

WISDOT/CADDS SHEET 10

APPROVED FOR THE DEPARTMENT

DATE: 07/20/20

(Signature)

GENERAL NOTES

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

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

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

THE LOCATION OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON.

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 COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

SECTION 2 ORDER OF SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- EROSION CONTROL
- PERMANENT SIGNING/PAVEMENT MARKING
- CONSTRUCTION STAGING
- DETOUR PLAN
- ALIGNMENT DATA SHEET

ABBREVIATIONS

AEW	APRON END WALL
AFG	ABOVE FINISHED GROUND
B.	BARN
B.P.	BREAK POINT
COR.	CORNER
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE
S.S.P.A.	CORRUGATED STEEL PIPE ARCH
DIM.	DIMENSION
e.	EXTERNAL DISTANCE
E.O.P.	EDGE OF PAVEMENT
H.P.	HIGH POINT
D.	LANE DISTRIBUTION
L.P.	LOW POINT
MAX.	MAXIMUM
M.D.	MEDIAN DRAIN
MIN.	MINIMUM
NOR.	NORMAL
T.	PERCENT OF TRUCKS
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
S.	SHED
S.P.B.G.	STEEL PLATE BEAM GUARD
SL. ST.	SLOPED STEEL
T.O.C.	TOP OF CURB

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ATC MANAGMENT INC.
AT&T LEGACY
CHARTER COMMUNICATIONS
FRONTIER COMMUNICATIONS OF WI LLC
LAKE MILLS LIGHT AND WATER UTILITY
LAKE MILLS LIGHT AND WATER UTILITY
WE ENERGIES
WE ENERGIES

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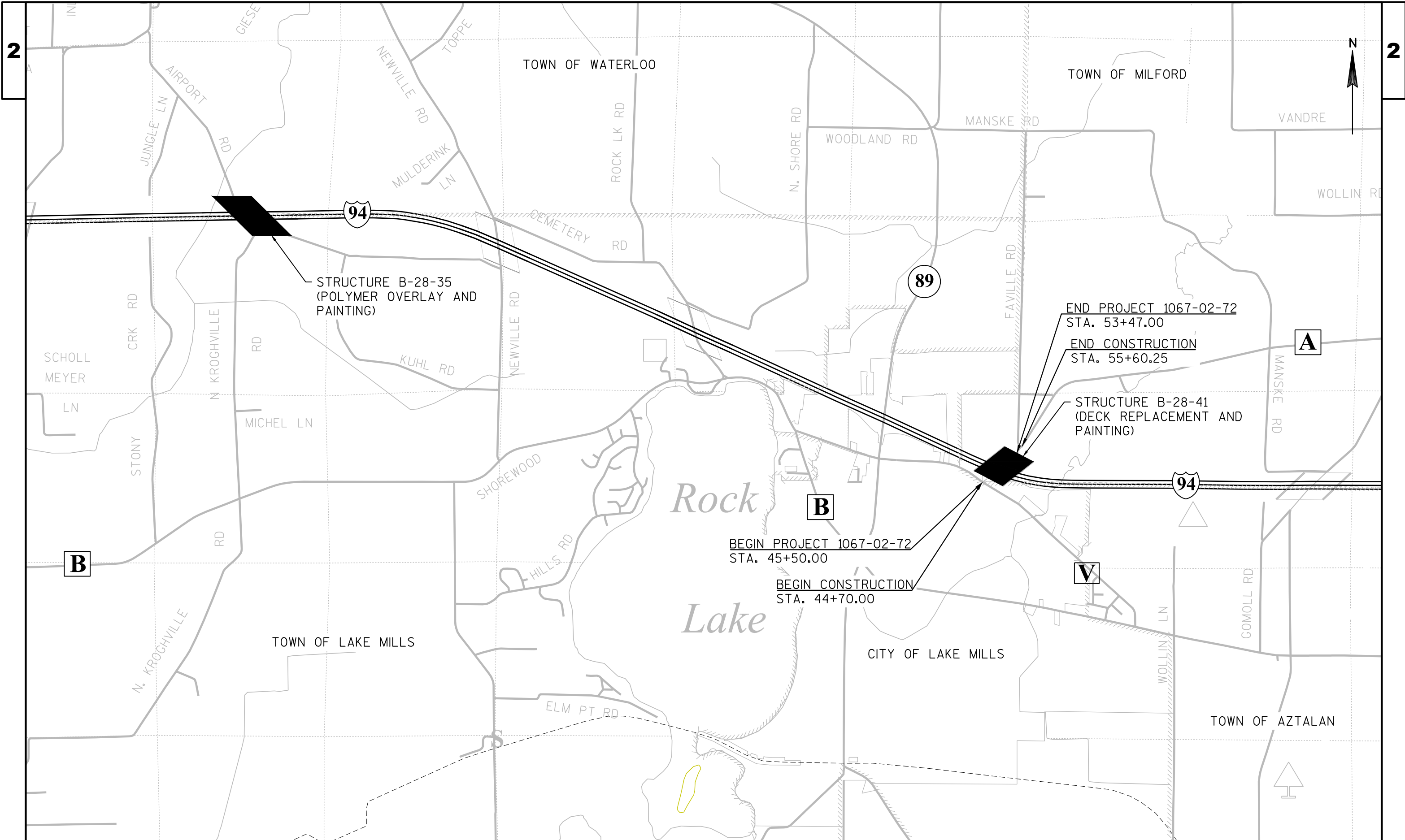
UTILITY TYPE

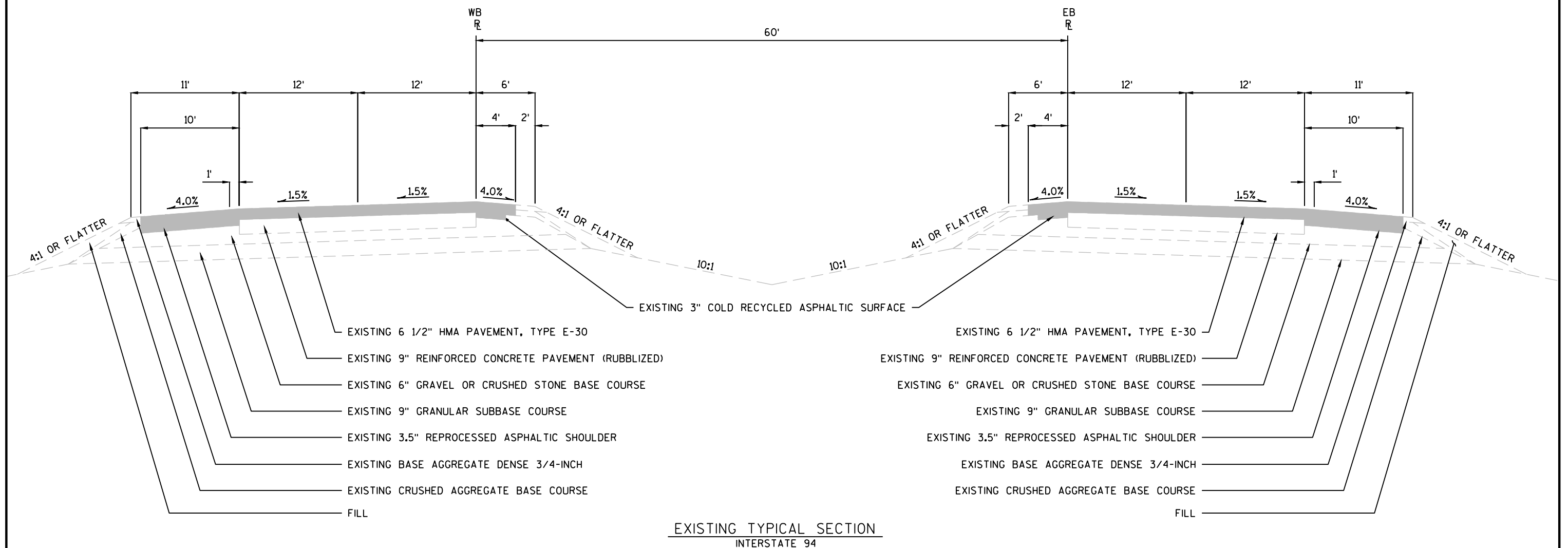
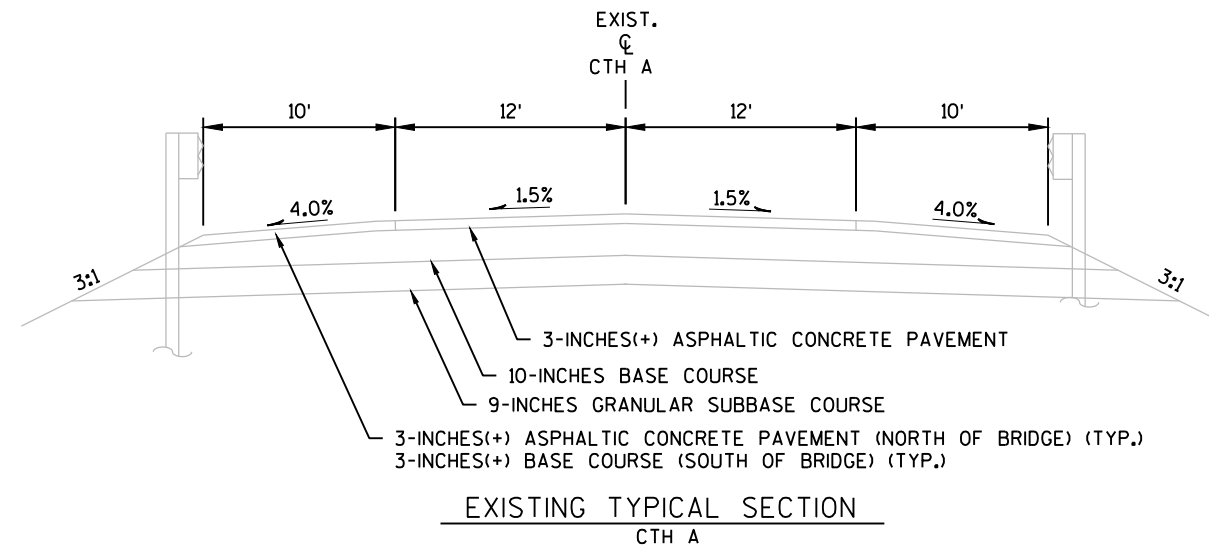
COMMUNICATION
ELECTRICITY
COMMUNICATION
COMMUNICATION
ELECTRICITY
WATER
ELECTRICITY
GAS/PETROLEUM



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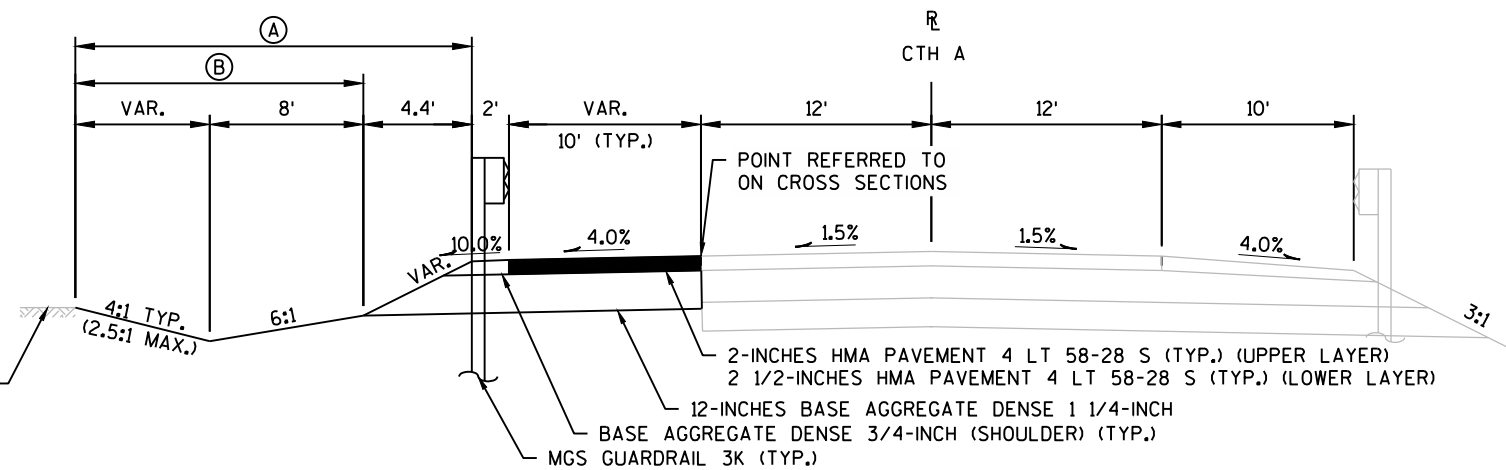




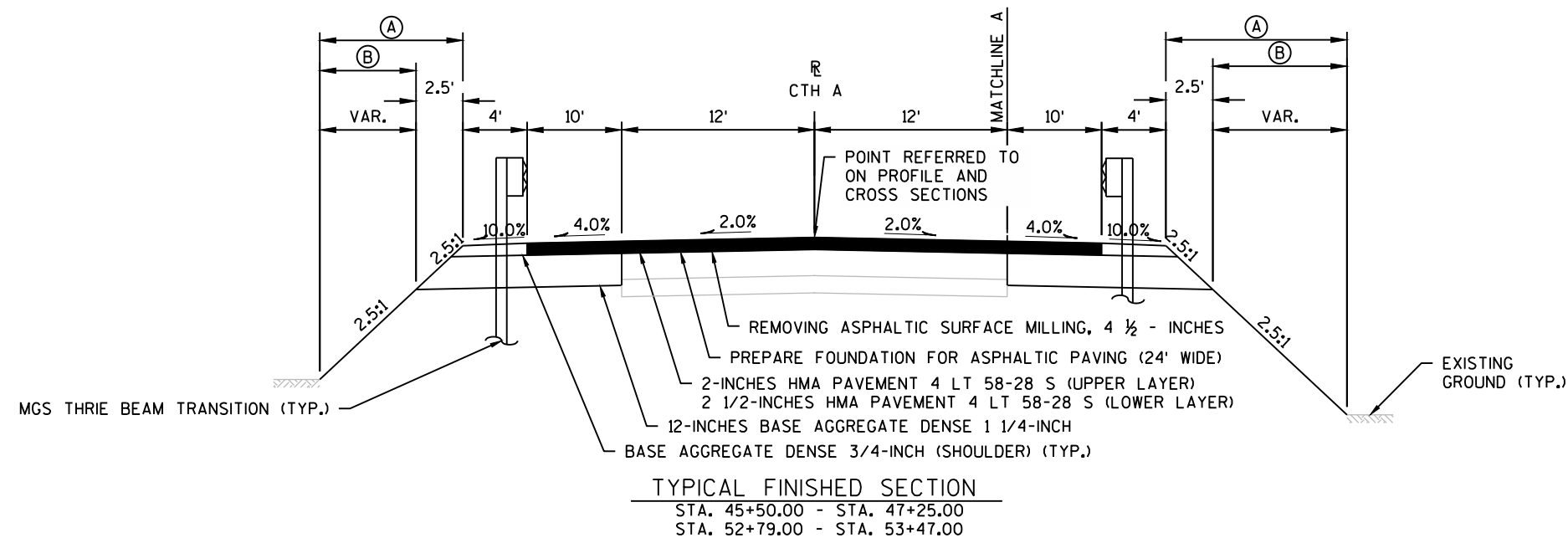
(A) FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

(B) SALVAGED TOPSOIL
AND MULCHING OR EROSION
MAT CLASS 1 TYPE A.
SEE MISCELLANEOUS
QUANTITY TABLES FOR
LOCATIONS.

EXISTING GROUND (TYP.)

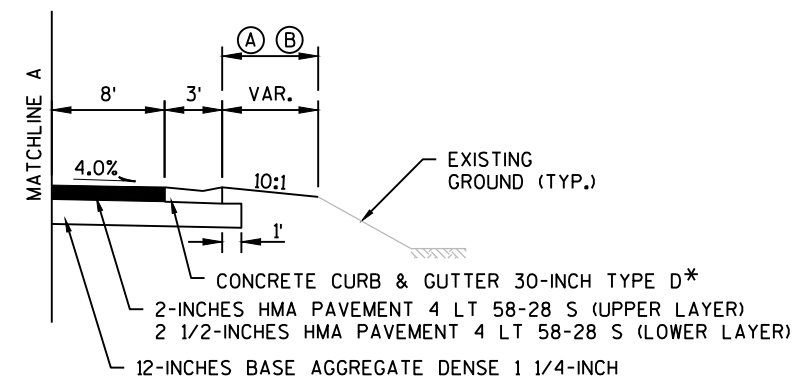


TYPICAL FINISHED SECTION
STA. 44+70.00 - STA. 45+50.00 LT



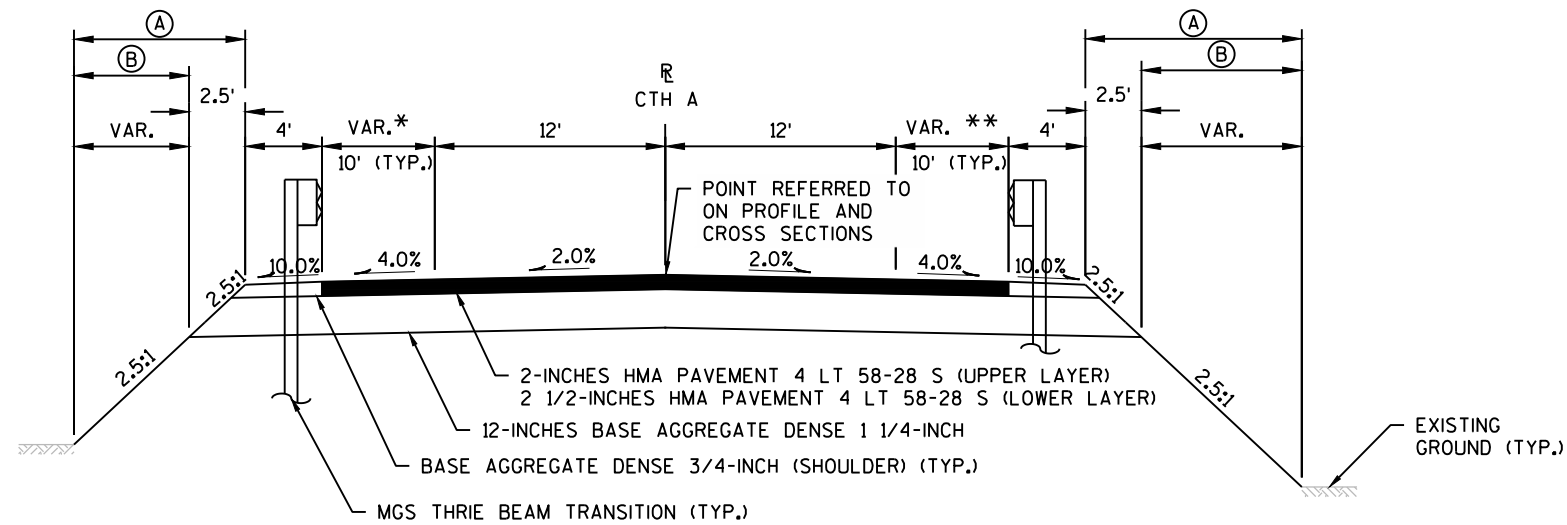
TYPICAL FINISHED SECTION
STA. 45+50.00 - STA. 47+25.00
STA. 52+79.00 - STA. 53+47.00

* DRIVEWAY ENTRANCE CURB
STA. 45+76.95 TO STA. 46+14.45



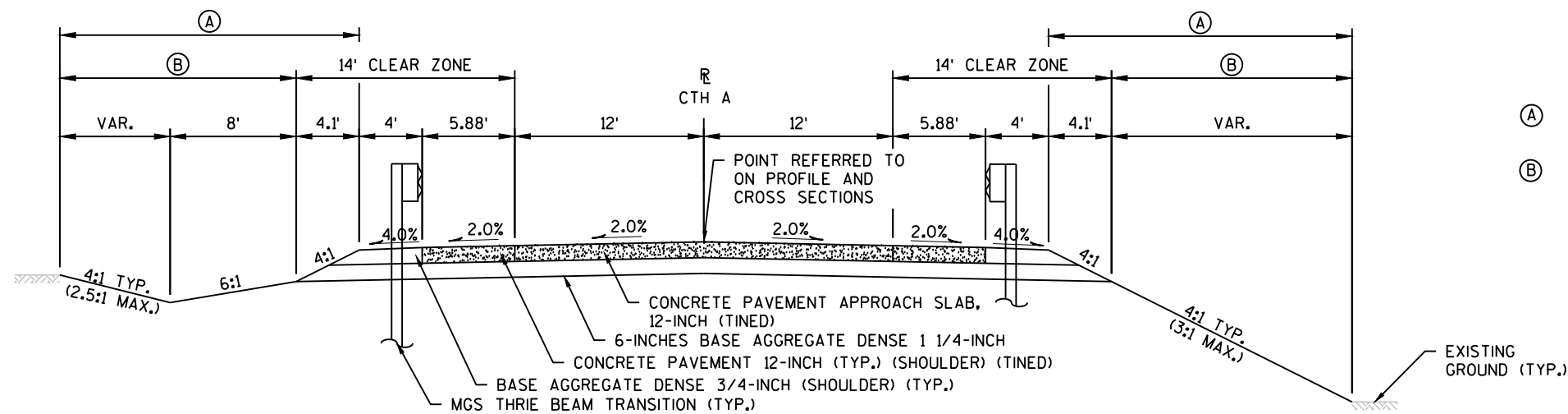
STA. 45+50.00 - STA. 46+14.45 RT

*VARIES 10.00' TO 5.88'
STA. 47+50.43 TO STA. 47+94.18 LT
VARIES 5.88' TO 10.00'
STA. 51+89.98 TO STA. 52+33.73 LT



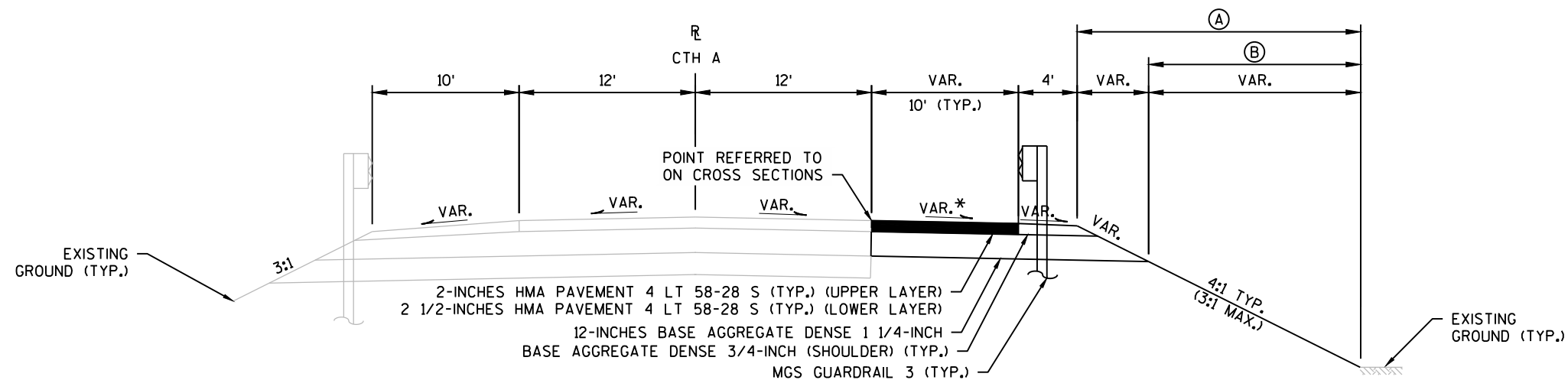
TYPICAL FINISHED SECTION

STA. 47+25.00 - STA. 48+45.64
STA. 51+58.91 - STA. 52+79.00



TYPICAL FINISHED SECTION

STA. 48+45.64 - STA. 48+65.90
STA. 51+38.64 - STA. 51+58.91



TYPICAL FINISHED SECTION

STA. 53+47.00 - STA. 55+60.25 RT

**VARIES 10.00' TO 5.88'
STA. 47+70.70 TO STA. 48+14.45 RT
VARIES 5.88' TO 10.00'
STA. 52+10.25 TO STA. 52+54.00 RT

(A) FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

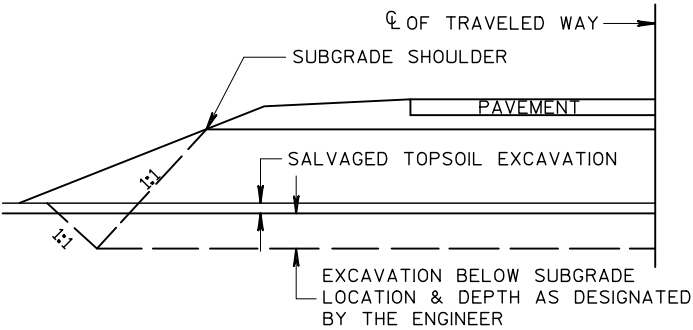
(B) SALVAGED TOPSOIL
AND MULCHING OR EROSION
MAT CLASS 1 TYPE A.
SEE MISCELLANEOUS
QUANTITY TABLES FOR
LOCATIONS.

* MATCH CROSS SLOPE OF
ADJACENT TRAVEL LANE

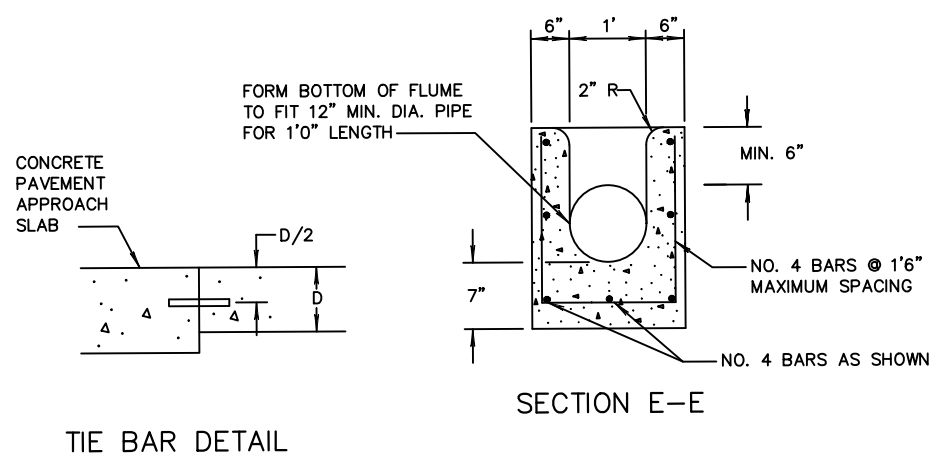
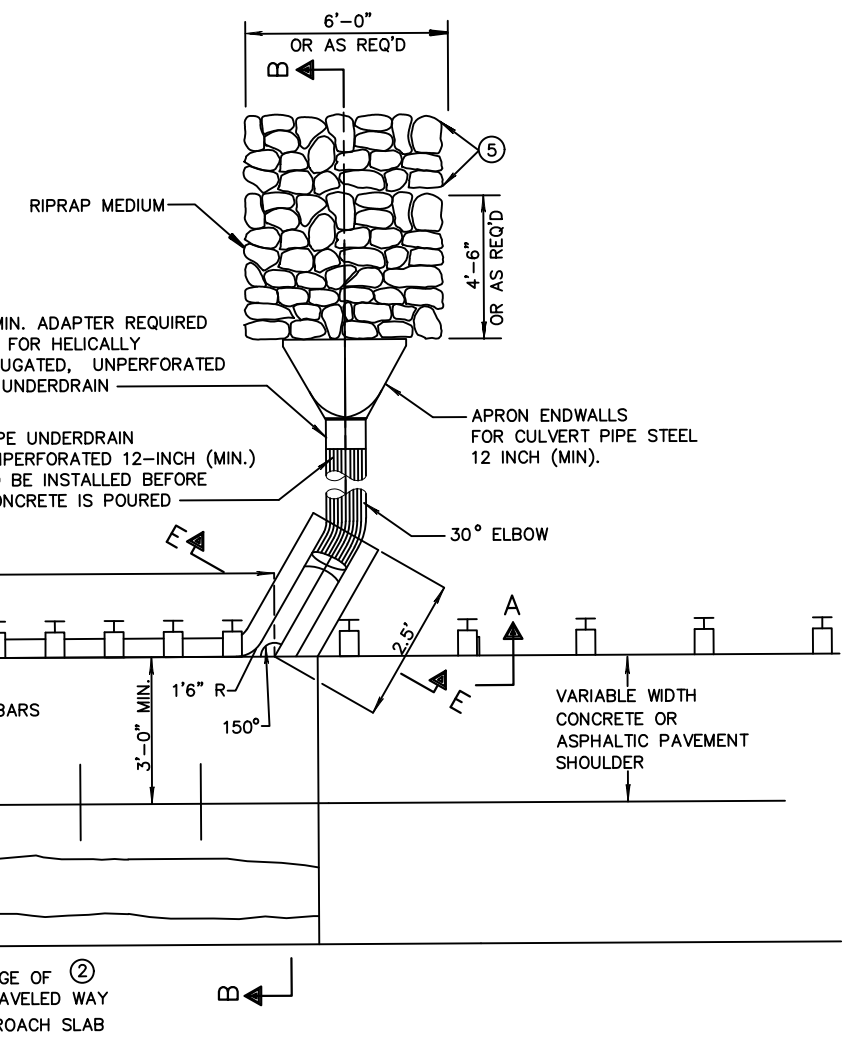
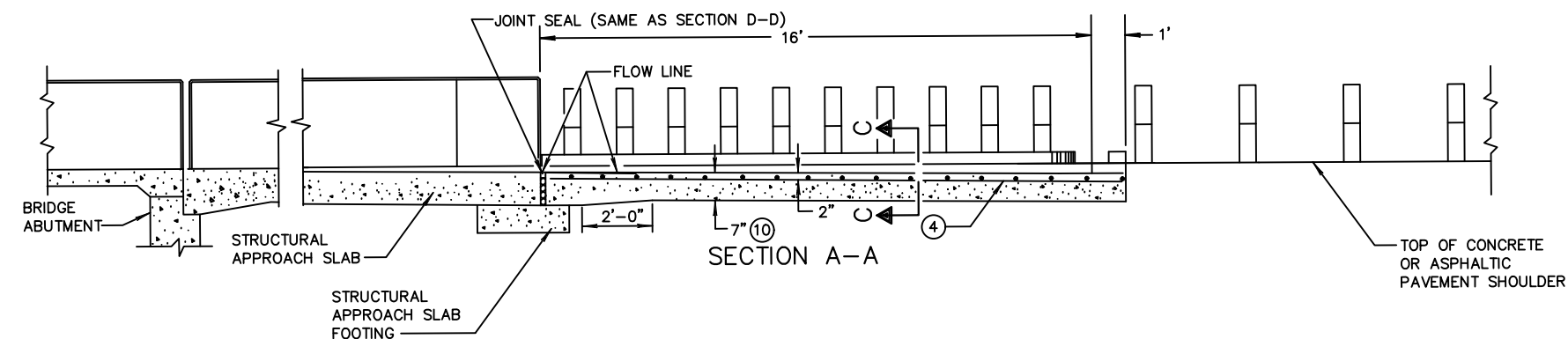
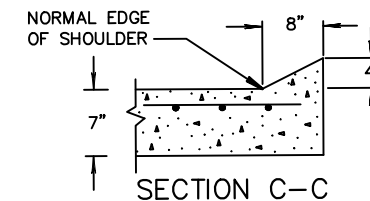
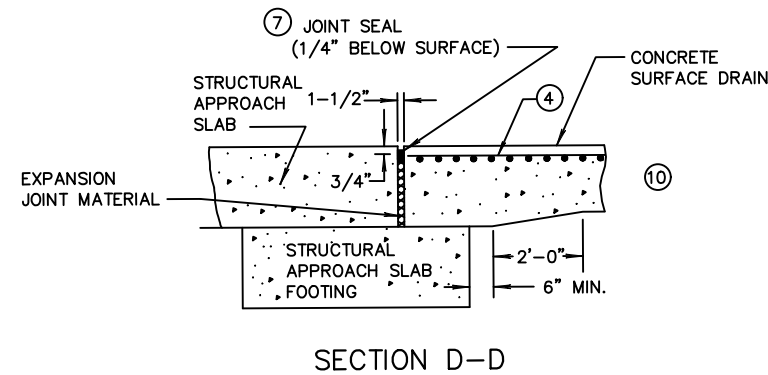
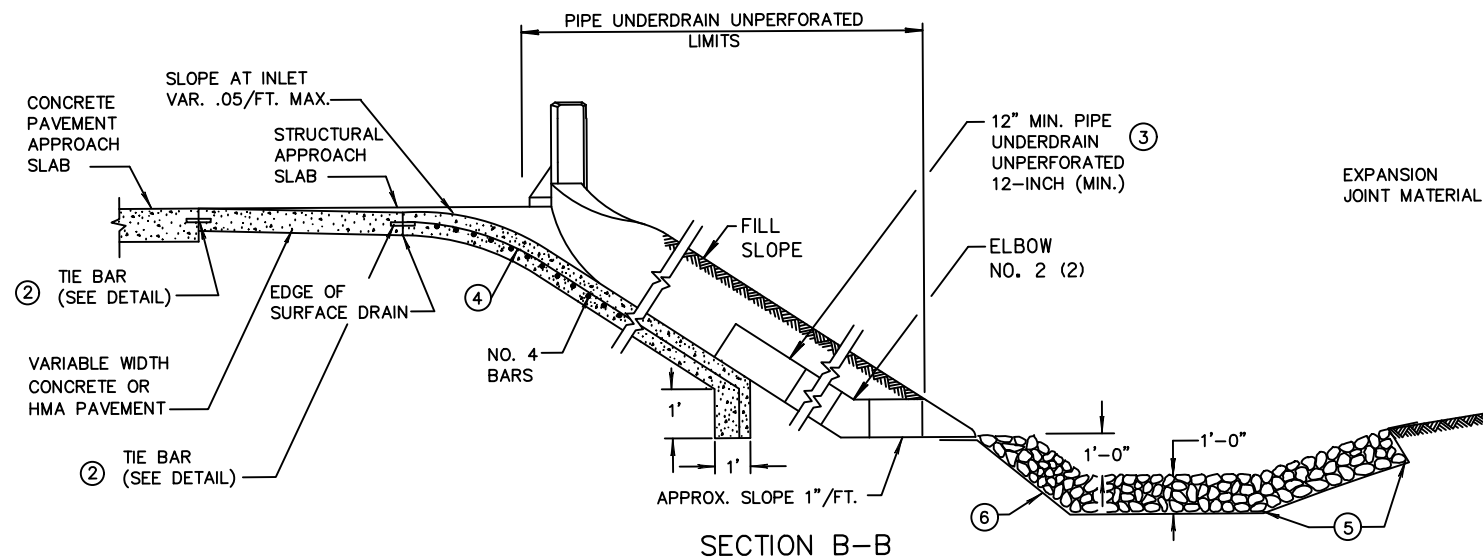
RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 3.4 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.1 ACRES



DETAIL FOR EXCAVATION BELOW SUBGRADE



SECTION E-E

PLAN VIEW

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.

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② STANDARD LONGITUDINAL JOINT WITH TIE BARS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE. SEE SDD 'CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES'.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE FIVE MATERIALS LISTED IN THE SUBSECTION 612.2 OF STANDARD SPECIFICATIONS.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP MEDIUM WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE TYPE HR
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE MGS THRIE BEAM TRANSITION. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING IS 3'-1 1/2".
- ⑨ SEE SDD 'MGS THRIE BEAM TRANSITION' FOR MGS POST SPACING DETAILS.
- ⑩ WHEN CONCRETE SHOULDERS ARE PROPOSED, THICKNESS OF CONCRETE SURFACE DRAIN SHALL MATCH THICKNESS OF CONCRETE SHOULDER.

MGS GUARDRAIL TERMINAL EAT REQUIRED
POST #1
STA. 45+06.68, 24.00' LT

MGS THRIE BEAM TRANSITION
STA. 48+09.80 LT - STA. 48+49.20 LT

- LAKE MILLS LIGHT AND WATER UTILITY

AT&T LEGACY/WISDOT (FIBER
DUCT) (COMMUNICATIONS) —

STA. 44+63.13
26.93' LT
MATCH EXISTING
BACK OF CURB
STA. 44+70.00
24.00' LT
MATCH EXISTING

STA. 45+06.68
29.90' LT
HO
STA. 45+06.68
24.00' LT
POST #1

STA. 45+56.68
22.00' LT
POST #9
MATCH EXISTING
SLOPE

ATC (TRANSMISSION)

— SLOPE INTERCEPT (TYP.)

— MGS GUARDRAIL
3 K REQ'D (TYP.)



STA. 47+25.00
12.00' LT

STA. 47+
22.00' L

STA. 47+50.43
22.00' LT
STA. 47+28.55
17.88'

— STA. 48+45.64

STRUCTURE B-28-41

MATCHLINE STA. 50+50

45+00
|
TA. 44+70.00
2.00' LT

STA. 45+50.00
12.00' RT

BEGIN CONSTRUCTION
STA. 44+70.00

CHARTER COMMUNICATIONS

BEGIN PROJECT
STA. 45+50.00
X=831,379.68
Y=588,876.19

STA. 45+50.00
26.75' RT
MATCH EXISTING
BACK OF CURB

STA. 46+51.95
22.00' RT
POST #9

STA. 46+19.45
22.00' RT
STA. 46+19.82
27.87' RT

— HMA PAVEMENT,
4.5-INCH

STA. 47+70.70
22.00' RT

STA. 48+14.45
17.88' RT

— CONCRETE PAVEMENT
APPROACH SLAB REQ'D

CONCRETE PAVEMENT
12-INCH (SHOULDER)

— CONCRETE SURFACE
DRAINS REQ'D.

STA. 46+14.45
20.00' RT
END CONC. CURB &
GUTTER 30-INCH TYPE D

STA. 46+01.95
24.00' RT
POST #1
DRIVEWAY ENTRANCE CURB & GUTTER
STA. 45+76.95 TO STA. 46+14.45

STA. 45+76.95
20.00' RT

MGS GUARDRAIL TERMINAL EAT REQUIRED
POST #1
STA. 46+01.95, 24.00' RT

CONCRETE CURB & GUTTER 30-INCH TYPE D REQUIRED
STA. 45+50.00 - STA. 46+14.45 RT

WE ENERGIES (GAS)

LAKE MILLS LIGHT
AND WATER UTILITY (ELEC.)

WE ENERGIES (ELEC.)

MGS THRIE BEAM TRANSITION
STA. 48+30.07 RT - STA. 48+69.47 RT

PROJECT NO:1067-02-72

HWY: IH 94

COUNTY: JEFFERSON

LAYOUT PLAN DETAIL

SHEET

11

FILE NAME : S:\MAD\1000--1099\1089\398\ACAD\CIVIL 3D\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 6/16/2020 8:58 AM

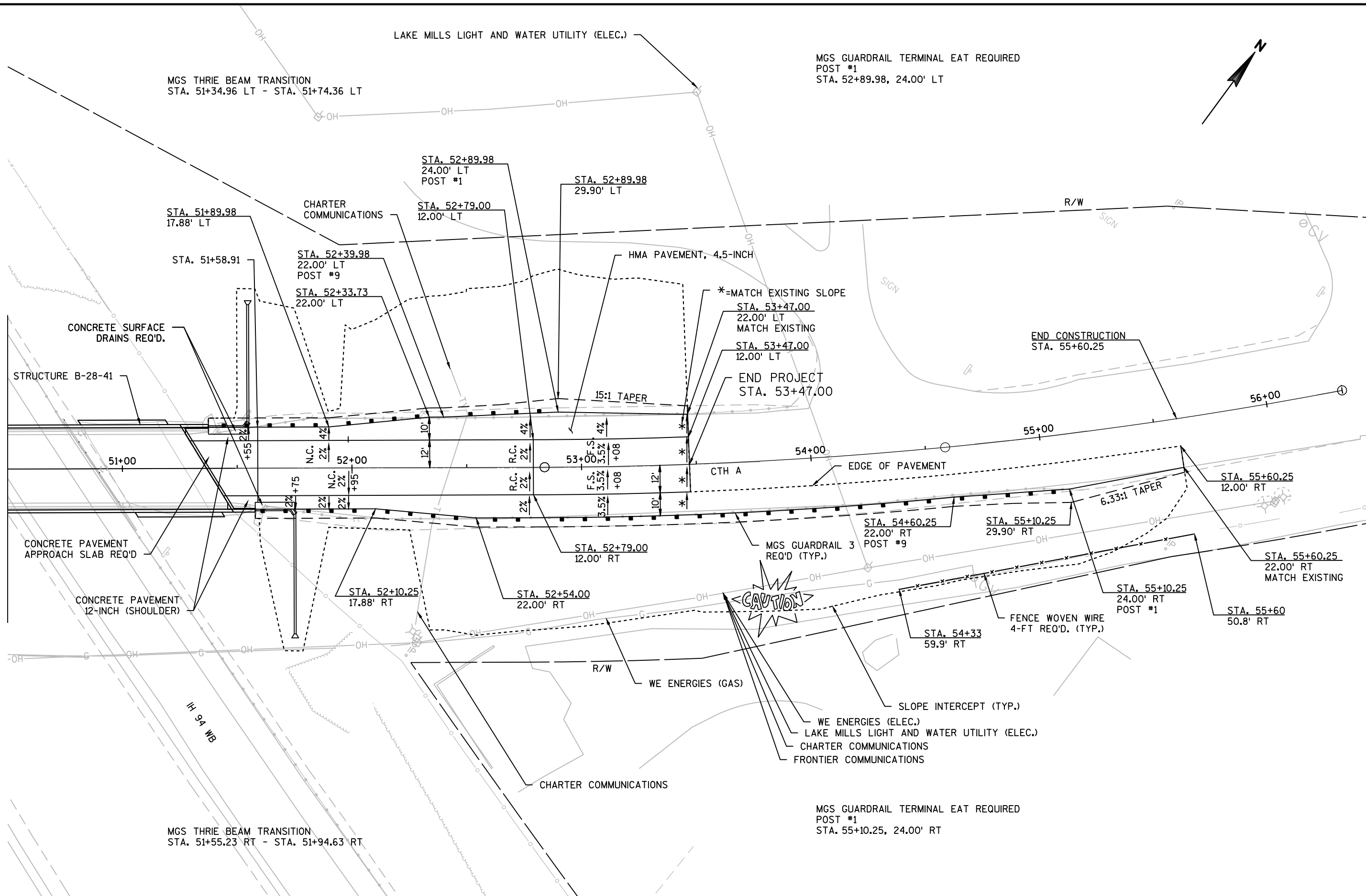
PLOT BY : GRIMME, SARA

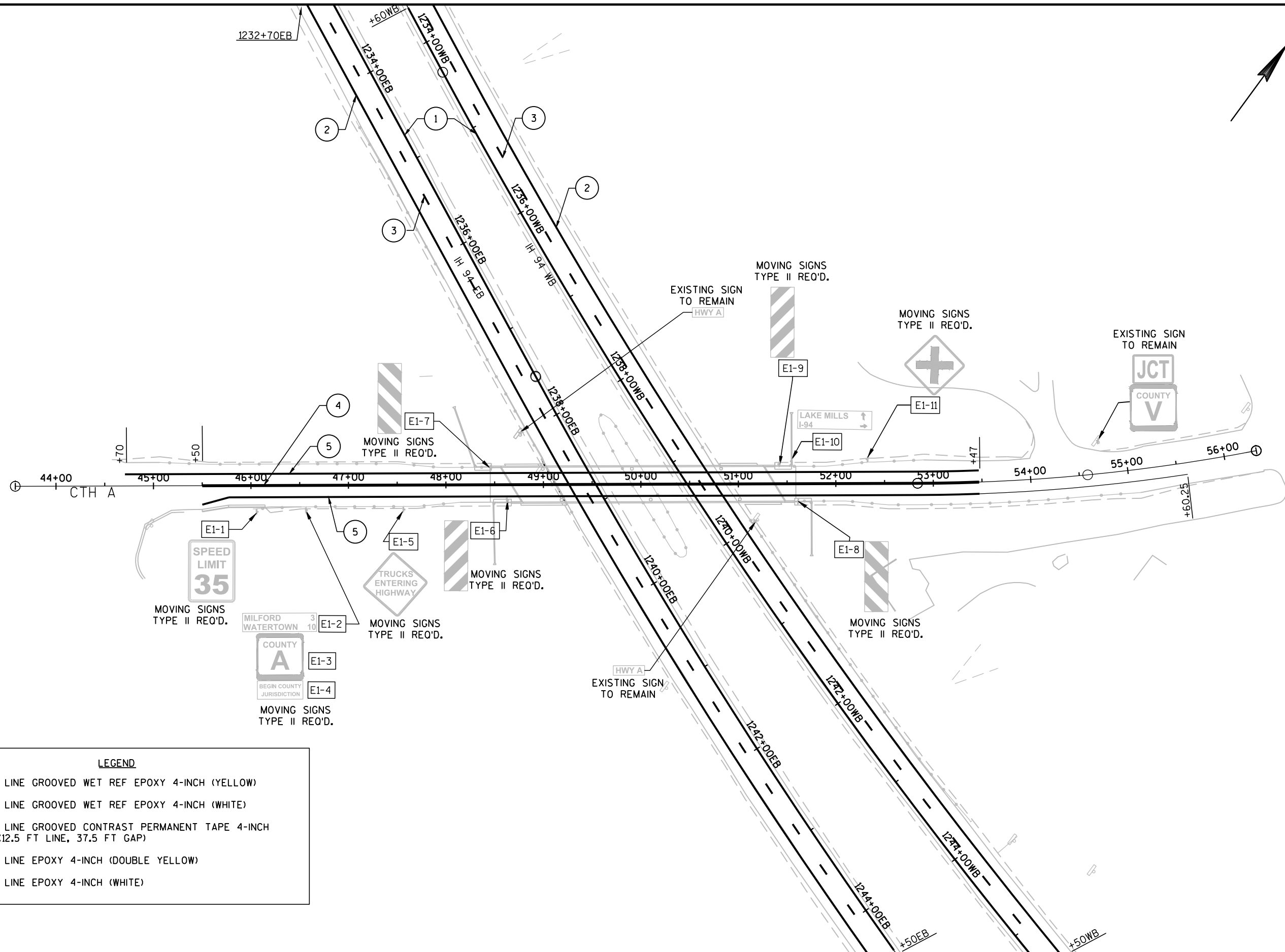
PLOT NAME :

PLOT SCALE : #####

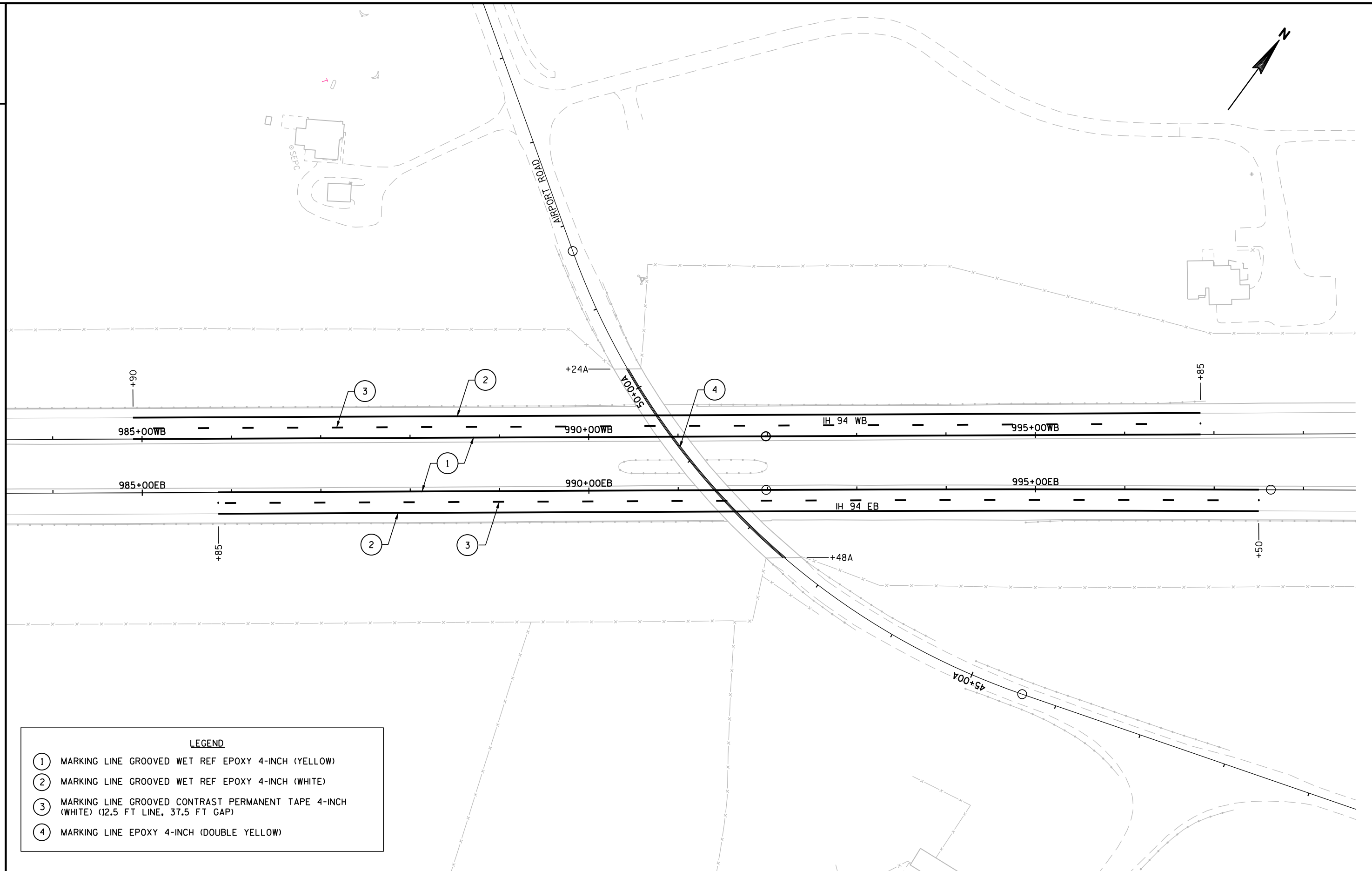
WISDOT/CADDS SHEET 42

MATCHLINE STA. 50+50



**LEGEND**

- ① MARKING LINE GROOVED WET REF EPOXY 4-INCH (YELLOW)
- ② MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
- ③ MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH (WHITE) (12.5 FT LINE, 37.5 FT GAP)
- ④ MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
- ⑤ MARKING LINE EPOXY 4-INCH (WHITE)



GENERAL NOTES FOR TRAFFIC CONTROL

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
2. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTORS METHODS OR SEQUENCES OF OPERATION.
3. ADJUST SPACING BETWEEN SIGNS TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.
4. REMOVE OR COVER ANY TEMPORARY SIGNS WHICH CONFLICT WITH TRAFFIC CONTROL "IN-USE" AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.
5. EXISTING TRAFFIC SIGNS MAY REQUIRE RELOCATION DURING STAGES OF CONSTRUCTION AND SHALL BE LOCATED AS REQUIRED BY THE ENGINEER IN THE FIELD.
6. MOVE, REMOVE, OR INSTALL ROUTE MARKER SIGNS AS REQUIRED TO MAINTAIN NECESSARY ROUTE GUIDANCE THROUGHOUT CONSTRUCTION.
7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS, ARROW BOARDS AND SIGN MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS, SIGN MESSAGE BOARDS, AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DEVICE.
8. INSTALL LANE CLOSURE SERIES AS A COMPLETE UNIT WHICH INCLUDES ALL ADVANCED WARNING SIGNS, DRUMS, AND ARROW BOARDS.
9. FOR ANY LANE CLOSURES THAT ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. TRAFFIC CONTROL SIGNS MOUNTED ON PORTABLE SUPPORTS MUST BE MOUNTED AT A MINIMUM OF 5 FEET FROM THE TOP OF PAVEMENT TO THE BOTTOM OF SIGN.
10. THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.
11. PAVEMENT MARKING CONFLICTING WITH STAGED TRAFFIC PATTERNS SHALL BE REMOVED.
12. USE ROAD MACHINERY, TRUCK ENTRANCE, FLAGMEN AHEAD, ETC., SIGNS AS NEEDED AND REMOVE OR COVER THEM WHEN THE ACTIVITY OR CONDITION DOES NOT EXIST. NO WARNING LIGHT SHALL BE USED WITH A COVERED SIGN.
13. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
14. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
15. DETAILS OF TRAFFIC CONTROL NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, AND THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
16. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TRAFFIC CONTROL WARNING LIGHTS TYPE C.
17. ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TRAFFIC CONTROL WARNING LIGHTS TYPE A.
18. PROTECTION OF THE EXCAVATION IS THE CONTRACTORS RESPONSIBILITY AND IS INCIDENTAL TO THE OPERATION FOR WHICH IT IS REQUIRED.
19. CONTRACTORS EQUIPMENT AND MATERIAL STOCKPILES MAY NOT BE STORED WITH IN THE MEDIAN OR CLEAR ZONE OF IH 94 UNLESS PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST.

LEGEND: TEMPORARY PAVEMENT MARKING (ALL STAGES)

- RT-4W

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- RT-4Y

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- RT-4W-LL

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (LANE LINE) (12.5' LINE, 37.5' GAP)

LEGEND: SYMBOLS ALL STAGES

- ↑

↓

TRAFFIC CONTROL BARRICADES TYPE III
- ↑↓
- TRAFFIC CONTROL BARRICADES TYPE III, W/TRAFFIC CONTROL SIGNS

●

⚡

➡

⏏

PCMS

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|||||

WORK ZONE

TRAFFIC CONTROL NOTES

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

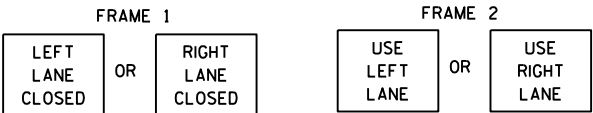
* OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

** CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

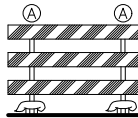
REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:



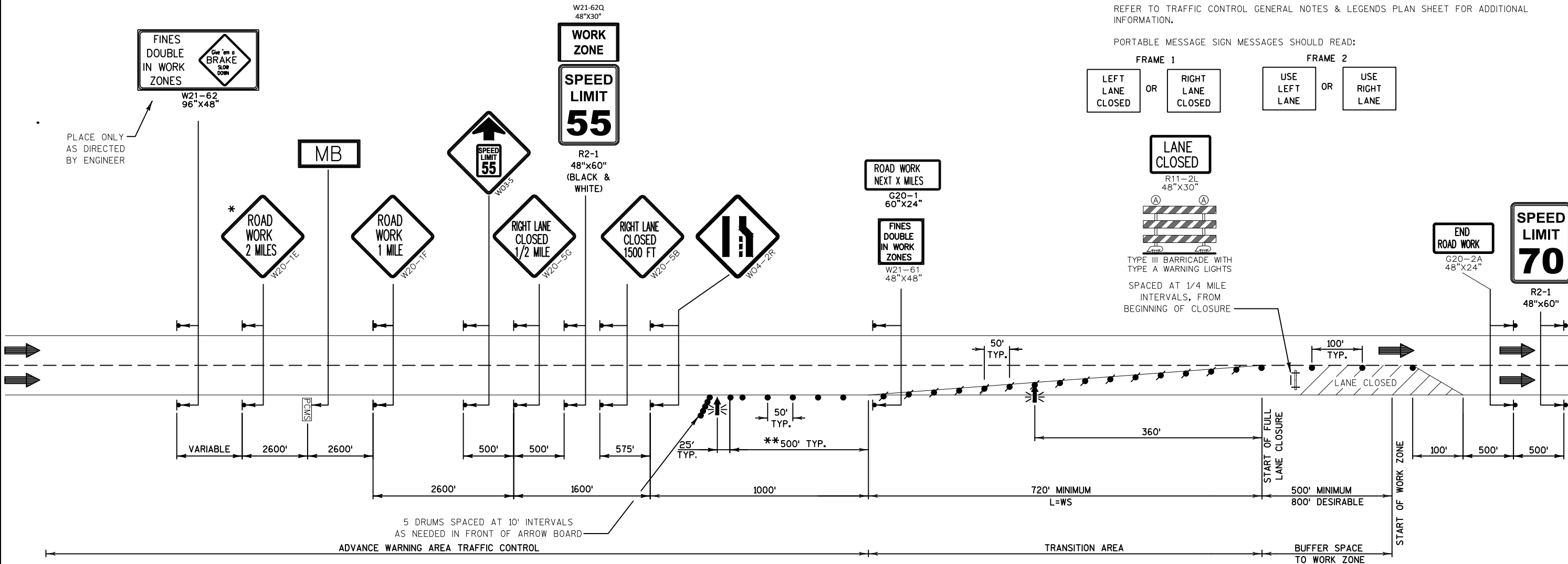
LANE CLOSED

R11-2L
48"x30"



TYPE III BARRICADE WITH TYPE A WARNING LIGHTS

SPACED AT 1/4 MILE INTERVALS, FROM BEGINNING OF CLOSURE



LANE CLOSURE DURING ALLOWABLE TIMES

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

PROJECT NO:1067-02-72

HWY: IH 94

COUNTY: JEFFERSON

TRAFFIC CONTROL DETAILS

SHEET

E

TRAFFIC CONTROL NOTES

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

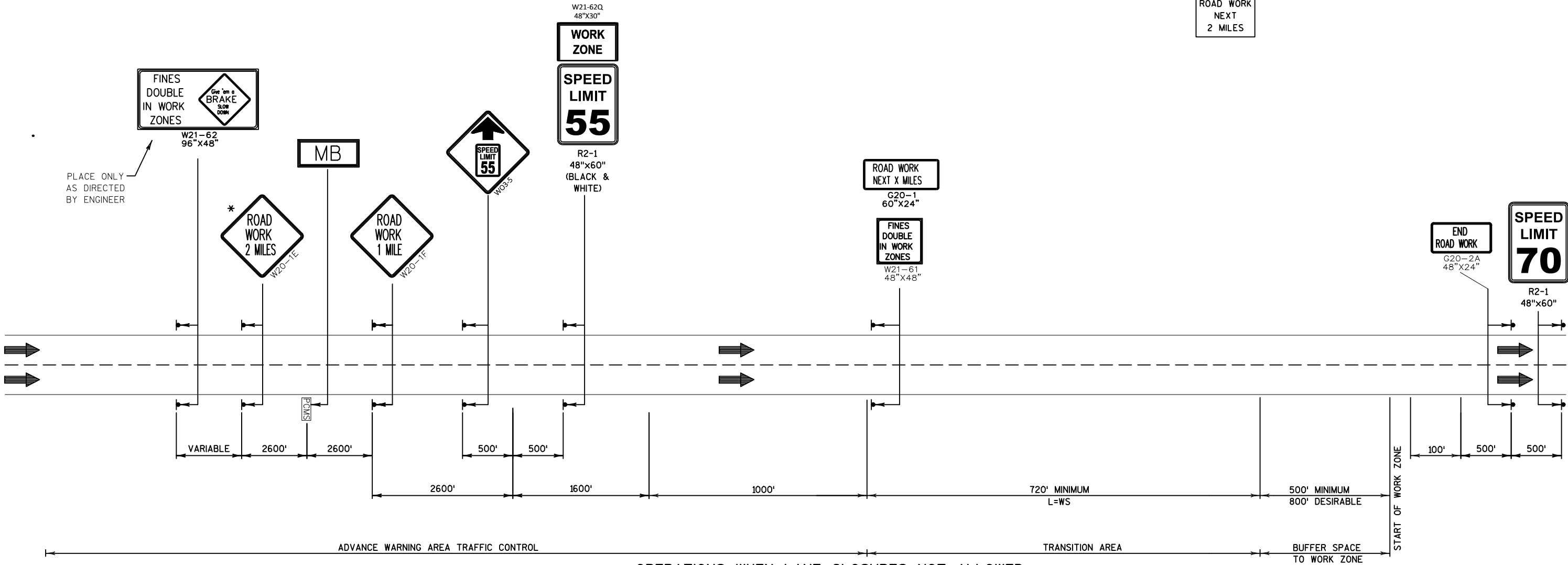
COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

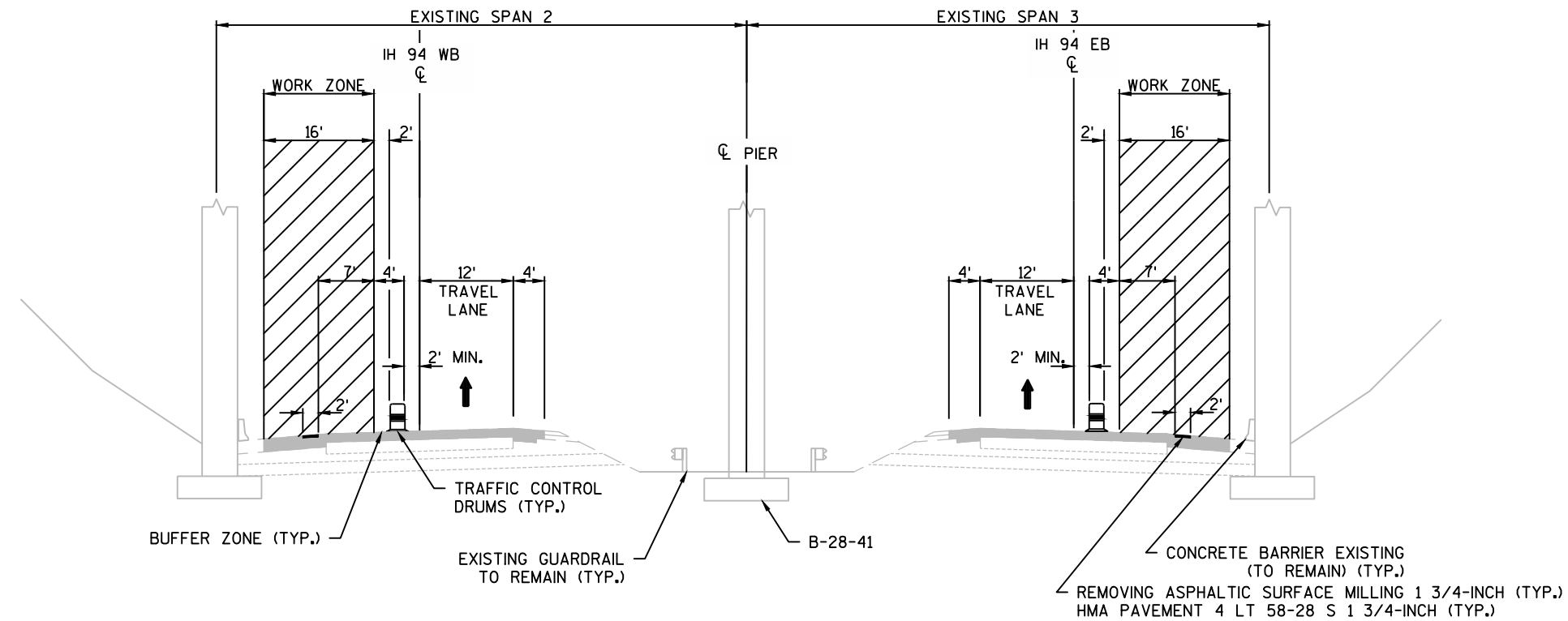
FRAME 1

ROAD WORK
NEXT
2 MILES



OPERATIONS WHEN LANE CLOSURES NOT ALLOWED

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

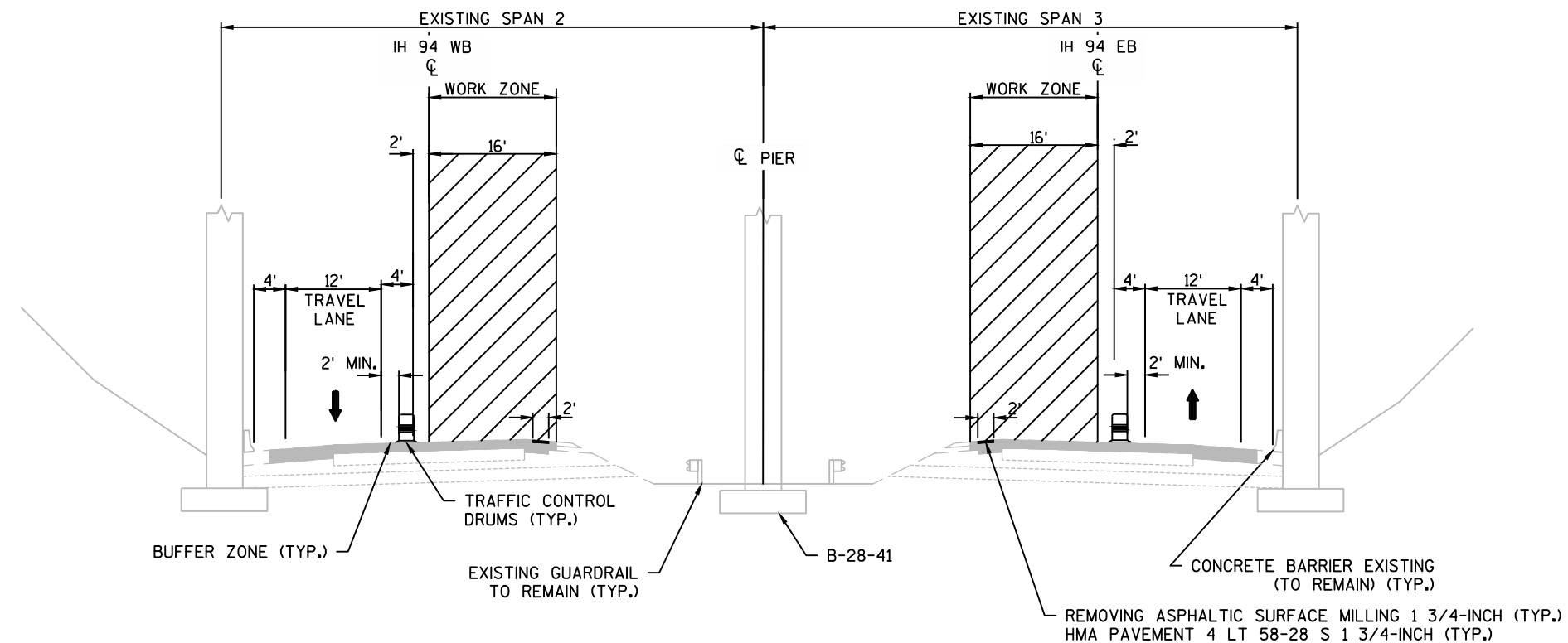


CONSTRUCTION AND TRAFFIC CONTROL

CLOSE OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO INSIDE SHOULDER.

