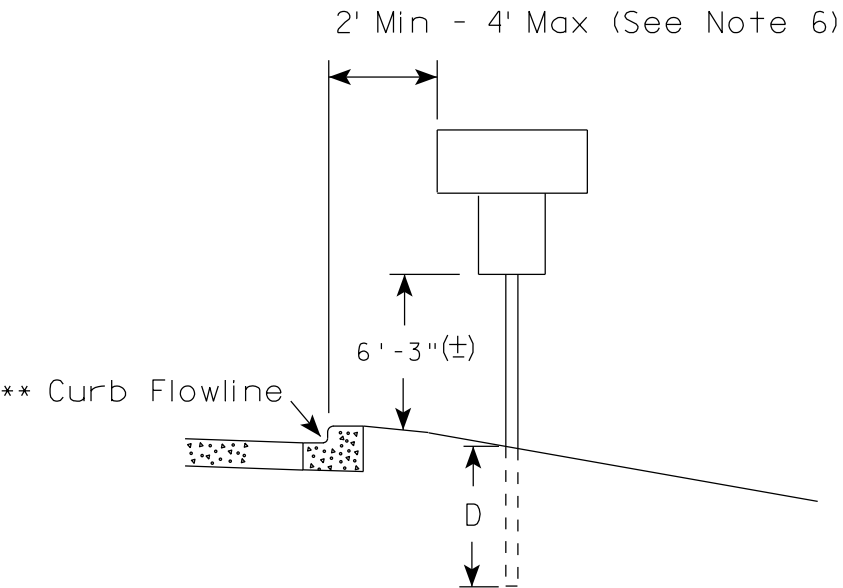
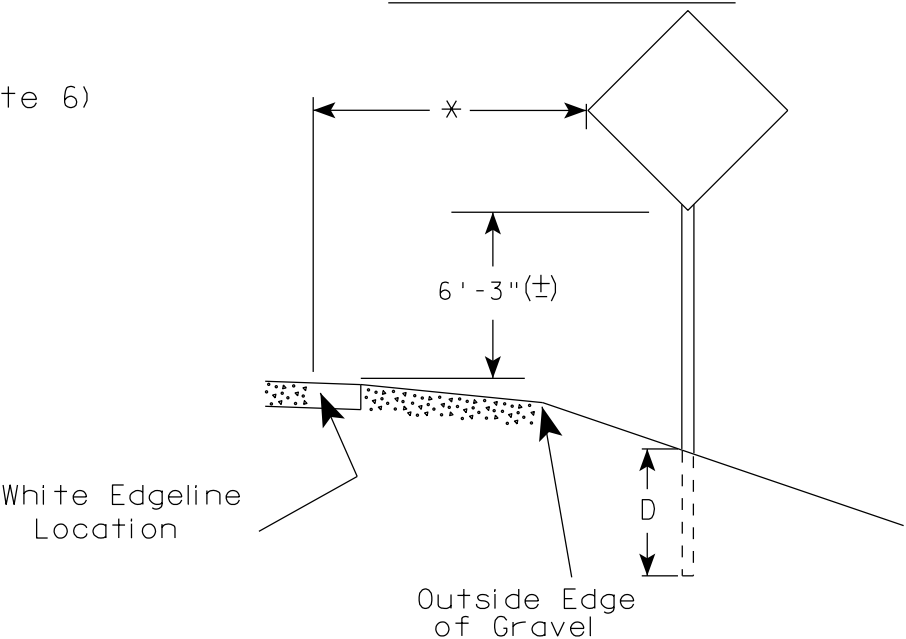
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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 (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

×× 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.

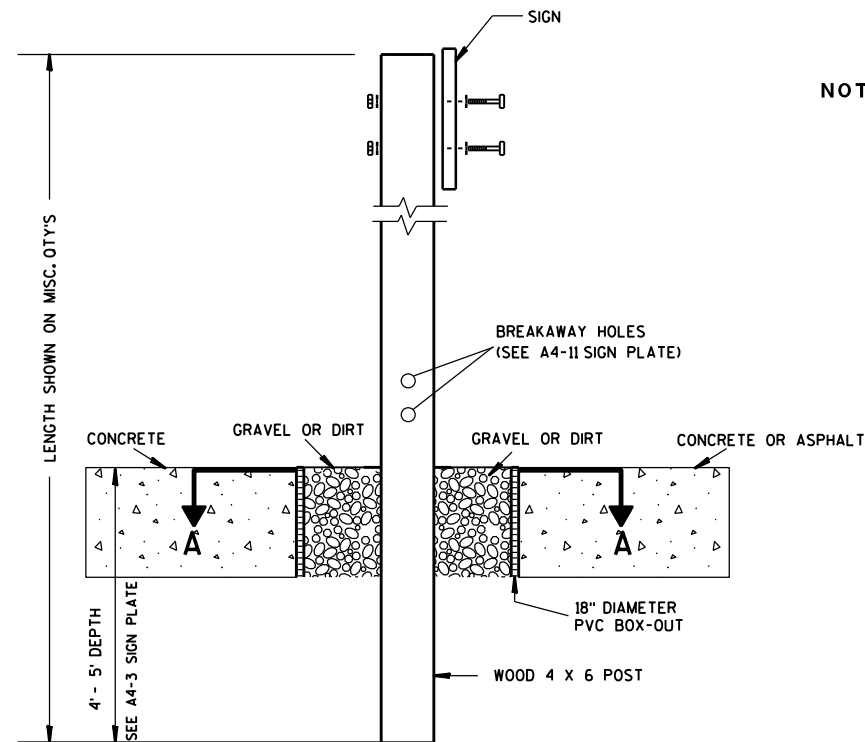
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

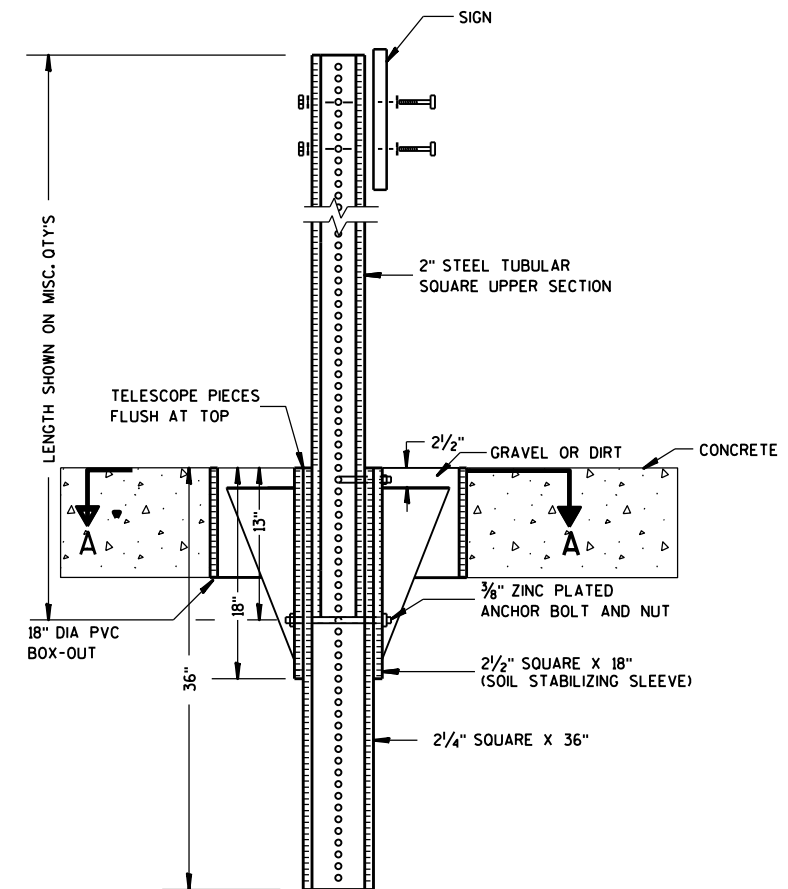
DATE 11/12/14 PLATE NO. A4-3.19



ELEVATION VIEW

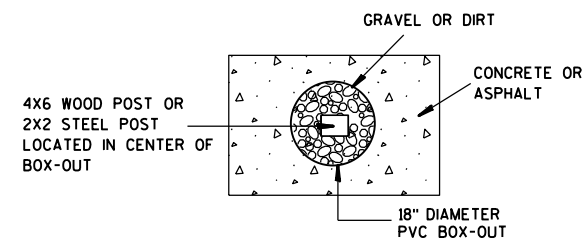
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

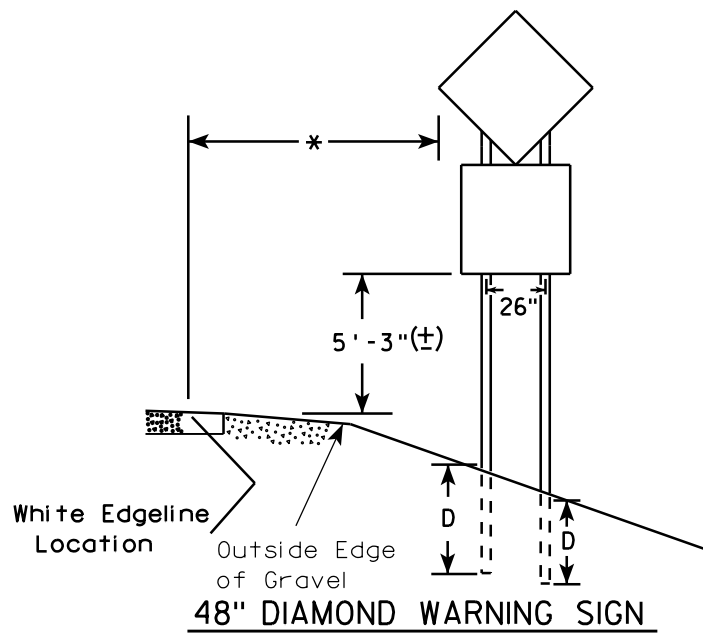
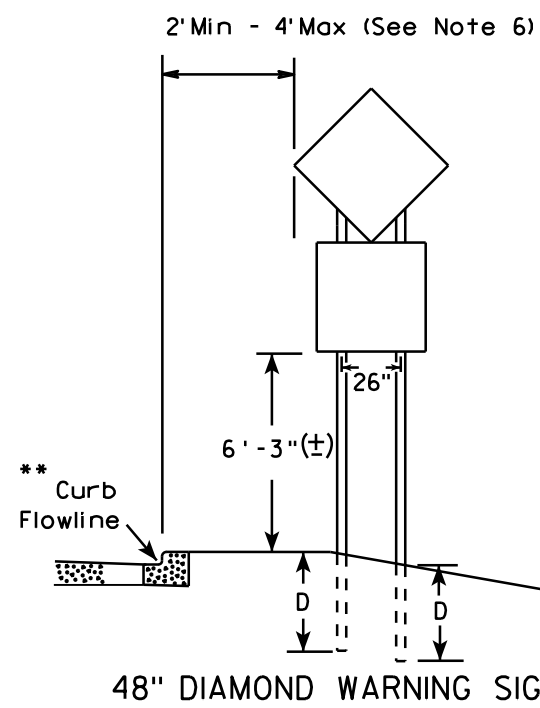
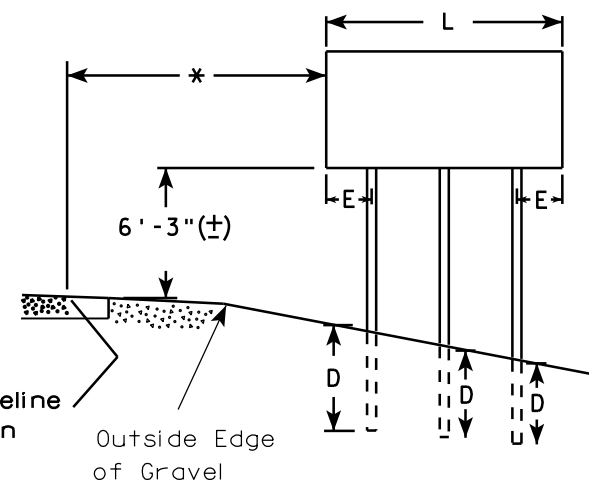
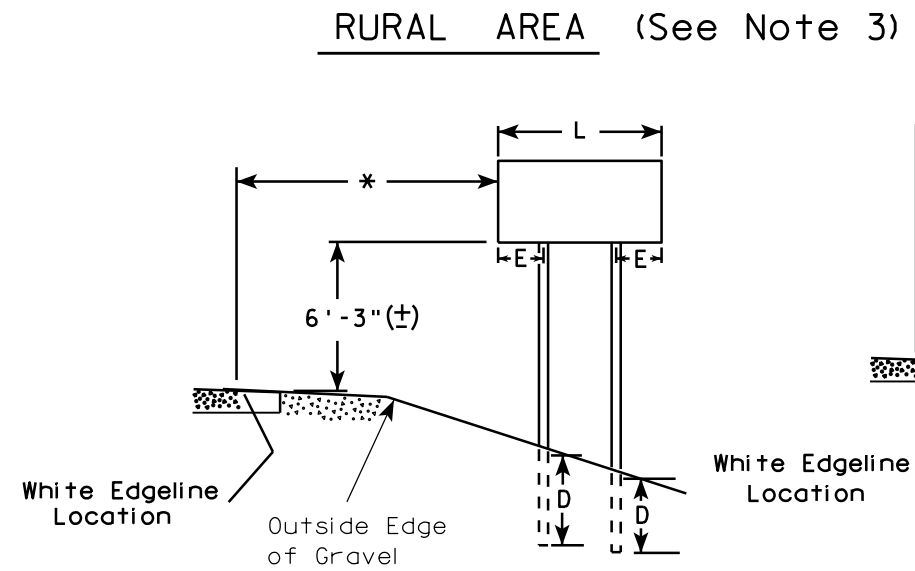
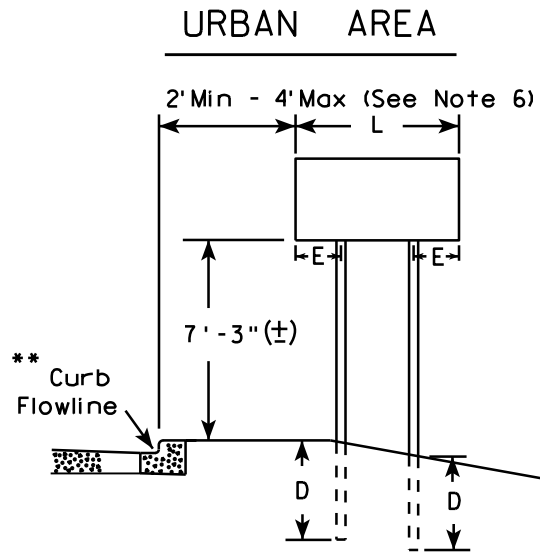
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- 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 (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 less than 20 S.F. in area.

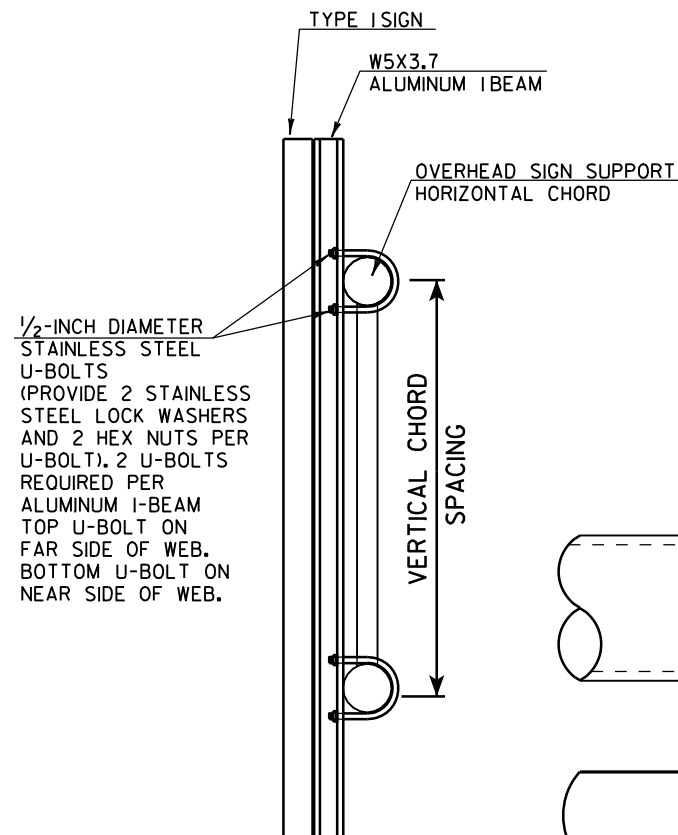
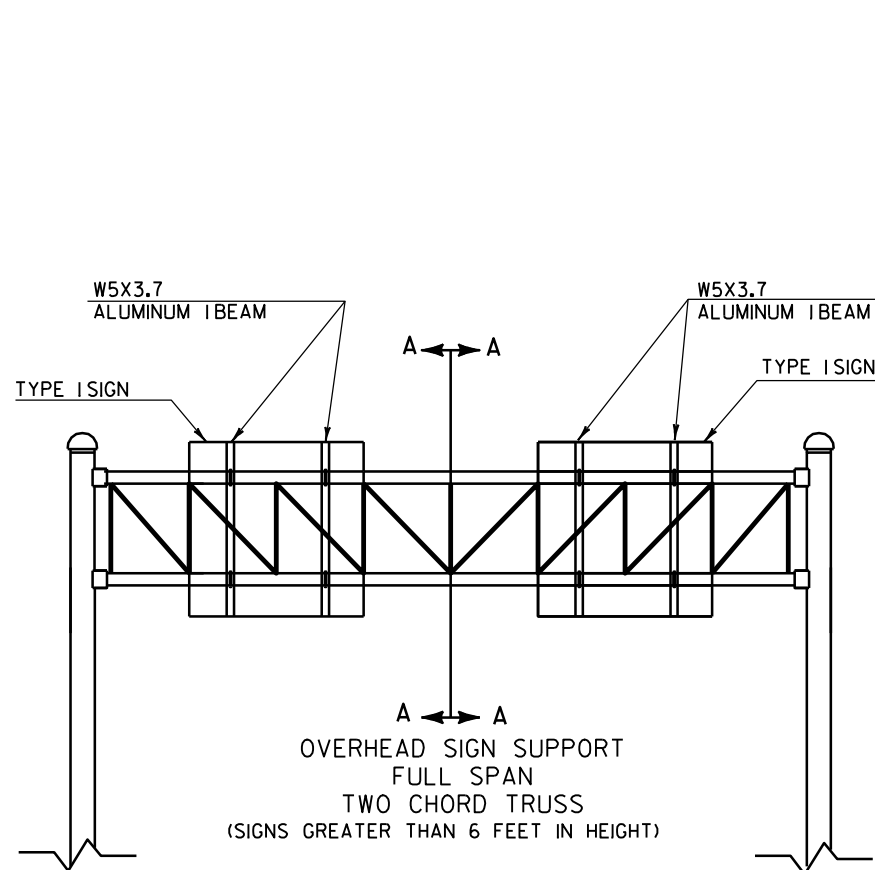
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

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

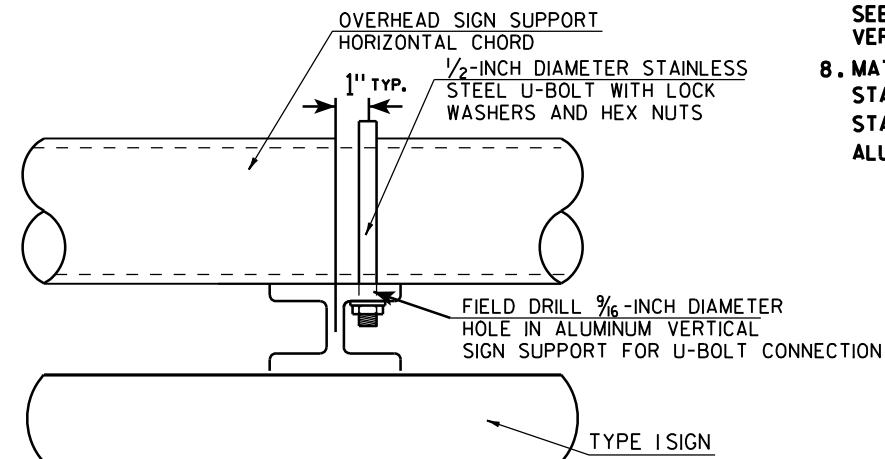
SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

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

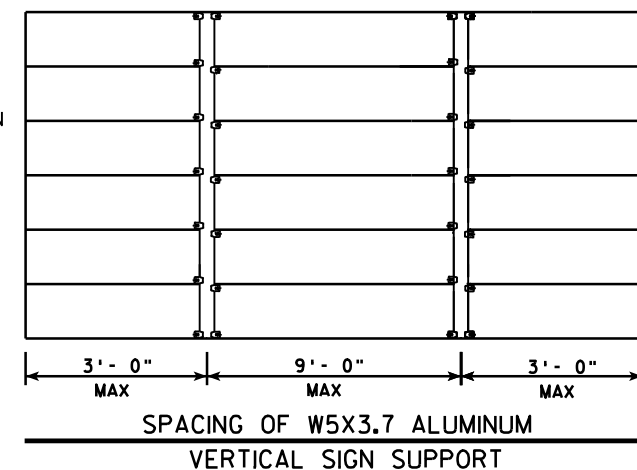
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/12/14	PLATE NO. A4-4.13



CUT SECTION A-A



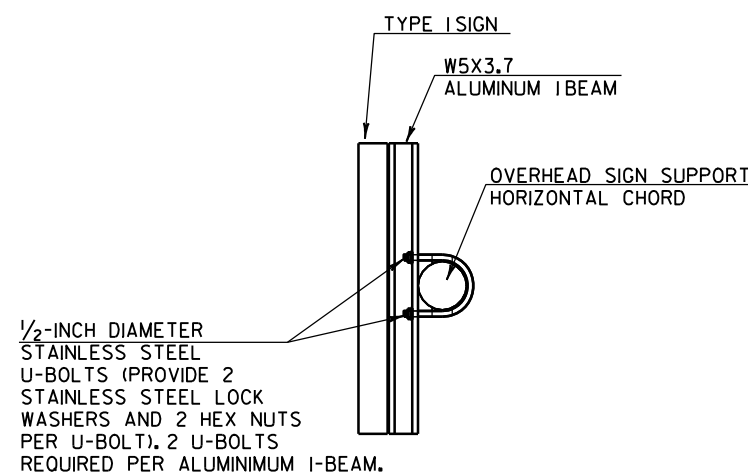
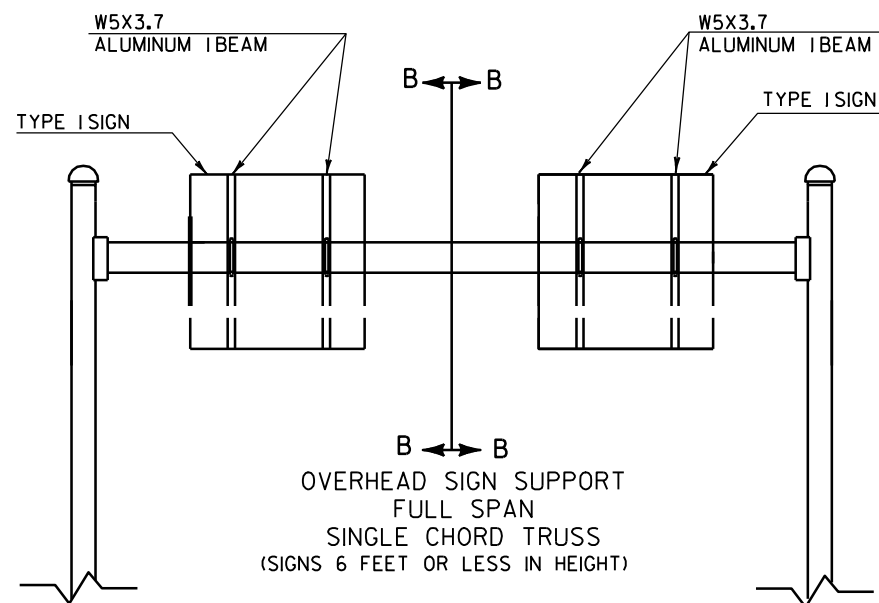
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW



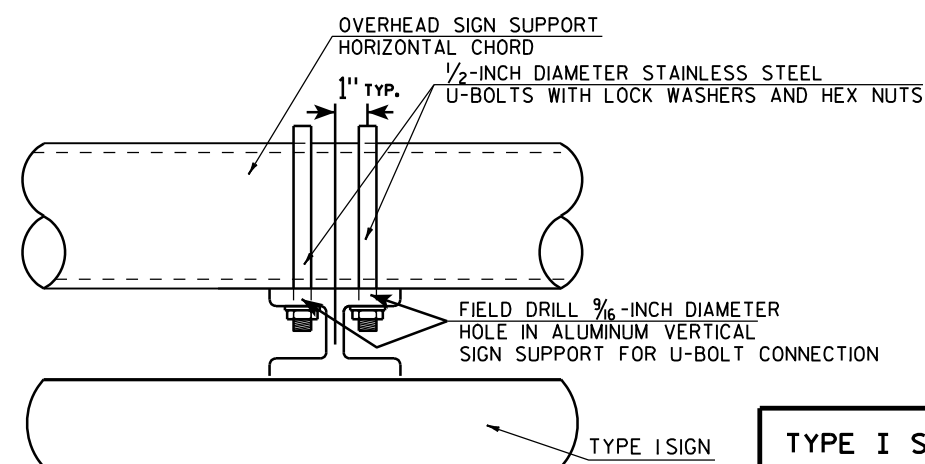
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT

- GENERAL NOTES**
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
 2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
 3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
 4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
 5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
 6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
 7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
 8. MATERIAL NOTES:
STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
STAINLESS STEEL HEX NUTS ASTM A276.
ALUMINUM I-BEAMS ARE 6061-T6.

7



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

**TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

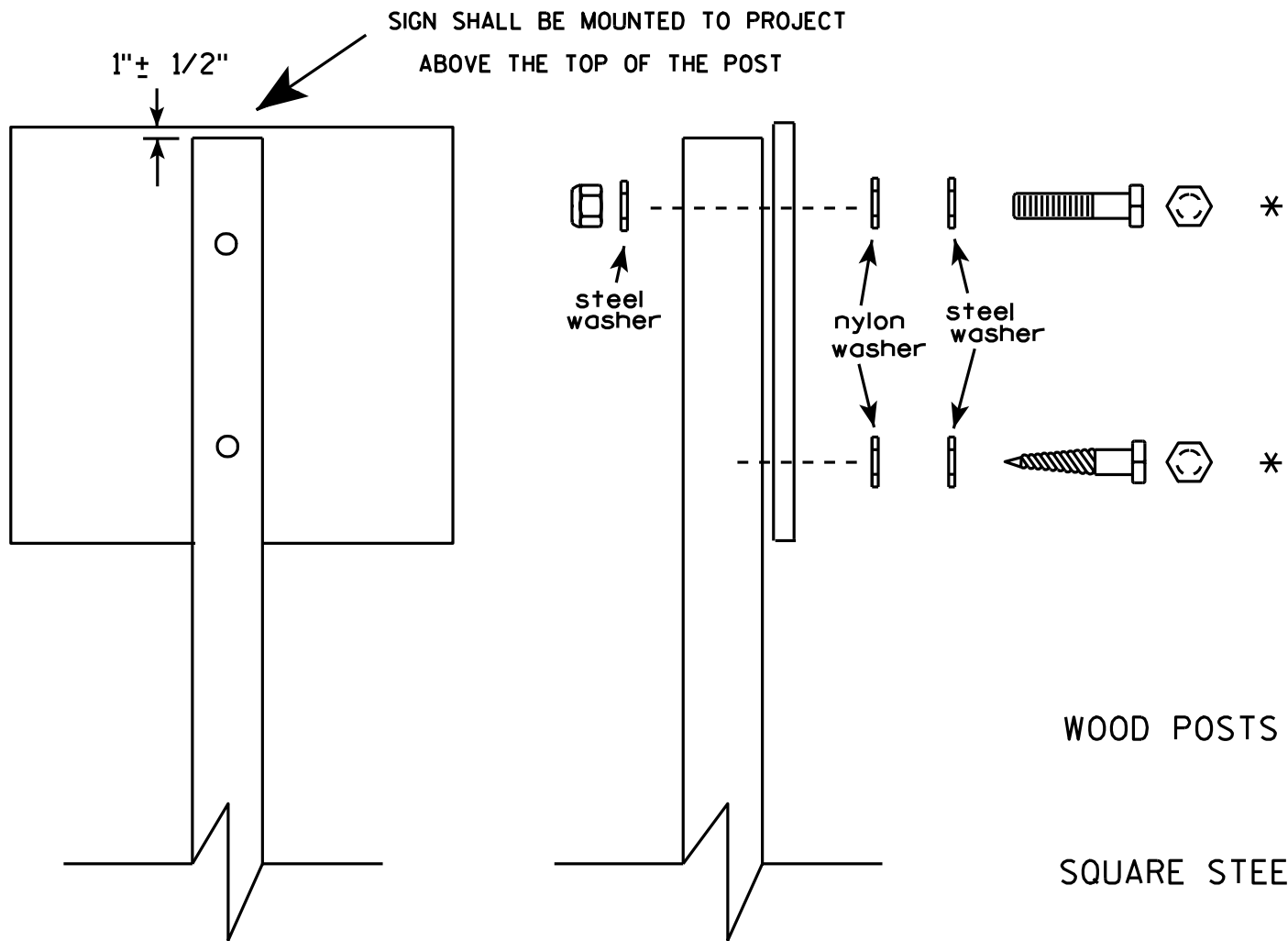
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

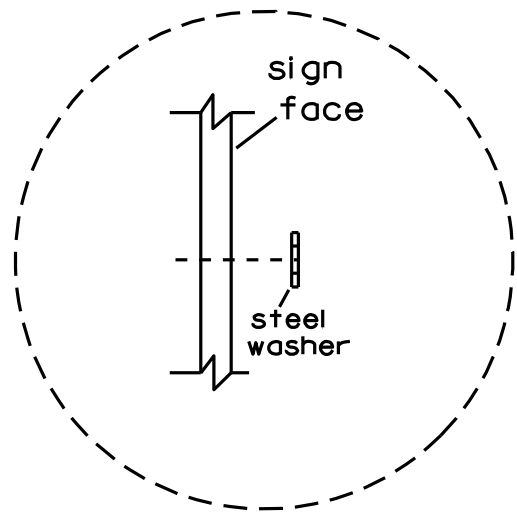


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

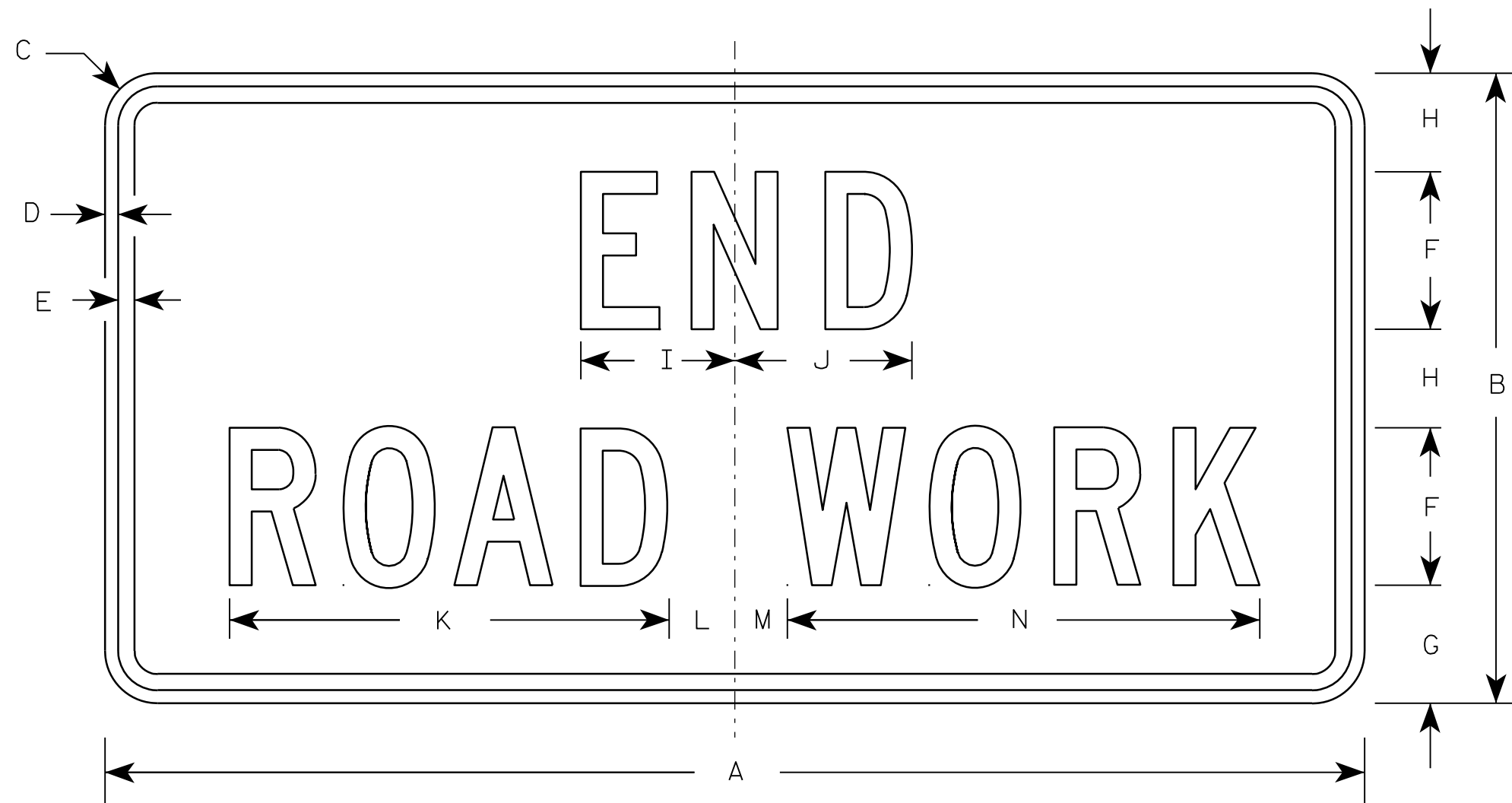


Washer Placement when Sign Has Other Than Type H or Type F Face

* 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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 m ²
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- 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.

7

PROJECT NO:

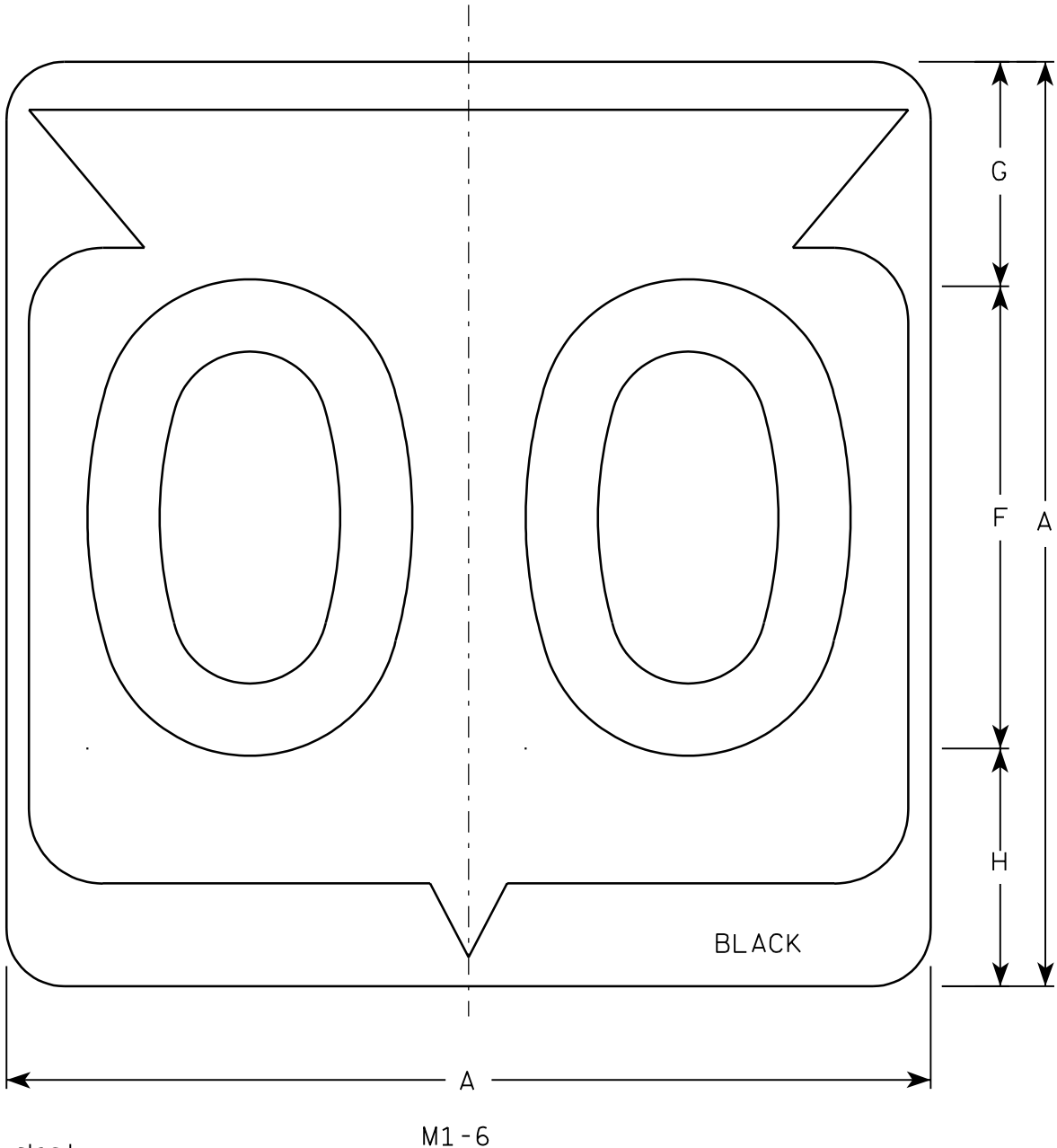
HWY:

COUNTY:

SHEET NO:

E

7



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 m ²
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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

FILE NAME : C:\Users\Projects\tr_stdp\late\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

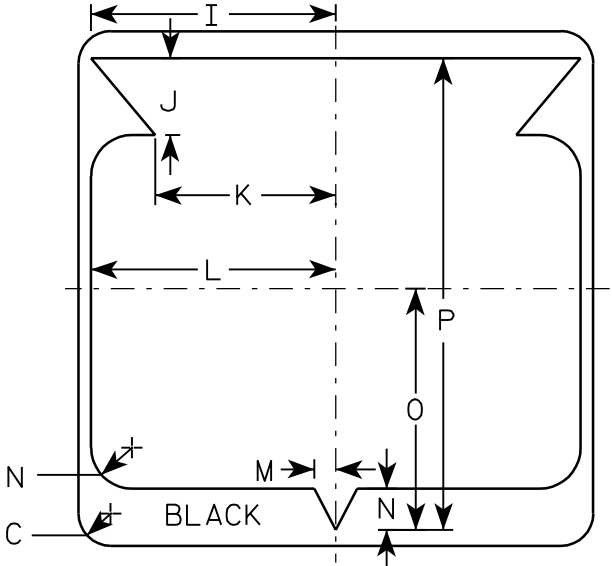
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDs SHEET 42

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



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

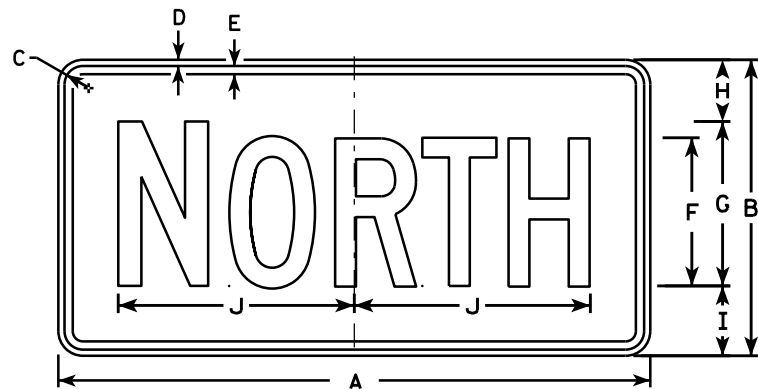
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

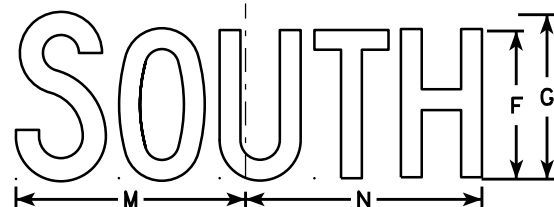
PLATE NO. M1-6.9



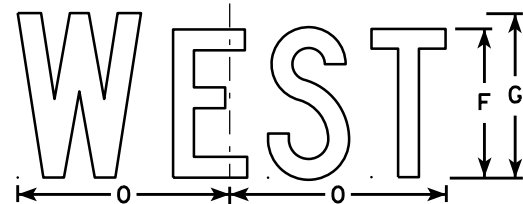
M3-1
MK3-1
MM3-1
MN3-1



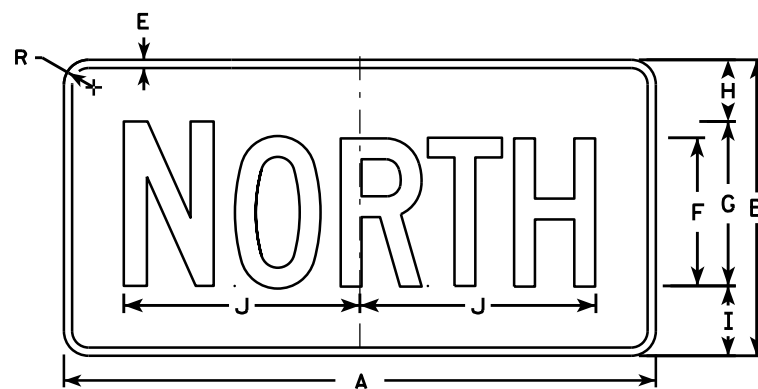
M3-2
MK3-2
MM3-2
MN3-2



M3-3
MK3-3
MM3-3
MN3-3



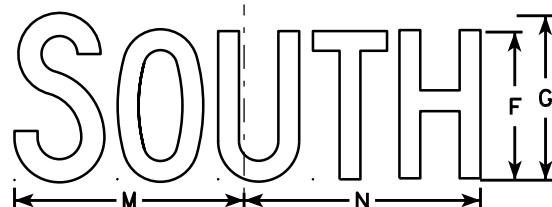
M3-4
MK3-4
MM3-4
MN3-4



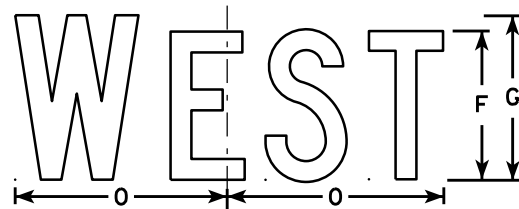
MB3-1



MB3-2



MB3-3



MB3-4

NOTES

1. All Signs Type II - Type H
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. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 6/30/14 PLATE NO. M3-1.13

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:

Background - See Note 5

Message - See note 5
3. Message Series - B
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. M4-1