REMOVE EXISTING OUTSIDE SHOULDER RUMBLE STRIPS AND PLACE HMA PAVEMENT.

PRE-STAGE 1A - IH 94 AT CTH A (DURING ALLOWABLE LANE CLOSURES)

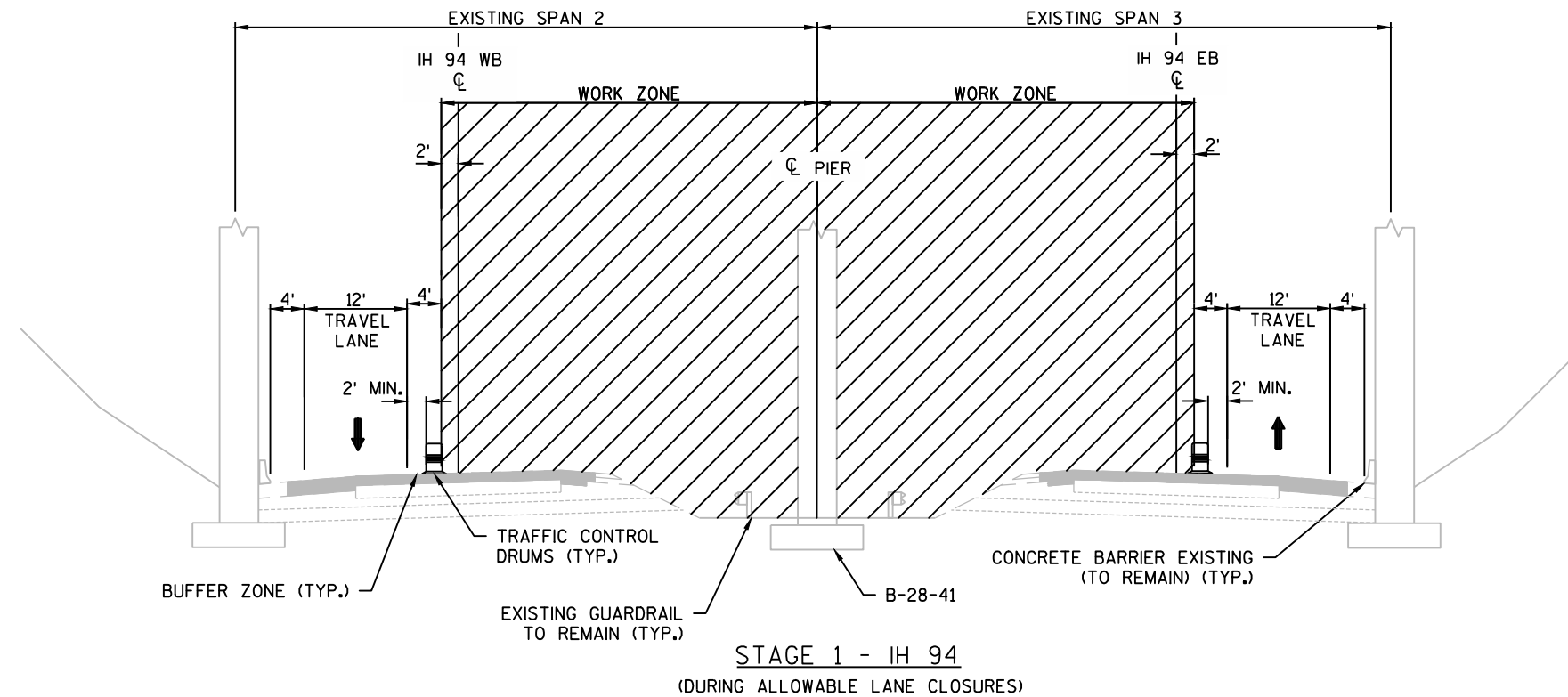


CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

REMOVE EXISTING INSIDE SHOULDER RUMBLE STRIPS AND PLACE HMA PAVEMENT.

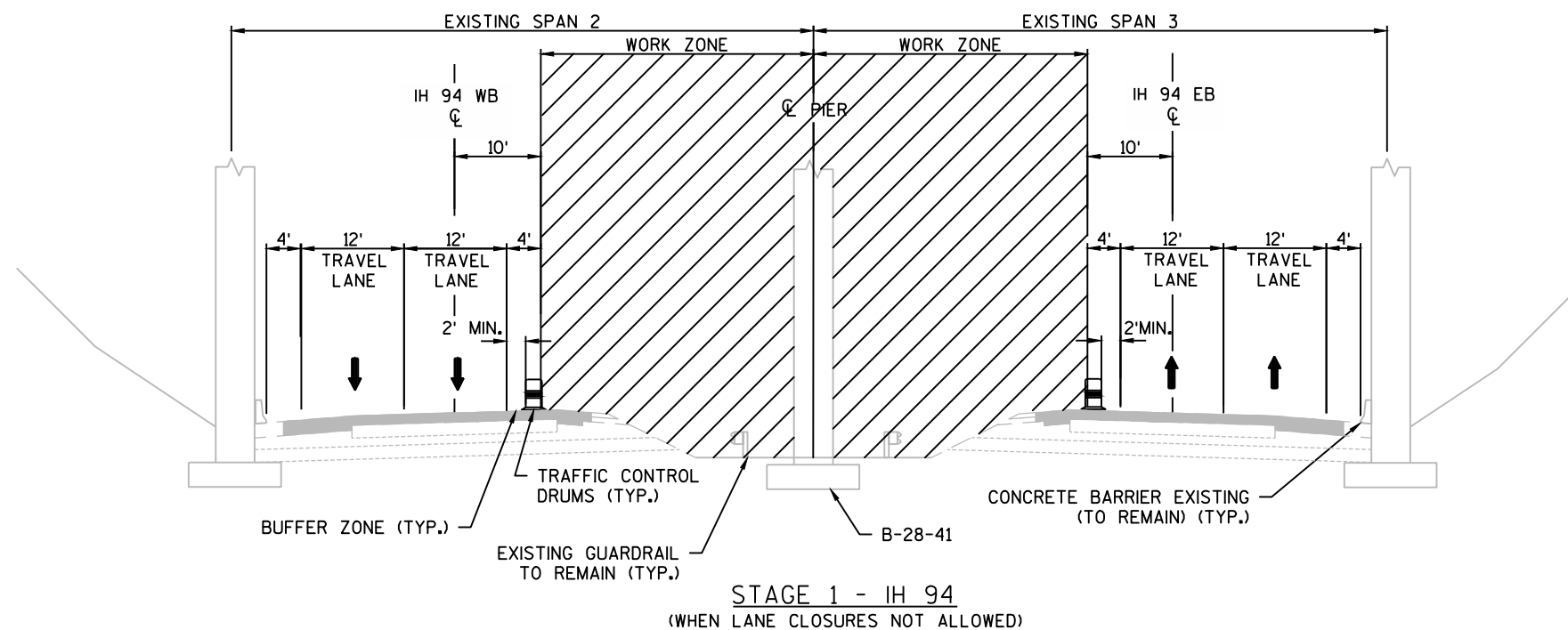
PRE-STAGE 1B - IH 94 AT CTH A (DURING ALLOWABLE LANE CLOSURES)



CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

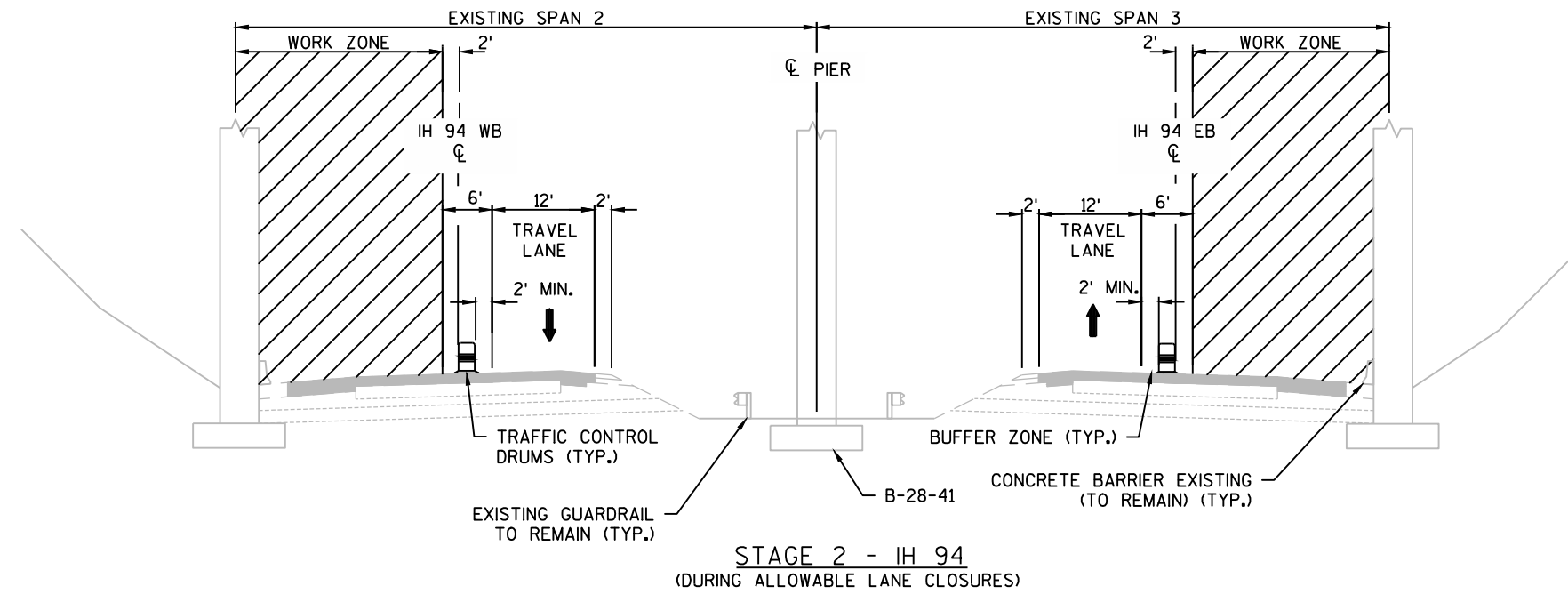
REMOVE EXISTING CTH A BRIDGE DECK AND PARAPETS FROM CENTER PIER TO 2 FEET BEYOND IH 94 OF CENTERLINE.



CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

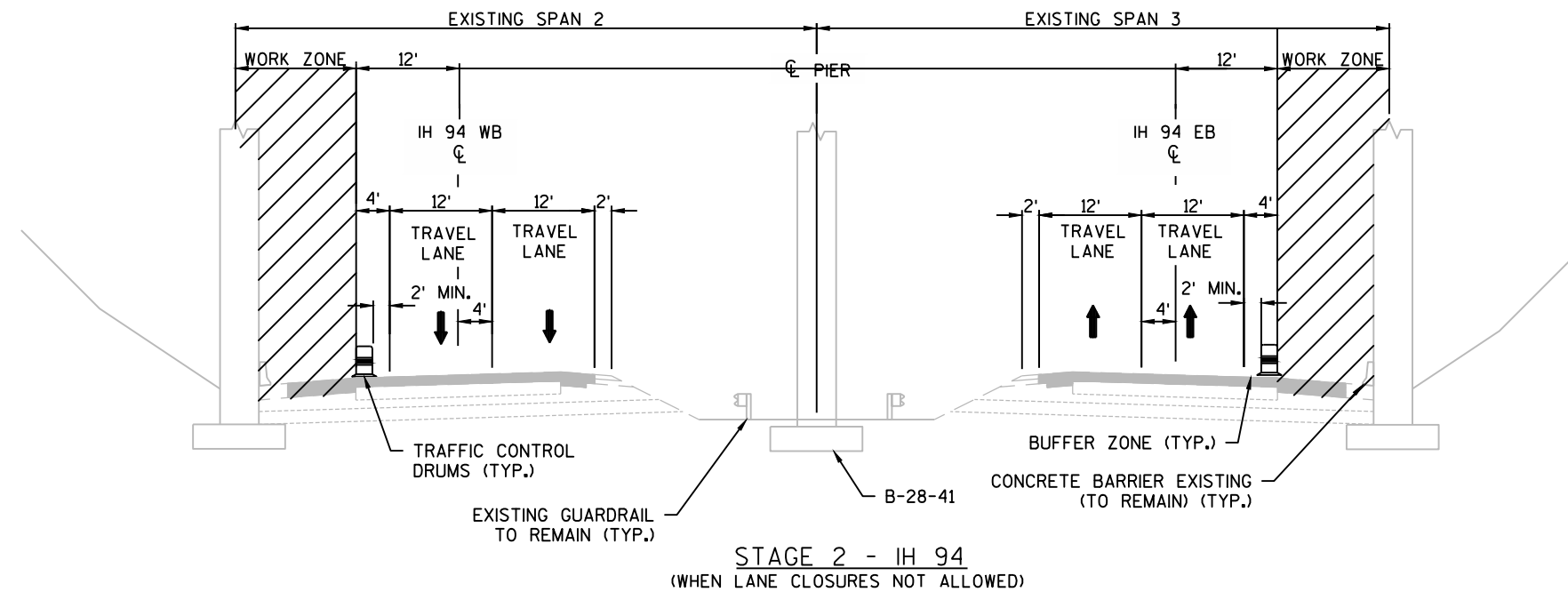
REMOVE EXISTING CTH A BRIDGE DECK AND PARAPETS FROM CENTER PIER TO 10 FEET BEYOND IH 94 OF CENTERLINE.



CONSTRUCTION AND TRAFFIC CONTROL

CLOSE OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO INSIDE SHOULDER.

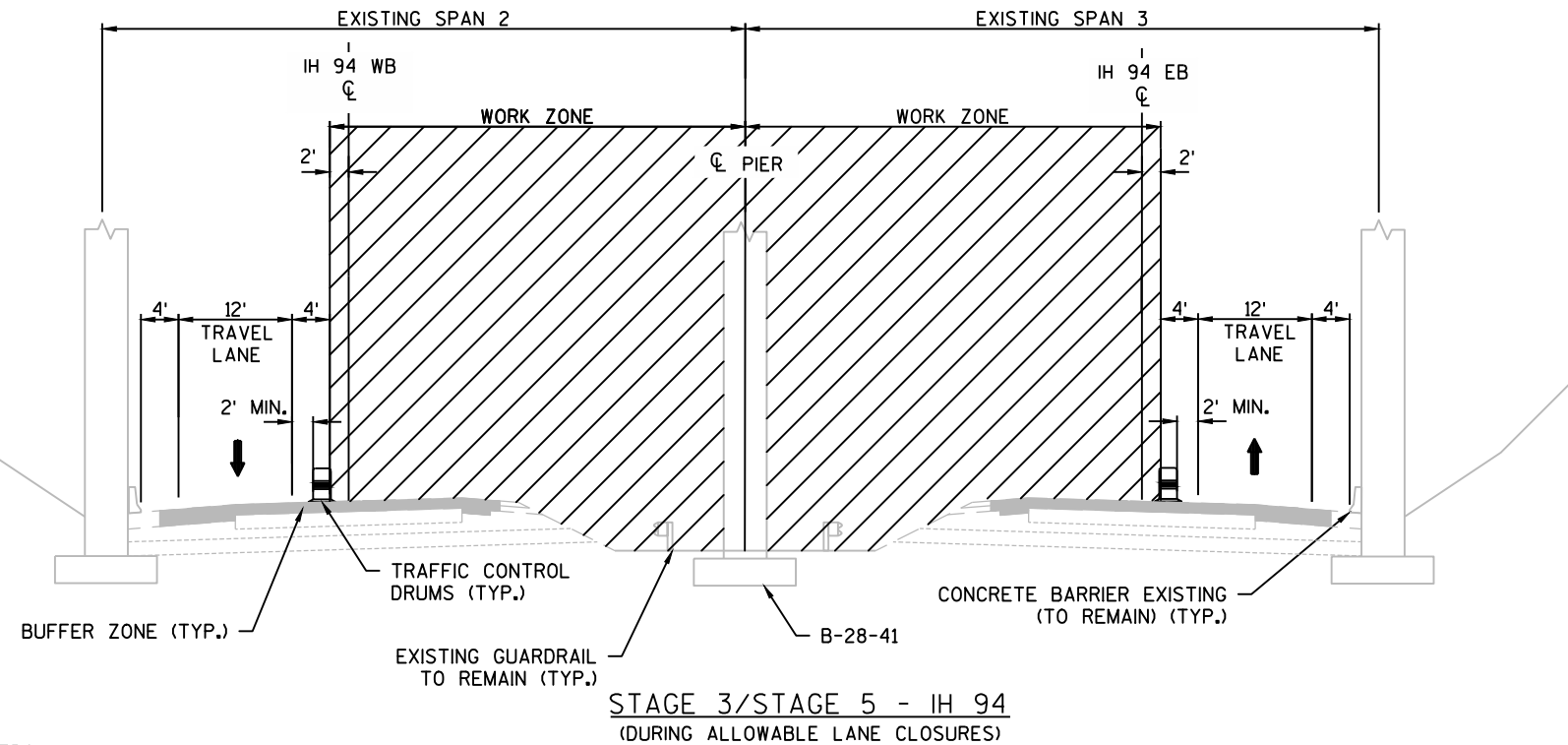
REMOVE EXISTING CTH A BRIDGE DECK AND PARAPETS FROM 2 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT.



CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

REMOVE EXISTING CTH A BRIDGE DECK AND PARAPETS FROM 12 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT.

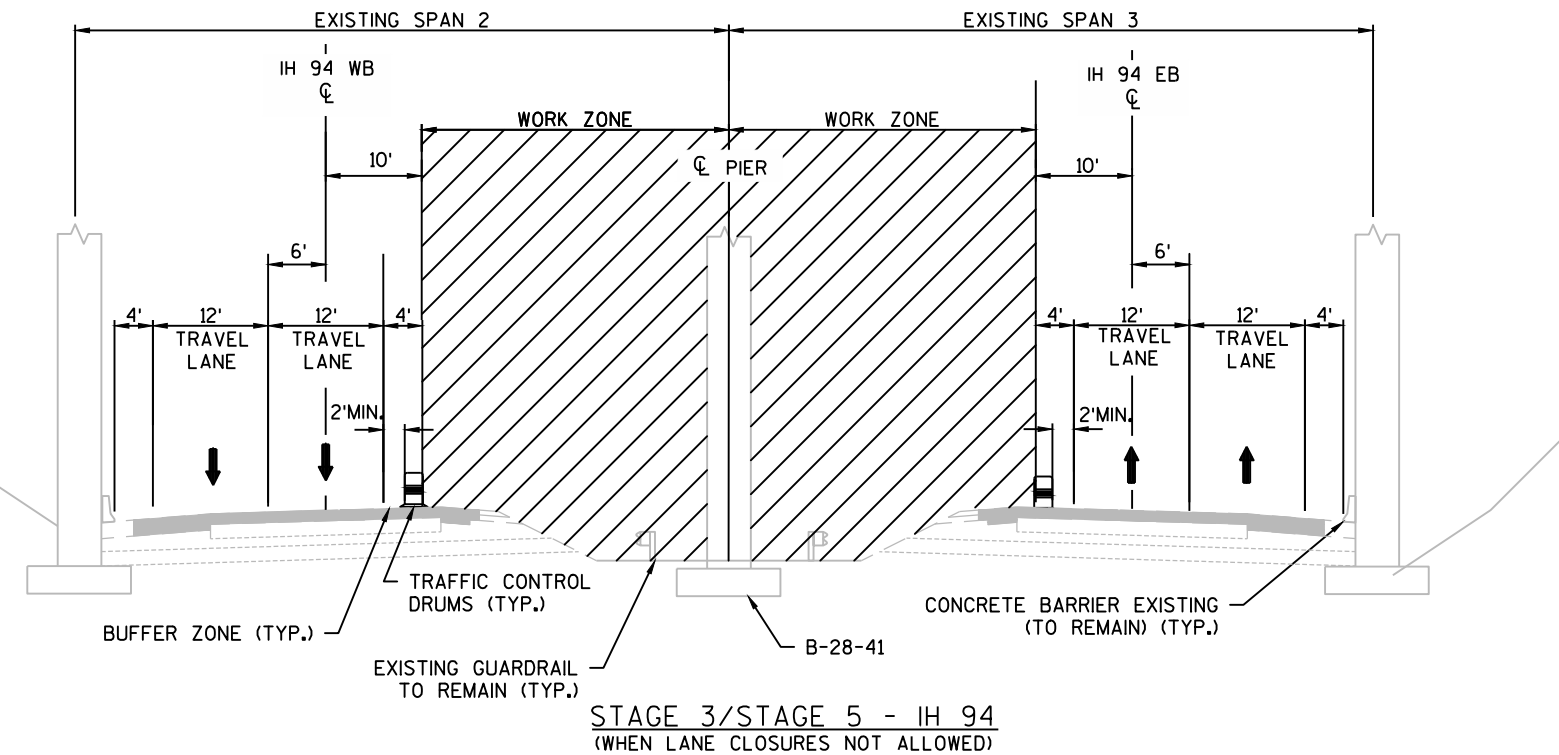


CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

STAGE 3: FORM DECK FROM THE CENTER PIER TO 2 FEET BEYOND IH 94 CENTERLINE.

STAGE 5: REMOVE FORMS AND FALSEWORK STRIPPING FROM THE CENTER PIER TO 2 FEET BEYOND IH 94 CENTERLINE.

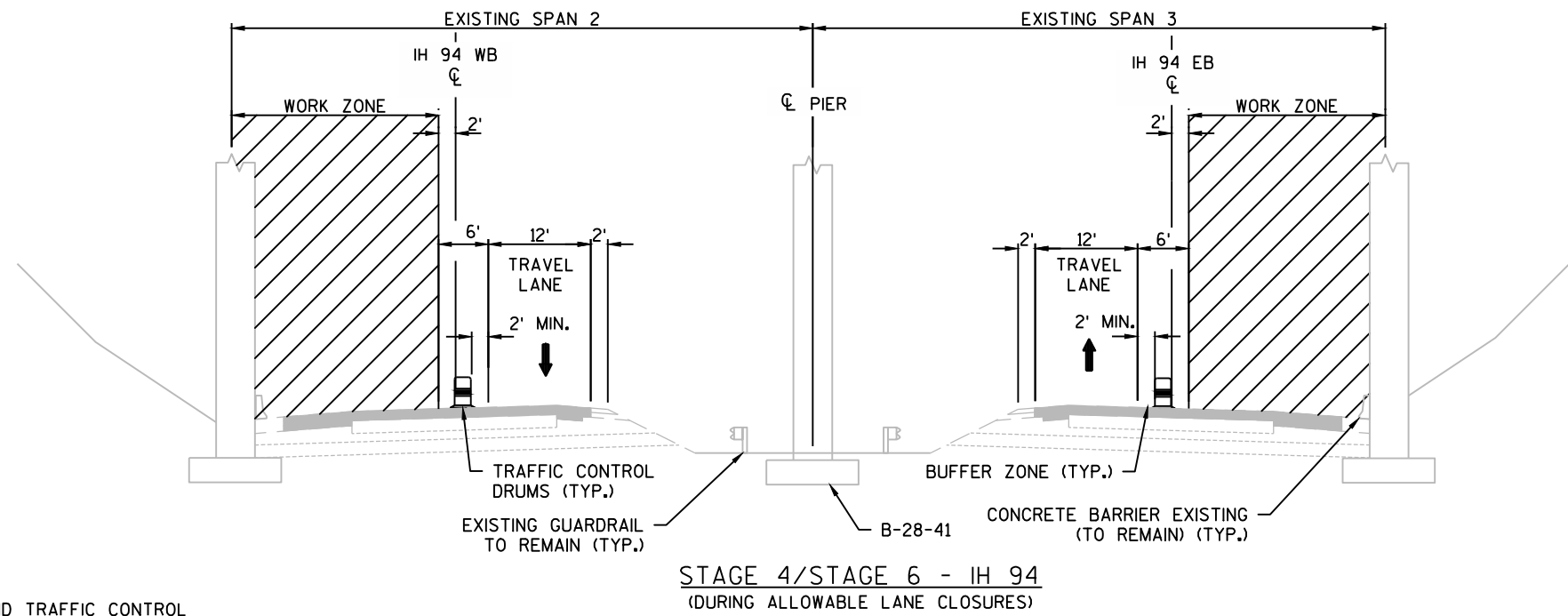


CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

STAGE 3: FORM DECK FROM THE CENTER PIER TO 10 FEET BEFORE IH 94 CENTERLINE.

STAGE 5: REMOVE FORMS AND FALSEWORK STRIPPING FROM THE CENTER PIER TO 10 FEET BEFORE IH 94 CENTERLINE.

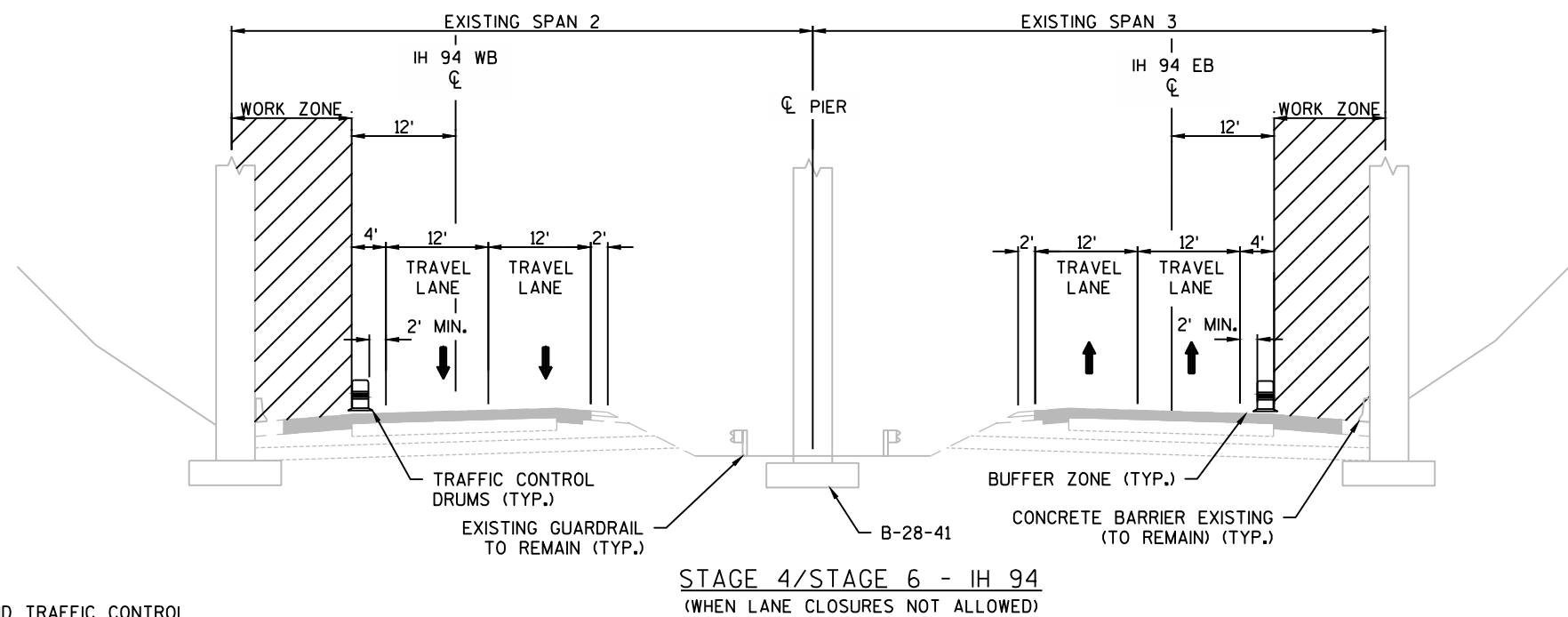


CONSTRUCTION AND TRAFFIC CONTROL

CLOSE OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO INSIDE SHOULDER.

STAGE 4: FORM DECK FROM 2 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT. PLACE STEEL AND POUR DECK WITH NO LANE CLOSURES (NOT RESTRICTED TO ALLOWABLE LANE CLOSURE TIMES).

STAGE 6: REMOVE FORMS AND FALSEWORK STRIPPING FROM 2 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT. CONSTRUCT RUMBLE STRIPS AND PLACE PERMANENT MARKING LINES AT END OF STAGE 6.

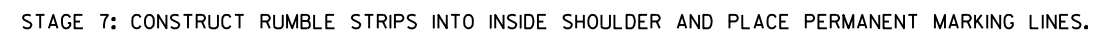


CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

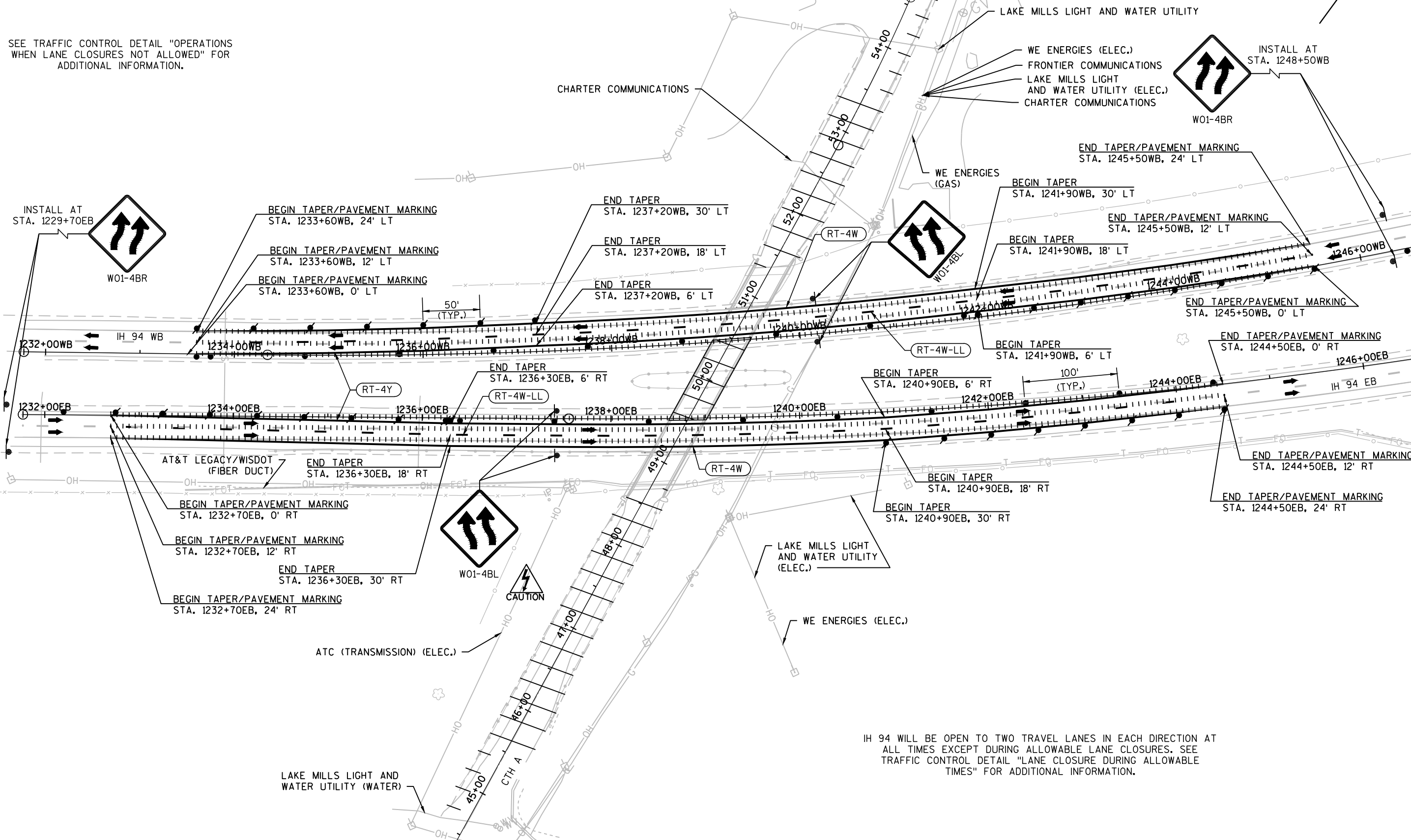
STAGE 4: FORM DECK FROM 12 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT. PLACE STEEL AND POUR DECK.

STAGE 6: REMOVE FORMS AND FALSEWORK STRIPPING FROM 12 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT.

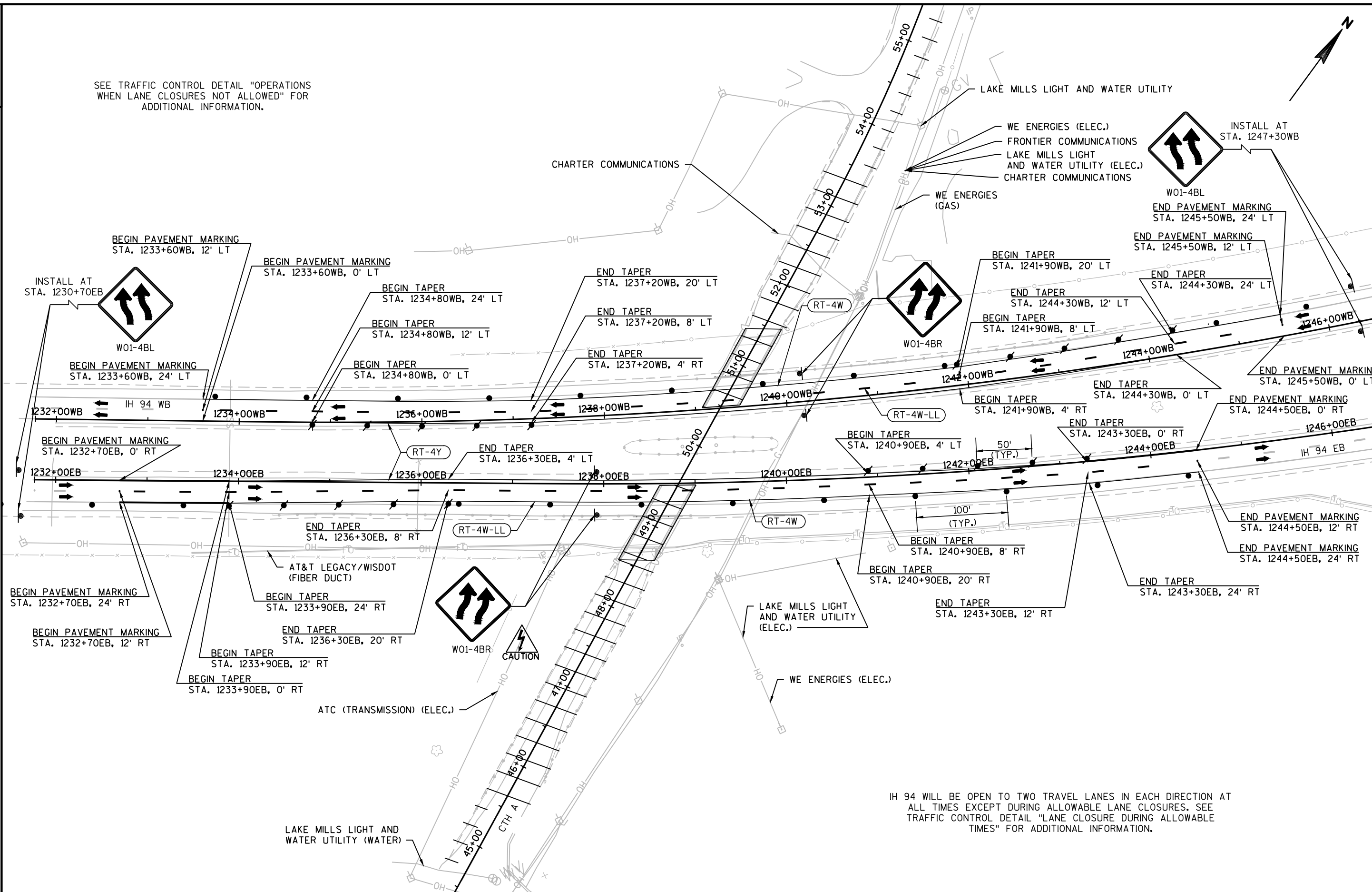


WISDOT/CADDS SHEET 42

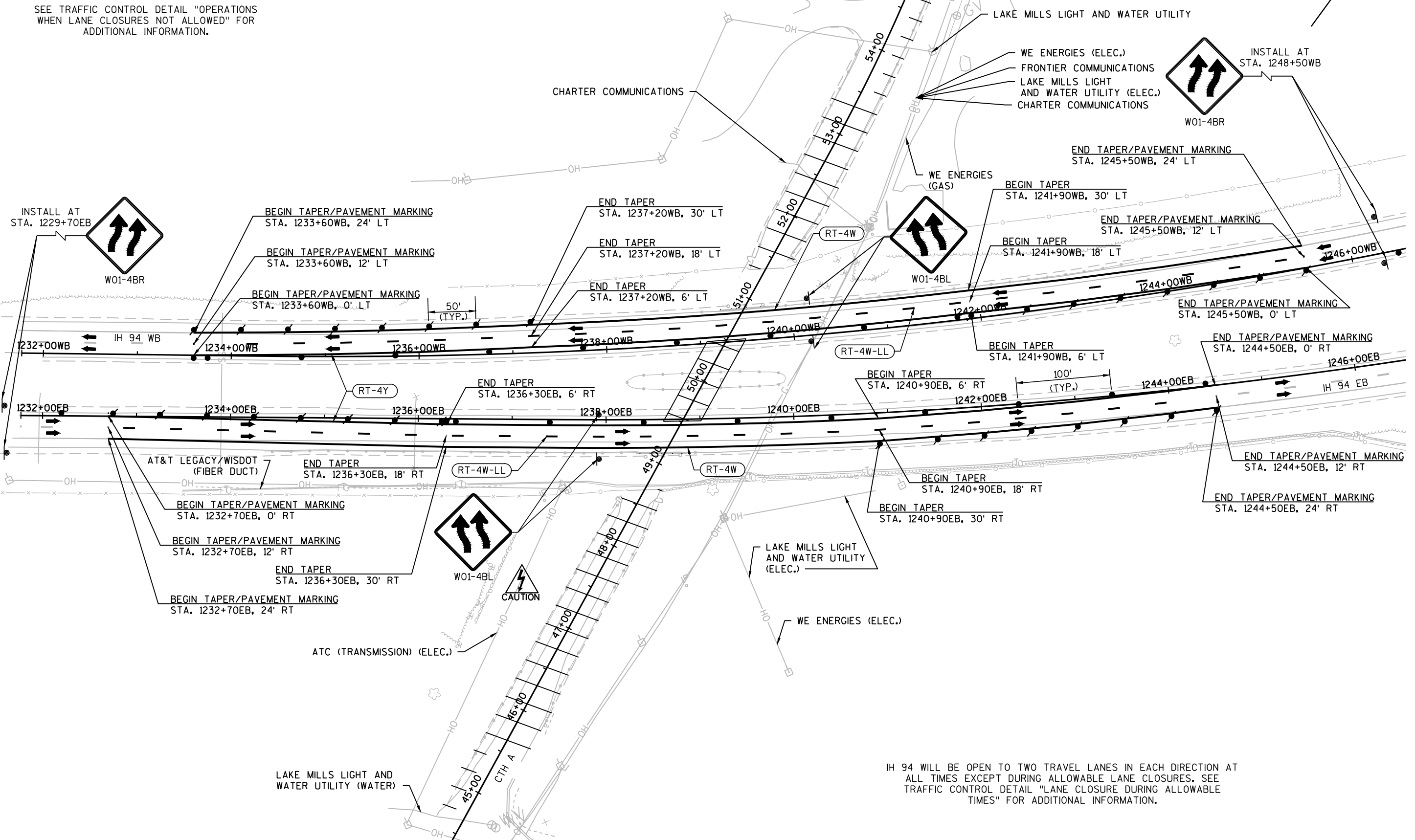
SEE TRAFFIC CONTROL DETAIL "OPERATIONS
WHEN LANE CLOSURES NOT ALLOWED" FOR
ADDITIONAL INFORMATION.



SEE TRAFFIC CONTROL DETAIL "OPERATIONS
WHEN LANE CLOSURES NOT ALLOWED" FOR
ADDITIONAL INFORMATION.



SEE TRAFFIC CONTROL DETAIL "OPERATIONS
WHEN LANE CLOSURES NOT ALLOWED" FOR
ADDITIONAL INFORMATION.



PROJECT NO:1067-02-72

HWY: IH 94

COUNTY: JEFFERSON

TRAFFIC CONTROL STAGE 3 & 5

SHEET

E

FILE NAME : S:\MAD\1000--1099\1089\398\ACAD\CIVIL 3D\SHEETS\PLAN\025010_S3.DWG
LAYOUT NAME - 025010_S3 - 025010_S3

PLOT DATE : 7/14/2020 7:15 AM

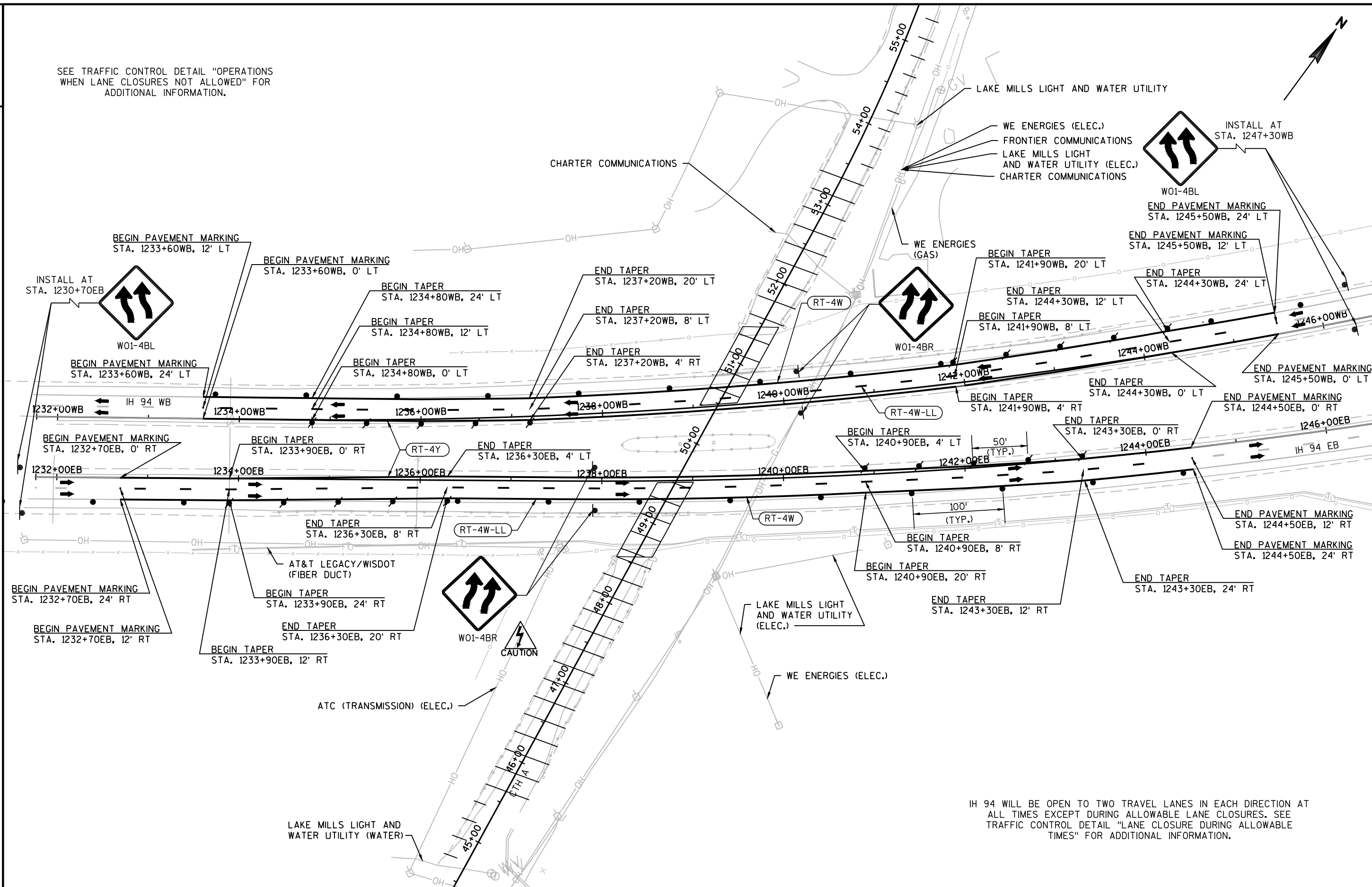
PLOT BY : GRIMME, SARA

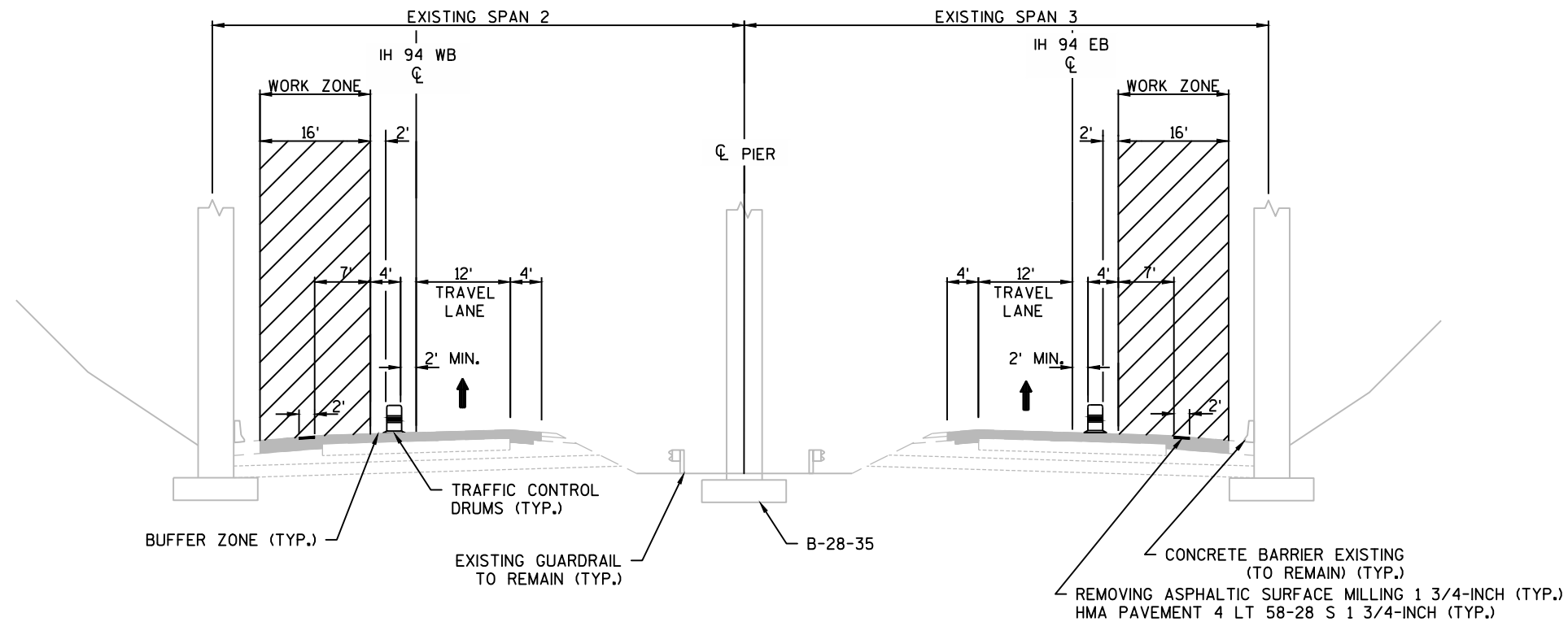
PLOT NAME :

PLOT SCALE : *****

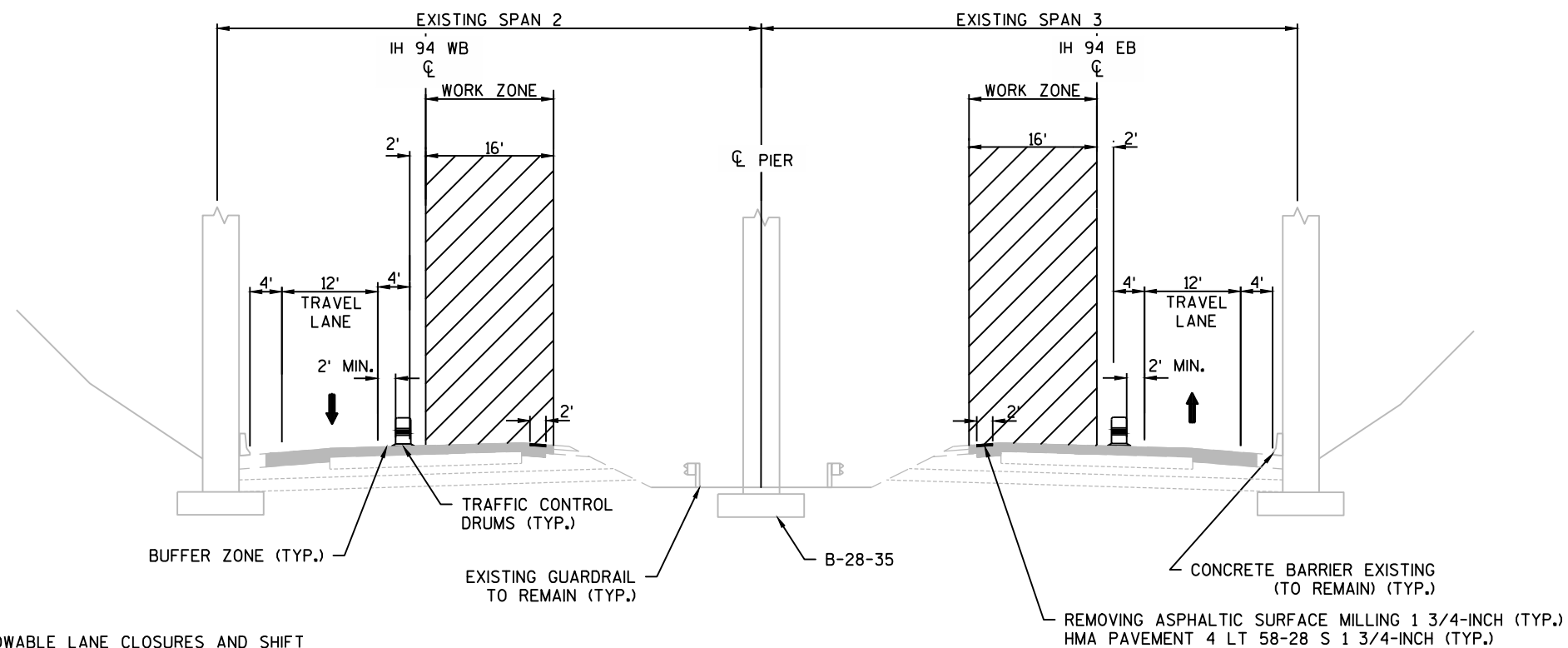
WISDOT/CADDs SHEET 42

SEE TRAFFIC CONTROL DETAIL "OPERATIONS
WHEN LANE CLOSURES NOT ALLOWED" FOR
ADDITIONAL INFORMATION.

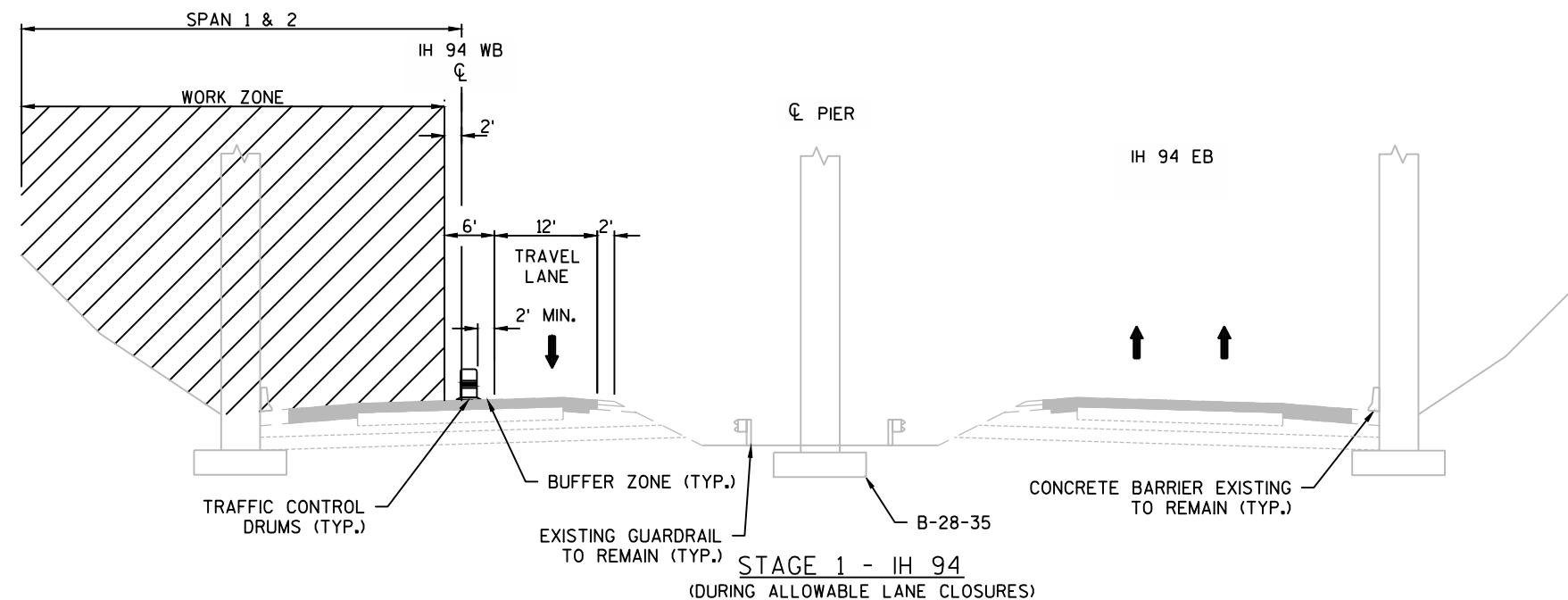




PRE-STAGE 1A - IH 94 AT AIRPORT RD
(DURING ALLOWABLE LANE CLOSURES)

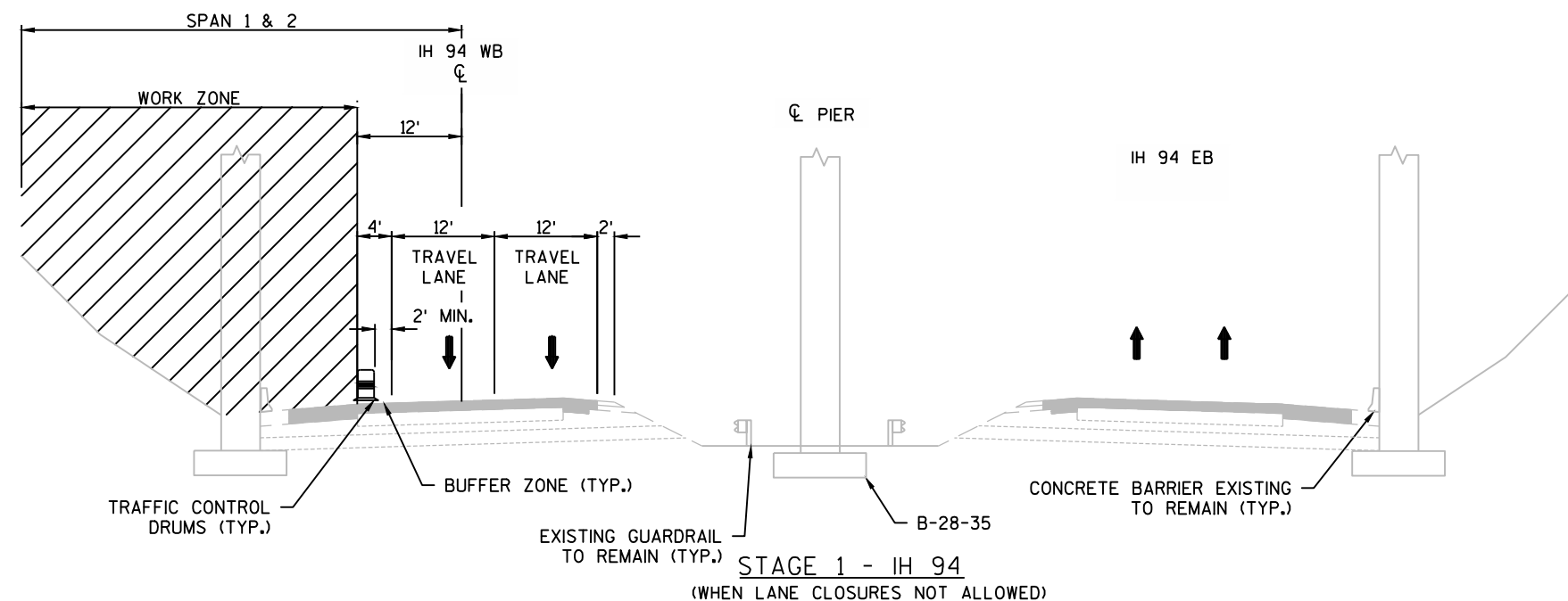


PRE-STAGE 1B - IH 94 AT AIRPORT RD
(DURING ALLOWABLE LANE CLOSURES)



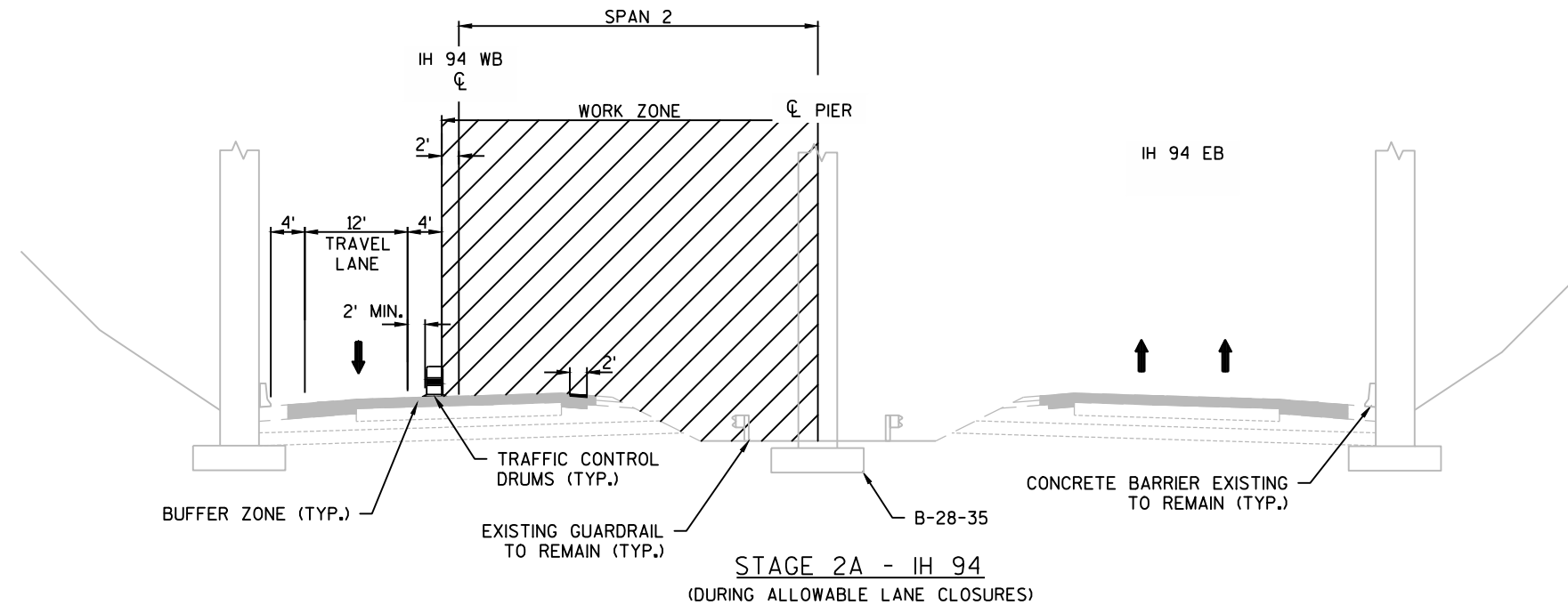
CONSTRUCTION AND TRAFFIC CONTROL

CLOSE WESTBOUND OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ONTO WESTBOUND INSIDE SHOULDER. MAINTAIN TWO TRAVEL LANES EASTBOUND.
REPAINT THE SUPERSTRUCTURE FROM THE NORTH ABUTMENT TO 2 FEET LEFT OF THE WESTBOUND CENTERLINE AND COMPLETE SLOPE PAVING REPAIRS.



CONSTRUCTION AND TRAFFIC CONTROL

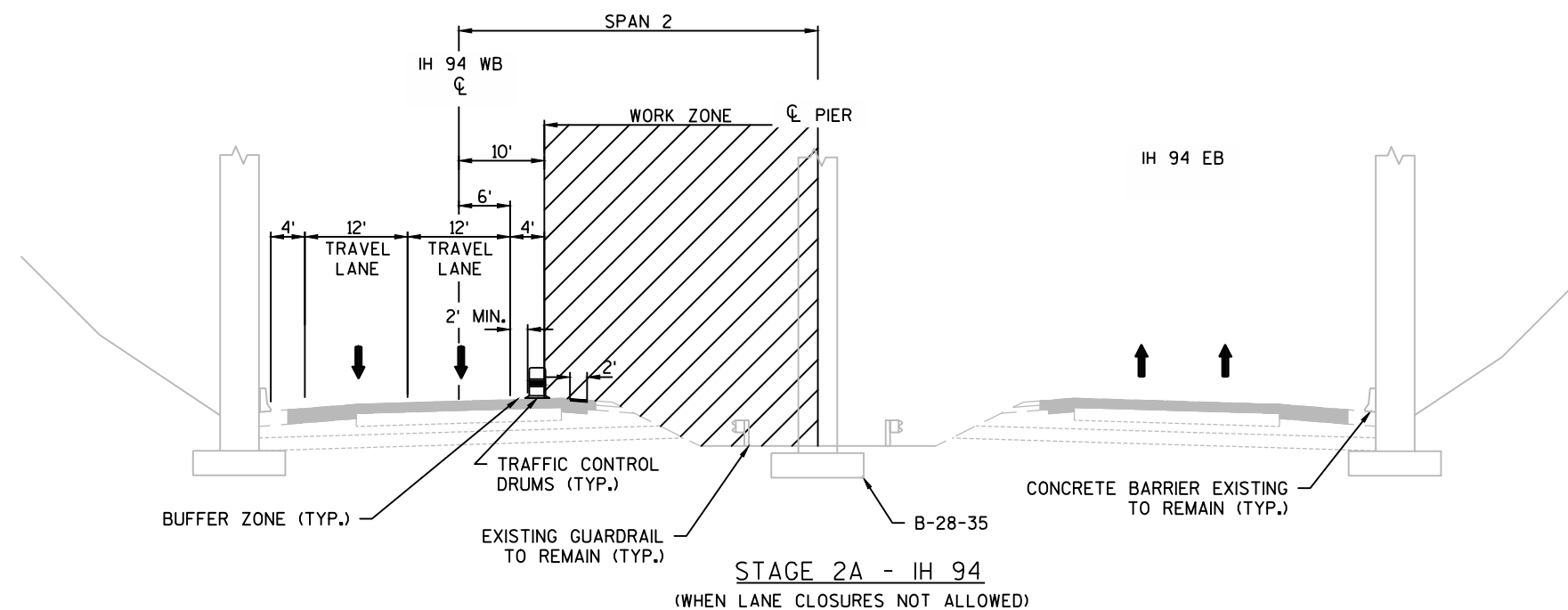
MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.
REPAINT THE SUPERSTRUCTURE FROM THE NORTH ABUTMENT TO 12 FEET LEFT OF THE WESTBOUND CENTERLINE AND COMPLETE SLOPE PAVING REPAIRS.



CONSTRUCTION AND TRAFFIC CONTROL

CLOSE WESTBOUND INSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ON WESTBOUND OUTSIDE SHOULDER. MAINTAIN TWO TRAVEL LANES EASTBOUND.

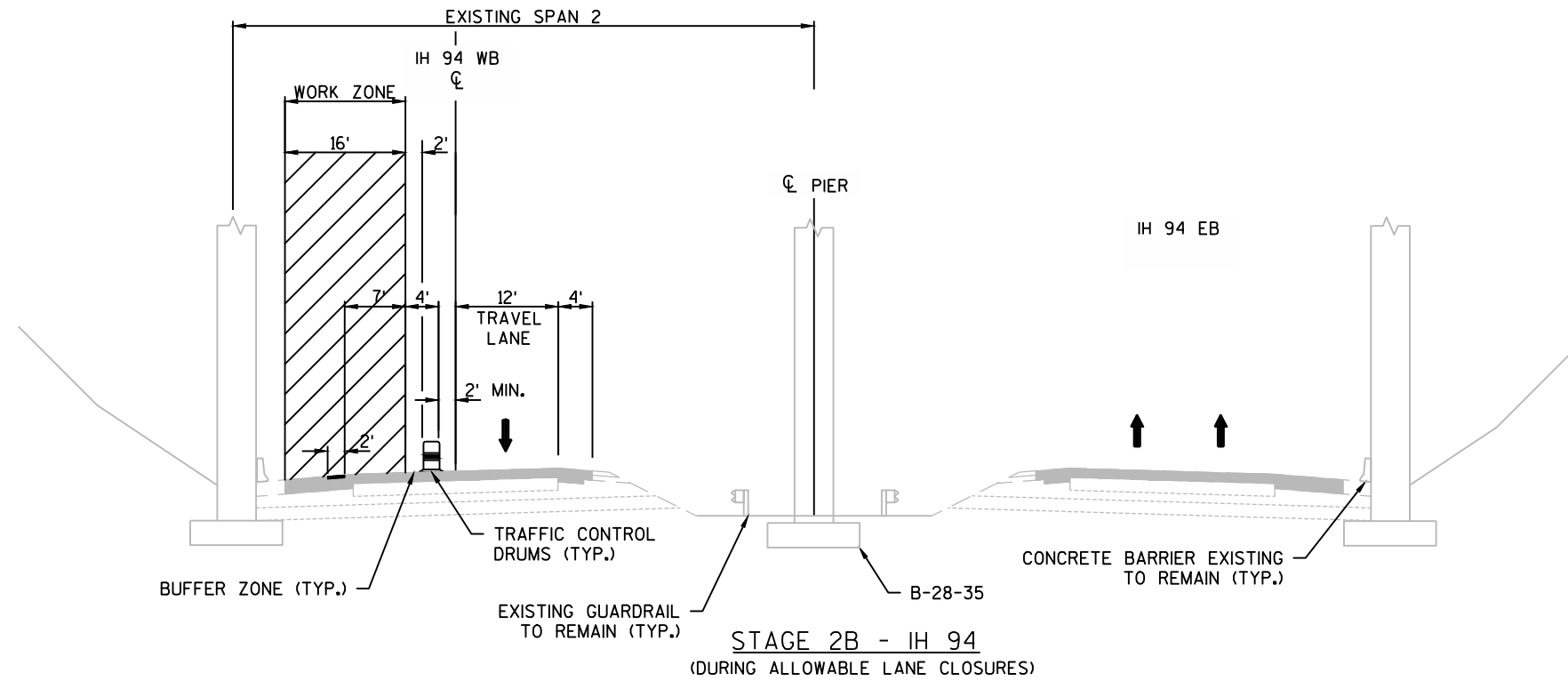
REPAINT SUPERSTRUCTURE FROM 2 FEET LEFT OF THE WESTBOUND CENTERLINE TO THE CENTER PIER. CONSTRUCT INSIDE RUMBLE STRIPS AND PLACE WB LANE LINE AND INSIDE EDGE LINE PERMANENT PAVEMENT MARKINGS AT END OF STAGE 2A.



CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

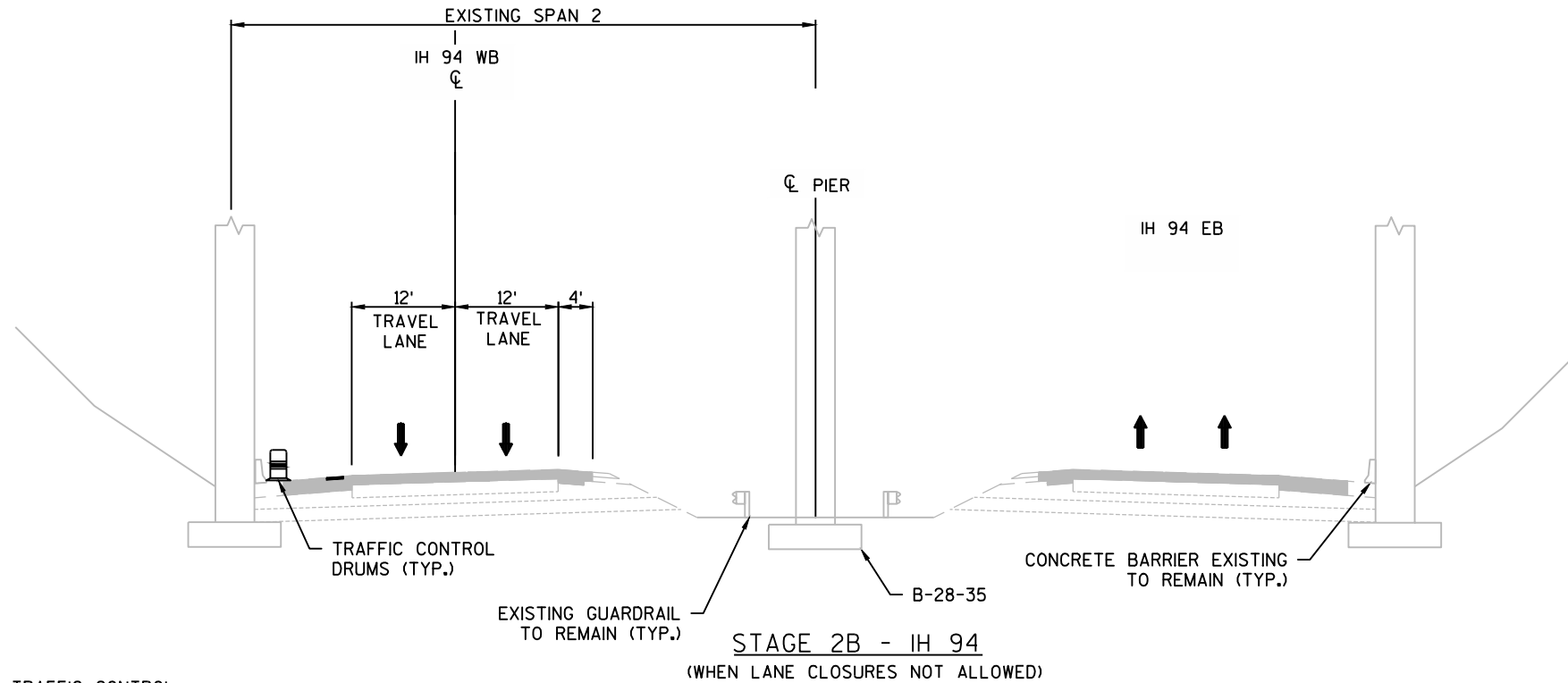
REPAINT SUPERSTRUCTURE FROM 10 FEET RIGHT OF THE WESTBOUND CENTERLINE TO THE CENTER PIER.



CONSTRUCTION AND TRAFFIC CONTROL

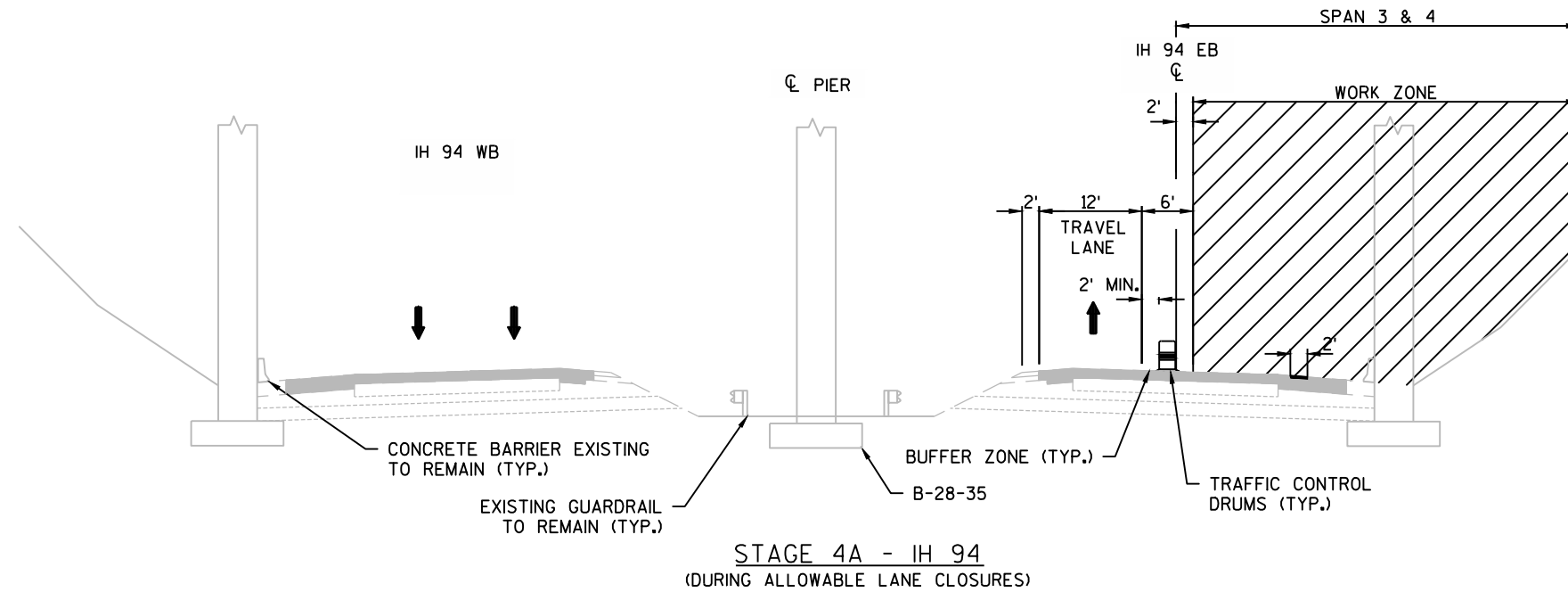
CLOSE WESTBOUND OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND MAINTAIN TRAFFIC ON WESTBOUND INSIDE LANE USING PERMANENT PAVEMENT MARKING PLACED IN STAGE 2A. MAINTAIN TWO TRAVEL LANES EASTBOUND.

CONSTRUCT OUTSIDE RUMBLE STRIPS AND PLACE WB OUTSIDE PERMANENT PAVEMENT MARKINGS.



CONSTRUCTION AND TRAFFIC CONTROL

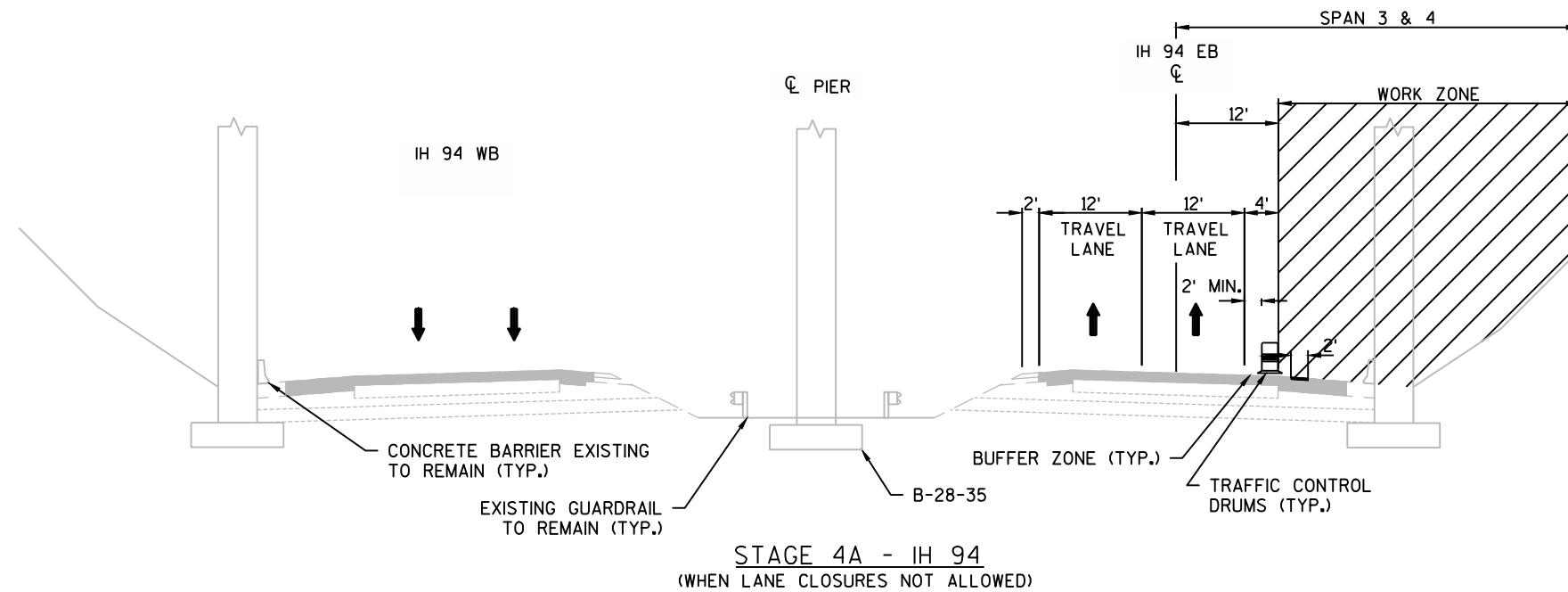
MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.



CONSTRUCTION AND TRAFFIC CONTROL

CLOSE EASTBOUND OUTSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND SHIFT TRAFFIC ON EASTBOUND INSIDE SHOULDER. MAINTAIN TWO TRAVEL LANES WESTBOUND.

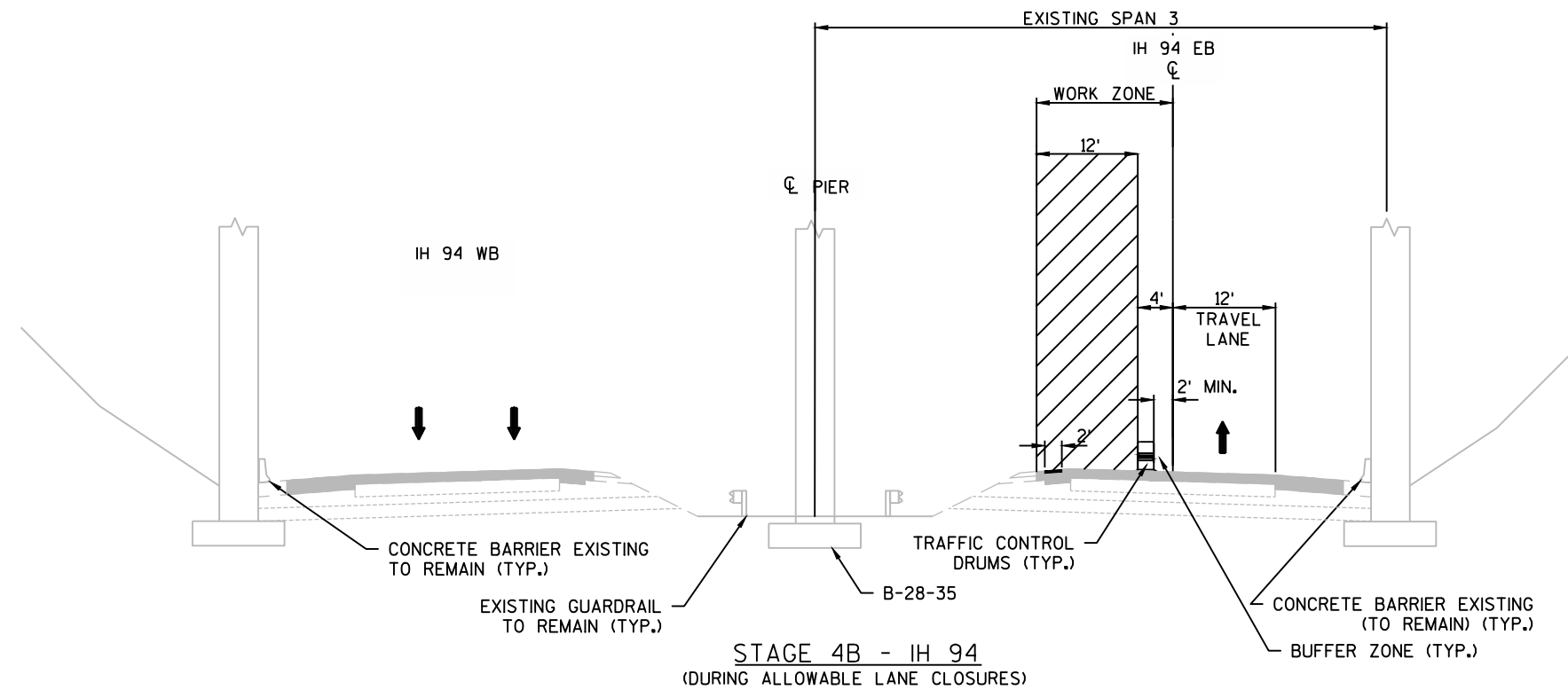
REPAINT SUPERSTRUCTURE FROM 2 FEET RIGHT OF EASTBOUND CENTERLINE TO SOUTH ABUTMENT AND COMPLETE SLOPE PAVING REPAIRS. CONSTRUCT OUTSIDE RUMBLE STRIPS AND PLACE EB LANE LINE AND OUTSIDE EDGE LINE PERMANENT MARKING AT END OF STAGE 4A.



CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.

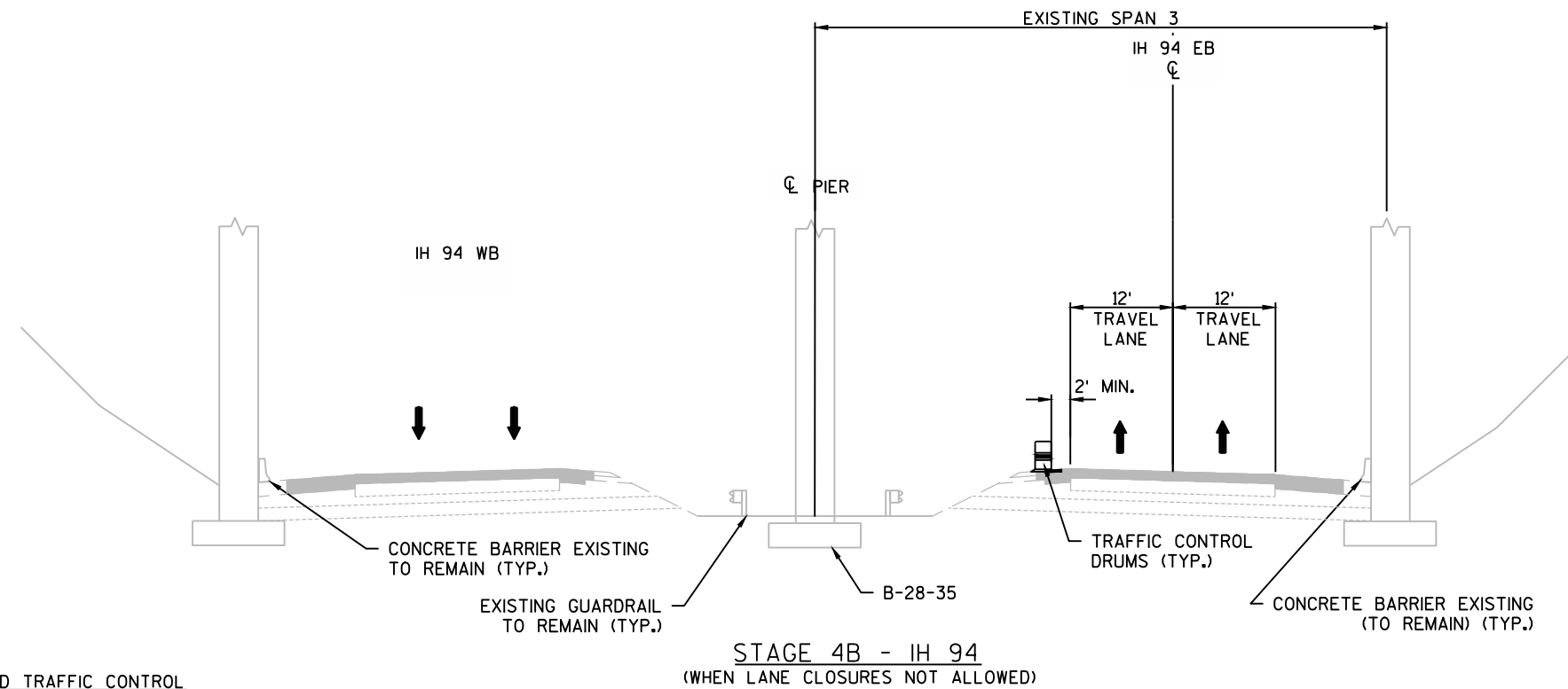
REPAINT SUPERSTRUCTURE FROM 12 FEET RIGHT OF EASTBOUND CENTERLINE TO SOUTH ABUTMENT AND COMPLETE SLOPE PAVING REPAIRS.



CONSTRUCTION AND TRAFFIC CONTROL

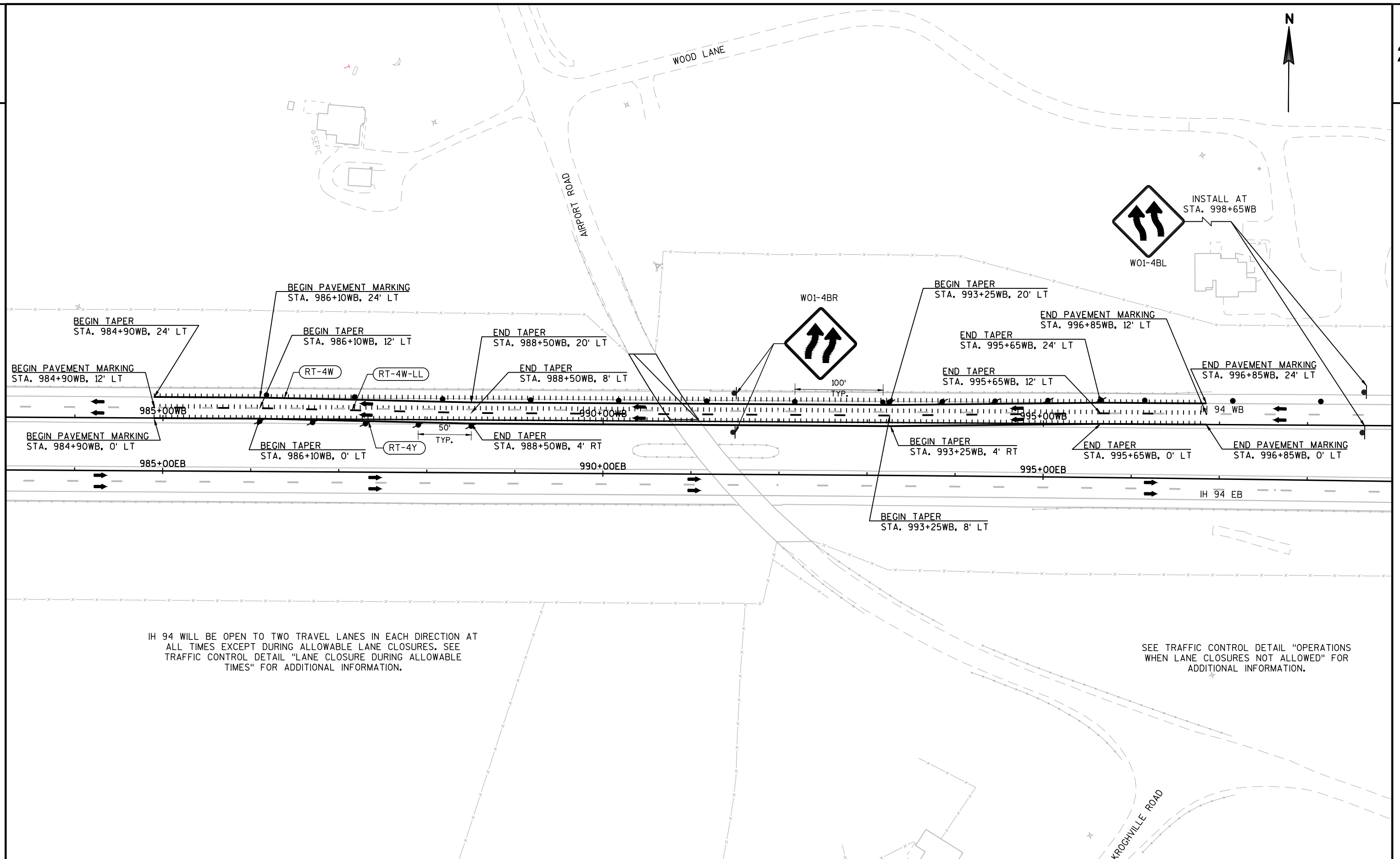
CLOSE EASTBOUND INSIDE TRAVEL LANE DURING ALLOWABLE LANE CLOSURES AND MAINTAIN TRAFFIC ON EASTBOUND OUTSIDE LANE USING PERMANENT PAVEMENT MARKING PLACED IN STAGE 4A. MAINTAIN TWO TRAVEL LANES WESTBOUND.

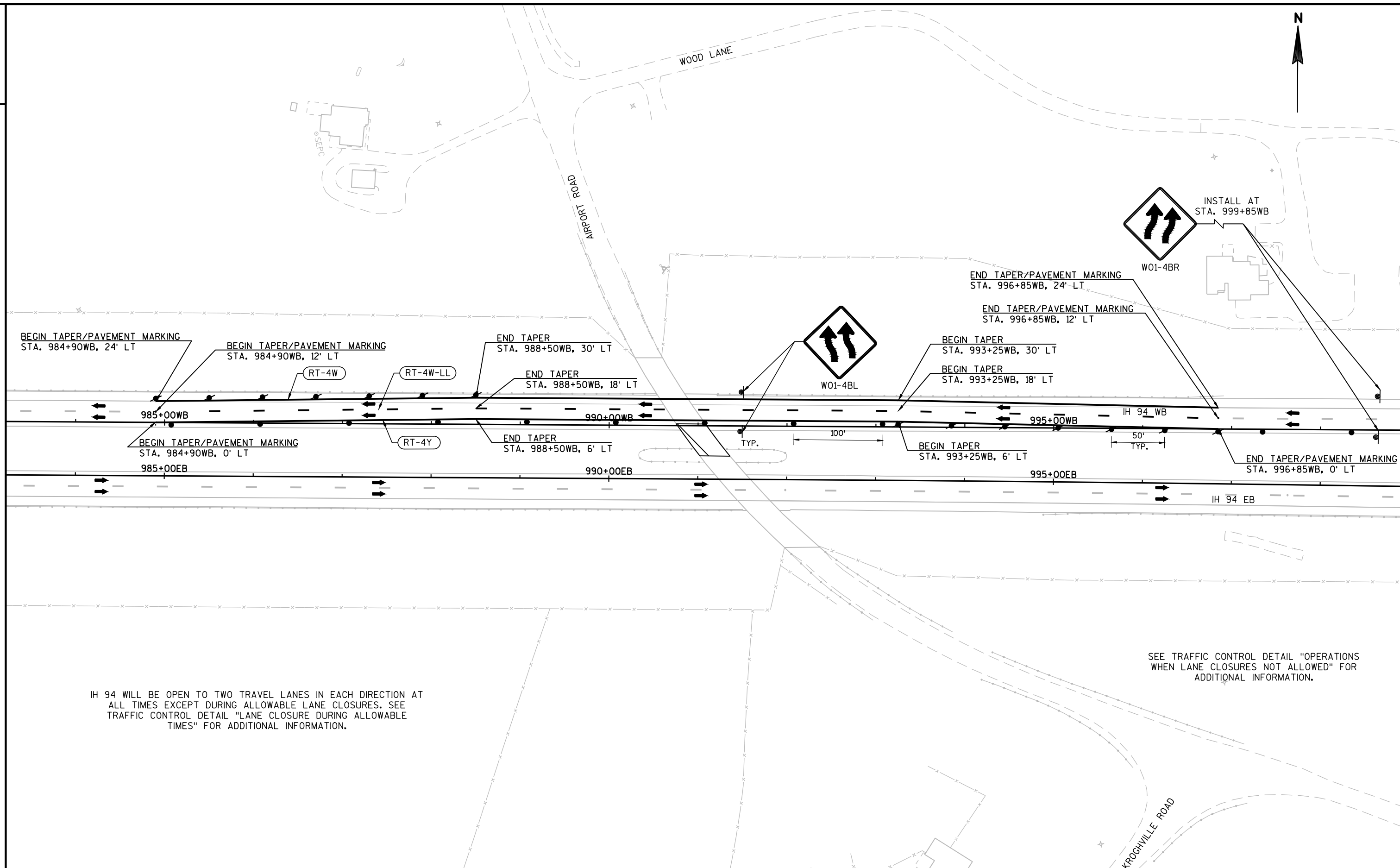
CONSTRUCT INSIDE RUMBLE STRIPS AND PLACE EB INSIDE EDGE LINE PERMANENT MARKING.

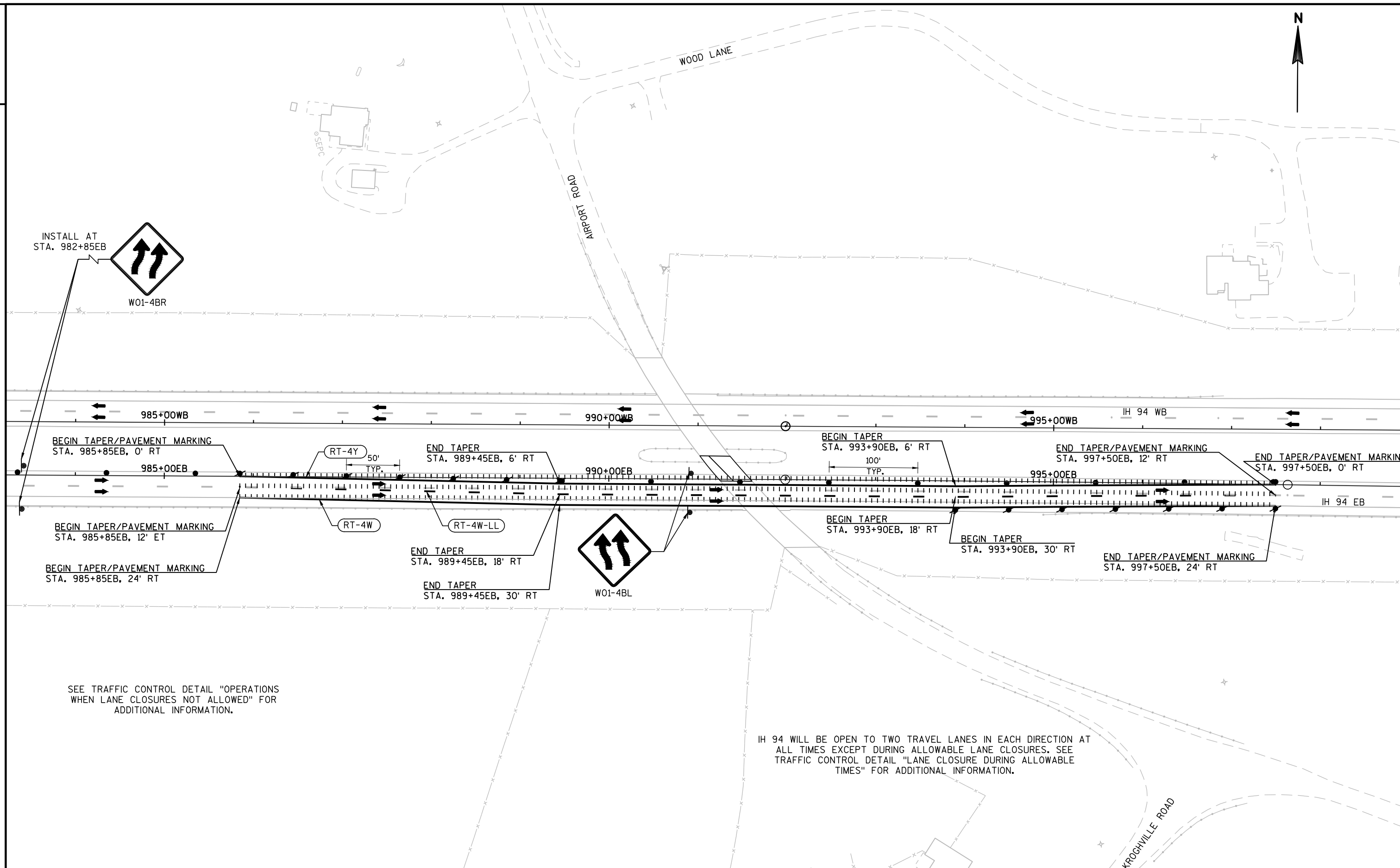


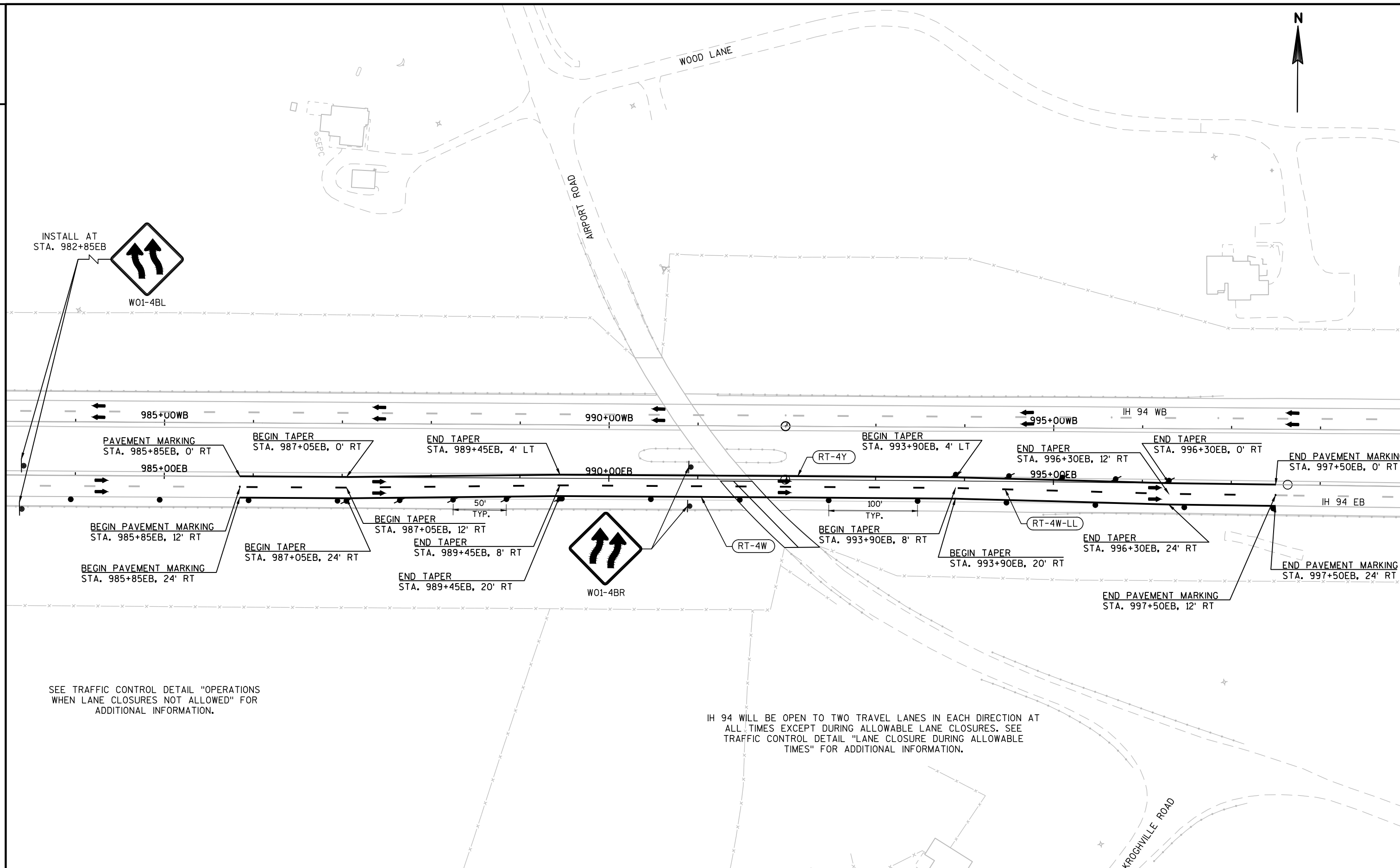
CONSTRUCTION AND TRAFFIC CONTROL

MAINTAIN TWO TRAVEL LANES WESTBOUND AND EASTBOUND.









SEE TRAFFIC CONTROL DETAIL "OPERATIONS
WHEN LANE CLOSURES NOT ALLOWED" FOR
ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TWO TRAVEL LANES IN EACH DIRECTION AT
ALL TIMES EXCEPT DURING ALLOWABLE LANE CLOSURES. SEE
TRAFFIC CONTROL DETAIL "LANE CLOSURE DURING ALLOWABLE
TIMES" FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1

COUNTY A
TO CLOSE
DATE



EAST
M3-2
24"x12"
COUNTY A
MI-5A
24"x24"



DETOUR
M4-8
24"x12"
EAST
M3-2
24"x12"
COUNTY A
MI-5A
24"x24"
M06-1
21"x21"

COUNTY V
COUNTY A
COUNTY A
M06-1
21"x21"

LEGEND

COUNTY A CLOSED

PROPOSED DETOUR ROUTE

COVER SIGN

PROPOSED SIGN/POLE

EXISTING SIGN/POLE

EXISTING UTILITY POLE

SEE SDD "BARRICADES AND SIGNS FOR
MAINLINE CLOSURES" DETAIL A

SEE SDD "BARRICADES AND SIGNS FOR
MAINLINE CLOSURES" DETAIL B

TRAFFIC CONTROL SIGNS PCMS



DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M05-JR
21"x21"

END
DETOUR
M4-8A
24"x18"
COUNTY A
MI-5A
24"x24"
M06-1
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M05-IL
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M05-IL
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M06-1
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M06-1
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M05-IL
21"x21"

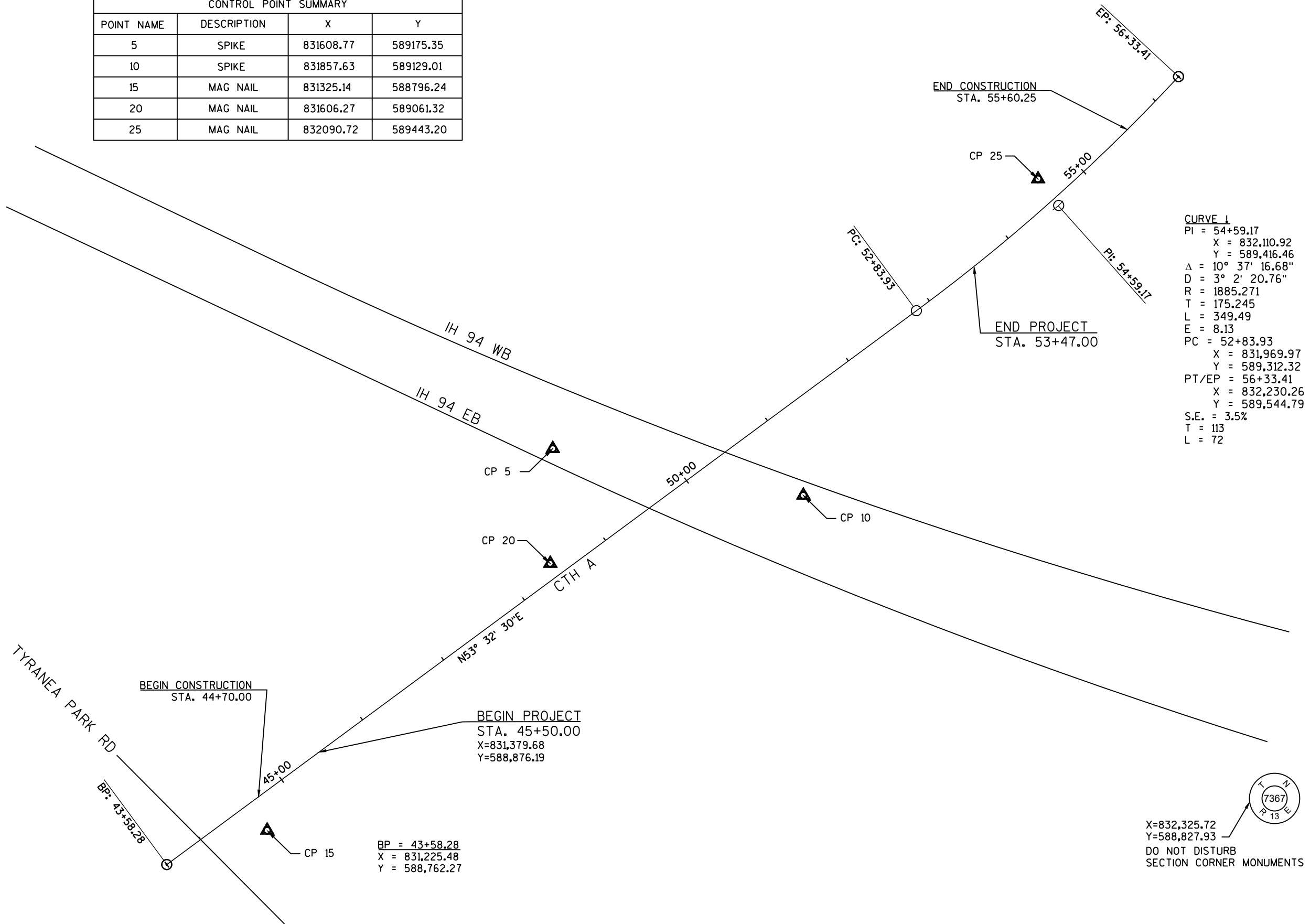
DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M06-1
21"x21"

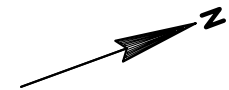
DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"
M05-JR
21"x21"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"

DETOUR
M4-8
24"x12"
COUNTY A
MI-5A
24"x24"

CONTROL POINT SUMMARY			
POINT NAME	DESCRIPTION	X	Y
5	SPIKE	831608.77	589175.35
10	SPIKE	831857.63	589129.01
15	MAG NAIL	831325.14	588796.24
20	MAG NAIL	831606.27	589061.32
25	MAG NAIL	832090.72	589443.20





PI STA = 48+31.11A
Y = 597,166.16
X = 808,685.72
DELTA = 51°06'02"
D = 6°59'44"
T = 391.53'
L = 730.46'
R = 819.02'
PC STA = 44+39.58A
Y = 597,038.51
X = 809,055.86
PT STA = 51+70.04A
Y = 597,534.38
X = 808,552.62

Y=808,556.09
X=597,323.33
DO NOT DISTURB
SECTION CORNER
MONUMENTS



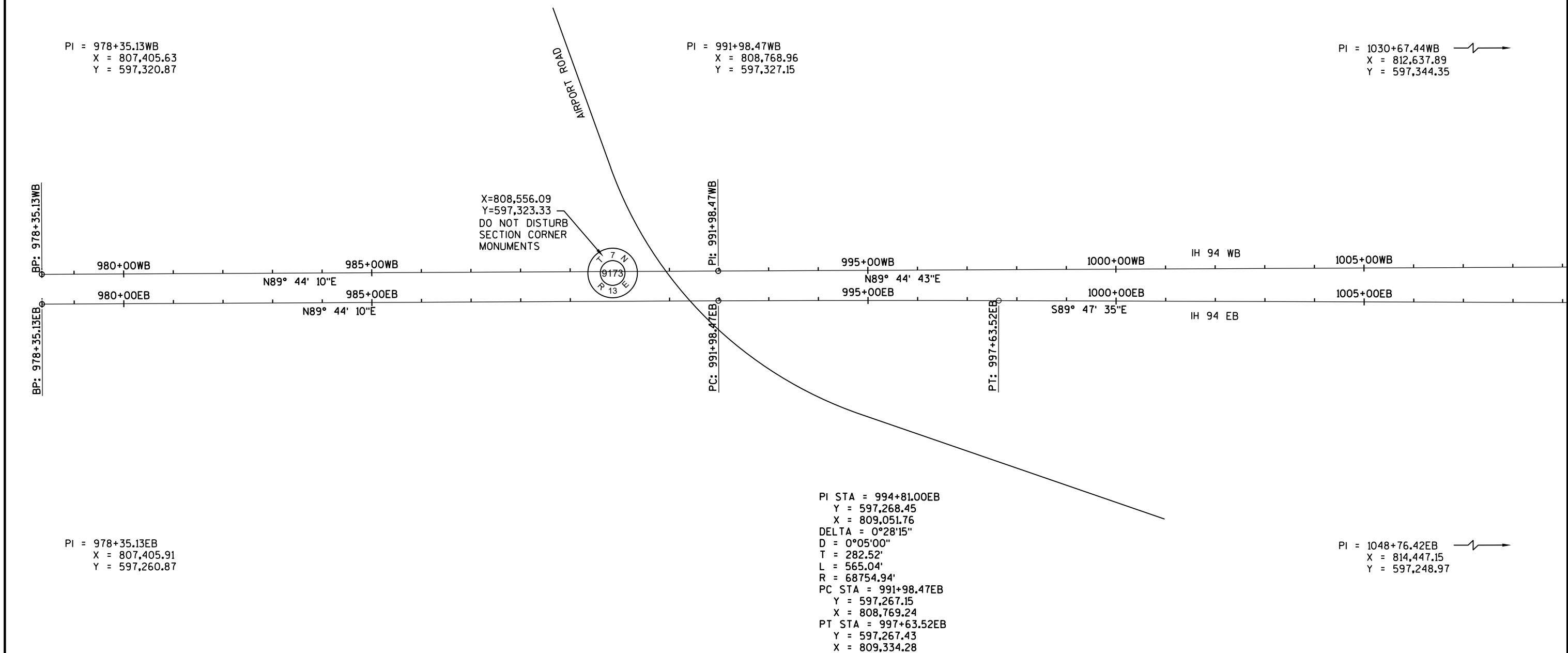
PI = 55+13.25A
X = 808,435.95
Y = 597,857.15

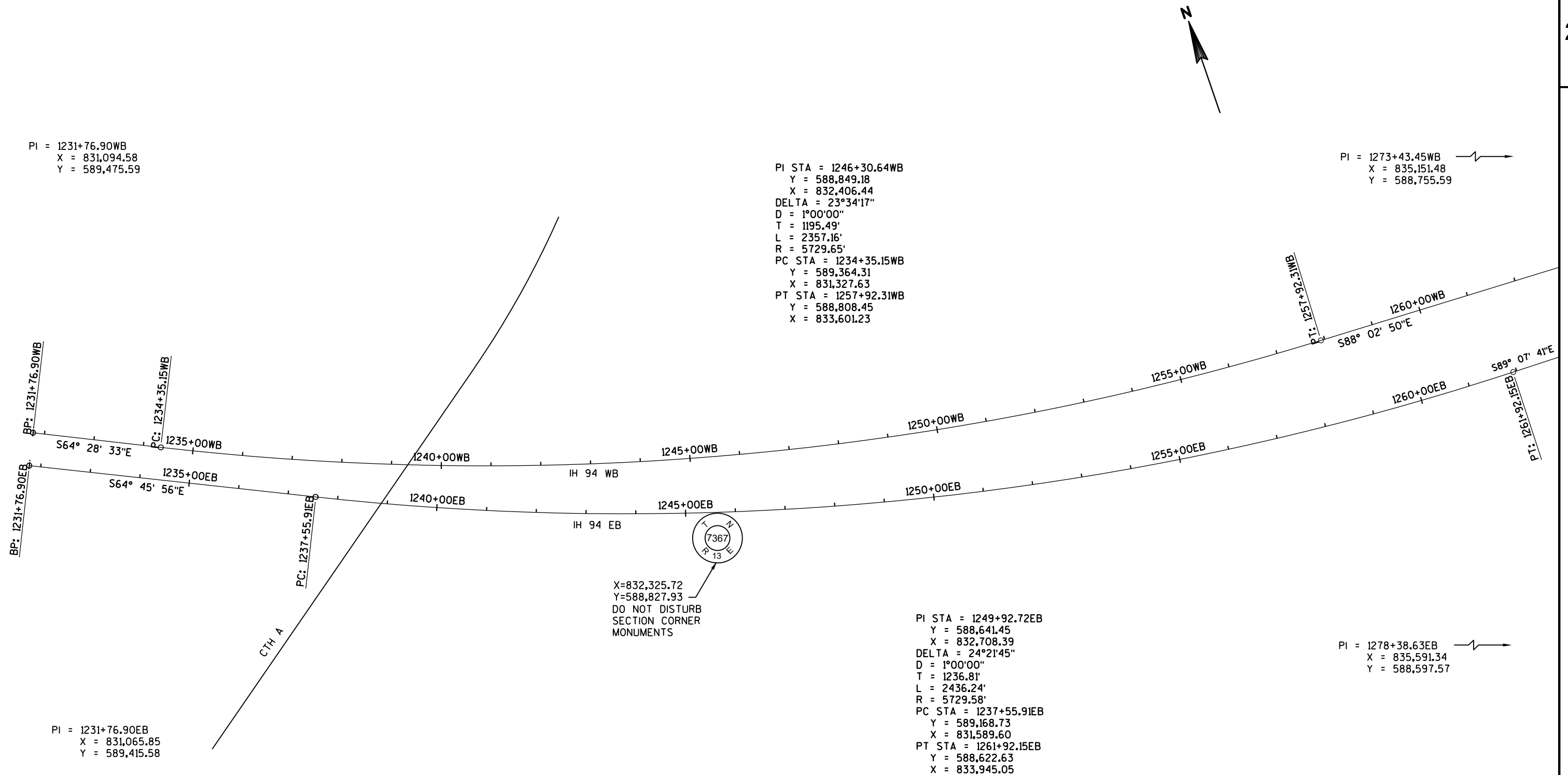
PI = 37+92.30A
X = 809,667.78
Y = 596,827.50

45+00A
PC: 44+39.58A
AIRPORT ROAD
N70° 58' 24"W
40+00A
BP: 37+92.30A

PT: 51+70.04A
N19° 52' 23"W
55+00A
EP: 55+13.25A

IH 94 EB
IH 94 WB





Estimate Of Quantities

1067-02-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0200	Removing Old Structure (station) 01. 50+00	LS	1.000	1.000
0008	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-28-41	LS	1.000	1.000
0010	203.0225.S	Debris Containment (structure) 01. B-28-41	LS	1.000	1.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	1,695.000	1,695.000
0014	204.0150	Removing Curb & Gutter	LF	60.000	60.000
0016	204.0165	Removing Guardrail	LF	1,230.000	1,230.000
0018	204.0170	Removing Fence	LF	130.000	130.000
0020	204.0175	Removing Concrete Slope Paving	SY	670.000	670.000
0022	205.0100	Excavation Common	CY	912.000	912.000
0024	206.1000	Excavation for Structures Bridges (structure) 01. B-28-41	LS	1.000	1.000
0026	208.0100	Borrow	CY	1,016.000	1,016.000
0028	210.1500	Backfill Structure Type A	TON	82.000	82.000
0030	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1067-02-72	LS	1.000	1.000
0032	213.0100	Finishing Roadway (project) 01. 1067-02-72	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	525.000	525.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,777.000	1,777.000
0038	312.0110	Select Crushed Material	TON	85.000	85.000
0040	415.0120	Concrete Pavement 12-Inch	SY	58.000	58.000
0042	415.0410	Concrete Pavement Approach Slab	SY	120.000	120.000
0044	416.1010	Concrete Surface Drains	CY	8.000	8.000
0046	455.0605	Tack Coat	GAL	70.000	70.000
0048	460.2000	Incentive Density HMA Pavement	DOL	430.000	430.000
0050	460.5224	HMA Pavement 4 LT 58-28 S	TON	660.000	660.000
0052	502.0100	Concrete Masonry Bridges	CY	374.000	374.000
0054	502.3101	Expansion Device 01. B-28-41	LF	84.000	84.000
0056	502.3200	Protective Surface Treatment	SY	1,174.000	1,174.000
0058	502.3210	Pigmented Surface Sealer	SY	394.000	394.000
0060	502.4106	Adhesive Anchors 3/4-inch	EACH	5.000	5.000
0062	502.4108	Adhesive Anchors 1-inch	EACH	10.000	10.000
0064	502.4204	Adhesive Anchors No. 4 Bar	EACH	32.000	32.000
0066	502.4205	Adhesive Anchors No. 5 Bar	EACH	180.000	180.000
0068	505.0400	Bar Steel Reinforcement HS Structures	LB	1,300.000	1,300.000
0070	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	86,420.000	86,420.000
0072	506.2610	Bearing Pads Elastomeric Laminated	EACH	5.000	5.000
0074	506.7050.S	Removing Bearings (structure) 01. B-28-41	EACH	5.000	5.000

Estimate Of Quantities

1067-02-72

Line	Item	Item Description	Unit	Total	Qty
0076	509.0301	Preparation Decks Type 1	SY	20.000	20.000
0078	509.0302	Preparation Decks Type 2	SY	8.000	8.000
0080	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	200.000	200.000
0082	509.1200	Curb Repair	LF	360.000	360.000
0084	509.1500	Concrete Surface Repair	SF	106.000	106.000
0086	509.2100.S	Concrete Masonry Deck Repair	CY	2.000	2.000
0088	509.5100.S	Polymer Overlay	SY	860.000	860.000
0090	509.9050.S	Cleaning Parapets	LF	583.000	583.000
0092	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0094	517.0900.S	Preparation and Coating of Top Flanges (structure) 01. B-28-41	LS	1.000	1.000
0096	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-28-35	LS	1.000	1.000
0098	517.1800.S	Structure Repainting Recycled Abrasive (structure) 02. B-28-41	LS	1.000	1.000
0100	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-28-35	LS	1.000	1.000
0102	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-28-41	LS	1.000	1.000
0104	517.6001.S	Portable Decontamination Facility	EACH	2.000	2.000
0106	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	4.000	4.000
0108	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	65.000	65.000
0110	604.0400	Slope Paving Concrete	SY	694.000	694.000
0112	606.0200	Riprap Medium	CY	8.000	8.000
0114	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	233.000	233.000
0116	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	432.000	432.000
0118	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0120	614.2300	MGS Guardrail 3	LF	300.000	300.000
0122	614.2330	MGS Guardrail 3 K	LF	250.000	250.000
0124	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0126	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0128	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	130.000	130.000
0130	616.0206	Fence Chain Link 6-FT	LF	582.000	582.000
0132	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1067-02-72	EACH	1.000	1.000
0134	619.1000	Mobilization	EACH	1.000	1.000
0136	624.0100	Water	MGAL	39.900	39.900
0138	625.0500	Salvaged Topsoil	SY	2,650.000	2,650.000
0140	627.0200	Mulching	SY	1,380.000	1,380.000
0142	628.1504	Silt Fence	LF	2,210.000	2,210.000
0144	628.1520	Silt Fence Maintenance	LF	4,420.000	4,420.000

Estimate Of Quantities

1067-02-72

Line	Item	Item Description	Unit	Total	Qty
0146	628.1905	Mobilizations Erosion Control	EACH	9.000	9.000
0148	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0150	628.2002	Erosion Mat Class I Type A	SY	2,900.000	2,900.000
0152	628.2004	Erosion Mat Class I Type B	SY	300.000	300.000
0154	628.7504	Temporary Ditch Checks	LF	10.000	10.000
0156	629.0210	Fertilizer Type B	CWT	3.500	3.500
0158	630.0120	Seeding Mixture No. 20	LB	100.000	100.000
0160	630.0300	Seeding Borrow Pit	LB	30.000	30.000
0162	630.0500	Seed Water	MGAL	96.000	96.000
0164	638.2102	Moving Signs Type II	EACH	9.000	9.000
0166	642.5201	Field Office Type C	EACH	1.000	1.000
0168	643.0300	Traffic Control Drums	DAY	12,980.000	12,980.000
0170	643.0420	Traffic Control Barricades Type III	DAY	2,483.000	2,483.000
0172	643.0705	Traffic Control Warning Lights Type A	DAY	2,324.000	2,324.000
0174	643.0715	Traffic Control Warning Lights Type C	DAY	6,437.000	6,437.000
0176	643.0800	Traffic Control Arrow Boards	DAY	518.000	518.000
0178	643.0900	Traffic Control Signs	DAY	17,391.000	17,391.000
0180	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0182	643.1050	Traffic Control Signs PCMS	DAY	287.000	287.000
0184	643.4100.S	Traffic Control Interim Lane Closure	EACH	227.000	227.000
0186	643.5000	Traffic Control	EACH	1.000	1.000
0188	645.0120	Geotextile Type HR	SY	28.000	28.000
0190	646.1020	Marking Line Epoxy 4-Inch	LF	4,040.000	4,040.000
0192	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	9,460.000	9,460.000
0194	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	1,200.000	1,200.000
0196	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	10,650.000	10,650.000
0198	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	42,630.000	42,630.000
0200	650.4500	Construction Staking Subgrade	LF	821.000	821.000
0202	650.5000	Construction Staking Base	LF	777.000	777.000
0204	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	65.000	65.000
0206	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0208	650.6500	Construction Staking Structure Layout (structure) 01. B-28-41	LS	1.000	1.000
0210	650.7000	Construction Staking Concrete Pavement	LF	44.000	44.000
0212	650.9910	Construction Staking Supplemental Control (project) 01. 1067-02-72	LS	1.000	1.000
0214	650.9920	Construction Staking Slope Stakes	LF	821.000	821.000
0216	690.0150	Sawing Asphalt	LF	429.000	429.000
0218	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0220	715.0502	Incentive Strength Concrete Structures	DOL	2,244.000	2,244.000

Estimate Of Quantities

1067-02-72

Line	Item	Item Description	Unit	Total	Qty
0222	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,400.000	1,400.000
0224	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	800.000	800.000

CLEARING AND GRUBBING				
CATEGORY	STATION - STATION	LOCATION	201.0105 CLEARING STA.	201.0205 GRUBBING STA.
0010	48+00 - 49+00	LT	1	1

REMOVING ASPHALTIC SURFACE MILLING			
CATEGORY	STATION - STATION	LOCATION	204.0120 SY
0010	45+50 - 47+25	RT & LT	465
	52+79 - 53+47	RT & LT	180
	1232+70EB - 1244+50EB	RT	260
	1232+70EB - 1244+50EB	LT	260
	1233+60WB - 1245+50WB	RT	265
	1233+60WB - 1245+50WB	LT	265
	TOTAL		1,695

REMOVING CURB & GUTTER			
CATEGORY	STATION - STATION	LOCATION	204.0150 LF
0010	45+50 - 46+10	RT	60

REMOVING GUARDRAIL			
CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	44+95 - 48+44	LT	350
	45+96 - 48+64	RT	270
	51+41 - 53+96	LT	255
	51+61 - 55+16	RT	355
TOTAL			1,230

REMOVING FENCE			
CATEGORY	STATION - STATION	LOCATION	204.0170 LF
0010	54+33 - 55+60	RT	130

BASE AGGREGATE SUMMARY					
CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	*624.0100 WATER MGAL
0010	44+70 - 47+25	LT	97	264	5.9
	45+50 - 47+25	RT	29	166	3.3
	47+25 - 48+66	LT & RT	105	451	9.2
	51+39 - 52+79	LT & RT	114	489	10.0
	52+79 - 53+47	LT	38	85	2.0
	52+79 - 55+60	RT	142	322	7.6
TOTALS			525	1,777	38.0

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CONCRETE PAVEMENT 12-INCH			
CATEGORY	STATION - STATION	LOCATION	415.0120 SY
0010	48+46 - 48+61	LT	9
	48+46 - 48+77	RT	20
	51+28 - 51+59	LT	20
	51+44 - 51+59	RT	9
TOTAL			58

CONCRETE PAVEMENT APPROACH SLAB			
CATEGORY	STATION - STATION	LOCATION	415.0410 SY
0010	48+46 - 48+68	LT & RT	60
	51+37 - 51+59	LT & RT	60
TOTALS			120

ASPHALTIC ITEMS				
CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
0010	44+70 - 48+46	LT & RT	40	375
	51+59 - 55+60	LT & RT	30	285
TOTALS			70	660

NOTES: A UNIT WEIGHT OF 112 POUNDS PER SQUARE YARD PER INCH OF THICKNESS WAS USED TO ESTIMATE ALL ASPHALT QUANTITIES.

CONCRETE SURFACE DRAINS SUMMARY								
CATEGORY	STATION - STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERT EACH
0010	48+29.6 - 48+46.7	LT	2	2	7	64	1	1
	48+48.8 - 48+67.0	RT	2	2	7	62	1	1
	51+37.8 - 51+54.7	LT	2	2	7	53	1	1
	51+57.8 - 51+75.0	RT	2	2	7	54	1	1
TOTALS			8	8	28	233	4	4

CONCRETE CURB & GUTTER SUMMARY				
CATEGORY	STATION - STATION	LOCATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	45+50 - 46+14	LT	65	65

FENCE WOVEN WIRE					
CATEGORY	STATION	LOCATION	STATION	LOCATION	616.0100.01 4-FT LF
0010	54+33	59.9' RT	-	55+60	50.8' RT 130

EARTHWORK												
		205.0100		UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (3)	UNEXPANDED FILL	EXPANDED FILL (4)	MASS ORDINATE +/- (5)	208.0100		312.0110	*624.0100
		EXCAVATION COMMON (1)							WASTE	BORROW	SELECT CRUSHED	
		CUT	EBS EXCAVATION (2)								MATERIAL (6)	
5% OF CUT							FACTOR 1.25					
CATEGORY	STATION - STATION	CY	CY	CY	CY	CY	CY		CY	CY	TON	MGAL
0010	44+71 - 48+68	506	25	52	454	62	78	376	376	---	50	1.1
	51+34 - 55+60	363	18	20	343	1,087	1,359	-1,016	---	1,016	35	0.8
SUBTOTALS		869	43	72	797	1,149	1,436	-640		1,016	85	1.9
TOTALS		912								1,016	85	1.9

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

- NOTES:
- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
 - 2) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
 - 3) AVAILABLE MATERIAL = CUT-UNUSABLE PAVEMENT MATERIAL
 - 4) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25
 - 5) MASS ORDINATE = CUT - (FILL * FILL FACTOR)
PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION
 - 6) USED FOR BACKFILL OF EBS

MGS GUARDRAIL SUMMARY						
		614.2300		614.2330	614.2500	614.2610
		MGS	MGS	MGS	THRIE BEAM	MGS
CATEGORY	STATION - STATION	GUARDRAIL 3	GUARDRAIL 3 K	LF	TRANSITION	GUARDRAIL
	LOCATION	LF	LF	LF	LF	TERMINAL EAT
						EACH
0010	45+07 - 45+60	LT	---	---	---	1
	46+02 - 46+55	RT	---	---	---	1
	45+60 - 48+10	LT	---	250.0	---	---
	46+55 - 48+30	RT	175.0	---	---	---
	48+10 - 48+49	LT	---	---	39.4	---
	48+30 - 48+69	RT	---	---	39.4	---
	51+35 - 51+74	LT	---	---	39.4	---
	51+55 - 51+95	RT	---	---	39.4	---
	51+74 - 52+37	LT	62.5	---	---	---
	51+95 - 54+57	RT	62.5	---	---	---
	52+37 - 52+90	LT	---	---	---	1
	54+57 - 55+10	RT	---	---	---	1
	TOTALS		300.0	250.0	157.6	4

FINISHING ITEMS							
			625.0500	627.0200	629.0210	630.0120	630.0300
			SALVAGED	MULCHING	FERTILIZER	SEEDING	SEEDING
			TOPSOIL		TYPE B	MIXTURE NO. 20	BORROW PIT
CATEGORY	STATION	LOCATION	SY	SY	CWT	LB	LB
0010	44+70 - 48+66	LT	300	0	0.2	10	0
	45+50 - 48+66	RT	200	100	0.2	5	0
	51+39 - 53+47	LT	900	400	0.6	25	0
	51+39 - 55+60	RT	1,250	0	0.9	40	0
	SUBTOTALS		2,650	500	1.9	80	0
BORROW SITE			0	600	0.9	0	12,740
UNDISTRIBUTED			0	280	0.7	20	3,190
TOTALS			2,650	1,380	3.5	100	15,930

SILT FENCE				
CATEGORY	STATION - STATION	OFFSET	628.1504	628.1520
			SILT FENCE LF	SILT FENCE MAINTENANCE LF
0010	44+63 - 48+46	LT	510	1,020
	45+50 - 48+56	RT	430	860
	51+26 - 54+48	LT	275	550
	51+42 - 55+64	RT	555	1,110
	UNDISTRIBUTED	---	440	880
TOTALS			2,210	4,420

MOBILIZATIONS EROSION CONTROL			
CATEGORY	ROADWAY	628.1905	628.1910
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	CTH A	7	4
	AIRPORT ROAD	2	1
	TOTALS	9	5

EROSION MAT SUMMARY				
CATEGORY	STATION - STATION	LOCATION	628.2002	628.2004
			CLASS I TYPE A SY	CLASS I TYPE B SY
0010	44+63 - 47+50	LT	150	---
	46+16 - 47+70	LT	100	---
	46+75 - 47+75	RT	100	---
	48+22 - 48+32	LT	50	---
	48+46 - 48+56	RT	100	---
	51+49 - 52+65	LT	450	---
	51+60 - 54+48	LT	---	250
	51+60 - 55+60	RT	1,350	---
	UNDISTRIBUTED		600	50
TOTALS			2,900	300

MOVING SIGNS TYPE II					
CATEGORY	SIGN	STATION	LOCATION	638.2102	REMARKS
				EACH	
0010	E1-1	46+08	RT	1	RE-INSTALL IN SAME LOCATION
	E1-2, E1-3, E1-4	46+59	RT	1	RE-INSTALL IN SAME LOCATION
	E1-5	47+58	RT	1	RE-INSTALL IN SAME LOCATION
	E1-7	48+46	LT	1	RE-INSTALL IN SAME LOCATION
	E1-6	48+63	RT	1	RE-INSTALL IN SAME LOCATION
	E1-9	51+42	LT	1	RE-INSTALL IN SAME LOCATION
	E1-10	51+55	LT	1	RE-INSTALL IN SAME LOCATION
	E1-8	51+60	RT	1	RE-INSTALL IN SAME LOCATION
	E1-11	52+32	LT	1	RE-INSTALL IN SAME LOCATION
	TOTALS			9	

TEMPORARY DITCH CHECKS			
CATEGORY	STATION	LOCATION	628.7504 LF
0010	52+50	LT	10

FIELD OFFICE TYPE C		
CATEGORY	PROJECT	642.5201 EACH
0010	1067-02-72	1

3

3

TRAFFIC CONTROL SUMMARY

CATEGORY	STAGE	STATION - STATION	DURATION (DAYS)	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.0920			643.1050		643.4100.S	
				DRUMS		BARRICADES		WARNING LIGHTS		WARNING LIGHTS		ARROW		SIGNS		COVERING SIGNS TYPE II			SIGNS PCMS		INTERIM	
				EACH	DAY	TYPE III	TYPE A	TYPE C	BOARDS	EACH	DAY	EACH	DAY	CYCLES	NUMBER OF		EACH	EACH	EACH	EACH	DAY	EACH
															SIGNS	SIGNS						
0010	PRE 1 - CTH A	1232+70EB - 1244+50EB	2	26	52	1	2	2	4	15	30	2	4	27	54	0	0	0	1	2	2	
		1233+60WB - 1245+50WB	2	26	52	1	2	2	4	15	30	2	4	27	54	0	0	0	1	2	2	
	1 - CTH A	1232+70EB - 1244+50EB	8	29	232	0	0	0	0	16	128	0	0	4	32	0	0	0	0	0	8	
		1233+60WB - 1245+50WB	8	29	232	0	0	0	0	16	128	0	0	4	32	0	0	0	0	0	8	
		EB ADVANCED WARNING/LANE CLOSURES	8	26	208	1	8	2	16	15	120	2	16	27	216	0	0	0	1	8	0	
		WB ADVANCED WARNING/LANE CLOSURES	8	26	208	1	8	2	16	15	120	2	16	27	216	0	0	0	1	8	0	
		SUBTOTALS (STAGE 1 - CTH A)			984		20		40		556		40		604			0	4	20	20	
	2 - CTH A	1232+70EB - 1244+50EB	9	23	207	0	0	0	0	10	90	0	0	4	36	0	0	0	0	0	8	
		1233+60WB - 1245+50WB	9	24	216	0	0	0	0	11	99	0	0	4	36	0	0	0	0	0	8	
		EB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	27	243	0	0	0	1	9	0	
		WB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	27	243	0	0	0	1	9	0	
		SUBTOTALS (STAGE 2 - CTH A)			891		18		36		459		36		558			0		18	16	
	3 - CTH A	1232+70EB - 1244+50EB	14	29	406	0	0	0	0	16	224	0	0	4	56	0	0	0	0	0	14	
		1233+60WB - 1245+50WB	14	29	406	0	0	0	0	16	224	0	0	4	56	0	0	0	0	0	14	
		EB ADVANCED WARNING/LANE CLOSURES	14	26	364	1	14	2	28	15	210	2	28	27	378	0	0	0	1	14	0	
		WB ADVANCED WARNING/LANE CLOSURES	14	26	364	1	14	2	28	15	210	2	28	27	378	0	0	0	1	14	0	
		SUBTOTALS (STAGE 3 - CTH A)			1,540		28		56		868		56		868			0		28	28	
	4 - CTH A	1232+70EB - 1244+50EB	36	23	828	0	0	0	0	10	360	0	0	4	144	0	0	0	0	0	36	
		1233+60WB - 1245+50WB	36	24	864	0	0	0	0	11	396	0	0	4	144	0	0	0	0	0	36	
		EB ADVANCED WARNING/LANE CLOSURES	36	26	936	1	36	2	72	15	540	2	72	27	972	0	0	0	1	36	0	
		WB ADVANCED WARNING/LANE CLOSURES	36	26	936	1	36	2	72	15	540	2	72	27	972	0	0	0	1	36	0	
		SUBTOTALS (STAGE 4 - CTH A)			3,564		72		144		1,836		144		2,232			0		72	72	
	5 - CTH A	1232+70EB - 1244+50EB	12	29	348	0	0	0	0	16	192	0	0	4	48	0	0	0	0	0	12	
		1233+60WB - 1245+50WB	12	29	348	0	0	0	0	16	192	0	0	4	48	0	0	0	0	0	12	
		EB ADVANCED WARNING/LANE CLOSURES	12	26	312	1	12	2	24	15	180	2	24	27	324	0	0	0	1	12	0	
		WB ADVANCED WARNING/LANE CLOSURES	12	26	312	1	12	2	24	15	180	2	24	27	324	0	0	0	1	12	0	
		SUBTOTALS (STAGE 5 - CTH A)			1,320		24		48		744		48		744			0		24	24	
	6 - CTH A	1232+70EB - 1244+50EB	15	23	345	0	0	0	0	10	150	0	0	4	60	0	0	0	0	0	15	
		1233+60WB - 1245+50WB	15	24	360	0	0	0	0	11	165	0	0	4	60	0	0	0	0	0	15	
		EB ADVANCED WARNING/LANE CLOSURES	15	26	390	1	15	2	30	15	225	2	30	27	405	0	0	0	1	15	0	
		WB ADVANCED WARNING/LANE CLOSURES	15	26	390	1	15	2	30	15	225	2	30	27	405	0	0	0	1	15	0	
		SUBTOTALS (STAGE 6 - CTH A)			1,485		30		60		765		60		930			0		30	30	
	7 - CTH A	1232+70EB - 1244+50EB	2	26	52	1	2	2	4	15	30	2	4	27	54	0	0	0	1	2	2	
		1233+60WB - 1245+50WB	2	26	52	1	2	2	4	15	30	2	4	27	54	0	0	0	1	2	2	
		SUBTOTALS (STAGE 7 - CTH A)			104		4		8		60		8		108			0		4	4	

CONT. ON NEXT PAGE

3

3

TRAFFIC CONTROL SUMMARY (CONT.)