Background - White

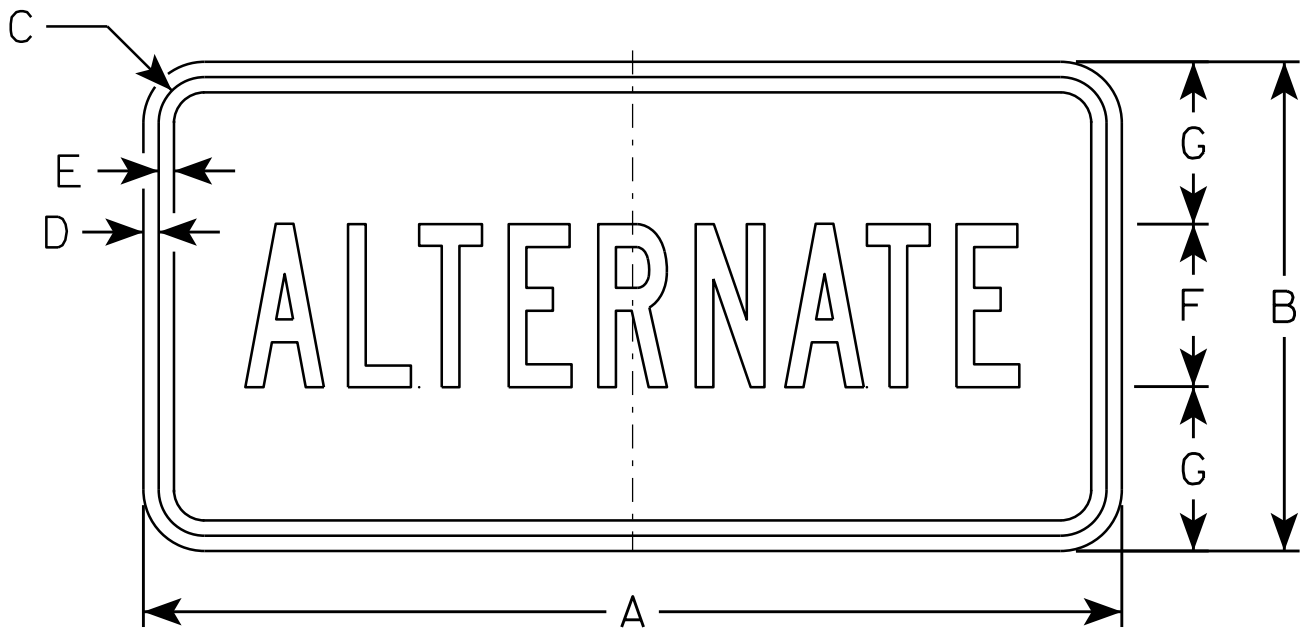
Message - Black
- MB4-1

Background - Blue

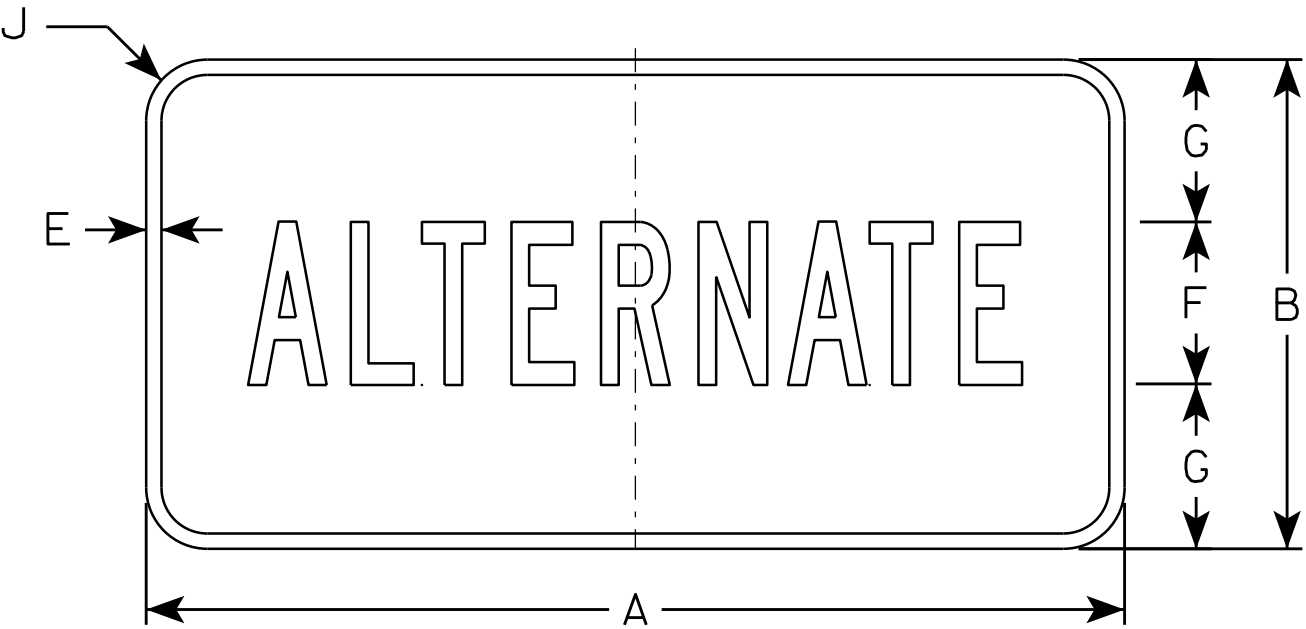
Message - White
- M04-1

Background - Orange - Type F

Message - Black



M4 - 1
M04 - 1



MB4 - 1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	4	4	9 3/4	9 1/2	1 1/2																	2.00
3	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
4	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
5	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5

STANDARD SIGN
M4 - 1

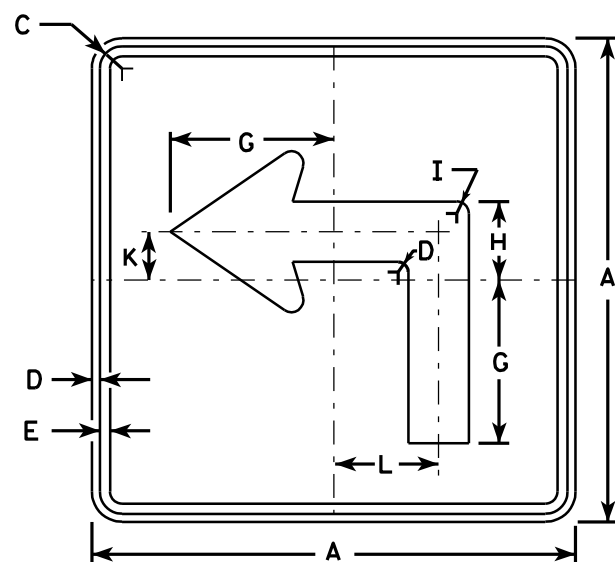
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

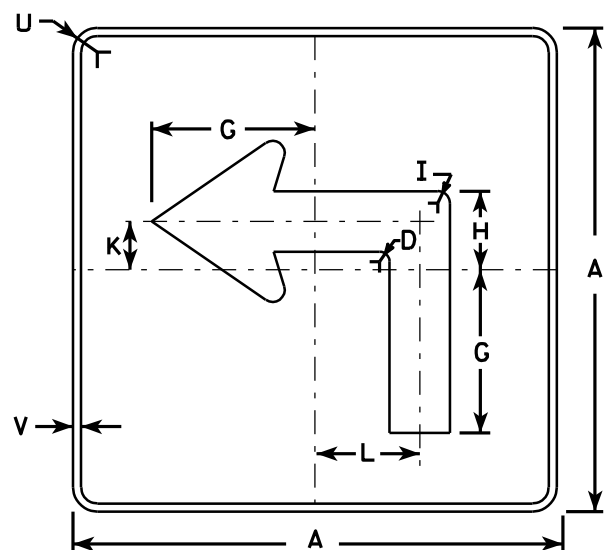
Matthew R. Rauch

for State Traffic Engineer

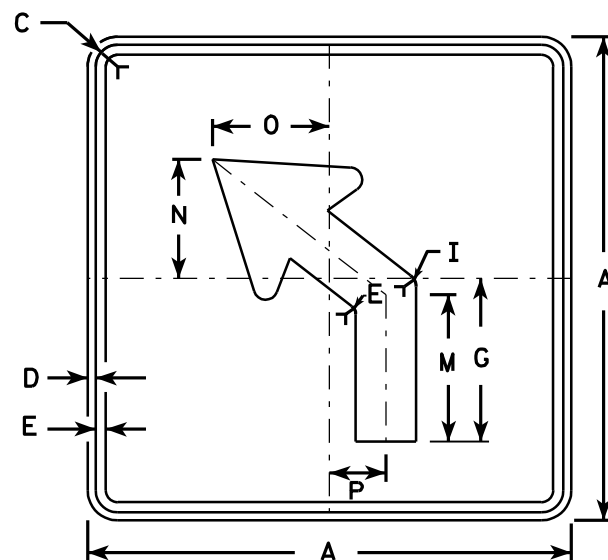
DATE 6/30/14PLATE NO. M4-1.8



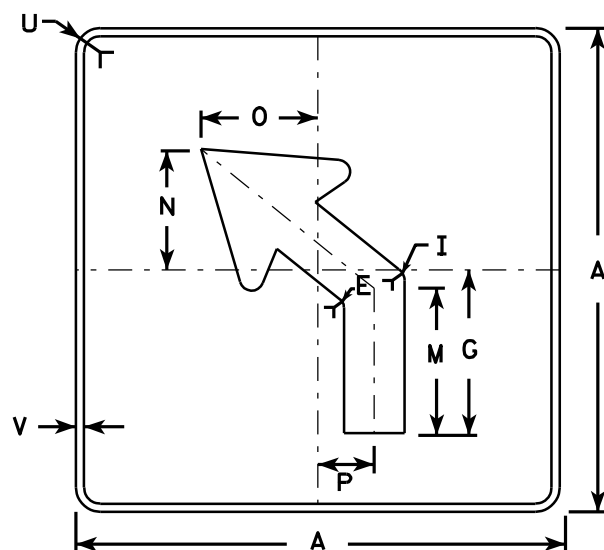
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



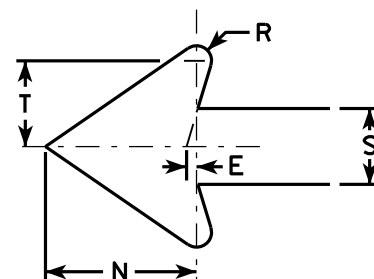
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L



NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 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.
- M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

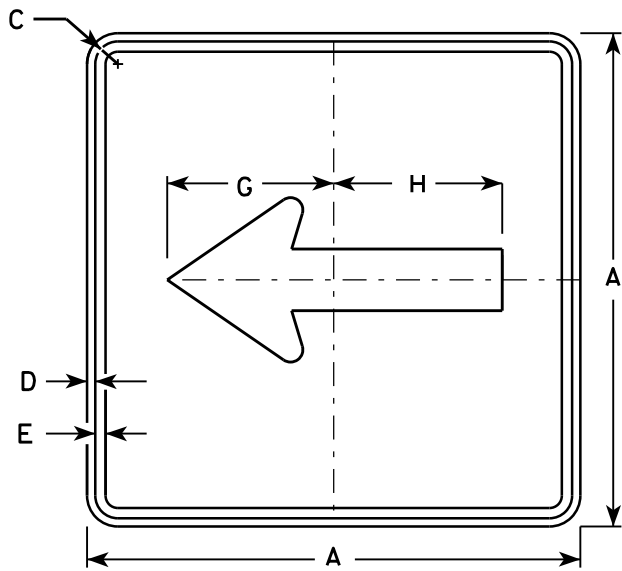
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

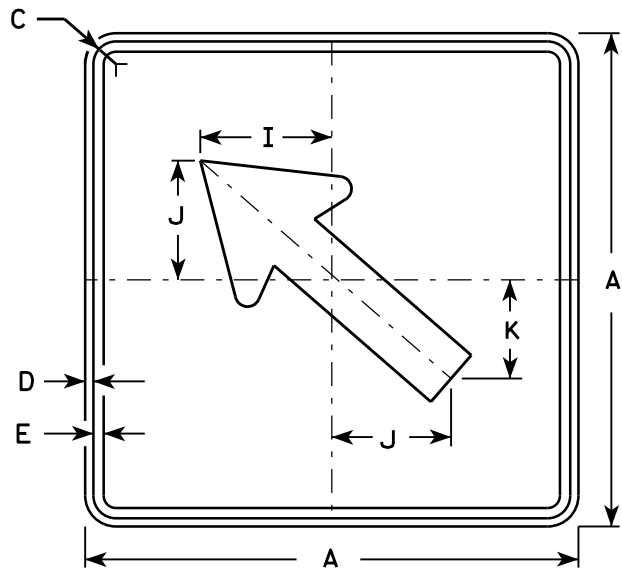
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

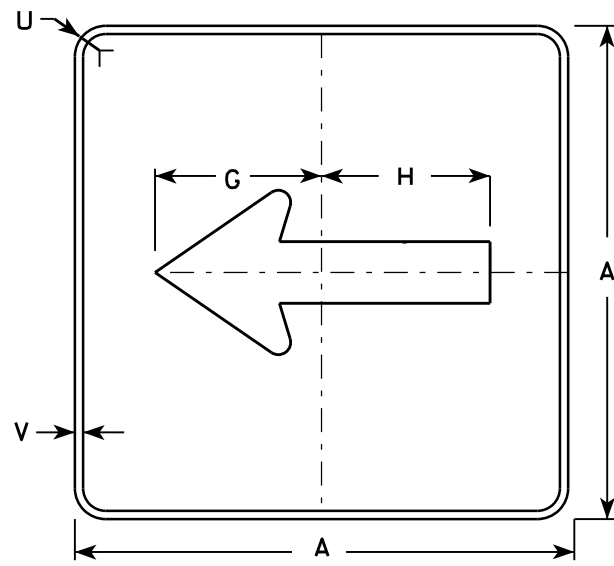
DATE 7/29/13 PLATE NO. M5-1.12



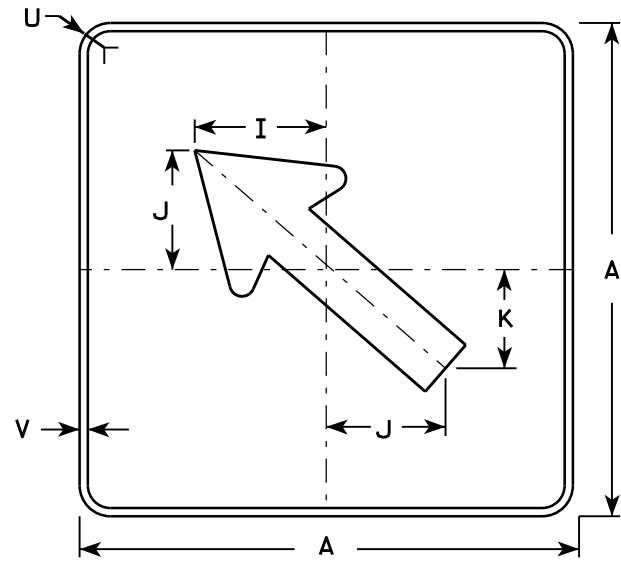
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



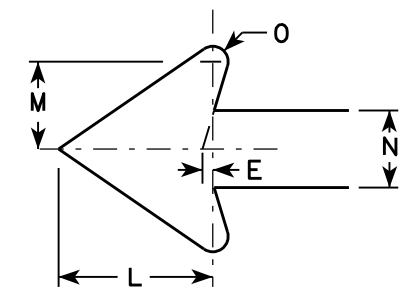
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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

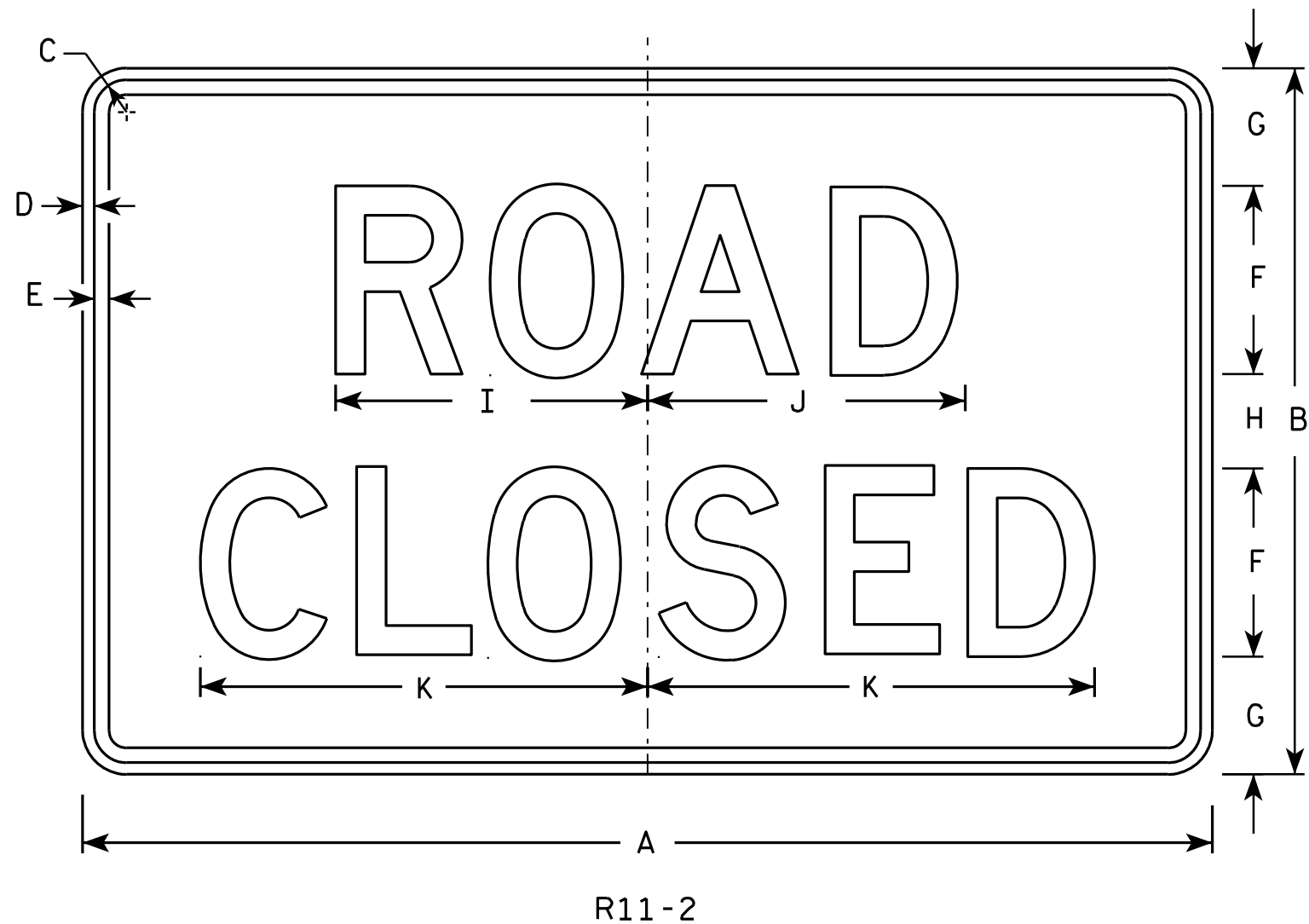
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

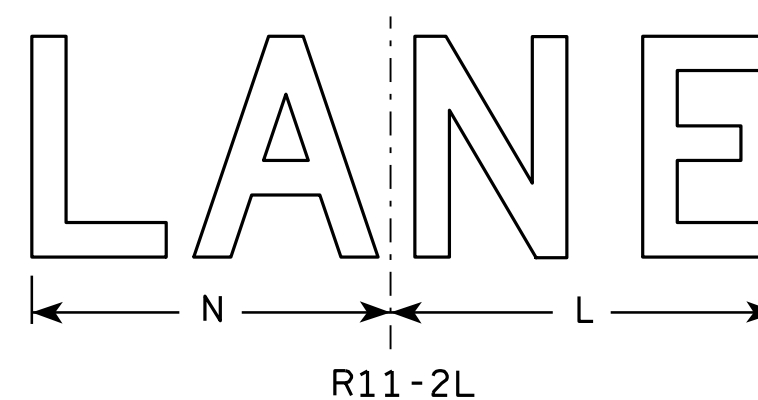
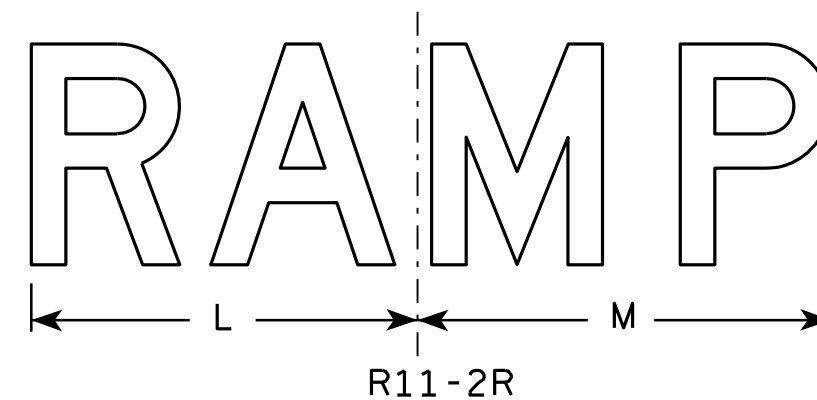
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-1.14



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 - D
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. Modify the message as required.

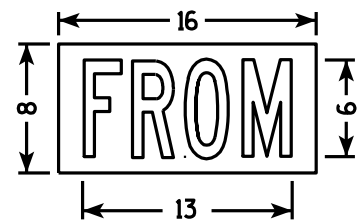
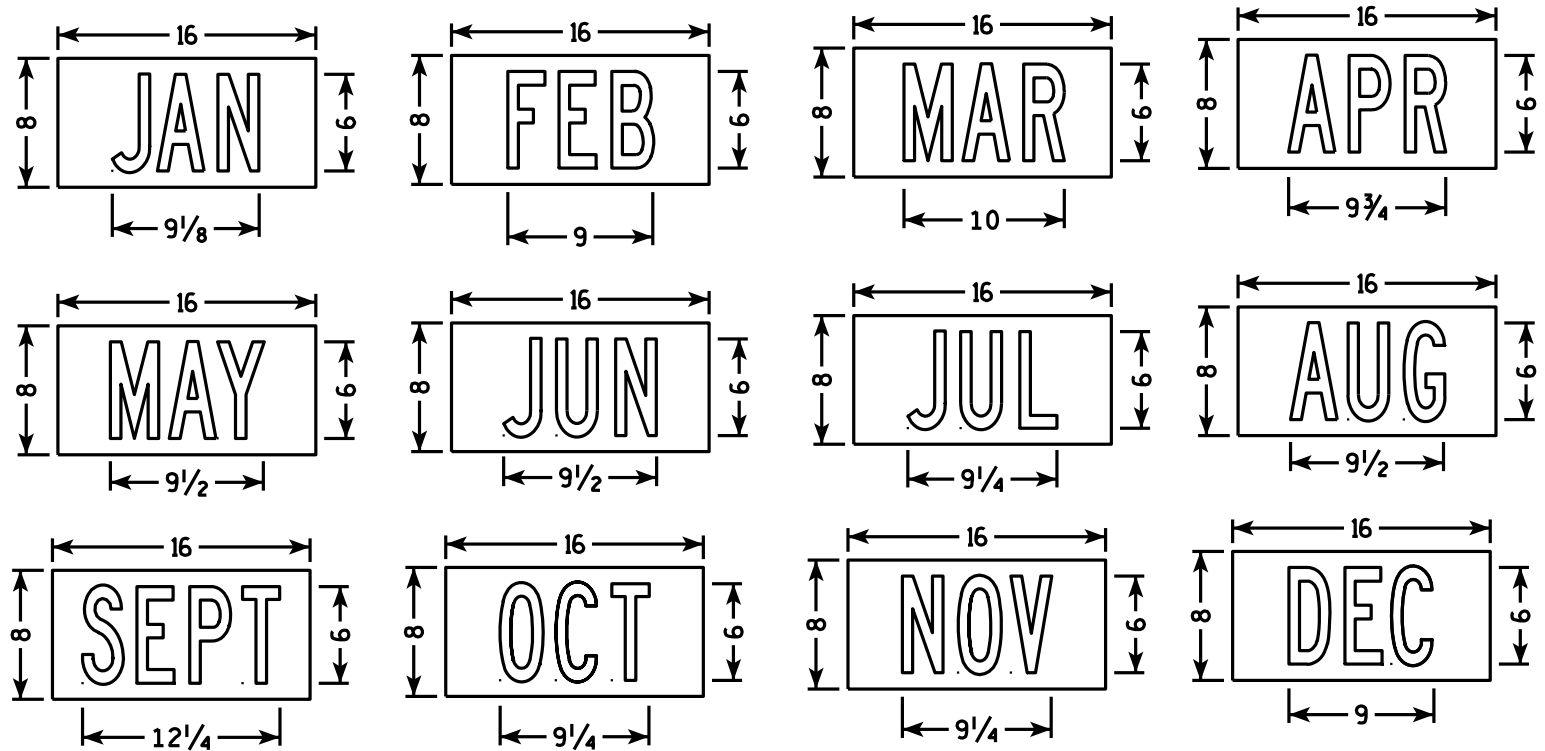
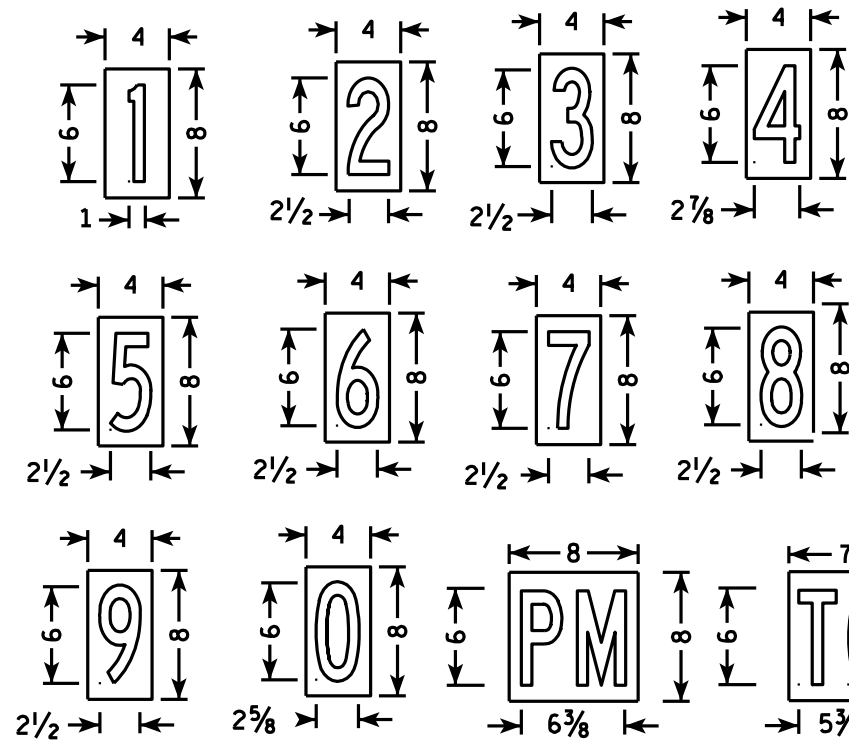
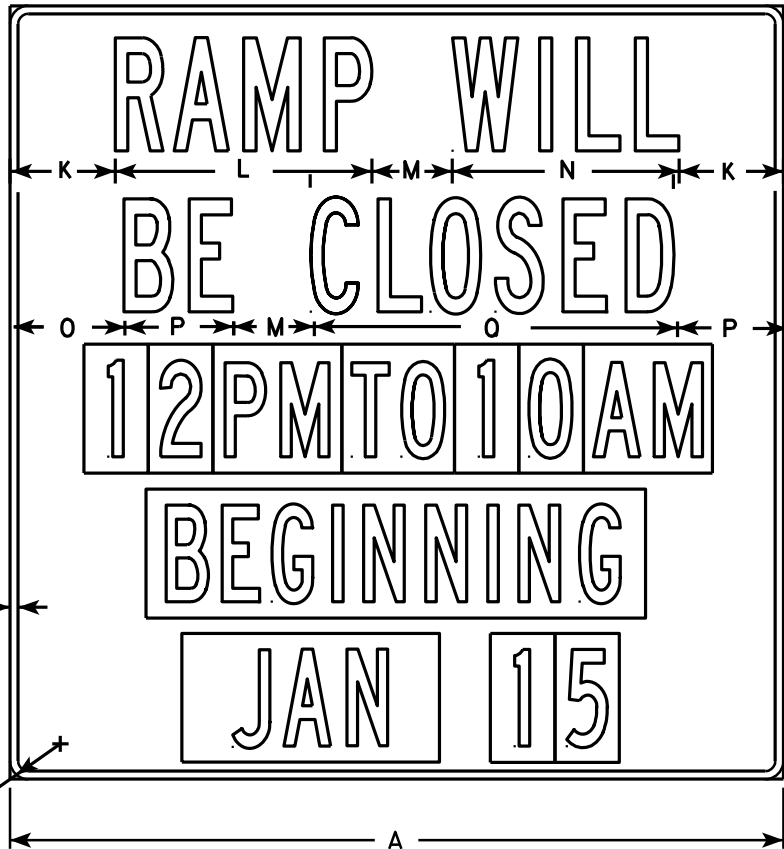


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: HWY: COUNTY: SHEET NO: 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 - White
Message - Black
- 3. Message Series - B
- 4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.

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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

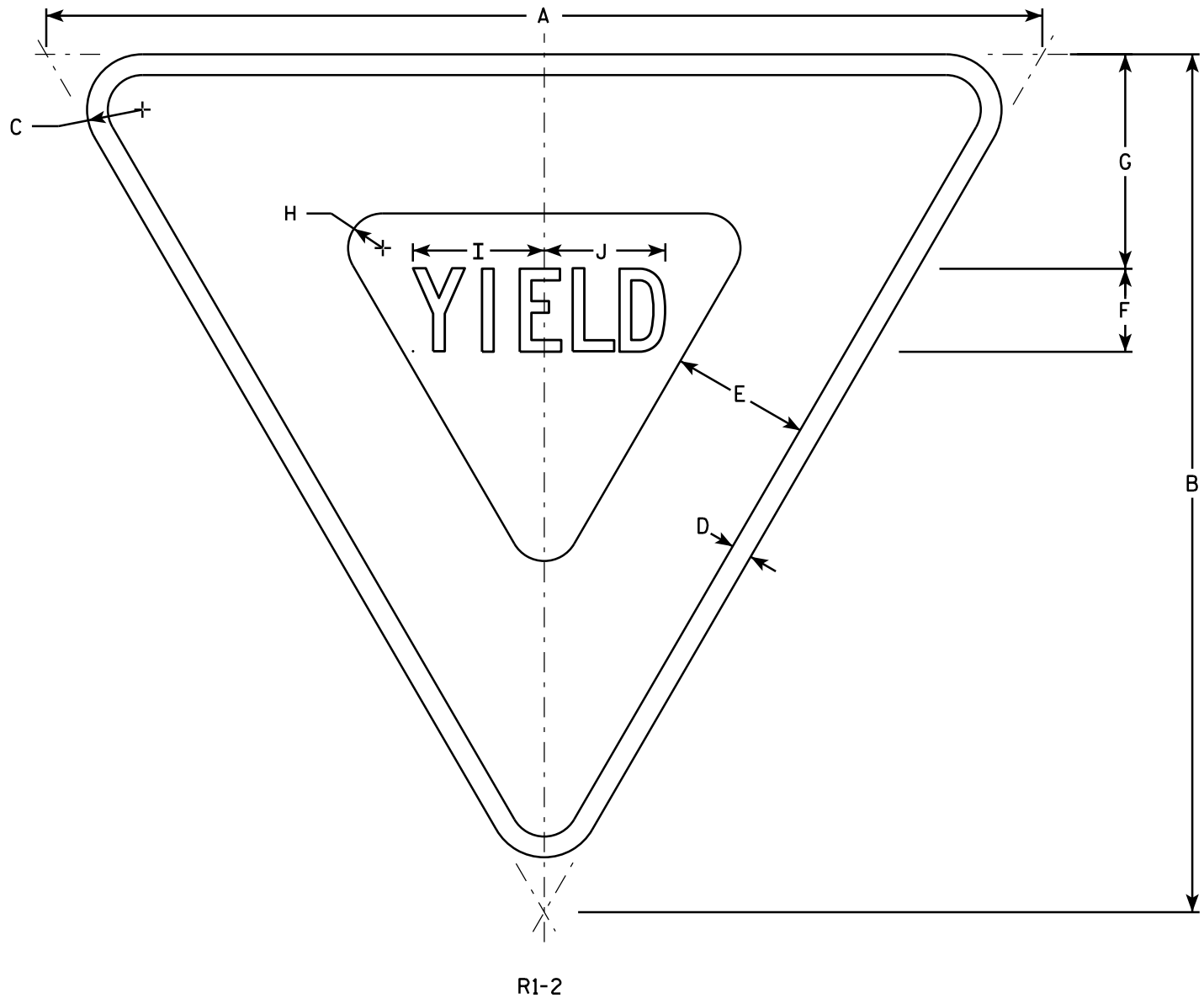
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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 - White
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. The border strip and word message are reflectorized red.

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	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

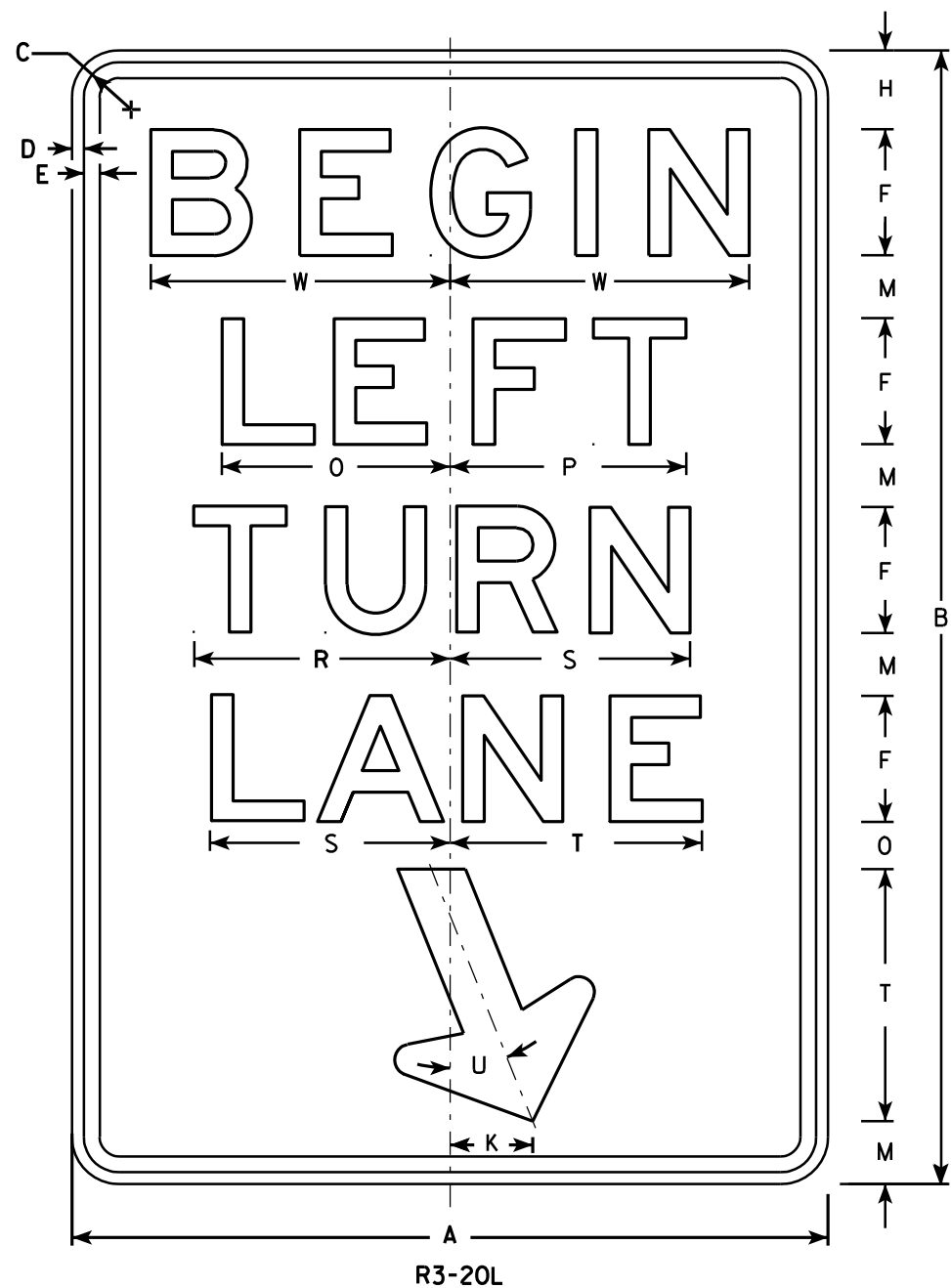
STANDARD SIGN

R1-2

WISCONSIN DEPT OF TRANSPORTATION

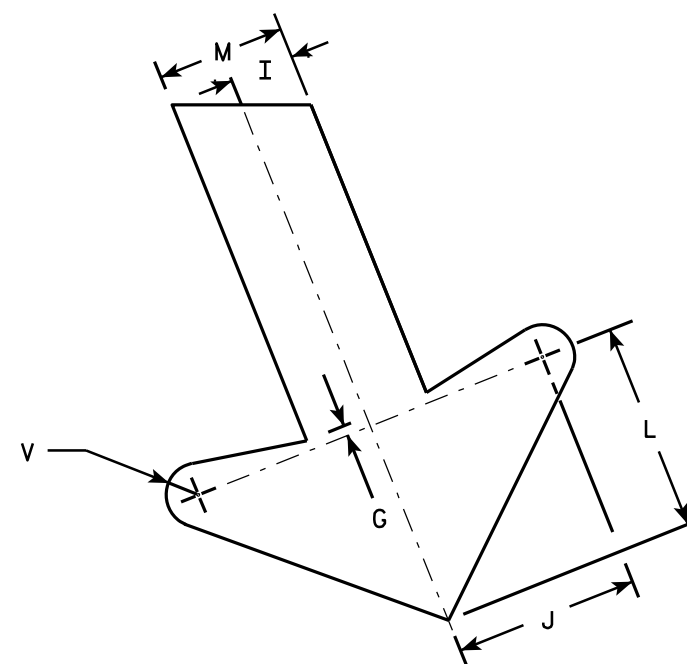
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12



NOTES

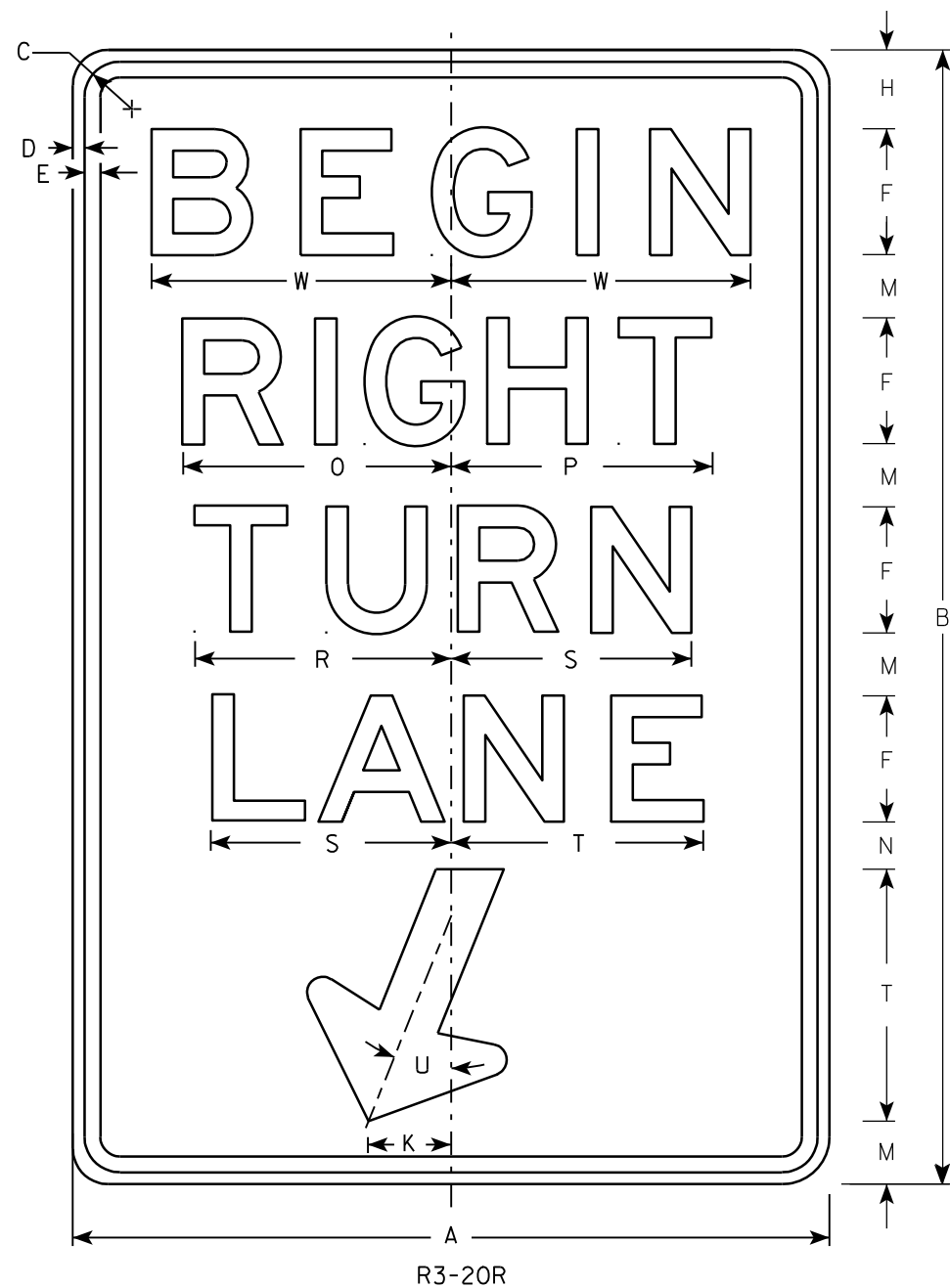
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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



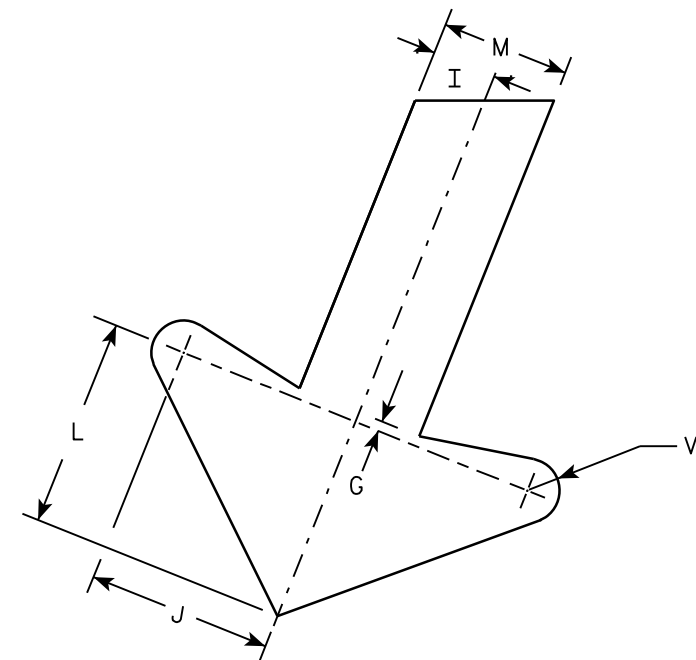
ARROW DETAIL

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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN R3-20L	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 10/18/10	PLATE NO. R3-20L.7



- 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.



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	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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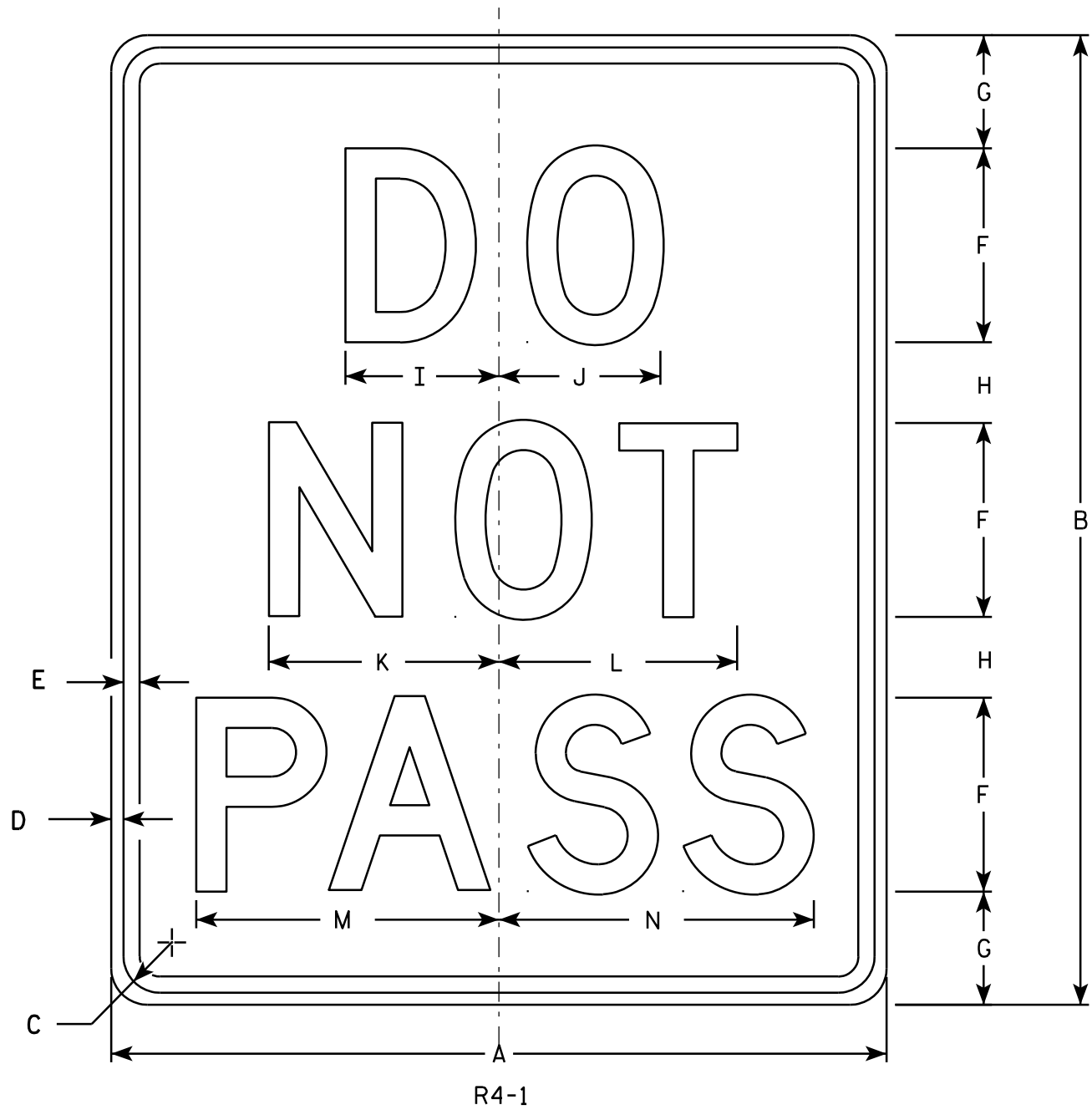
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

7



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 - D
- 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.

7

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	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

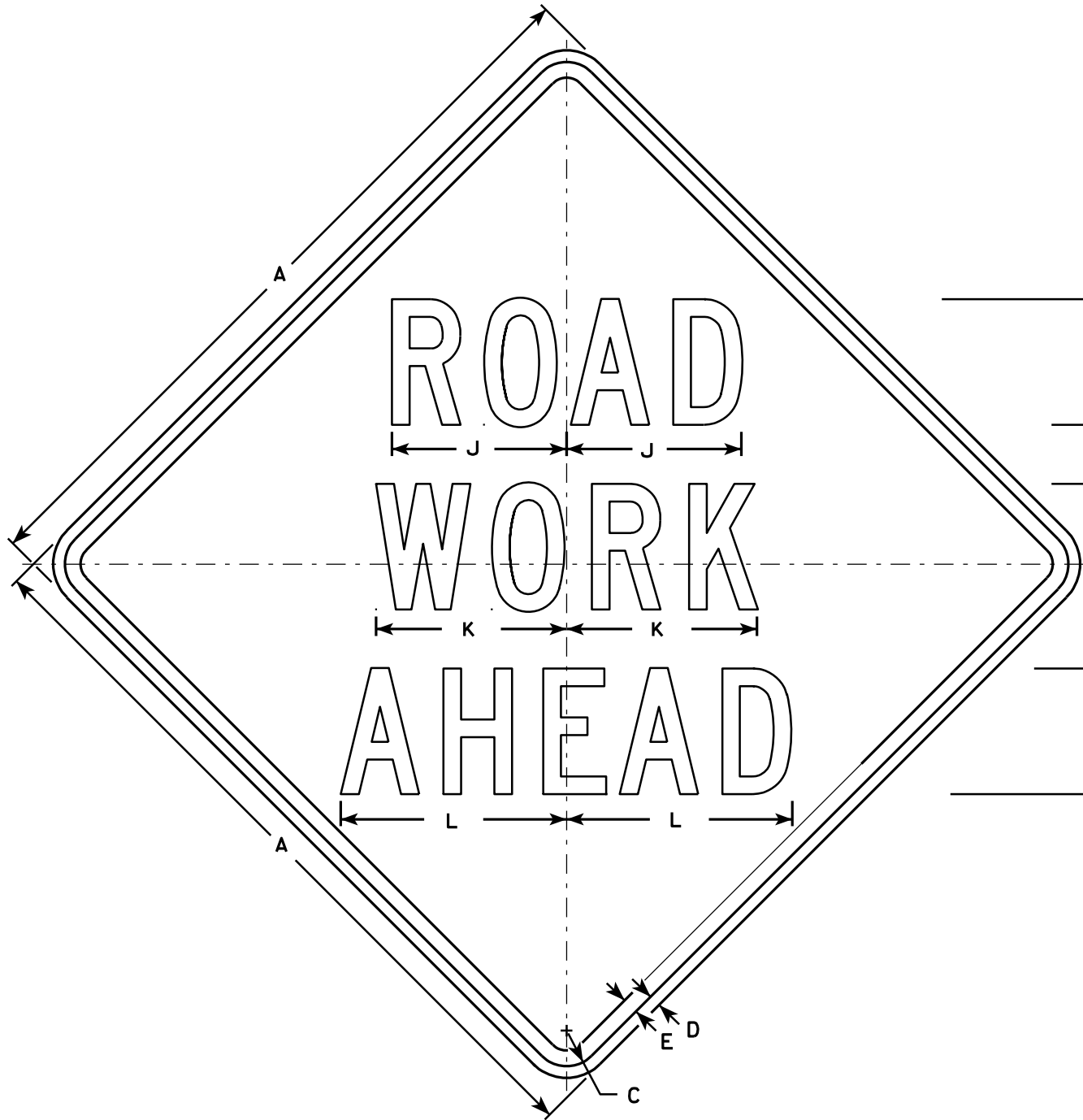
STANDARD SIGN
R4 - 1

WISCONSIN DEPT OF TRANSPORTATION

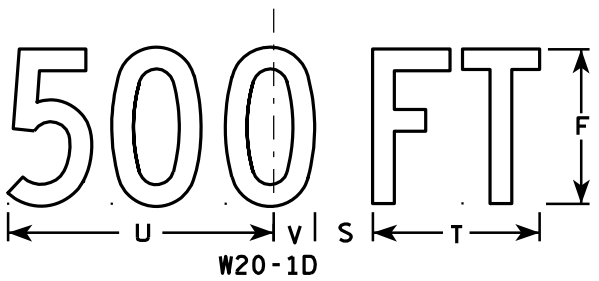
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

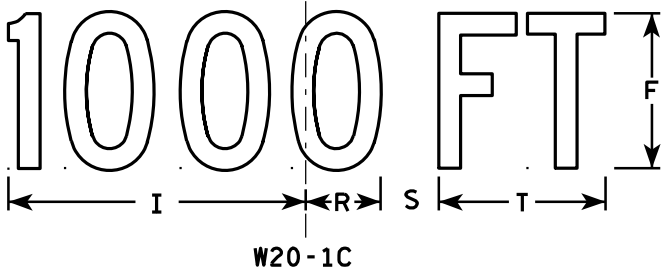
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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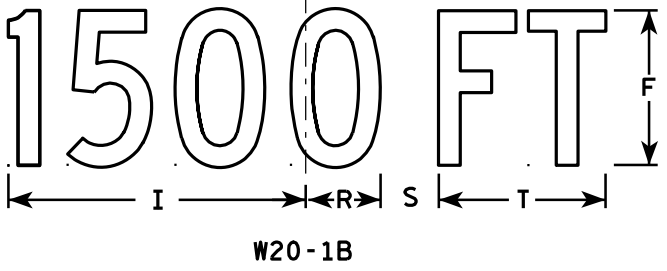
W20-1A



W20-1D



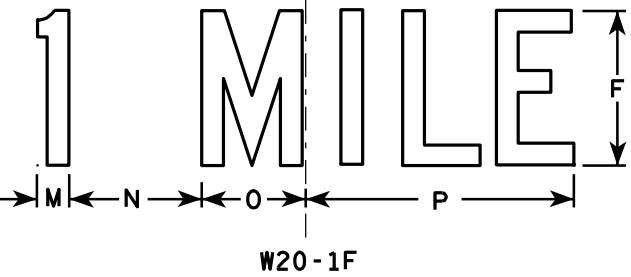
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

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		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

PROJECT NO:

SHEET NO:

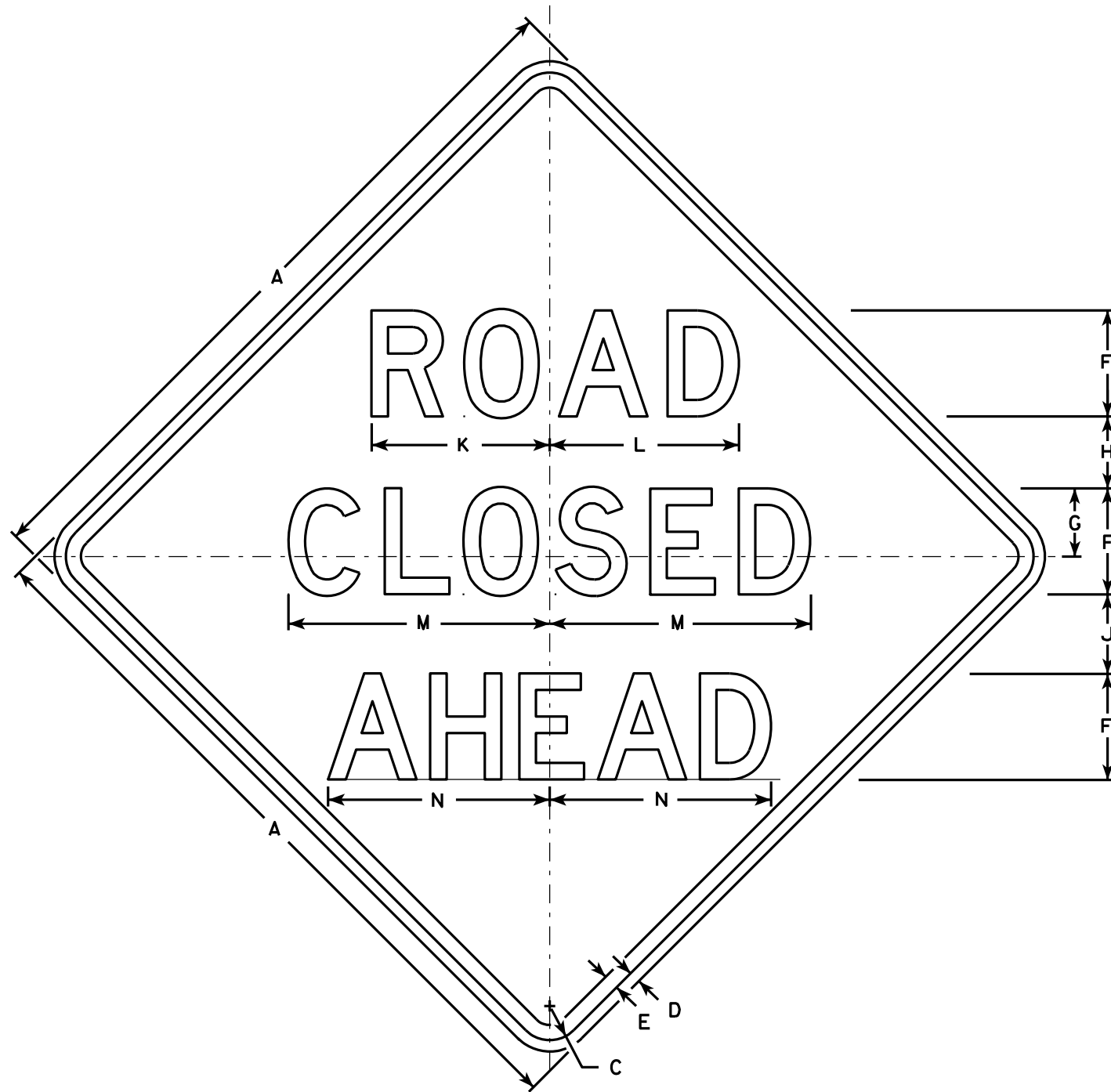
E

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 3/18/11
PLATE NO. W20-1.9



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

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		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

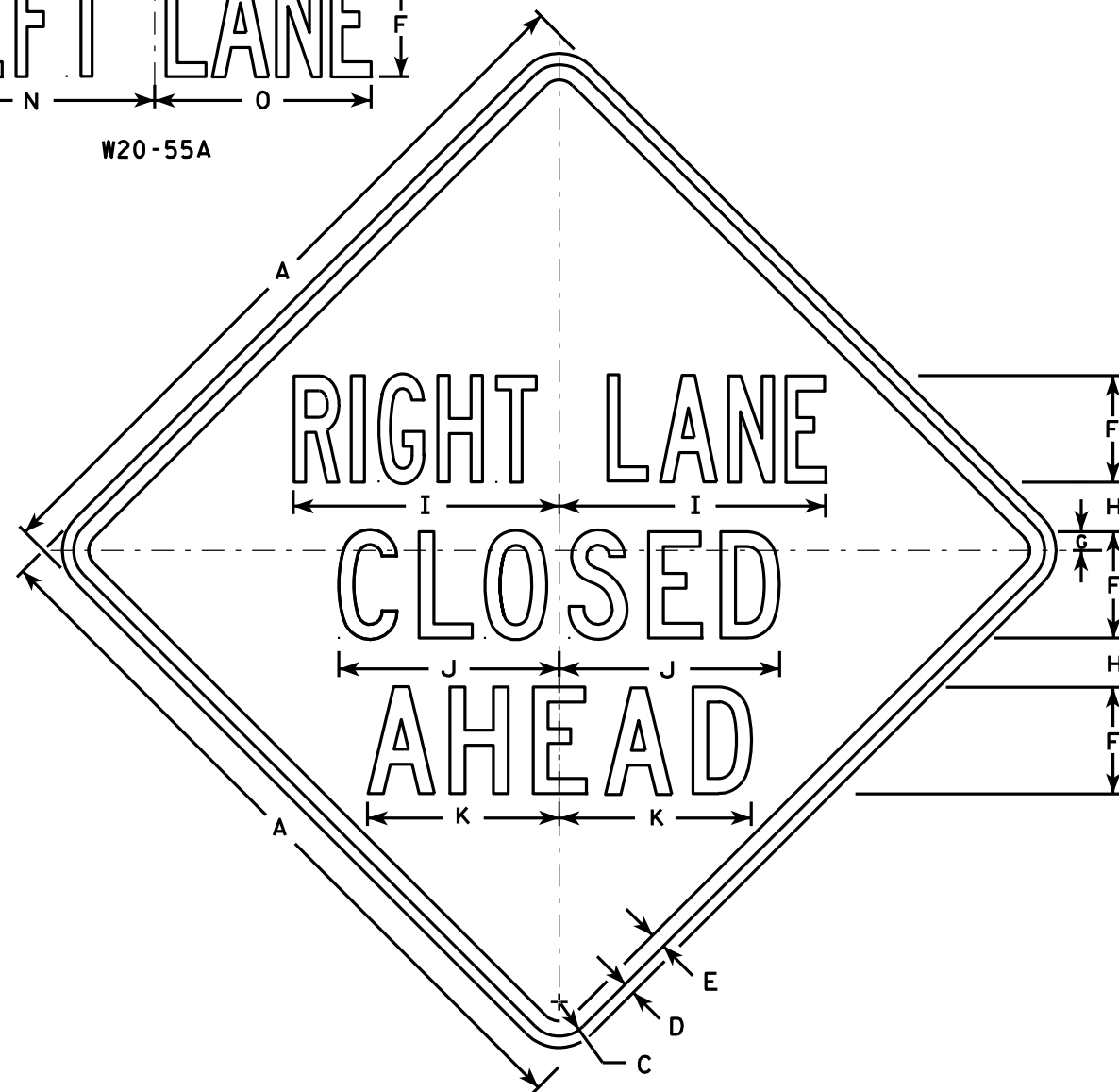
E

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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. "----- LANE" is Series B.
All other copy is 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	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN
W20-5A, B, C, D, F & G

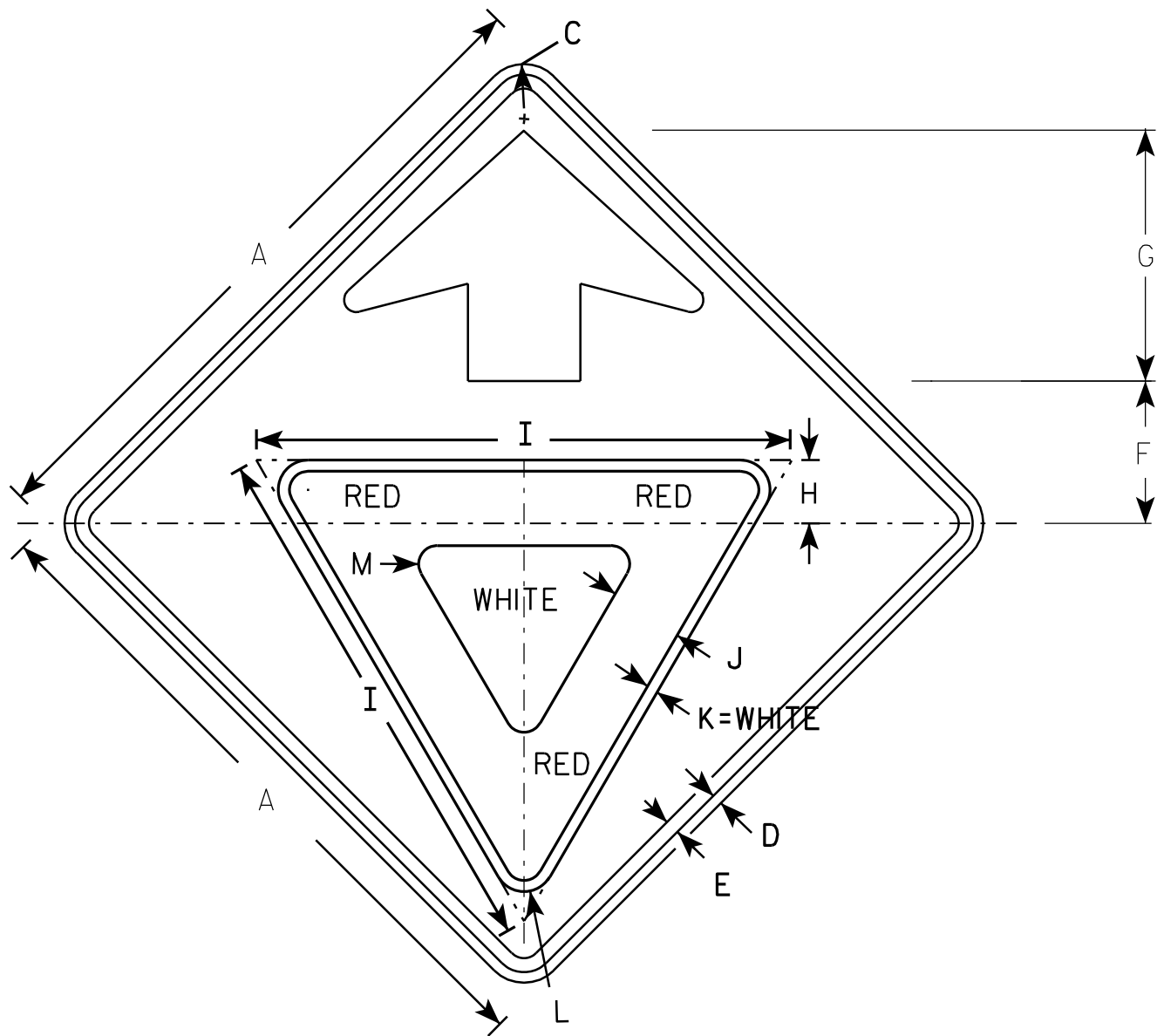
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

SHEET NO:

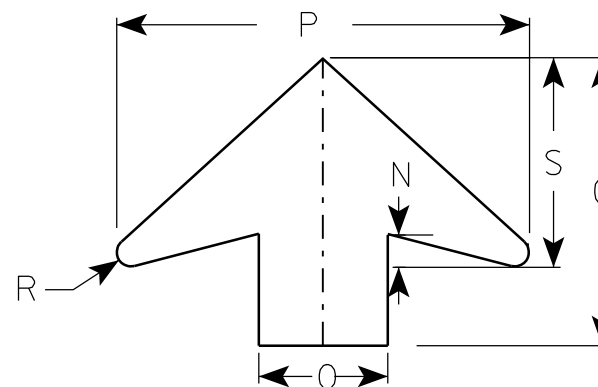
E



W3-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	3	25	3 3/8	1/2	1 3/8	7/8	1 1/4	5	16		1/2	8								6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

PROJECT NO:

STANDARD SIGN
W3-2

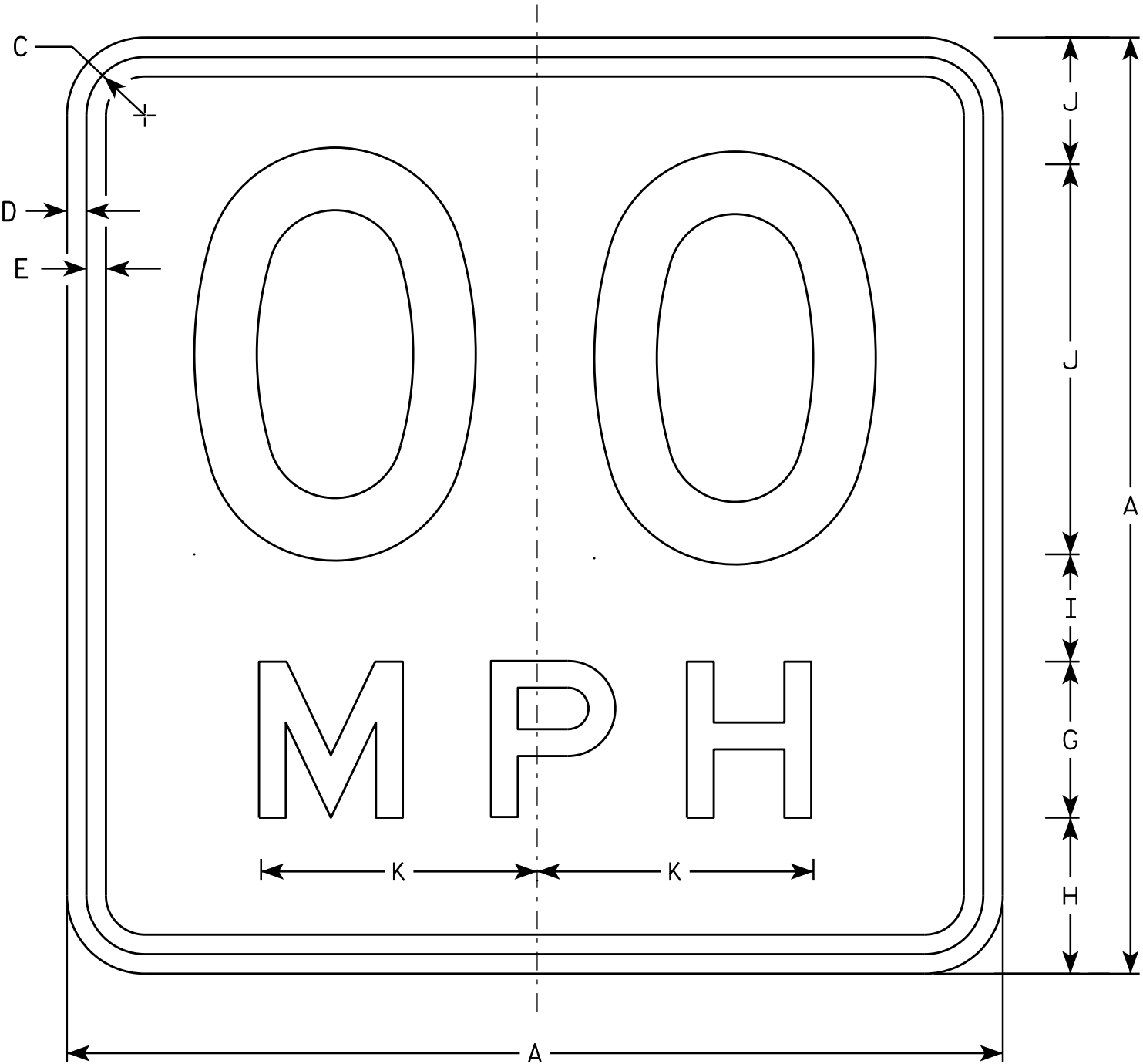
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-2..9

SHEET NO:

E



W013-1

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - Message - Black
- 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. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
- 6. Line 1 is Series D
Line 2 is Series E

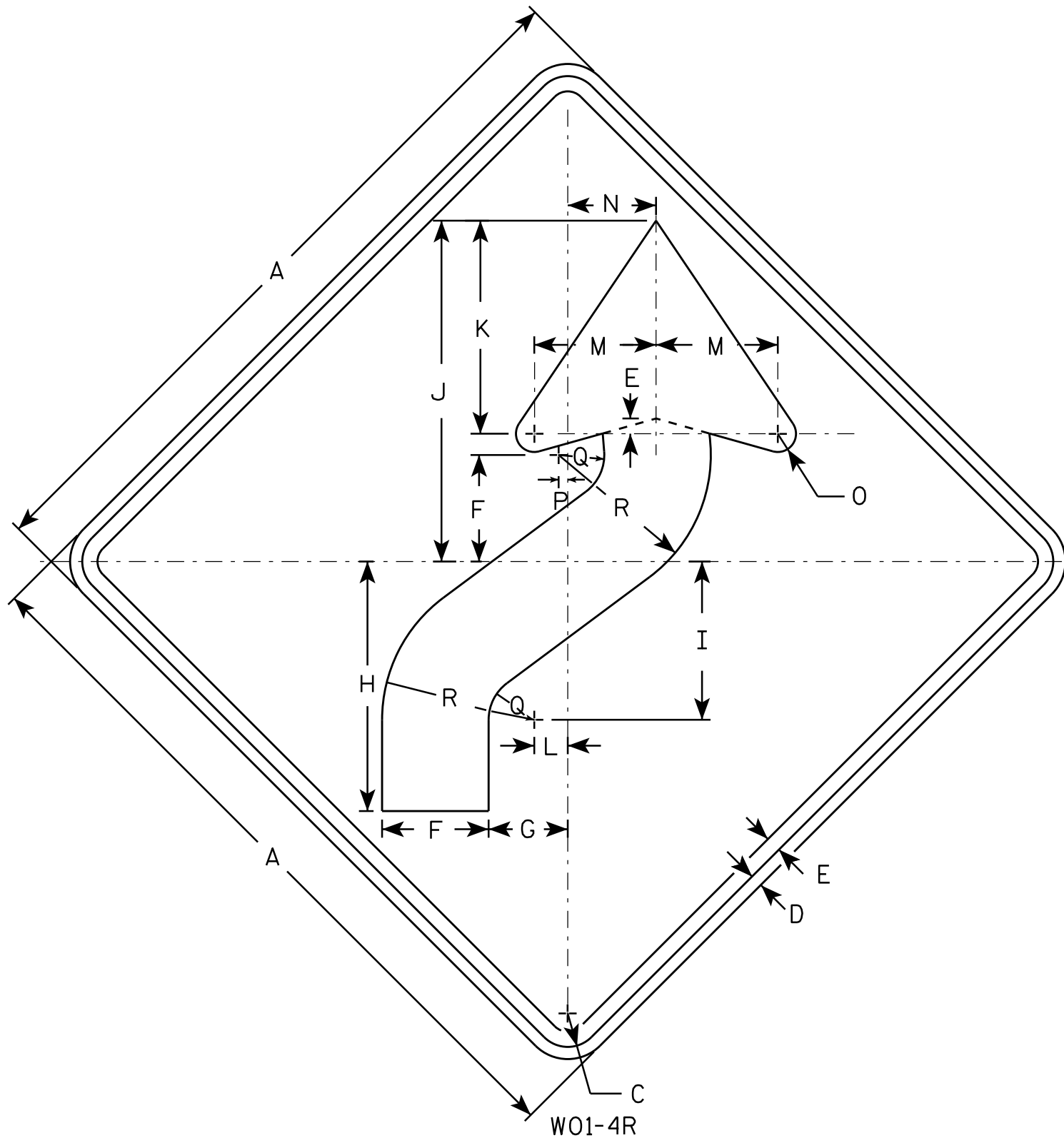
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1



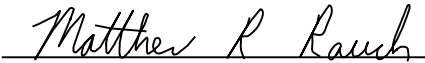
NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

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		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN W01-4

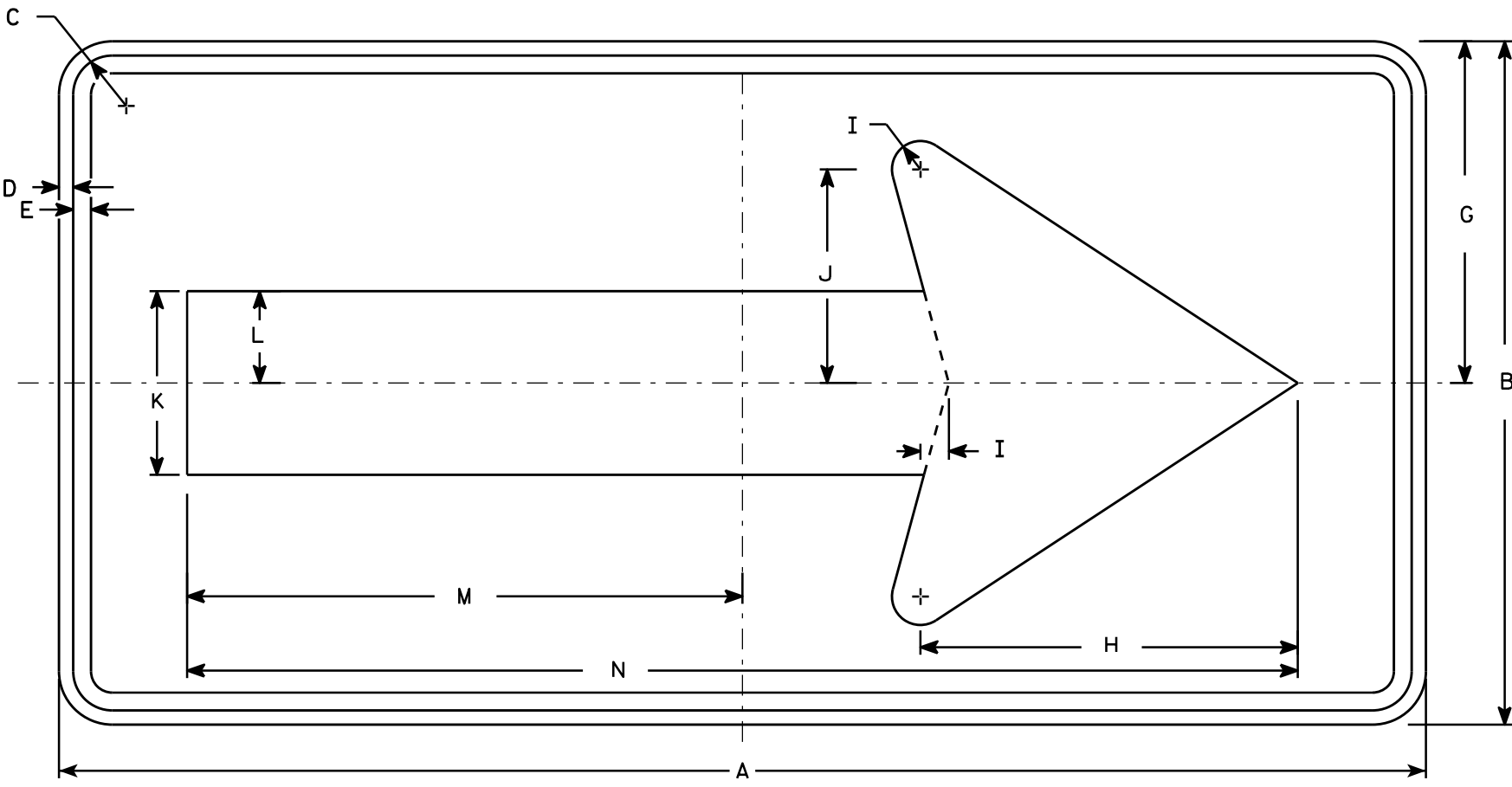
WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



W01-6

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
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.

7

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	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN

W01-6

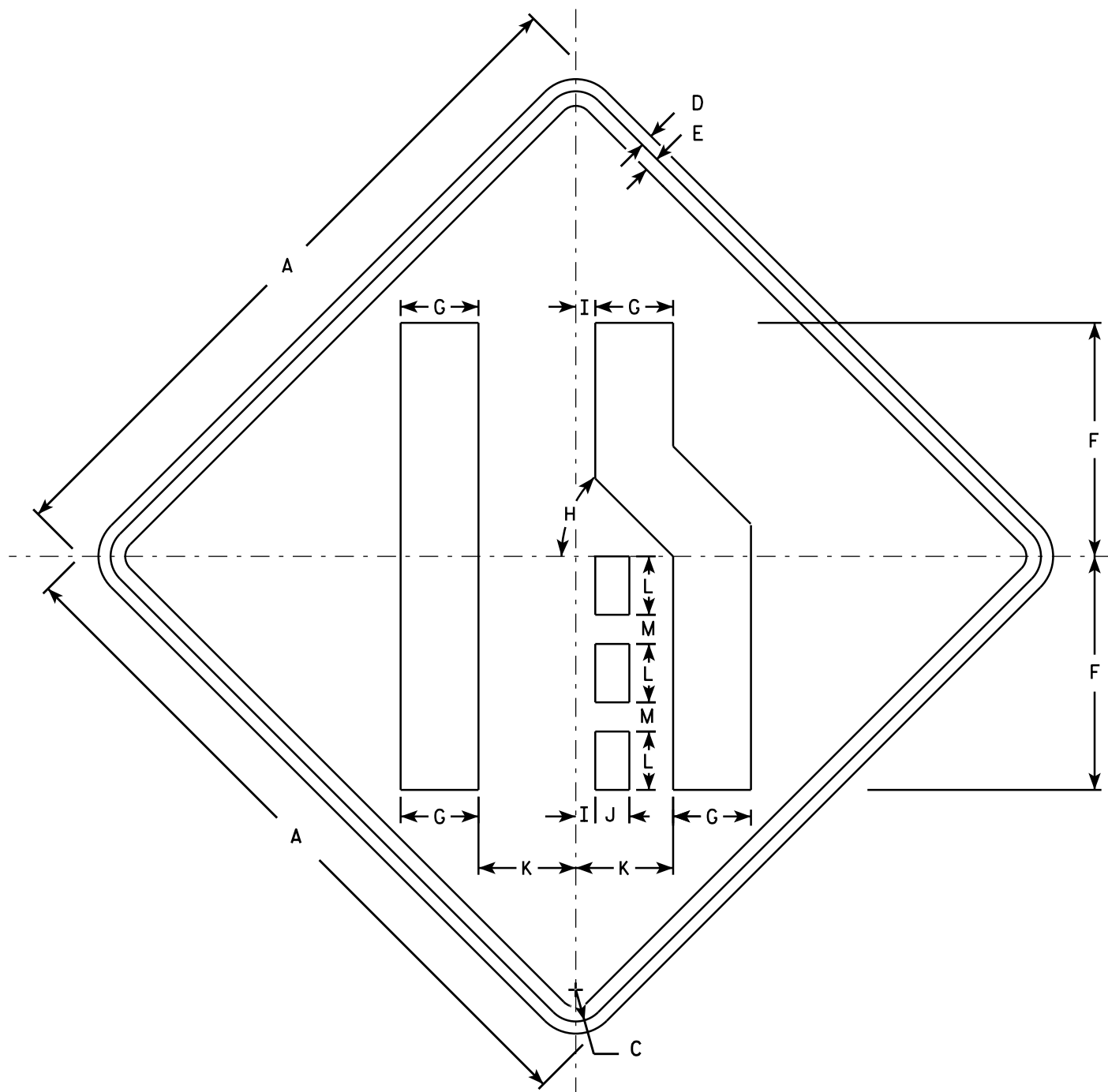
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13

PLATE NO. W01-6.1



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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. W04-2L is the same as W04-2R except the symbols are reversed along the vertical centerline.

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		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

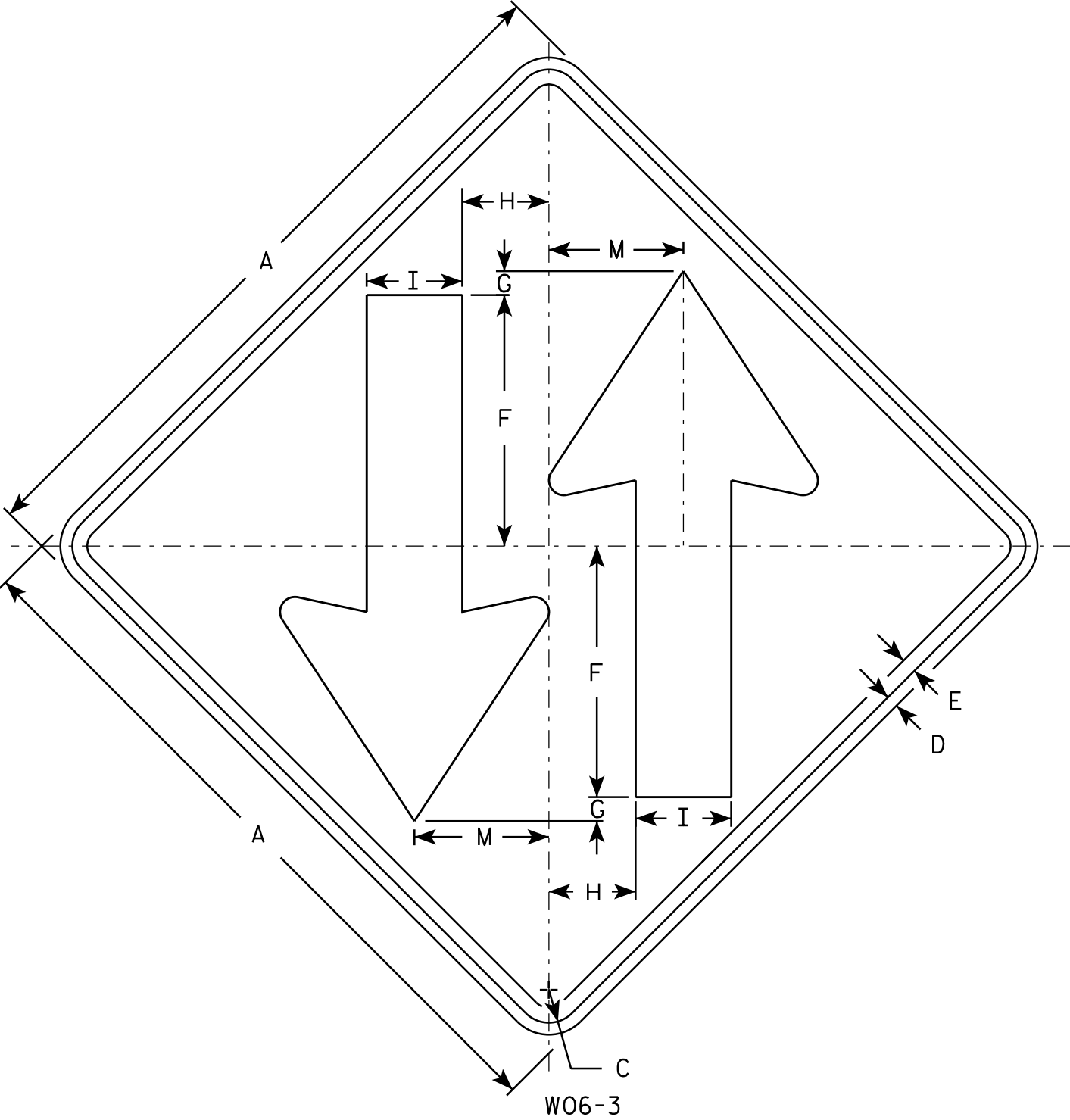
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
For State Traffic Engineer

DATE 11/20/13

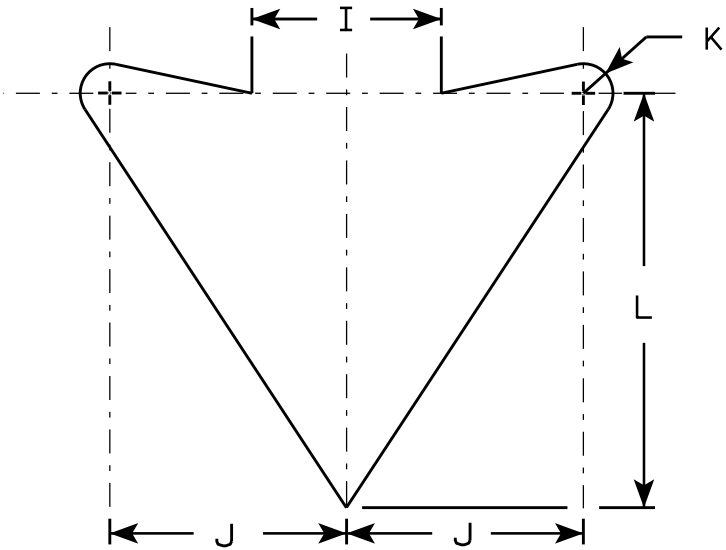
PLATE NO. W04-2.1



W06-3

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
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.