			643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.0920			643.1050		643.4100.S	
															COVERING SIGNS TYPE II						
CATEGORY	STAGE	STATION - STATION	DURATION (DAYS)	DRUMS		BARRICADES TYPE III		WARNING LIGHTS TYPE A		WARNING LIGHTS TYPE C		ARROW BOARDS		SIGNS		NUMBER OF CYCLES	NUMBER OF SIGNS		SIGNS PCMS		INTERIM LANE CLOSURE
				EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	EACH	EACH	EACH	DAY	EACH
0010	PRE 1 - AIRPORT ROAD	WB ADVANCED WARNING/LANE CLOSURES	1	26	26	1	1	2	2	15	15	2	2	27	27	0	0	0	1	1	1
		EB ADVANCED WARNING/LANE CLOSURES	1	26	26	1	1	2	2	15	15	2	2	27	27	0	0	0	1	1	1
	1 - AIRPORT ROAD	984+90WB - 996+85WB	9	23	207	0	0	0	0	10	90	0	0	4	36	0	0	0	0	0	9
		WB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	27	243	0	0	0	1	9	0
		SUBTOTALS (STAGE 1 - AIRPORT ROAD)		493			11	22		255		22		333				0	11		11
	2A - AIRPORT ROAD	984+90WB - 996+85WB	9	27	243	0	0	0	0	14	126	0	0	4	36	0	0	0	0	0	9
		WB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	27	243	0	0	0	1	9	0
	2B - AIRPORT ROAD	WB ADVANCED WARNING/LANE CLOSURES	1	25	25	1	1	2	2	15	15	2	2	27	27	0	0	0	1	1	1
		SUBTOTALS (STAGE 2 - AIRPORT ROAD)		502			10	20		276		20		306				0	10		10
	3 - AIRPORT ROAD	985+85EB - 997+50EB	7	27	189	0	0	0	0	14	98	0	0	4	28	0	0	0	0	0	7
		EB ADVANCED WARNING/LANE CLOSURES	7	26	182	1	7	2	14	15	105	2	14	27	189	0	0	0	1	7	0
		SUBTOTALS (STAGE 3 - AIRPORT ROAD)		371			7	14		203		14		217				0	7		7
	4A - AIRPORT ROAD	985+85EB - 997+50EB	4	24	96	0	0	0	0	10	40	0	0	4	16	0	0	0	0	0	4
		EB ADVANCED WARNING/LANE CLOSURES	4	26	104	1	4	2	8	15	60	2	8	27	108	0	0	0	1	4	0
	4B - AIRPORT ROAD	EB ADVANCED WARNING/LANE CLOSURES	1	26	26	1	1	2	2	15	15	2	2	27	27	0	0	0	1	1	1
		SUBTOTALS (STAGE 4 - AIRPORT ROAD)		226			5	10		115		10		151				0	5		5
	-	CTH A DETOUR	98	0	0	20	1,960	16	1,568	0	0	0	0	96	9,408	1	2	2	2	14	---
	-	AIRPORT ROAD CLOSURE	13	0	0	18	234	16	208	0	0	0	0	14	182	---	---	---	2	14	---
		SUBTOTALS		0			2,194	1,776		0		0		9,590				2	28		0
		UNDISTRIBUTED	30	50	1,500	2	60	3	90	10	300	2	60	25	750	1	1	1	1	30	---
		TOTALS		12,980			2,483	2,324		6,437		518		17,391				3	287		227

MARKING REMOVAL LINE WATER BLASTING 4-INCH

CATEGORY	STAGE	STATION - STATION	646.9010 LF
0010	1 - CTH A	1232+70EB - 1244+50EB	2,660
		1233+60WB - 1245+50WB	2,680
	1 - AIRPORT ROAD	984+90WB - 996+85WB	2,690
	3 - AIRPORT ROAD	985+85EB - 997+50EB	2,620
TOTAL			10,650

CONSTRUCTION STAKING SUMMARY

				650.4500	650.5000	650.7000	650.9920
CATEGORY	STATION - STATION	LOCATION		SUBGRADE LF	BASE LF	CONCRETE PAVEMENT LF	SLOPE STAKES LF
0010	44+70 - 48+68	LT & RT		398	376	22	398
	51+37 - 55+60	LT & RT		423	401	22	423
TOTALS				821	777	44	821

SAWING ASPHALT

CATEGORY	STATION - STATION	LOCATION	690.0150 LF
0010	44+70 - 45+50	LT & RT	130
	53+47 - 55+60	LT & RT	260
	UNDISTRIBUTED	---	39
TOTALS			429

PROJECT NO: 1067-02-72

HWY: IH 94

COUNTY: JEFFERSON

MISCELLANEOUS QUANTITIES

SHEET

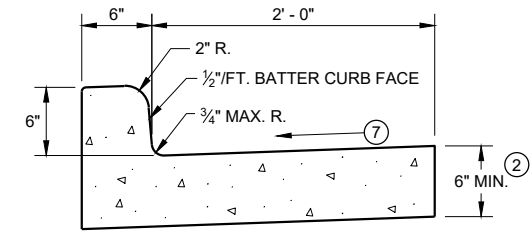
E

PERMANENT MARKING SUMMARY										
CATEGORY	STATION	-	STATION	LOCATION	646.1020 LINE EPOXY 4-INCH			646.1040 LINE GROOVED WET REF EPOXY 4-INCH		646.1555 LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH
					(WHITE)	(WHITE SKIP)	(DOUBLE YELLOW)	(WHITE)	(YELLOW)	(WHITE SKIP)
					LF	(12.5' SEG, 37.5' GAP)	LF	LF	LF	(12.5' SEG, 37.5' GAP)
					LF	LF	LF	LF	LF	LF
0010	984+90WB	-	996+85WB	-	---	---	---	---	1,195	---
	984+90WB	-	996+85WB	LT	---	---	---	---	---	300
	984+90WB	-	996+85WB	LT	---	---	---	1,195	---	---
	985+85EB	-	997+50EB	-	---	---	---	---	1,165	---
	985+85EB	-	997+50EB	RT	---	---	---	---	---	300
	985+85EB	-	997+50EB	RT	---	---	---	1,165	---	---
	1232+70EB	-	1244+50EB	-	---	---	---	---	1,180	---
	1232+70EB	-	1244+50EB	RT	---	---	---	---	---	300
	1232+70EB	-	1244+50EB	RT	---	---	---	1,180	---	---
	1233+60WB	-	1245+50WB	-	---	---	---	---	1,190	---
	1233+60WB	-	1245+50WB	LT	---	---	---	---	---	300
	1233+60WB	-	1245+50WB	LT	---	---	---	1,190	---	---
	44+70	-	53+47	LT	880	---	---	---	---	---
	45+50	-	53+47	-	---	---	1,600	---	---	---
	45+50	-	55+60	RT	1,010	---	---	---	---	---
	47+48A	-	50+24A	LT	---	---	---	---	---	---
	47+48A	-	50+24A	-	---	---	550	---	---	---
	47+48A	-	50+24A	RT	---	---	---	---	---	---
SUBTOTALS					1,890	0	2,150	4,730	4,730	1,200
TOTALS						4,040		9,460		1,200

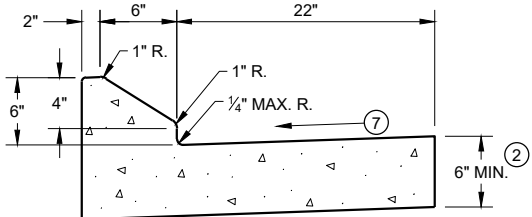
TRAFFIC CONTROL PAVEMENT MARKING					
CATEGORY	STAGE	STATION - STATION	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH		
			(WHITE)	(YELLOW)	(WHITE SKIP)
			LF	LF	12.5' SEG, 37.5' GAP
			LF	LF	LF
0010	1 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	2 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	3 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	4 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	5 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	6 - CTH A	1232+70EB - 1244+50EB	1,180	1,180	295
		1233+60WB - 1245+50WB	1,190	1,190	300
	1 - AIRPORT ROAD	984+90WB - 996+85WB	1,195	1,195	300
	2 - AIRPORT ROAD	984+90WB - 996+85WB	1,195	1,195	300
	3 - AIRPORT ROAD	985+85EB - 997+50EB	1,165	1,165	290
	4 - AIRPORT ROAD	984+90WB - 996+85WB	1,165	1,165	290
TOTALS			18,940	18,940	4,750
ITEM TOTALS				42,630	

Standard Detail Drawing List

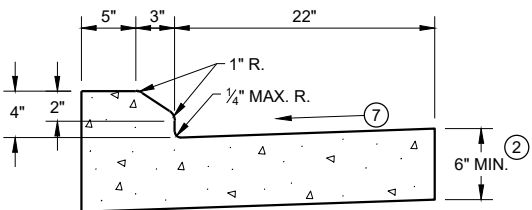
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D12-08B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



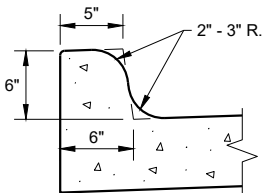
TYPES A^① & D



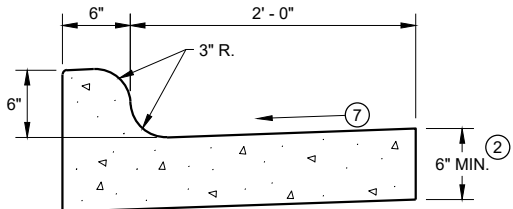
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

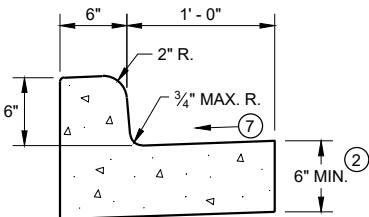


TYPES K^① & L
(OPTIONAL CURB SHAPE)



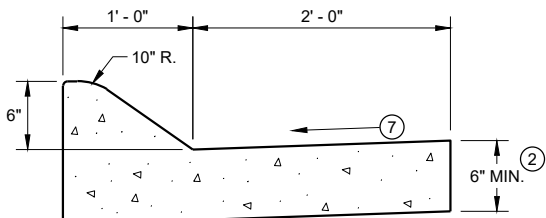
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

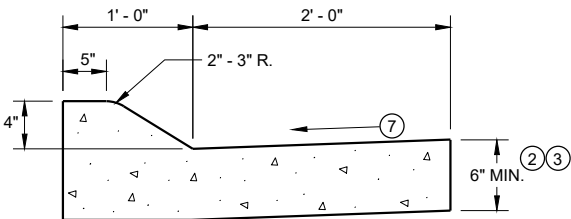


TYPES A^① & D

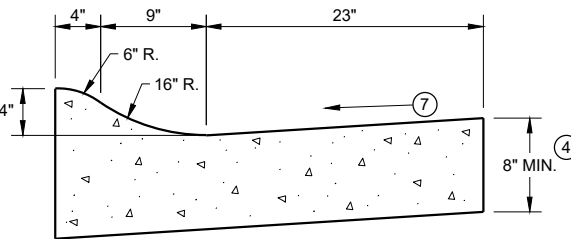
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D



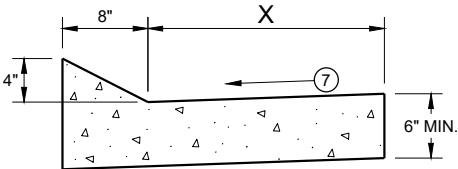
4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

CONCRETE CURB AND GUTTER 36"

TBT & TBTT	X
30"	22"
36"	28"

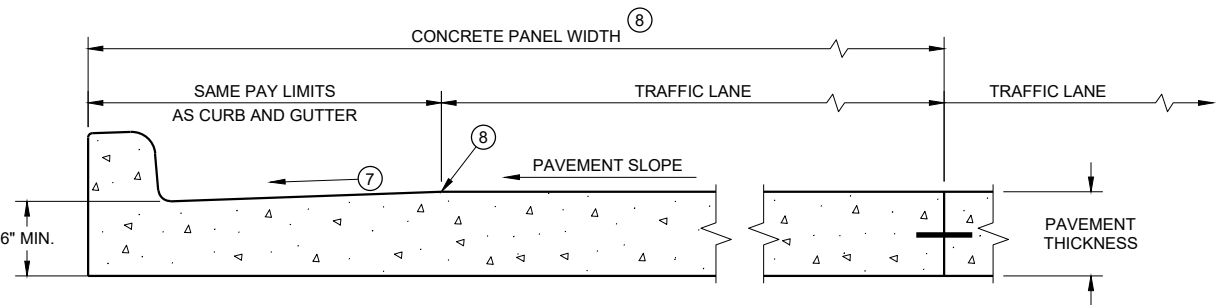


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

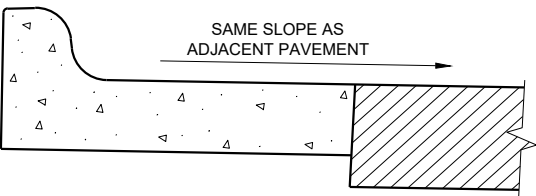
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

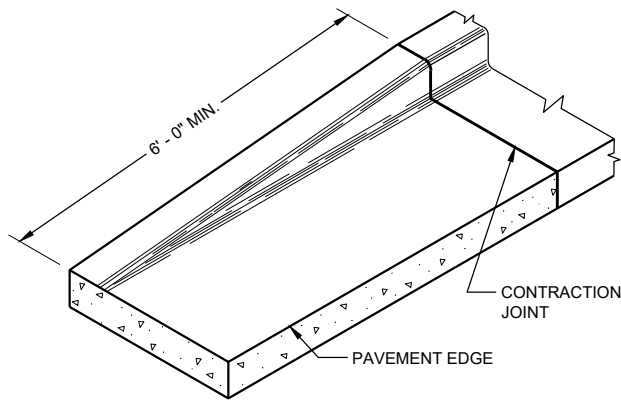
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

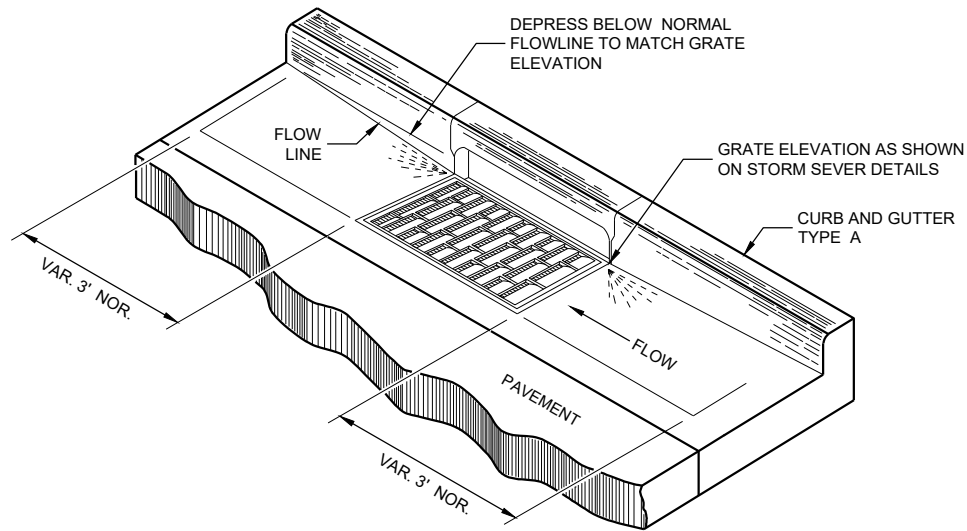
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

CONCRETE CURB AND GUTTER

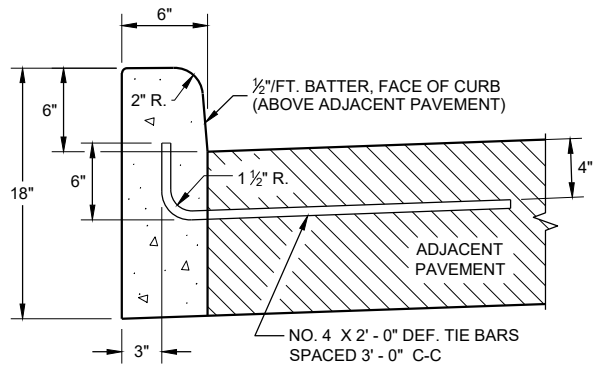
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



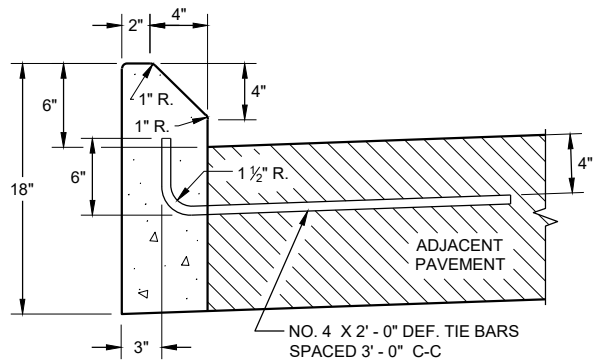
END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

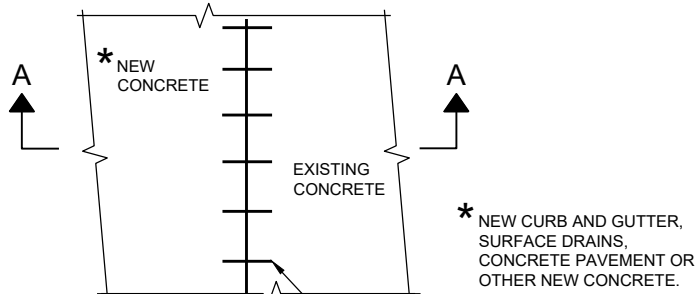


TYPES A^① & D

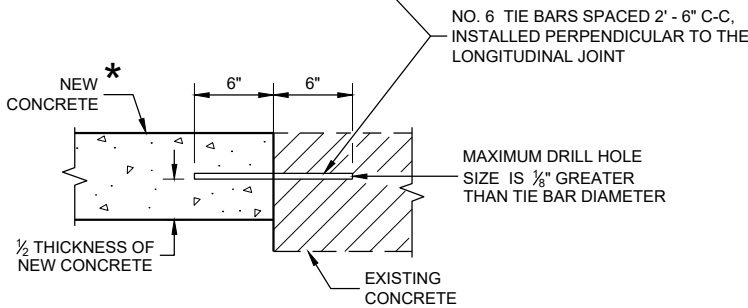


TYPES G^① & J

CONCRETE CURB



PLAN VIEW



SECTION A - A

TIE BARS DRILLED
INTO EXISTING PAVEMENT

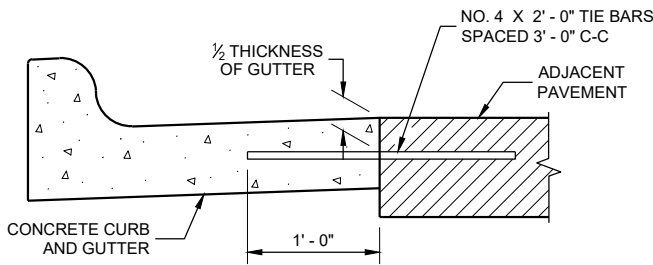
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

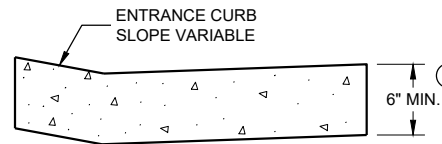
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

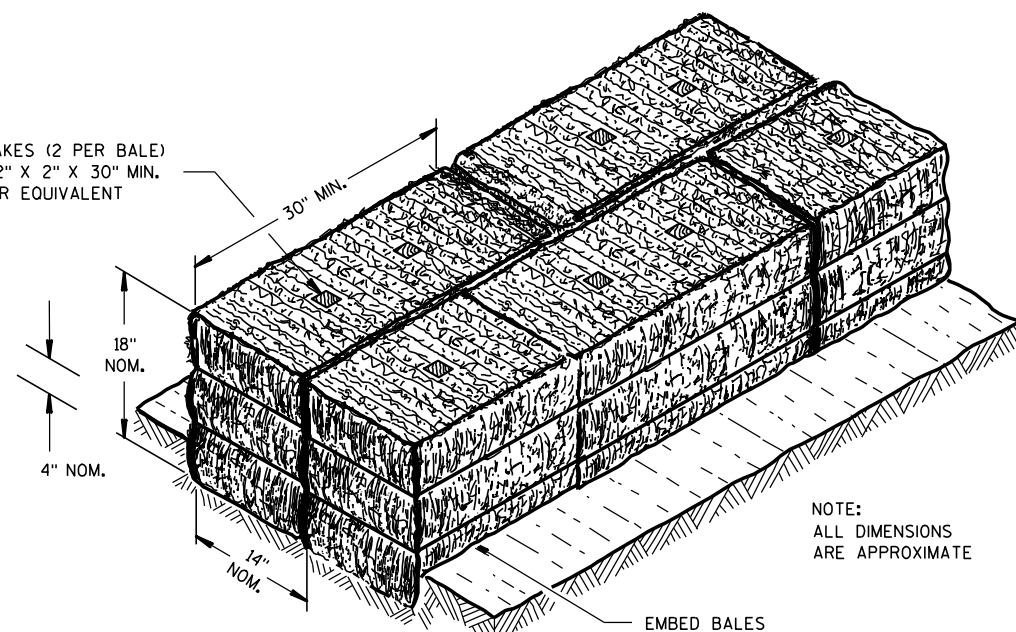
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

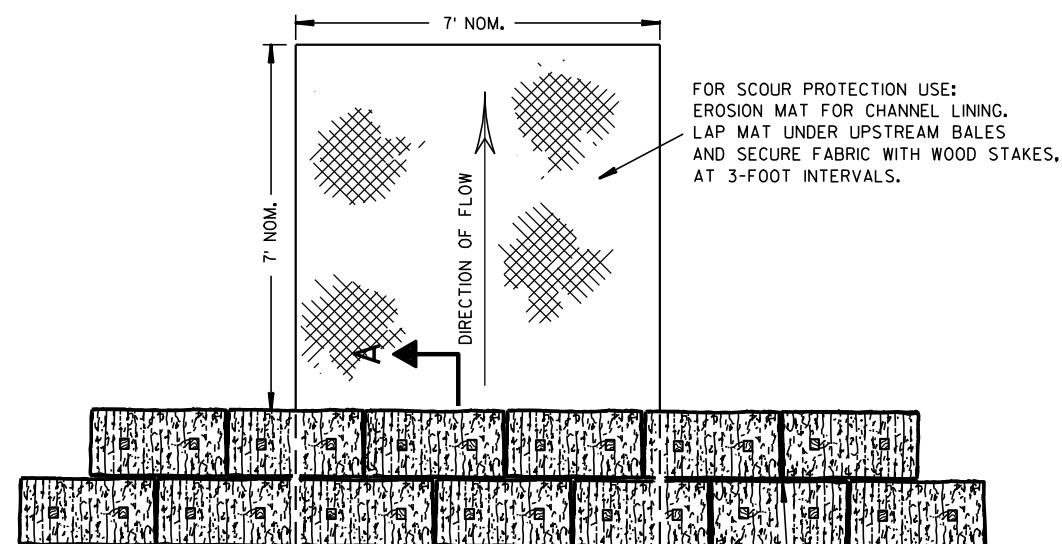
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

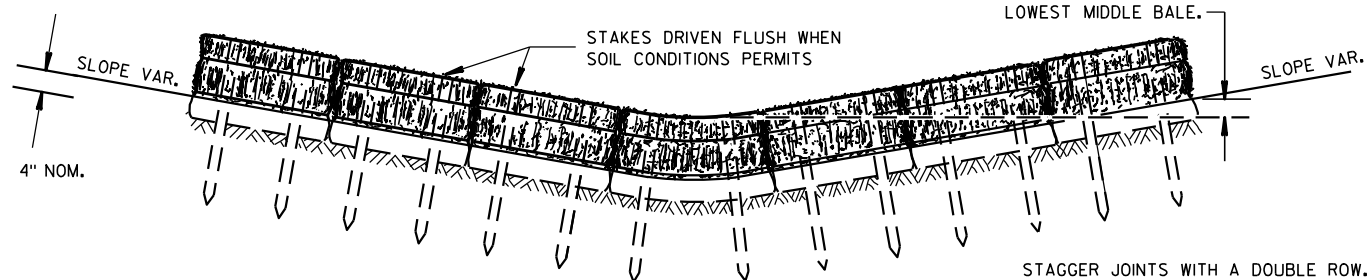
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



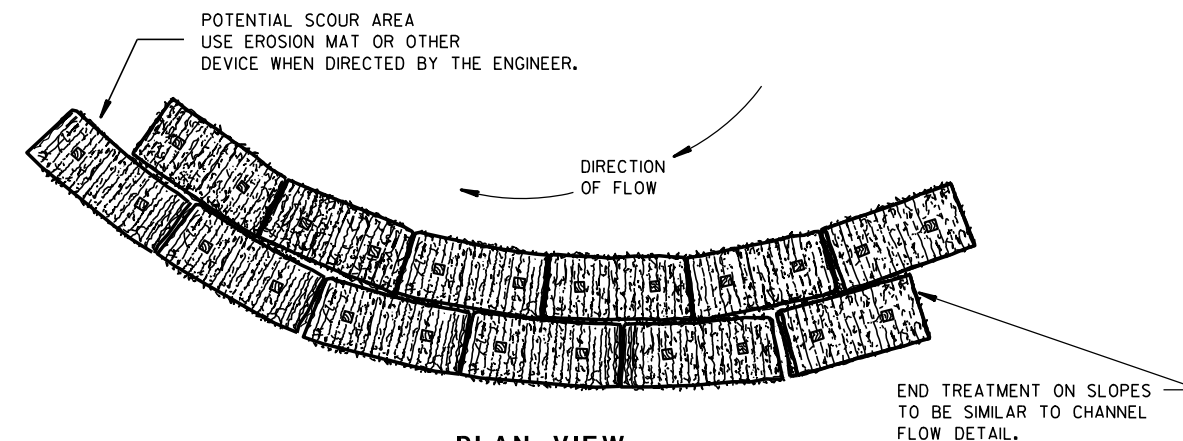
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

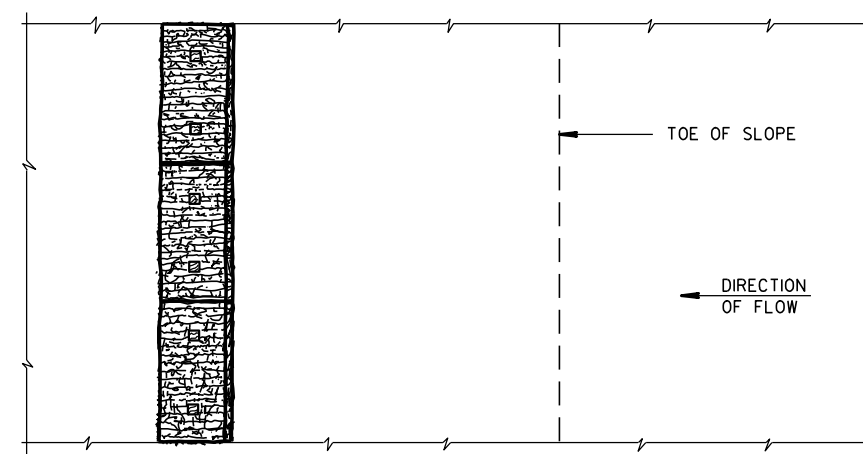
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

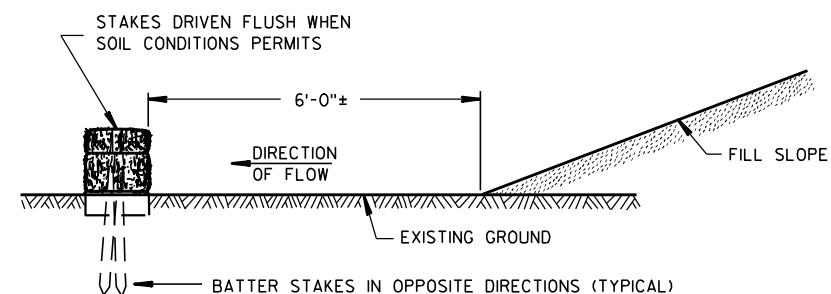


PLAN VIEW

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

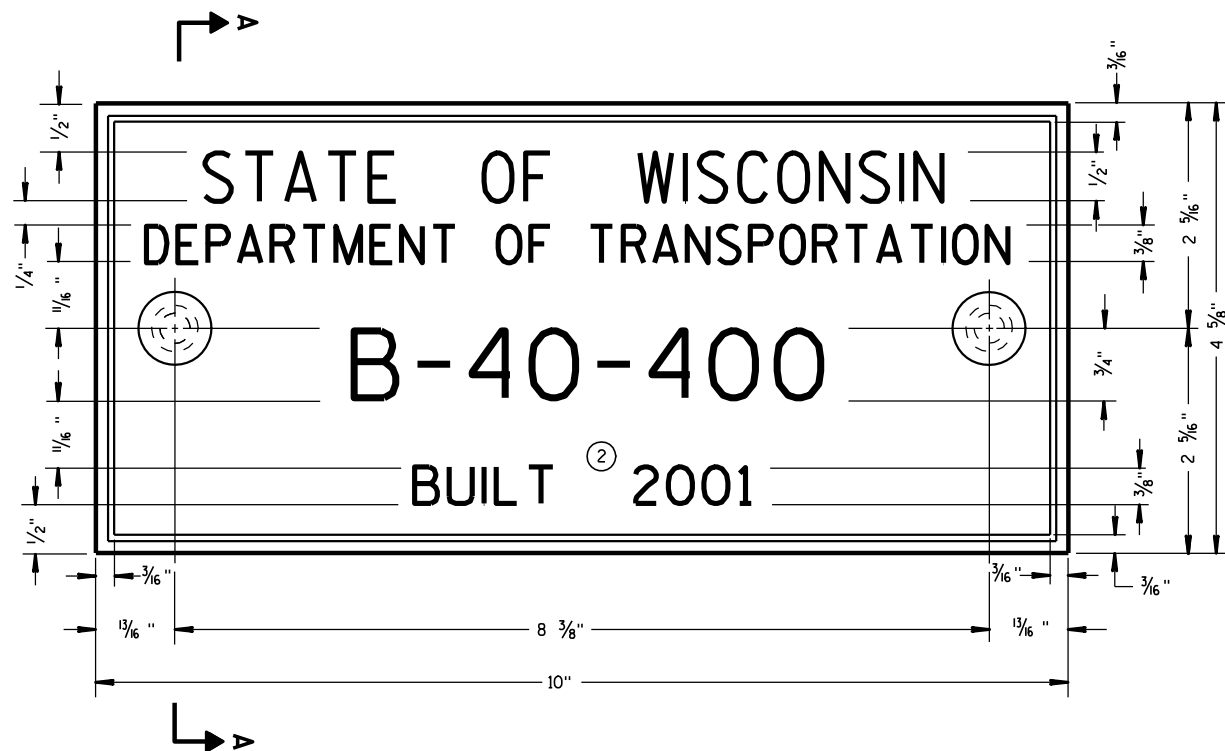
FHWA



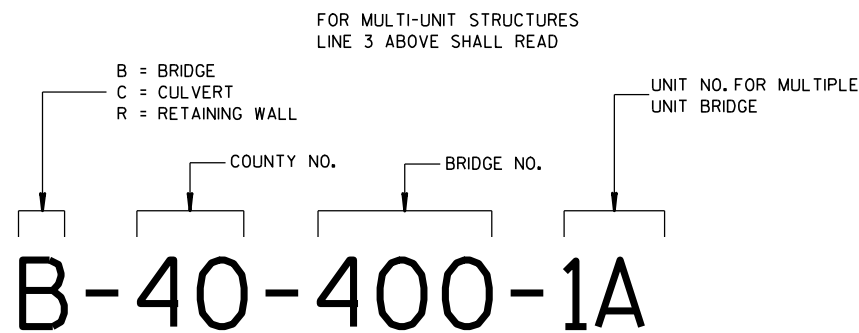
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS 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 4-29-05 DATE	/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER



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



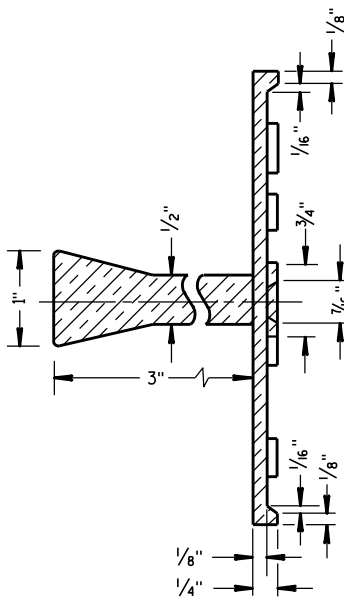
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

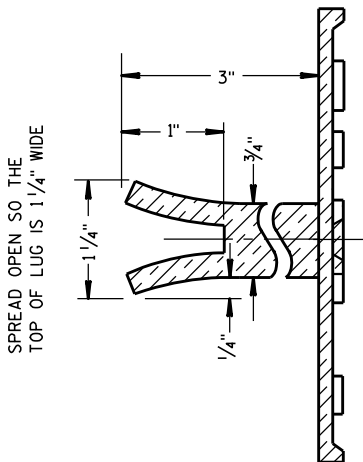
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

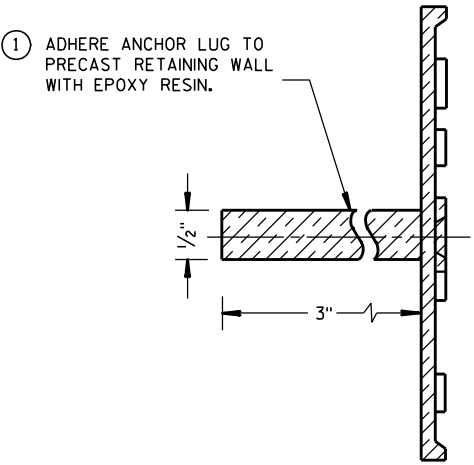
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A

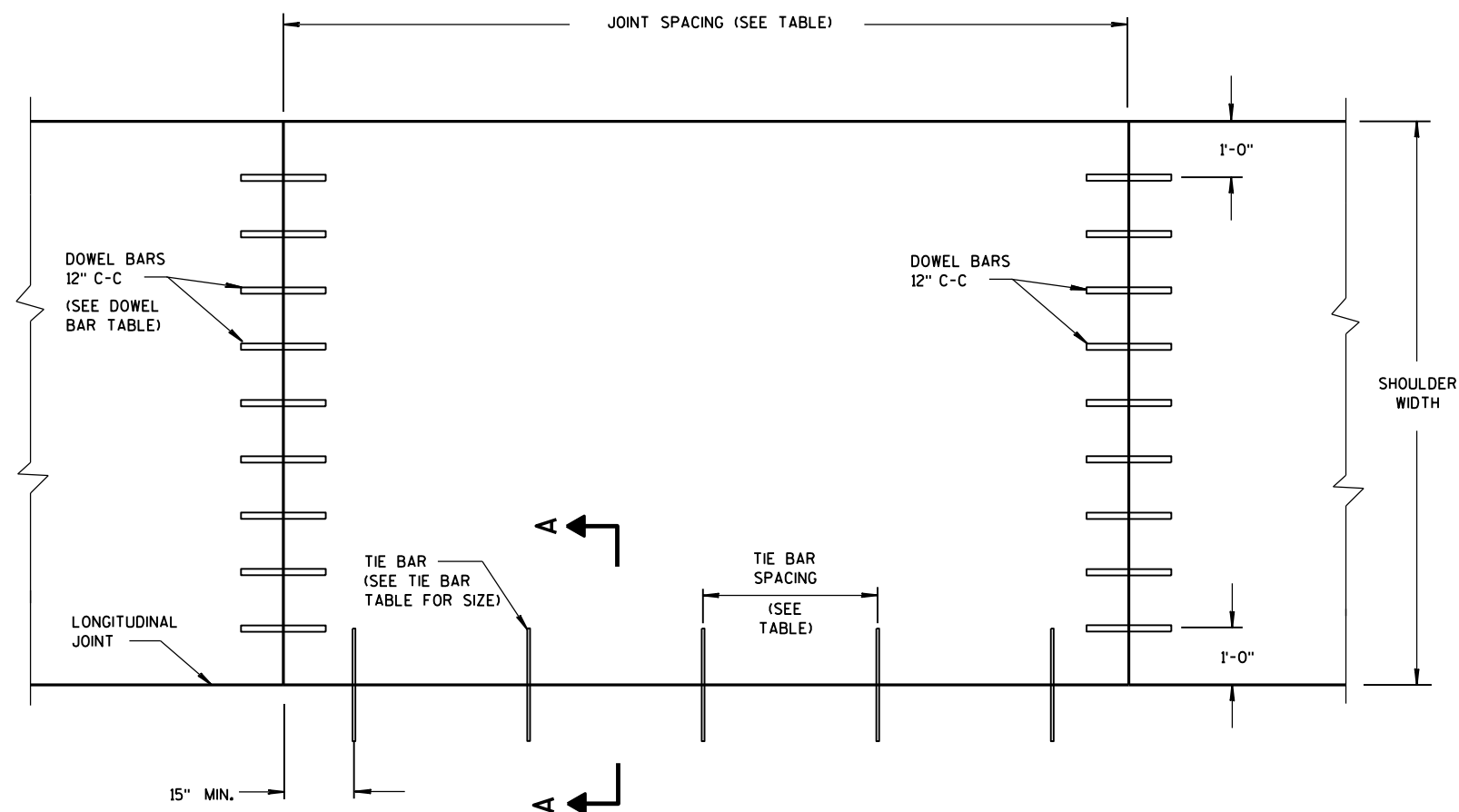


ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/26/10 DATE	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g., AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

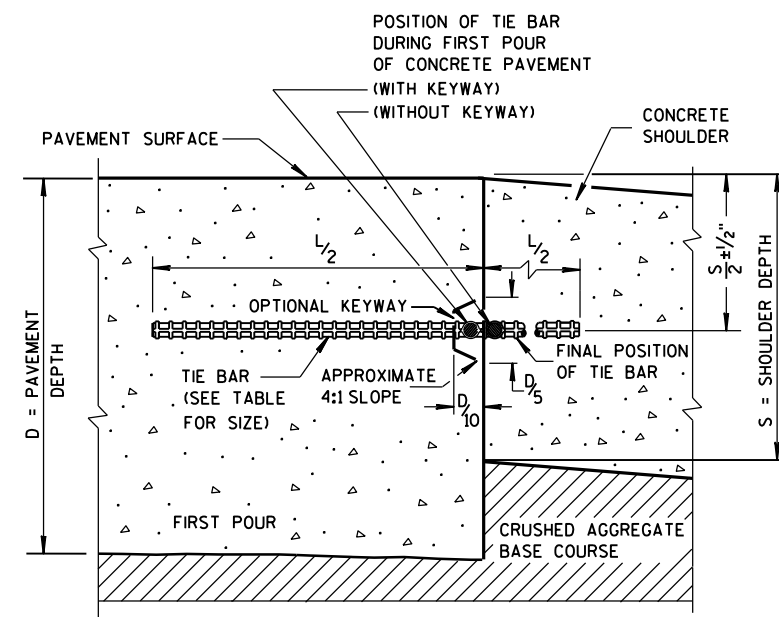
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

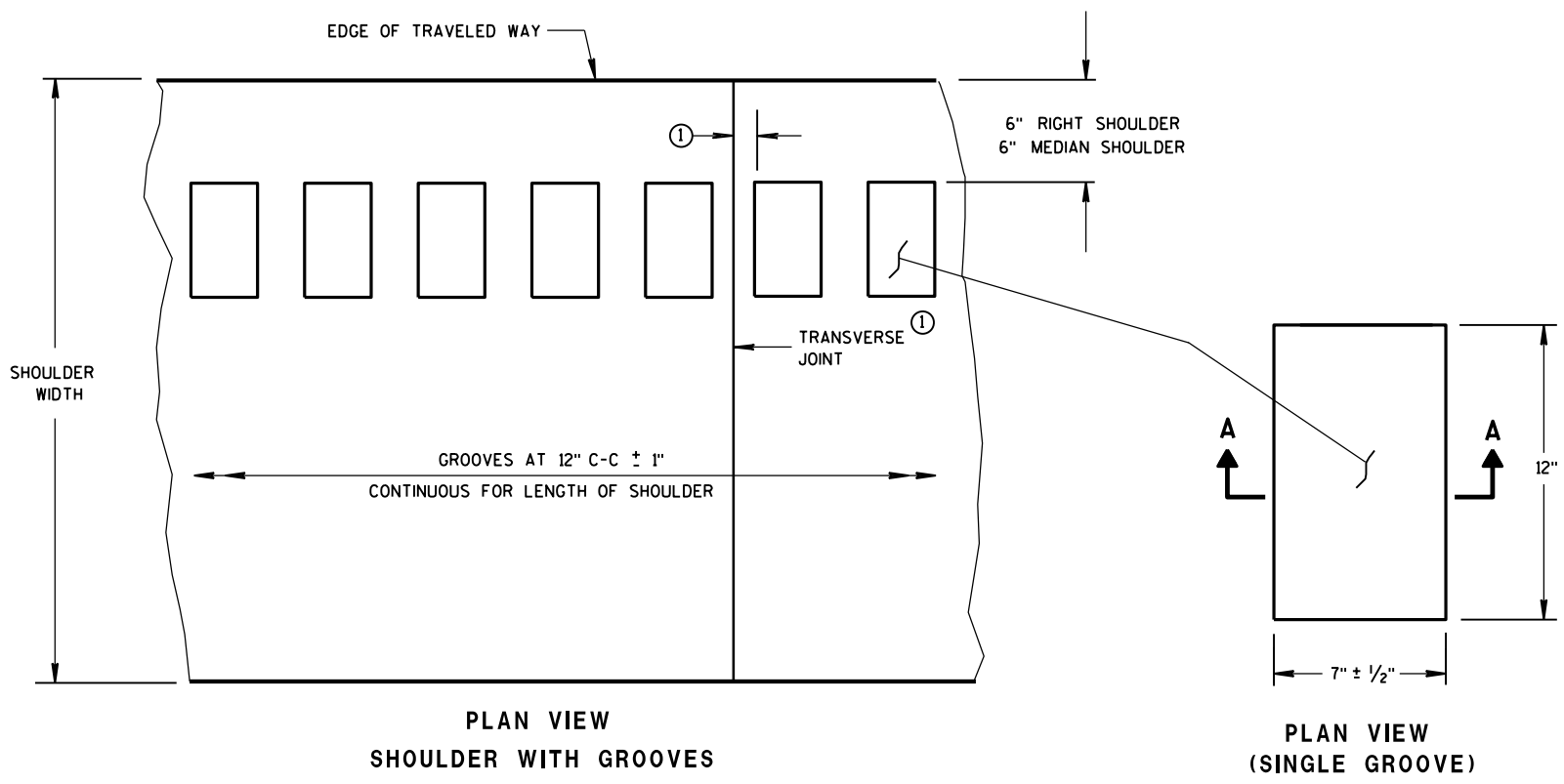
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

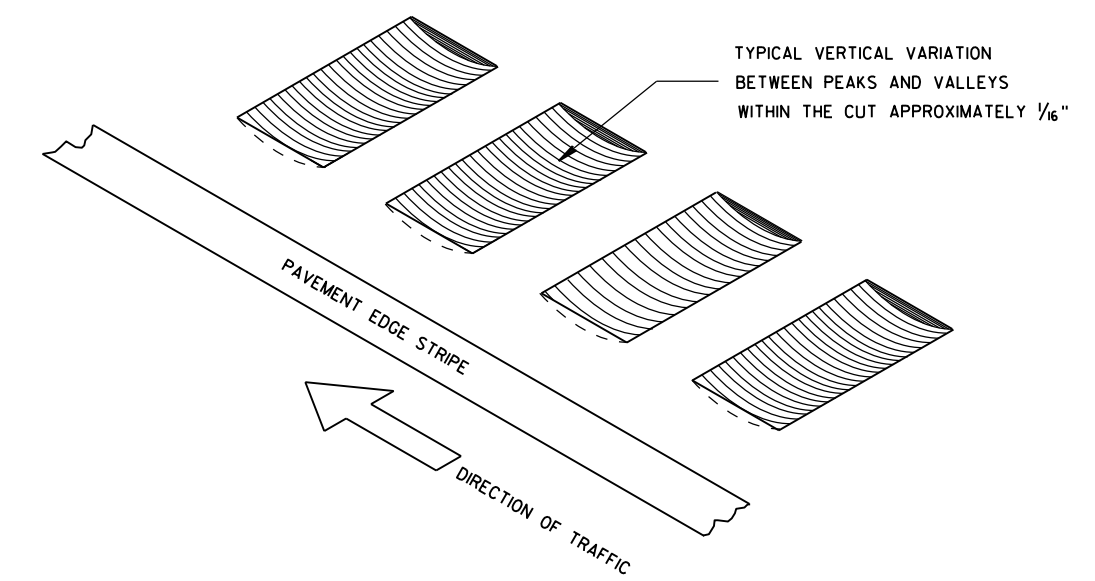
GENERAL NOTES

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

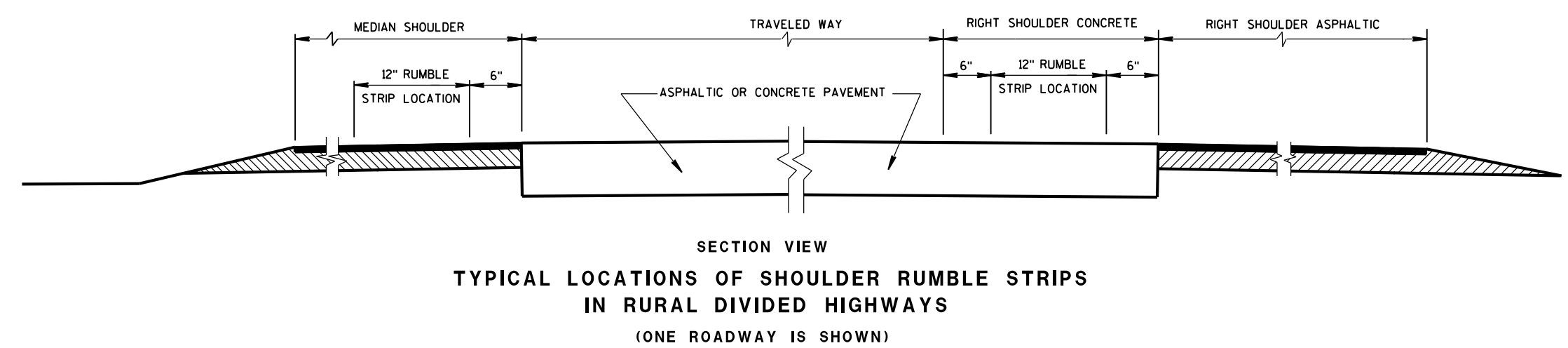
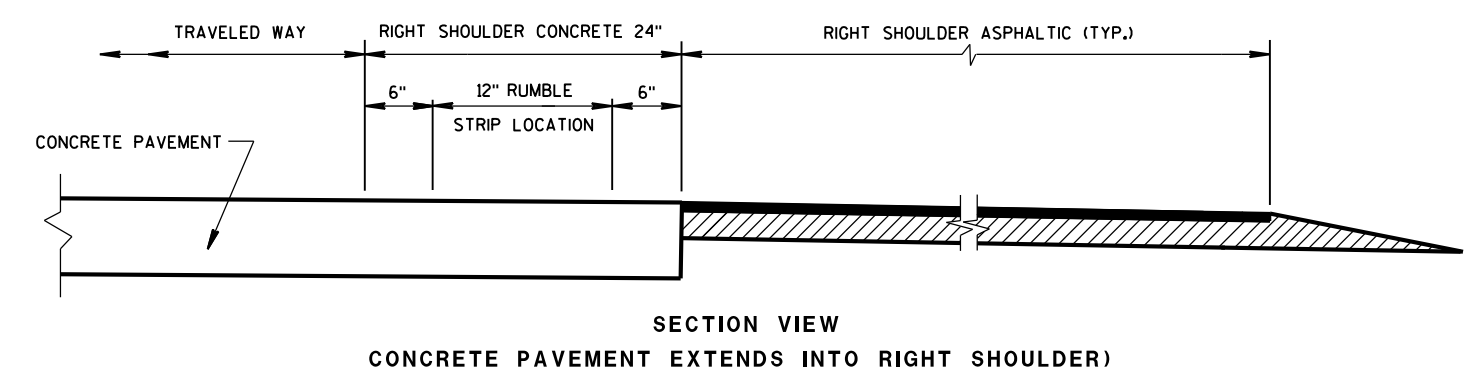
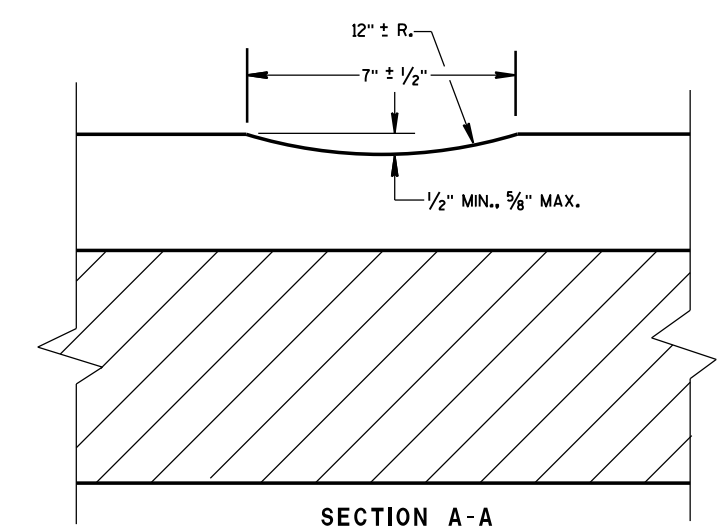
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

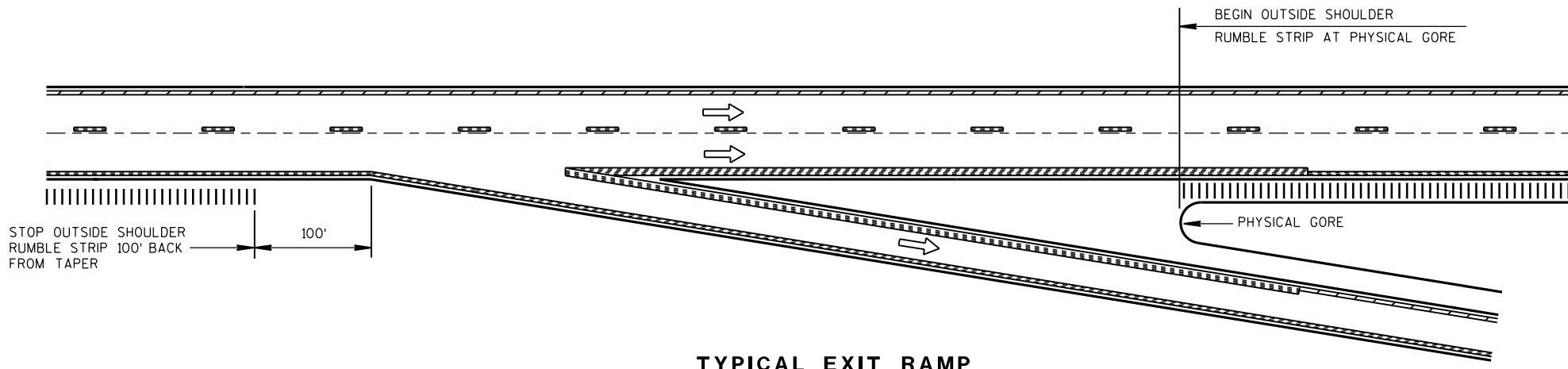
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



SHOULDER RUMBLE STRIP, MILLING
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

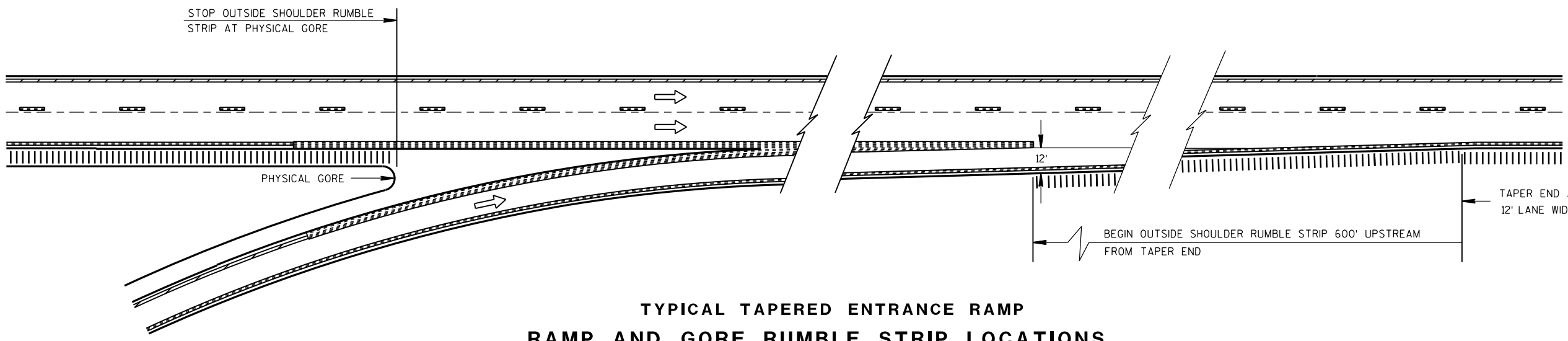


TYPICAL EXIT RAMP

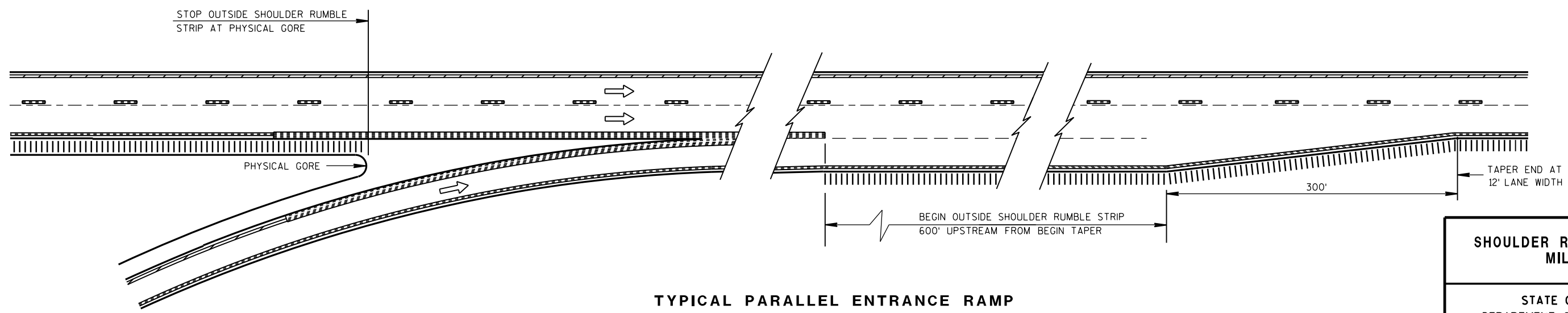
NOTES:
NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL

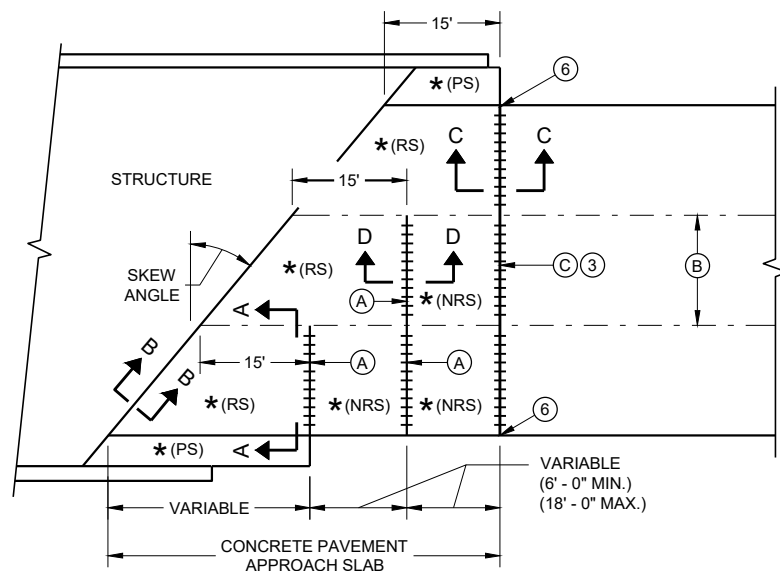


TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

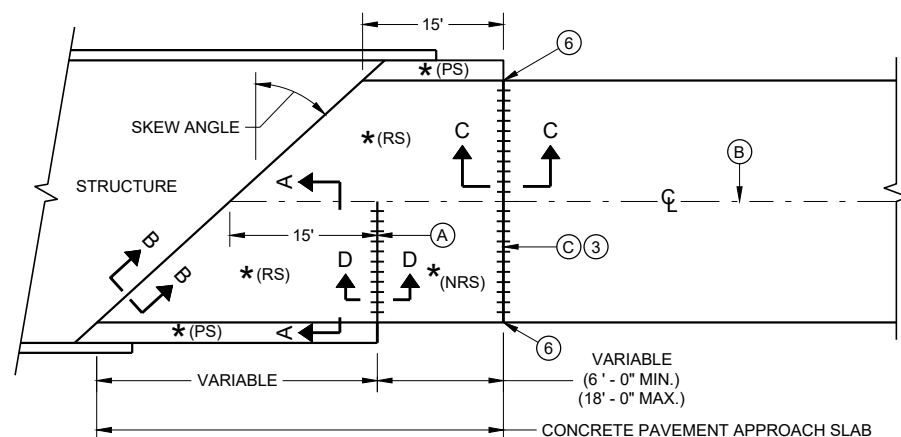


TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

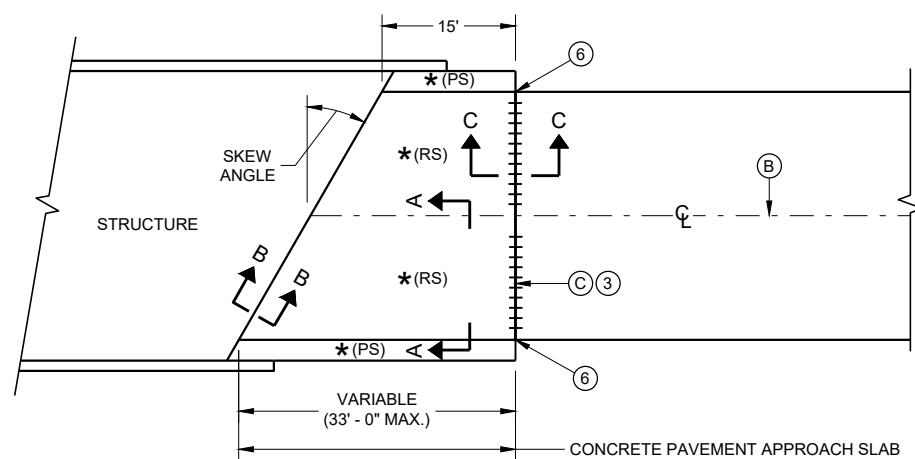
SHOULDER RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/17/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**



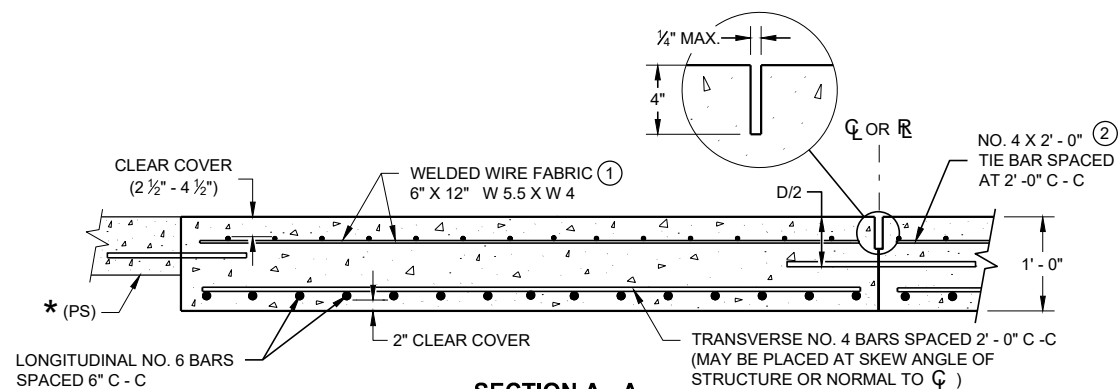
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



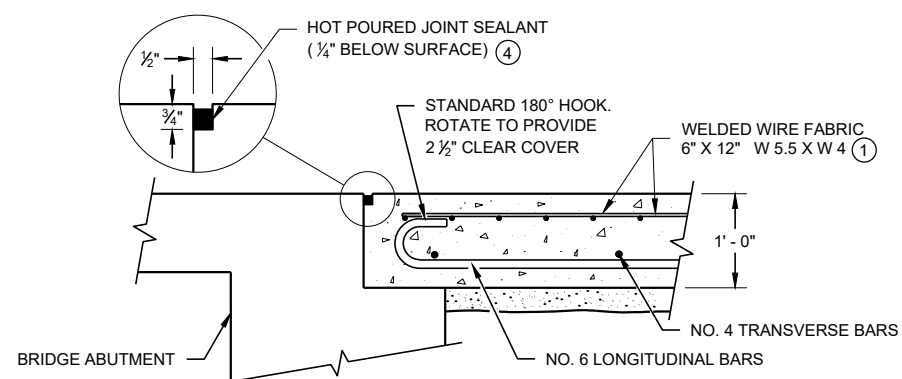
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

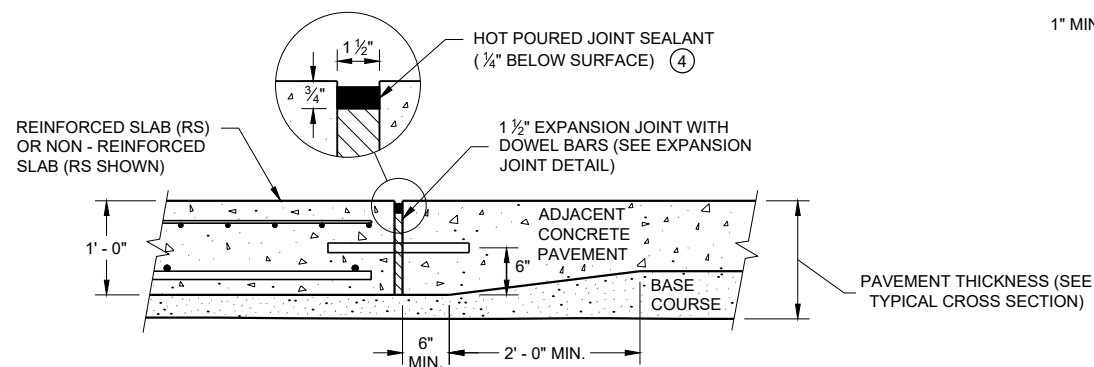
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