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	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

STANDARD SIGN
W06 - 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W06-3.1

MD FLOOR DRAIN, TYPE "GC" DOWNSPOUT DISCHARGE
MF FLOOR DRAIN, TYPE "GC" FREEFALL DISCHARGE
** PROVIDE FOR THRE BEAM GUARDRAIL ATTACHMENT
(X) INDICATES WING NUMBER
⊕ SURFACE DRAIN ANCHORS
REQUIRED ON WING

STATE PROJECT NUMBER

2025-14-74

DESIGN DATA

LIVE LOAD (NEW SPANS 1 AND 6)
DESIGN RATING.....HL-93
INVENTORY RATING FACTOR.....1.19
OPERATING RATING FACTOR.....1.65
WIS. STD. PERMIT VEHICLE LOAD.....250 KIPS

LIVE LOAD (EXISTING SPANS 2 THROUGH 5):
DESIGN RATINGHS20
INVENTORY RATINGHS16
OPERATING RATINGHS27
WIS. STD. PERMIT VEHICLE (WIS-SPV) ... 180 KIPS

SUPERSTRUCTURE OF SPANS 1 AND 6 DESIGNED
FOR FUTURE WEARING SURFACE OF 20 PSF.
SPANS 2-5 AND SUBSTRUCTURE IS NOT
DESIGNED FOR FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES (NEW WORK):
CONCRETE MASONRY DECK.....f'c = 4000 PSI
ALL OTHERf'c = 3500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60fy = 60,000 PSI

45-INCH GIRDERS:
CONCRETE MASONRY.....f'c = 6,000 PSI

0.6" DIAMETER STRANDS WITH
ULTIMATE TENSILE STRENGTH...fy = 270,000 PSI
ULTIMATE DESIGN STRESSES (EXISTING WORK):
CONCRETE MASONRY DECK.....f'c = 5000 PSI
1/2" DIAMETER STRANDS WITH
ULTIMATE TENSILE STRENGTH...fy = 270,000 PSI

TRAFFIC DATA STH 190

ADT = 33,550 (2015)
= 42,300 (2035)
RDS = 60 MPH

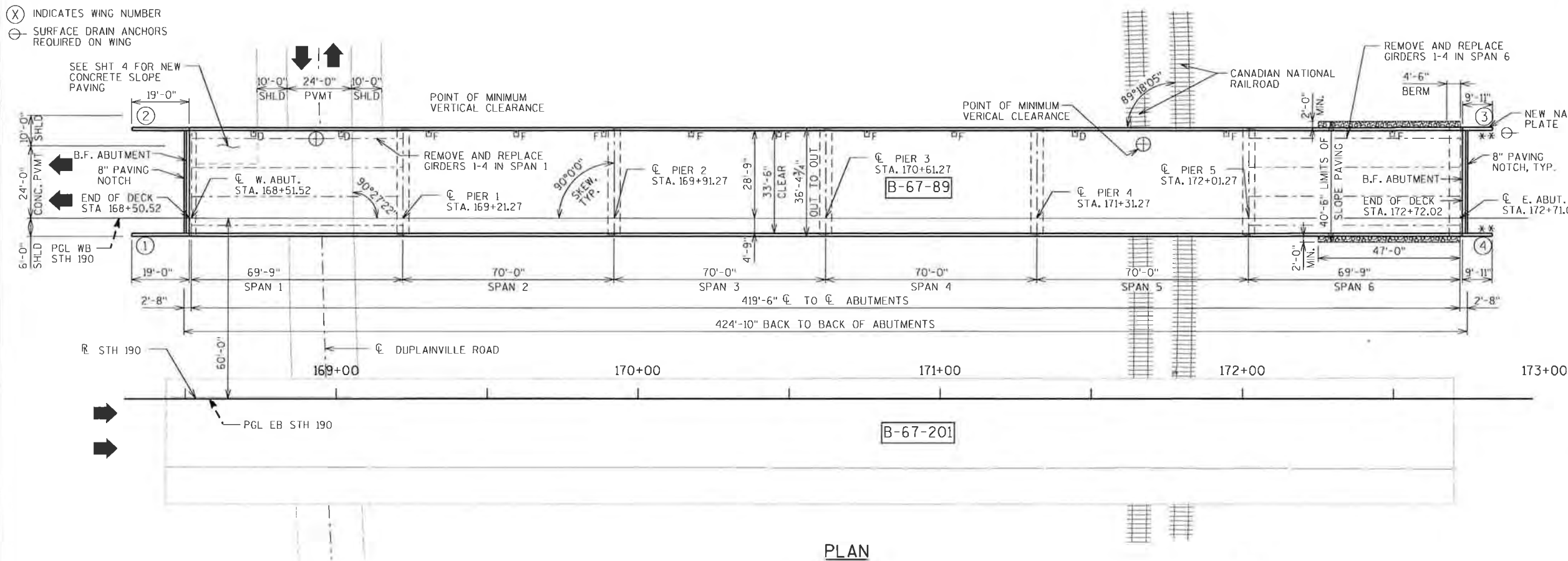
TRAFFIC DATA DUPLAINVILLE ROAD

ADT > 100

FOUNDATION DATA

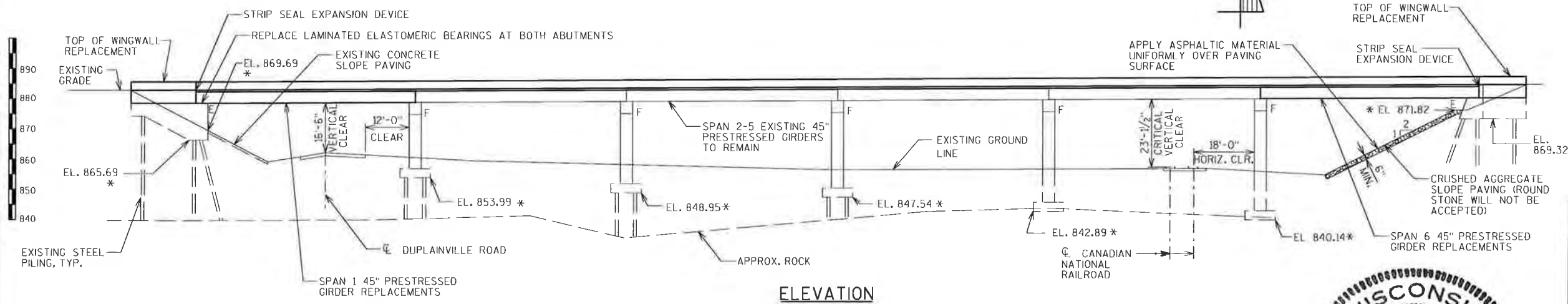
ABUTMENTS AND PIERS 1, 2 & 3
ARE SUPPORTED ON STEEL PILES.

PIERS 4 & 5 ARE SUPPORTED ON
SPREAD FOOTINGS.



PLAN

DECK AND PARTIAL GIRDER REPLACEMENT
OF A 6 SPAN 45" PRESTRESSED GIRDER BRIDGE

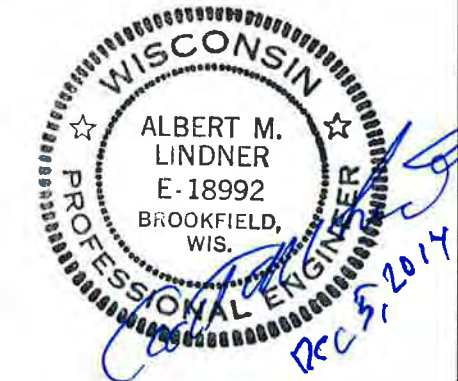


ELEVATION

* — ELEVATIONS BASED ON EXISTING PLANS

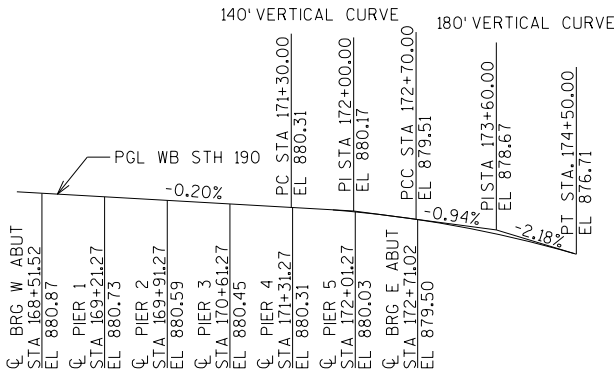
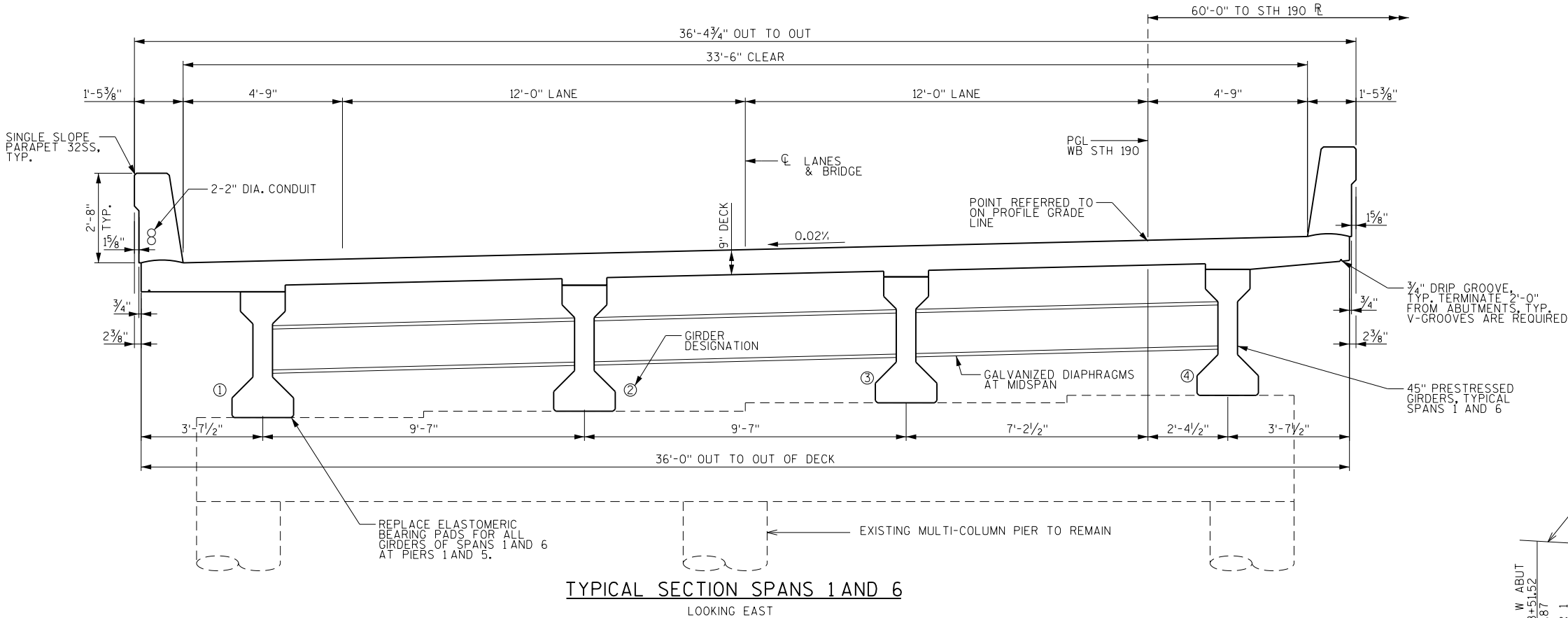
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION
3. QUANTITIES AND GENERAL NOTES
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. ABUTMENT BILL OF BARS
9. SUPERSTRUCTURE REMOVAL
10. 45" PRESTRESSED GIRDER DETAILS
11. SUPERSTRUCTURE PLAN
12. SUPERSTRUCTURE CROSS SECTION
13. FRAMING PLAN AND DIAPHRAM DETAILS
14. SUPERSTRUCTURE DETAILS
15. TOP OF DECK ELEVATIONS
16. SUPERSTRUCTURE BILL OF BARS
17. EXPANSION DEVICE
18. COVER PLATE DETAILS
19. SINGLE SLOPE PARAPET 32SS
20. FLOOR DRAIN TYPE "GC"
21. DOWNSPOUT
22. ELASTOMERIC EXPANSION BEARING DETAILS



BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT:
ALBERT M. LINDNER (414) 259-1500

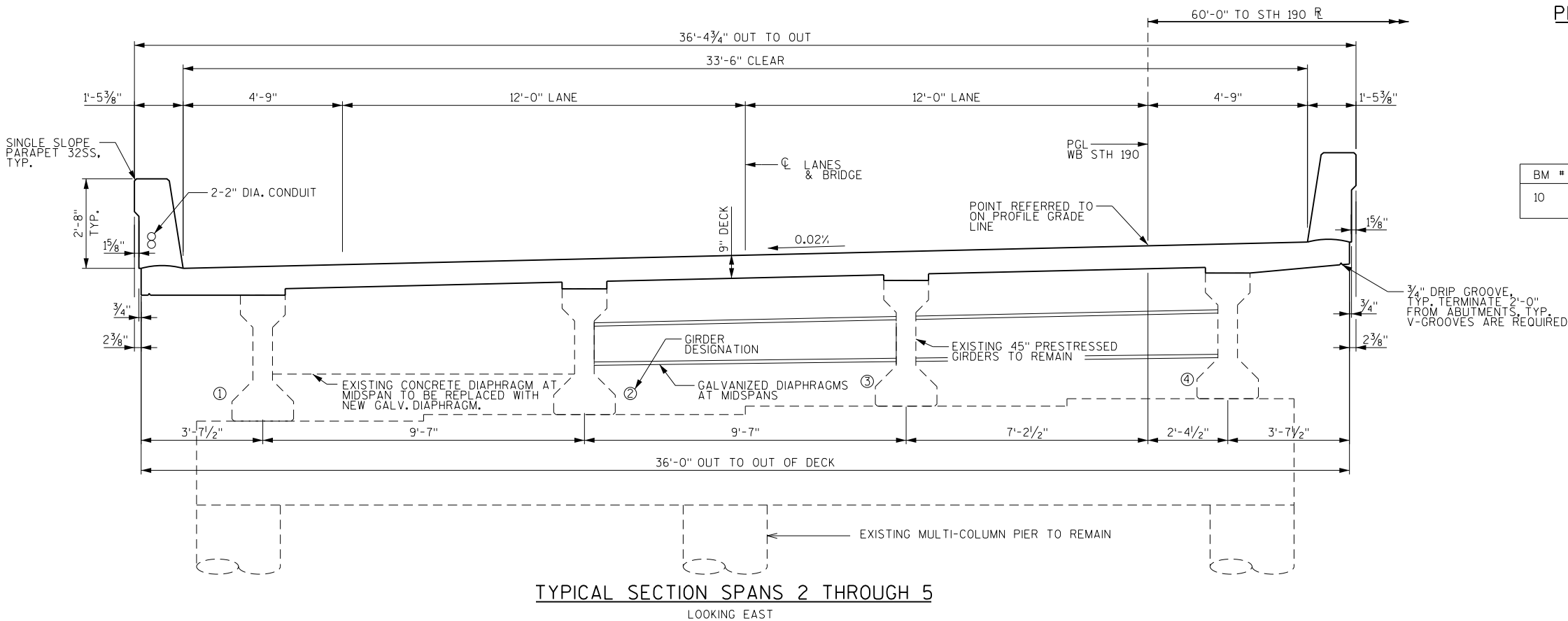
NO.	DATE	REVISION	BY
GR̄AEF One Honey Creek Corporate Center 125 South 84th Street, Suite 401 Milwaukee, WI 53214-1470 414 / 259 1500 414 / 259 0037 fax www.graefusa.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i>		KAR 12/28/14 DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-67-89			
WB STH 190 OVER DUPLAINVILLE ROAD			
COUNTY	WAUKESHA	TOWN/CITY/VILLAGE	PEWAUKEE
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	KCW	DESIGN CK'D.	JRS
DRAWN BY	RBH	PLANS CK'D.	AML
GENERAL PLAN			SHEET 1 OF 22



PROFILE GRADE LINE - WB STH 190

BENCHMARK INFORMATION

BM #	STATION	LOCATION	ELEVATION
10	186+82	CHISLED SQUARE ON SE CORNER OF CONCRETE BASE FOR CONTROL BOX CORNER OF STH 190 & SPRINGDALE RD.	842.99



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
CROSS SECTION		SHEET 2 OF 22	

ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	WEST ABUT.	EAST ABUT.	SUPER.	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 170+61.27, 60' LT	LS	-	-	-	1
203.0225.S01	DEBRIS CONTAINMENT STRUCTURE B-67-89	LS	-	-	-	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	27	-	-	27
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-67-89	LS	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	63	63	-	126
502.0100	CONCRETE MASONRY BRIDGES	CY	22	18	608	649
502.3100	EXPANSION DEVICE B-67-89	LS	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	18	10	1954	1982
502.5005	MASONRY ANCHORS TYPE L NO. 5 BAR	EACH	130	106	-	236
502.6102	MASONRY ANCHORS TYPE S 1/2- INCH	EACH	-	-	24	24
503.0145	PRESTRESSED GIRDER TYPE 145-INCH	LF	-	-	563	563
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	3430	2480	160,800	166,710
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	8	8
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	4	4	-	8
506.4000	STEEL DIAPHRAGMS B-67-89	EACH	-	-	18	18
* 509.1500	CONCRETE SURFACE REPAIR	SF	10	10	-	20
514.0445	FLOOR DRAINS TYPE GC	EACH	-	-	12	12
514.2625	DOWNSPOUT 6-INCH	LF	-	-	116	116
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	10	-	23
604.0400	SLOPE PAVING CONCRETE	SY	27	-	-	27
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	-	234	-	234
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	2	-	2
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	-	-	24	24
652.0225	CONDUIT RIGID NON-METALLIC SCHEDULE 40 2-INCH	LF	-	-	891	891
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-	-	2	2
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION	LS	LS			1
	PREFORMED JOINT FILLER	SIZE	SIZE			1/2" & 3/4"

- ☆ QUANTITY FOR THE PARAPETS ON THE WINGWALLS IS INCLUDED WITH THE ABUTMENT QUANTITIES.
- ◇ QUANTITY INCLUDES ANCHORS INSTALLED ON THE PIERS.
- * CONCRETE SURFACE REPAIR REQUIRED ON GIRDERS AND PIERS WILL BE AS DESIGNATED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE CENTER OF BEARINGS AT THE ABUTMENTS MOVED 3 INCHES AND SHORTENED THE SPAN, DUE TO THE LONGER LAMINATED ELASTOMERIC BEARING PADS COMPARED TO THE ORGINAL STEEL BEARINGS.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

THE SLOPE IN FRONT OF THE EAST ABUTMENT SHALL BE COVERED WITH "SLOPE PAVING CRUSHED AGGREGATE" TO THE EXTENT SHOWN ON SHEET 1.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-67-89".

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY FIELD ENGINEER TO THE BUREAU OF STRUCTURES DESIGN FOR REVIEW.

BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE I, II, III, OR M213.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAWCUT.

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK UNLESS SPECIFIED OTHERWISE.

EXISTING STRUCTURE B-67-89 IS A 6-SPAN PRESTRESSED CONCRETE GIRDER BRIDGE WITH 45" BEAMS, BUILT IN 1966.

THE PARAPETS, DECK, LAMINATED ELASTOMERIC BEARINGS, BOTH EXPANSION JOINTS, ABUTMENT BACKWALLS, AND WINGWALLS ABOVE THE BEARING SEAT ARE TO BE REMOVED. ALL MID-SPAN CONCRETE DIAPHRAGMS AND CONCRETE DIAPHRAGMS OVER PIER 1 AND PIER 5 WILL BE REMOVED AND REPLACED. THE PRESTRESSED GIRDERS IN SPANS 1 & 6 ONLY WILL BE REMOVED.

PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.

CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 520.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. THE NEW NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1966.

THE CONTRACTOR SHALL SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR APPROVAL PER SPECIAL PROVISIONS.

MONITOR SAW CUTTING OF EXISTING BRIDGE DECK AND BLADE DEPTH SO THAT EXISTING UNDERLYING GIRDERS ARE NOT DAMAGED. EXERCISE CARE NOT TO DAMAGE THE TOP FLANGES WITH JACKHAMMER OR OTHER TOOLS.

THE MINIMUM CONCRETE HAUNCH SHALL BE 2" FOR DESIGN CALCULATIONS AND THE CONCRETE QUANTITY IS BASED ON AN AVERAGE CONCRETE HAUNCH DEPTH OF 4 1/2" WHICH IS THE MAXIMUM QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND TOP AND INSIDE FACES OF PARAPETS.

THE JOINT BETWEEN THE GIRDERS OVER THE PIERS SHALL BE FINISHED TO HAVE A SMOOTH APPEARANCE. COST INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

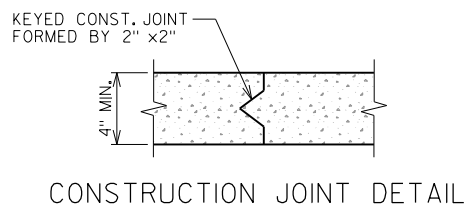
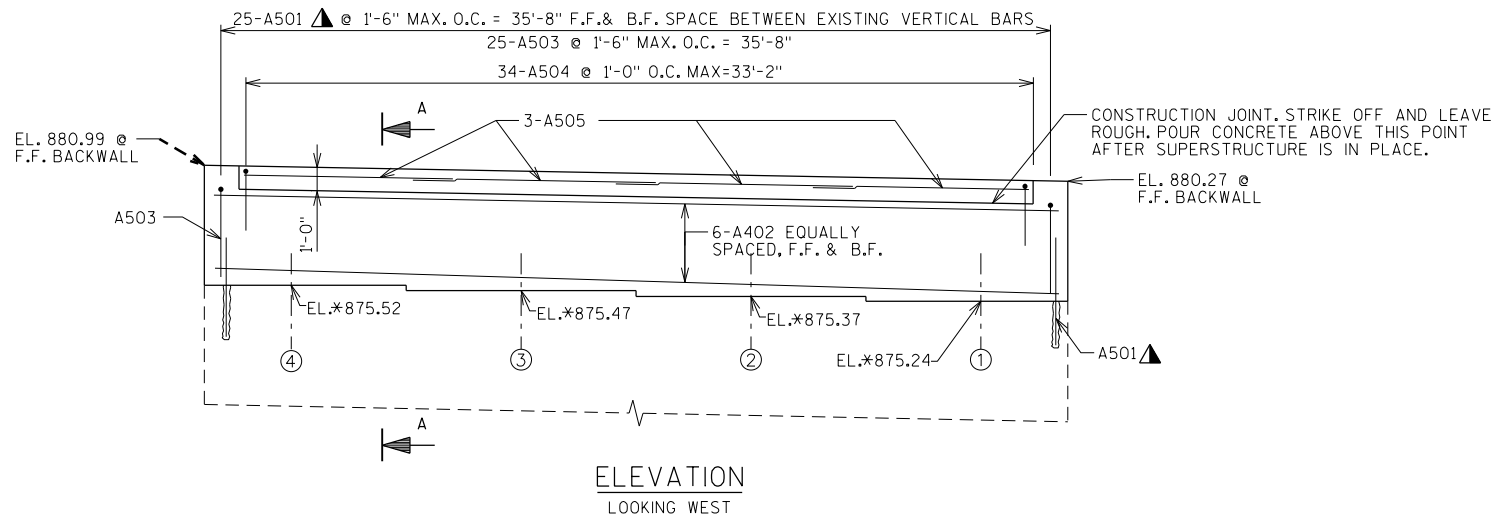
NEW LAMINATED ELASTOMERIC BEARING SHALL BE EPOXIED TO THE UNDERSIDE OF THE GIRDER. EPOXY TO BE SUPPLIED BY BEARING MANUFACTURER AS INCIDENTAL TO BID ITEM.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
		DRAWN BY RBH	PLANS CK'D. AML
QUANTITIES AND GENERAL NOTES		SHEET 3 OF 22	

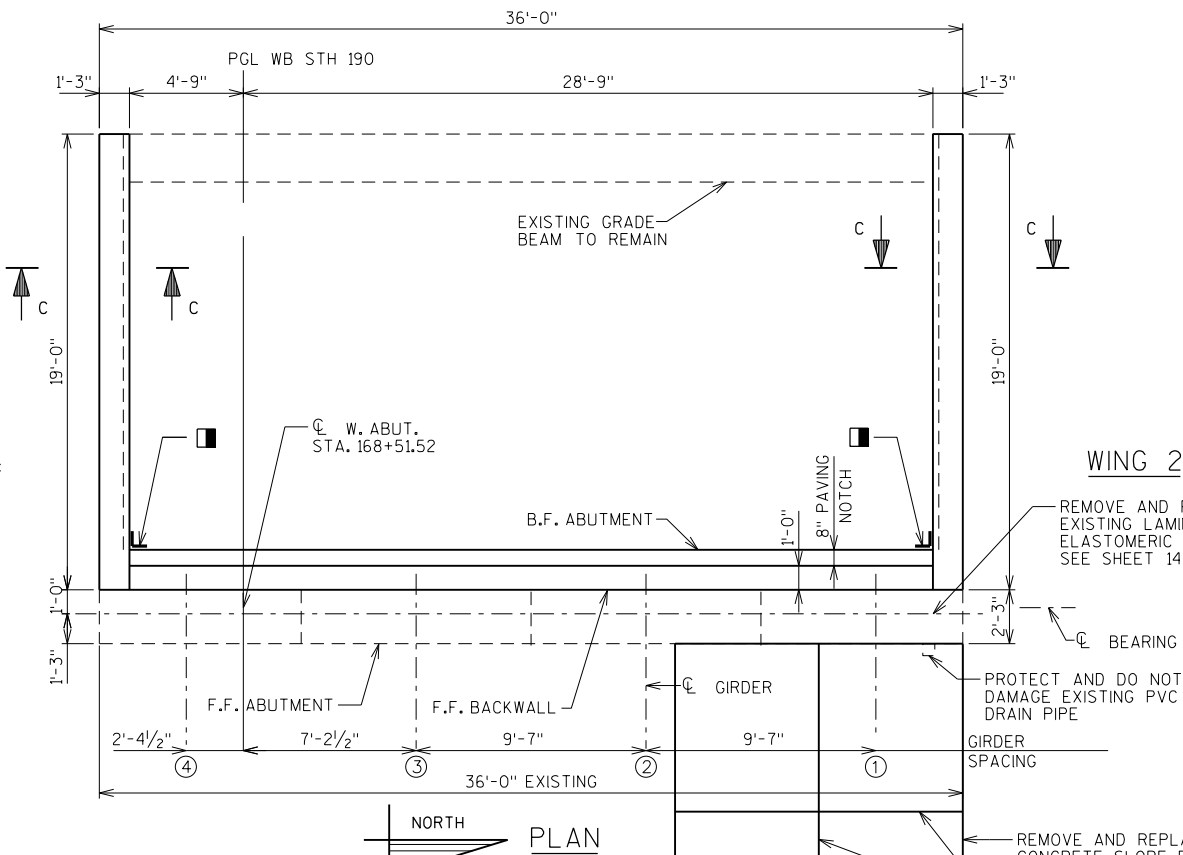
LEGEND

- 18" RUBBERIZED MEMBRANE WATER-PROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- GIRDER NUMBER
- CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR EMBED 1'-6".
- CONCRETE REMOVAL
- ELEVATIONS ARE BASED ON SURVEY, FIELD VERIFY
- CLEAN EXISTING BEVELED CONSTRUCTION JOINT.

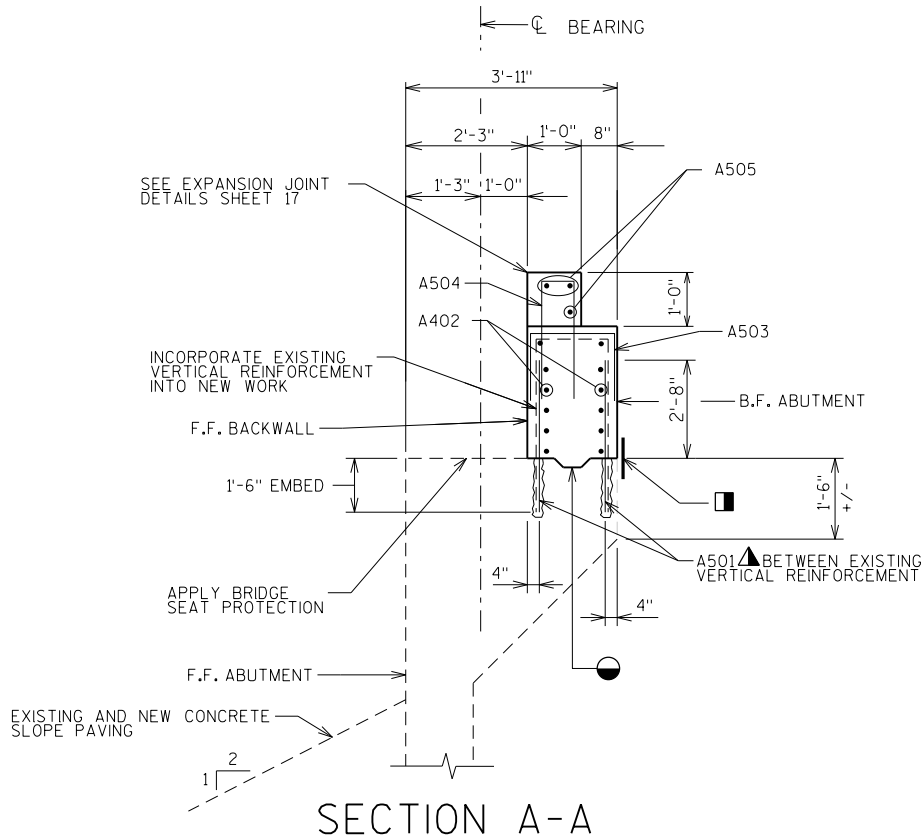
NOTE:
SEE SHEET 5 FOR SECTION C-C



WING 1



WING 2



SECTION A-A

REMOVE TOP OF CONCRETE WINGWALLS TO BEAM SEAT. EXPOSE AND CLEAN VERTICAL REINFORCING STEEL FOR INCORPORATION INTO NEW WORK

EXISTING WINGWALL 1

TOP OF BEAM SEAT

EXISTING GRADE BEAM

CONCRETE WINGWALL
REMOVAL DETAIL
WINGWALL 1 SHOWN, WINGWALL 2
SIMILAR OPPOSITE HAND

B

REMOVE EXISTING CONCRETE BACKWALL TO BEAM SEAT. EXPOSE AND CLEAN VERTICAL REINFORCING STEEL FOR INCORPORATION INTO NEW WORK

B

CONCRETE BACKWALL REMOVAL DETAIL

REMOVE AND REPLACE THE EXISTING LAMINATED ELASTOMERIC BEARINGS, SEE SHEET 14

PROTECT AND DO NOT DAMAGE EXISTING PVC DRAIN PIPE

REMOVE AND REPLACE CONCRETE SLOPE PAVING 12'-0\"/>

SEE CONSTRUCTION JOINT DETAIL AND MATCH LOCATION OF EXISTING CONSTRUCTION JOINTS

EXISTING WINGWALL 2

CUT EXISTING BEARING ANCHOR RODS FLUSH WITH BEAM SEAT, IF NECESSARY

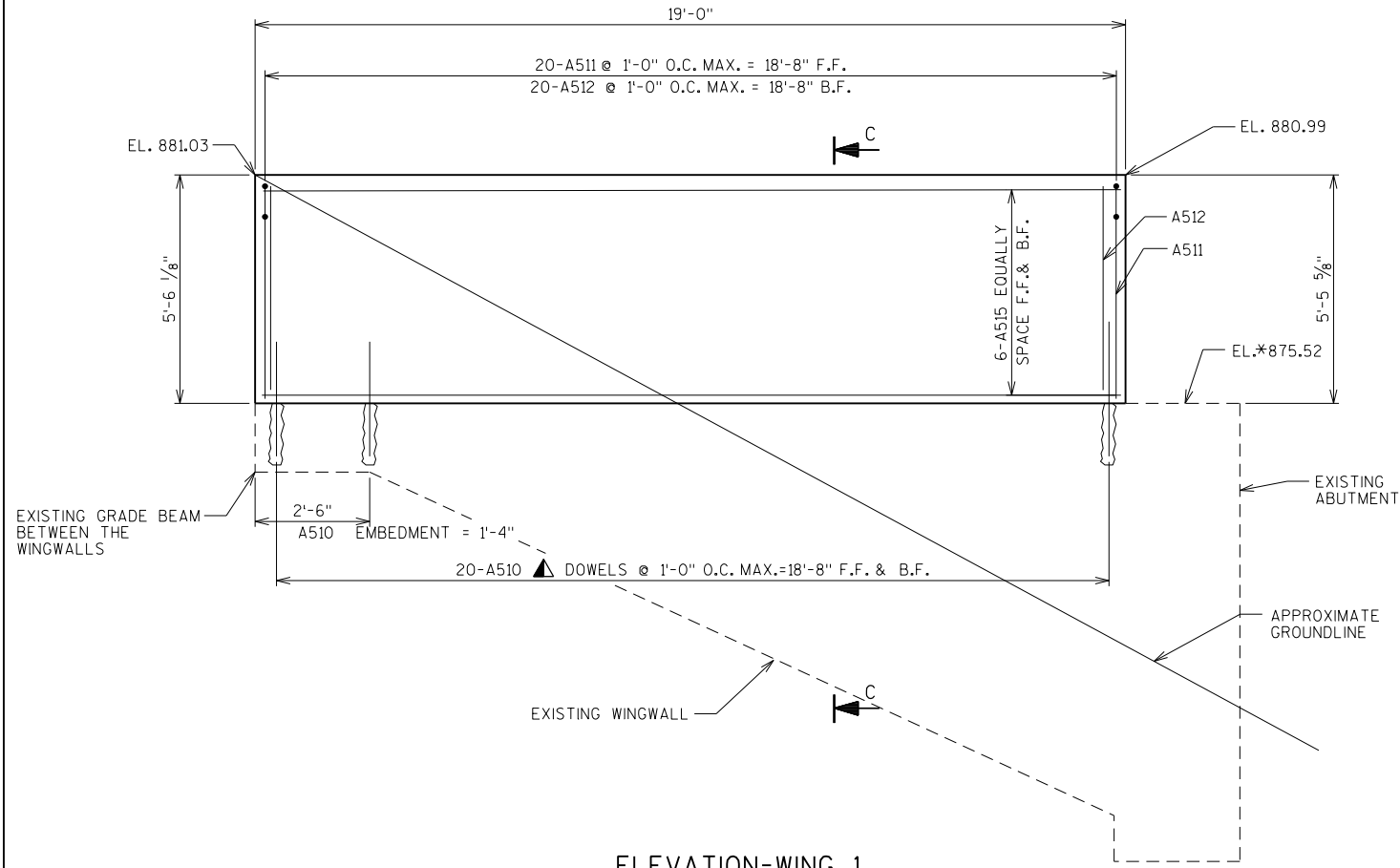
BACKWALL REMOVAL TO TOP OF BEAM SEAT

EXPOSE AND CLEAN VERTICAL REINFORCING STEEL FOR INCORPORATION INTO NEW WORK

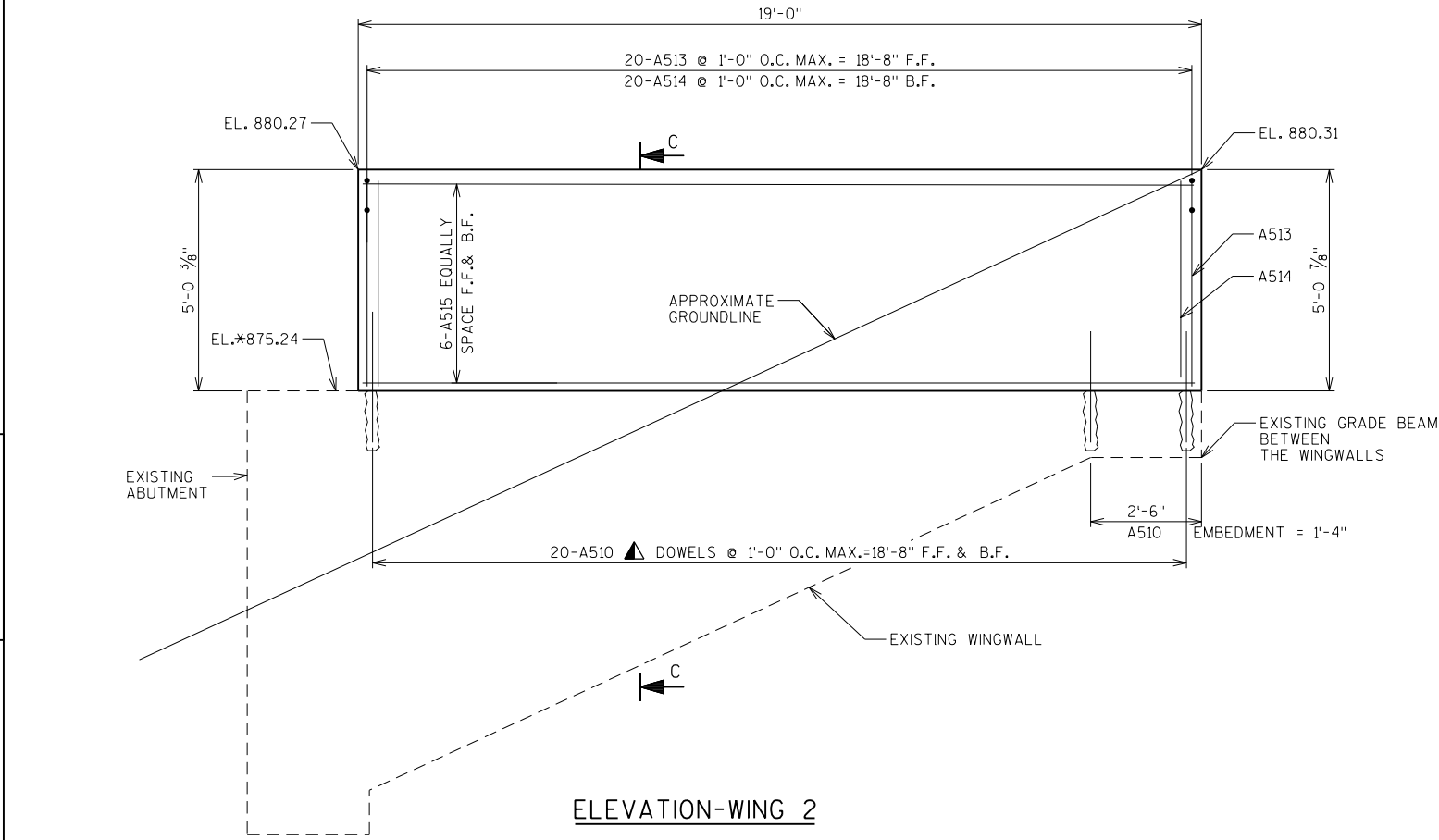
SECTION B-B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
WEST ABUTMENT			SHEET 4 OF 22

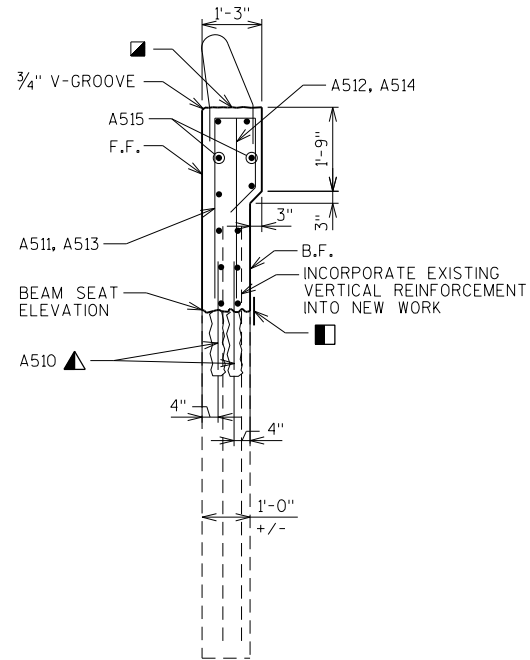
FILE =
SCALE =



ELEVATION-WING 1



ELEVATION-WING 2



SECTION C-C

LEGEND

- CONSTRUCTION JOINT, STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ▲ CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 1'-6", UNLESS NOTED OTHERWISE
- * ELEVATIONS ARE BASED ON SURVEY, FIELD VERIFY
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

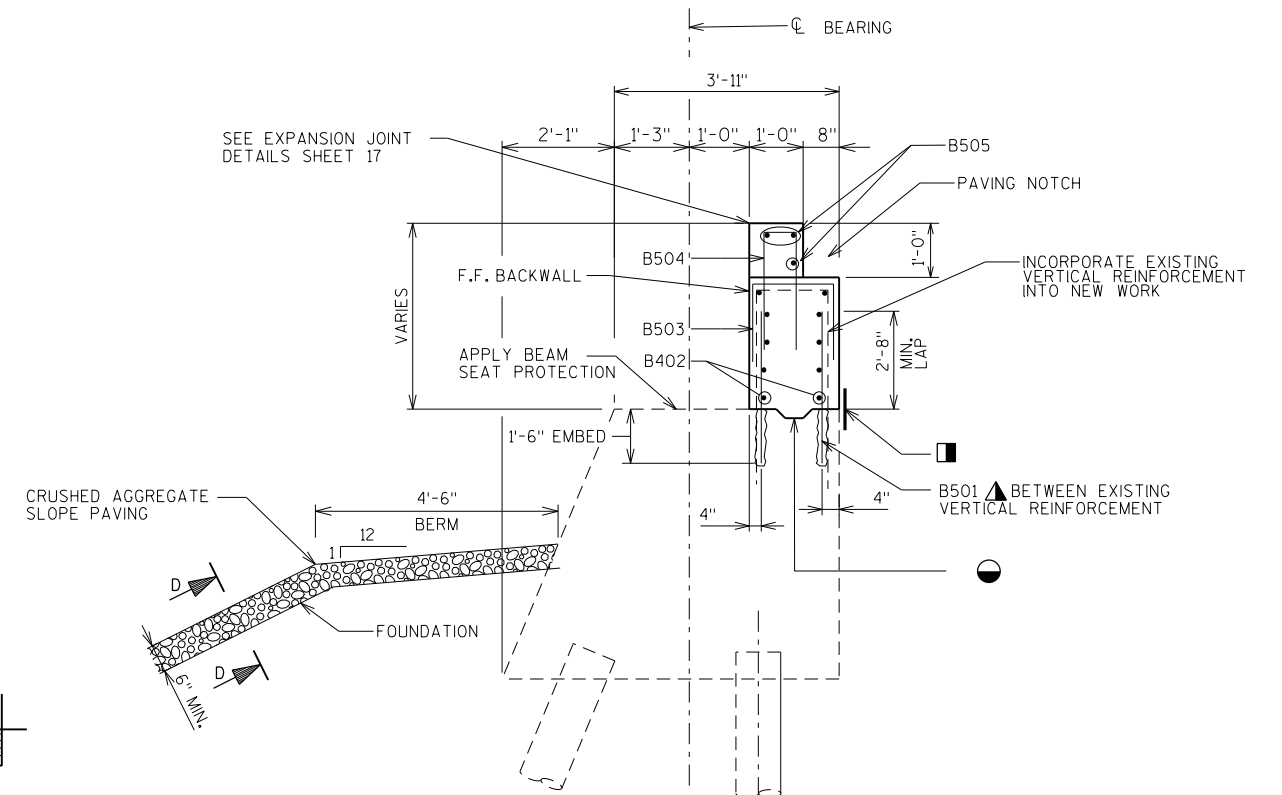
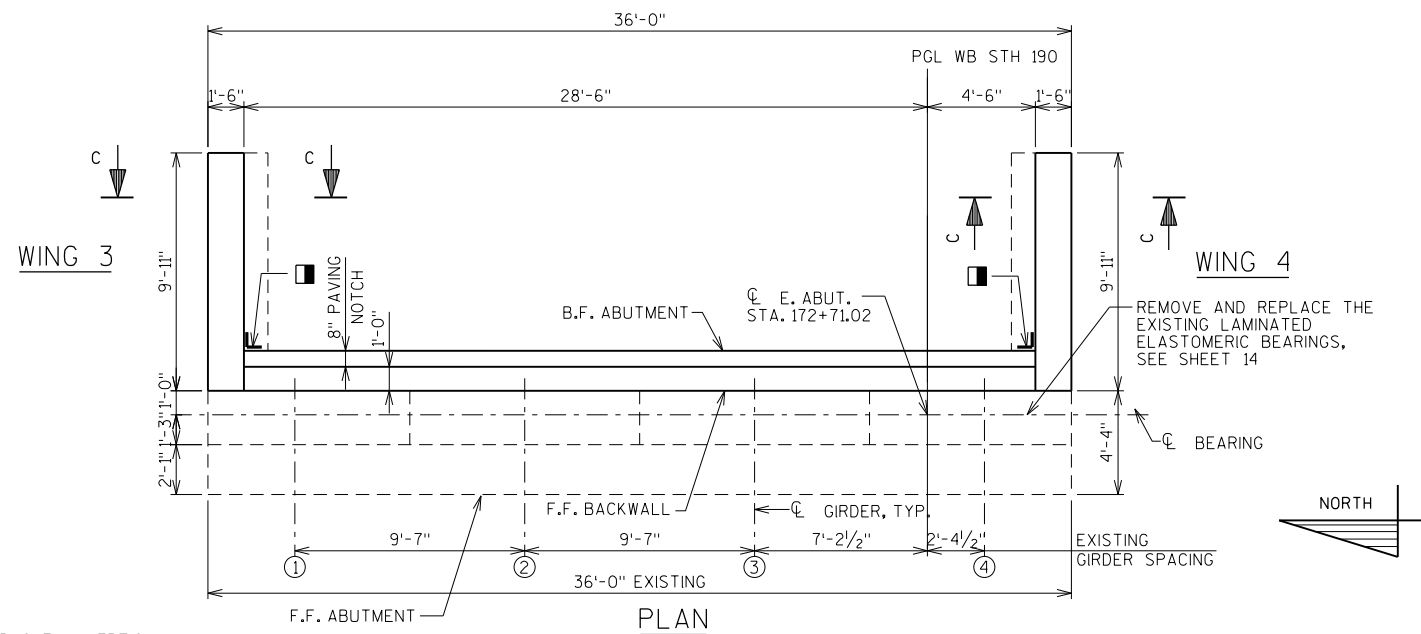
NOTE:

- SEE SHEET 19 FOR PARAPET BARS

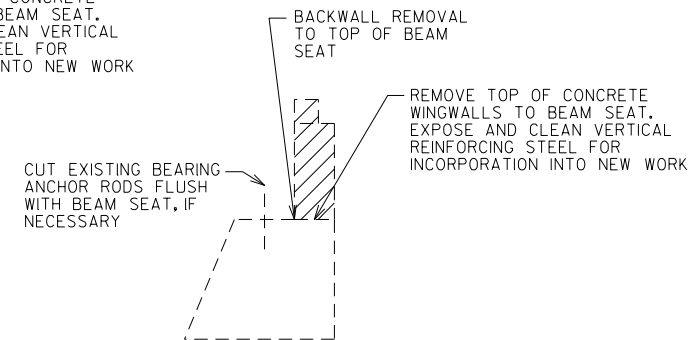
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
		DRAWN BY RBH	PLANS CK'D. AML
WEST ABUTMENT DETAILS		SHEET 5 OF 22	

FILE =
SCALE =

	18" RUBBERIZED MEMBRANE WATER-PROOFING, SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
	GIRDER NUMBER
	CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR EMBED 1'-6".
	CONCRETE REMOVAL
	ELEVATIONS ARE BASED ON SURVEY, FIELD VERIFY
	CLEAN EXISTING BEVELED CONSTRUCTION JOINT.

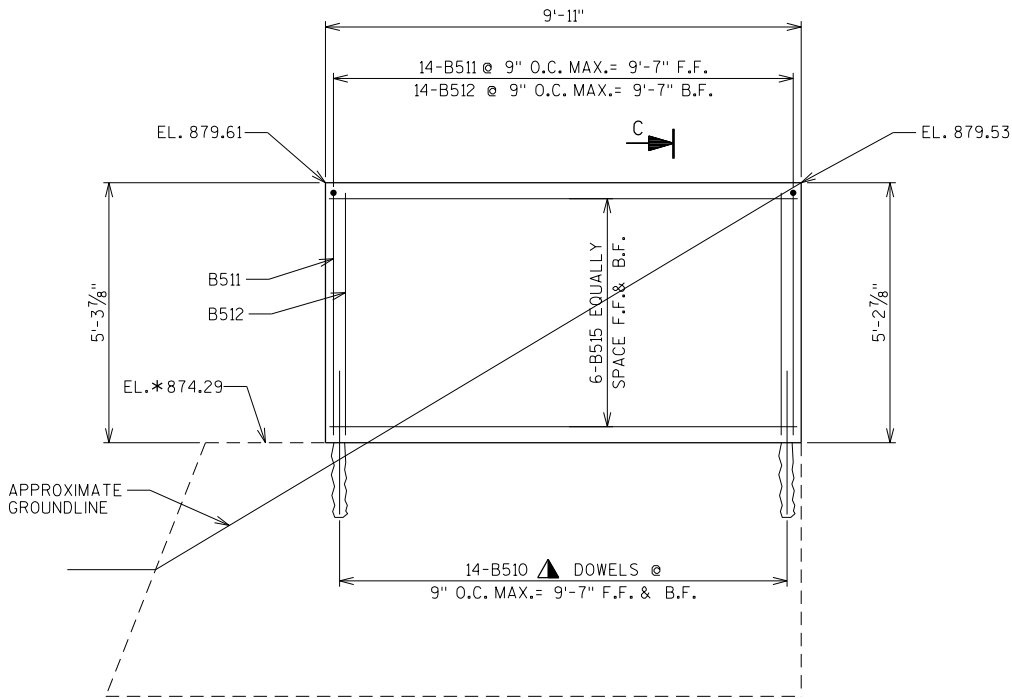


NOTE:
SEE SHEET 7 FOR SECTIONS C-C AND D-D.

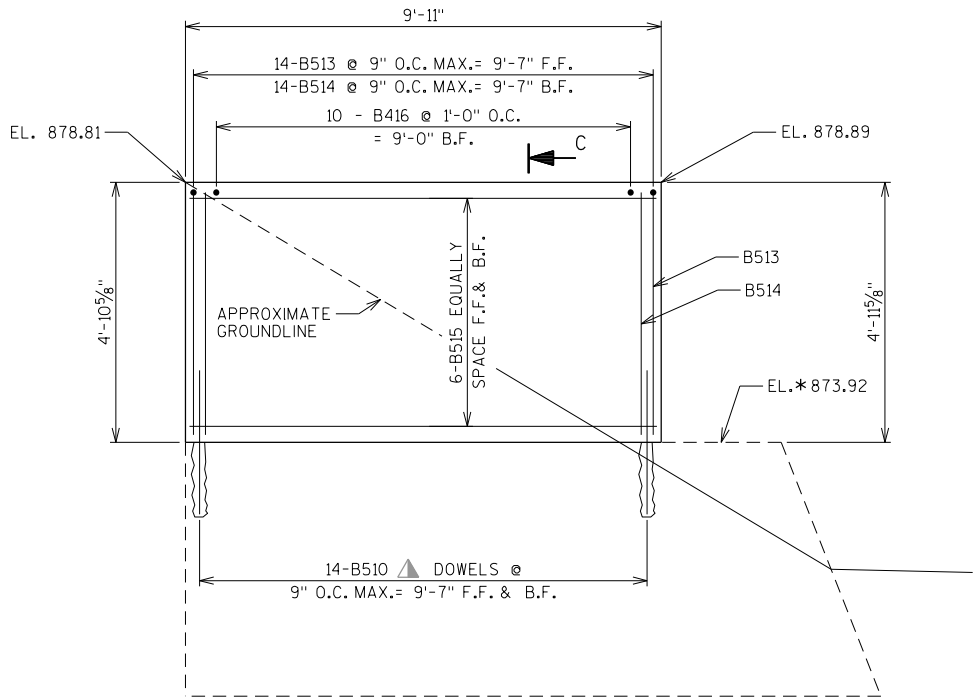


CONCRETE WINGWALL
REMOVAL DETAIL
WINGWALL 3 SHOWN, WINGWALL 4
SIMILAR OPPOSITE HAND

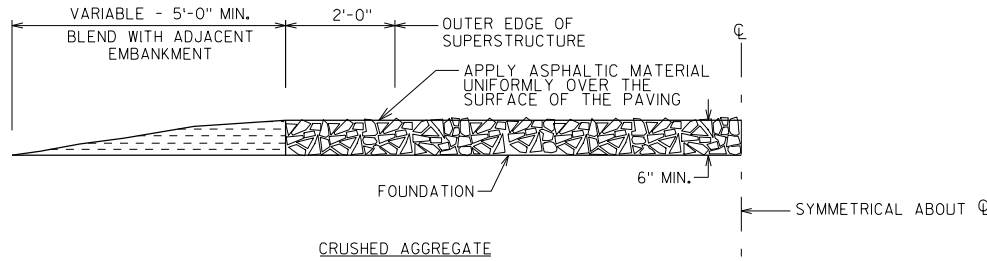
CONCRETE BACKWALL REMOVAL DETAIL



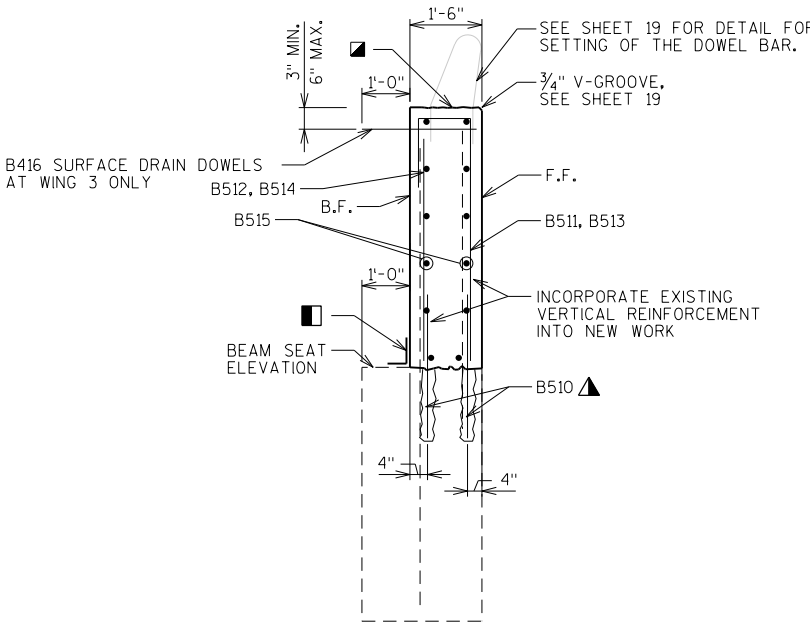
ELEVATION-WING 4



ELEVATION-WING 3



SECTION D-D
LOOKING EAST



SECTION C-C

LEGEND

- CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ▲ CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 1'-6"
- * ELEVATIONS ARE BASED ON SURVEY, FIELD VERIFY
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NOTE:

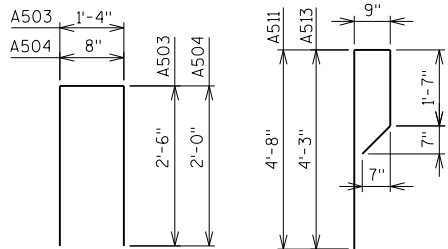
SEE SHEET 19 FOR PARAPET BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
EAST ABUTMENT DETAILS		SHEET 7 OF 22	

FILE =
SCALE =

WEST ABUTMENT - BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A501	X	50	4'-8"			BACKWALL DOWELS VERTICAL
A402	X	12	35'-8"			BACKWALL HORIZONTAL F.F. & B.F.
A503	X	25	6'-1"		X	BACKWALL TOP
A504	X	34	4'-5"		X	PAVING BLOCK VERTICAL
A505	X	12	9'-1"			PAVING BLOCK HORIZONTAL
A510	X	80	5'-8"			WINGWALL DOWELS F.F. & B.F.
A511	X	20	7'-6"		X	WINGWALL 1 VERTICAL F.F.
A512	X	20	4'-8"			WINGWALL 1 VERTICAL B.F.
A513	X	20	7'-1"		X	WINGWALL 2 VERTICAL F.F.
A514	X	20	4'-3"			WINGWALL 2 VERTICAL B.F.
A515	X	24	18'-8"			WINGWALL HORIZONTAL F.F. & B.F.

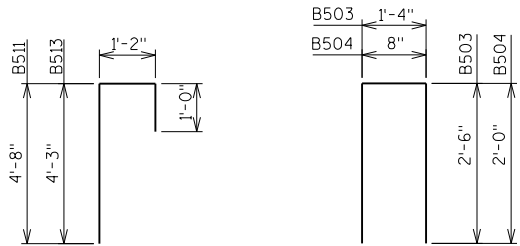


A503, A504

A511, A513

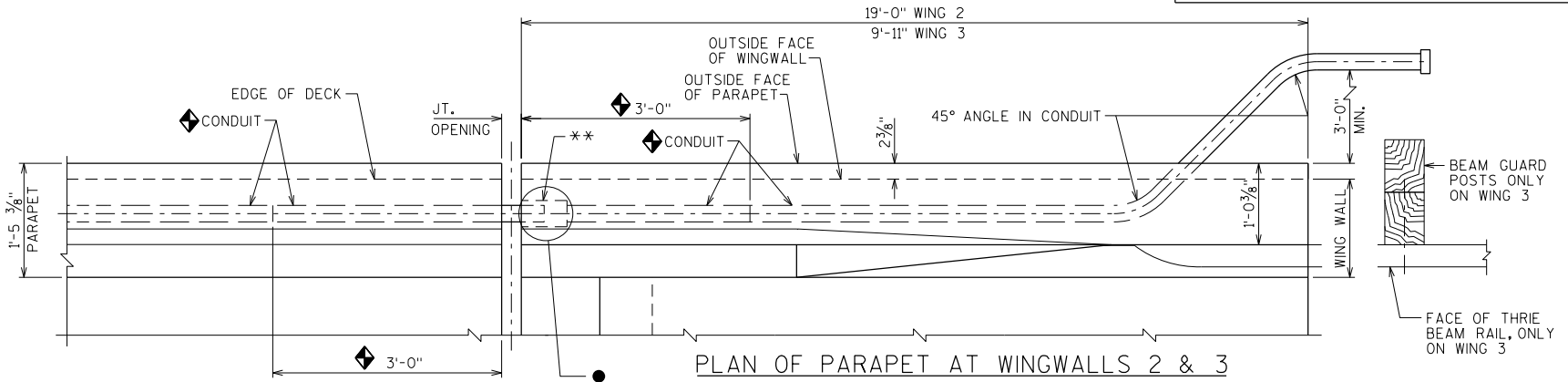
EAST ABUTMENT - BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
B501	X	50	4'-8"			BACKWALL DOWELS VERTICAL
B402	X	12	35'-8"			BACKWALL HORIZONTAL F.F. & B.F.
B503	X	25	6'-1"		X	BACKWALL TOP
B504	X	34	4'-5"		X	PAVING BLOCK VERTICAL
B505	X	12	9'-1"			PAVING BLOCK HORIZONTAL
B510	X	56	5'-6"			WINGWALL DOWELS F.F. & B.F.
B511	X	14	6'-7"		X	WINGWALL 4 VERTICAL F.F.
B512	X	14	4'-8"			WINGWALL 4 VERTICAL B.F.
B513	X	14	6'-2"		X	WINGWALL 3 VERTICAL F.F.
B514	X	14	4'-3"			WINGWALL 3 VERTICAL B.F.
B515	X	24	9'-7"			WINGWALL HORIZONTAL F.F. & B.F.
B416	X	10	2'-0"			WINGWALL 3 SURFACE DRAIN

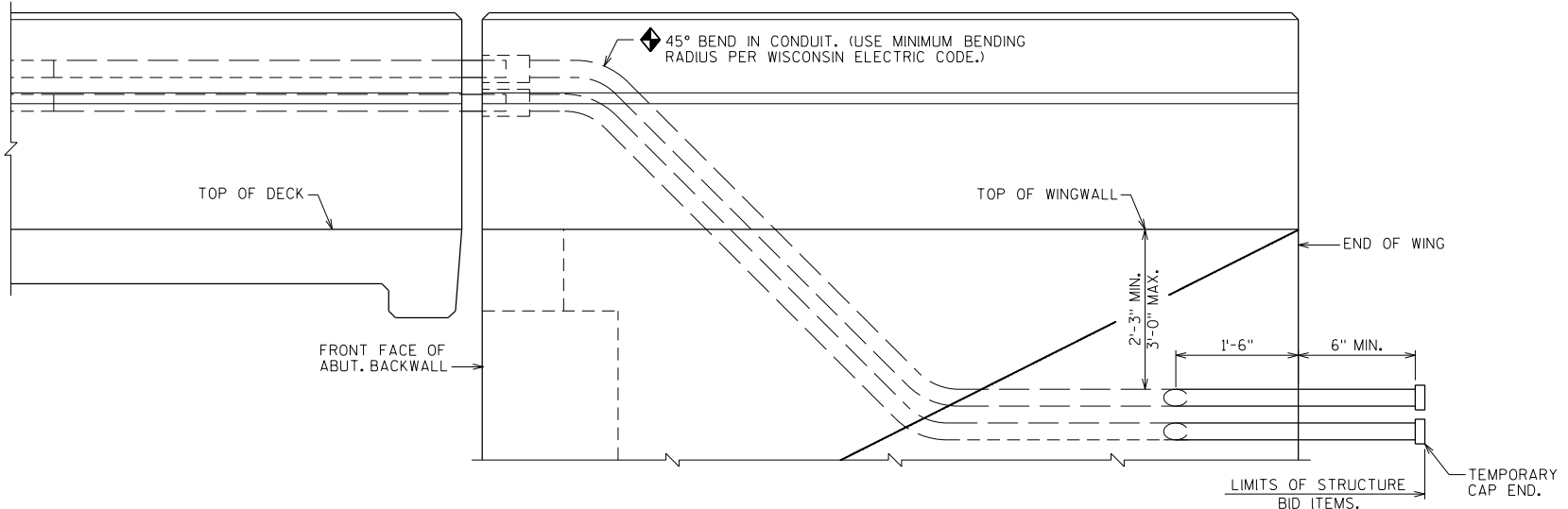


B511, B513

B503, B504



PLAN OF PARAPET AT WINGWALLS 2 & 3



OUTSIDE ELEVATION OF PARAPET AT WINGWALLS 2 & 3

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH".

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS
TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC
CONDUIT, ONLY ADAPTER FITTINGS U.L. LISTED FOR
ELECTRICAL USE SHALL BE USED.

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

** APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION
FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER
(4" TOTAL CONDUIT MOVEMENT).

- KEEP A CONTINUOUS RUN OF CONDUIT (PULL LENGTH)
TO A MAXIMUM OF 190 FT.
- USE AN APPROVED EXPANSION FITTING AT EACH
EXPANSION JOINT.

LEGEND

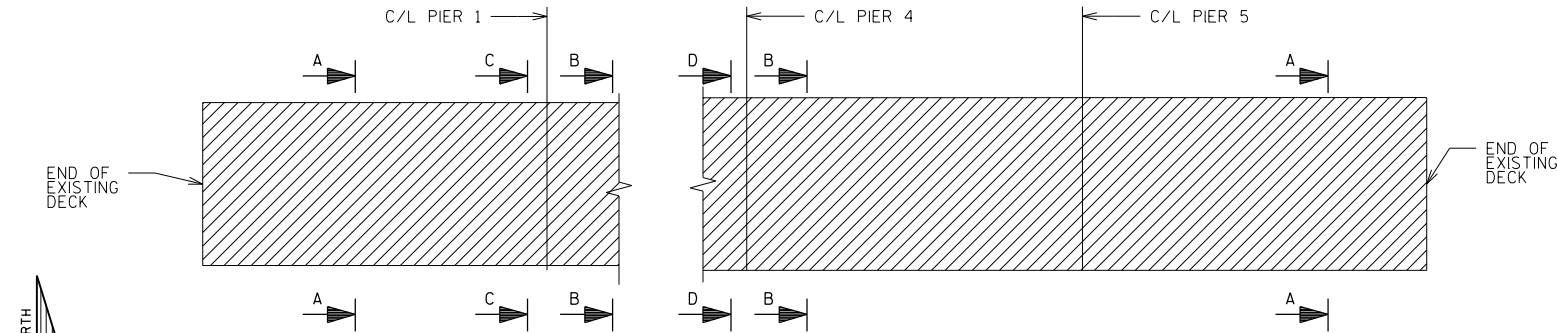
- POSITION MOVABLE END OF CONDUIT INSIDE
EXPANSION FITTING, SUCH THAT IT WILL HAVE
THE SAME ALLOWANCE FOR MOVEMENT
(EXPANSION/CONTRACTION) AS THE EXPANSION
DEVICE SET IN PLACE IN THE DECK BELOW IT.
TAKE CARE TO INSTALL EXPANSION FITTING AND
CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

- USE 2"Ø RIGID NONMETALLIC CONDUIT
EXCEPT AT EXPANSION FITTING. AT
EXPANSION FITTING USE RIGID METALLIC
CONDUIT 3'-0" INTO PARAPET AND DECK AND
WING SIDES OF THE JOINT OPENING.

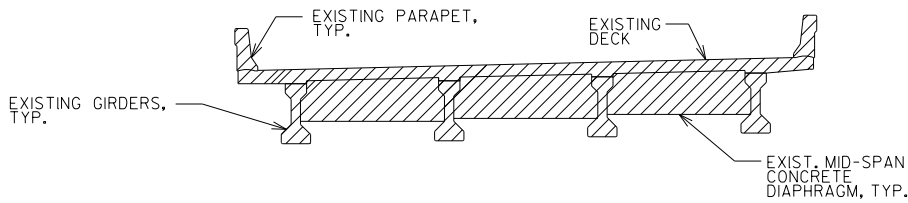
SPONGE RUBBER WRAP TO BE AASHTO M153,
TYPE 1 OR EQUIVALENT - 1/4" MINIMUM
THICKNESS. SPONGE RUBBER WRAP
INCIDENTAL TO "CONDUIT RIGID METALLIC
2-INCH".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
ABUTMENT BILL OF BARS		SHEET 8 OF 22	

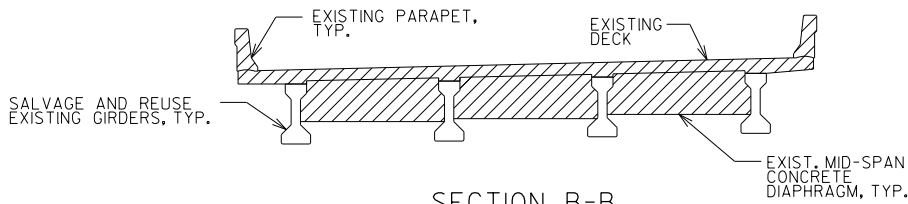
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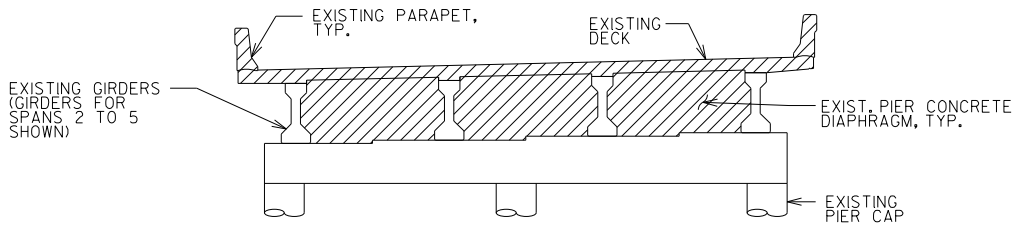
SUPERSTRUCTURE REMOVAL PLAN



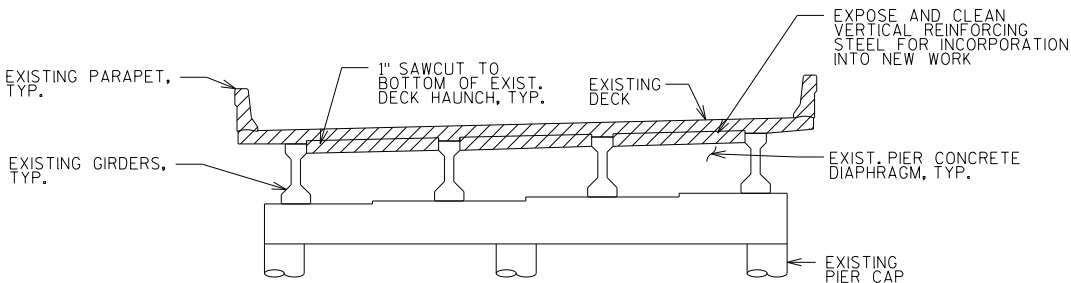
SECTION A-A
SPANS 1 AND 6



SECTION B-B
SPANS 2 TO 5



SECTION C-C
PIERS 1 AND 5



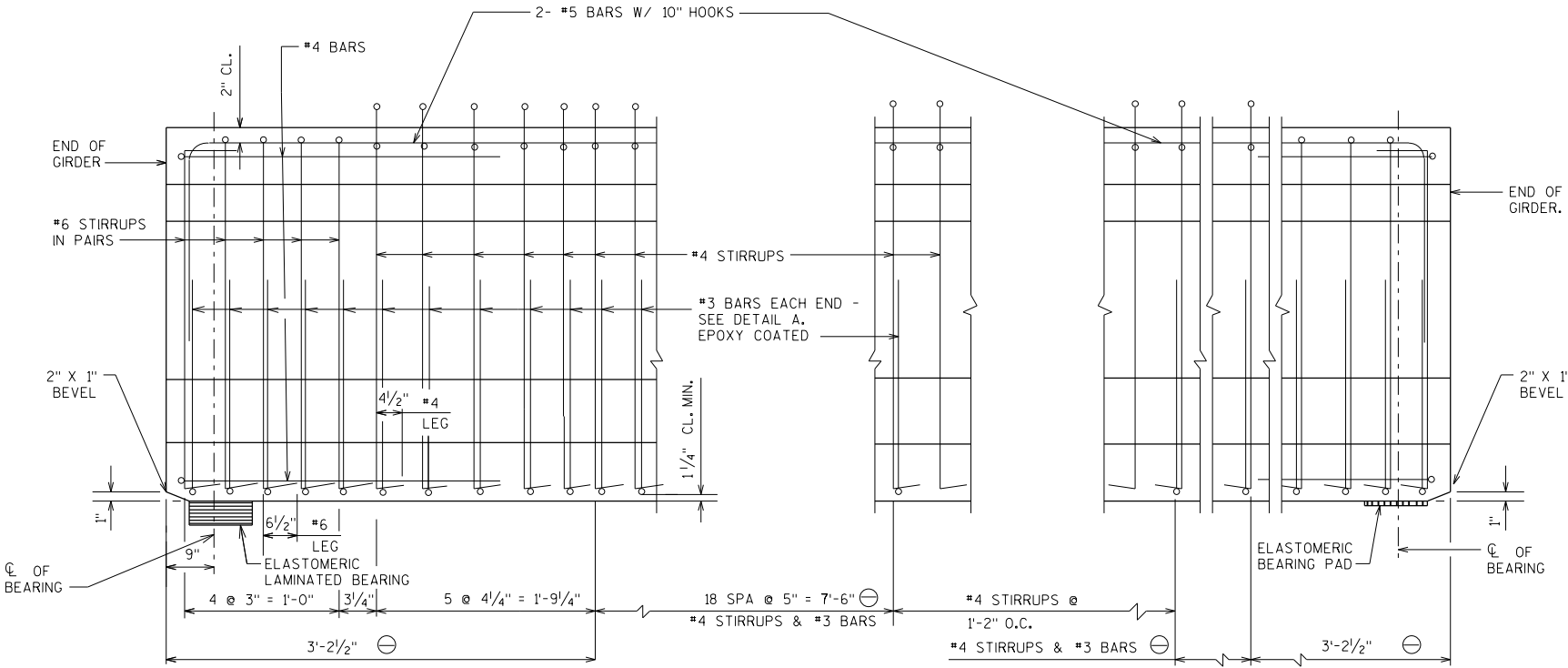
SECTION D-D
PIERS 2 TO 4

LEGEND

= CONCRETE REMOVAL

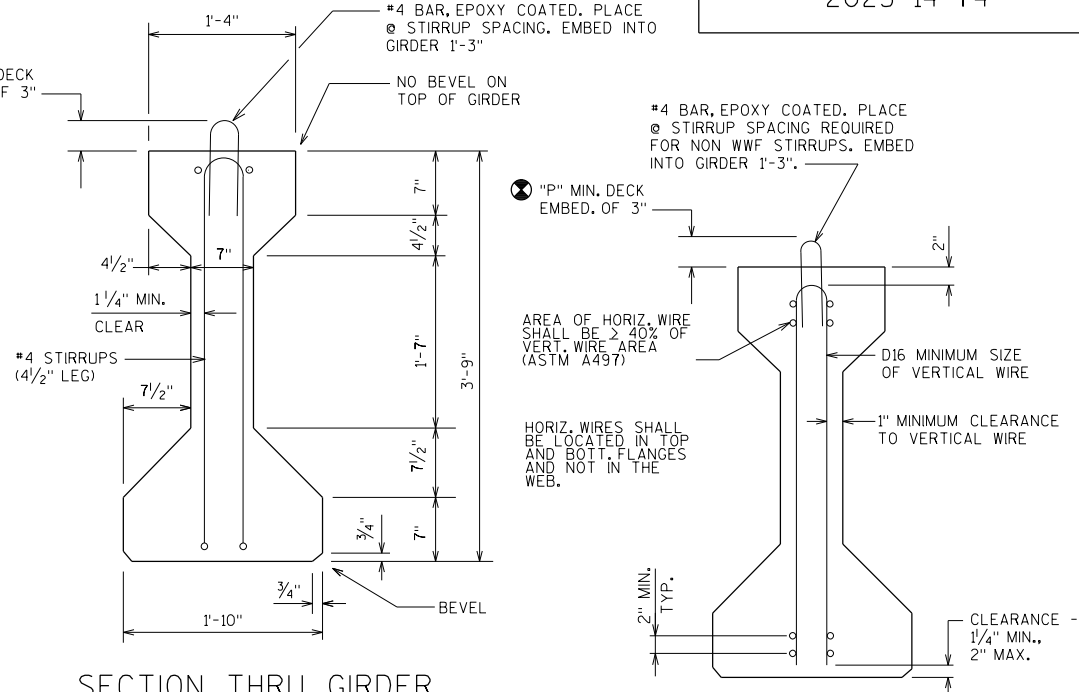
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
SUPERSTRUCTURE REMOVAL		SHEET 9 OF 22	

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SUPPORT AT ABUTMENT

SUPPORT AT PIER

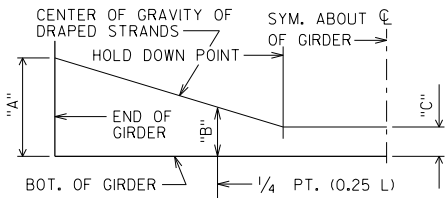


SECTION THRU GIRDER
STRANDS NOT SHOWN

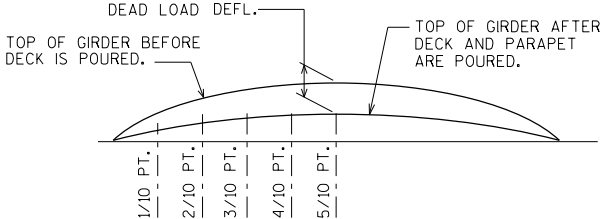
SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS
ASTM A497 (FY = 70 KSI)

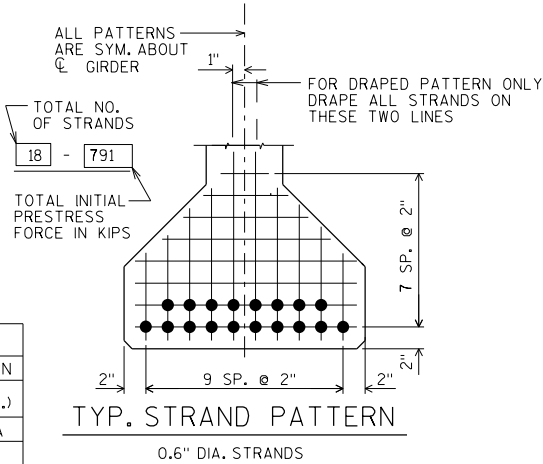
SIDE VIEW OF GIRDER



LOCATION OF DRAPED STRANDS

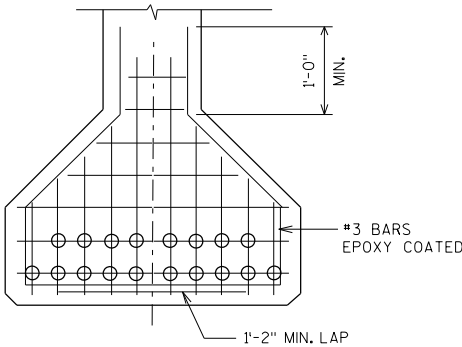


DEAD LOAD DEFLECTION DIAGRAM



TYP. STRAND PATTERN

0.6" DIA. STRANDS



DETAIL A

LEGEND

⊖ DETAILS TYPICAL AT EACH END

GENERAL NOTES

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

STRANDS SHALL BE FLUSH WITH END OF GIRDER FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE. ENDS OF STRANDS SHALL BE PAINTED WITH NON-BITUMINOUS JOINT SEALER FOR GIRDER ENDS THAT ARE FINALLY EXPOSED. COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE M, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6 DIA. 7-WIRE-LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

LAMINATED ELASTOMERIC BEARING SHALL BE EPOXIED TO THE UNDERSIDE OF THE GIRDER AT THE ABUTMENT. EPOXY TO BE SUPPLIED BY THE BEARING MANUFACTURER AS INCIDENTAL TO BID ITEM.

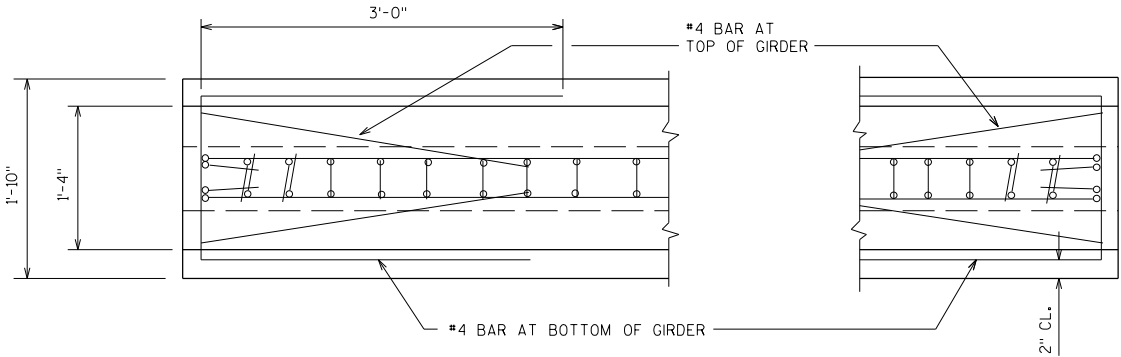
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN (INCLUDES GIRDER WEIGHT)

SPAN	CAMBER (IN.)
1 & 6	1 3/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

* MINIMUM CYLINER STRENGTH OF CONCRETE @ TIME OF PRESTRESS FORCE

GIRDER DATA																		
SPAN	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)					CONC. STRGTH F/C (P.S.I.)	"P" GIRDER LINES 1 & 2	"P" GIRDER LINES 3 & 4	DIA. OF STRAND (IN.)	DRAPED PATTERN					UNDRAPED PATTERN		
		1/10	2/10	3/10	4/10	5/10					TOTAL NO. OF STRANDS	F/C (P.S.I.)	(IN.)			TOTAL NO. OF STRANDS	F/C (P.S.I.)	
												"A"	"B" MIN.	"B" MAX.	"C"			
1 & 6	70'-4 1/2"	1/4	1/2	3/4	7/8	7/8	6,000	8"	10"	0.6	18	4,800	33	10.5	13.5	3	N/A	N/A



TOP VIEW OF GIRDER

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
45" PRESTRESSED GIRDER DETAILS		SHEET 10 OF 22	

FILE =
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LEGEND

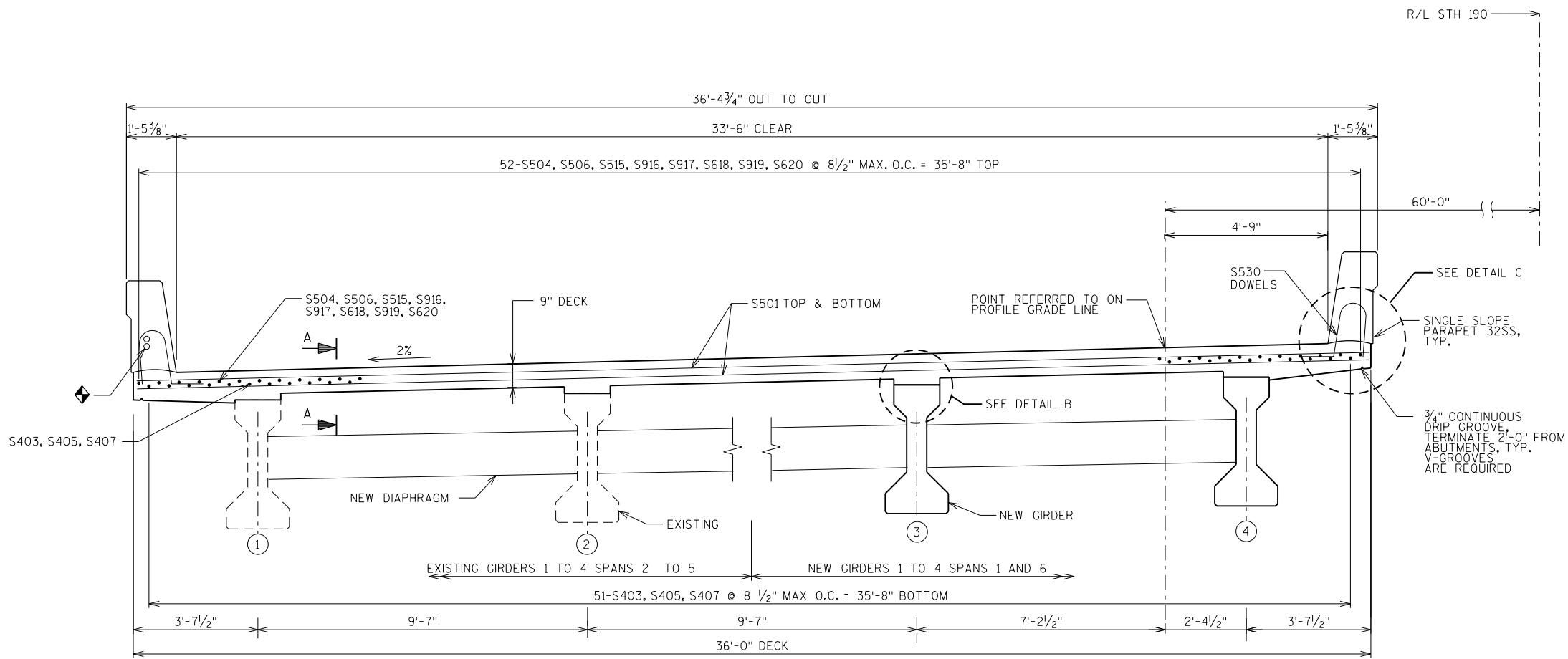
- HALF PLAN

PARAPET NOT SHOWN FOR CLARITY

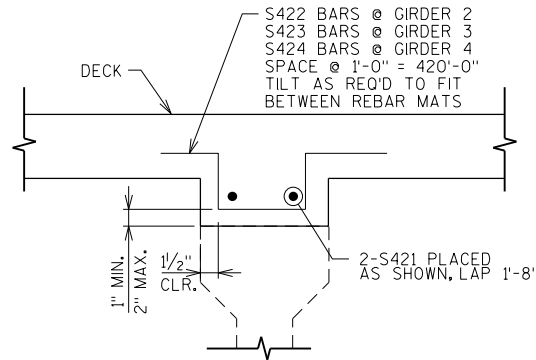


SECTION THRU PARAPET
JUNCTION BOX

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
		DRAWN BY RBH	PLANS CK'D. AML
SUPERSTRUCTURE PLAN		SHEET 11 OF 22	

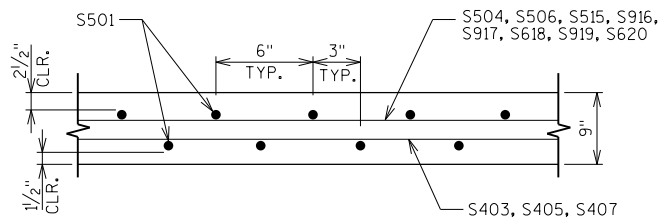


TYPICAL SECTION
LOOKING EAST

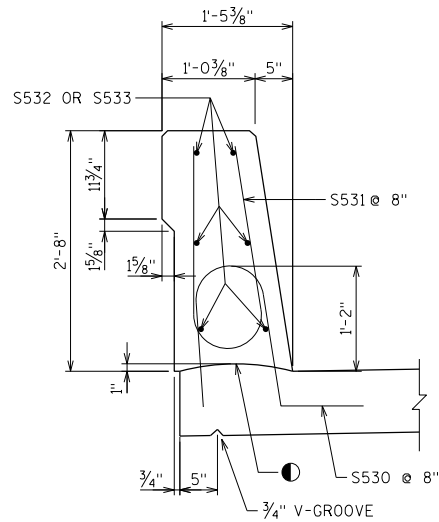


DETAIL B

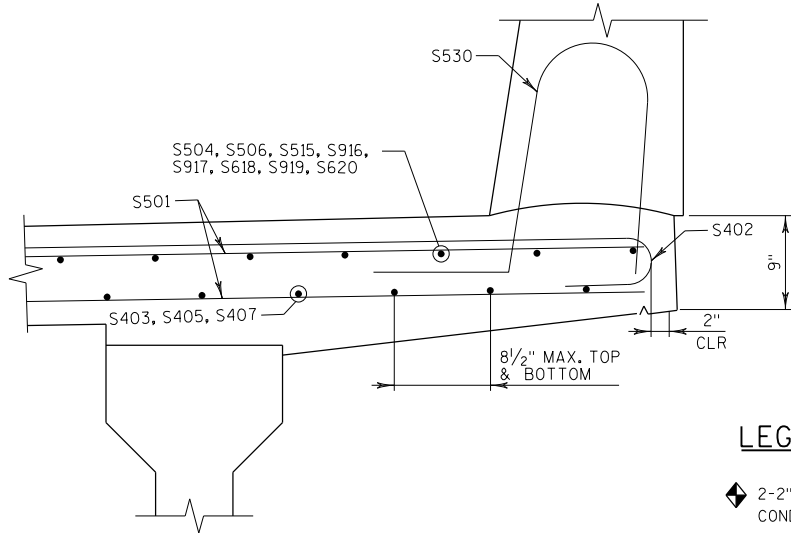
DETAIL APPLIES AT GIRDERS 2, 3, & 4 ONLY.