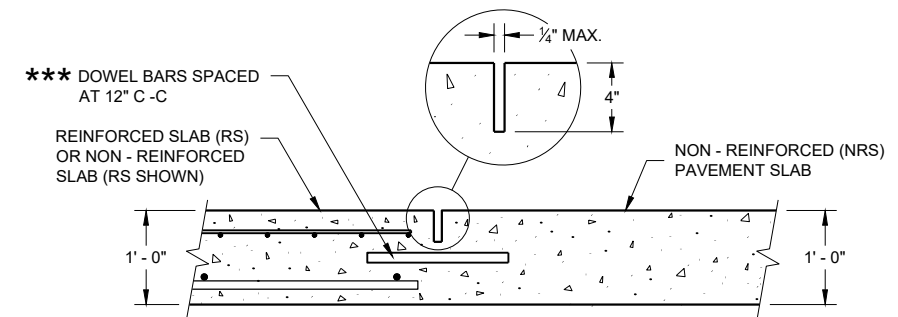
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

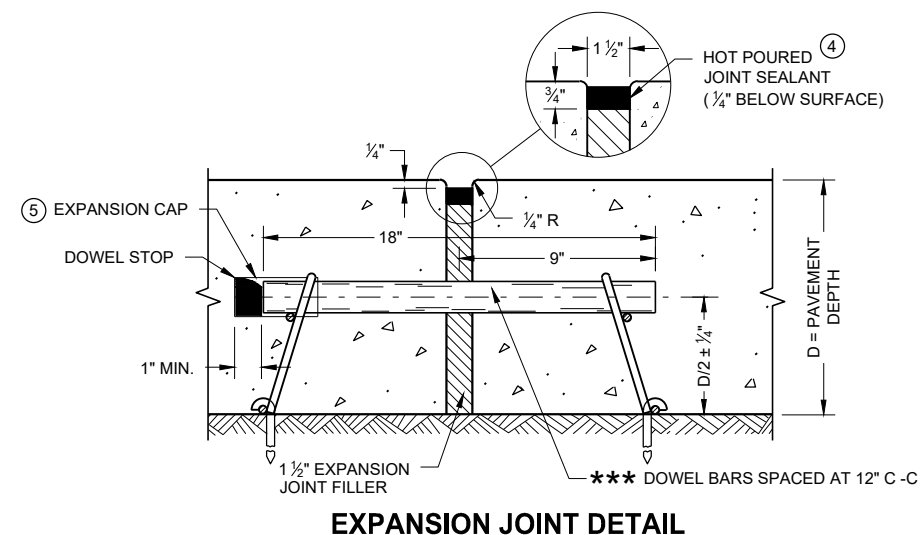
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① 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.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ 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.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



**SECTION D - D
CONTRACTION JOINT**



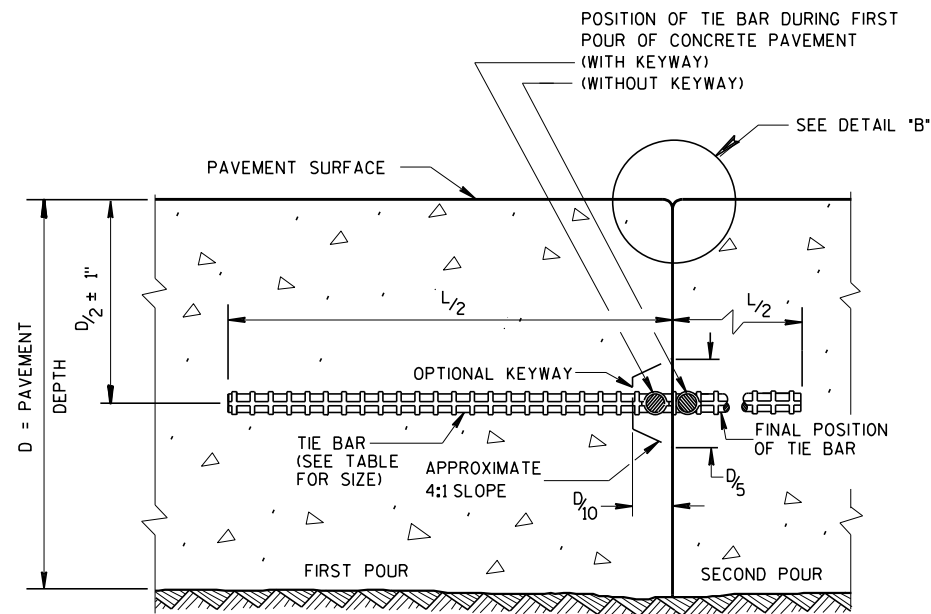
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

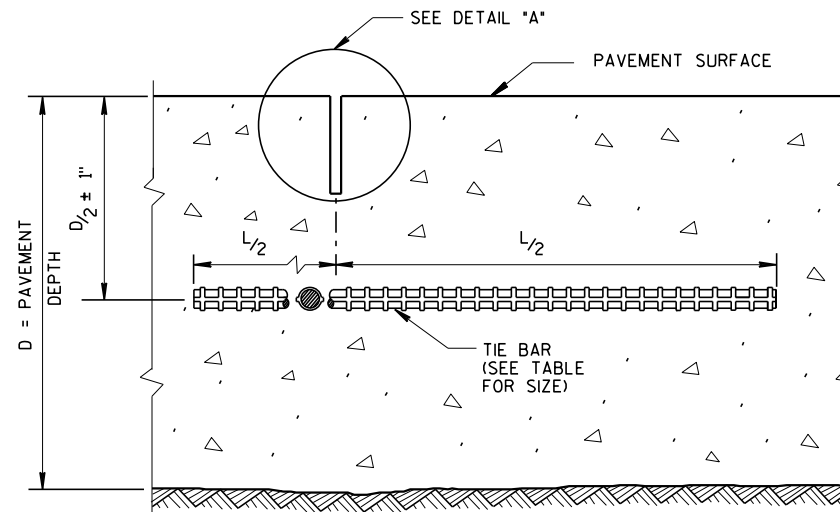
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR

FHWA



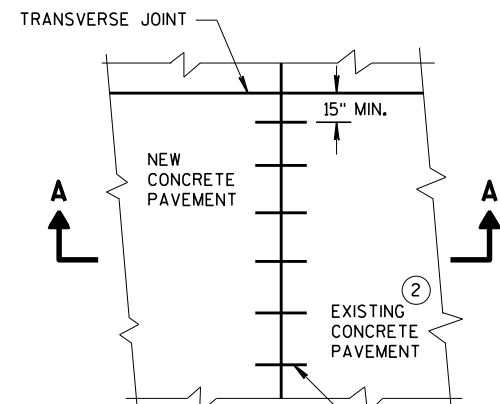
CONSTRUCTION JOINT



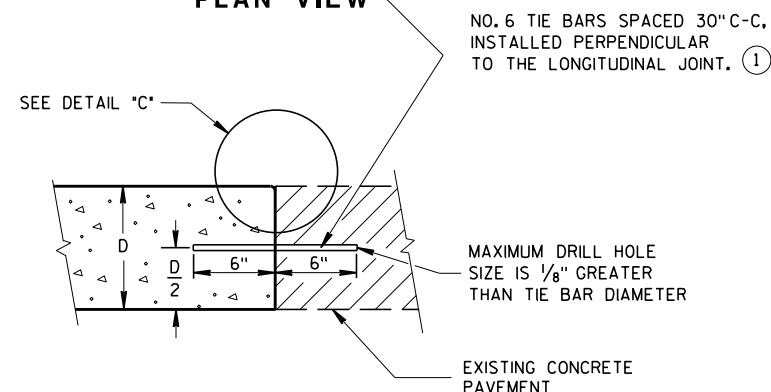
SAWED JOINT

GENERAL NOTES

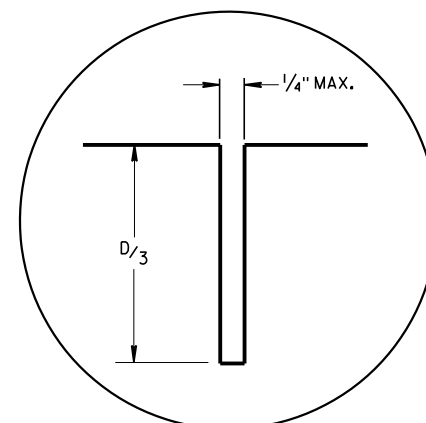
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- 1 ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
 - 2 PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



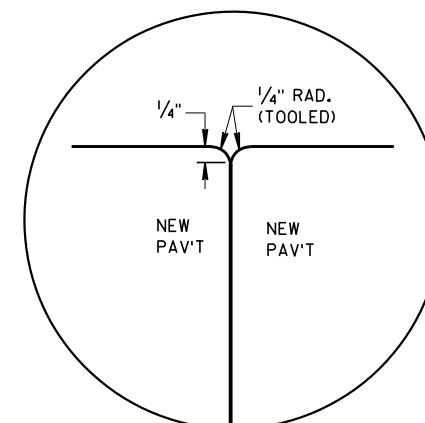
PLAN VIEW



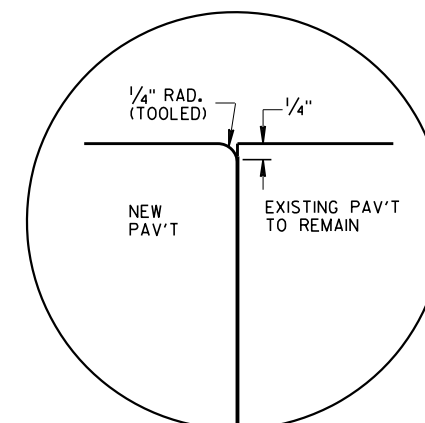
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



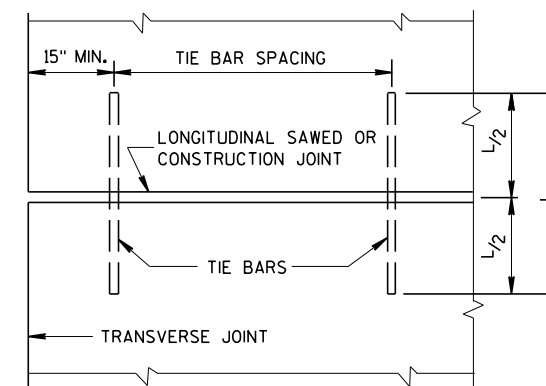
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
$< 10 \frac{1}{2}"$	NO. 4	30"	36"
$\geq 10 \frac{1}{2}"$	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



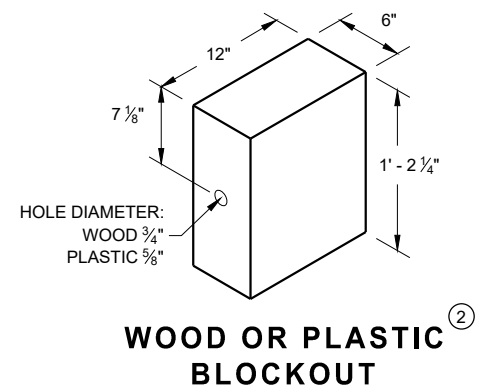
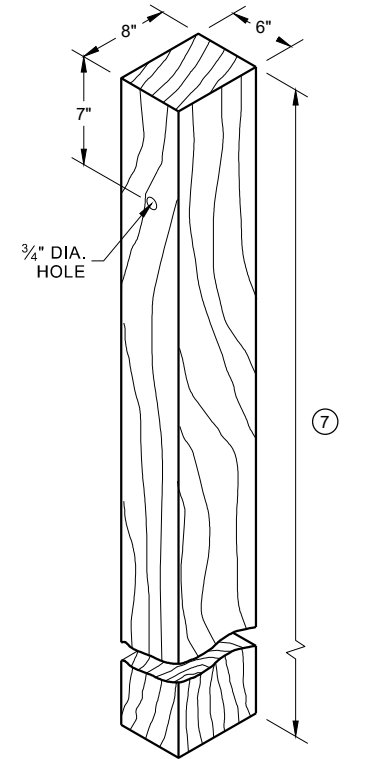
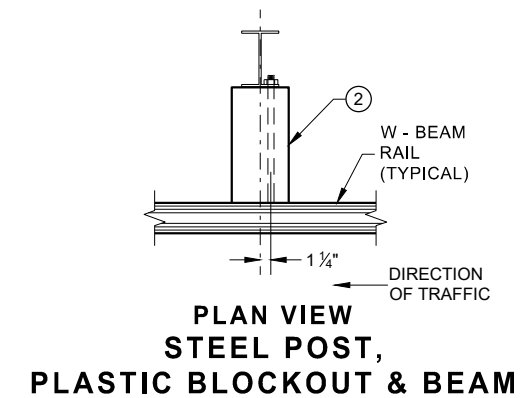
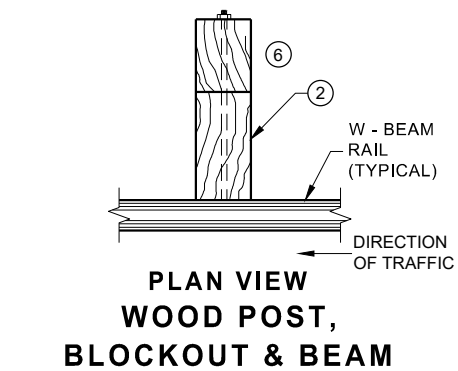
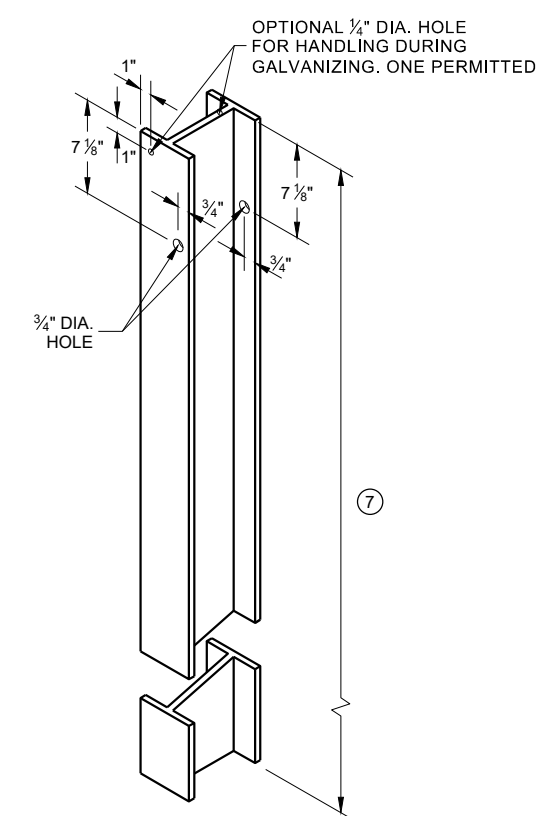
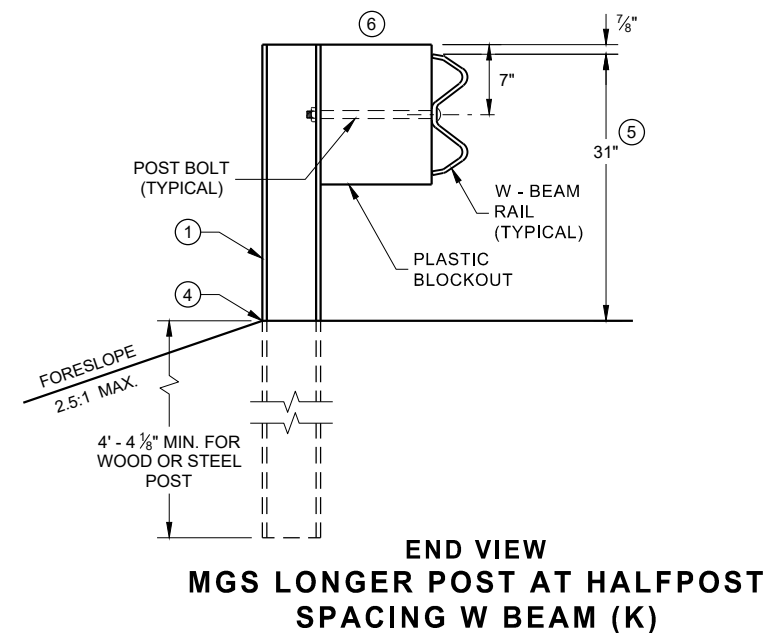
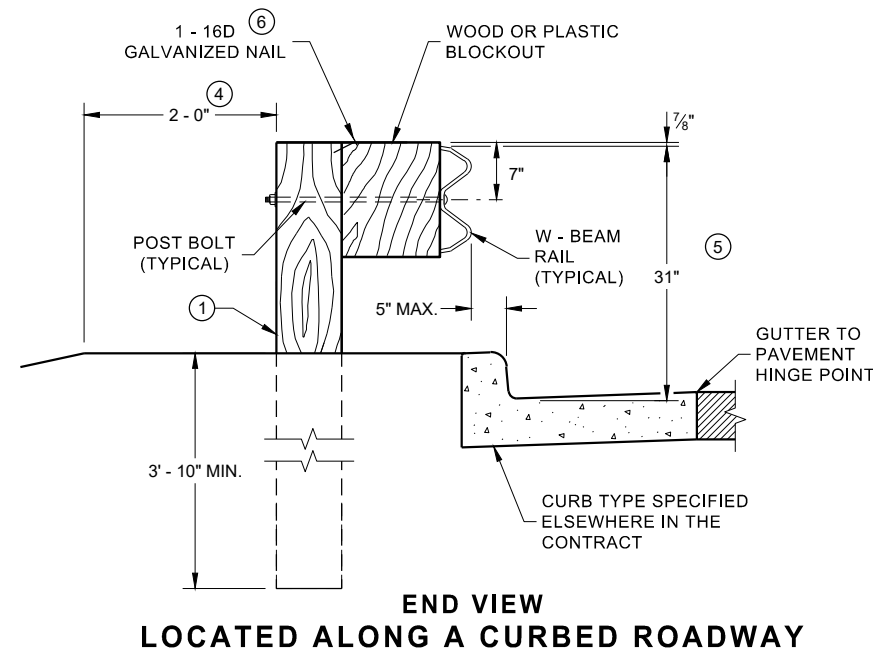
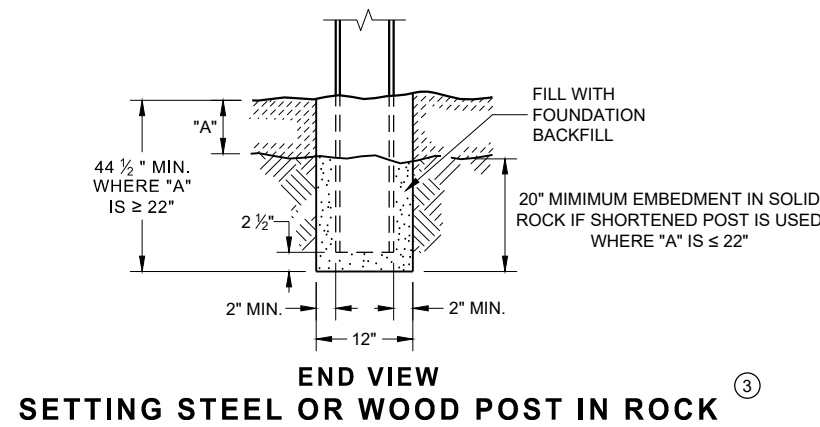
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

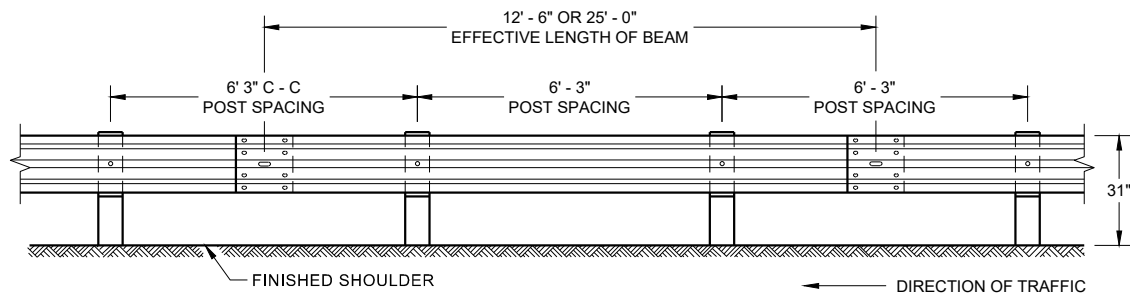
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

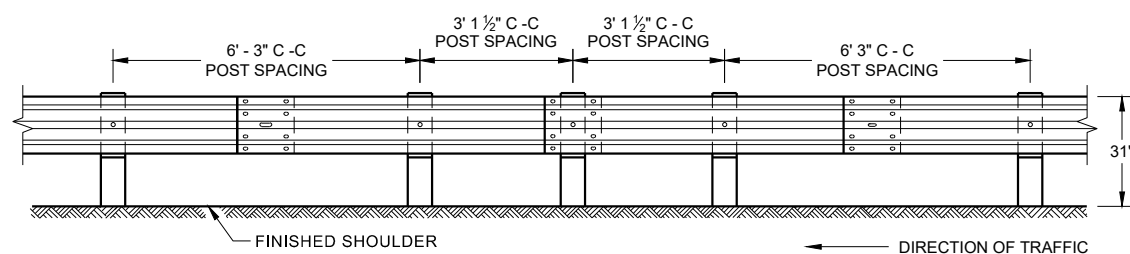


MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

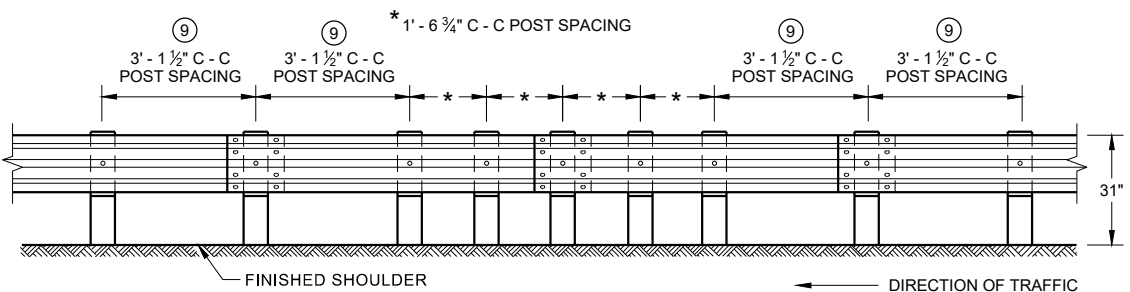
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



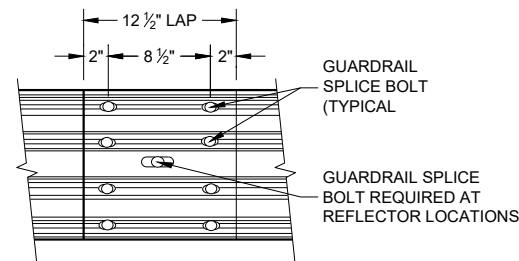
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



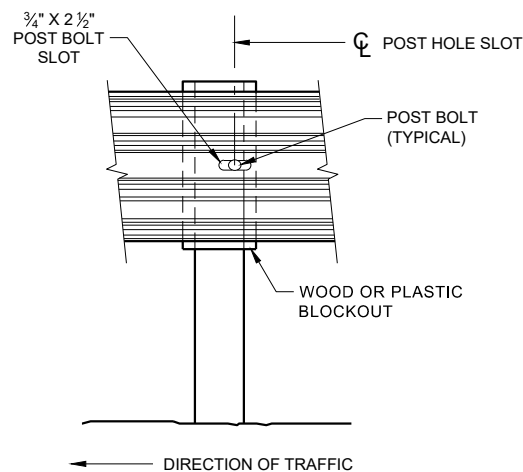
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



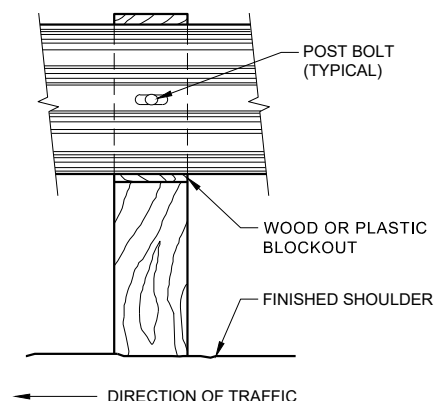
**FRONT VIEW
QUARTER POST SPACING (QS)**



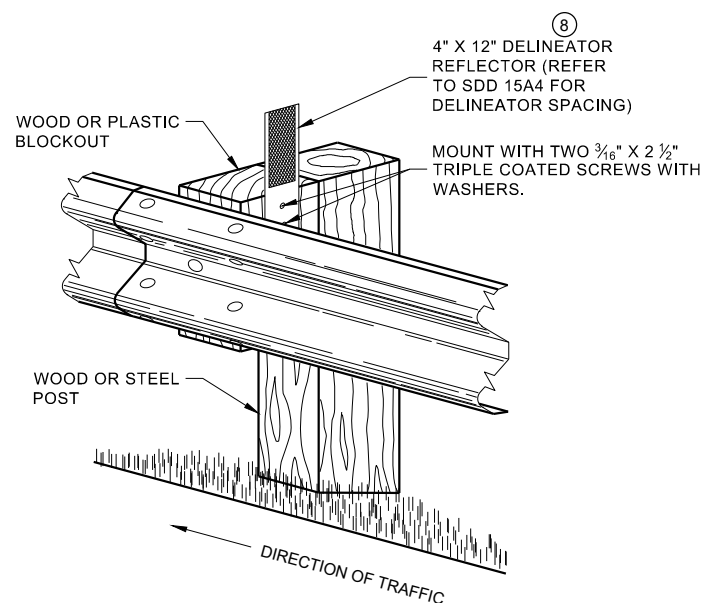
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



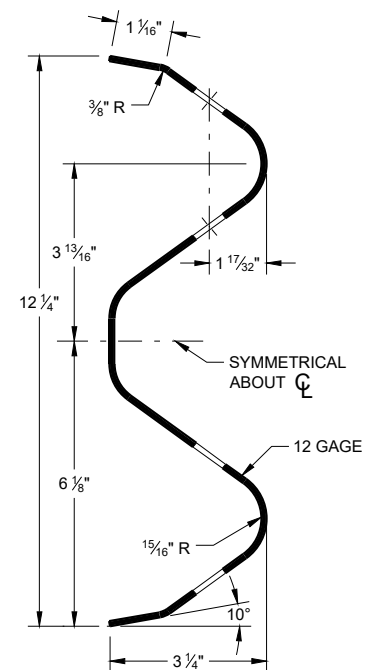
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

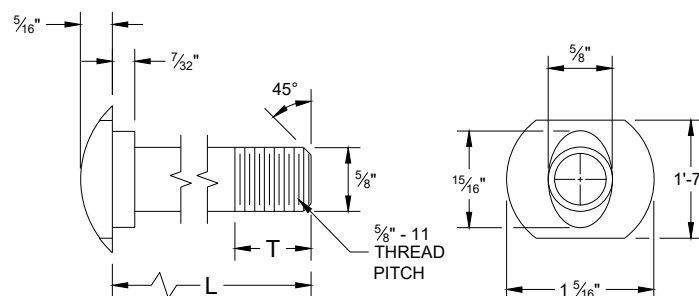


NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

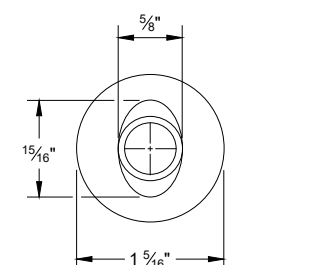
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

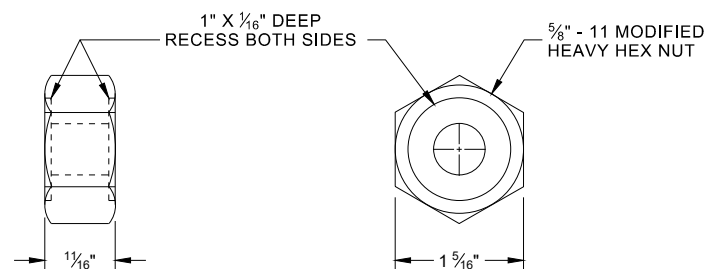


POST BOLT TABLE

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

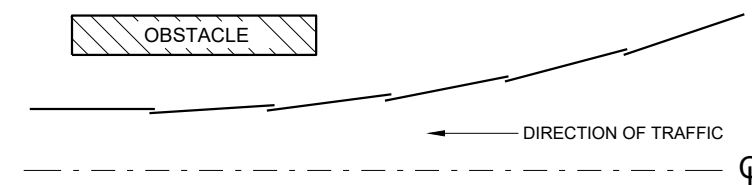


ALTERNATE BOLT HEAD

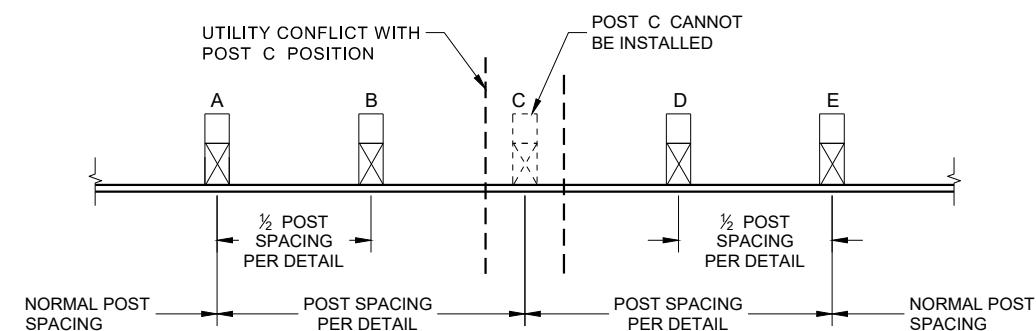


POST BOLT, SPLICE BOLT AND RECESS NUT

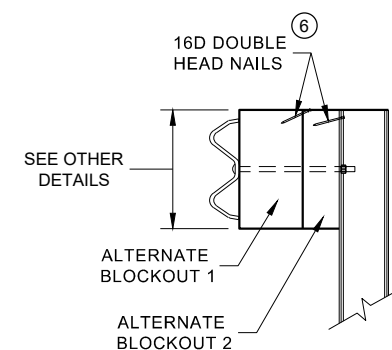
⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



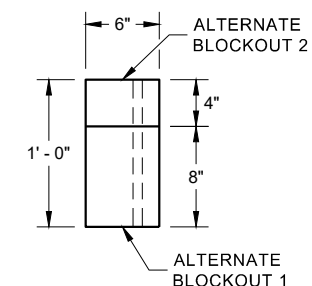
**PLAN VIEW
BEAM LAPPING DETAIL**



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

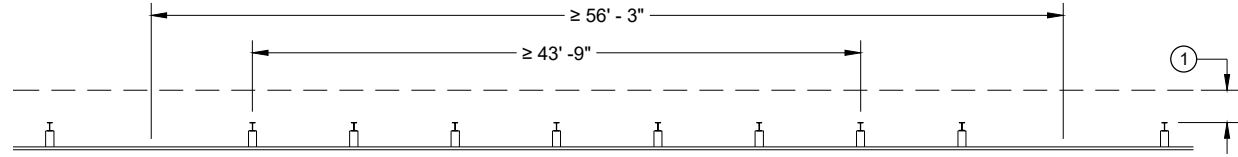


PLAN VIEW

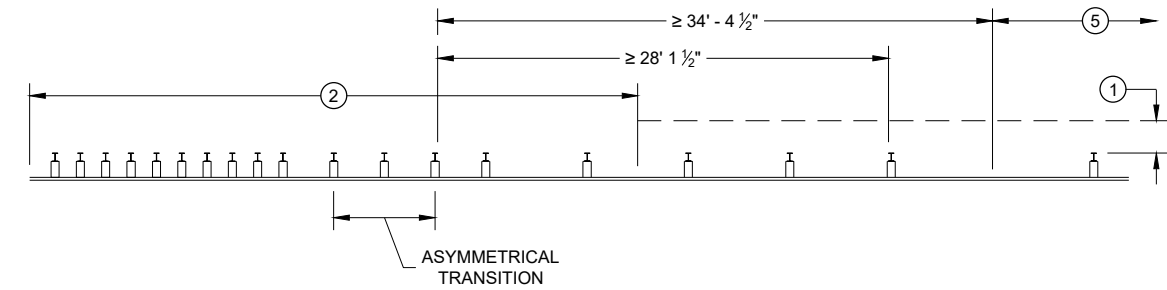
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

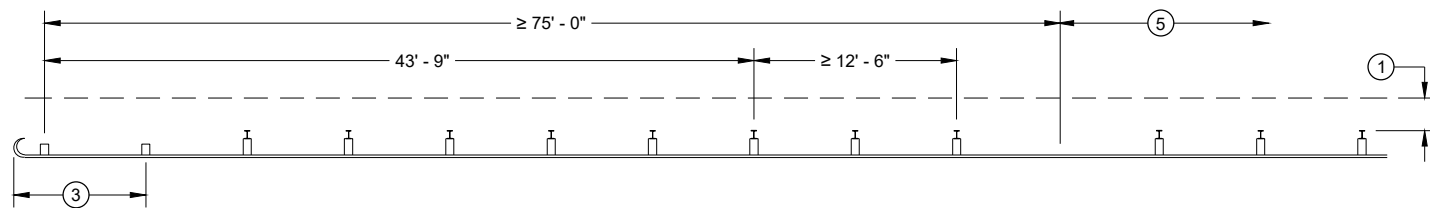
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



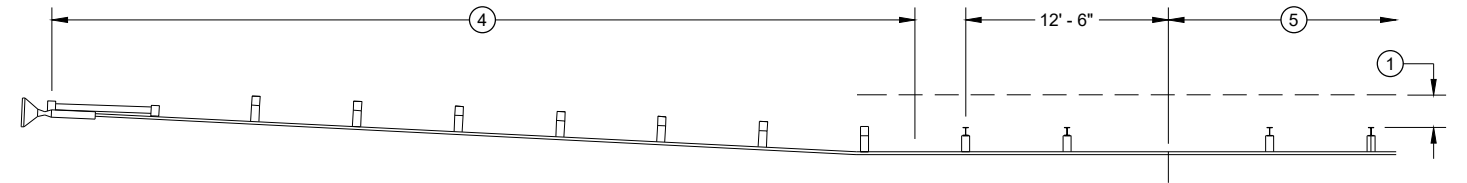
MISSING POST IN NORMAL BEAM GUARD RUN



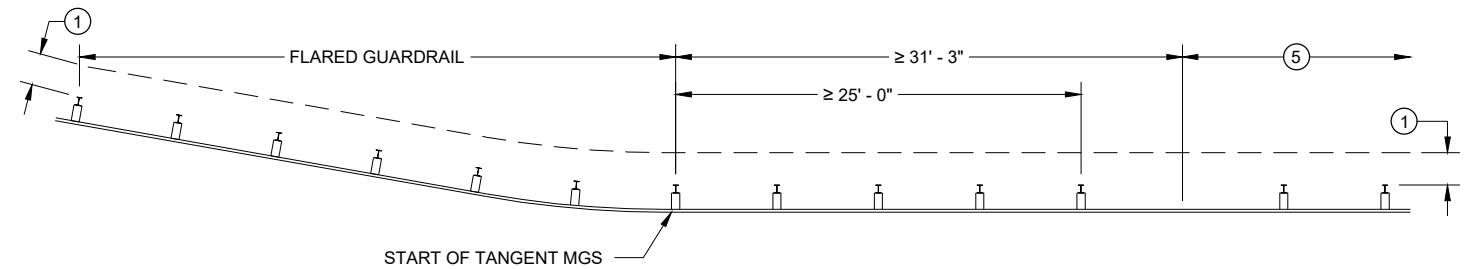
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



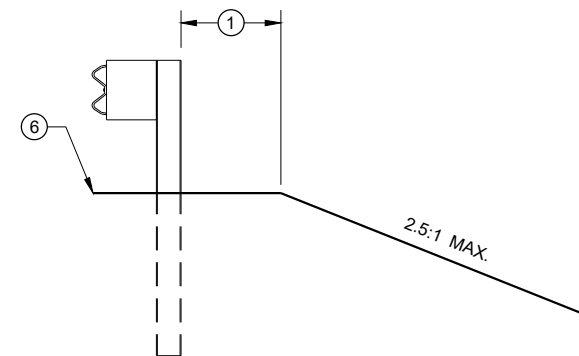
MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



CROSS SECTION VIEW

- (1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- (2) SEE SDD 14B45 FOR MORE DETAILS.
- (3) SEE SDD 14B47 FOR MORE DETAILS.
- (4) SEE SDD 14B44 FOR MORE DETAILS.
- (5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- (6) SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

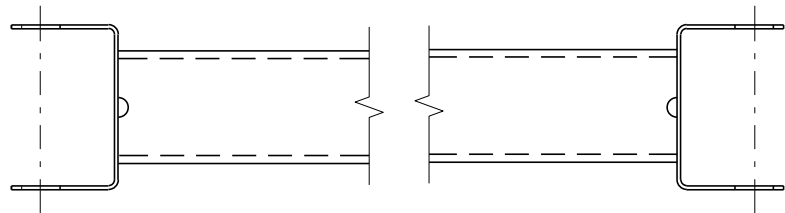
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

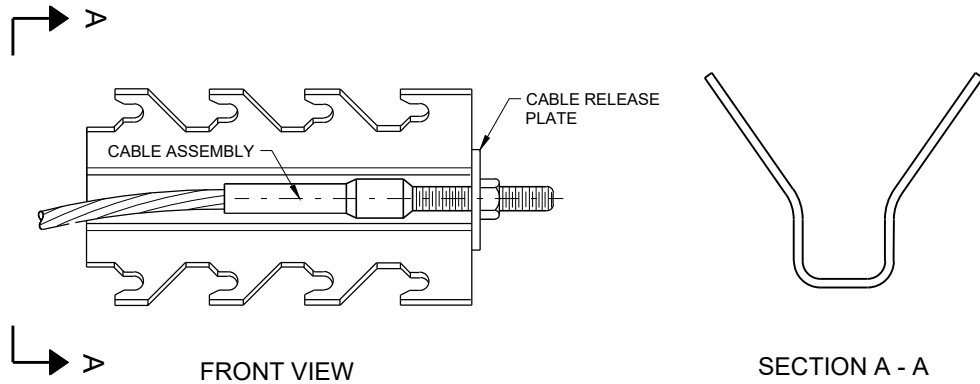


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

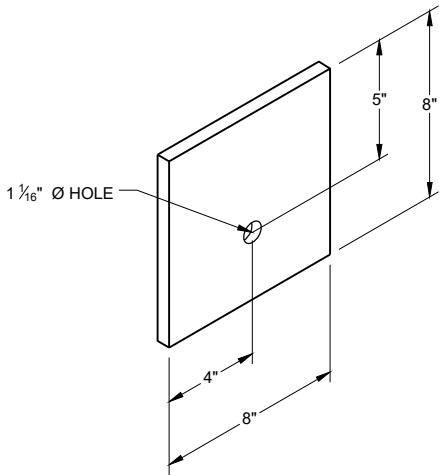


GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



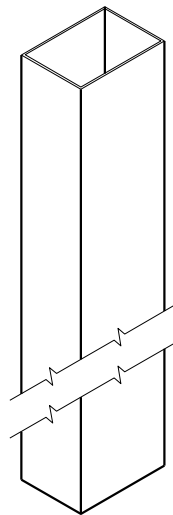
GENERIC ANCHOR CABLE BOX⁹ ^E



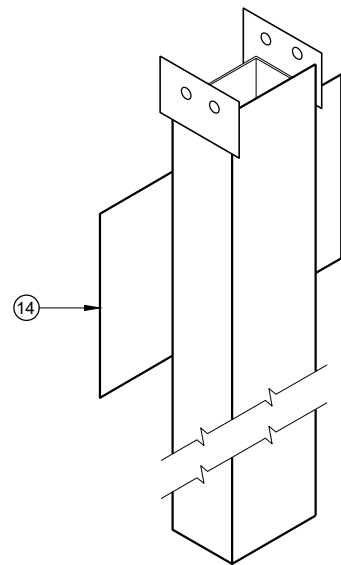
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

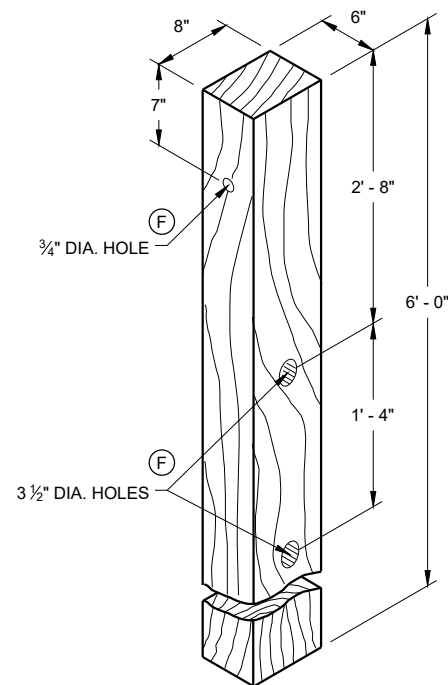
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



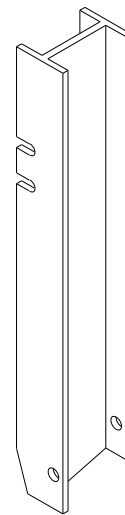
UPPER POST NO. 1 ⁽¹⁾ (E)



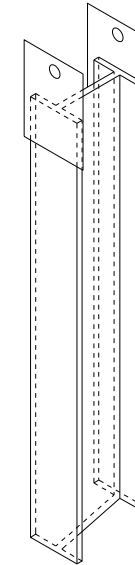
LOWER POST NO. 1 ⁽²⁾ (E)



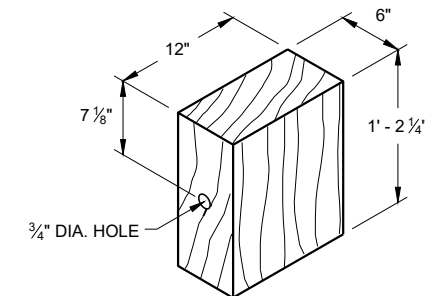
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



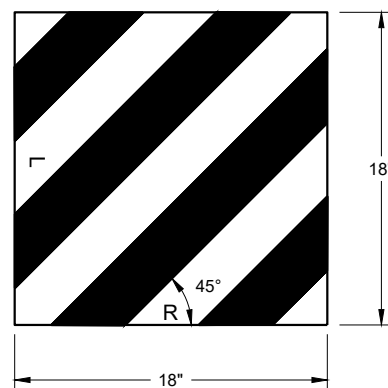
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



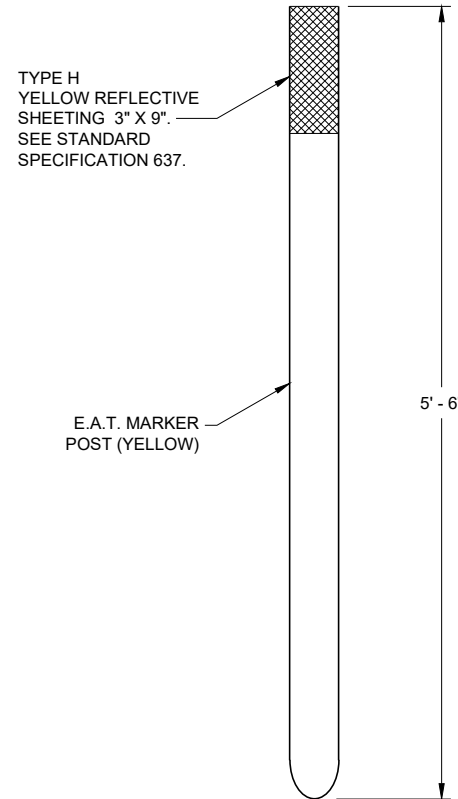
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)

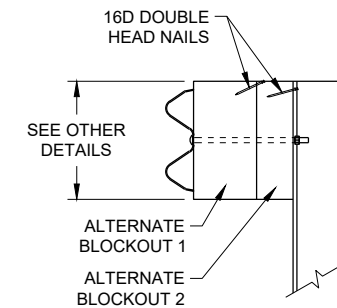


FRONT VIEW

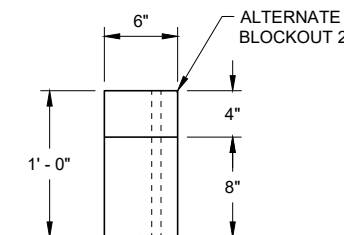


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



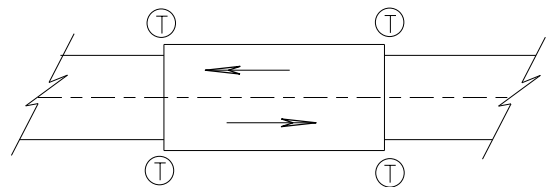
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

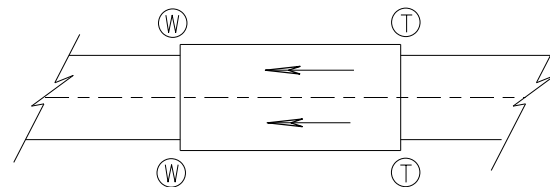
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

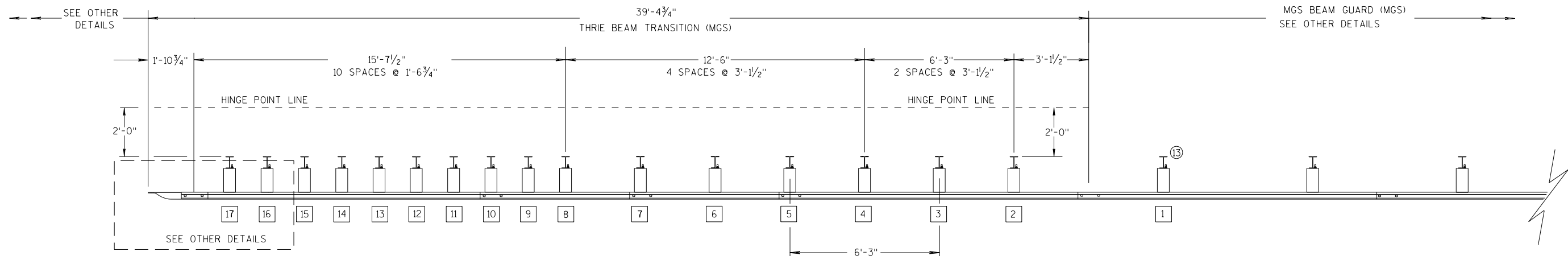
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

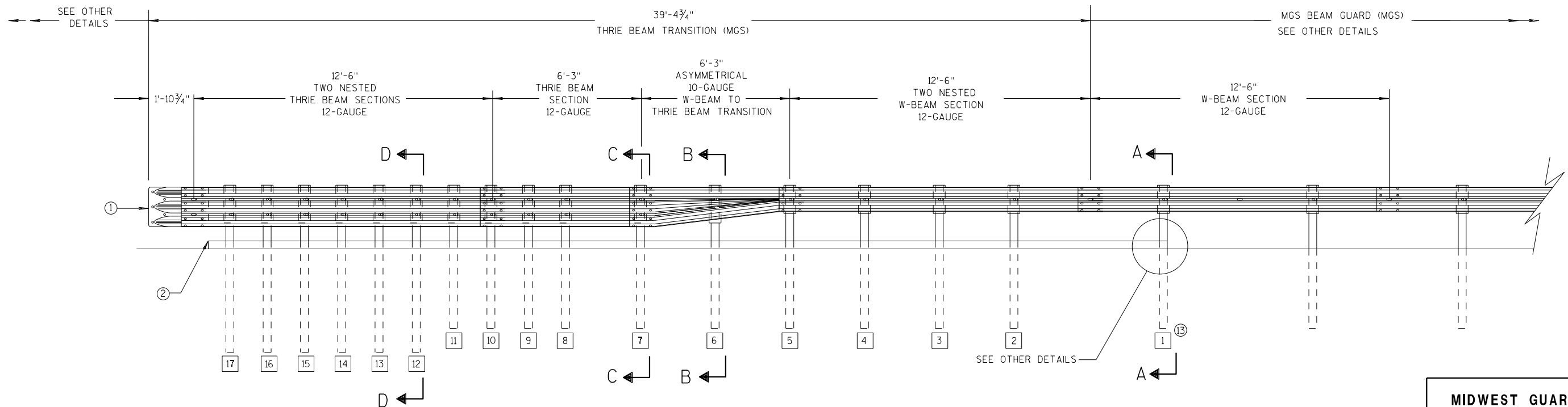
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

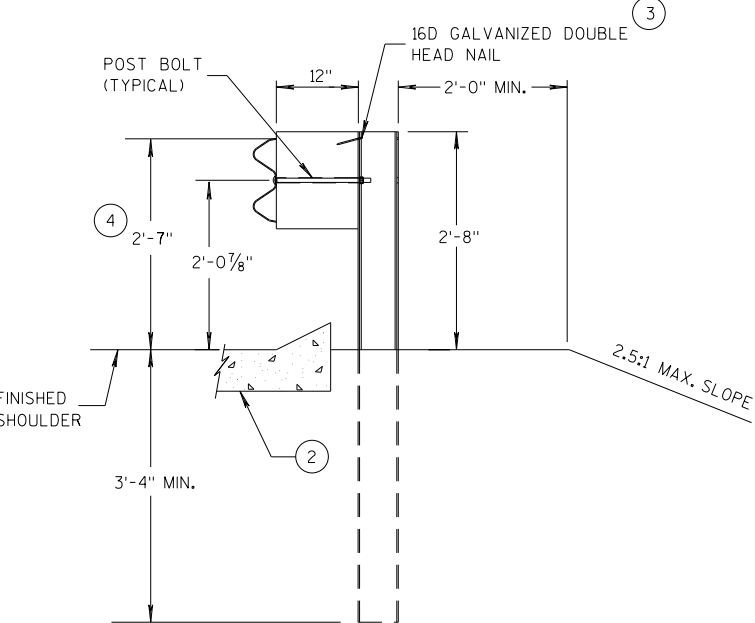
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

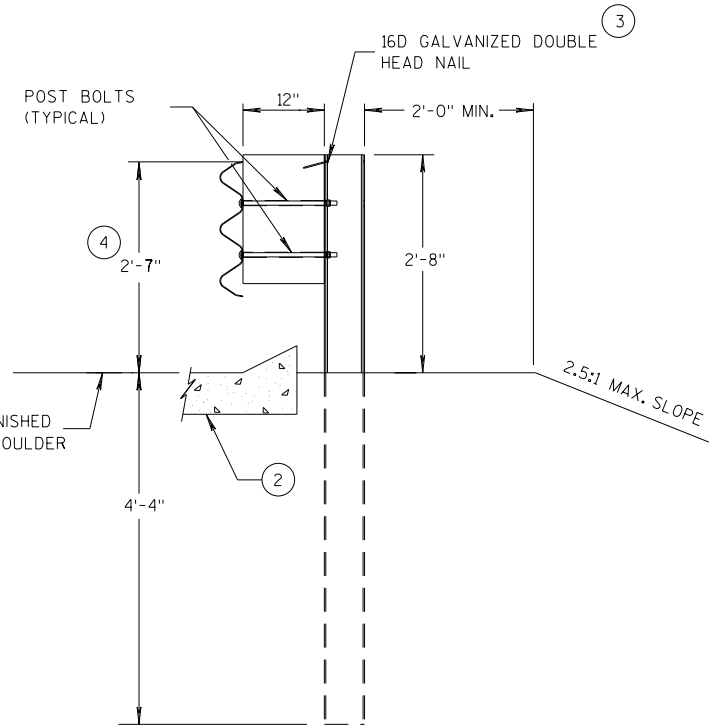
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

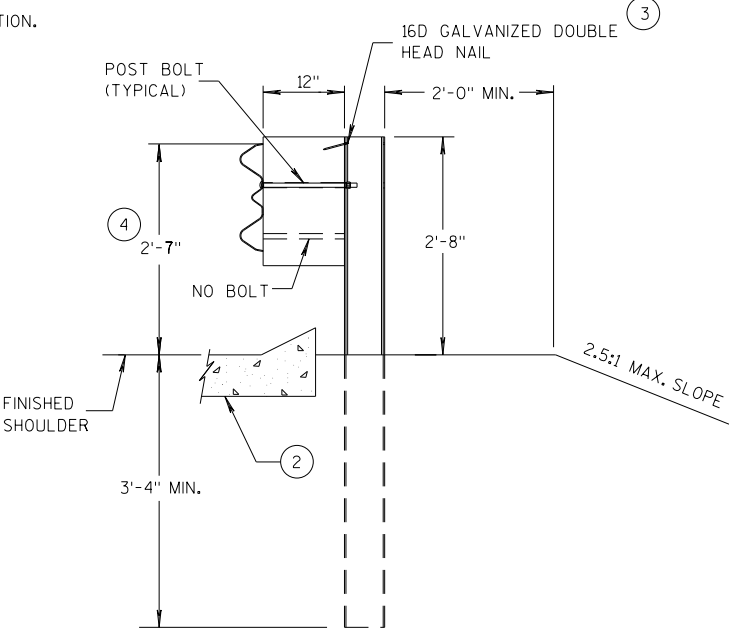
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



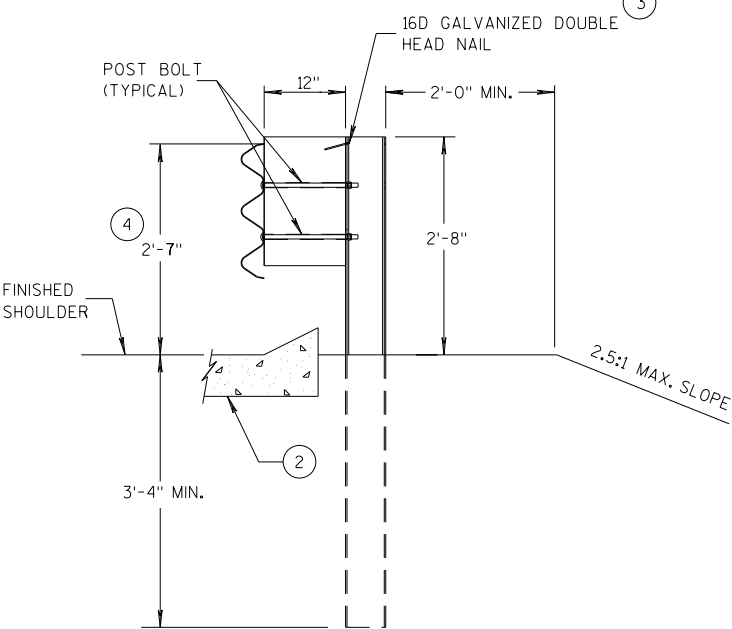
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

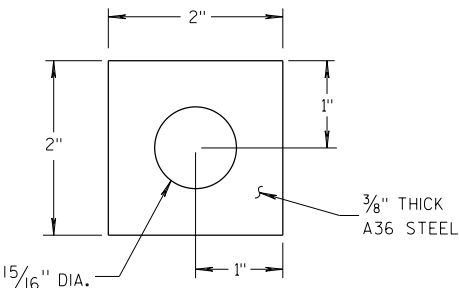
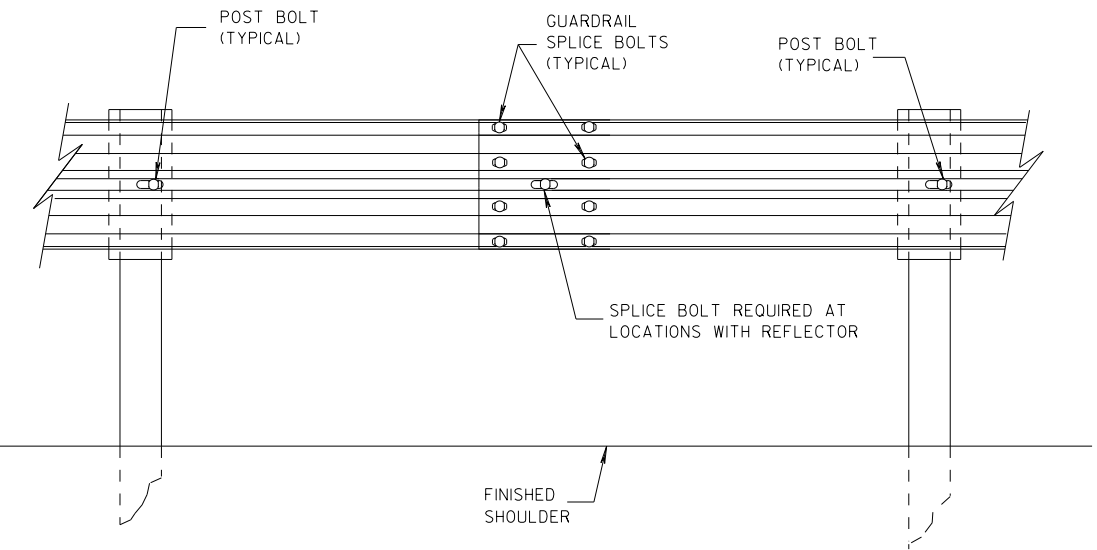
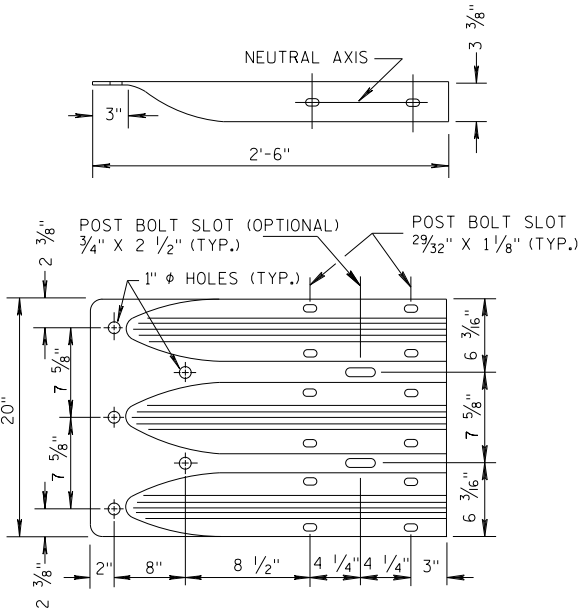


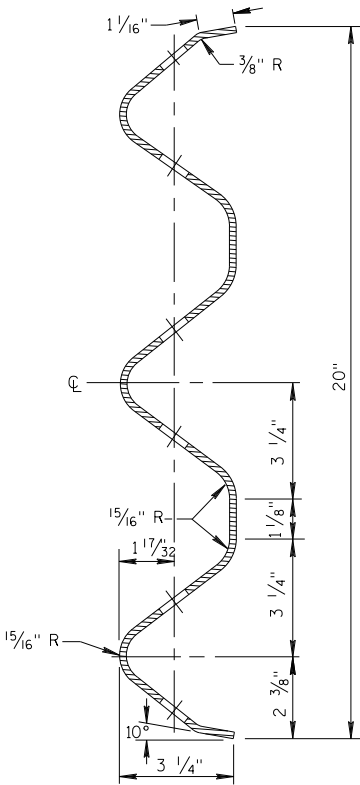
PLATE WASHER DETAIL



SPLICE DETAIL



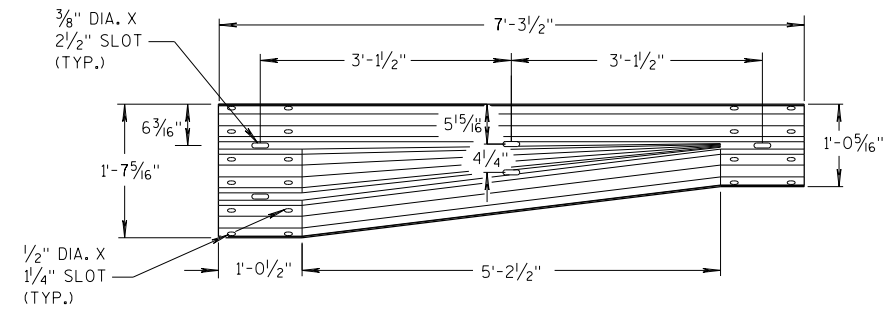
THRIE BEAM
TERMINAL CONNECTOR



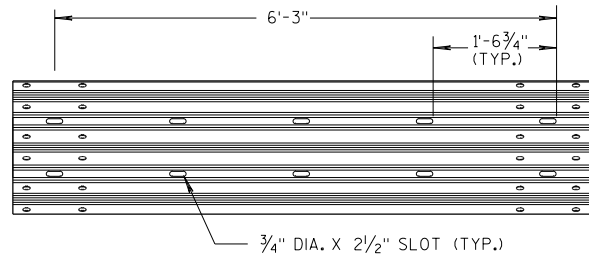
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

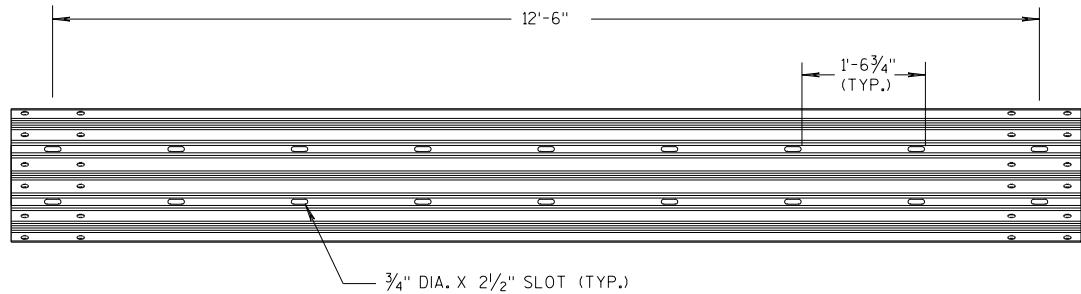
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



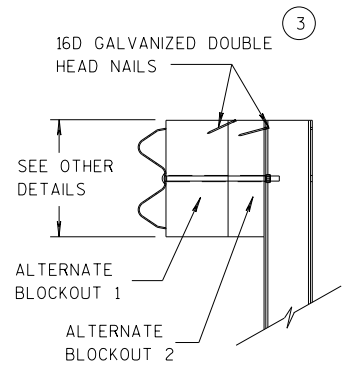
W-BEAM TO THRIE BEAM TRANSITION SECTION



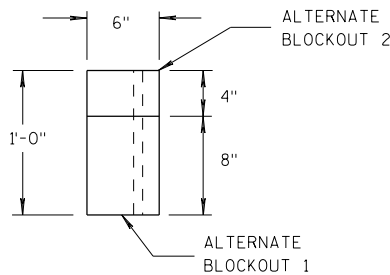
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

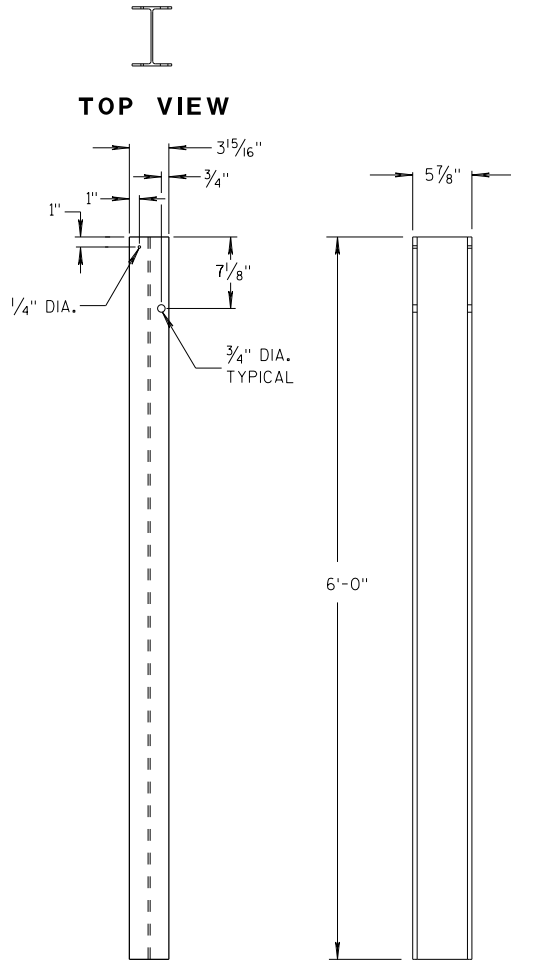


SIDE VIEW



TOP VIEW

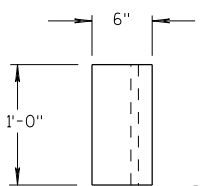
ALTERNATE WOOD BLOCKOUT DETAIL



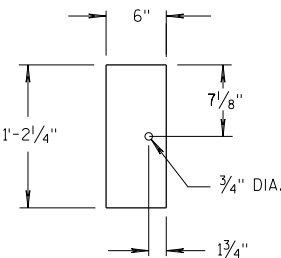
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

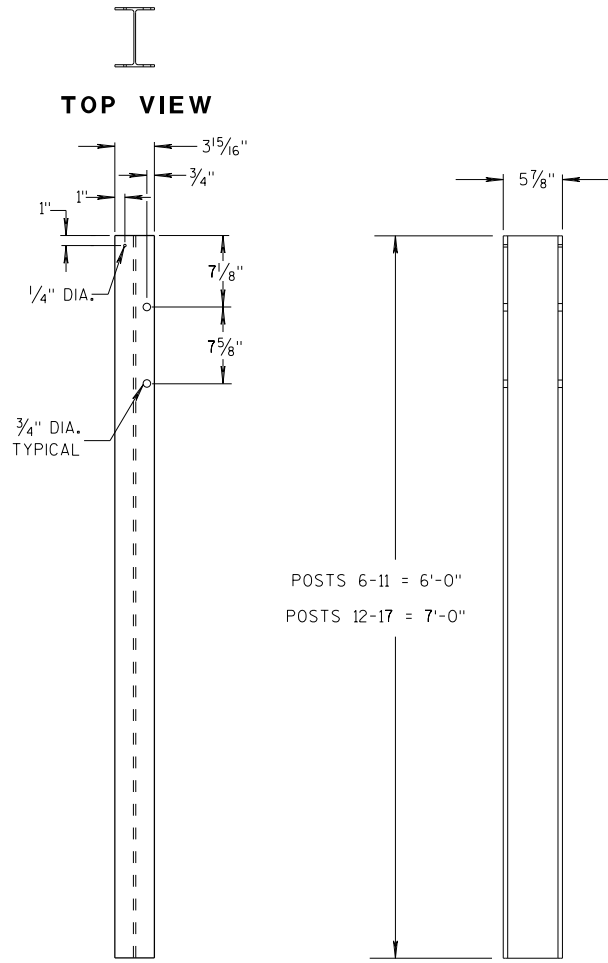


TOP VIEW



FRONT VIEW

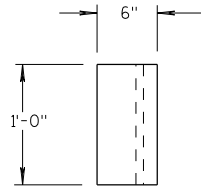
BLOCKOUT POSTS 1-5



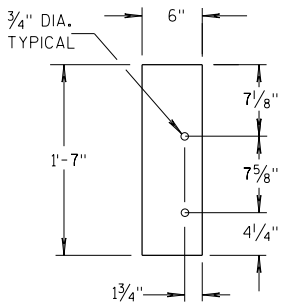
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