SECTION A-A



SECTION THRU PARAPET
ON BRIDGE



DETAIL C

LEGEND

- 2-2" DIA. NON METALLIC CONDUITS (NORTH PARAPET ONLY)
- CONSTRUCTION JOINT - STRIKE OFF AND LEAVE ROUGH

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
SUPERSTRUCTURE CROSS SECTION		SHEET 12 OF 22	

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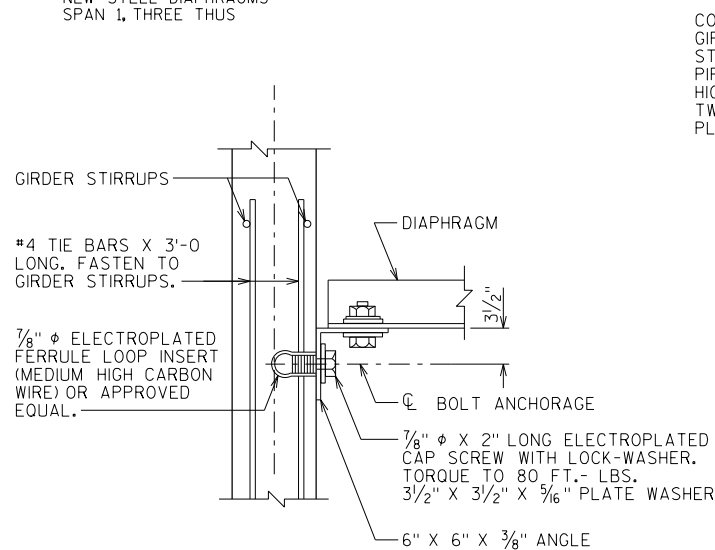
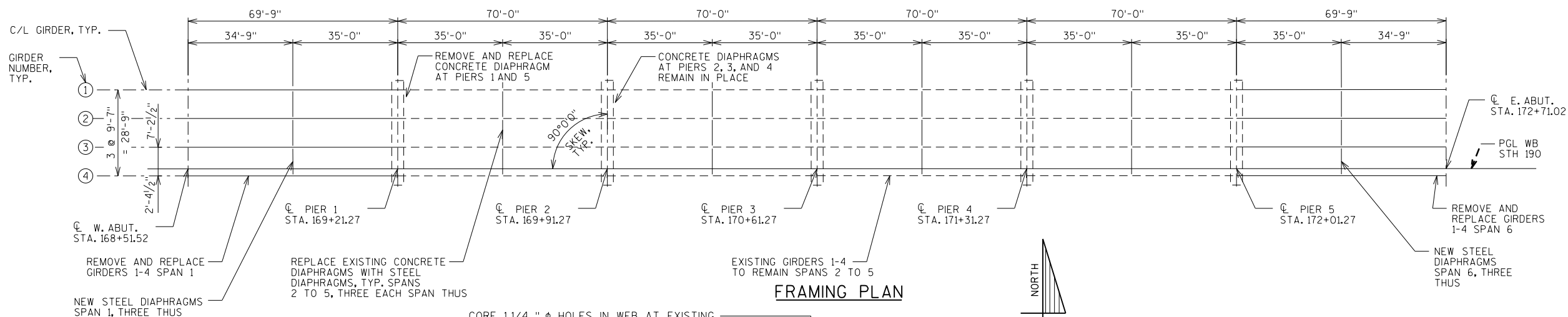
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-89", EACH.

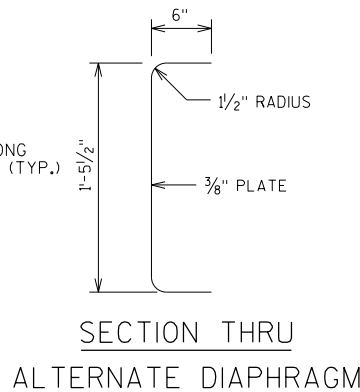
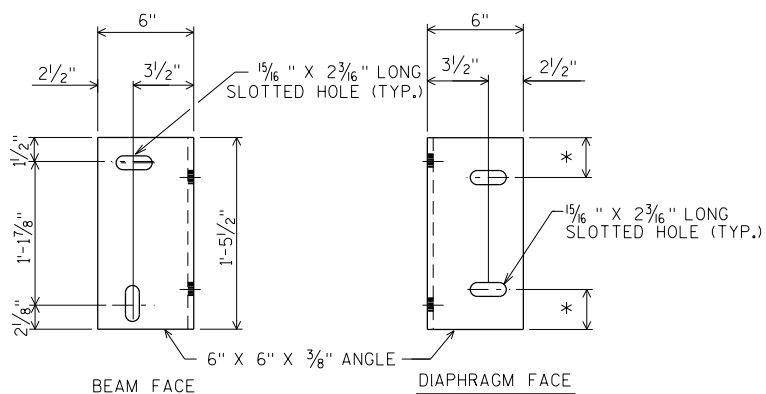
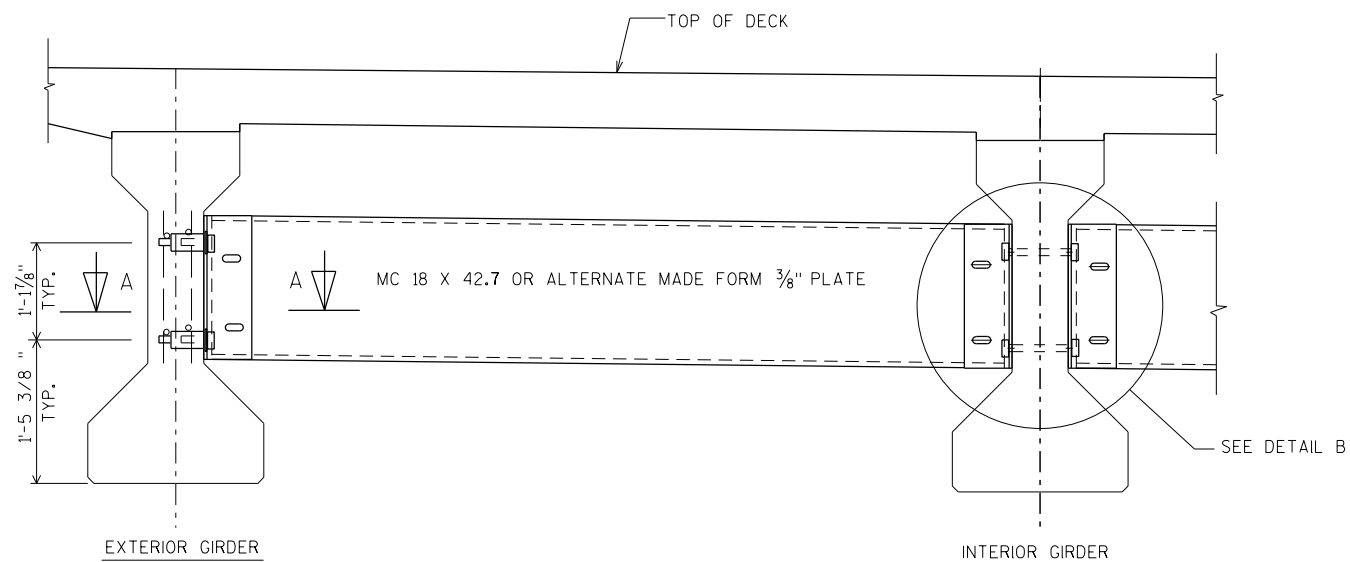
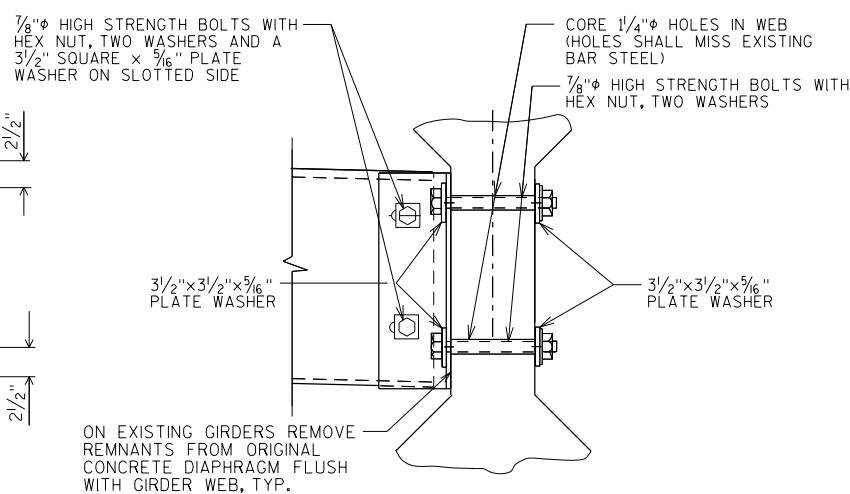
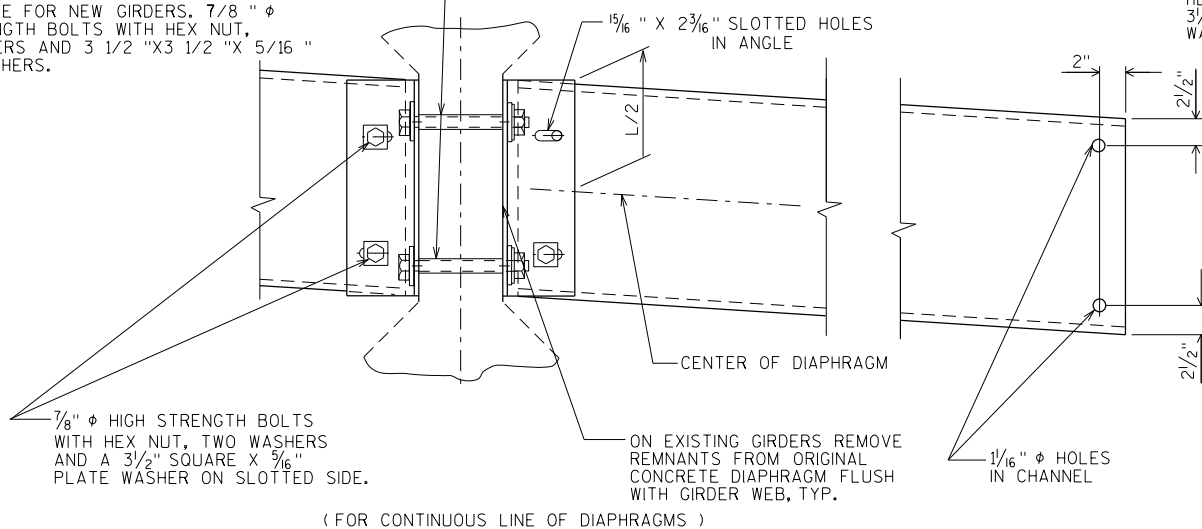
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

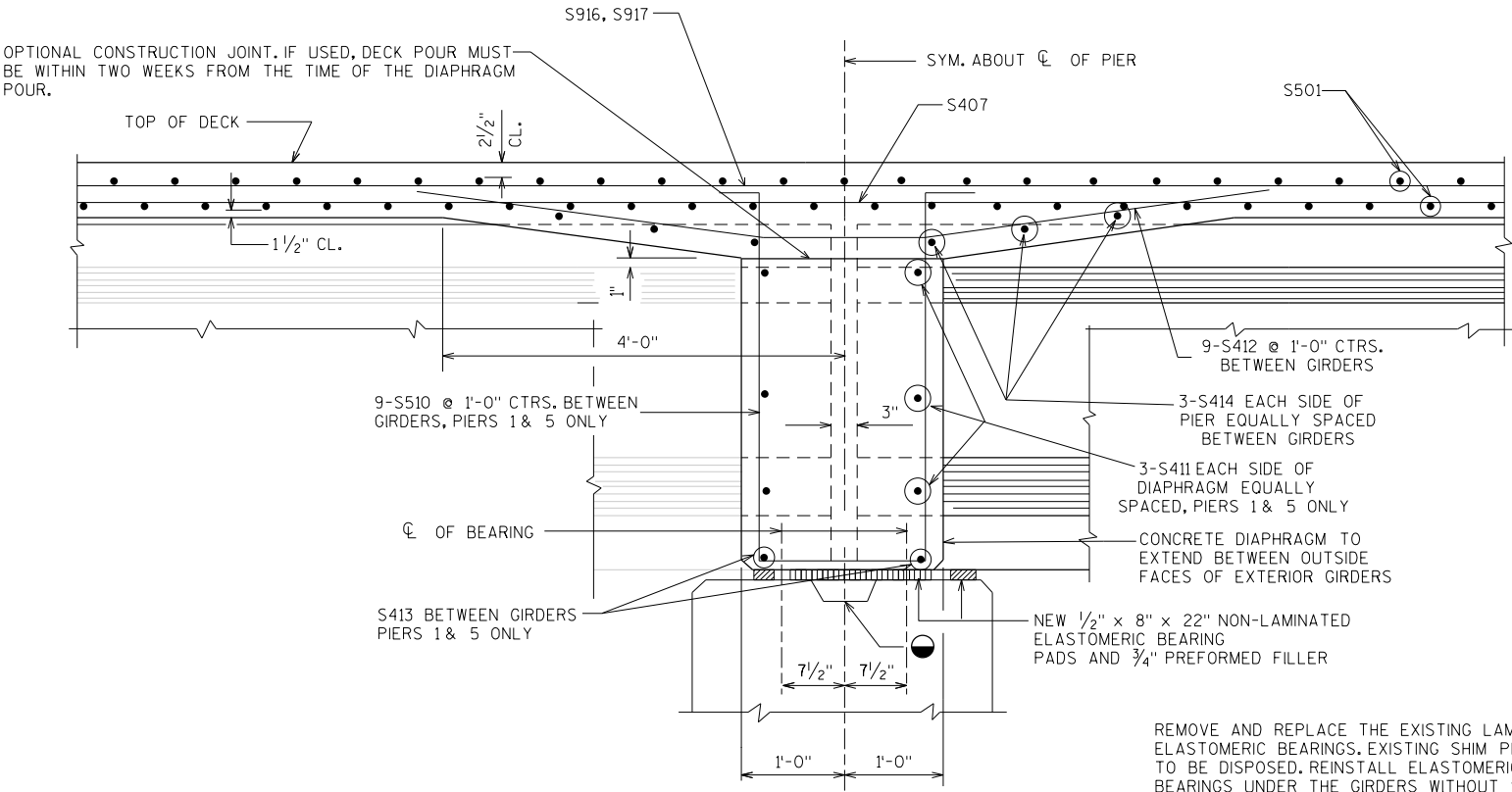


CORE 1 1/4" ϕ HOLES IN WEB AT EXISTING GIRDERS (HOLES SHALL MISS EXIST. BAR STEEL). FORM 1 1/4" ϕ HOLES IN WEB WITH PIPE SLEEVE FOR NEW GIRDERS. 7/8" ϕ HIGH STRENGTH BOLTS WITH HEX NUT, TWO WASHERS AND 3 1/2" X 3/2" X 5/16" PLATE WASHERS.

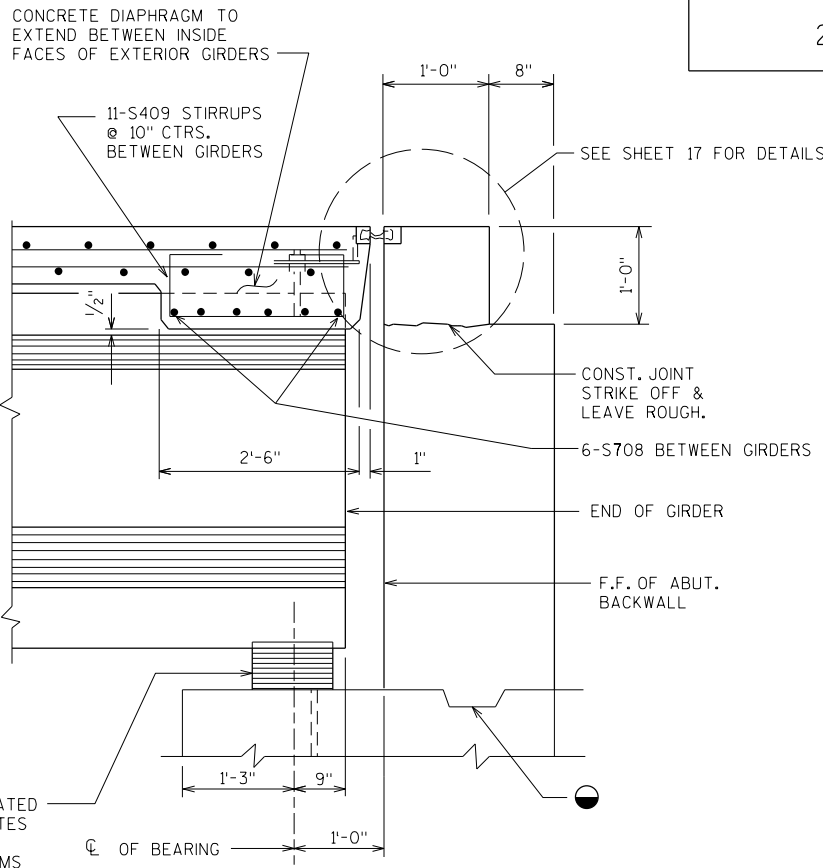


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
FRAMING PLAN AND DIAPHRAGM DETAILS		SHEET 13 OF 22	

FILE =
SCALE =

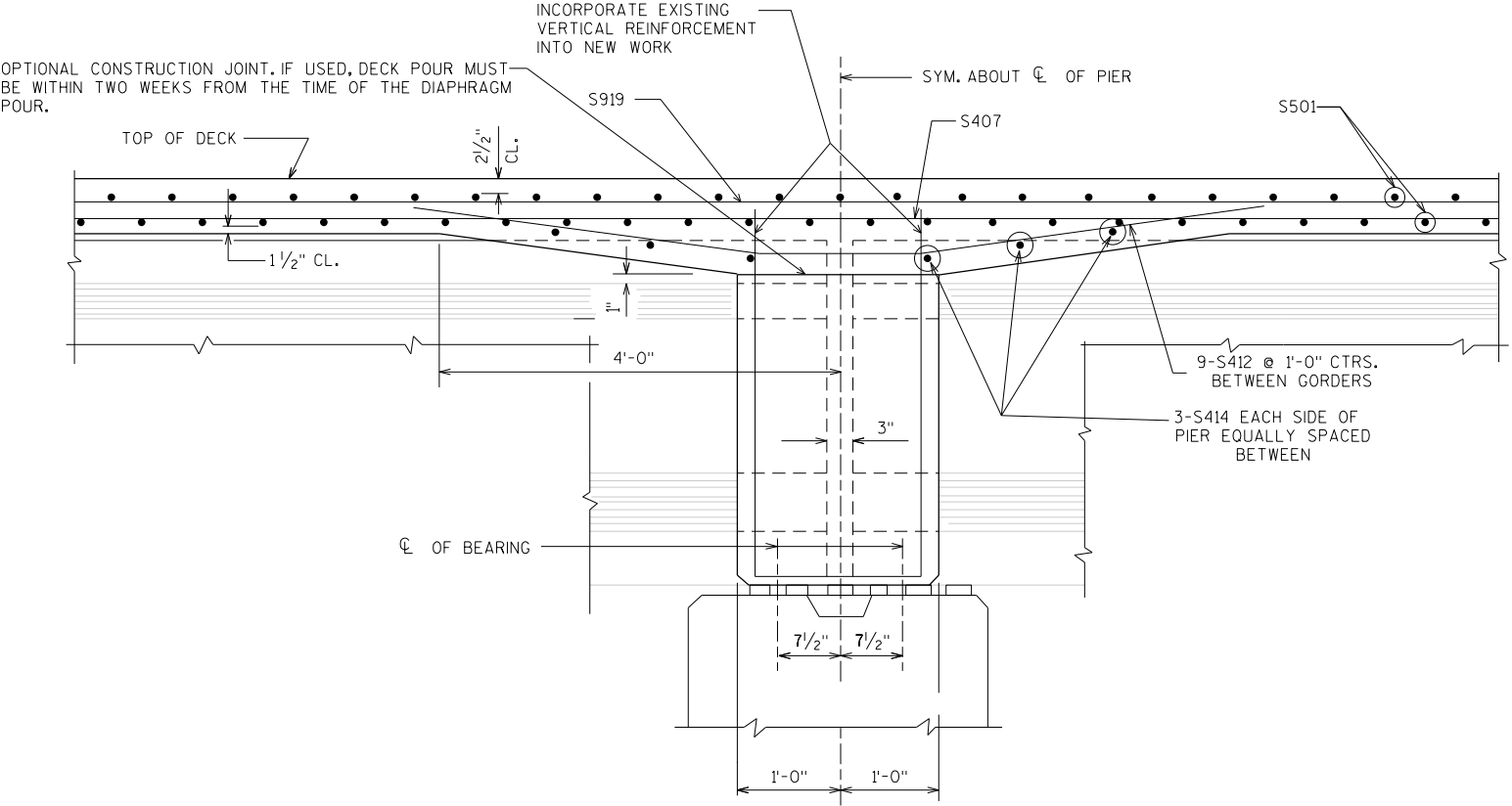


SECTION F-F AT PIERS 1 AND 5



SECTION G-G AT ABUTMENTS

REMOVE AND REPLACE THE EXISTING LAMINATED ELASTOMERIC BEARINGS, EXISTING SHIM PLATES TO BE DISPOSED. REINSTALL ELASTOMERIC BEARINGS UNDER THE GIRDERS WITHOUT SHIMS BETWEEN THE BEARING AND THE GIRDER, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. LAMINATED ELASTOMERIC BEARING SHALL BE EPOXIED TO THE UNDERSIDE OF THE GIRDER. EPOXY TO BE SUPPLIED BY BEARING MANUFACTURER AS INCIDENTAL TO BID ITEM.



SECTION H-H AT PIERS 2 THROUGH 4

NOTE

SEE SHEET 22 FOR LAMINATED ELASTOMERIC BEARING DETAIL.

LEGEND

CLEAN EXISTING BEVELED CONSTRUCTION JOINT.

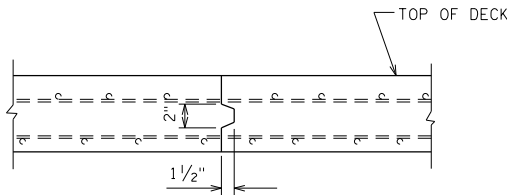
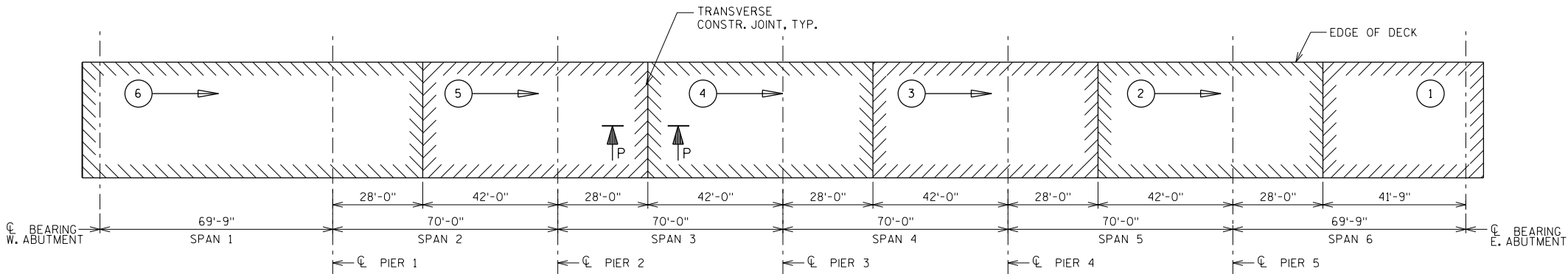
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
SUPERSTRUCTURE DETAILS		SHEET 14 OF 22	

TOP OF DECK ELEVATIONS

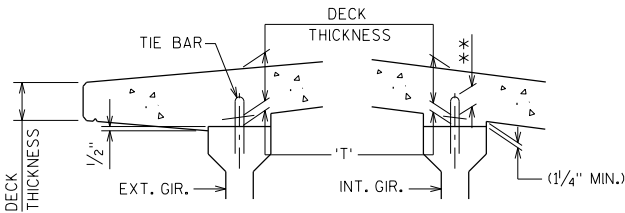
LOCATION	W. ABUTMENT	SPAN 1									CL PIER 1	SPAN 2									CL PIER 2	SPAN 3									CL PIER 3
		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	
TOE OF NORTH PARAPET	880.30	880.28	880.27	880.25	880.24	880.22	880.21	880.20	880.18	880.17	880.15	880.14	880.12	880.11	880.10	880.08	880.07	880.05	880.05	880.03	880.01	880.00	879.98	879.98	879.95	879.94	879.93	879.91	879.91	879.88	879.88
GIRDER 1	880.34	880.32	880.31	880.30	880.29	880.27	880.26	880.24	880.23	880.21	880.20	880.19	880.17	880.16	880.14	880.13	880.12	880.10	880.09	880.07	880.06	880.04	880.03	880.02	880.00	879.99	879.97	879.96	879.95	879.93	879.92
GIRDER 2	880.53	880.51	880.51	880.49	880.48	880.46	880.45	880.43	880.42	880.41	880.39	880.38	880.36	880.35	880.34	880.32	880.31	880.29	880.28	880.26	880.25	880.24	880.22	880.21	880.19	880.18	880.17	880.15	880.14	880.12	880.11
GIRDER 3	880.73	880.71	880.70	880.68	880.67	880.65	880.64	880.63	880.61	880.60	880.58	880.57	880.56	880.54	880.53	880.51	880.50	880.48	880.48	880.46	880.44	880.43	880.41	880.41	880.39	880.37	880.36	880.34	880.34	880.31	880.31
PGL	880.87	880.85	880.84	880.83	880.81	880.80	880.78	880.77	880.76	880.74	880.73	880.71	880.70	880.69	880.67	880.66	880.64	880.63	880.62	880.60	880.59	880.57	880.56	880.55	880.53	880.52	880.50	880.49	880.48	880.46	880.45
GIRDER 4	880.92	880.90	880.89	880.87	880.86	880.85	880.83	880.82	880.80	880.79	880.78	880.76	880.75	880.73	880.72	880.70	880.69	880.68	880.67	880.65	880.63	880.62	880.61	880.60	880.58	880.56	880.55	880.53	880.53	880.51	880.50
TOE OF SOUTH PARAPET	880.97	880.95	880.94	880.92	880.91	880.89	880.88	880.87	880.85	880.84	880.82	880.81	880.79	880.78	880.77	880.75	880.74	880.72	880.72	880.70	880.68	880.67	880.65	880.65	880.62	880.61	880.60	880.58	880.58	880.55	880.55

TOP OF DECK ELEVATIONS

LOCATION	SPAN 4									CL PIER 4	SPAN 5									CL PIER 5	SPAN 6									E. ABUTMENT
	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	
TOE OF NORTH PARAPET	879.86	879.84	879.84	879.81	879.81	879.78	879.77	879.77	879.75	879.74	879.72	879.70	879.68	879.66	879.63	879.60	879.57	879.54	879.50	879.46	879.42	879.38	879.33	879.28	879.23	879.18	879.12	879.06	879.00	878.92
GIRDER 1	879.90	879.89	879.88	879.86	879.85	879.83	879.82	879.81	879.79	879.78	879.76	879.74	879.72	879.70	879.67	879.64	879.61	879.58	879.54	879.50	879.46	879.42	879.37	879.32	879.27	879.22	879.16	879.10	879.04	878.97
GIRDER 2	880.09	880.08	880.07	880.05	880.04	880.02	880.01	880.00	879.98	879.97	879.95	879.93	879.91	879.89	879.86	879.83	879.80	879.77	879.73	879.69	879.65	879.61	879.56	879.51	879.46	879.41	879.35	879.29	879.23	879.16
GIRDER 3	880.29	880.27	880.27	880.24	880.24	880.22	880.20	880.20	880.18	880.17	880.15	880.13	880.11	880.09	880.06	880.03	880.00	879.97	879.93	879.89	879.85	879.81	879.76	879.71	879.66	879.61	879.55	879.49	879.43	879.36
PGL	880.43	880.42	880.41	880.39	880.38	880.36	880.35	880.34	880.32	880.31	880.29	880.27	880.25	880.23	880.20	880.17	880.14	880.11	880.07	880.03	879.99	879.95	879.90	879.85	879.80	879.75	879.69	879.63	879.57	879.50
GIRDER 4	880.48	880.46	880.46	880.44	880.43	880.41	880.39	880.39	880.37	880.36	880.34	880.32	880.30	880.28	880.25	880.22	880.19	880.16	880.12	880.08	880.04	880.00	879.95	879.90	879.85	879.80	879.74	879.68	879.62	879.55
TOE OF SOUTH PARAPET	880.53	880.51	880.51	880.48	880.48	880.45	880.44	880.44	880.42	880.41	880.39	880.37	880.35	880.33	880.30	880.27	880.24	880.21	880.17	880.13	880.09	880.05	880.00	879.95	879.90	879.85	879.79	879.73	879.67	879.59



SECTION P-P



DECK HAUNCH DETAIL

IF 1 1/4 " MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2 " OR,
** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- SLAB THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4 1/2" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

POURING SEQUENCE PLAN

POURING SEQUENCE NOTES

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED 1/2 SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

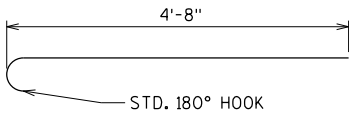
TWO OR MORE ALTERNATE POURS MAY BE PLACED ON THE SAME DAY.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

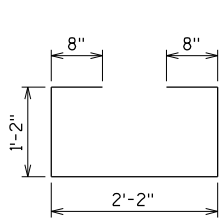
INDICATES POUR NUMBER AND DIRECTION OF POUR

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK INDICATES BAR SIZE.
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

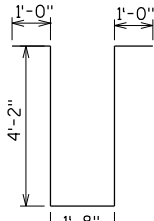
SUPERSTRUCTURE - BILL OF BARS						
MARK	COATED	NO. REQ'D.	LENGTH	BAR SERIES	BENT	LOCATION
S501	X	1683	35'-8"			DECK TRANSVERSE TOP AND BOTTOM
S402	X	844	5'-2"		X	TRANSVERSE TOP DECK EDGES
S403	X	306	40'-0"			DECK LONGITUDINAL BOTTOM SPANS 3 & 4
S504	X	52	4'-10"			DECK LONGITUDINAL TOP PIERS 2 TO 4
S405	X	102	19'-0"			DECK LONGITUDINAL AT ABUTMENTS BOTTOM
S506	X	52	16'-10"			DECK LONGITUDINAL AT ABUTMENTS TOP
S407	X	255	30'-0"			DECK LONGITUDINAL AT PIERS BOTTOM
S708	X	36	7'-11"			DECK TRANSVERSE END DIAPHRAGM
S409	X	66	5'-6"		X	DECK END DIAPHRAGM STIRRUPS
S510	X	54	11'-6"		X	DIAPHRAGM VERTICAL PIERS 1 & 5
S411	X	36	8'-0"			DIAPHRAGM LONGITUDINAL PIERS 1 & 5
S412	X	135	10'-11"		X	DECK LONGITUDINAL OVER PIER DIAPHRAGM
S413	X	12	7'-6"			DIAPHRAGM LONGITUDINAL BOTT. PIERS 1 & 5
S414	X	90	8'-0"			DECK TRANSVERSE OVER PIERS
S515	X	104	40'-0"			DECK LONGITUDINAL TOP SPANS 1 & 6
S916	X	52	49'-3"			DECK LONGITUDINAL TOP PIERS 1 & 5
S917	X	52	40'-6"			DECK LONGITUDINAL TOP PIERS 1 & 5
S618	X	104	34'-6"			DECK LONGITUDINAL TOP SPANS 3 & 4
S919	X	156	42'-0"			DECK LONGITUDINAL TOP PIERS 2 TO 4
S620	X	104	36'-0"			DECK LONGITUDINAL TOP SPANS 2 & 5
S421	X	66	40'-0"			HAUNCH LONGITUDINAL GIRDERS 2, 3, & 4
S422	X	421	3'-3"		X	HAUNCH TRANSVERSE GIRDER 2
S423	X	421	3'-5"		X	HAUNCH TRANSVERSE GIRDER 3
S424	X	421	3'-7"		X	HAUNCH TRANSVERSE GIRDER 4
S426	X	12	9'-1"			DECK TRANSVERSE EXPANSION JOINTS
S527	X	48	5'-0"			DECK FLOOR DRAINS
S530	X	1266	4'-5"		X	PARAPET VERTICAL DOWELS
S531	X	1266	5'-0"		X	PARAPET VERTICAL
S532	X	84	60'-0"			PARAPET HORIZONTAL
S533	X	12	14'-0"			PARAPET HORIZONTAL



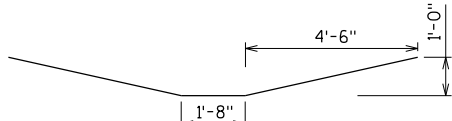
S402



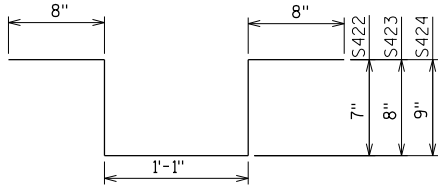
S409



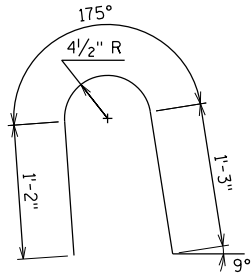
S510



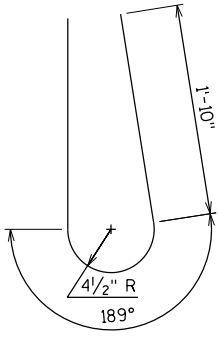
S412



S422, S423, S424



S530



S531

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
SUPERSTRUCTURE BILL OF BARS		SHEET 16 OF 22	

1. NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS.
2. STUDS $\frac{5}{8}$ " ϕ $\times$ $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 2A. $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.
3. $\frac{3}{4}$ " ϕ THREADED ROD WITH 2 NUTS AND 2 WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON C/L OF GIRDER. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. $\frac{3}{4}$ " ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" $\times$ $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE $1\frac{1}{2}$ " ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE $\frac{3}{8}$ " $\times$ 10" $\times$ 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. $\frac{3}{4}$ " ϕ $\times$ $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS $\frac{1}{16}$ " BELOW PLATE SURFACE.
8. $\frac{3}{4}$ " ϕ $\times$ 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. $\frac{3}{4}$ " ϕ $\times$ 2' $\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
10. NOT USED
11. 1" $\times$ 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

ONE FIELD SPlice PERMITTED IN STEEL EXTRUSIONS, IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPlicing PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

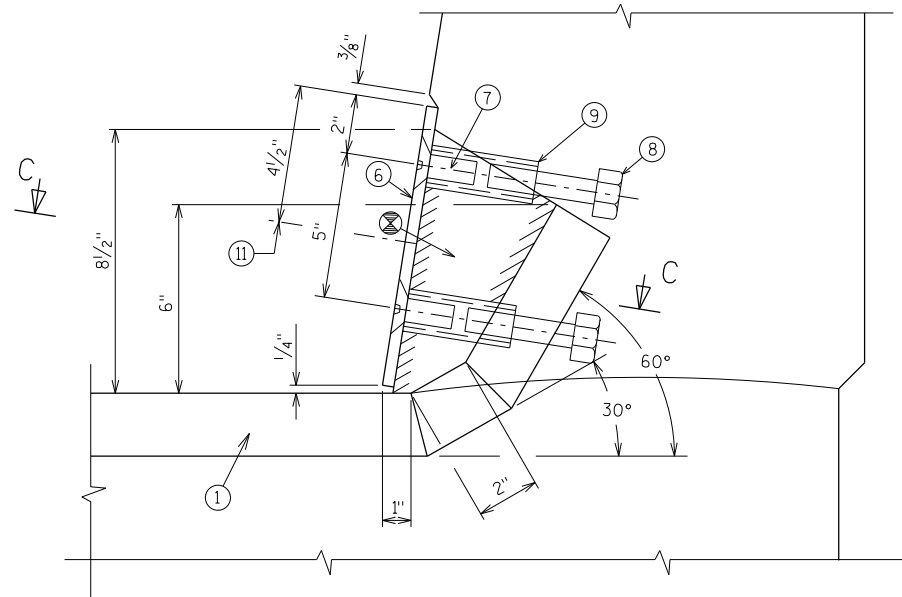
STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-89".