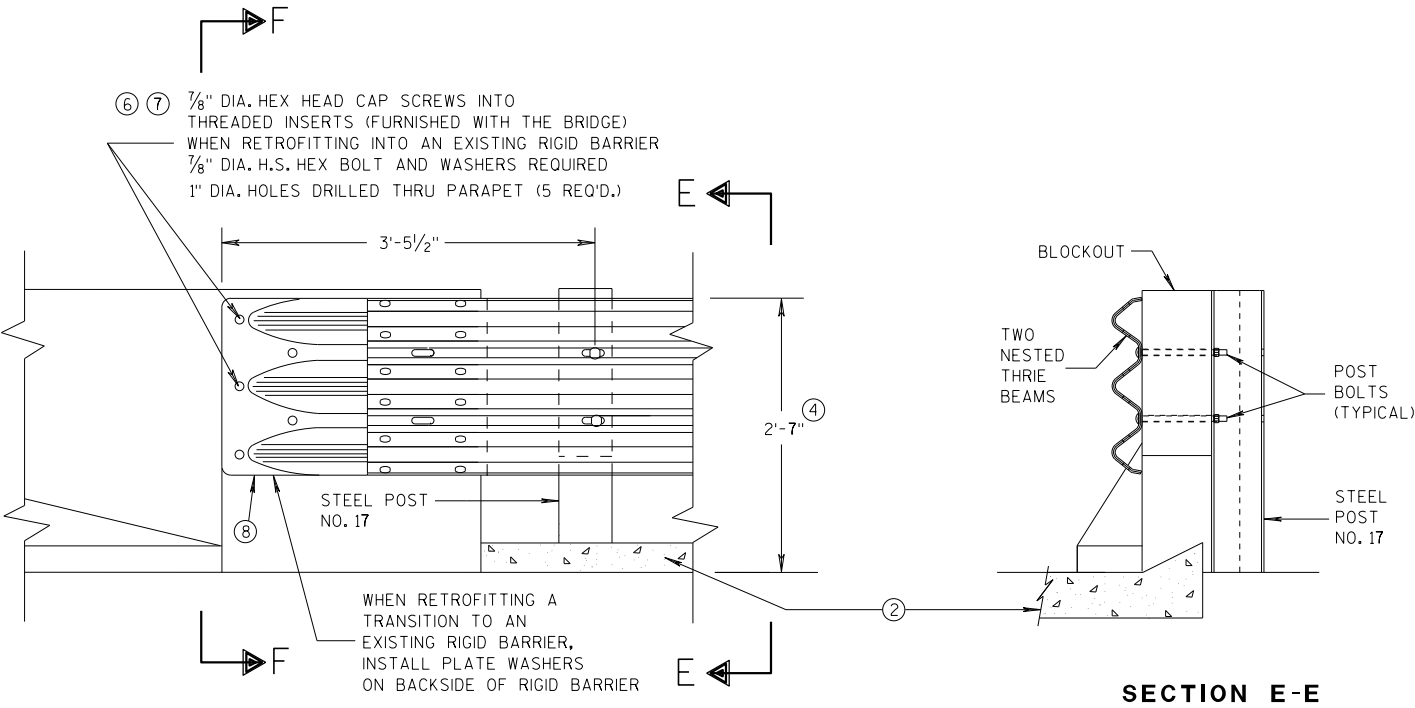
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

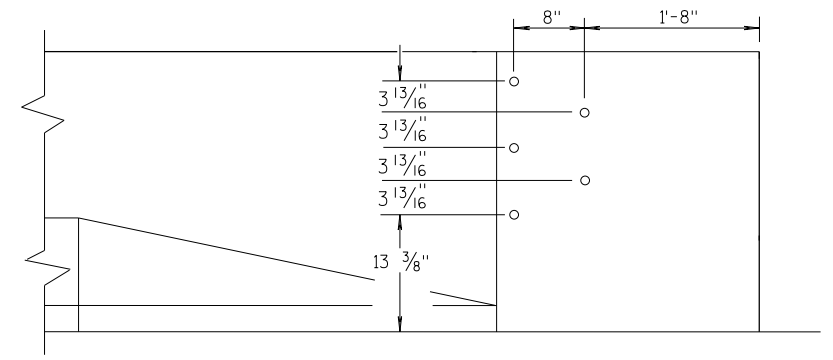
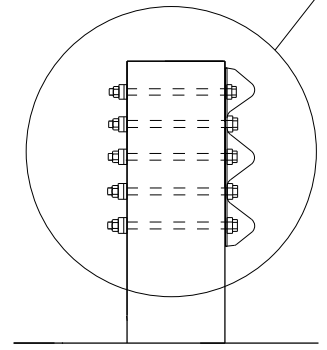
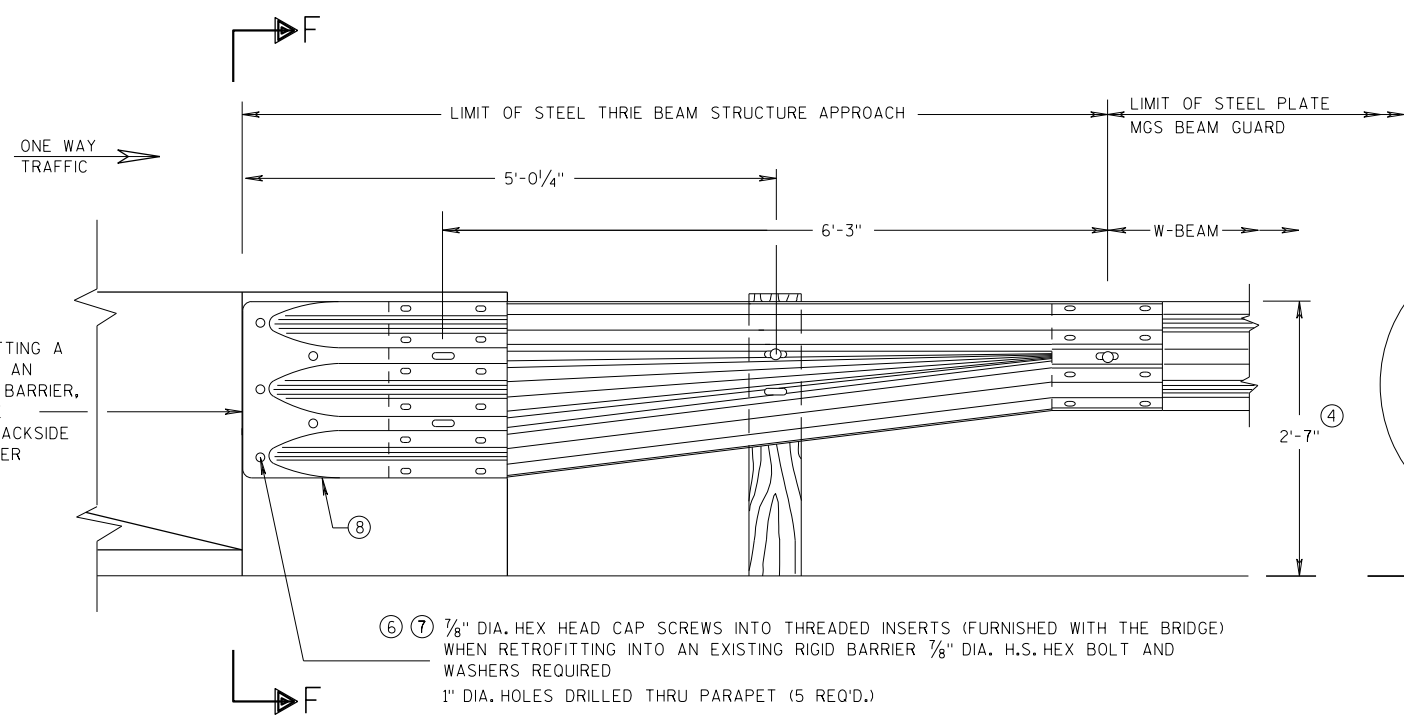
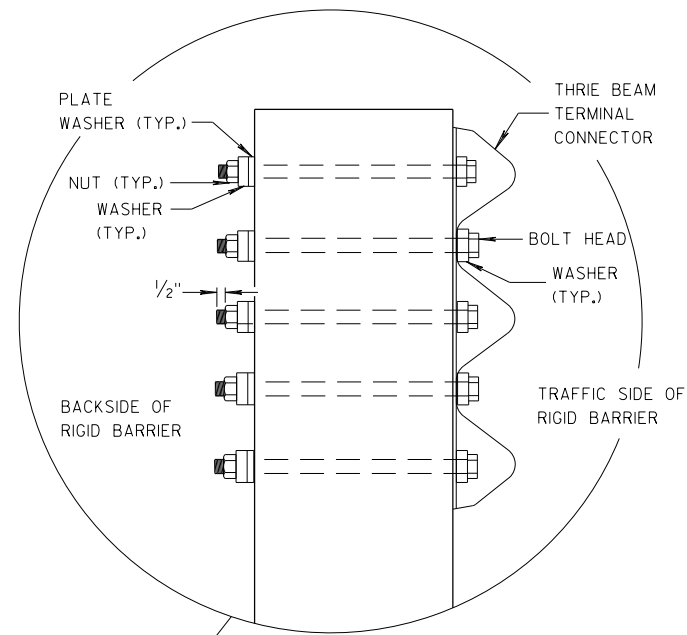
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

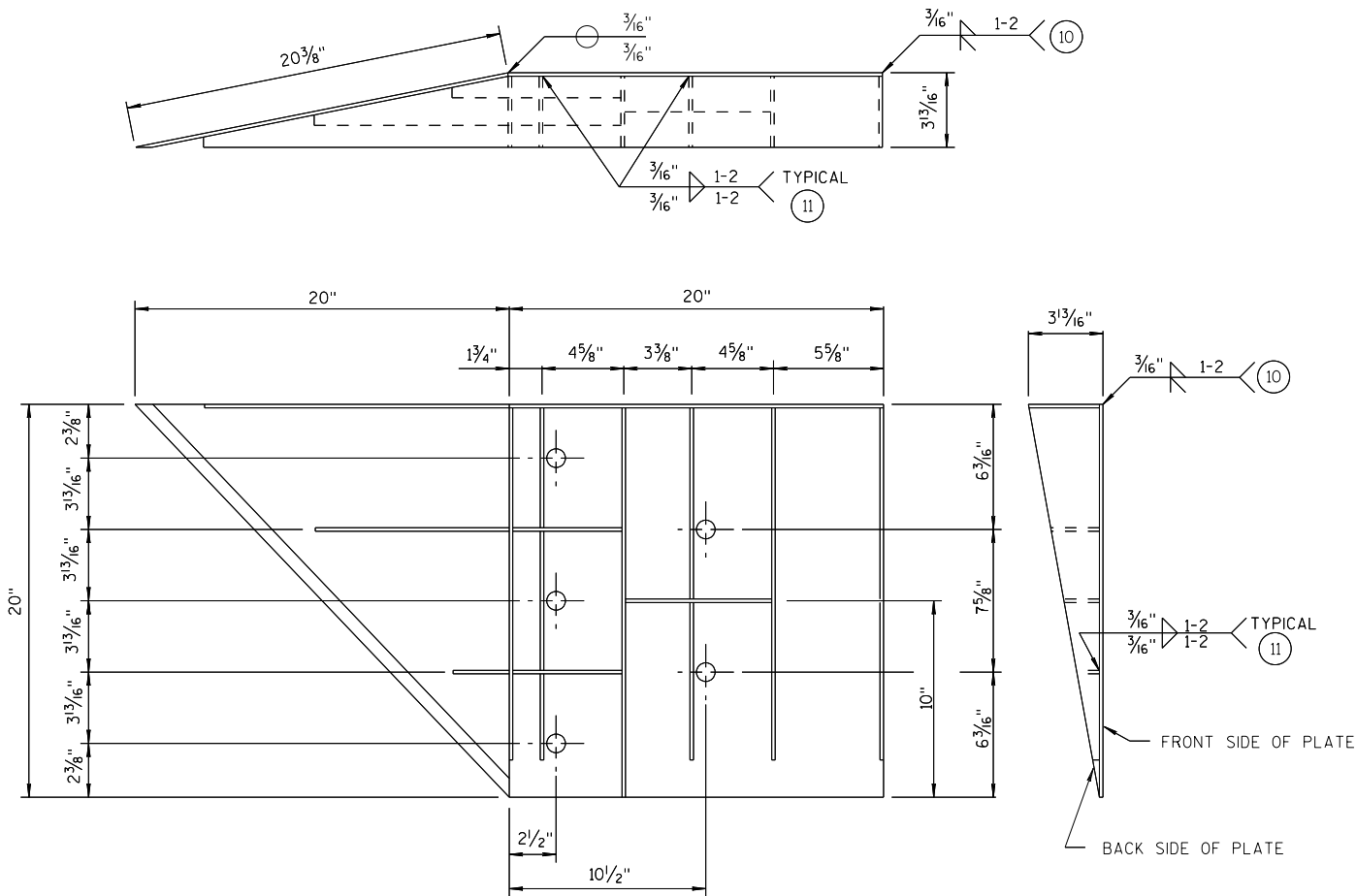


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ 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 CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

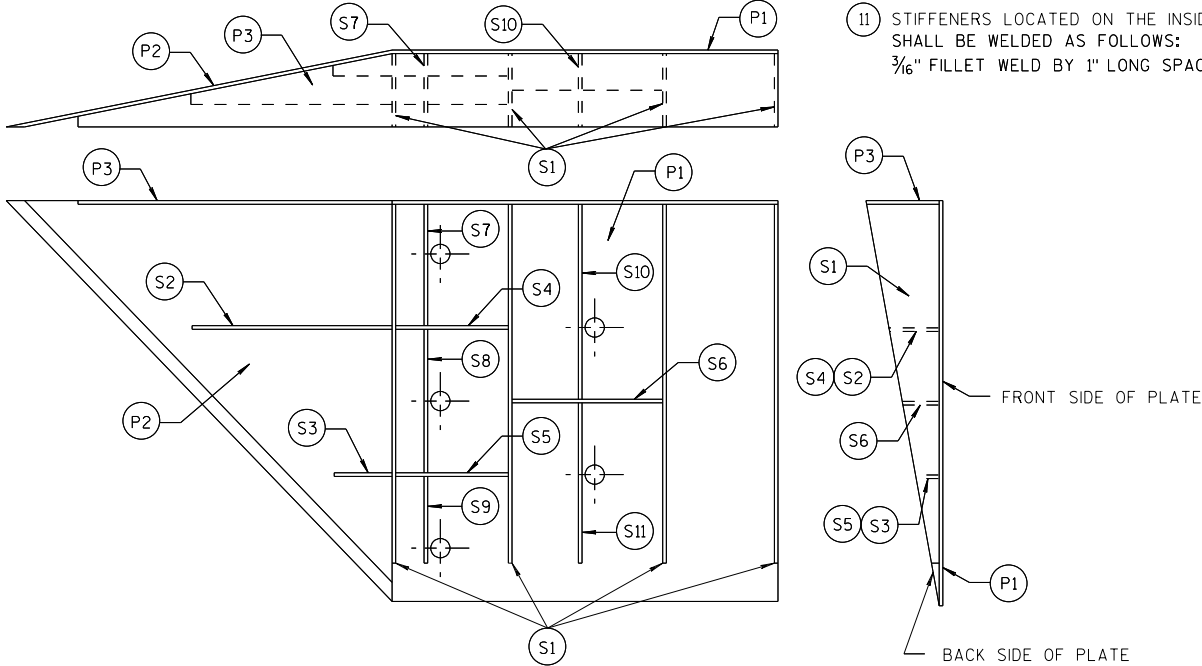


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION 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 3/16"	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 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	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 3/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" 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 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 3/16"	1/4"

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



GENERAL NOTES

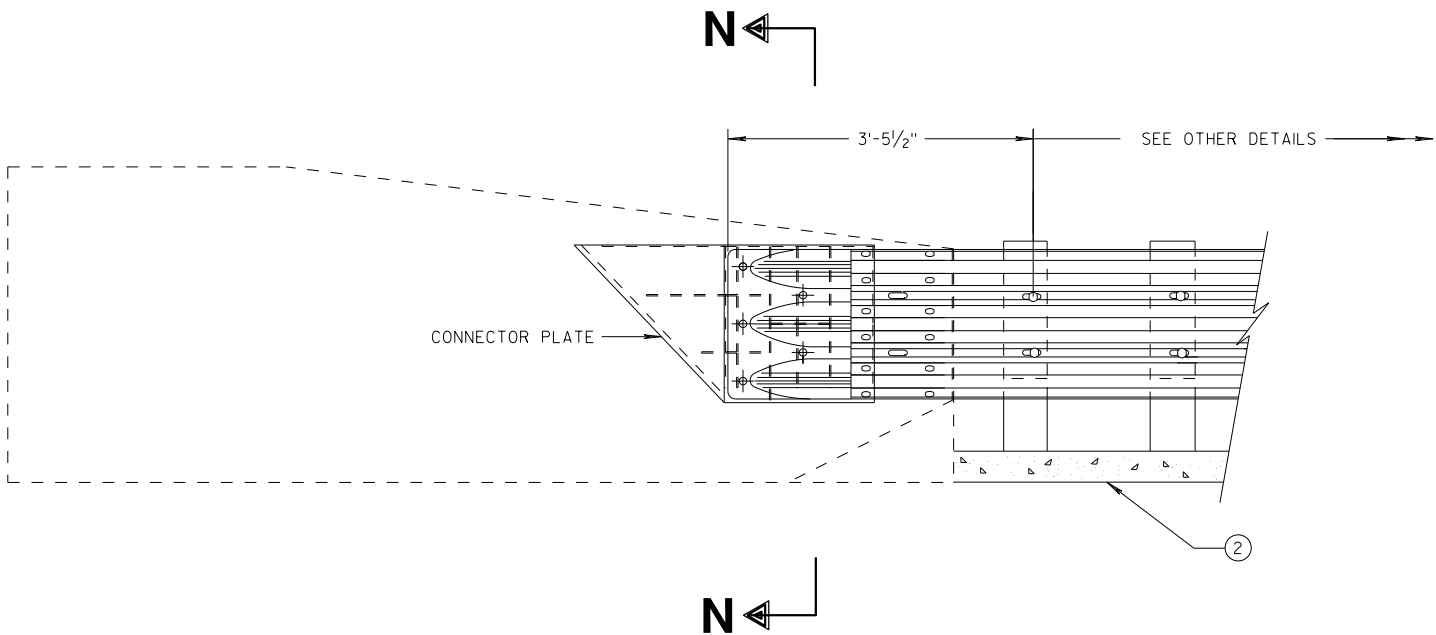
- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR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

- 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.
- STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

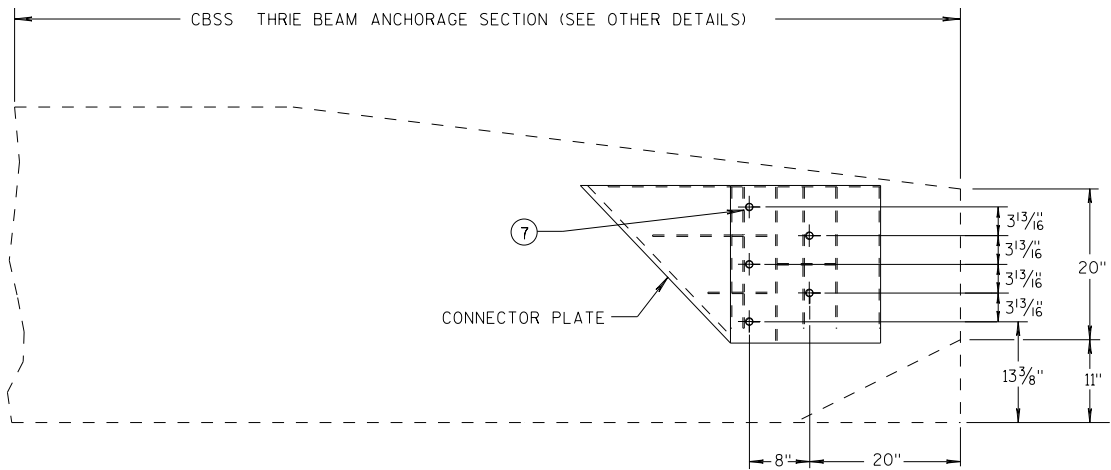
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



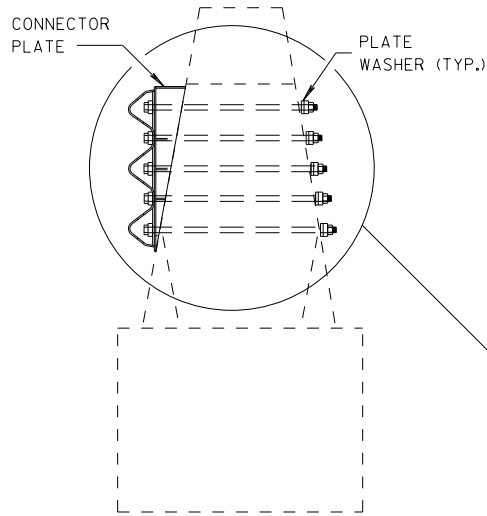
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

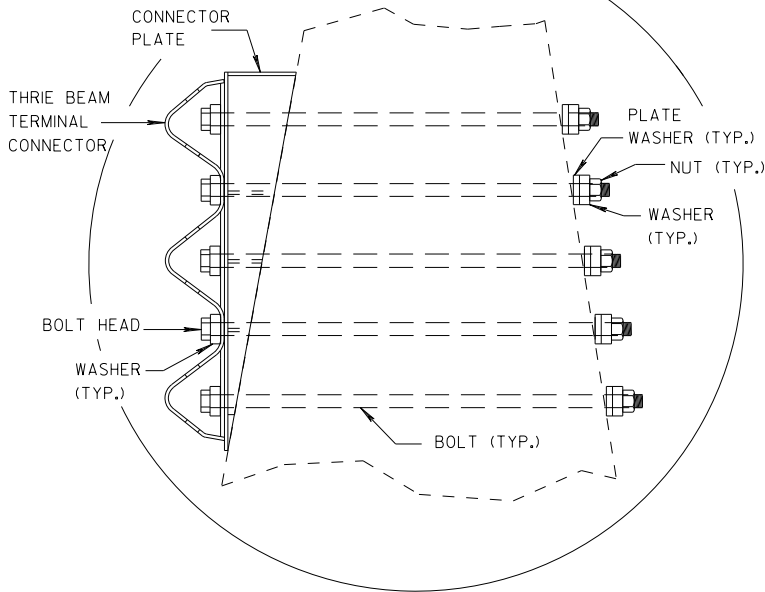
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) 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 CONNECTION PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N

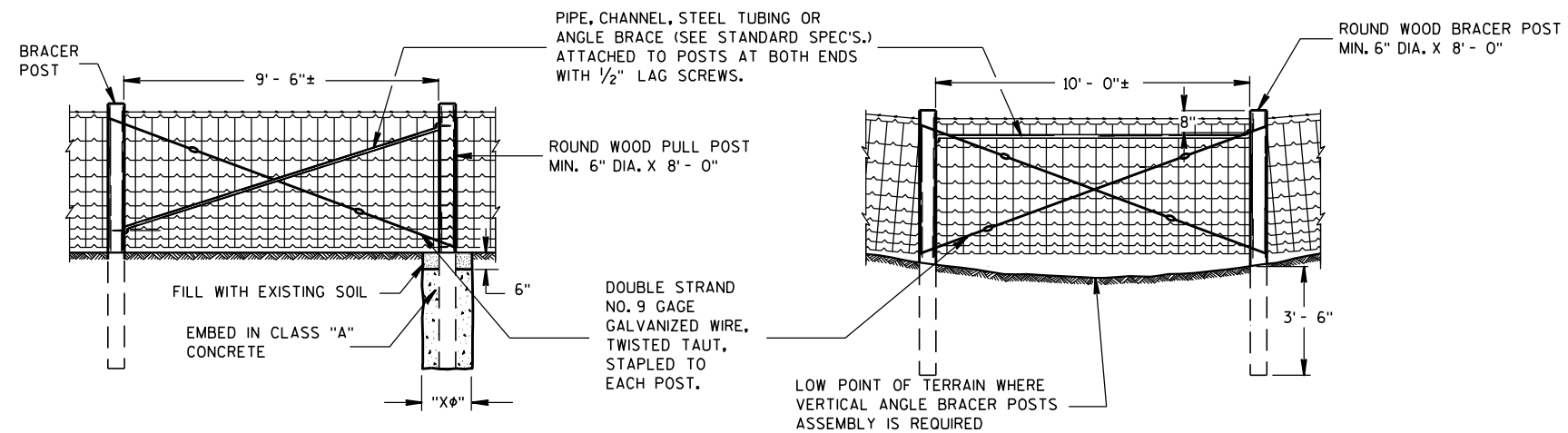


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY

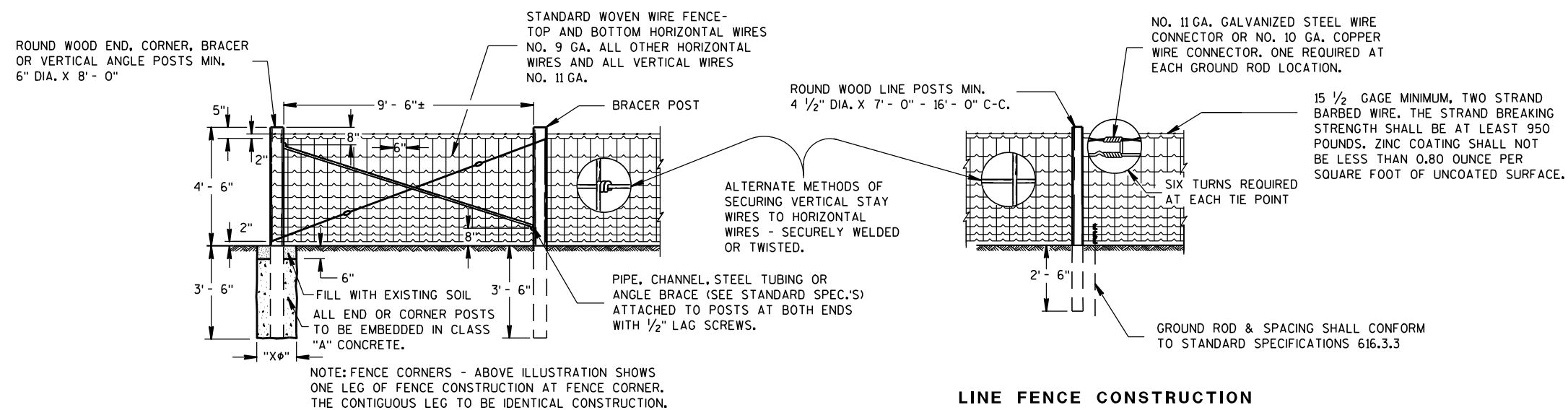
VERTICAL ANGLE BRACER POSTS ASSEMBLY

"X ϕ " = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

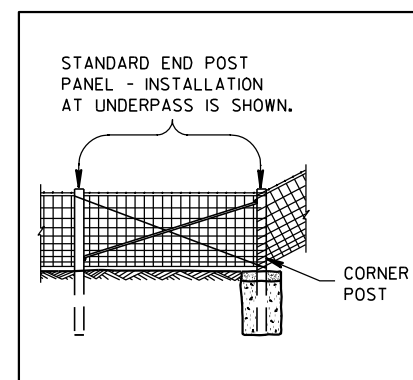
FENCE SHALL BE LOCATED 3'-0" INSIDE
THE RIGHT OF WAY LINE UNLESS
OTHERWISE INDICATED ON THE PLANS.



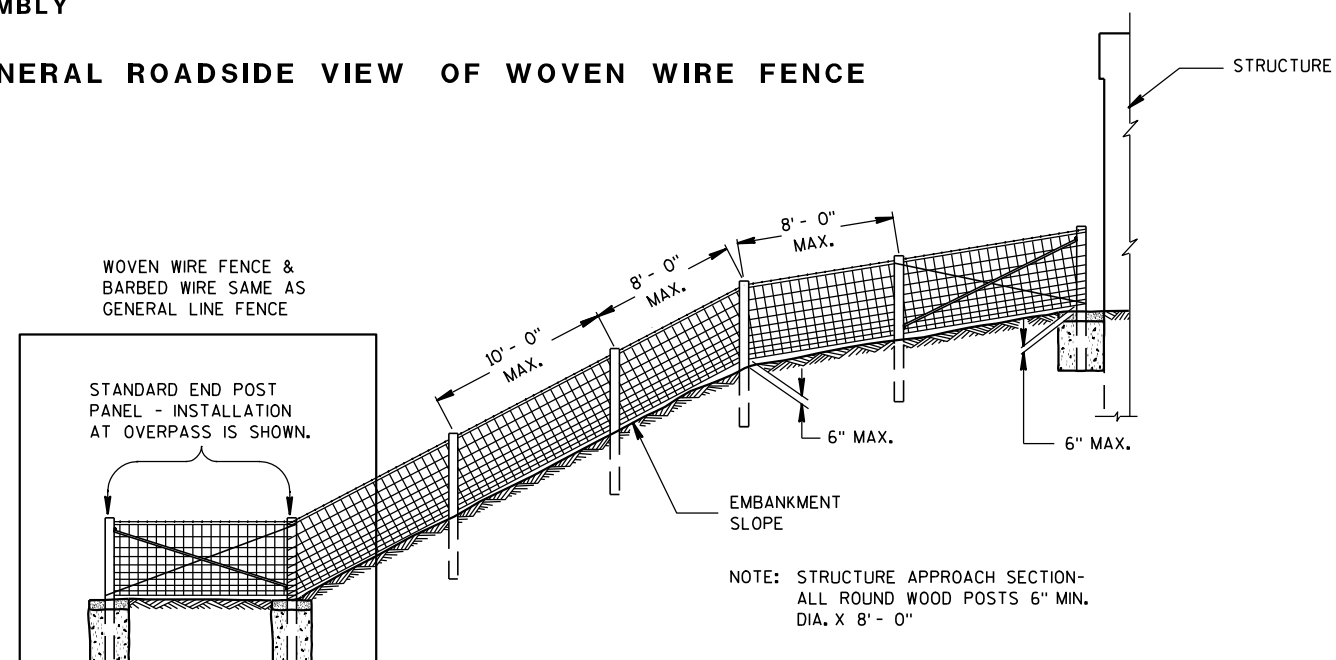
LINE FENCE CONSTRUCTION

END OR CORNER POSTS ASSEMBLY

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



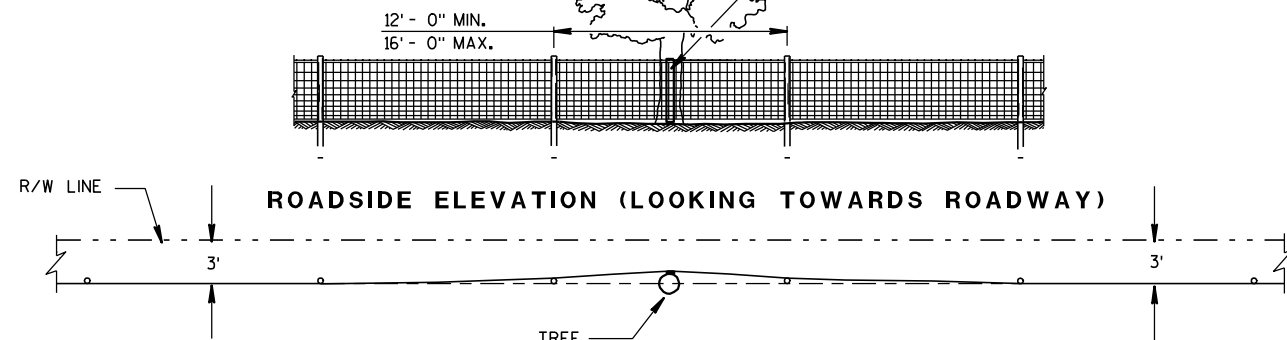
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

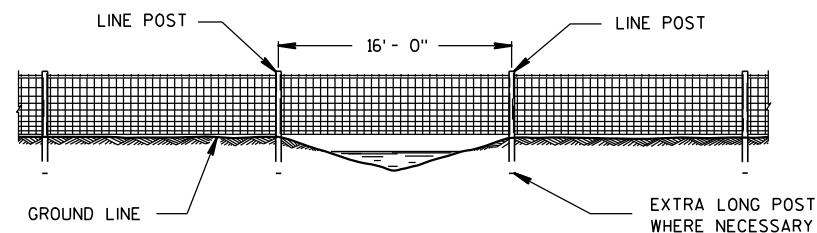
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

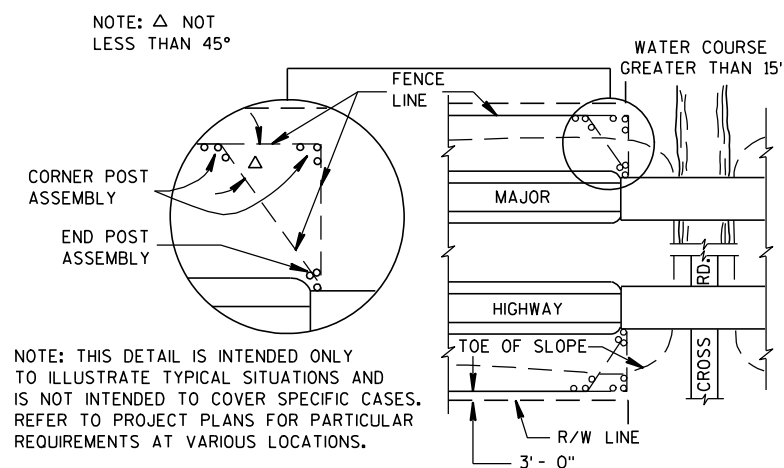
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

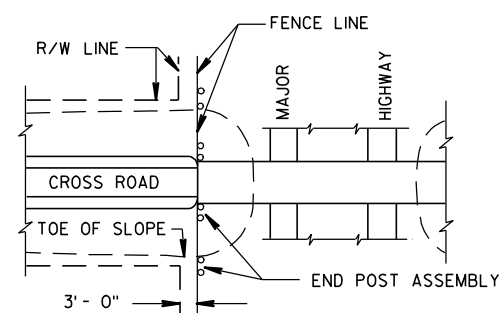


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH

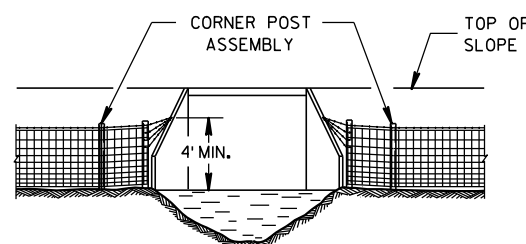


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

FENCE LOCATION AT STRUCTURES



PLAN VIEW
MAJOR HIGHWAY UNDERPASS



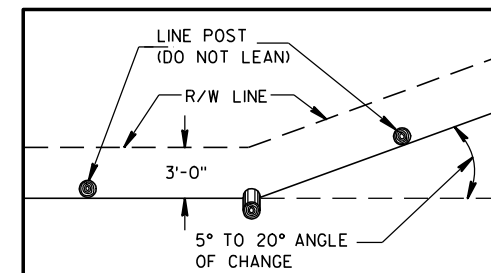
FENCE INSTALLATION TO WINGWALLS

NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.

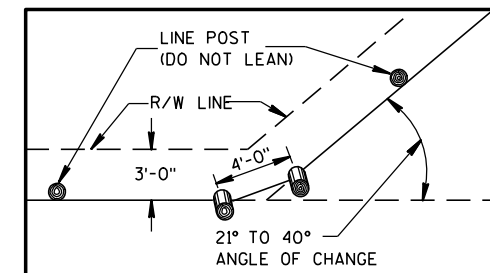
STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



PLAN VIEW
SINGLE POST CORNER

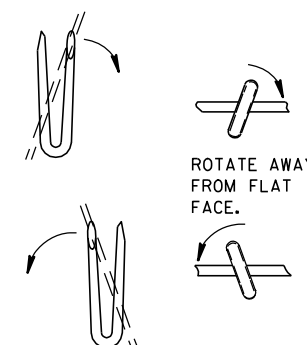


PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

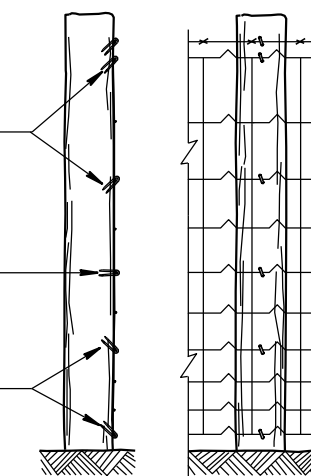
NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION
FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

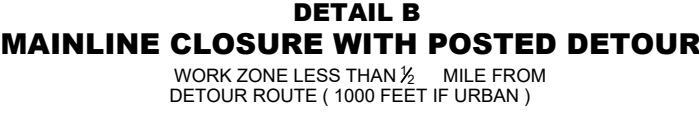
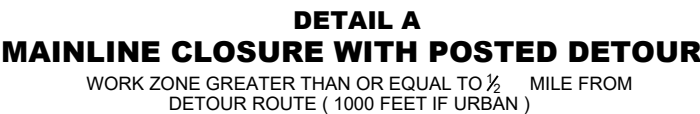
APPROVED

4/4/2008

DATE

FHWA

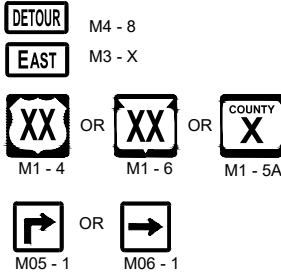
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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



	SIGN ON PERMANENT SUPPORT
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TYPE "A" WARNING LIGHT (FLASHING)
	WORK AREA
	FLAGS, 16" X 16" MIN. (ORANGE)



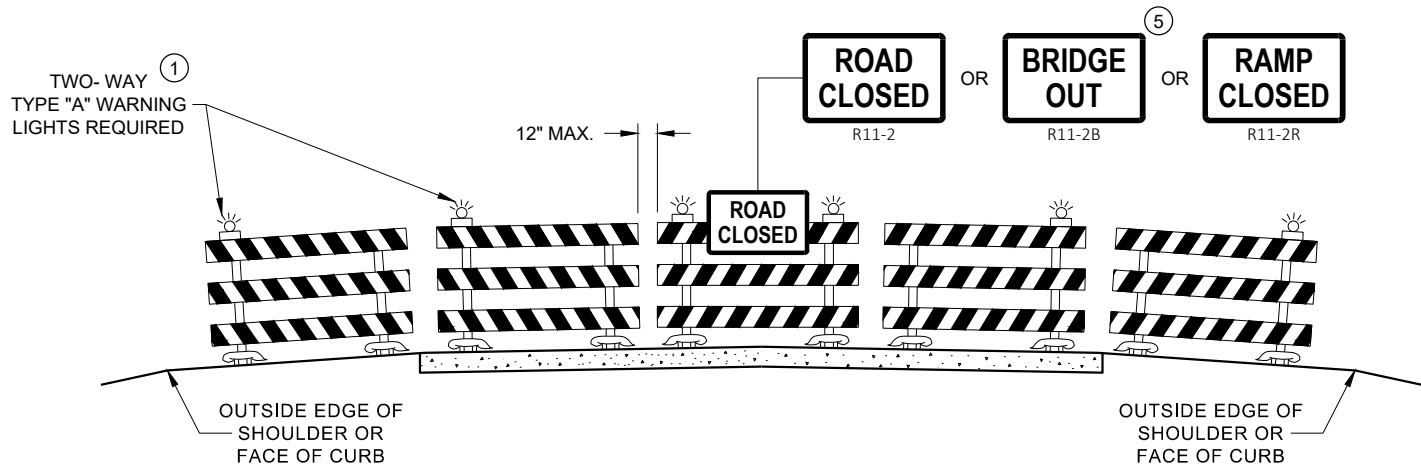
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

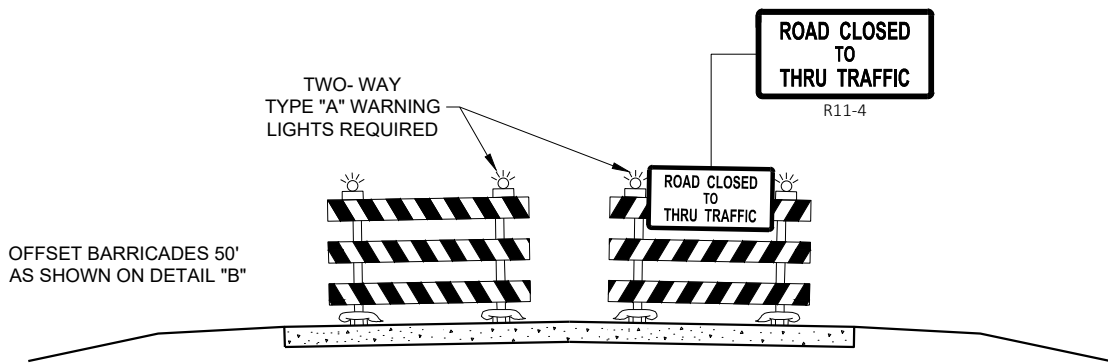
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE 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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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"

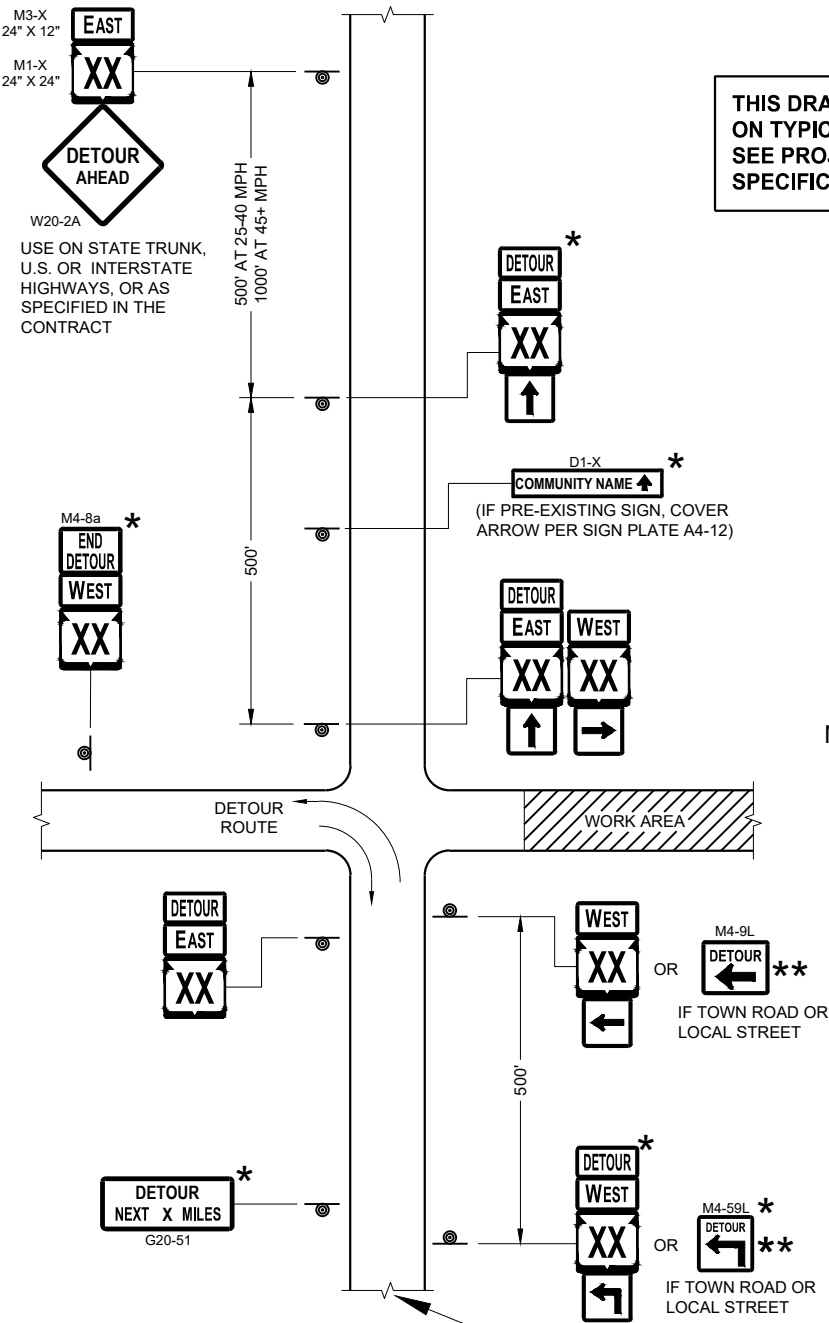
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN 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 ROAD 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
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

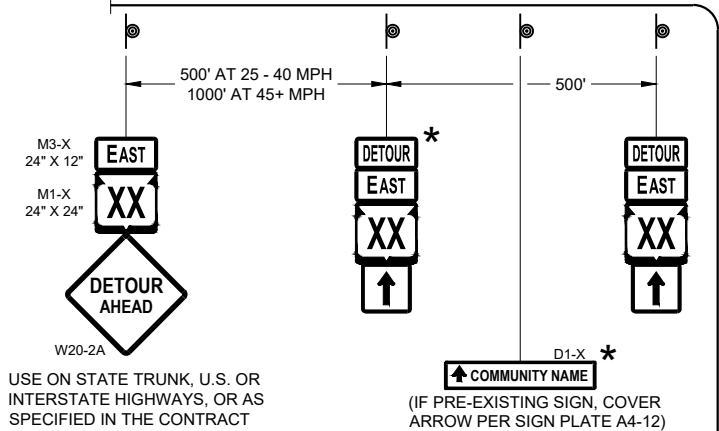
FHWA



SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

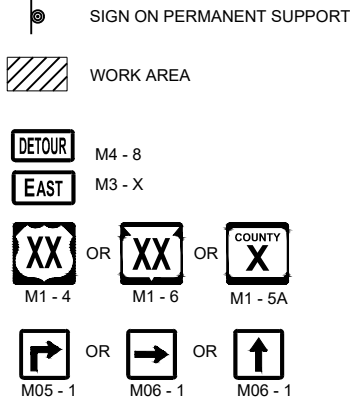
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND



GENERAL NOTES

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

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

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

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

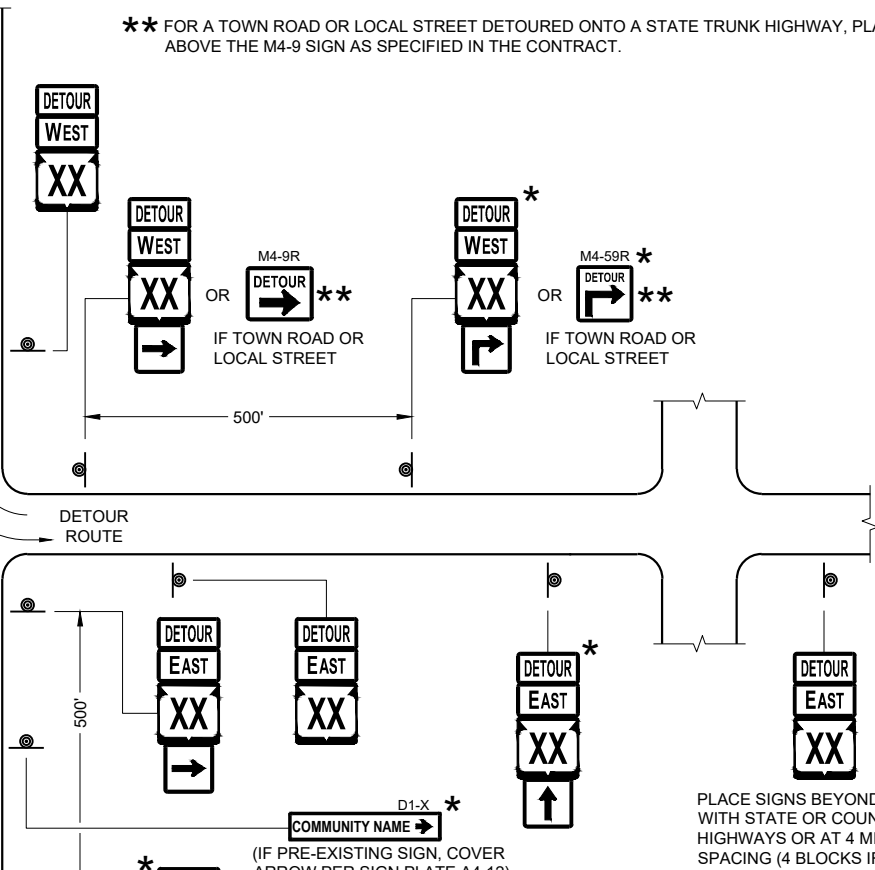
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

SIGN SIZES SHALL BE AS FOLLOWS:

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

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



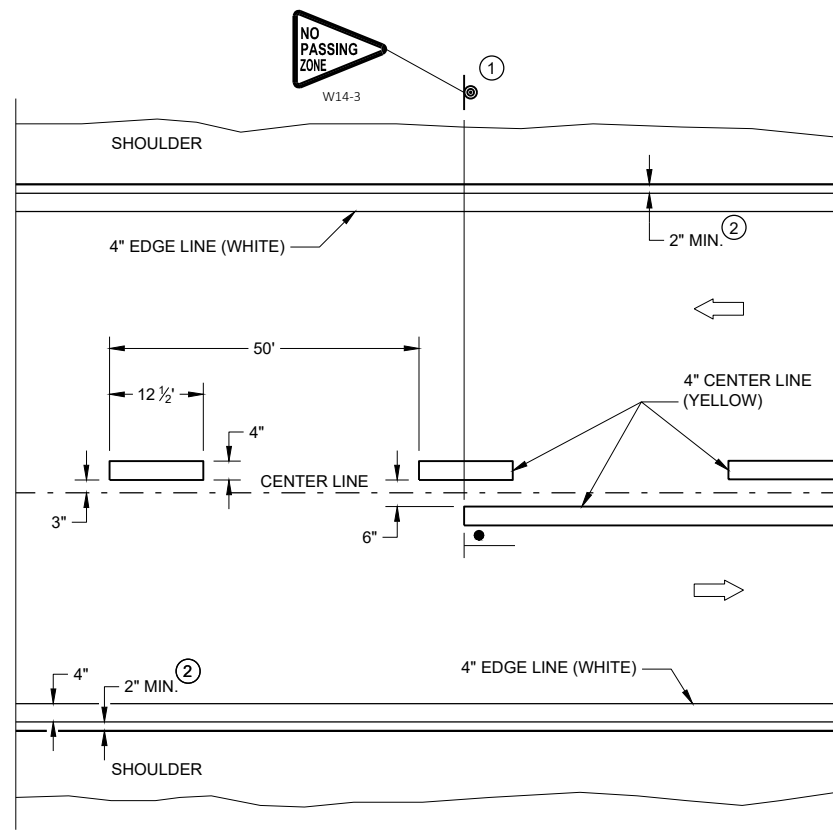
PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING
FOR MAINLINE CLOSURES

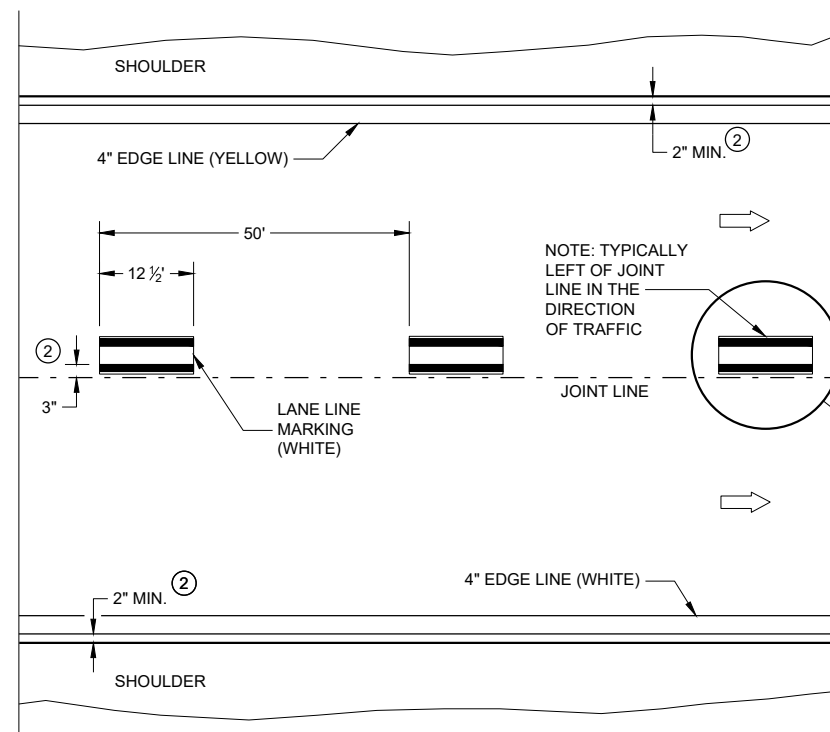
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

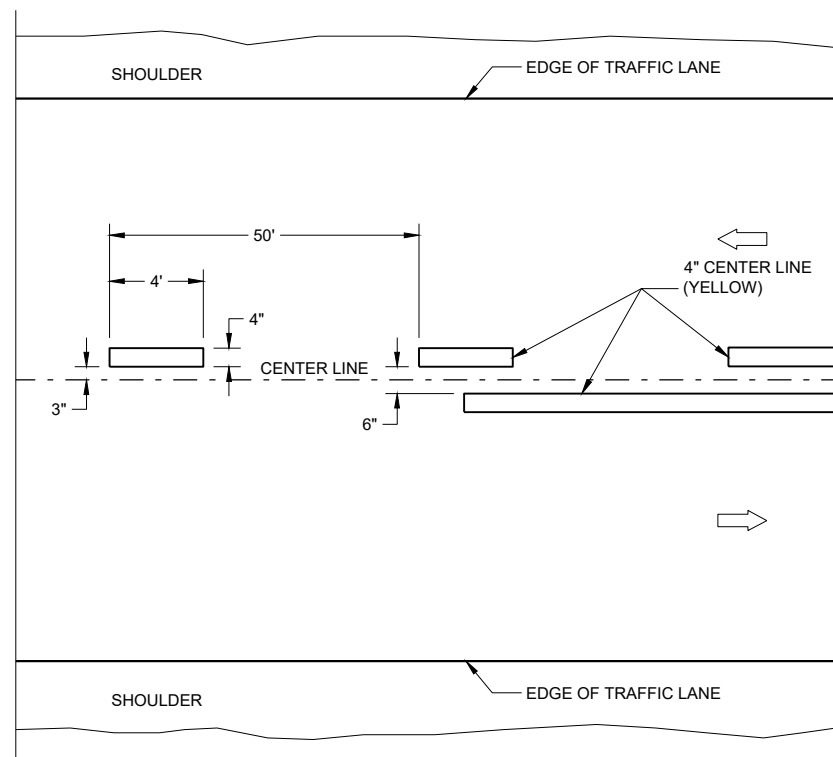


TWO WAY TRAFFIC

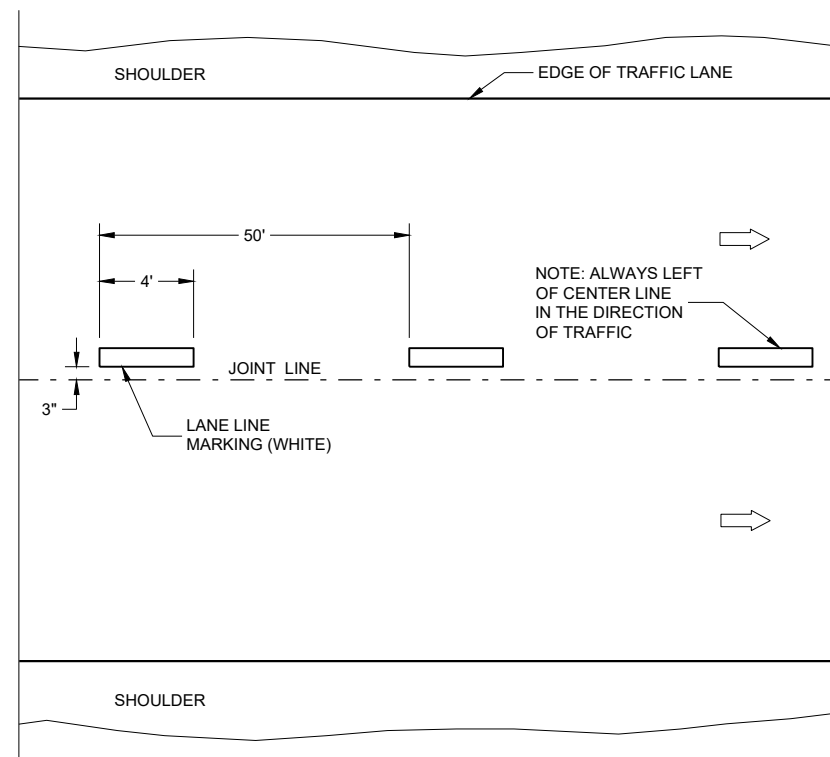


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

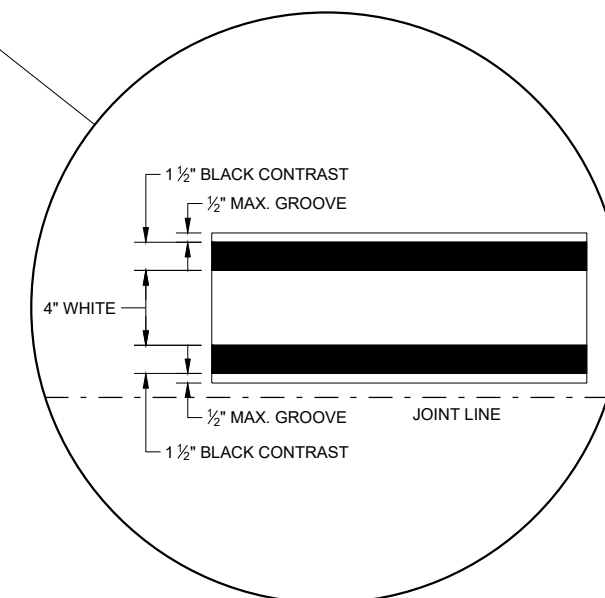
GENERAL NOTES

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

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

-  "T" MARKING
 SIGN ON PERMANENT SUPPORT
 DIRECTION OF TRAFFIC

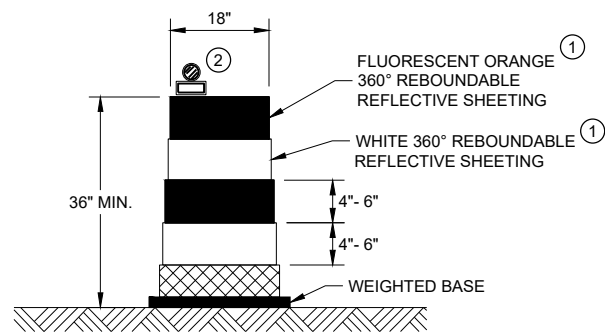


LONGITUDINAL MARKING (MAINLINE)

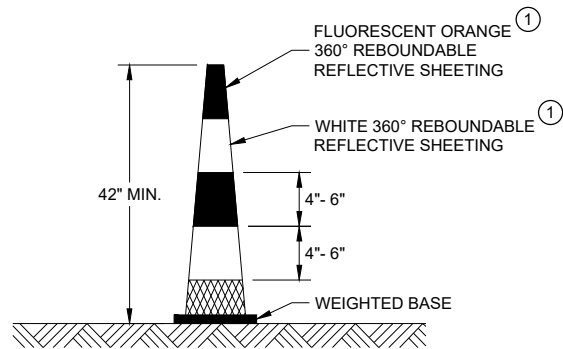
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND MARKING
ENGINEER

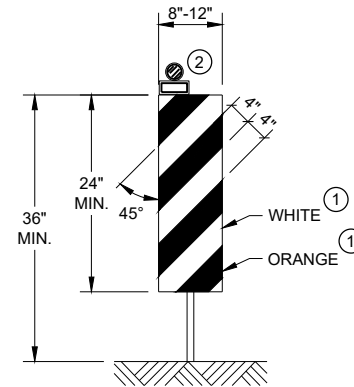


DRUM



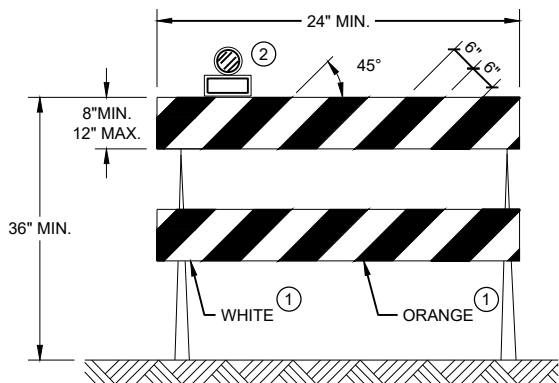
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



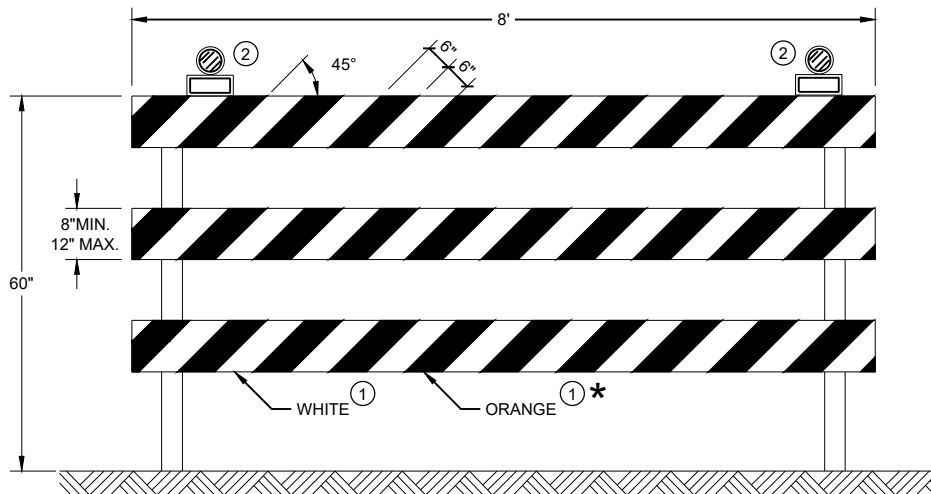
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

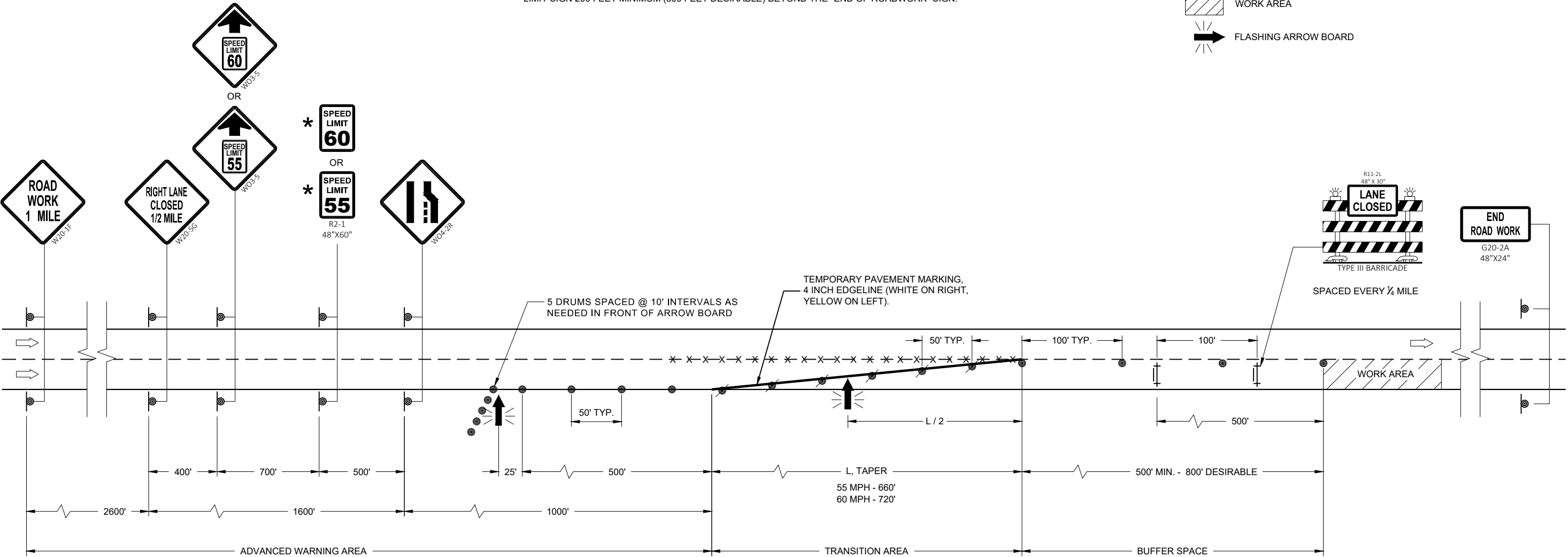
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

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

6



6

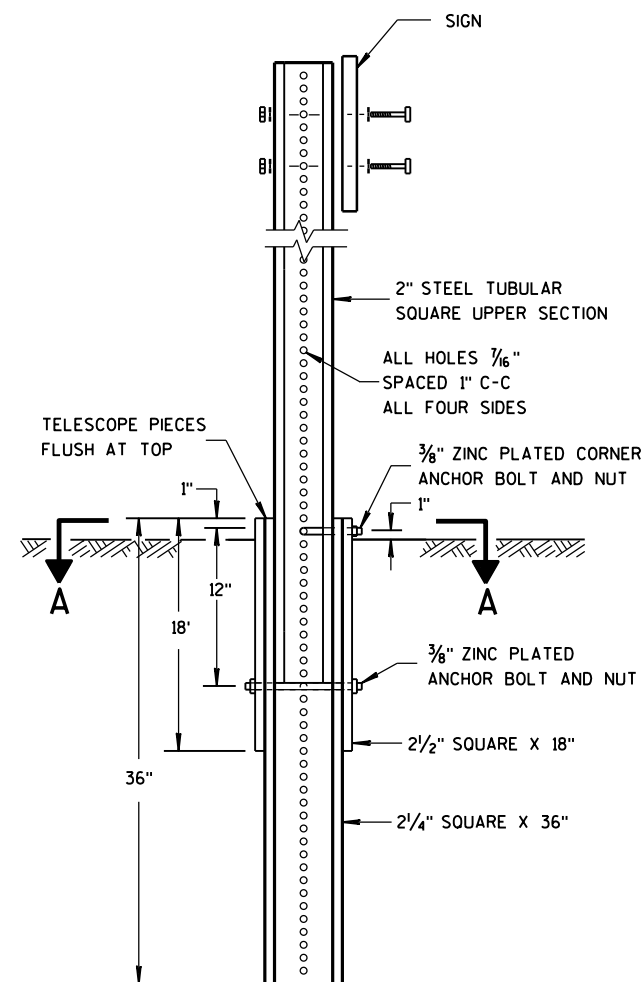
**TRAFFIC CONTROL,
LANE CLOSURE,
SPEED REDUCTION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

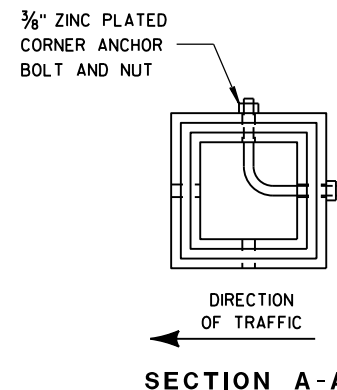


DETAIL OF TUBULAR
STEEL SIGN POST

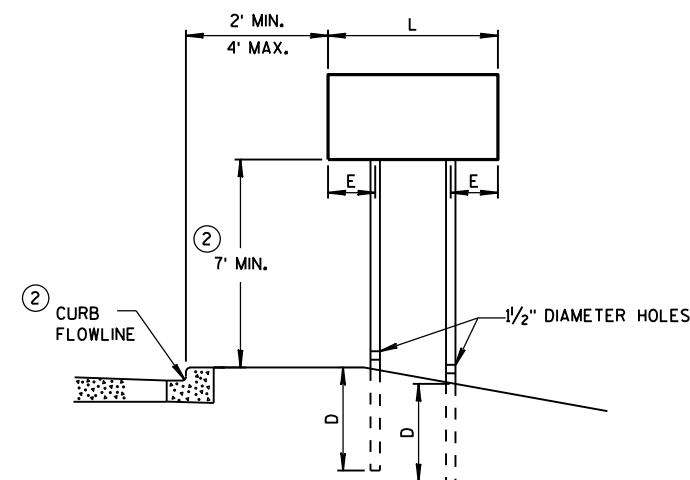
TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



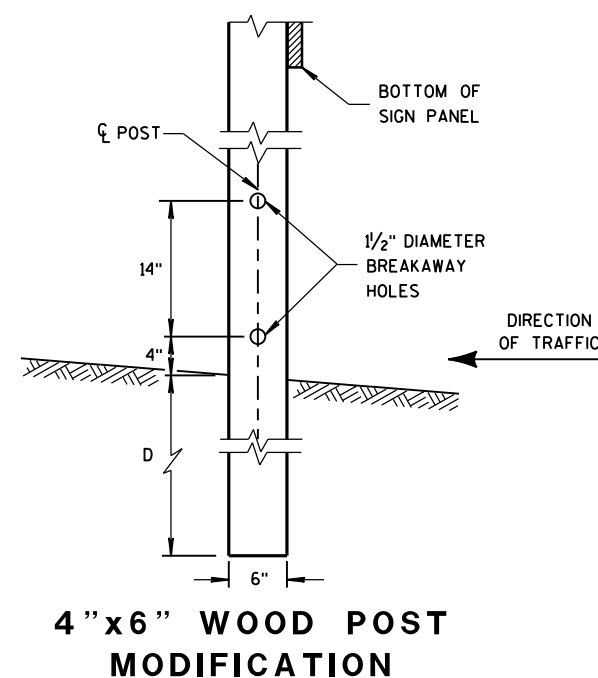
SECTION A-A



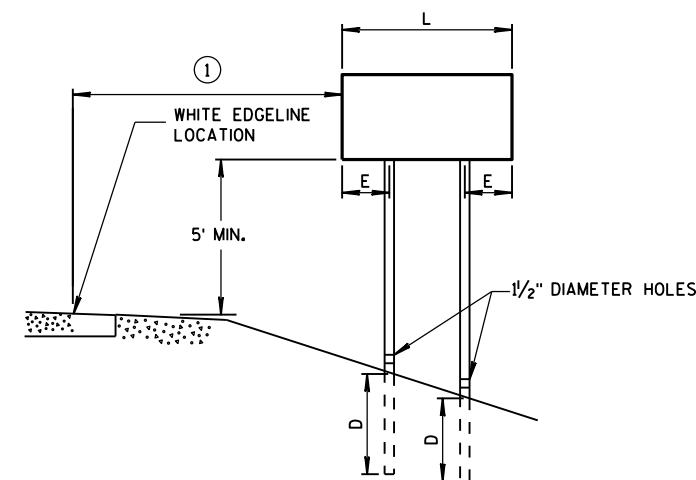
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

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

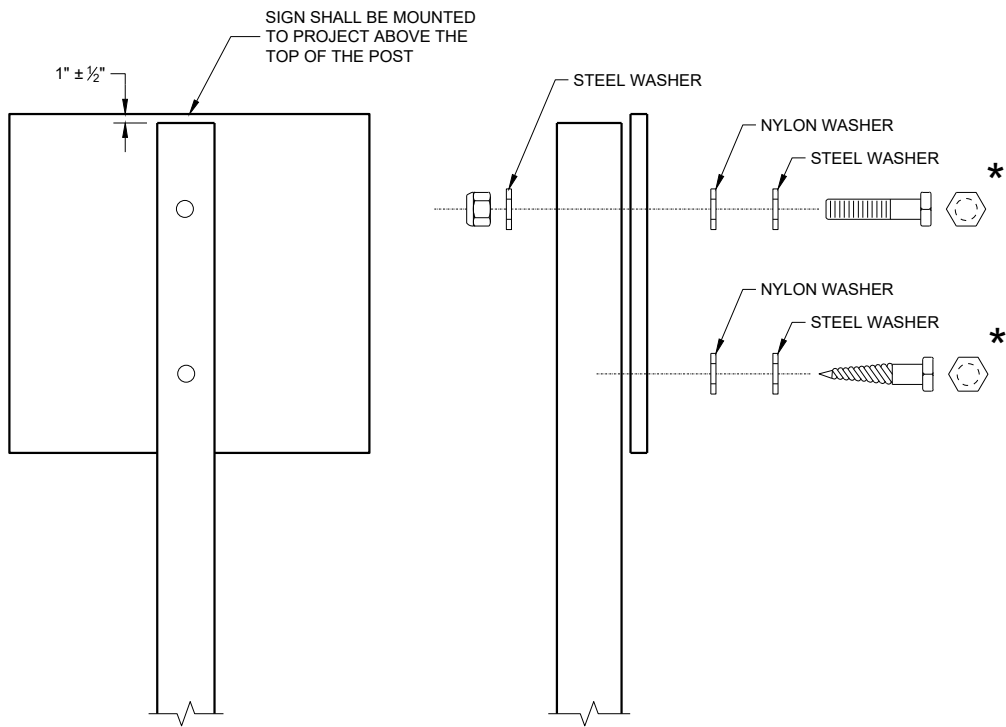
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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 POST (4" x 6")
LAG SCREWS - 3/8" x 3"
MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 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 0.080 NYLON

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

ATTACHMENT OF SIGNS
TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

DESIGN DATA

LIVE LOAD:

DESIGN LOAD _____ HS20
 INVENTORY RATING _____ HS15
 OPERATING RATING _____ HS26
 MAX. STD. PERMIT VEHICLE LOAD _____ 185 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY SUBSTRUCTURE _____ f'c = 3,500 PSI
 CONCRETE MASONRY DECK PATCHING _____ f'c = 4,000 PSI

TRAFFIC DATA

AIRPORT ROAD OVER IH 94 IH 94
 A.D.T. (2018) = 110 A.D.T. (2018) = 36,100
 A.D.T. (2038) = 110 A.D.T. (2038) = 44,900
 DESIGN SPEED: 60 MPH DESIGN SPEED: 70 MPH

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
 AARON BONK (608) 261-0261

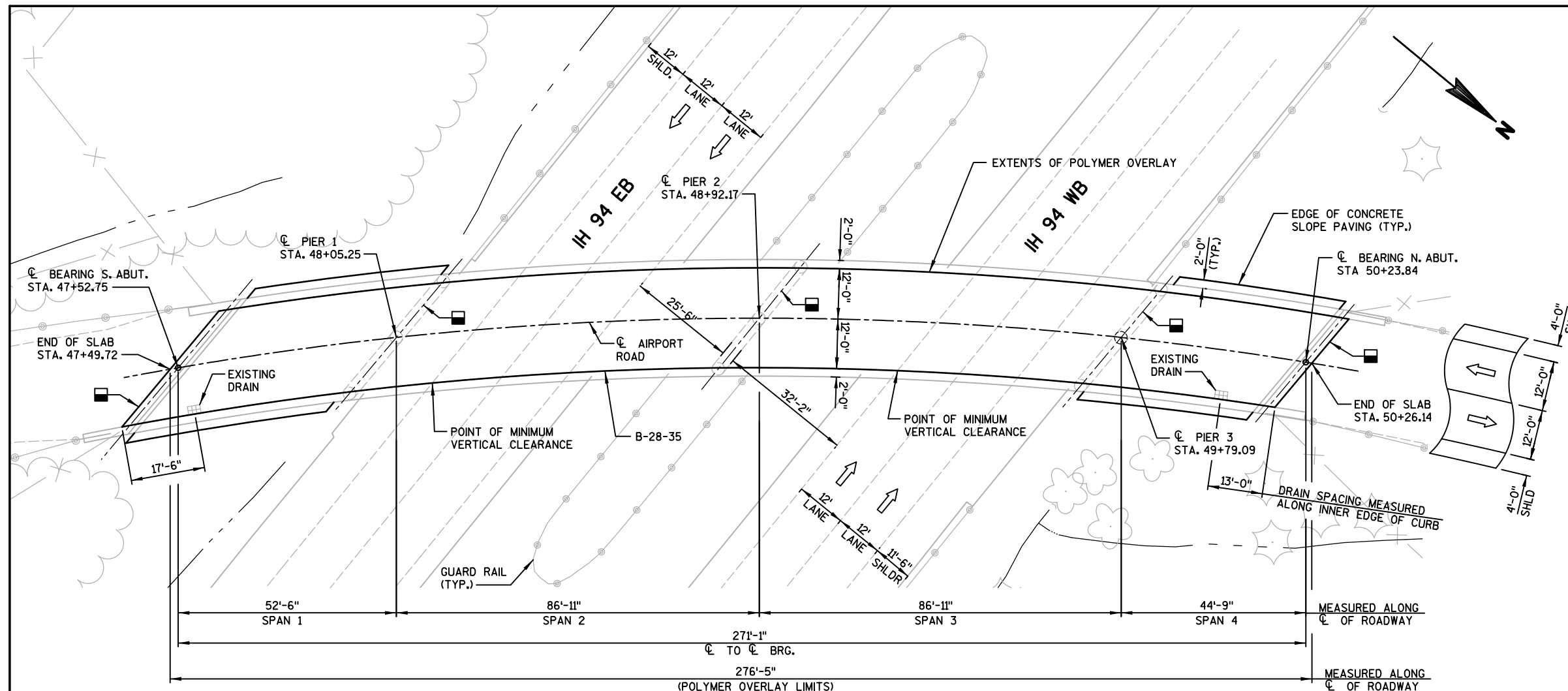
DESIGN CONSULTANT CONTACT:
 BRETT OFTEDAHL (608) 251-4843

LEGEND

CL = CENTER LINE
 E. = EXPANSION
 F. = FIXED
 ■ = EXISTING STRIP SEAL EXPANSION JOINT TO REMAIN

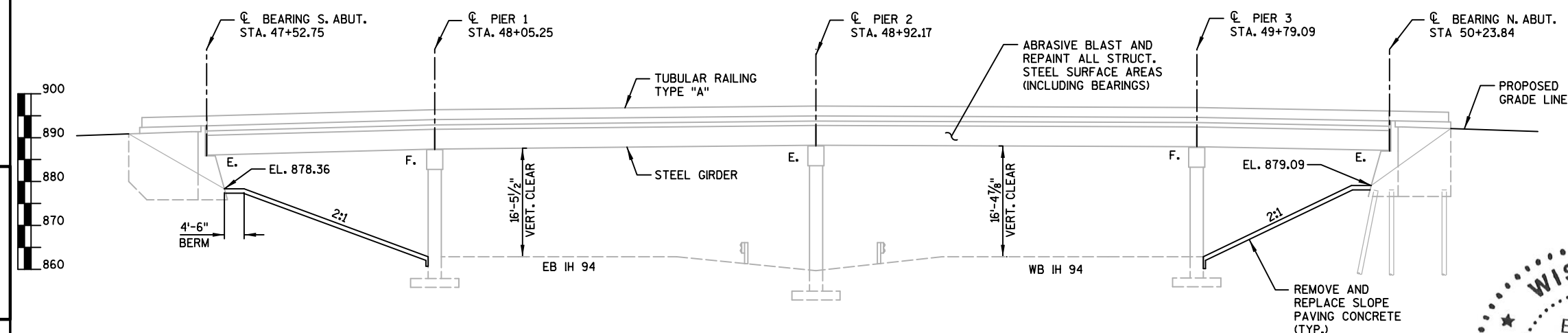
LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES, CROSS SECTION, & QUANTITIES
3. SLOPE PAVING CONCRETE



PLAN

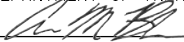
(POLYMER OVERLAY EXISTING 4 SPAN - 36" WF STEEL DECK GIRDERS)



ELEVATION

(LOOKING WEST)



NO.	DATE	REVISION	BY
		910 WEST WINGRA DRIVE MADISON, WISCONSIN 53715 (608)-251-4843 (608) 251-8655 FAX WWW.STRAND.COM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	 SDR		07/08/20
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-28-35			
AIRPORT ROAD OVER IH 94			
COUNTY	TOWN/CITY/VILLAGE		
JEFFERSON	WATERLOO		
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
EJC	DJW	DTH	DJW
GENERAL PLAN			SHEET 1 OF

GENERAL NOTES

THE PROPOSED WORK INCLUDES PAINTING SUPERSTRUCTURE (INCLUDING BEARINGS), CONCRETE SLOPE PAVING REMOVAL AND REPLACEMENT, CURB REPAIR, DECK PATCHING, CONCRETE SURFACE REPAIR, AND PLACING A POLYMER OVERLAY.

DECK PREPARATIONS AND OVERLAY SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

DECK CLEANING AND SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY."

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE EXISTING STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

STRUCTURAL STEEL SHALL BE PAINTED AMS STD. COLOR NO. 26293 (LIGHT GRAY).

CONCRETE CURB REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

MAINTAIN EXISTING CROSS SLOPES.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

AT "CURB REPAIR" EXPOSE EXISTING REINFORCEMENT A MINIMUM OF 1/2" CLEAR.

AREAS OF "PREPARTION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE VERTICAL AND HORIZONTAL SURFACES OF "CURB REPAIR" AND THE ENTIRE TOP AND ROADWAY FACE OF EXISTING CURB. PIGMENTED SURFACE SEALER SHALL BE APPLIED TO ENTIRE TOP AND ROADWAY FACE OF EXISTING PARAPETS AFTER "CLEANING PARAPETS."

THE AREAS OF "CONCRETE SURFACE REPAIR" ARE BASED ON THE PLANS AND AS DETERMINED BY THE FIELD ENGINEER.

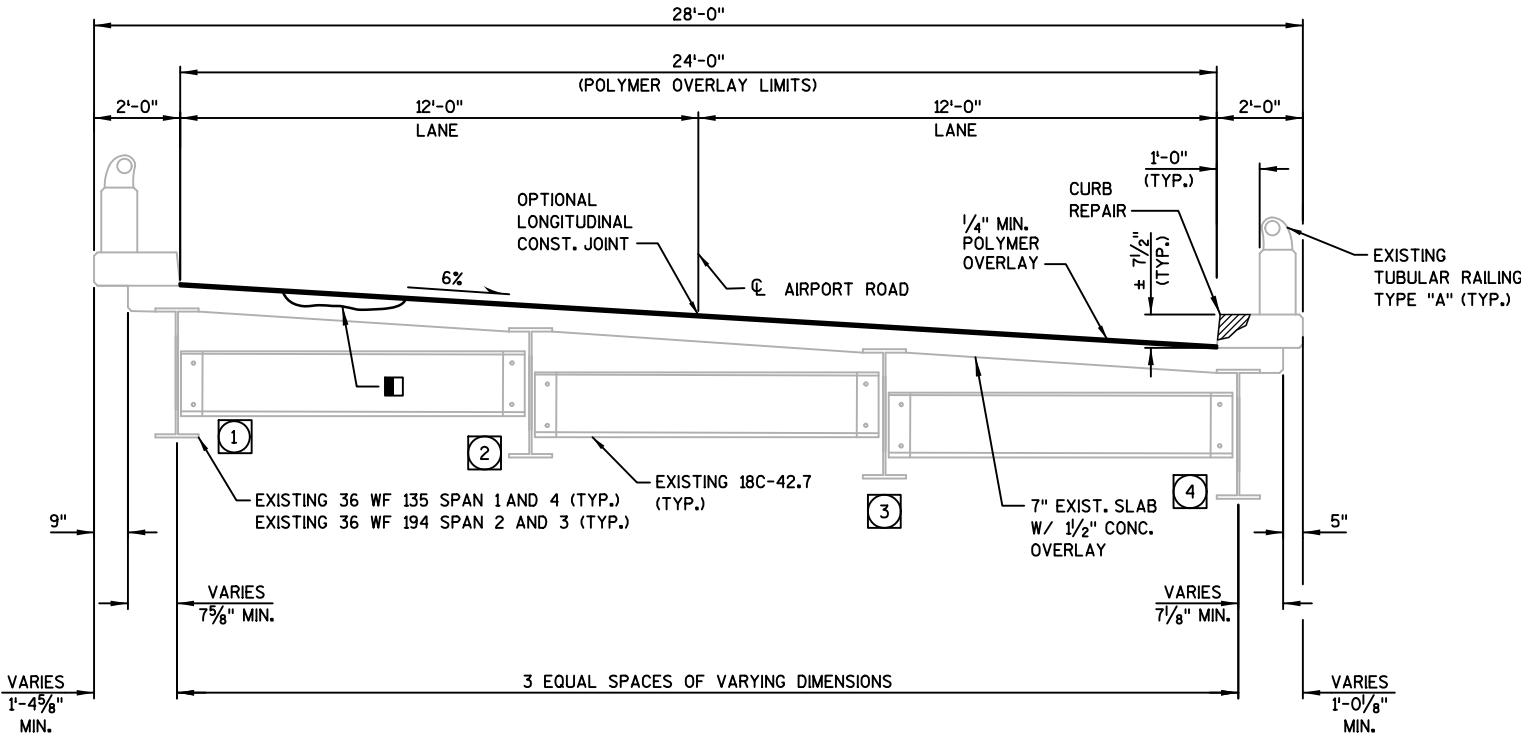
"CONCRETE MASONRY DECK REPAIR" IS TO BE USED TO FILL "CURB REPAIR" AREAS.

CREATE A TRANSITIONAL AREA APPROACHING TRANSVERSE EXPANSION JOINTS AND ENDS OF THE DECK PER THE STANDARD SPECIFICATIONS.

CLEAN AND REPAINT EXISTING BEARINGS AT PIERS AND ABUTMENTS. CLEANING AND REPAINTING BEARINGS SHALL BE INCLUDED WITH BID ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-28-35." BEARINGS SHALL BE PAINTED AMS STD. COLOR NO. 26293 (LIGHT GRAY).

LEGEND

- ☐ "CLEANING PARAPETS" LIMITS. CLEAN FULL LENGTH OF PARAPETS.
- ▲ "PIGMENTED SURFACE SEALER" LIMITS. APPLY TO TOP AND ROADWAY FACE OF PARAPETS, FULL LENGTH.
- ⊗ "PROTECTIVE SURFACE TREATMENT" LIMITS. APPLY TO TOP AND ROADWAY FACE OF CURB, FULL LENGTH.
- THE AREAS OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE MASONRY DECK REPAIR", AND "SAWING PAVEMENT DECK PREPARATION AREAS" ARE BASED ON PLANS AND AS DETERMINED BY THE FIELD ENGINEER. DECK PREPARATION SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".
- Ⓜ INDICATES GIRDER NUMBER



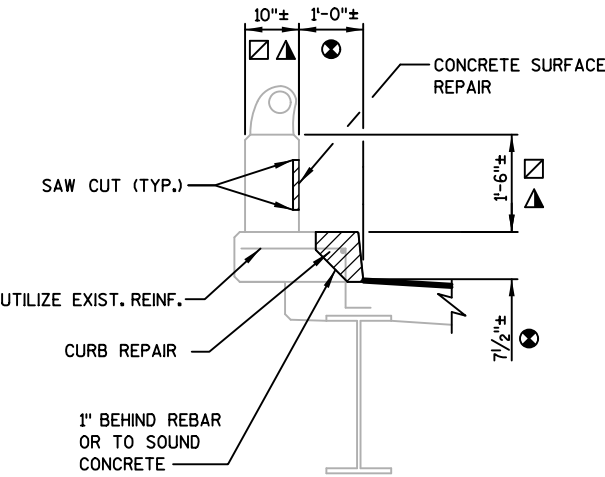
CROSS SECTION THROUGH ROADWAY
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	381
502.3200	PROTECTIVE SURFACE TREATMENT	SY	106
502.3210	PIGMENTED SURFACE SEALER	SY	151
509.0301	PREPARATION DECKS TYPE 1	SY	20
509.0302	PREPARATION DECKS TYPE 2	SY	8
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	200
509.1200	CURB REPAIR	LF	360
509.1500	CONCRETE SURFACE REPAIR	SF	56
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
509.5100.S	POLYMER OVERLAY	SY	860
509.9050.S	CLEANING PARAPETS	LF	583
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-28-35	LS	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-28-35	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	1
604.0400	SLOPE PAVING CONCRETE	SY	381
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	212

CONCRETE SURFACE REPAIR LOCATIONS

LOCATION	QUANTITY (SF)
BOTTOM OF DECK AT PIER 1, GIRDER 4	1
TOP OF GIRDER 1 AT SOUTHWEST ABUTMENT CORNER	1
TOP OF GIRDER 1 AT PIER 2	4
BOTTOM OF DECK NEAR PIER 3, BETWEEN GIRDERS 3 AND 4 IN SPAN 4	1
CONCRETE PARAPET	50



CURB AND PARAPET REPAIR DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-35			
DRAWN BY		OTH	PLANS CK'D. DJW
GENERAL NOTES, CROSS SECTION, & QUANTITIES			SHEET 2

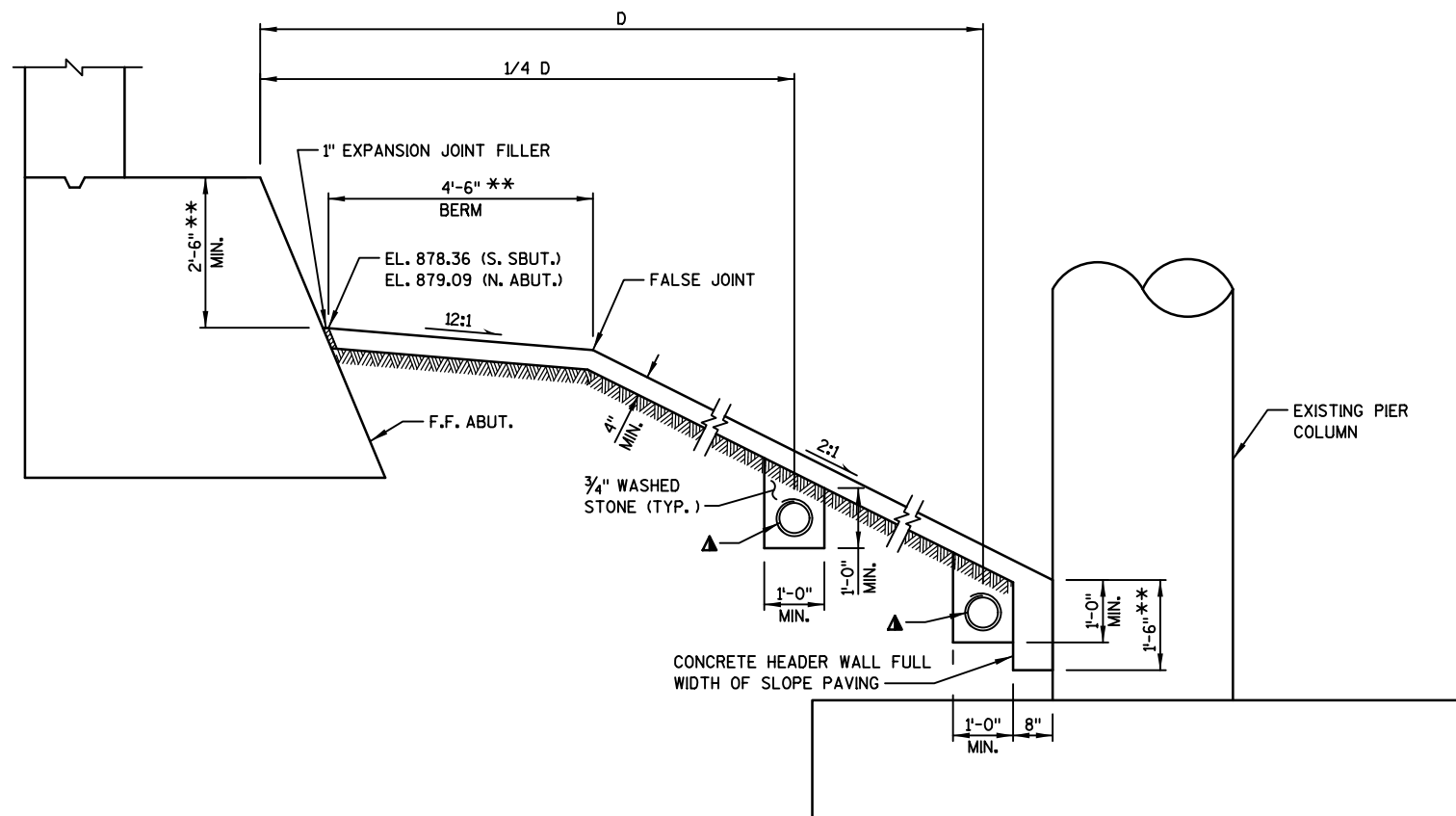
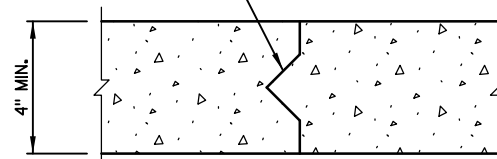
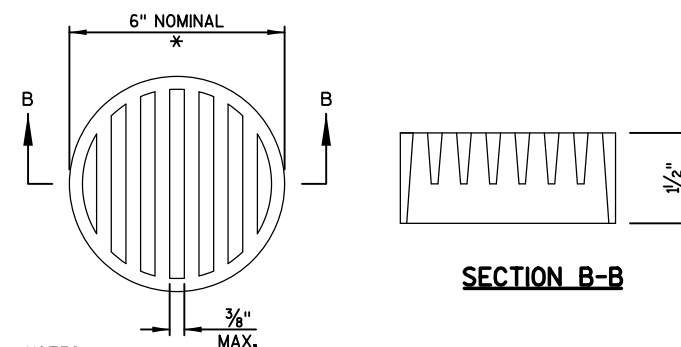
LEGEND

** MATCH EXISTING SLOPE PAVING CONSTRUCTION.

▲ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

GENERAL NOTES

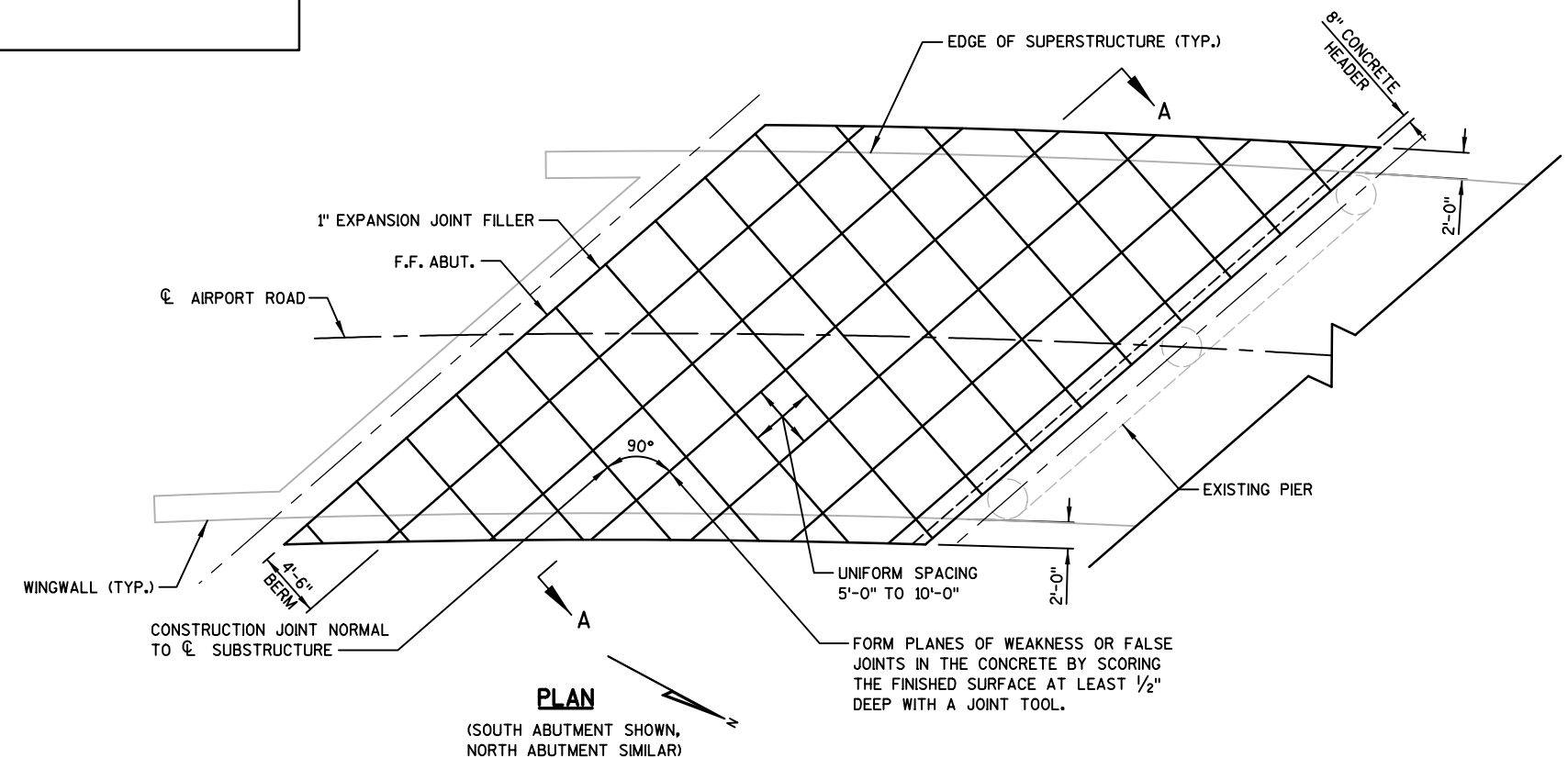
DETAILS OF CONSTRUCTION NOT SHOWN HEREIN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

**TYPICAL SECTION**KEYED CONST. JOINT
FORMED BY 2" X 2"**CONSTRUCTION JOINT****SECTION B-B****NOTES:**

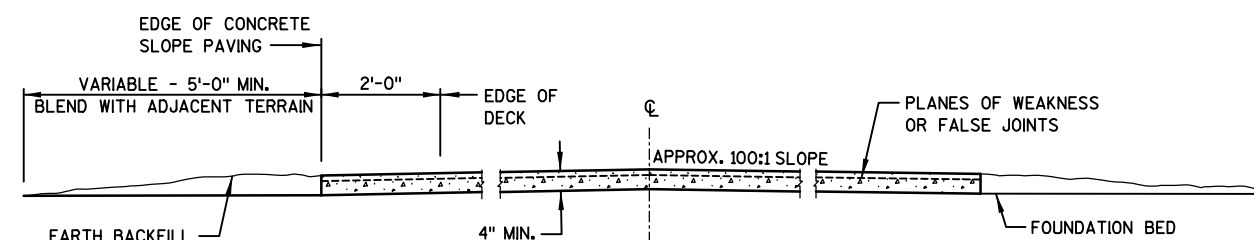
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

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

RODENT SHIELD DETAIL**PLAN**

(SOUTH ABUTMENT SHOWN,
NORTH ABUTMENT SIMILAR)

**SECTION A-A**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-35			
DRAWN BY		DTH	PLANS CK'D. DJW
CONCRETE SLOPE PAVING		SHEET 3	

DESIGN DATA

LIVE LOAD:

DESIGN LOAD _____ HS20
 INVENTORY RATING _____ HS28
 OPERATING RATING _____ HS46
 MAX. STD. PERMIT VEHICLE LOAD
 (WIS-SPV) _____ 250 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE _____ f'_c = 4,000 psi
 CONCRETE SUBSTRUCTURE _____ f'_c = 3,500 psi
 HIGH STRENGTH BAR
 STEEL REINFORCEMENT _____ F_y = 60,000 psi

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES, CROSS SECTION, & QUANTITIES
3. SOUTH ABUTMENT
4. SOUTH ABUTMENT DETAILS
5. NORTH ABUTMENT
6. NORTH ABUTMENT DETAILS
7. BEARING DETAILS
8. FRAMING PLAN
9. SUPERSTRUCTURE PLAN
10. SUPERSTRUCTURE SECTION
11. SUPERSTRUCTURE DETAILS - 1
12. SUPERSTRUCTURE DETAILS - 2
13. STRIP SEAL EXPANSION JOINT DETAILS - 1
14. STRIP SEAL EXPANSION JOINT DETAILS - 2
15. SINGLE SLOPE PARAPET 32SS
16. FENCING DETAILS
17. SLOPE PAVING CONCRETE

TRAFFIC DATA

CTH A OVER IH 94
 A.D.T. (2018) = 3,500
 A.D.T. (2038) = 4,600
 DESIGN SPEED: 40 MPH

IH 94
 A.P.T. (2018) = 35,800
 A.P.T. (2038) = 44,300
 DESIGN SPEED: 70 MPH

LEGEND

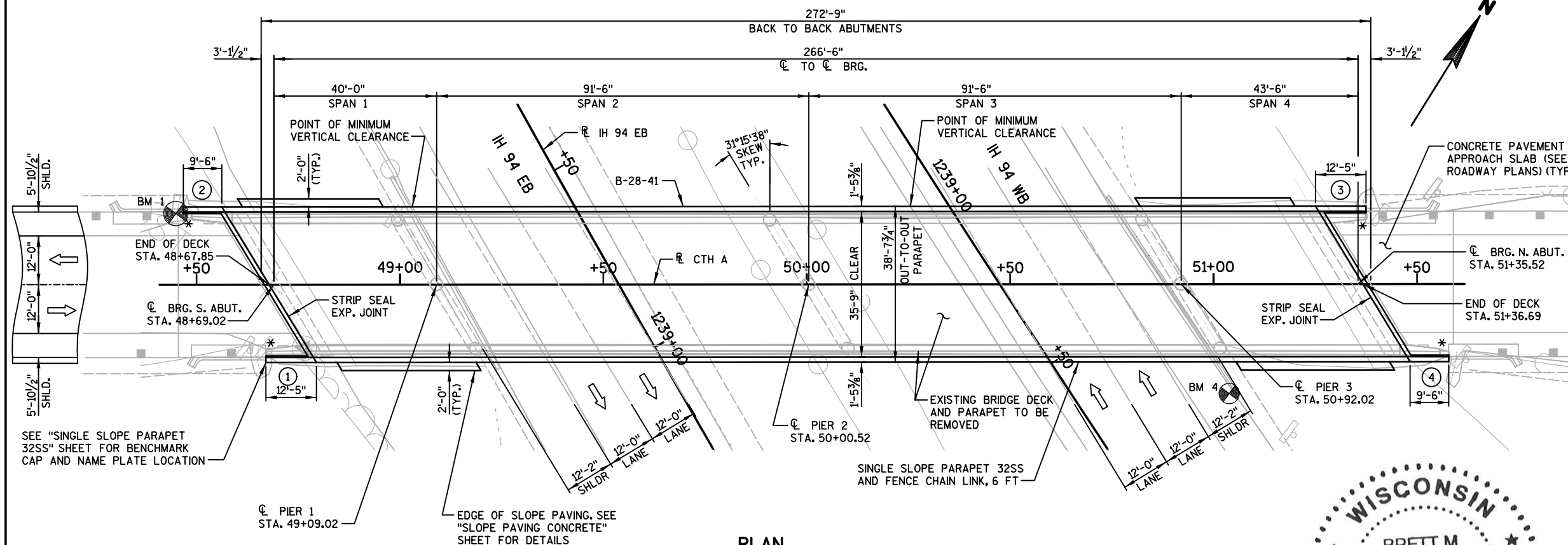
CL = CENTER LINE

⊙ INDICATES WING NUMBER

* ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL

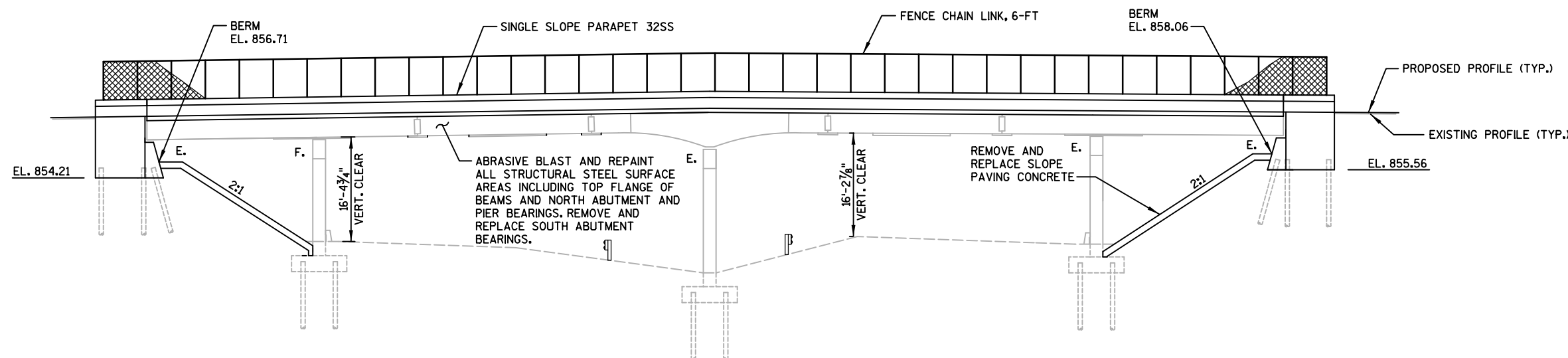
F. = FIXED

E. = EXPANSION



PLAN

(4 SPAN - STEEL DECK GIRDERS DECK REPLACEMENT)



ELEVATION

(LOOKING WEST)

BENCHMARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	48+46.97	CHISELED X, TOP OF ABUT.	862.68
BM 2	43+88.62	TOP NUT HYDRANT, NW QUAD. OF CTHA/V	840.77
BM 3	55+97.05	RR SPIKE IN POWER POLE, NE QUAD.	845.22
BM 4	51+05.86	TOP EAST END OF BARRIER WALL	846.49

SEE ROADWAY PLANS FOR ADDITIONAL BENCHMARK LOCATIONS.

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
 AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
 BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

910 WEST WINGRA DRIVE
 MADISON, WISCONSIN 53715
 (608)-251-4843
 (608) 251-8655 FAX
 WWW.STRAND.COM

8

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
ACCEPTED	SDR 07/08/20 DATE
CHIEF STRUCTURES DESIGN ENGINEER	
STRUCTURE B-28-41	
CTH A OVER IH 94	
COUNTY JEFFERSON	TOWN/CITY/VILLAGE LAKE MILLS
DESIGN SPEC.	
DESIGNED BY BMO	REHABILITATION N/A DESIGN CK'D. KRB
DRAWN BY DTH	PLANS CK'D. DJW
GENERAL PLAN & ELEVATION	
SHEET 1 OF 17	

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	PIER 1	PIER 2	PIER 3	NORTH ABUT.	SUPER.	TOTAL
203.0200	REMOVING OLD STRUCTURE, STA 50+00	LS	---	---	---	---	---	---	1
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-28-41	LS	---	---	---	---	---	---	1
203.0225.S	DEBRIS CONTAINMENT B-28-41	LS	---	---	---	---	---	---	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	140	---	---	---	149	---	289
206.1000	EXCAVATION FOR STRUCTURES BRIDGE B-28-41	LS	---	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	41	---	---	---	41	---	82
502.0100	CONCRETE MASONRY BRIDGES	CY	14	---	---	---	14	346	374
502.3101	EXPANSION DEVICE B-28-41	LF	---	---	---	---	---	84	84
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	---	---	1068	1068
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	---	---	---	243	243
502.4106	ADHESIVE ANCHORS 3/4-INCH	EA	5	---	---	---	---	---	5
502.4108	ADHESIVE ANCHORS 1-INCH	EA	10	---	---	---	---	---	10
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EA	16	---	---	---	16	---	32
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EA	90	---	---	---	90	---	180
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	650	---	---	---	650	---	1300
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	860	---	---	---	860	84700	86420
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EA	5	---	---	---	---	---	5
506.7050.S	REMOVING BEARINGS, B-28-41	EA	5	---	---	---	---	---	5
509.1500	CONCRETE SURFACE REPAIR	SF	10	10	10	10	10	---	50
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	---	---	---	7	---	14
517.0900.S	PREPARATION AND COATING OF TOP FLANGES B-28-41	LS	---	---	---	---	---	---	1
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-28-41	LS	---	---	---	---	---	---	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-28-41	LS	---	---	---	---	---	---	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	---	---	---	---	---	---	1
604.0400	SLOPE PAVING CONCRETE	SY	152	---	---	---	161	---	313
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	---	---	---	110	---	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	2	---	---	---	2	---	4
616.0206	FENCE CHAIN LINK 6-FT	LF	---	---	---	---	---	582	582
NON BID ITEMS									
FILLER			SIZE						3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE EXISTING STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

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

STRUCTURAL STEEL SHALL BE PAINTED AMS STD. COLOR NO. 26293 (LIGHT GRAY).

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

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

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CONTRACTOR SHALL TRANSFER EDGES OF STEEL GIRDER FLANGES PRIOR TO REMOVAL BY MARKING TOP OF DECK TO ENSURE NO DAMAGE DURING SAWCUTTING OF THE DECK.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON "GENERAL PLAN & ELEVATION" SHEET.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1965.

THE EXISTING CONCRETE DECK AND PARAPET OF STRUCTURE B-28-41, A FOUR SPAN STEEL DECK GIRDER BRIDGE, SHALL BE REMOVED. EXISTING STEEL GIRDERS AND CONCRETE SUBSTRUCTURE SHALL REMAIN.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGE B-28-41" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

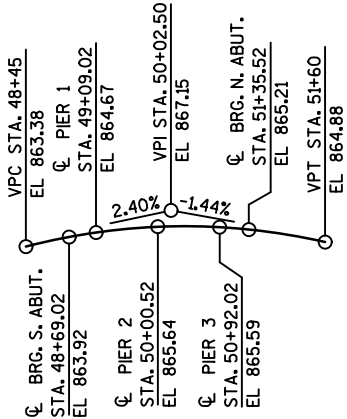
CLEAN AND REPAINT EXISTING BEARINGS AT PIERS AND NORTH ABUTMENT. CLEANING AND REPAINTING BEARINGS SHALL BE INCLUDED WITH BID ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-28-41" BEARINGS SHALL BE PAINTED AMS STD. COLOR NO. 26293 (LIGHT GRAY).

STATE PROJECT NUMBER

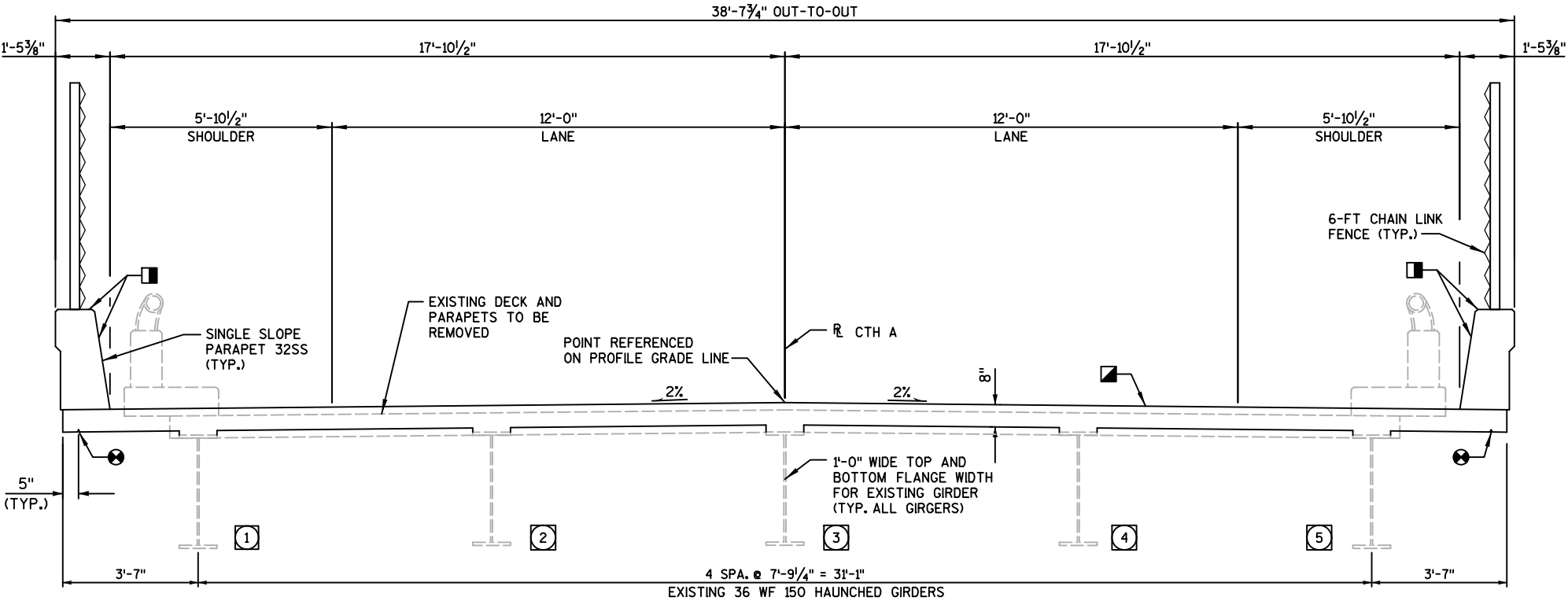
1067-02-72

LEGEND

- 3/4" V-GROOVE REQUIRED. EXTEND TO 2'-0" FROM F.F. OF ABUT.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP, FRONT FACE, AND ENDS OF PARAPETS.
- # INDICATES GIRDER NUMBER.



CTH A PROFILE GRADE LINE

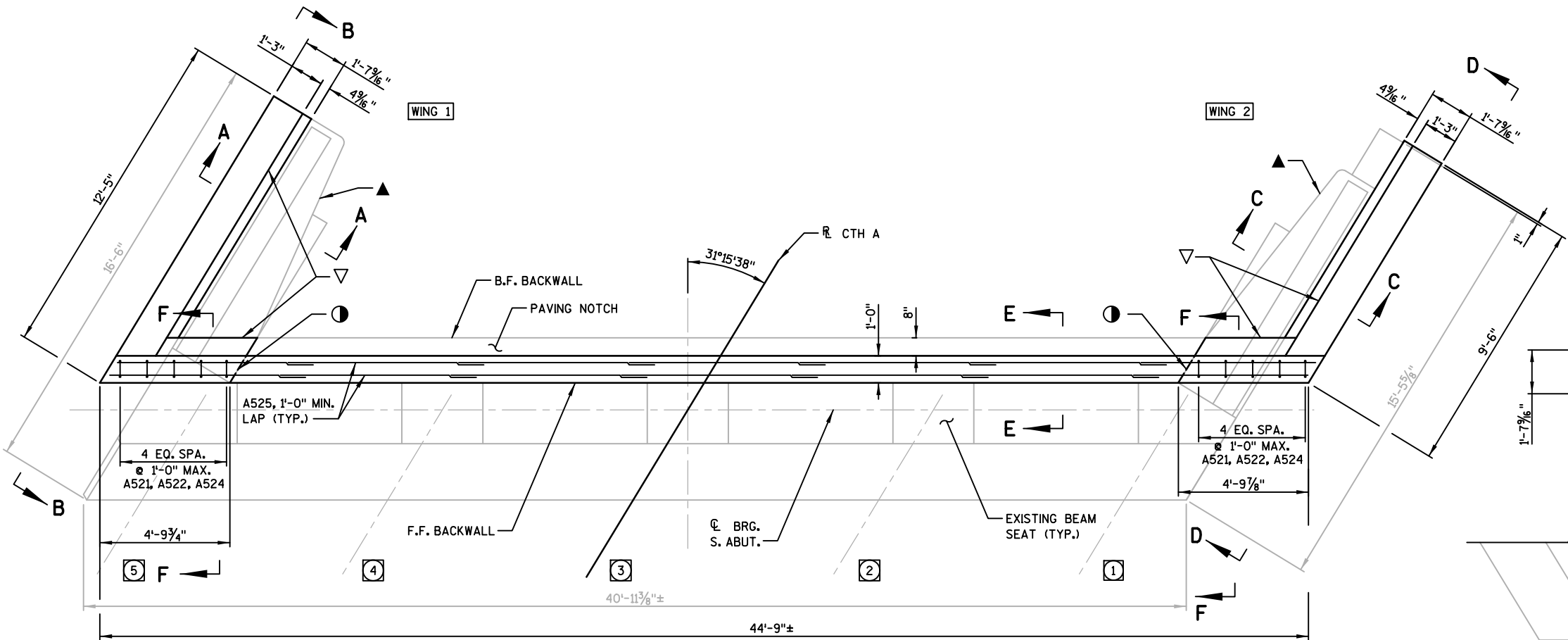


PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		DTH	PLANS CK'D. DJW
GENERAL NOTES, CROSS SECTION, & QUANTITIES			SHEET 2

NOTES

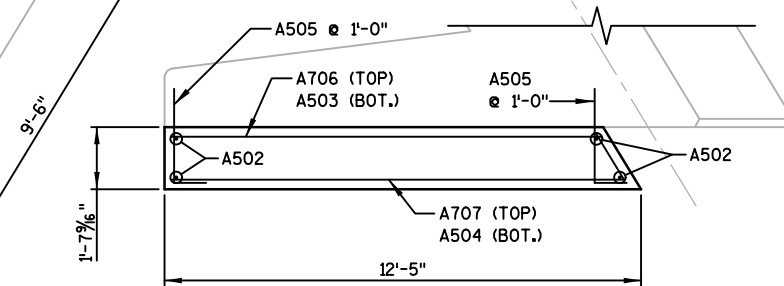
SEE "SOUTH ABUTMENT DETAILS" SHEET FOR ABUTMENT SECTIONS.
SEE "FENCING DETAILS" SHEET FOR FENCE POST SPACING.



PLAN

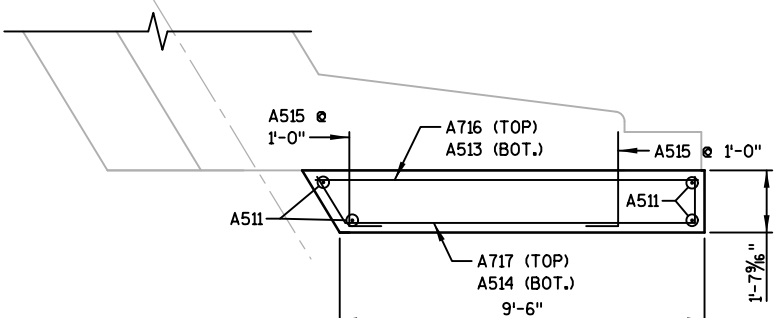
WING 1 LOWER PLAN

(WING 3 SIMILAR)



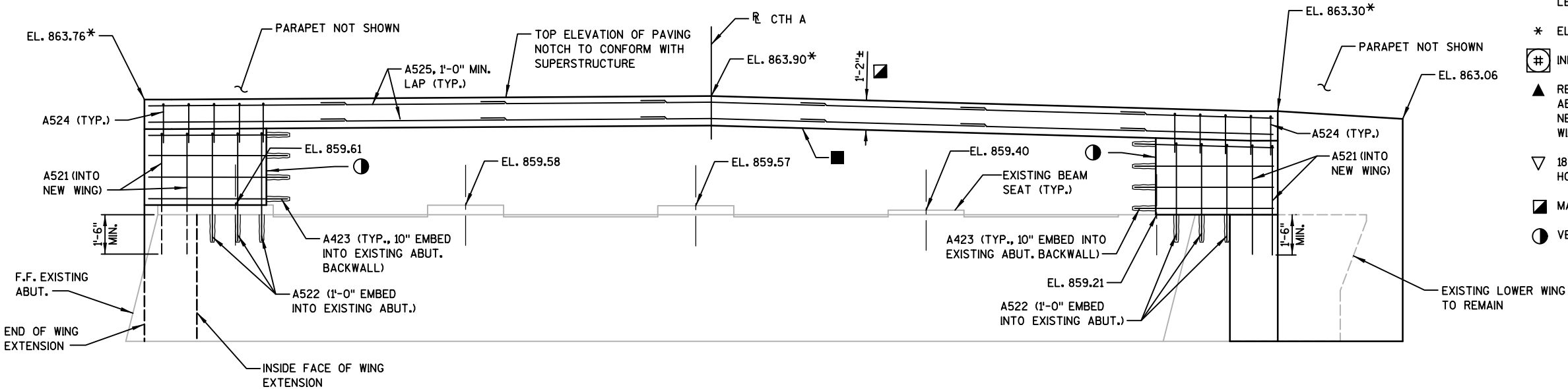
WING 2 LOWER PLAN

(WING 4 SIMILAR)



LEGEND

- HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- * ELEVATION GIVEN AT FRONT FACE OF ABUTMENT BACKWALL.
- # INDICATES GIRDER NUMBER.
- ▲ REMOVE EXISTING UPPER WING, CURB, AND PARAPET DOWN TO EXISTING ABUTMENT WINGWALL. INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW ABUTMENT BACKWALL. CUT ALL OTHER BARS THAT DO NOT FIT WITHIN NEW ABUTMENT BACKWALL FLUSH WITH CONCRETE.
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL EXPOSED HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- MATCH EXISTING PAVING BLOCK REPAIR JOINT.
- VERTICAL SAW CUT IN ABUTMENT BACKWALL SKEWED AS SHOWN.



ELEVATION
(LOOKING SOUTH)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CK'D. DJW
SOUTH ABUTMENT			SHEET 3

UNCOATED: 650 LBS
COATED: 860 LBS

SOUTH ABUTMENT
BILL OF BARS

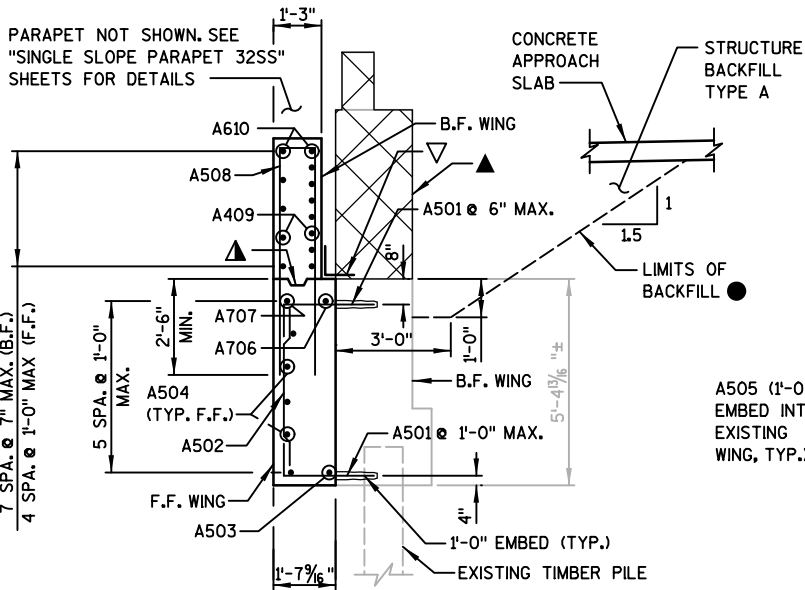
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
* A501	62	3'-2"	X		WINGS 1 & 2 - LOWER - DOWELS
A502	15	5'-0"			WING 1 - LOWER - VERT.
A503	1	11'-1"			WING 1 - LOWER - HORIZ. - B.F.
A504	5	13'-2"	X		WING 1 - LOWER - HORIZ. - F.F.
* A505	8	3'-2"	X		WING 1 - LOWER - DOWELS - HORIZ.
A706	1	11'-1"			WING 1 - LOWER - HORIZ. - B.F.
A707	1	13'-1"	X		WING 1 - LOWER - HORIZ. - F.F.
A508	11	13'-6"	X	X	WING 1 - UPPER - VERT.
A409	11	11'-5"		X	WING 1 - UPPER - HORIZ.
A610	2	11'-5"		X	WING 1 - UPPER - HORIZ.
A511	12	4'-8"			WING 2 - LOWER - VERT.
A512	2	4'-6"	X		WING 2 - LOWER - VERT.
A513	1	9'-11"			WING 2 - LOWER - HORIZ. - B.F.
A514	5	11'-9"	X		WING 2 - LOWER - HORIZ. - F.F.
* A515	8	3'-2"	X		WING 2 - LOWER - DOWELS - HORIZ.
A716	1	9'-11"			WING 2 - LOWER - HORIZ. - B.F.
A717	1	11'-8"	X		WING 2 - LOWER - HORIZ. - F.F.
A518	9	13'-6"	X	X	WING 2 - UPPER - VERT.
A419	11	9'-2"		X	WING 2 - UPPER - HORIZ.
A620	2	9'-2"		X	WING 2 - UPPER - HORIZ.
A521	4	10'-1"	X	X	BACKWALL - VERT.
* A522	6	8'-3"	X	X	BACKWALL - VERT.
* A423	16	5'-5"		X	BACKWALL - DOWELS - HORIZ.
A524	10	5'-1"	X	X	BACKWALL - NOTCH - VERT.
A525	21	7'-3"		X	BACKWALL - NOTCH - HORIZ.

* ADHESIVE ANCHORS:
EMBED NO. 4 BAR 10"
EMBED NO. 5 BAR 1'-0"

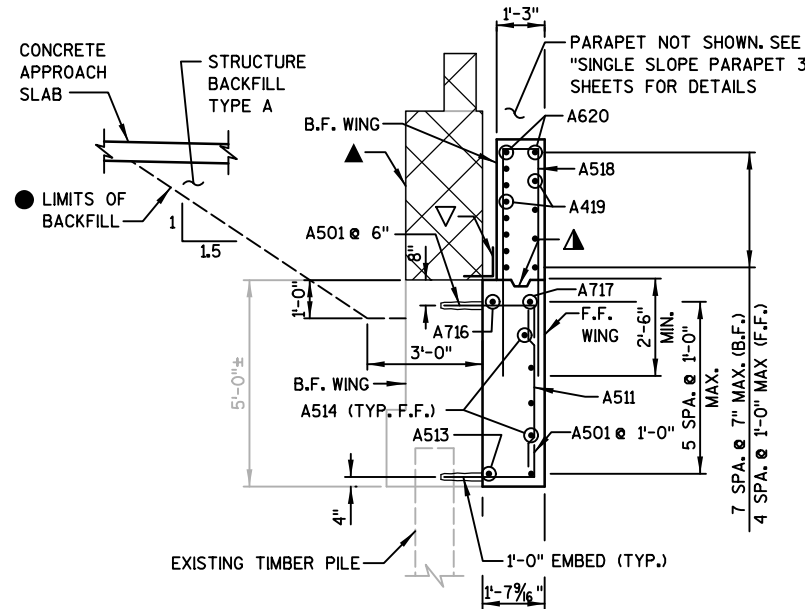
LEGEND

- HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- REMOVE EXISTING UPPER WING, CURB, AND PARAPET DOWN TO EXISTING ABUTMENT WINGWALL. INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW ABUTMENT BACKWALL. CUT ALL OTHER BARS THAT DO NOT FIT WITHIN NEW ABUTMENT BACKWALL FLUSH WITH CONCRETE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL EXPOSED HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT" DETAILS SHEETS.
- BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.
- MATCH EXISTING PAVING BLOCK REPAIR JOINT.