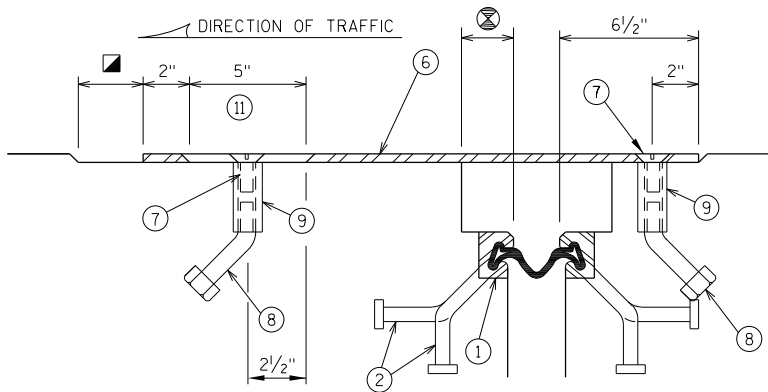
JOINT OPENING SETTING TABLE	
TEMPERATURE °F	JOINT OPENING  INCHES
85	1/2"
75	1 3/4"
65	1 7/8"
55	2 1/8"
45	2 1/4"
35	2 1/2"
25	2 3/4"
15	2 7/8"
5	3 1/8"



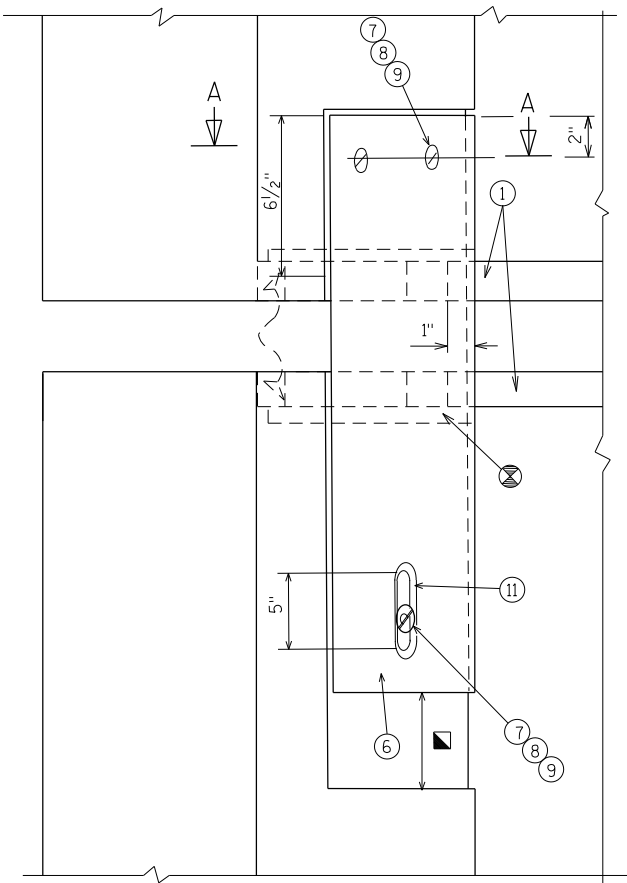
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-67-89					
			DRAWN BY RBH	PLANS CK'D. AML	
EXPANSION DEVICE				SHEET 17 OF 22	



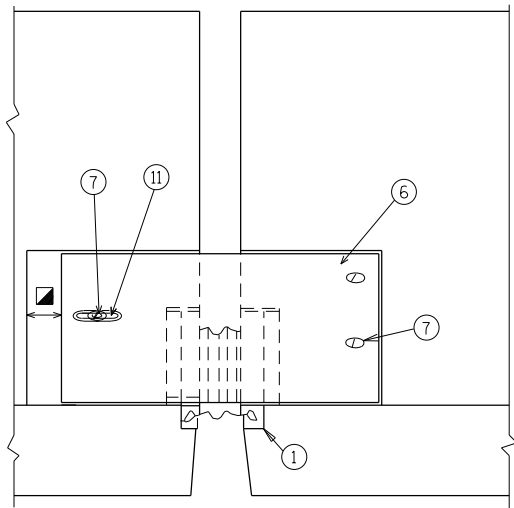
SECTION A-A



SECTION C-C



PLAN



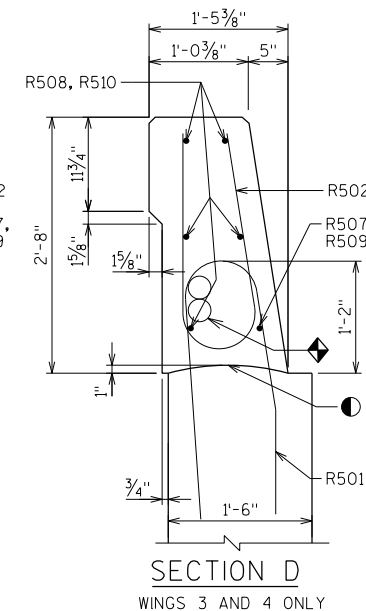
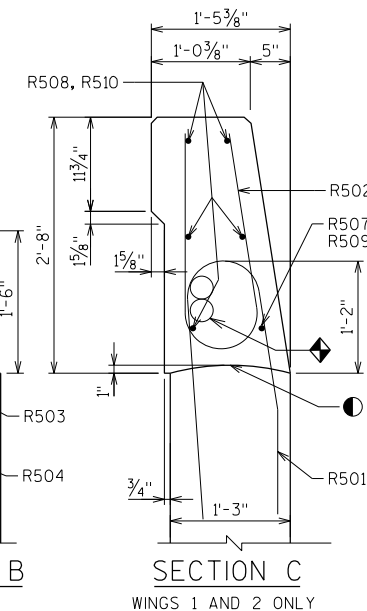
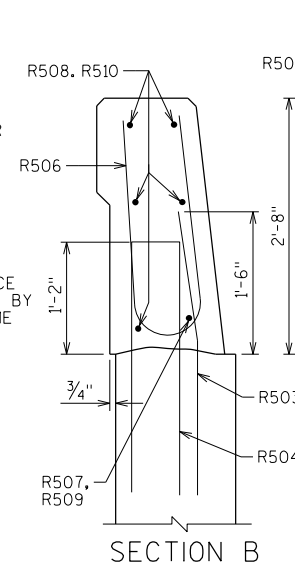
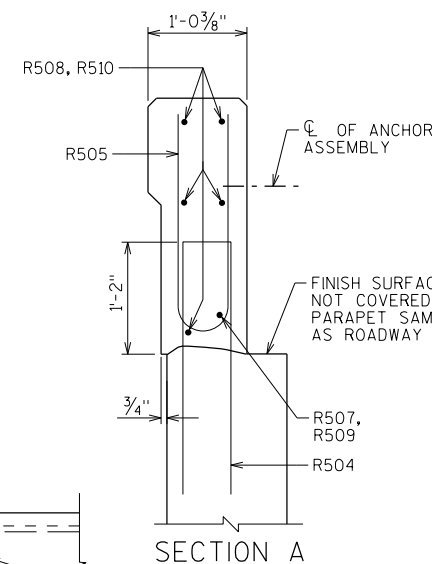
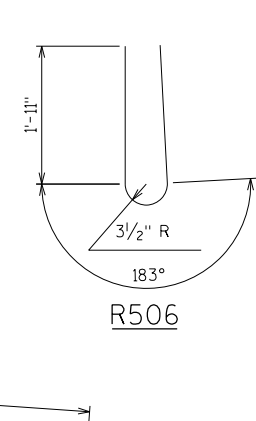
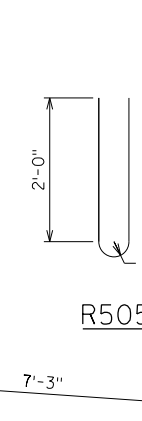
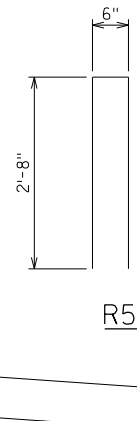
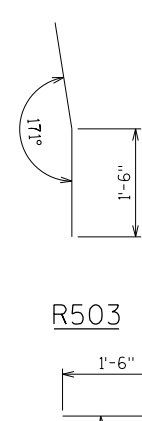
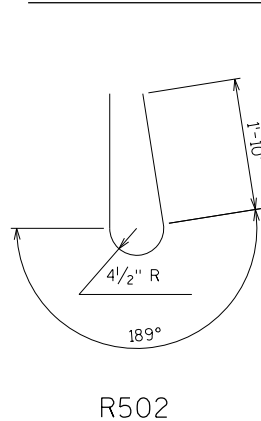
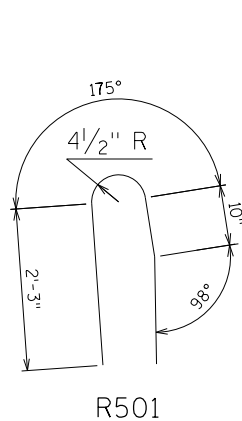
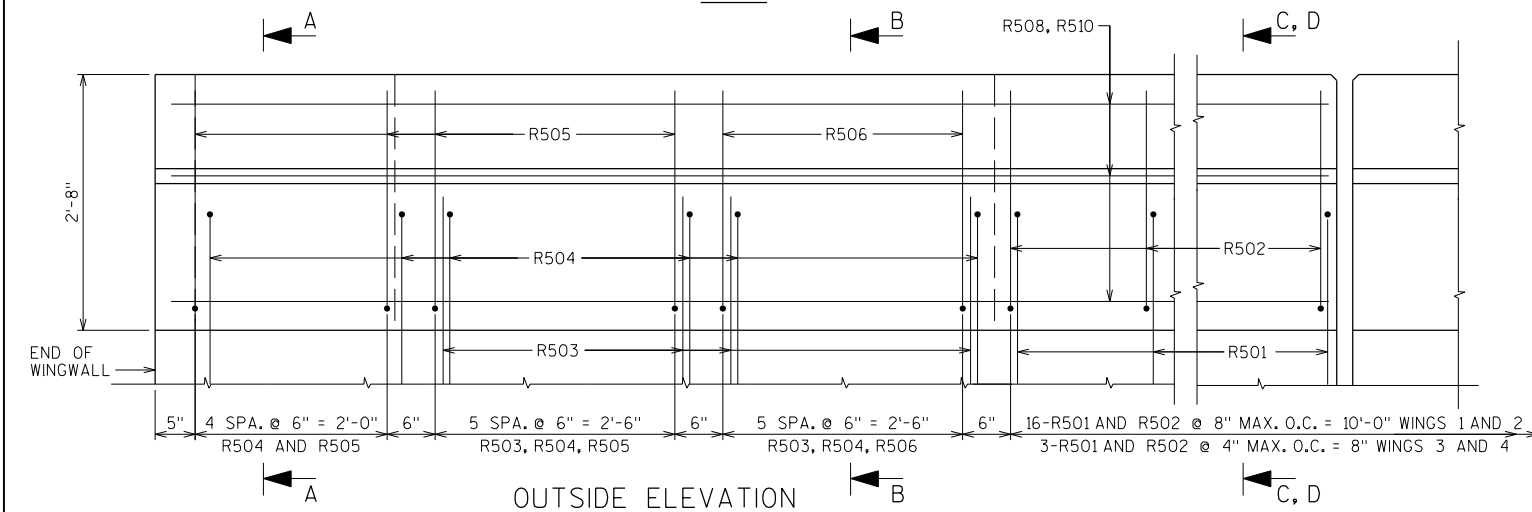
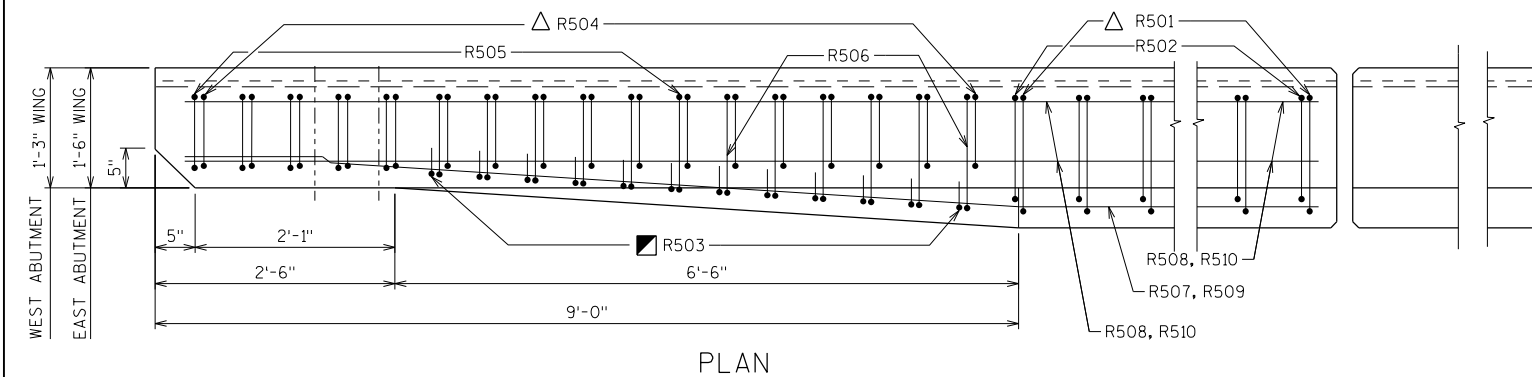
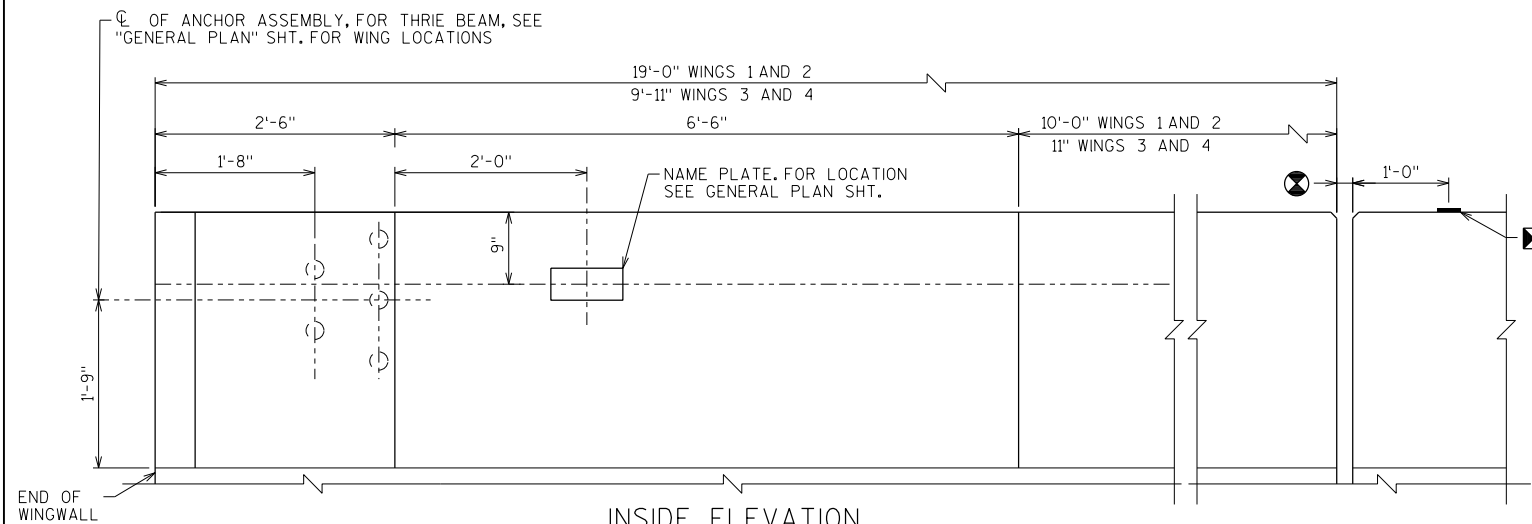
VIEW OF PARAPET PLATES
FROM ROADWAY

LEGEND

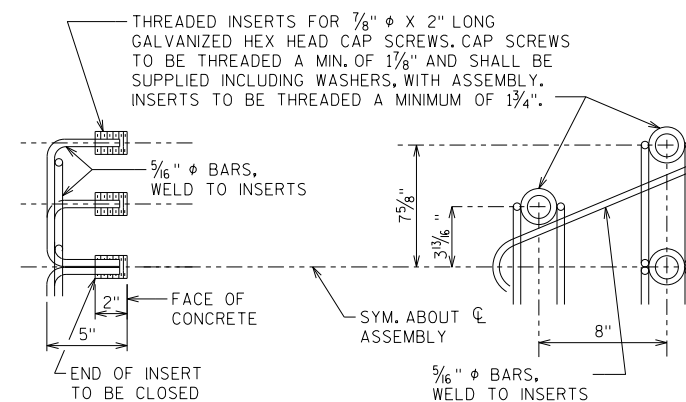
- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING
 - ▣ JOINT OPENING DIM. ALONG SKEW PLUS 1/2"
- SEE SHEET 17 FOR ADDITIONAL DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
COVER PLATE DETAILS		SHEET 18 OF 22	

FILE =
SCALE =



OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED, RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



DETAIL OF ANCHOR ASSEMBLY

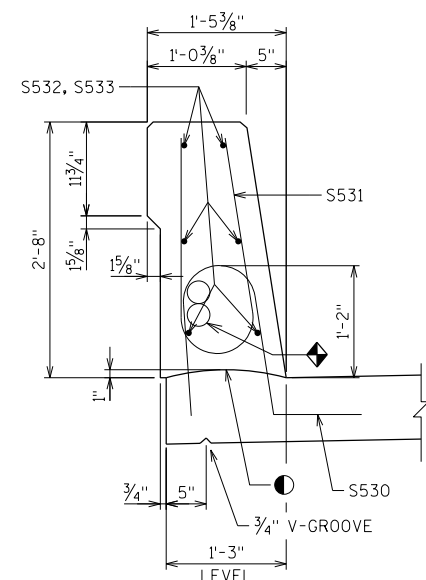
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

BILL OF BARS

BAR MARK	COAT	QTY. WEST	QTY. EAST	LENGTH	BENT	LOCATION
R501	X	32	6	5'-10"	X	PARAPET - VERT.
R502	X	32	6	5'-0"	X	PARAPET - VERT.
R503	X	24	24	3'-0"	X	PARAPET - VERT.
R504	X	34	34	5'-7"	X	PARAPET - VERT.
R505	X	22	22	4'-9"	X	PARAPET - VERT.
R506	X	12	12	4'-10"	X	PARAPET - VERT.
R507	X	2	0	18'-6"	X	HORIZ. - WINGS 1 AND 2
R508	X	10	0	18'-6"		HORIZ. - WINGS 1 AND 2
R509	X	0	2	9'-5"	X	HORIZ. - WINGS 3 AND 4
R510	X	0	10	9'-5"		HORIZ. - WINGS 3 AND 4

LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN.
- ◆ (2) 2" DIAMETER CONDUITS WINGS 2 AND 3 ONLY. USE RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 5'-0" INTO PARAPET ON DECK SIDE AND THRU PARAPET AND WINGWALL TO A MINIMUM OF 6" BEYOND END OF WINGWALL. (FOR GROUNDING PURPOSES). SEE SHEET 8 FOR DETAILS.
- ⊠ BENCH MARK CAP (WHEN SUPPLIED).
- ⊗ ROADWAY OPENING OR 2 1/2" MIN. FOR EXPANSION JOINT.
- R503 MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- △ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
SINGLE SLOPE PARAPET 32SS		SHEET 19 OF 22	

FILE =
SCALE =

NOTES

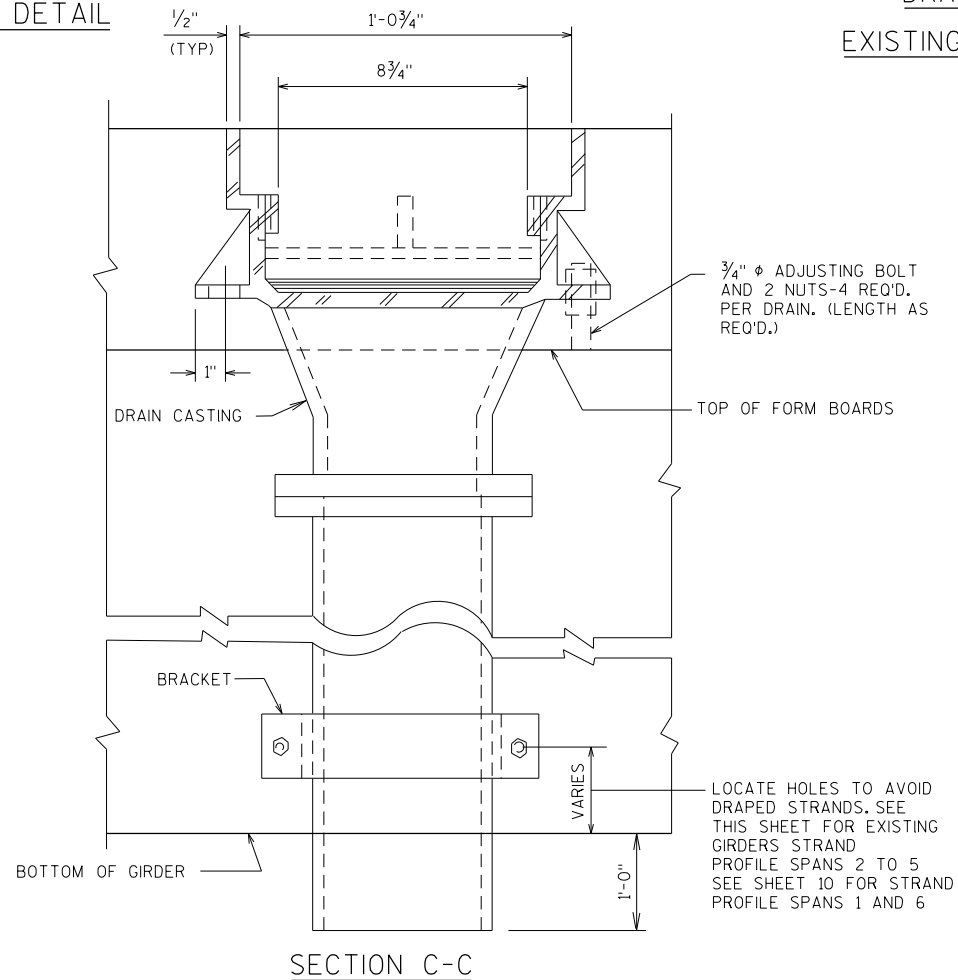
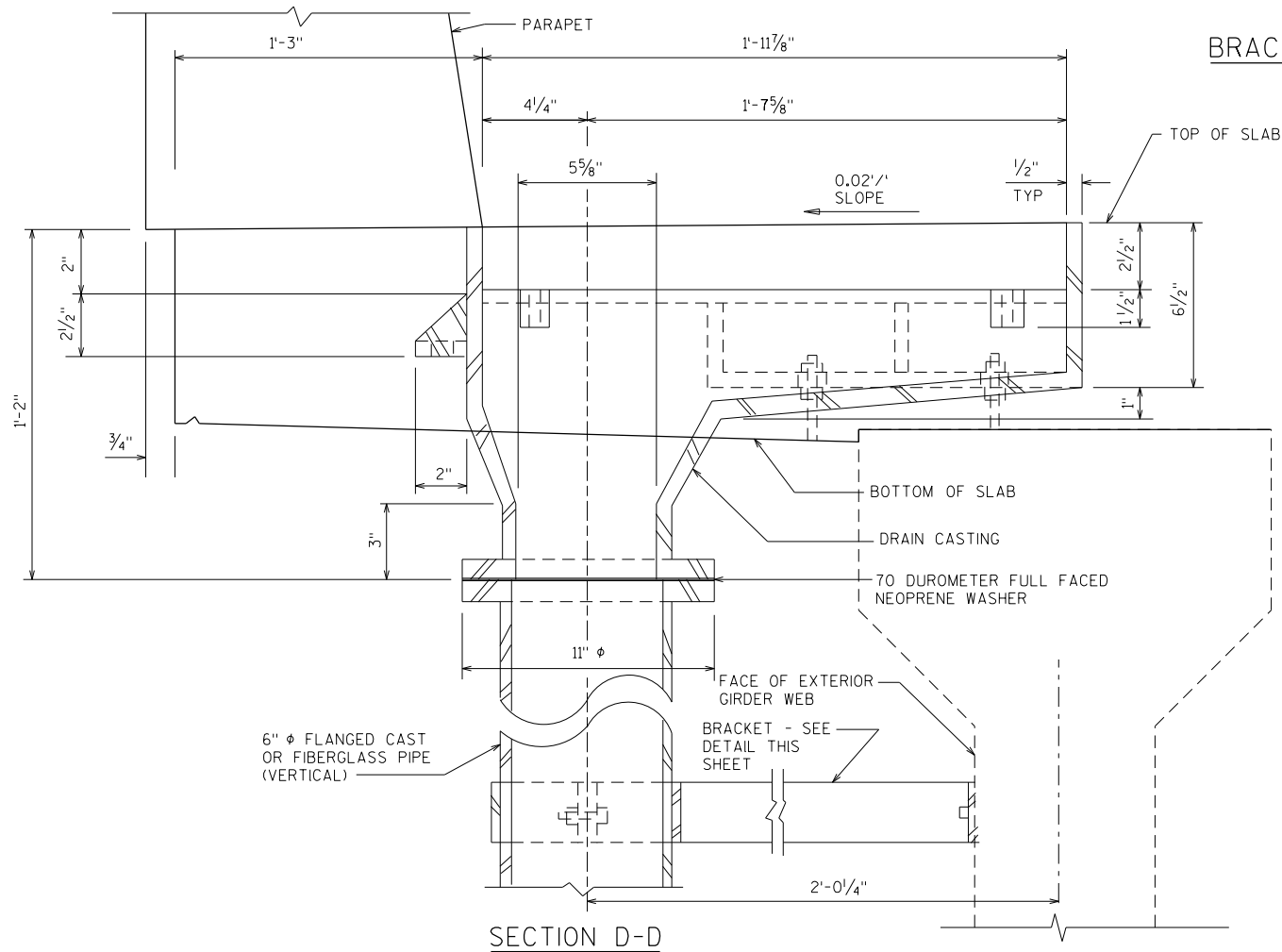
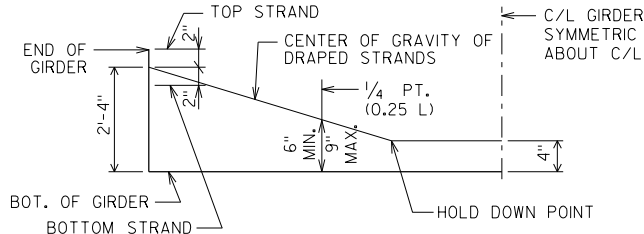
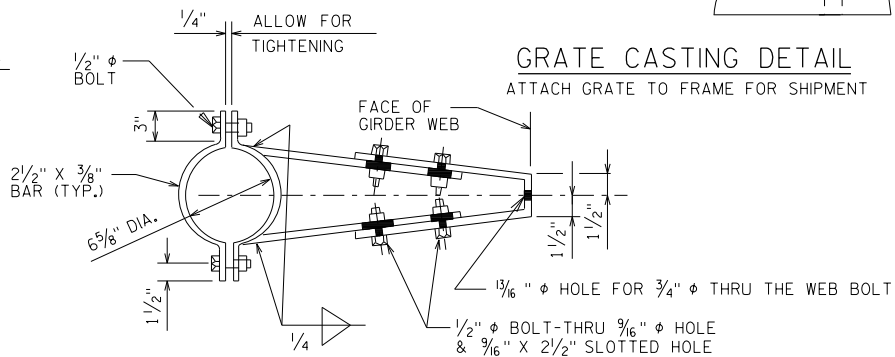
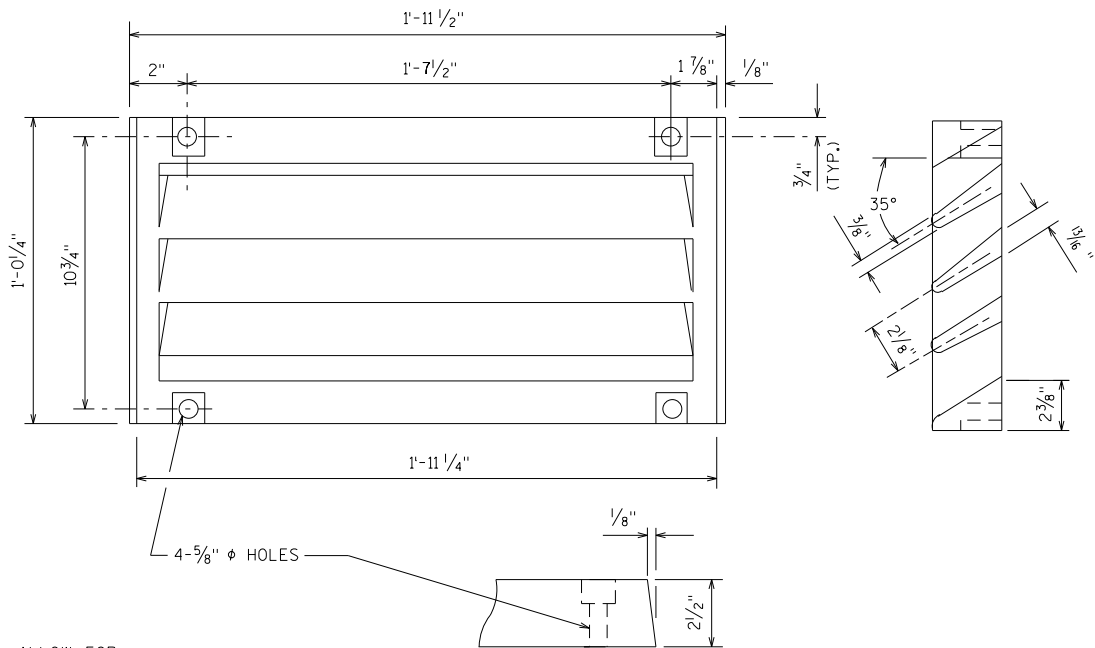
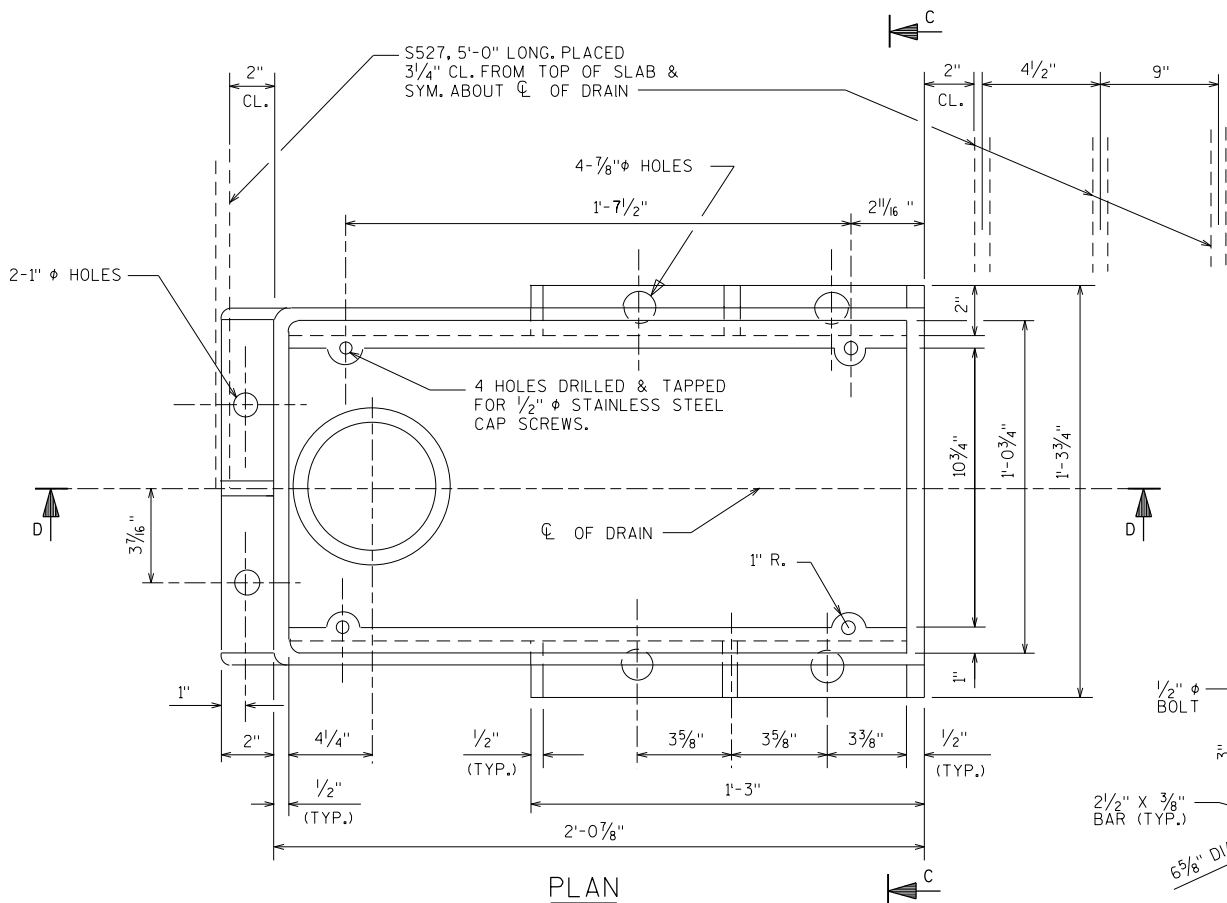
ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30. (APPROXIMATE WEIGHT = 225#)

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36. ALL BRACKETS AND HARDWARE SHALL BE GALVANIZED.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE EITHER STEEL OR REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

TRANS. AND LONGIT. DECK BAR REINF. TO BE CUT A MAX. OF 1" CL. FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

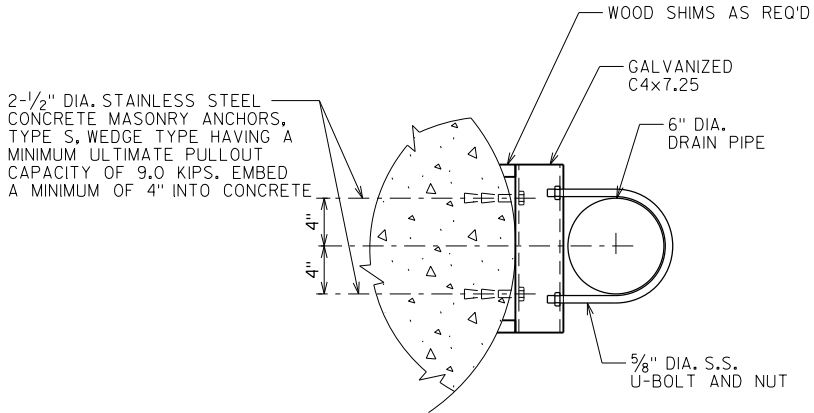
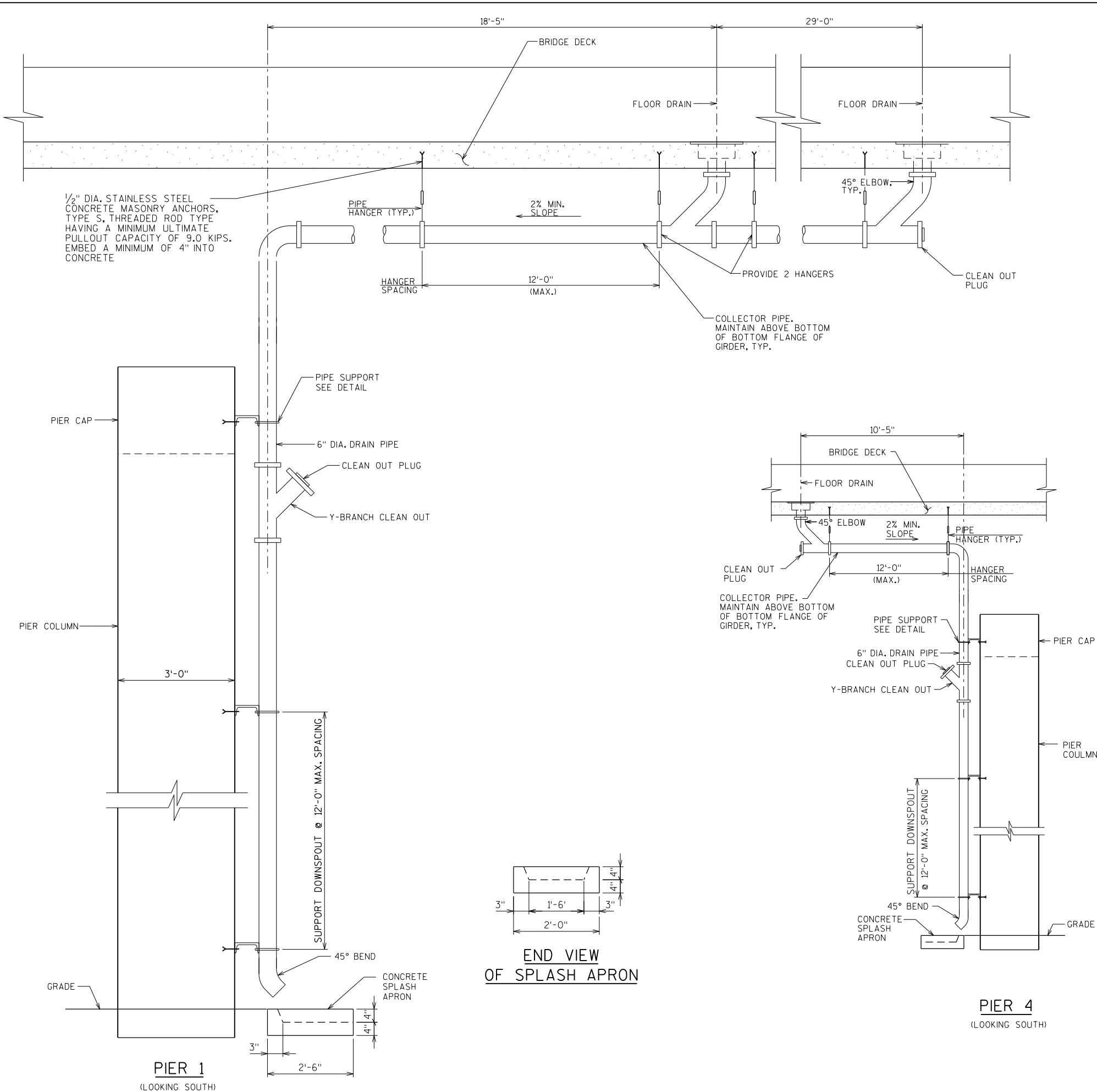


FLOOR DRAIN LOCATIONS

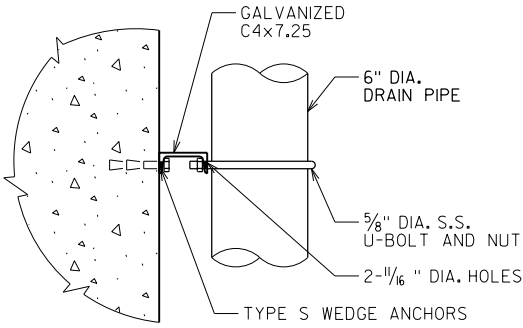
SEE SHEET 11 FOR PLAN

STATION	DISCHARGE TYPE
168+71.77	DOWNSPOUT
169+00.77	DOWNSPOUT
169+29.77	FREEFALL
169+58.77	FREEFALL
169+87.77	FREEFALL
170+16.77	FREEFALL
170+45.77	FREEFALL
170+74.77	FREEFALL
171+03.77	FREEFALL
171+43.77	DOWNSPOUT
171+93.77	FREEFALL
172+48.77	FREEFALL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
FLOOR DRAIN TYPE "GC"		SHEET 20 OF 22	



PLAN

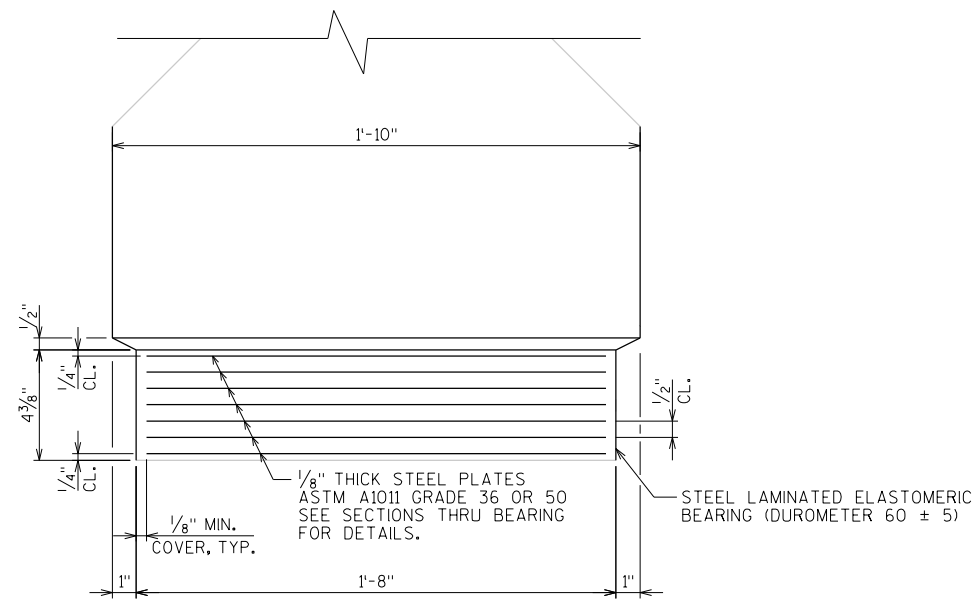


ELEVATION

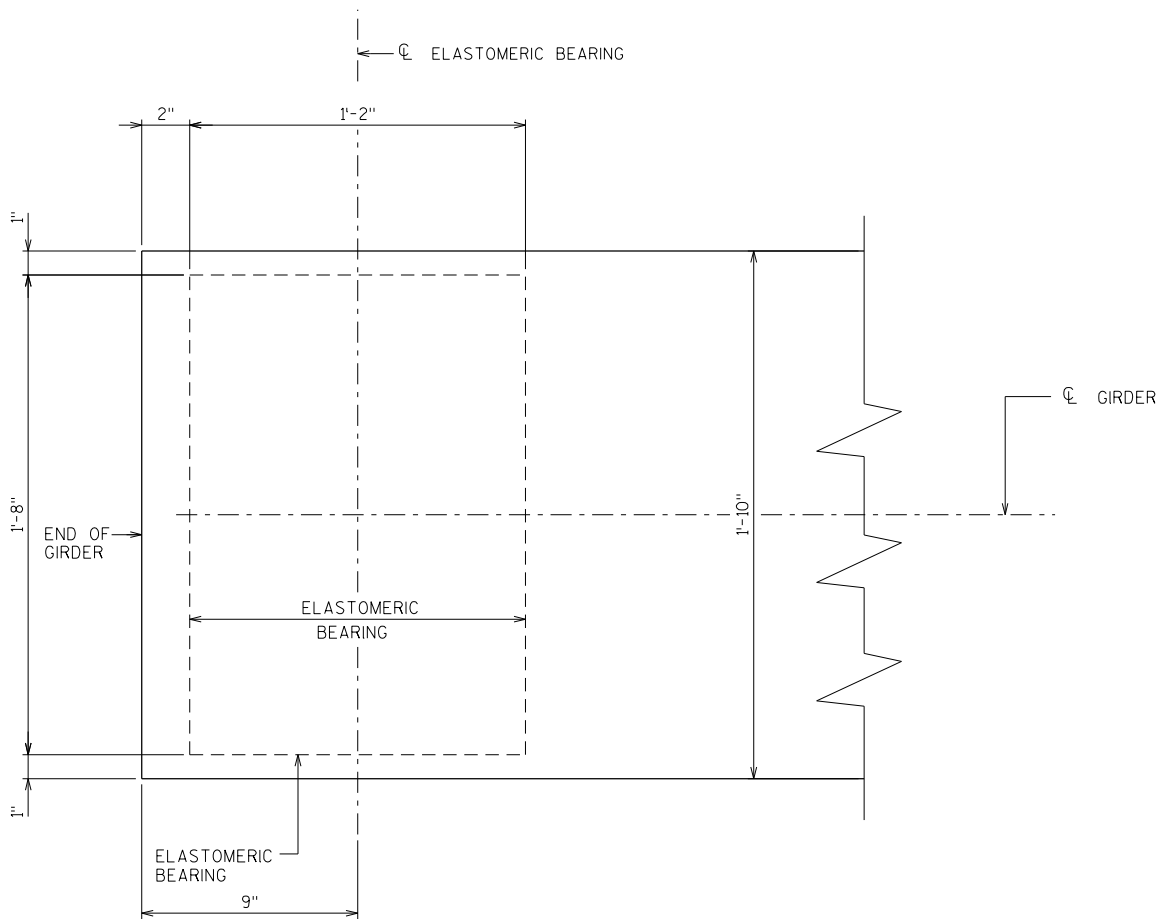
DOWNSPOUT SUPPORT DETAILS

NOTES:
ALL HARDWARE, HANGERS, SPLASH BLOCKS, STEEL, AND ANY OTHER MISCELLANEOUS ITEMS SHOWN ARE INCLUDED AND INCIDENTAL IN THE BID ITEM "DOWNSPOUT 6-INCH".

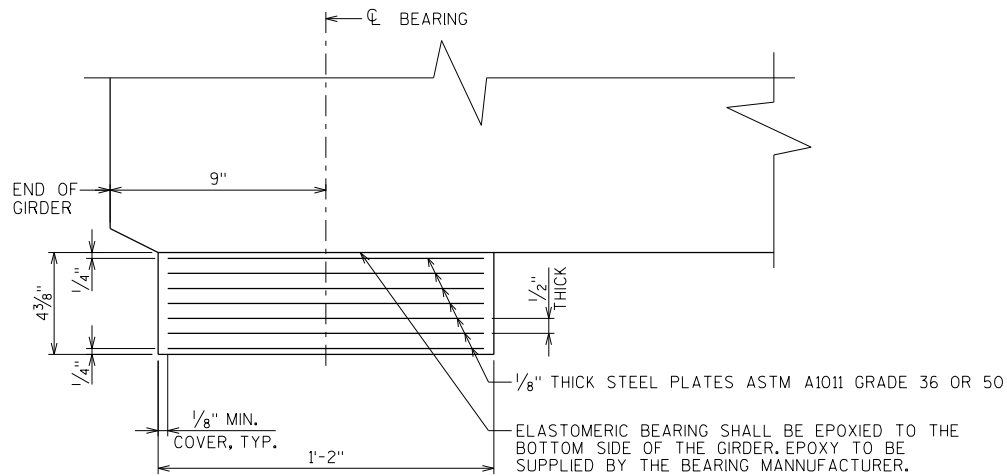
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
DOWNSPOUT		SHEET 21 OF 22	



END VIEW



PLAN VIEW



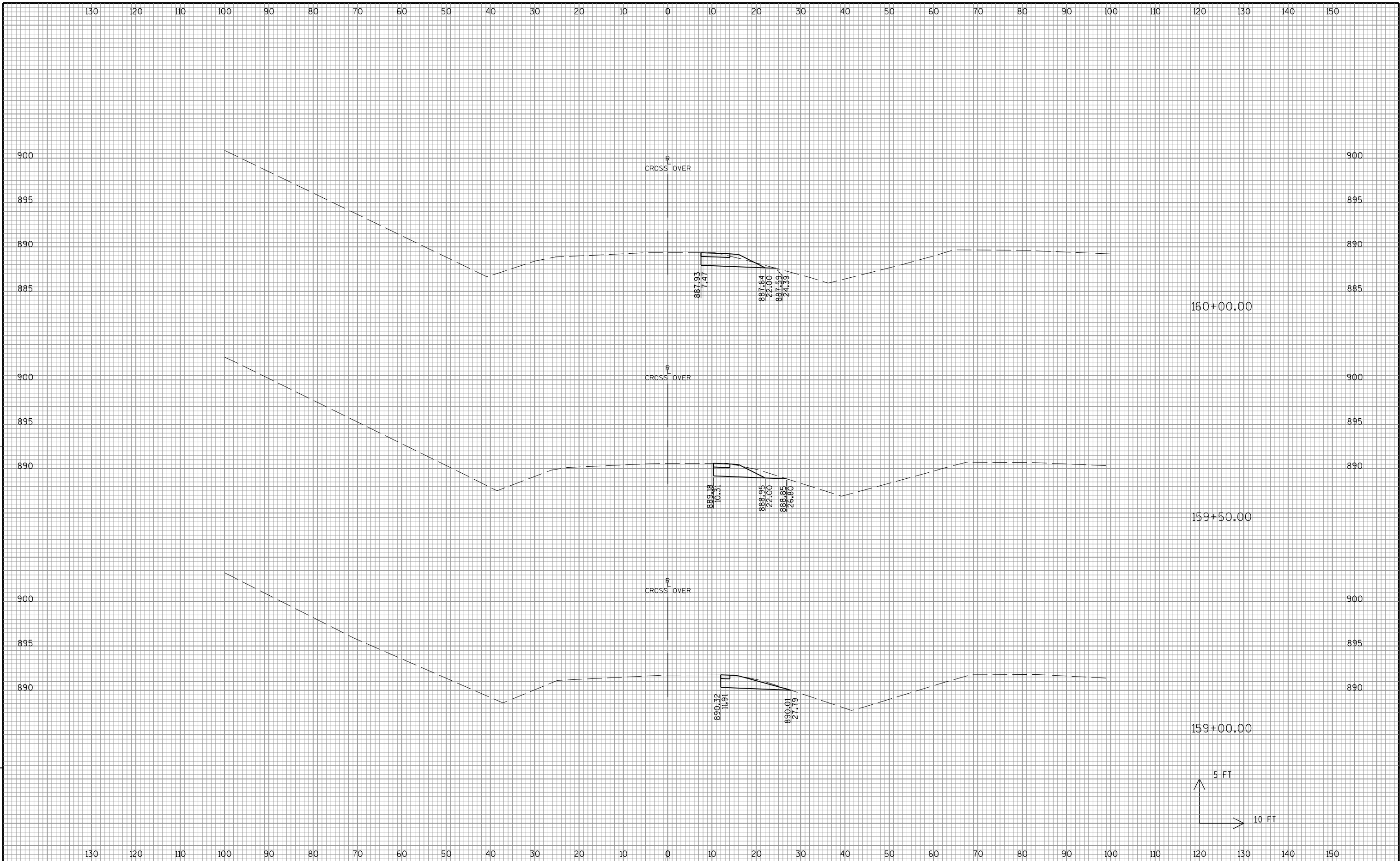
SECTION THRU ELASTOMERIC BEARING - AT EAST AND WEST ABUTMENTS

BEARING NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PAD ELASTOMERIC LAMINATED, EACH".

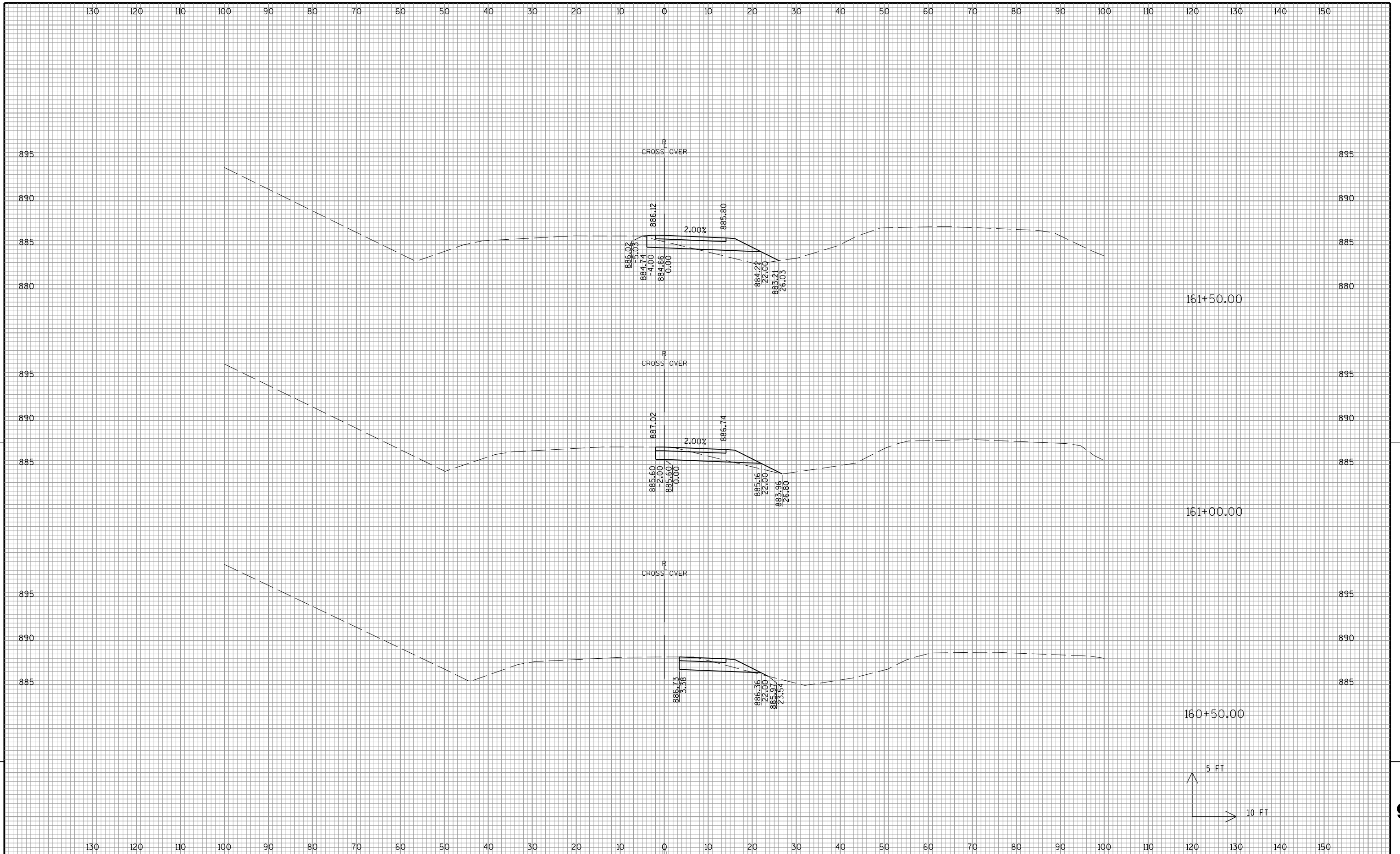
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-89			
DRAWN BY RBH		PLANS CK'D. AML	
ELASTOMERIC EXPANSION BEARING DETAILS		SHEET 22 OF 22	

FILE =
SCALE =



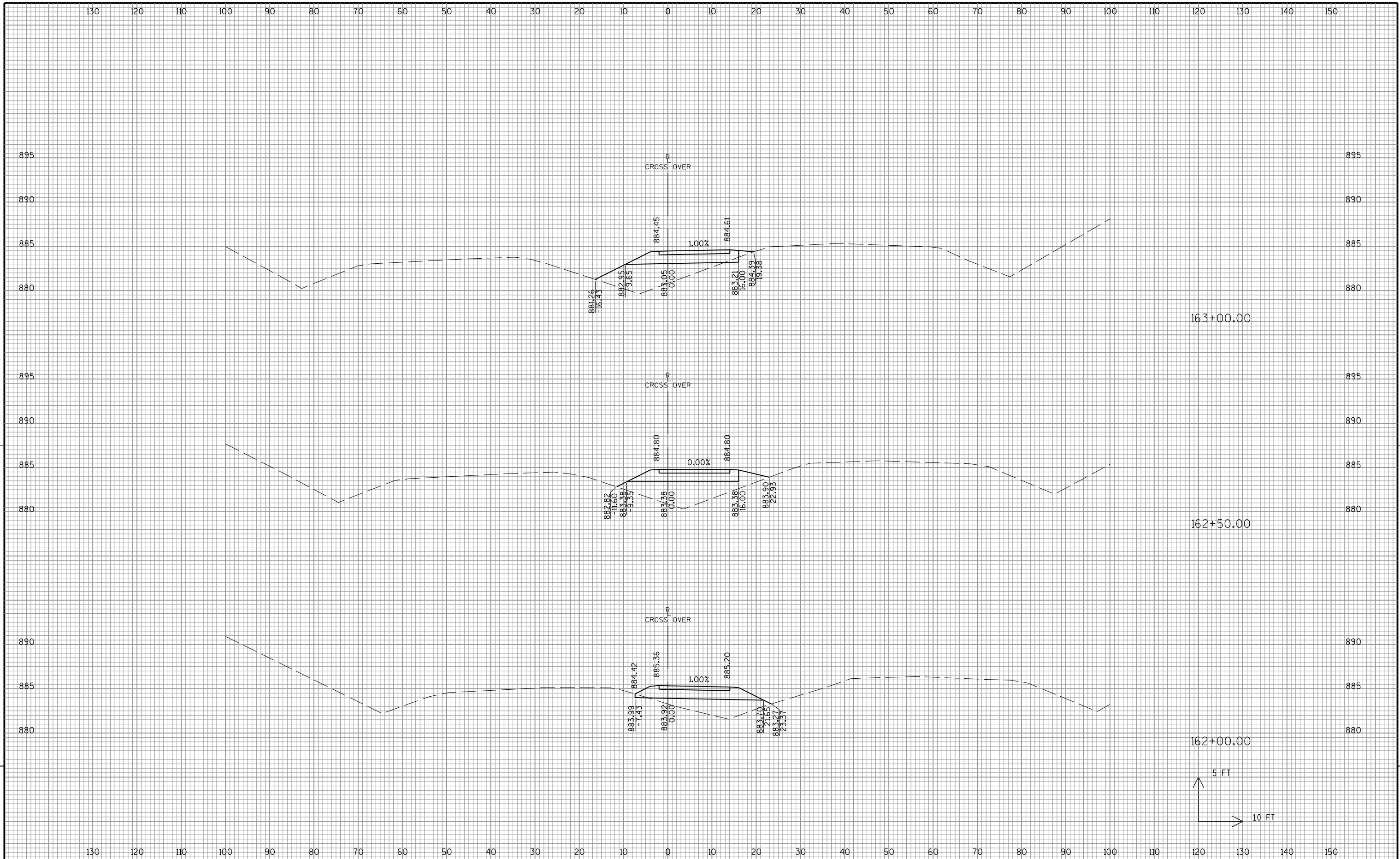
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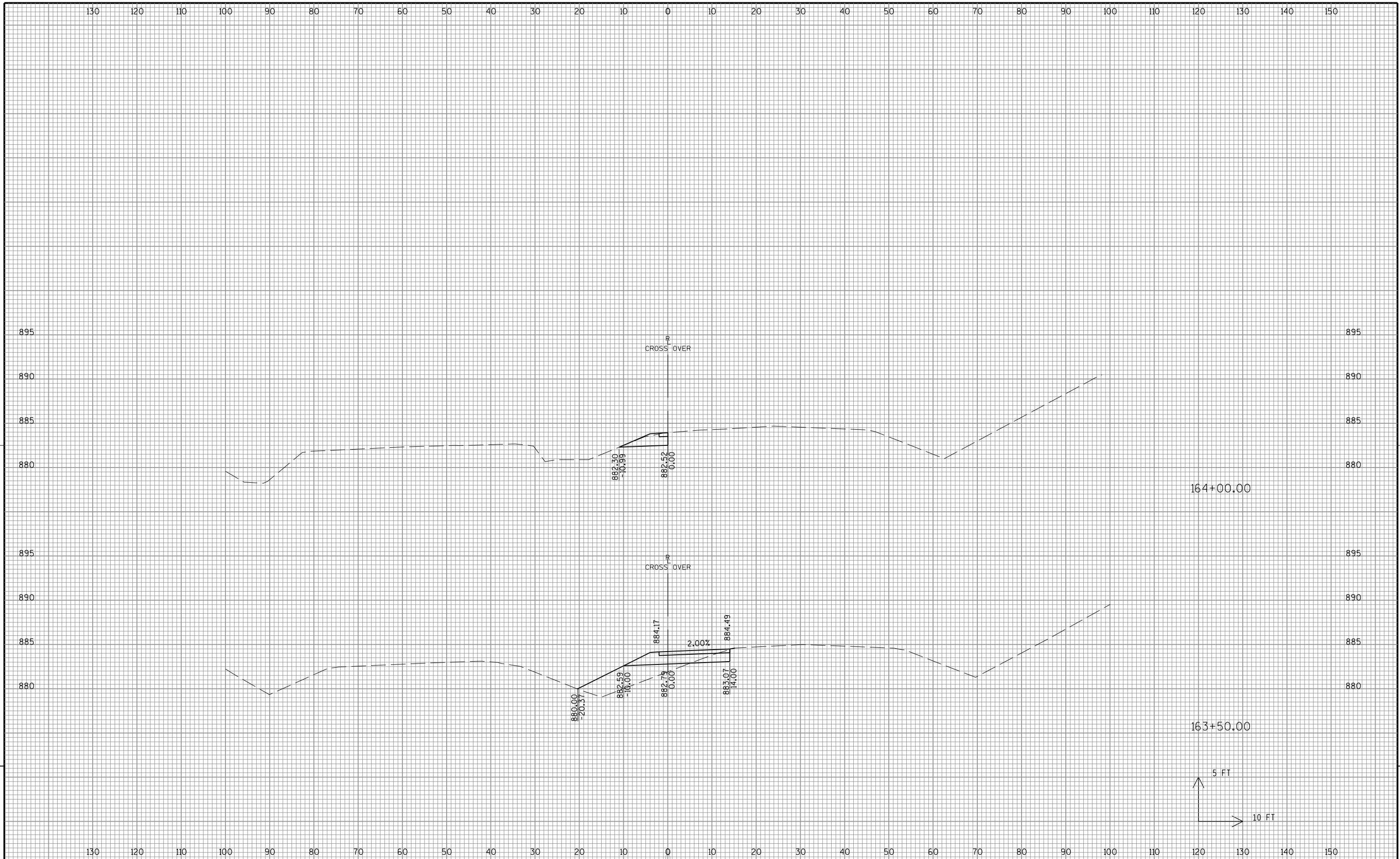
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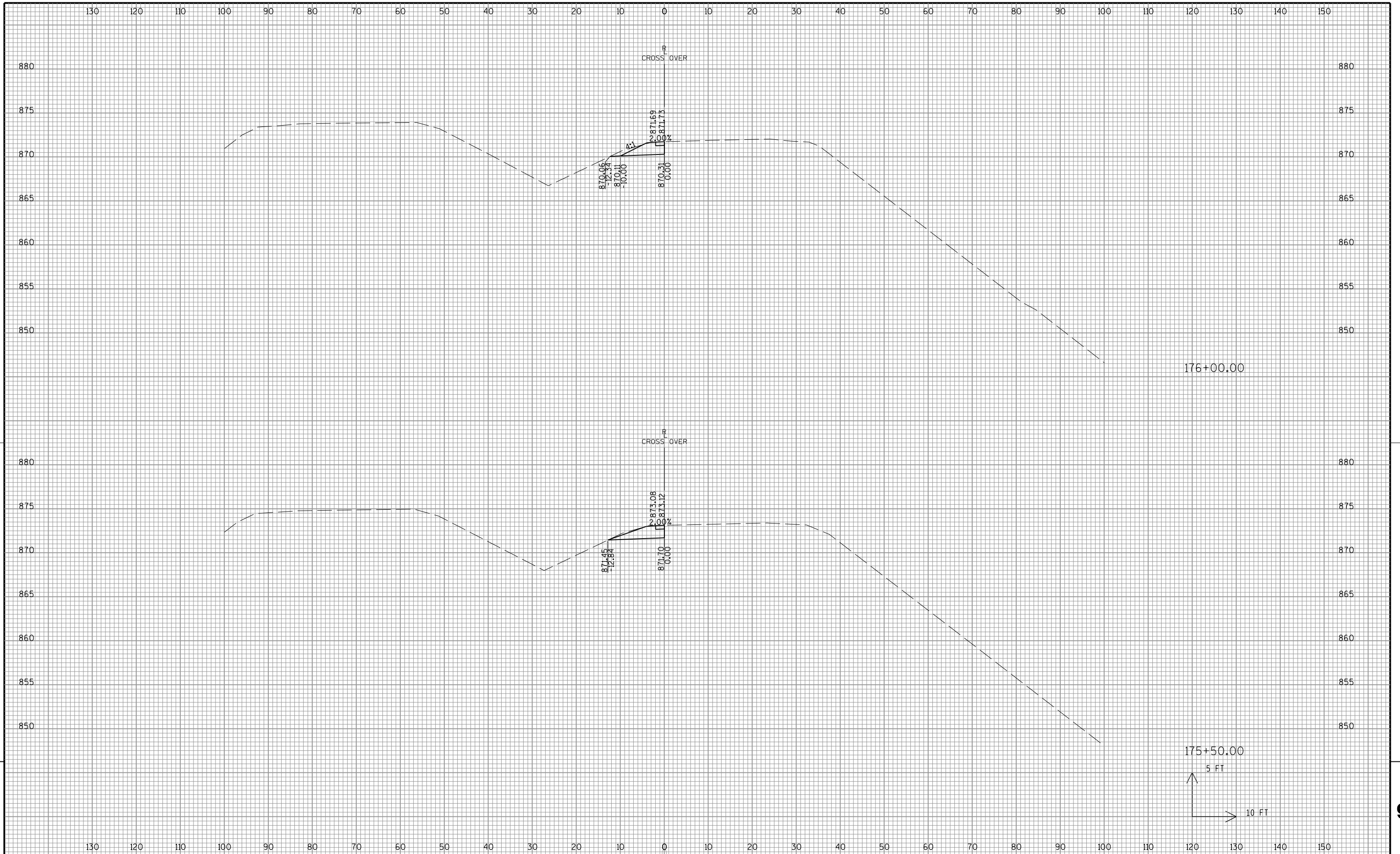
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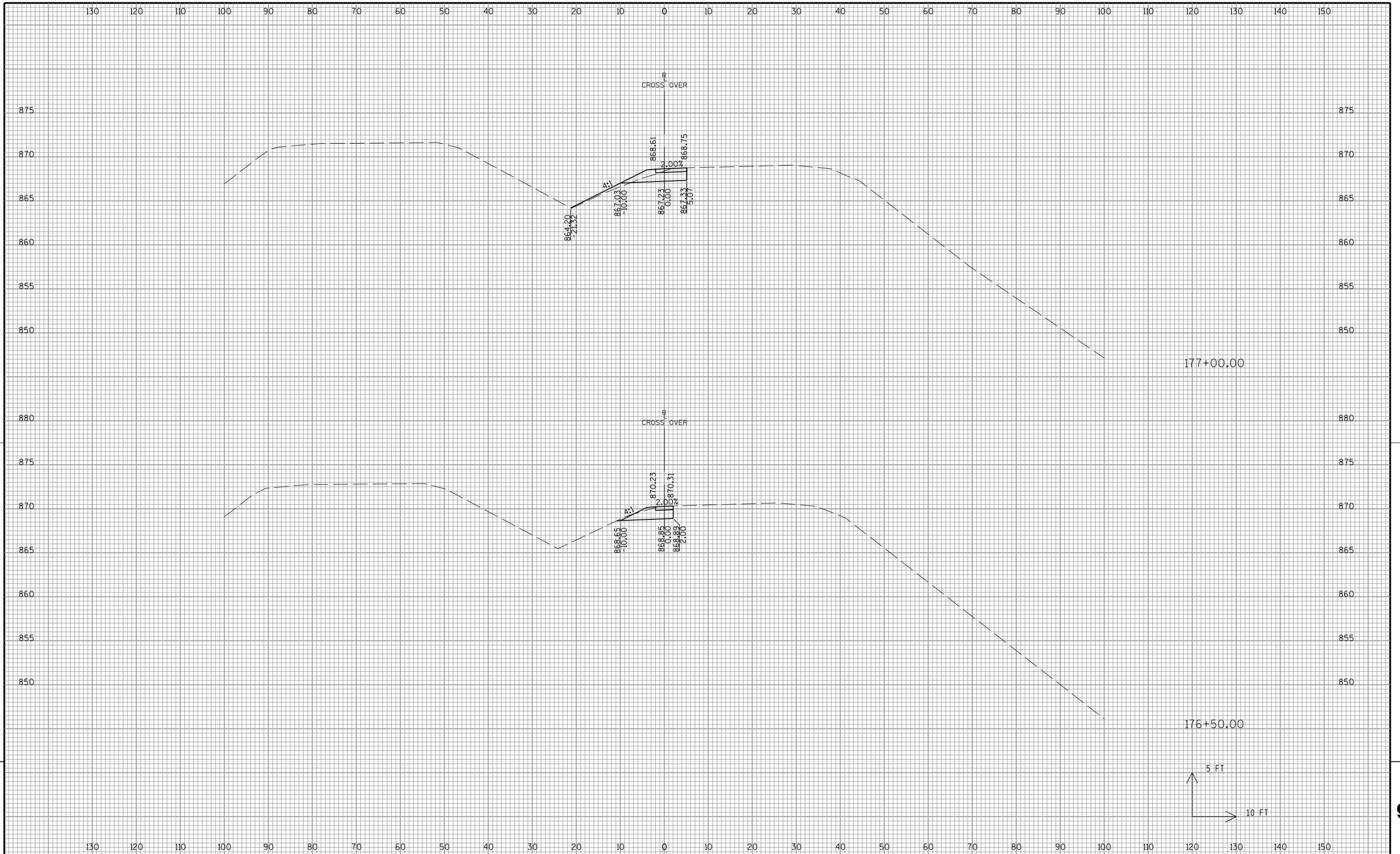
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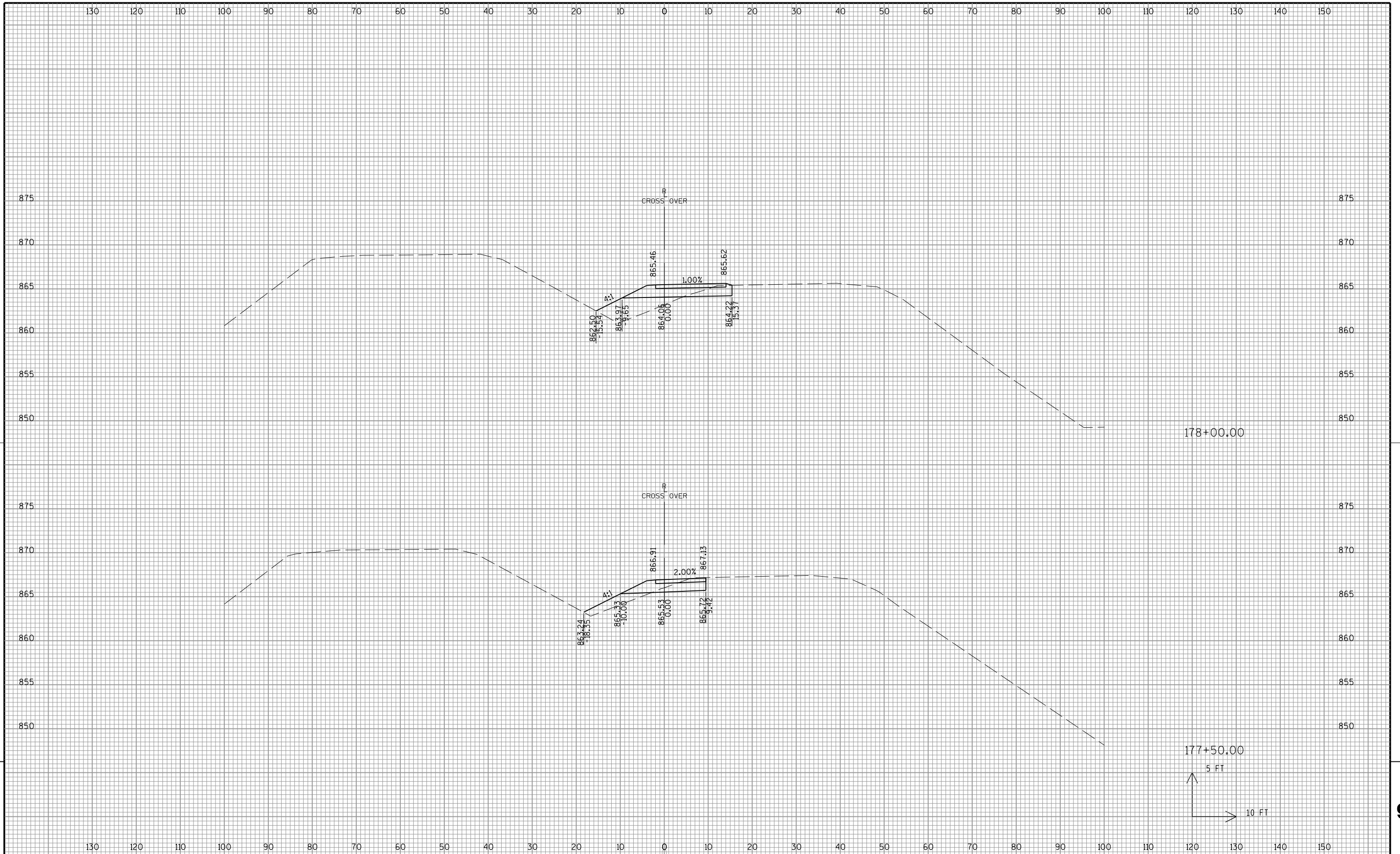
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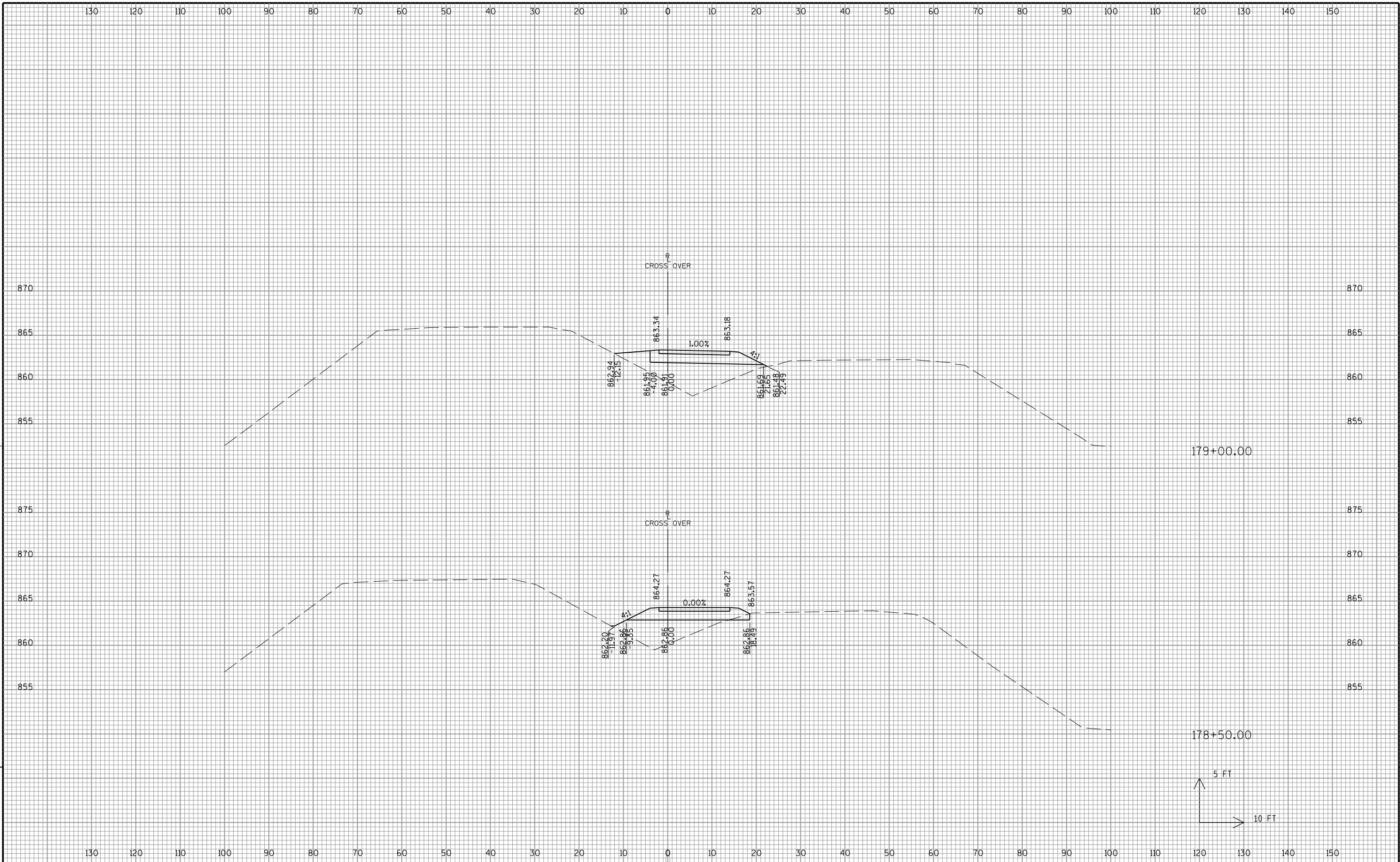
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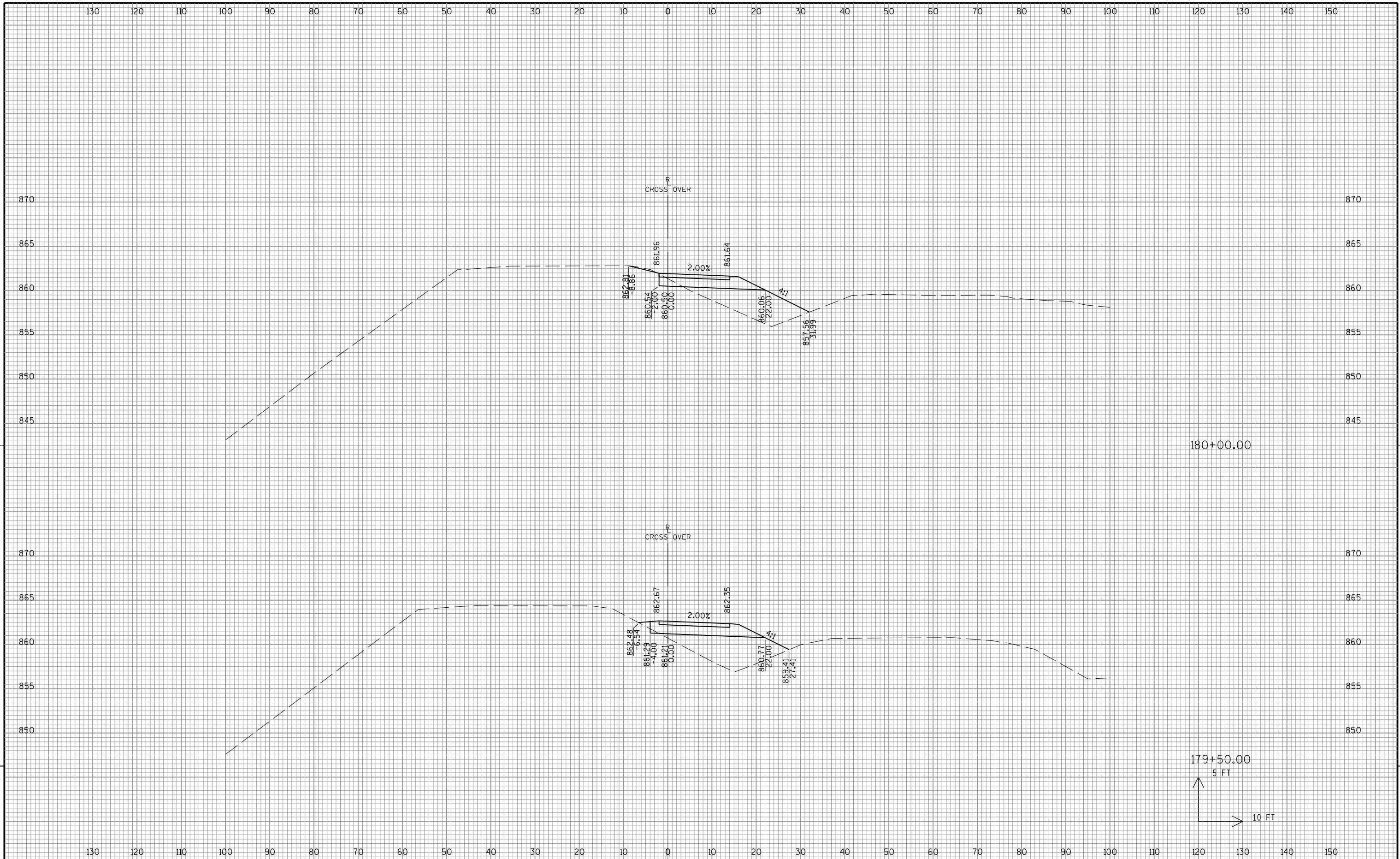




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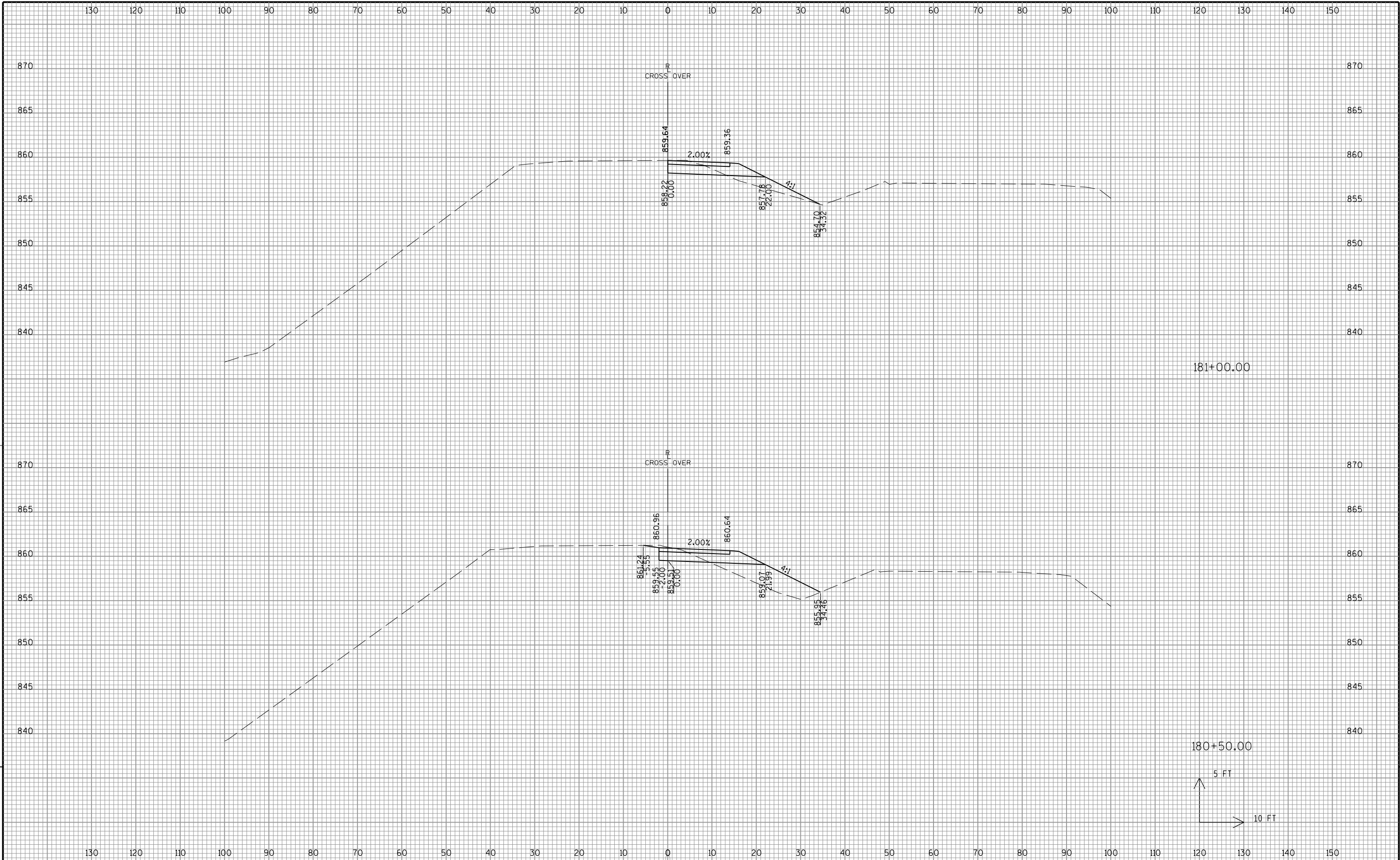
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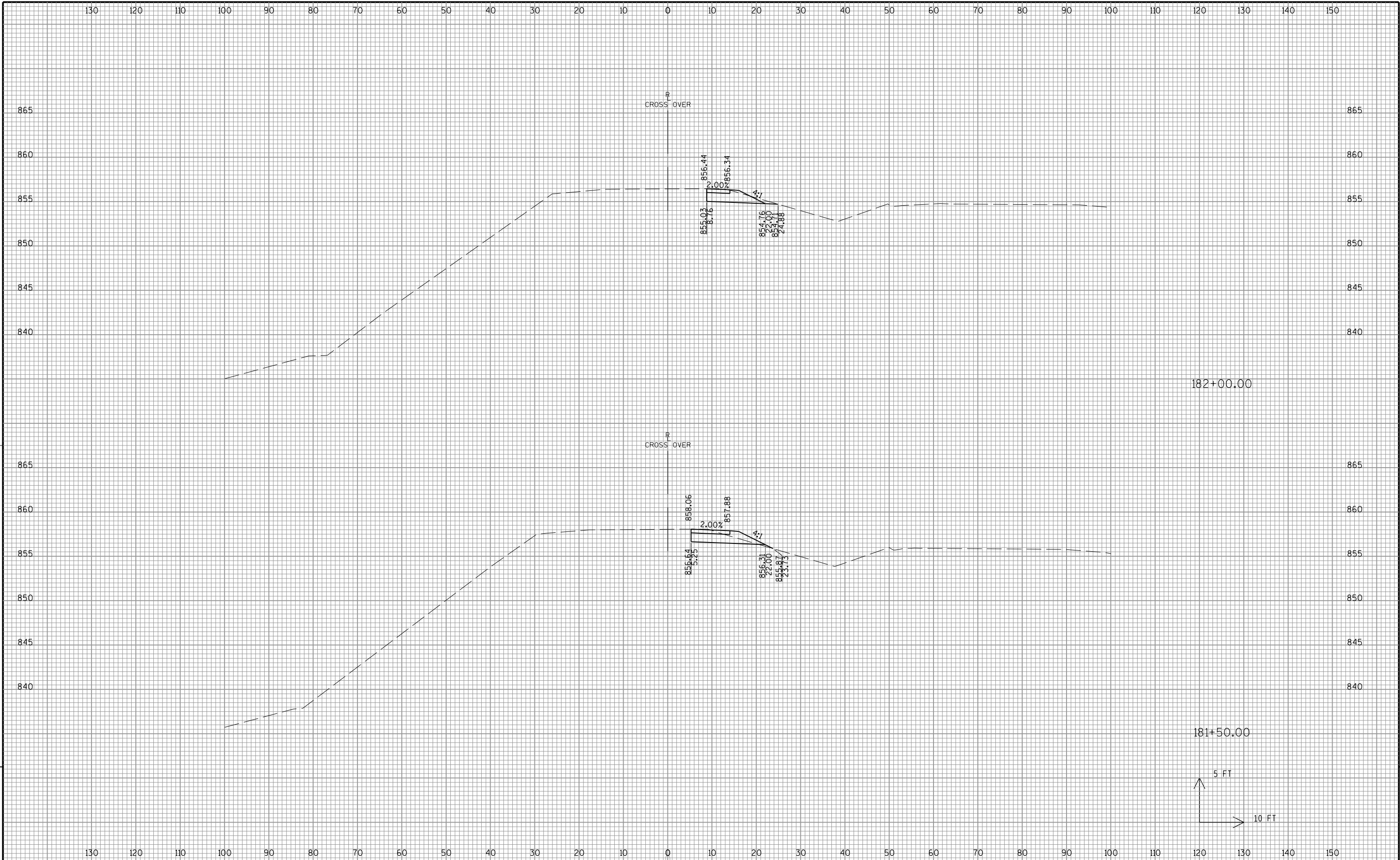
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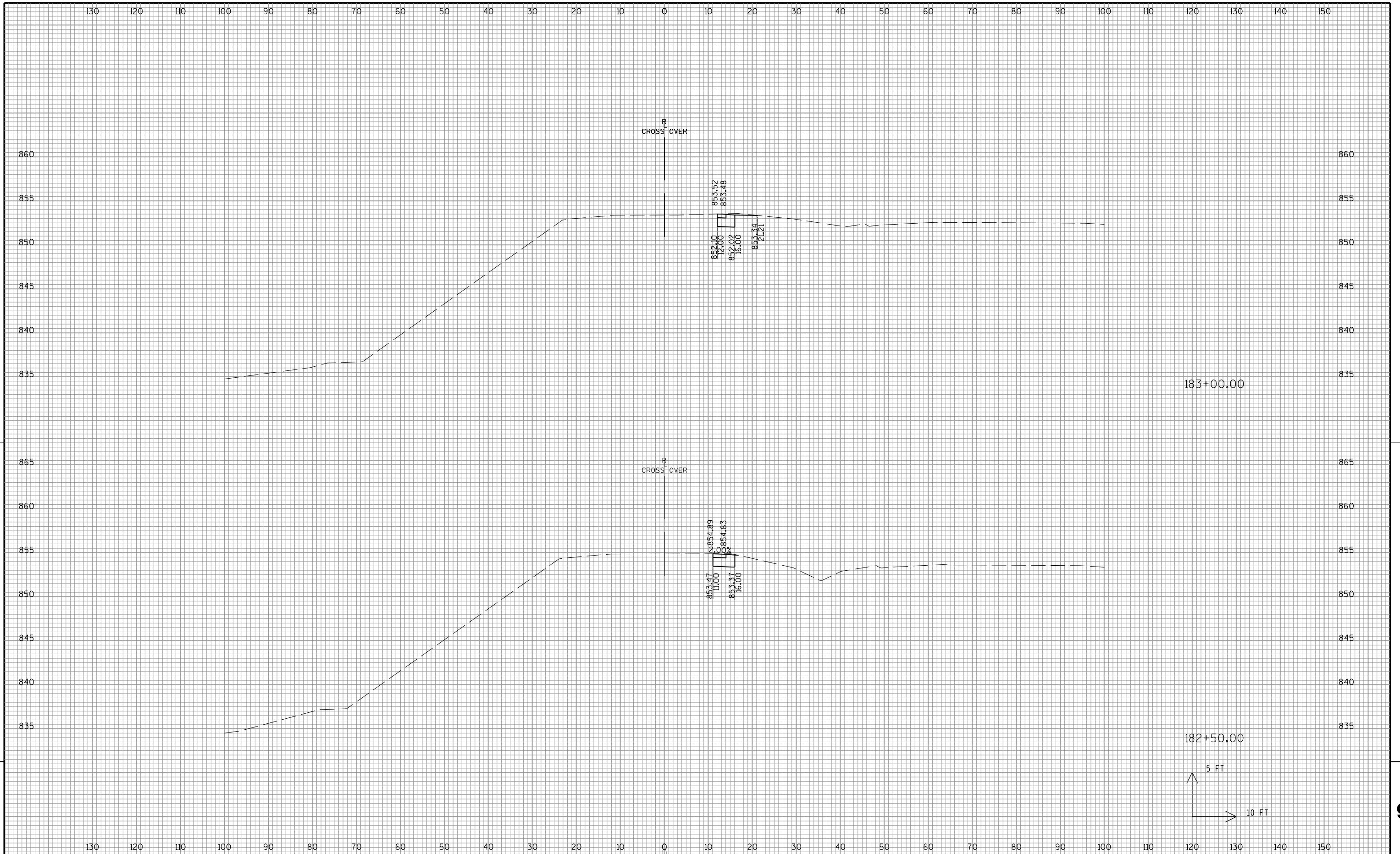
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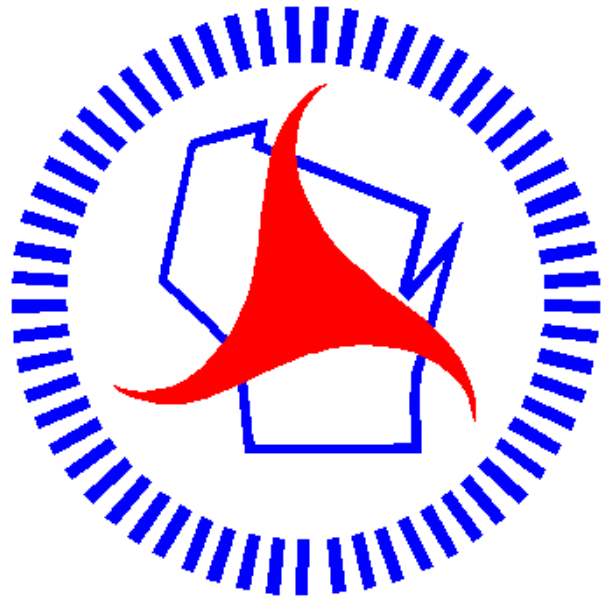
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