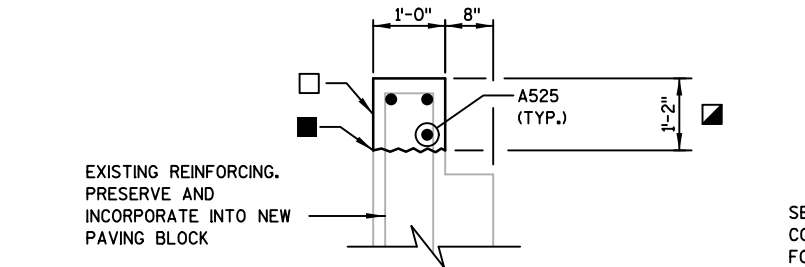
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CKD. DJW
SOUTH ABUTMENT DETAILS			SHEET 4



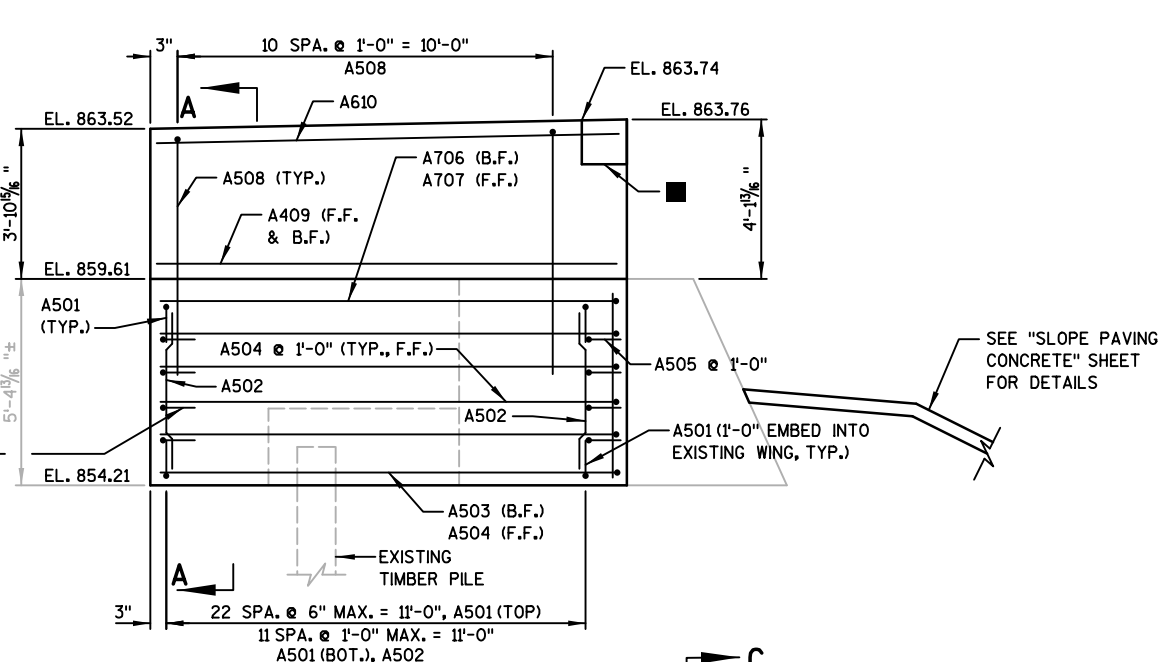
SECTION A-A
(WING 1)



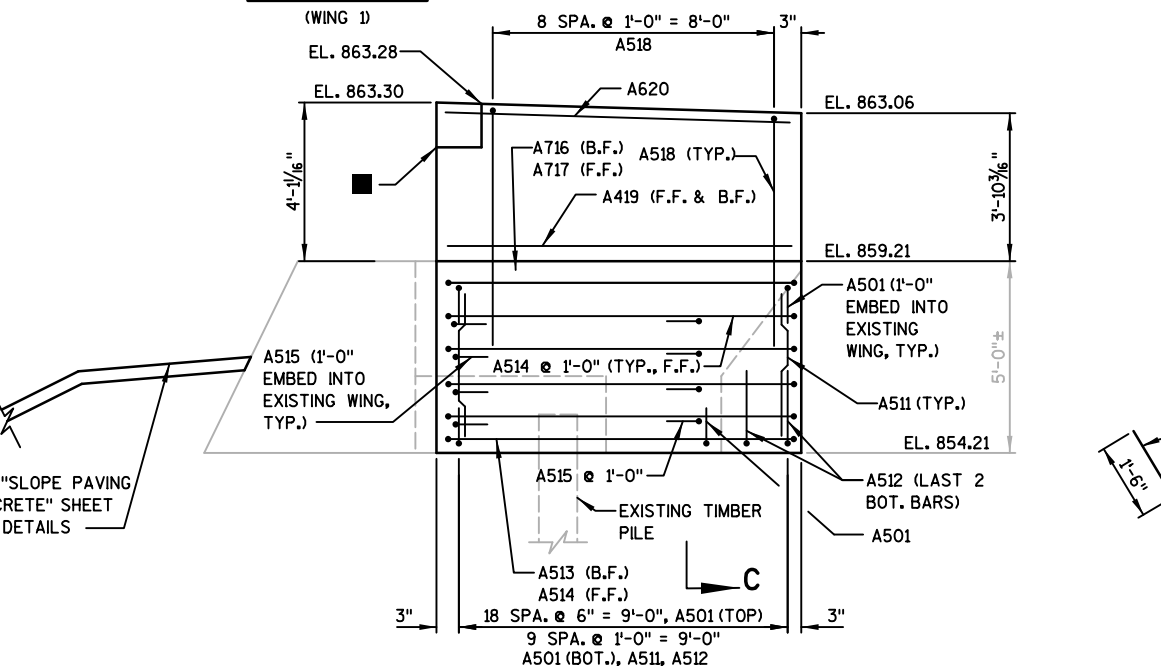
SECTION C-C
(WING 2)



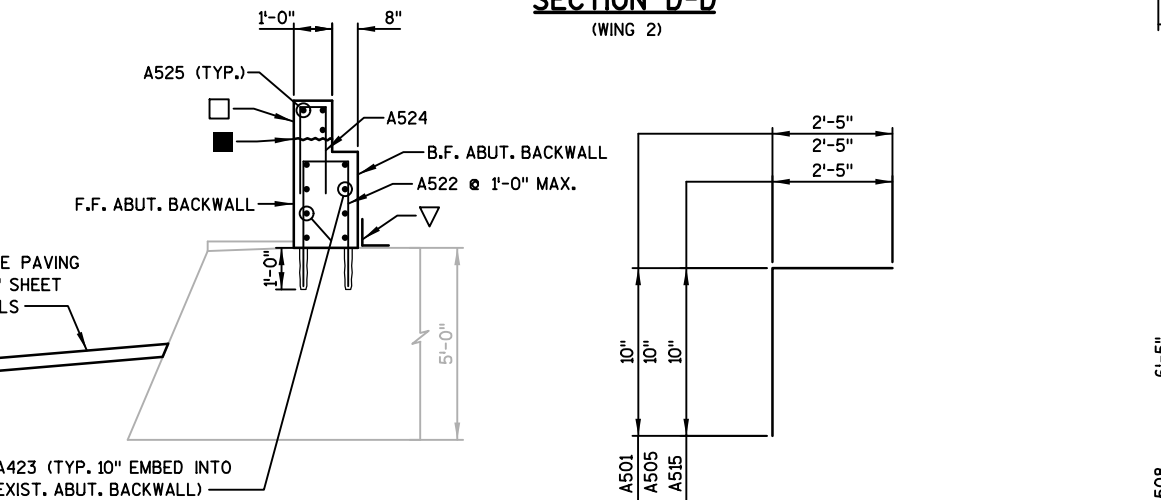
SECTION E-E



SECTION B-B
(WING 1)

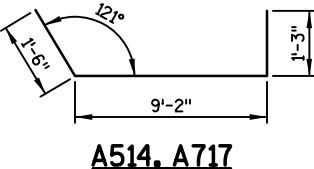


SECTION D-D
(WING 2)

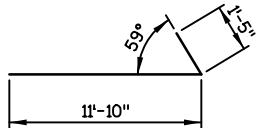


SECTION F-F

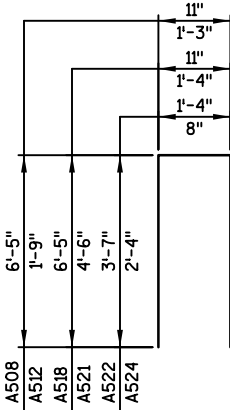
A501, A505, A515



A514, A717



A504, A707



A508, A512, A518, A521, A522, A524

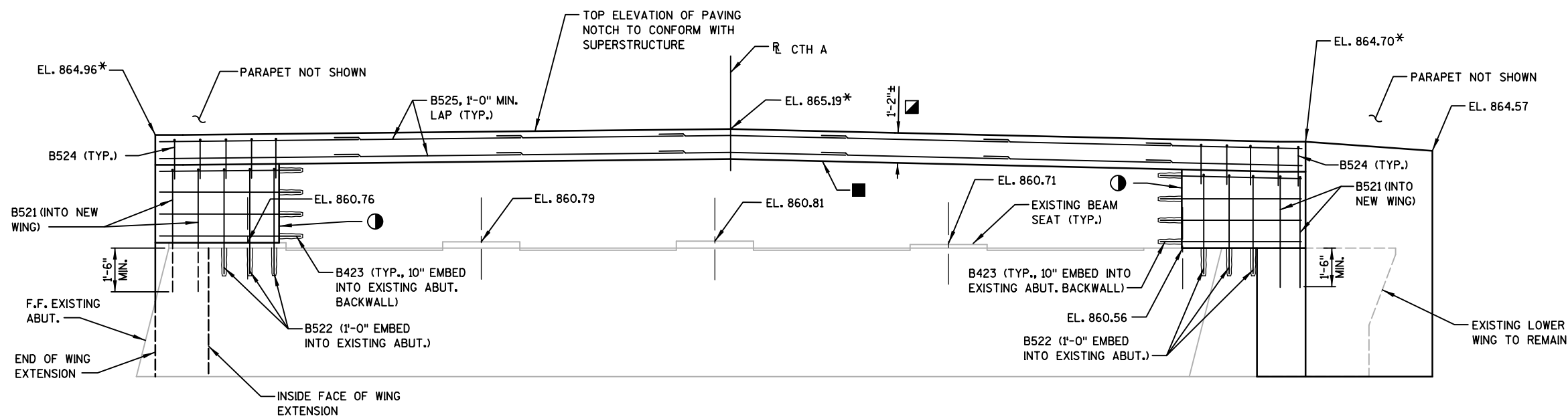
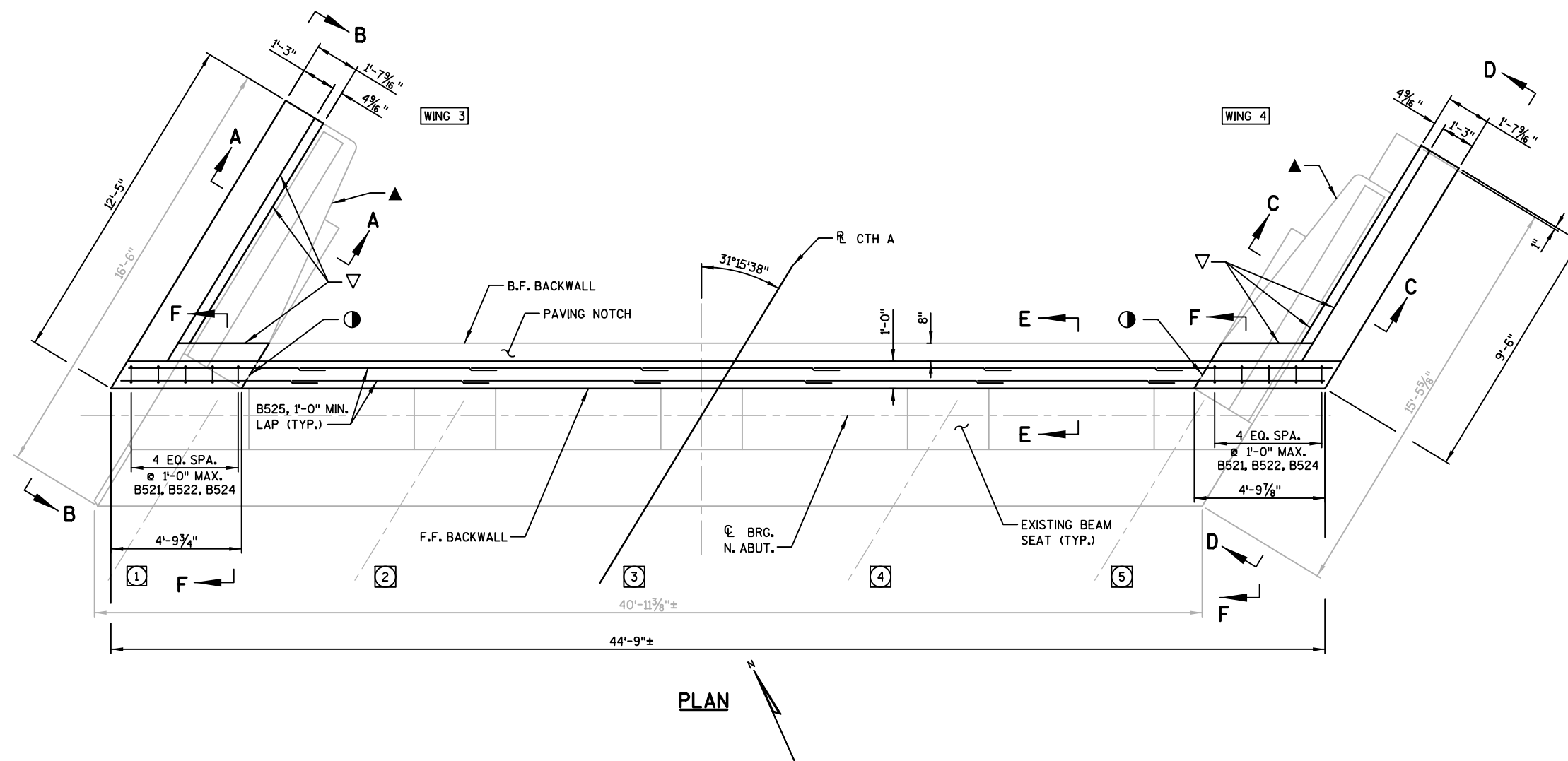
NOTES

SEE "NORTH ABUTMENT DETAILS" SHEET FOR ABUTMENT SECTIONS.

SEE "FENCING DETAILS" SHEET FOR FENCE POST SPACING.

LEGEND

- HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- * ELEVATION GIVEN AT FRONT FACE OF ABUTMENT BACKWALL.
- Ⓜ INDICATES GIRDER NUMBER.
- ▲ REMOVE EXISTING UPPER WING, CURB, AND PARAPET DOWN TO EXISTING ABUTMENT WINGWALL. INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW ABUTMENT BACKWALL. CUT ALL OTHER BARS THAT DO NOT FIT WITHIN NEW ABUTMENT BACKWALL FLUSH WITH CONCRETE.
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL EXPOSED HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- MATCH EXISTING PAVING BLOCK REPAIR JOINT.
- VERTICAL SAW CUT IN ABUTMENT BACKWALL SKEWED AS SHOWN.

**ELEVATION**
(LOOKING NORTH)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		DTH	PLANS CK'D. DJW
NORTH ABUTMENT			SHEET 5

UNCOATED: 650 LBS
COATED: 860 LBS

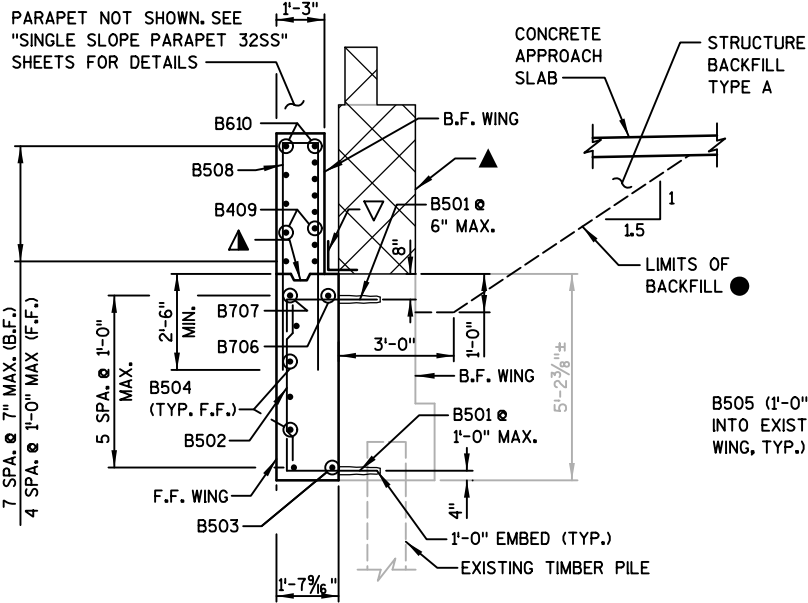
NORTH ABUTMENT
BILL OF BARS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
* B501	62	3'-2"	X		WINGS 3 & 4 - LOWER - DOWELS
B502	15	4'-10"			WING 3 - LOWER - VERT.
B503	1	11'-1"			WING 3 - LOWER - HORIZ. - B.F.
B504	5	13'-2"	X		WING 3 - LOWER - HORIZ. - F.F.
* B505	8	3'-2"	X		WING 3 - LOWER - DOWELS - HORIZ.
B706	1	11'-1"			WING 3 - LOWER - HORIZ. - B.F.
B707	1	13'-1"	X		WING 3 - LOWER - HORIZ. - F.F.
B508	11	13'-6"	X	X	WING 3 - UPPER - VERT.
B409	11	11'-5"		X	WING 3 - UPPER - HORIZ.
B610	2	11'-5"		X	WING 3 - UPPER - HORIZ.
B511	12	4'-8"			WING 4 - LOWER - VERT.
B512	2	4'-6"	X		WING 4 - LOWER - VERT.
B513	1	9'-11"			WING 4 - LOWER - HORIZ. - B.F.
B514	5	11'-9"	X		WING 4 - LOWER - HORIZ. - F.F.
* B515	8	3'-2"	X		WING 4 - LOWER - DOWELS - HORIZ.
B716	1	9'-11"			WING 4 - LOWER - HORIZ. - B.F.
B717	1	11'-8"	X		WING 4 - LOWER - HORIZ. - F.F.
B518	9	13'-6"	X	X	WING 4 - UPPER - VERT.
B419	11	9'-2"		X	WING 4 - UPPER - HORIZ.
B620	2	9'-2"		X	WING 4 - UPPER - HORIZ.
B521	4	10'-1"	X	X	BACKWALL - VERT.
* B522	6	8'-3"	X	X	BACKWALL - VERT.
* B423	16	5'-5"		X	BACKWALL - DOWELS - HORIZ.
B524	10	5'-1"	X	X	BACKWALL - NOTCH - VERT.
B525	21	7'-3"		X	BACKWALL - NOTCH - HORIZ.

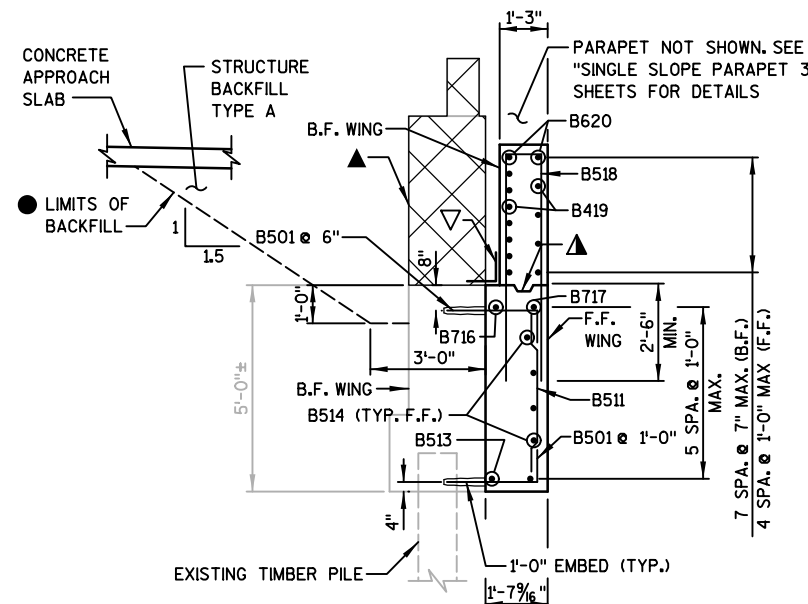
* ADHESIVE ANCHORS:
EMBED NO. 4 BAR 10"
EMBED NO. 5 BAR 1'-0"

LEGEND

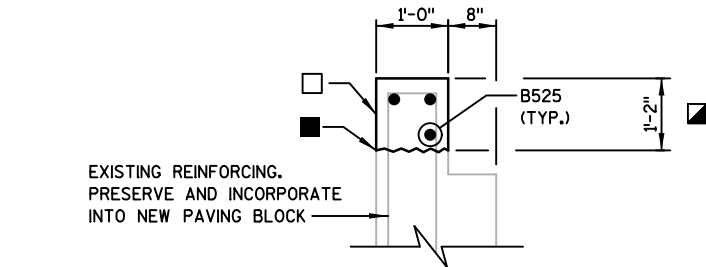
- HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- ▲ REMOVE EXISTING UPPER WING, CURB, AND PARAPET DOWN TO EXISTING ABUTMENT WINGWALL. INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW ABUTMENT BACKWALL. CUT ALL OTHER BARS THAT DO NOT FIT WITHIN NEW ABUTMENT BACKWALL FLUSH WITH CONCRETE.
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- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT" DETAILS SHEETS.
- BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.
- MATCH EXISTING PAVING BLOCK REPAIR JOINT.



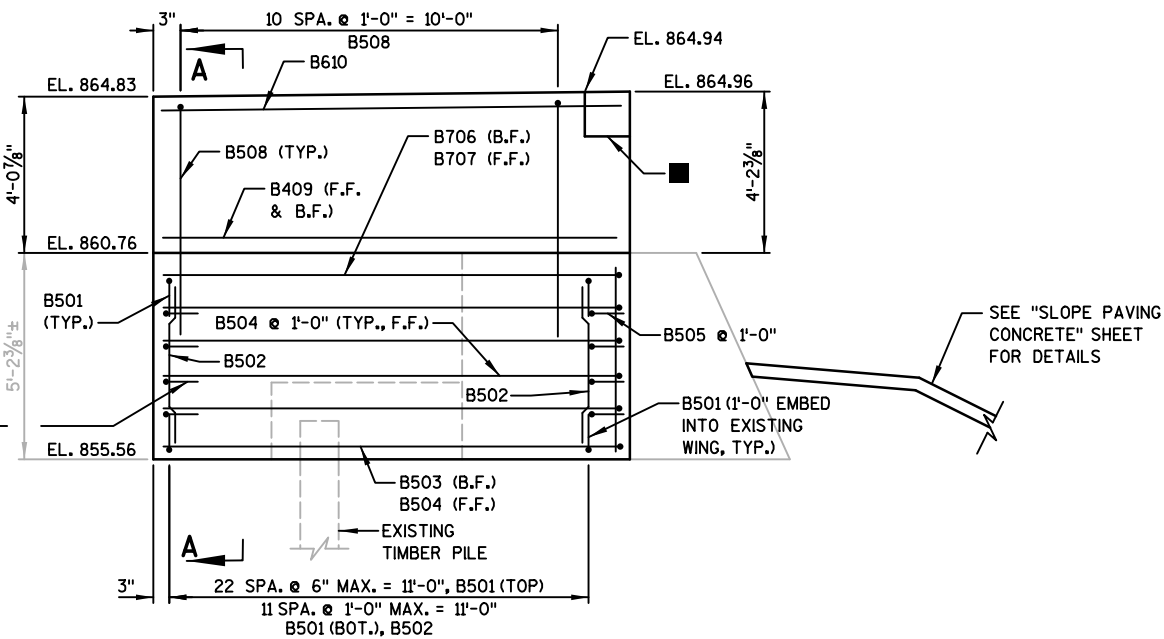
SECTION A-A
(WING 3)



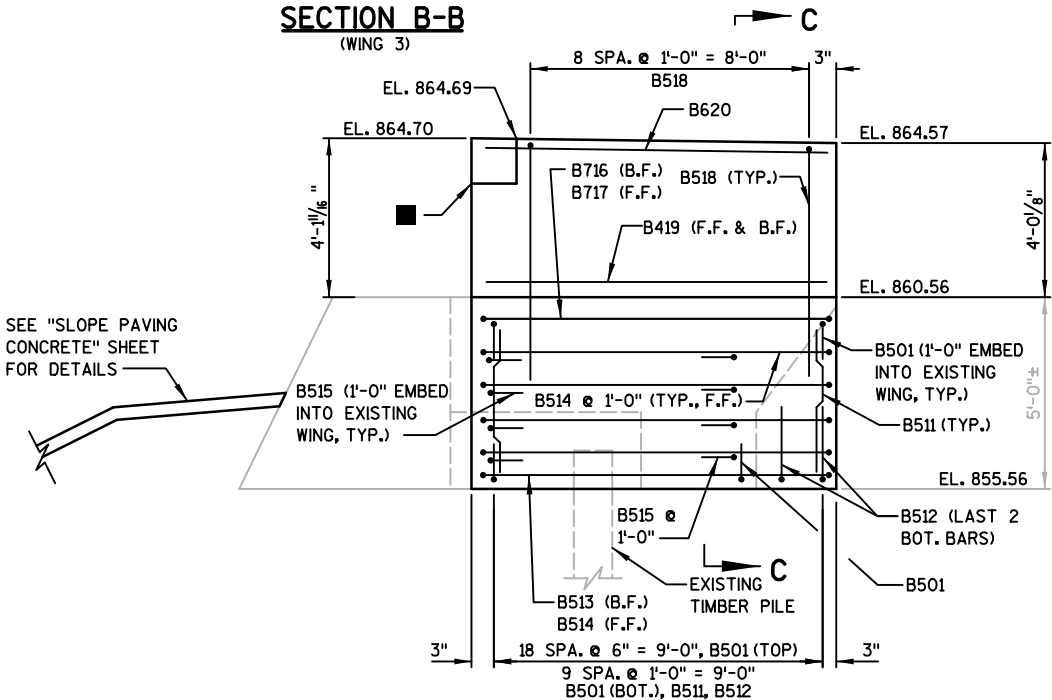
SECTION C-C
(WING 4)



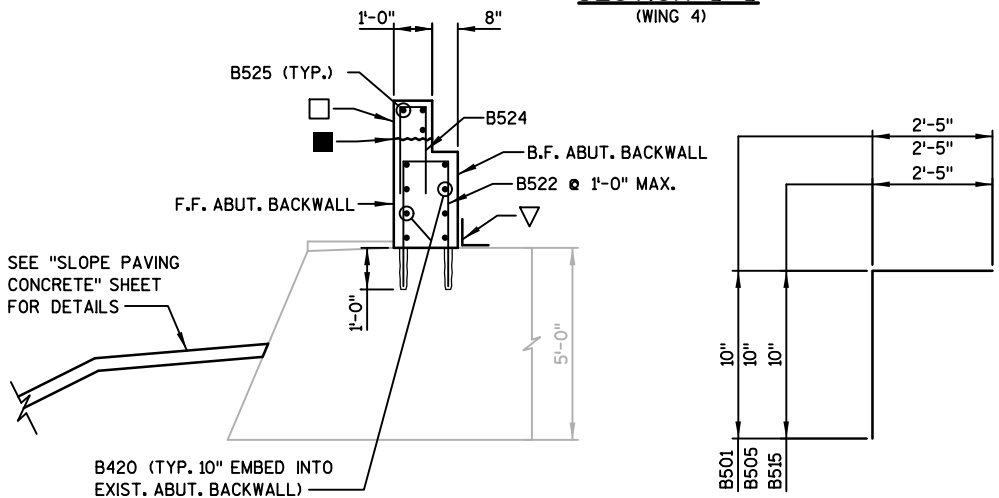
SECTION E-E



SECTION B-B
(WING 3)

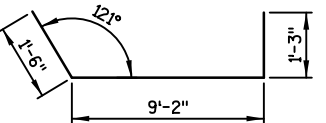


SECTION D-D
(WING 4)

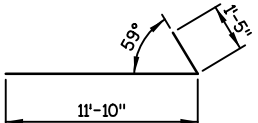


SECTION F-F

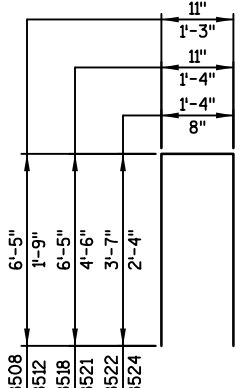
B501, B505, B515



B514, B717

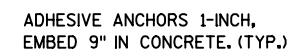


B504, B707



B508, B512, B518, B521, B522, B524

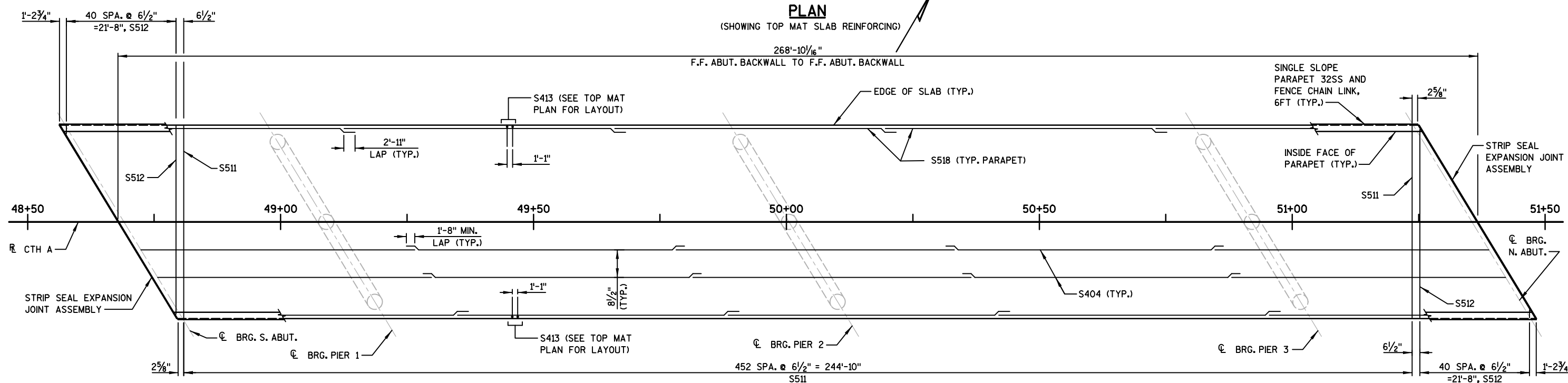
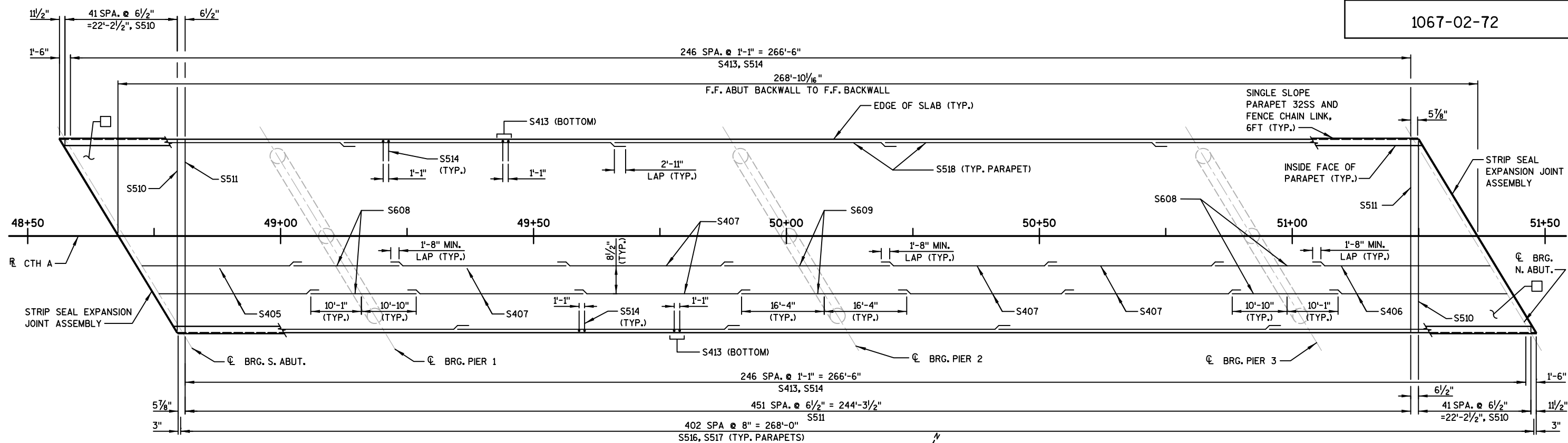
ALL PLATE CUTS SHALL BE MACHINE OR
MACHINE FLAME CUTS.



PLAN VIEW



FILE NAME : S:\MAD\1000--1099\1089\398\Micros\PLAN\B-28-041\080608_fp.dgn



NOTES

SEE "FENCING DETAILS" SHEET FOR FENCE POST SPACING.

LEGEND

- PLACED HOOKED BARS (S514) PARALLEL TO CL OF BRIDGE ABUTMENT UNTIL THERE IS ENOUGH CLEAR EDGE DISTANCE TO PLACE PERPENDICULAR TO GIRDER CL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CK'D. DJW
SUPERSTRUCTURE PLAN			SHEET 9

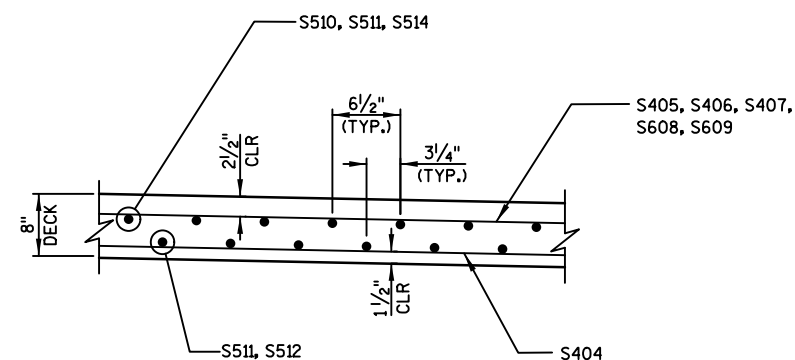


SECTION S-S

SEE "SUPERSTRUCTURE DETAILS" SHEETS
FOR REINFORCING DETAILS.

INDICATES GIRDER NUMBER.

- 3/4" V GROVE REQ'D. EXTEND 2'-0" FROM F.F. OF ABUT.
- ABRASIVE BLAST AND REPAINT ALL STRUCTURAL STEEL SURFACE AREAS INCLUDING TOP FLANGE OF BEAMS AND NORTH ABUTMENT AND PIER BEARINGS. REMOVE AND REPLACE SOUTH ABUTMENT BEARINGS.
- * BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO C GIRDERS.



SUPERSTRUCTURE

BILL OF BARS

COATED: 83,400 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	COAT	LOCATION
S401	88	4'-10"	X		X	ABUT. DIAPHRAGM - VERT. - BTWN. BEAMS
S602	40	7'-6"			X	ABUT. DIAPHRAGM - HORIZ.
S403	16	7'-6"			X	ABUT. DIAPHRAGM - HORIZ.
S404	275	55'-0"			X	SLAB - LONG. - BOT.
S405	54	32'-6"			X	SLAB - LONG. - TOP - SPANS 1
S406	54	35'-11"			X	SLAB - LONG. - TOP - SPANS 4
S407	216	34'-8"			X	SLAB - LONG. - TOP - SPANS 2 & 3
S608	108	20'-11"			X	SLAB - LONG. - TOP - OVER PIERS 1 & 3
S609	54	32'-8"			X	SLAB - LONG. - TOP - OVER PIER 2
S510	84	19'-5"		△	X	SLAB - TRANS. - TOP
S511	905	37'-11"			X	SLAB - TRANS. - TOP & BOT.
S512	82	19'-5"		△	X	SLAB - TRANS. - BOT.
S413	494	4'-0"	X		X	SLAB - TRANS. - OVERHANG - BOT.
S514	494	5'-6"	X		X	SLAB - TRANS. - OVERHANG - TOP
S415	16	7'-6"			X	SLAB - TRANS. - STRIP SEAL EXP. JOINT
S516	806	4'-5"	X		X	PARAPETS - VERT.
S517	806	5'-0"	X		X	PARAPETS - VERT.
S518	60	56'-0"			X	PARAPETS - HORIZ.
S419	538	2'-6"	X		X	GIRDER HAUNCH - VERT. - GIRD. 1 & 5
S420	536	2'-8"	X		X	GIRDER HAUNCH - VERT. - GIRD. 2 & 4
S421	268	2'-8"	X		X	GIRDER HAUNCH - VERT. - GIRD. 3
S422	50	54'-10"			X	GIRDER HAUNCH - HORIZ.

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S510	2 SERIES OF 42	1'-1" TO 37'-8"
S512	2 SERIES OF 41	1'-6" TO 37'-3"

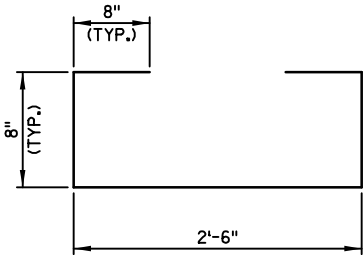
BUNDLE AND TAG EACH SERIES SEPARATELY.

NOTES

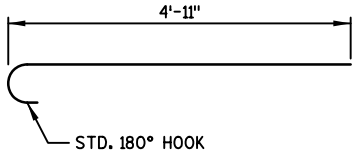
ALL REPLACEMENT PAVING BLOCK DIMENSIONS SHALL MATCH EXISTING PLAN DIMENSIONS UNLESS NOTED OTHERWISE.

LEGEND

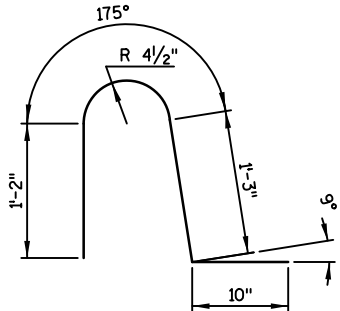
- ≠ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ϕ GIRDERS.
- * DIMENSION IS TAKEN NORMAL TO ϕ ABUTMENT.
- ▣ MATCH EXISTING PAVING BLOCK REPAIR JOINT.



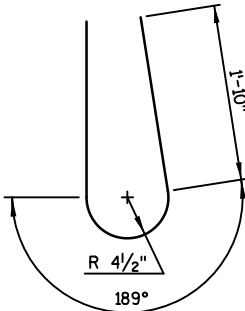
S401



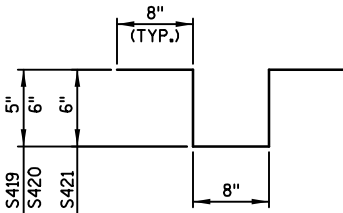
S514



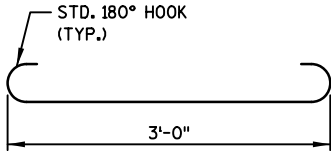
S516



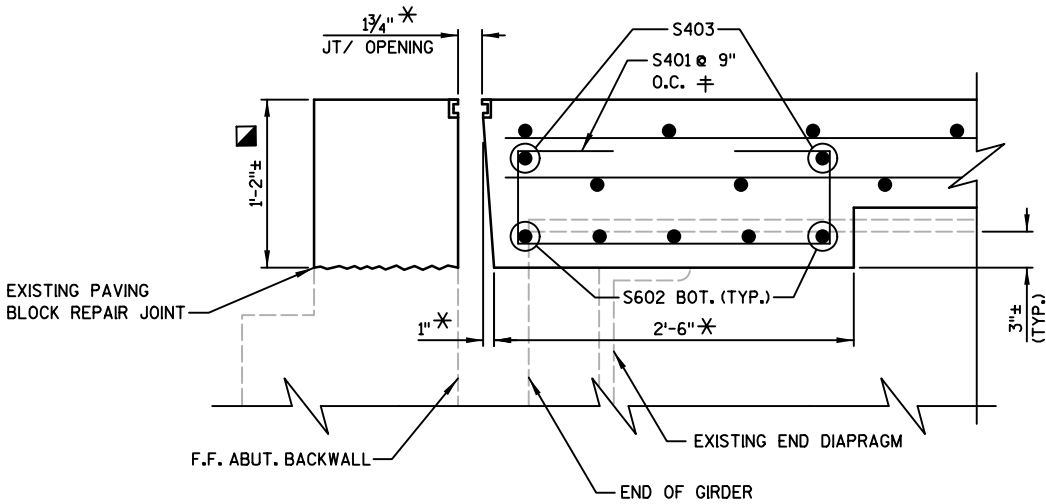
S517



S419, S420, S421



S413



SECTION THRU DIAPHRAGM AT ABUTMENT

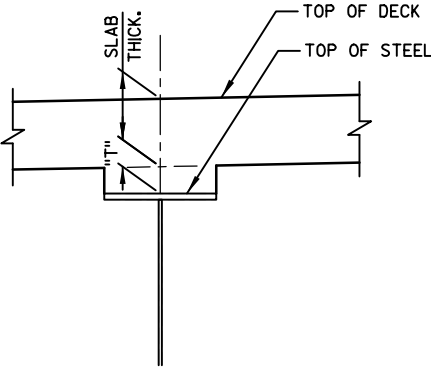
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
	DRAWN BY	DTH	PLANS CK'D. DJW
SUPERSTRUCTURE DETAIL-1		SHEET 11	

TOP OF DECK ELEVATIONS

SPAN 1												SPAN 2									
	CL BRG. S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 2
W. DECK EDGE	863.33	863.42	863.50	863.59	863.67	863.75	863.83	863.91	863.98	864.06	864.13	864.28	864.43	864.56	864.69	864.80	864.90	865.00	865.08	865.16	865.22
GIRDER 1	863.41	863.49	863.58	863.66	863.75	863.83	863.90	863.98	864.05	864.13	864.20	864.35	864.49	864.63	864.75	864.86	864.97	865.06	865.14	865.21	865.27
GIRDER 2	863.67	863.75	863.83	863.92	864.00	864.07	864.15	864.22	864.30	864.37	864.43	864.58	864.72	864.85	864.97	865.07	865.17	865.26	865.33	865.40	865.46
GIRDER 3	863.92	864.00	864.09	864.17	864.24	864.32	864.39	864.46	864.53	864.60	864.67	864.81	864.94	865.07	865.18	865.28	865.37	865.45	865.53	865.59	865.64
GIRDER 4	863.86	863.94	864.02	864.10	864.18	864.25	864.32	864.39	864.46	864.52	864.59	864.72	864.85	864.97	865.08	865.17	865.26	865.34	865.40	865.46	865.51
GIRDER 5	863.80	863.88	863.96	864.03	864.11	864.18	864.25	864.31	864.38	864.44	864.50	864.64	864.76	864.87	864.97	865.06	865.15	865.22	865.28	865.33	865.37
E. DECK EDGE	863.79	863.86	863.94	864.01	864.09	864.16	864.22	864.29	864.35	864.42	864.48	864.61	864.73	864.84	864.94	865.03	865.11	865.18	865.24	865.29	865.33
TOTAL DEAD LOAD DEFLECTION	0.0"	0.0"	0.0"	0.0"	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	0.0"	0.3"	0.7"	1.0"	1.1"	1.1"	1.0"	0.7"	0.3"	0.1"	0.0"
DEAD LOAD DEFLECTION (CONC. ONLY)	0.0"	0.0"	0.0"	0.0"	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	0.00	0.2"	0.5"	0.8"	0.9"	0.9"	0.8"	0.6"	0.3"	0.1"	0.0"

SPAN 3												SPAN 4									
	CL PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 3	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. N. ABUT.
W. DECK EDGE	865.22	865.27	865.31	865.35	865.37	865.38	865.38	865.38	865.36	865.33	865.29	865.27	865.24	865.22	865.19	865.16	865.12	865.09	865.05	865.01	864.97
GIRDER 1	865.27	865.33	865.37	865.40	865.42	865.43	865.43	865.42	865.40	865.37	865.33	865.31	865.28	865.26	865.23	865.19	865.16	865.12	865.08	865.04	865.00
GIRDER 2	865.46	865.50	865.54	865.57	865.58	865.59	865.58	865.57	865.54	865.51	865.46	865.44	865.41	865.38	865.35	865.31	865.28	865.24	865.19	865.15	865.11
GIRDER 3	865.64	865.68	865.71	865.73	865.74	865.74	865.73	865.71	865.68	865.64	865.59	865.56	865.53	865.50	865.46	865.43	865.39	865.35	865.30	865.26	865.21
GIRDER 4	865.51	865.54	865.57	865.58	865.59	865.58	865.57	865.54	865.51	865.46	865.40	865.37	865.34	865.31	865.27	865.23	865.19	865.14	865.10	865.05	865.00
GIRDER 5	865.37	865.40	865.42	865.43	865.43	865.42	865.40	865.37	865.33	865.28	865.22	865.18	865.15	865.11	865.07	865.03	864.98	864.94	864.89	864.84	864.78
E. DECK EDGE	865.33	865.36	865.38	865.38	865.38	865.37	865.35	865.32	865.27	865.22	865.16	865.12	865.09	865.05	865.01	864.97	864.92	864.88	864.83	864.77	864.72
TOTAL DEAD LOAD DEFLECTION	0.0"	0.1"	0.3"	0.7"	1.0"	1.1"	1.1"	1.0"	0.6"	0.3"	0.0"	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	0.0"	0.0"	0.0"	0.0"	0.0"
DEAD LOAD DEFLECTION (CONC. ONLY)	0.0"	0.1"	0.3"	0.6"	0.8"	0.9"	0.9"	0.8"	0.5"	0.2"	0.00	-0.1"	-0.1"	-0.1"	-0.1"	-0.1"	0.0"	0.0"	0.0"	0.0"	0.0"

- NOTES:
1. DEFLECTIONS ARE GIVEN IN INCHES.
2. NEGATIVE DEFLECTION VALUE DENOTES UPWARD DEFLECTION.
3. DEFLECTION VALUES ARE THEORETICAL AND MAY VARY IN THE FIELD.



CONCRETE HAUNCH DETAIL

CONCRETE HAUNCH NOTES

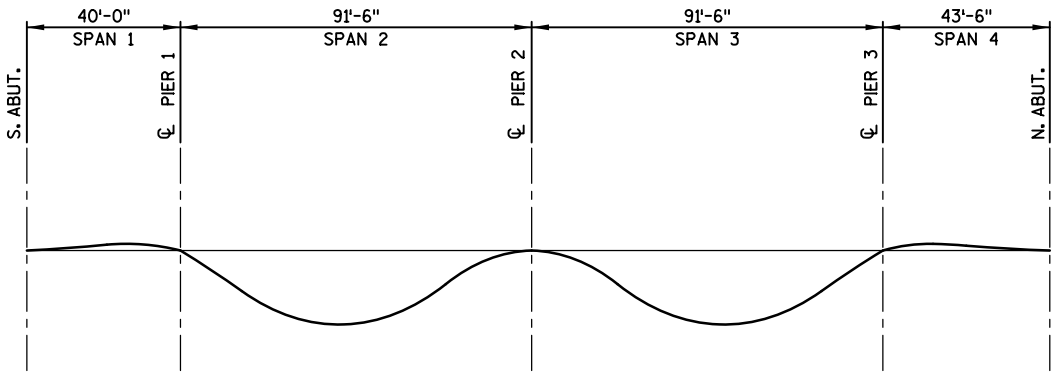
'T' = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

TO DETERMINE 'T': AFTER EXISTING DECK HAS BEEN REMOVED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTELINE OF BEARINGS AND AT 0.1 POINTS.

- TOP OF DECK ELEVATION AT FINAL GRADE
- TOP OF STEEL ELEVATION
- + CONC. ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED
- SLAB THICKNESS

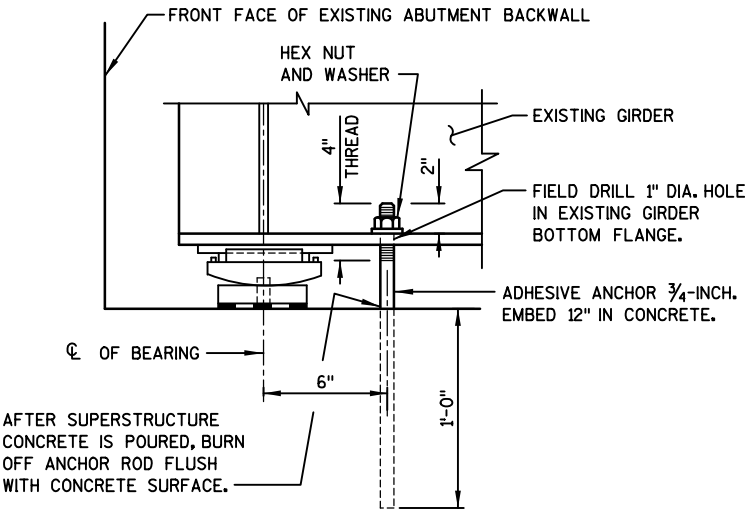
= 'T' VALUE FOR SETTING HAUNCH

AVERAGE 'T' USED FOR ESTIMATING CONCRETE QUANTITIES IS 4 1/2".



GIRDER DEFLECTION DIAGRAM

SEE "TOP OF DECK ELEVATIONS" TABLE FOR ESTIMATED DEFLECTION VALUES AT THE TENTH POINTS OF EACH SPAN.



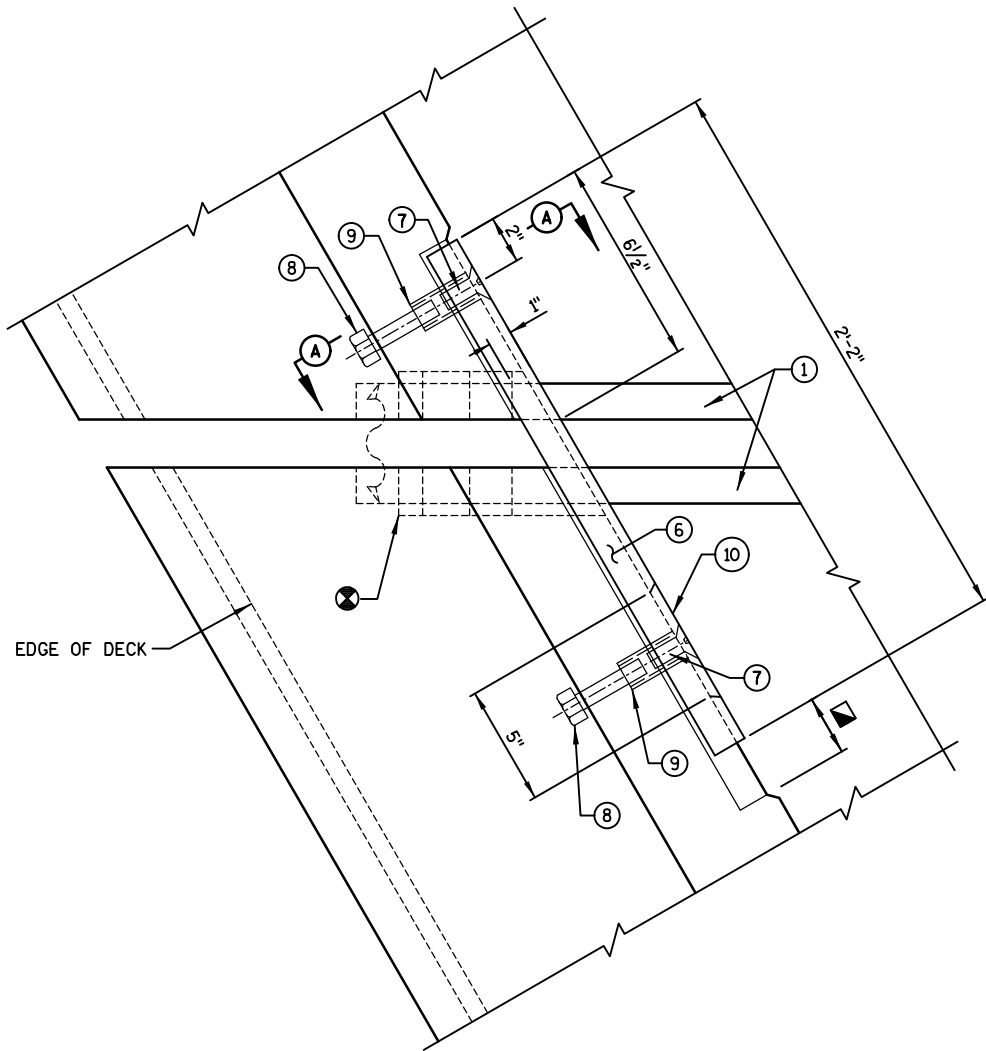
TEMPORARY HOLD DOWN DEVICE

PLACE ONE ANCHOR ROD PER GIRDER AT ABUTMENT WHERE DECK REMOVAL BEGINS. HOLD DOWN DEVICES SHALL REMAIN IN-PLACE UNTIL AFTER THE SLAB POUR IS COMPLETE. THE SLAB POUR SHALL BEGIN AT THE END OF THE BRIDGE OPPOSITE THE END WHERE THE TEMPORARY HOLD-DOWN DEVICES ARE LOCATED. LOCATE 4" (NORMAL) OFF CL OF GIRDER. ANCHOR ROD, NUT, WASHER AND DRILLED HOLE IN GIRDER FLANGE SHALL BE PAID FOR AS "ADHESIVE ANCHORS 3/4-INCH". EMBED 12" IN CONCRETE.

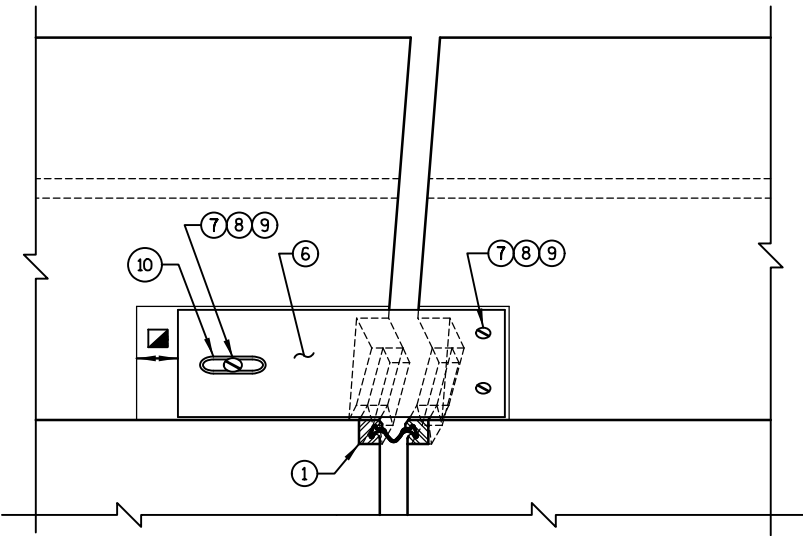
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CK'D. DJW
SUPERSTRUCTURE DETAILS - 2		SHEET 12	

LEGEND

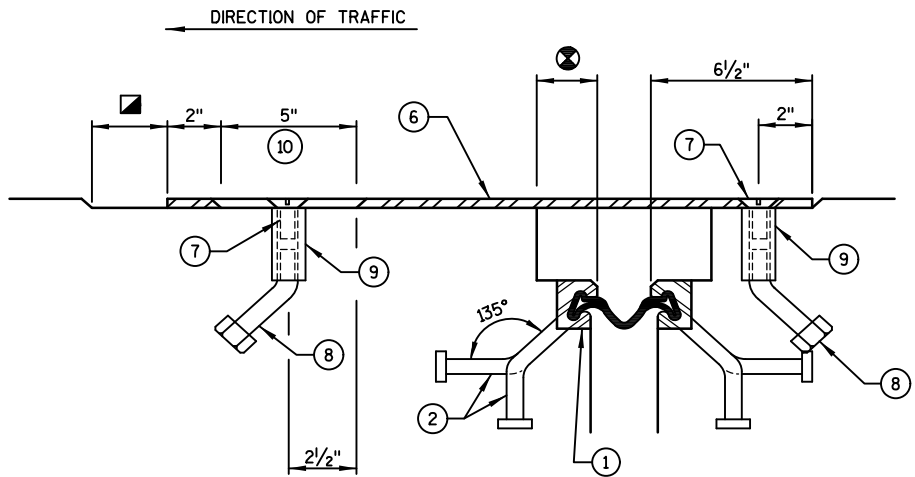
- ① NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.
- ② STUDS $\frac{5}{8}$ " DIA. X $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ②A $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ $\frac{3}{4}$ " DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- ④ $\frac{3}{4}$ " DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$ " 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 $\frac{1}{2}$ " DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
- ⑥ GALVANIZED PLATE $\frac{3}{8}$ " X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
- ⑦ $\frac{3}{4}$ " DIA. X $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$ " BELOW PLATE SURFACE.
- ⑧ $\frac{3}{4}$ " DIA. X 4" GALVANIZED HEX HEAD BOLT, BEND 45°.
- ⑨ $\frac{3}{4}$ " DIA. X $2\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- ⑩ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- ▣ JOINT OPENING DIMENSION ALONG SKEW PLUS $\frac{1}{2}$ ".



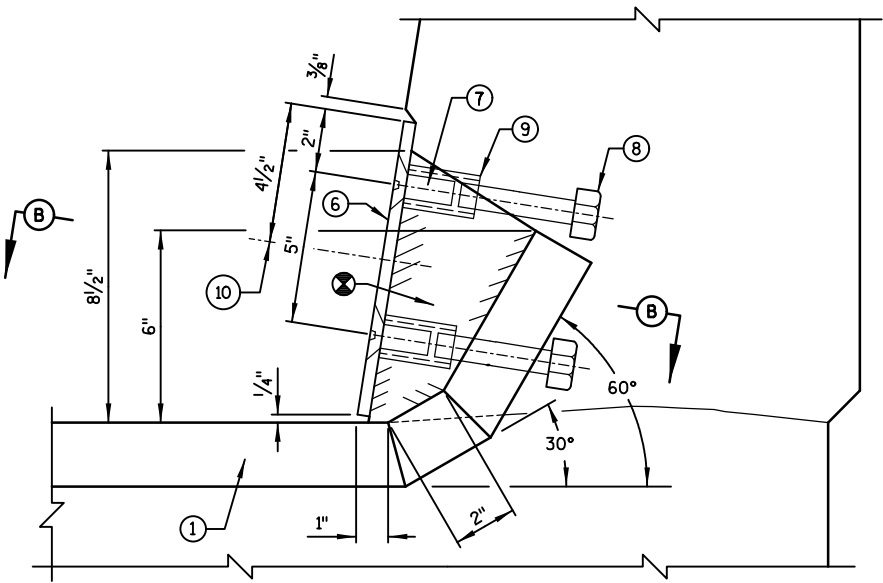
PLAN AT PARAPET



VIEW OF PARAPET PLATES
FROM ROADWAY

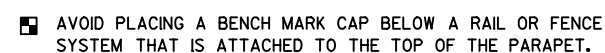


SECTION B-B

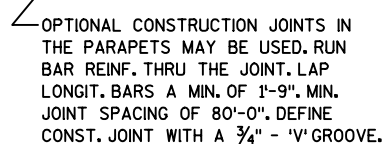
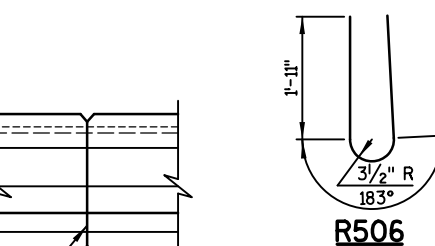
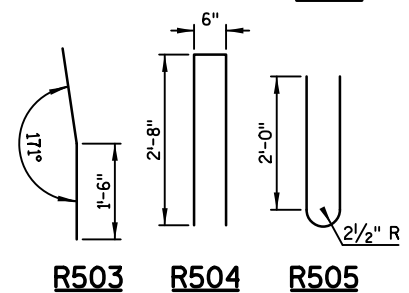
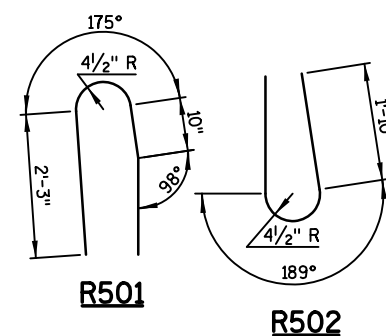


SECTION A-A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		DTH	PLANS CK'D. DJW
STRIP SEAL EXPANSION JOINT DETAILS - 2			SHEET 14

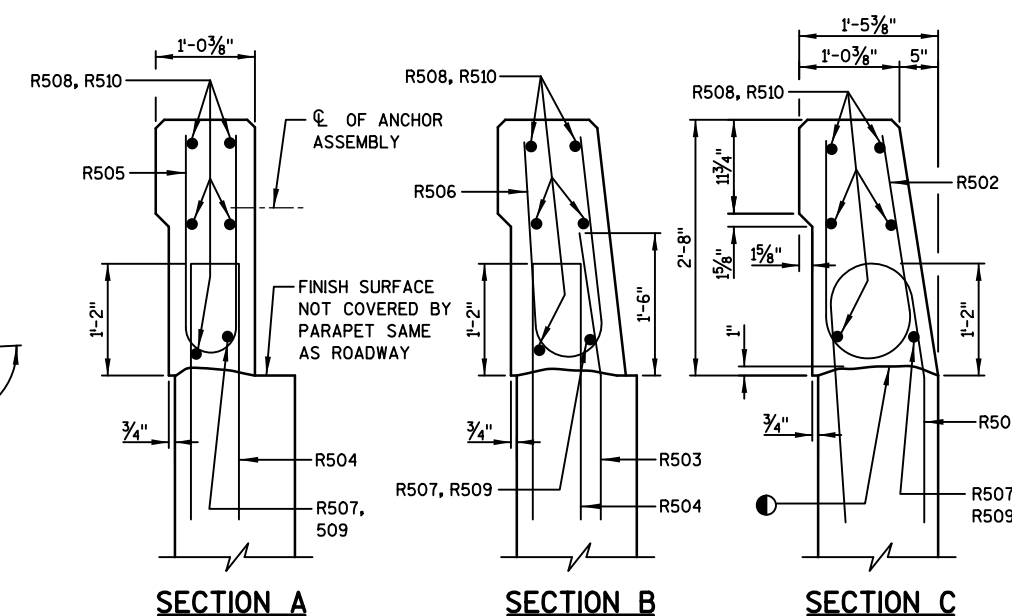


INSIDE ELEVATION



BILL OF BARS

BAR MARK	NO. REQ'D ABUT. S.	NO. REQ'D ABUT. N.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
R501	7	7	5'-10"	X	X		PARAPET - VERT.
R502	7	7	5'-0"	X	X		PARAPET - VERT.
R503	24	24	3'-0"	X	X		PARAPET - VERT.
R504	34	34	5'-7"	X	X		PARAPET - VERT.
R505	22	22	4'-9"	X	X		PARAPET - VERT.
R506	12	12	4'-10"	X	X		PARAPET - VERT.
R507	1	1	11'-1"	X	X		PARAPET - HORIZ. - WINGS 1 AND 3
R508	5	5	11'-5"		X		PARAPET - HORIZ. - WINGS 1 AND 3
R509	1	1	9'-9"	X	X		PARAPET - HORIZ. - WINGS 2 AND 4
R510	5	5	9'-2"		X		PARAPET - HORIZ. - WINGS 2 AND 4



DETAIL OF ANCHOR ASSEMBLY

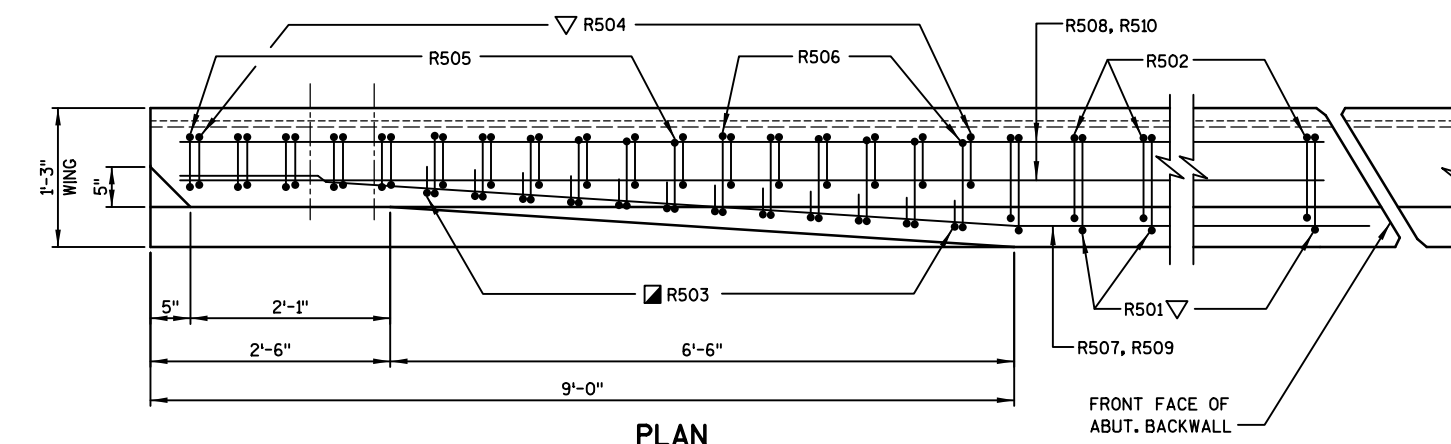
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

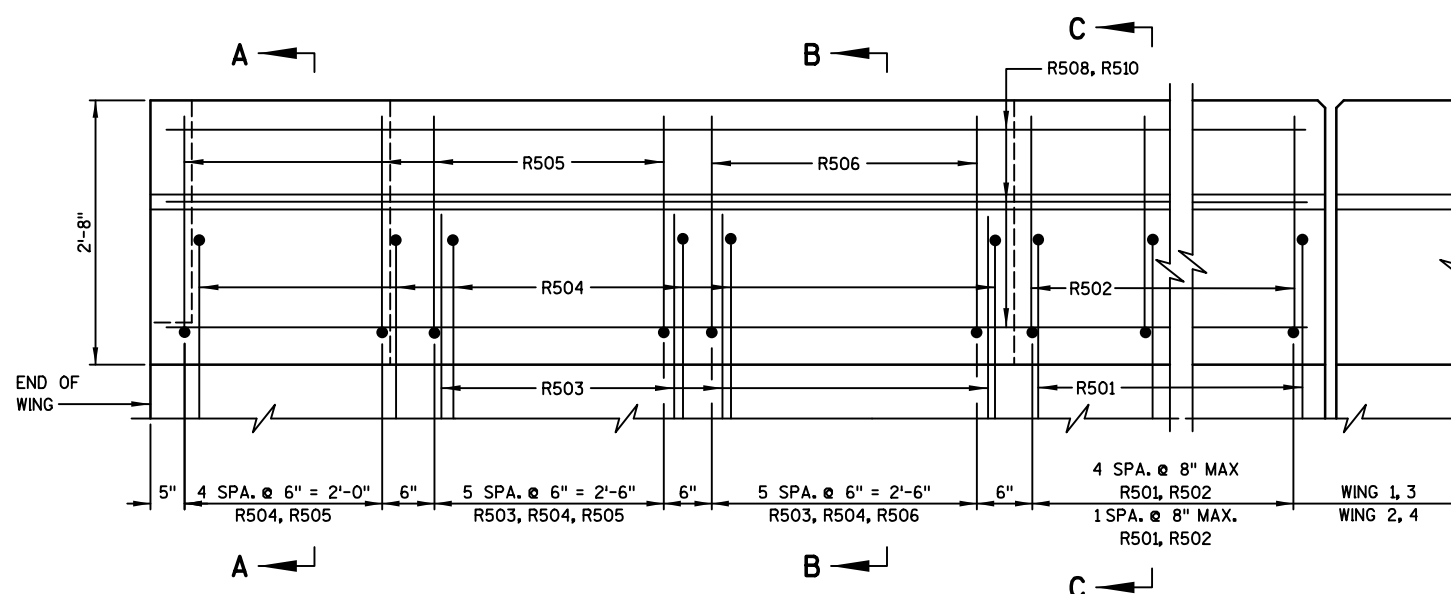
LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN.
- R503 BARS 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.

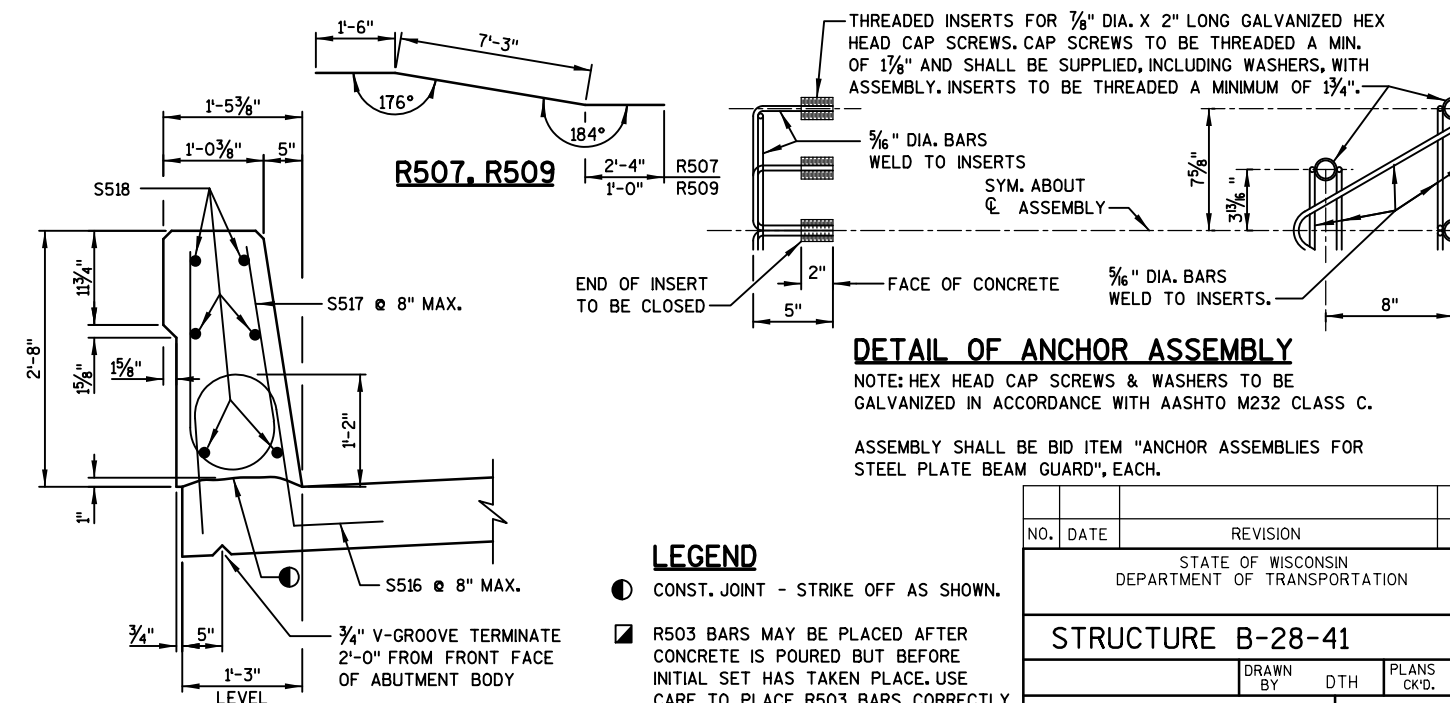
NO.		DATE		REVISION		BY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION							
STRUCTURE B-28-41							
DRAWN BY		DTH		PLANS CK'D.		DJW	
SINGLE SLOPE PARAPET 32SS						SHEET 15	



OUTSIDE ELEVATION

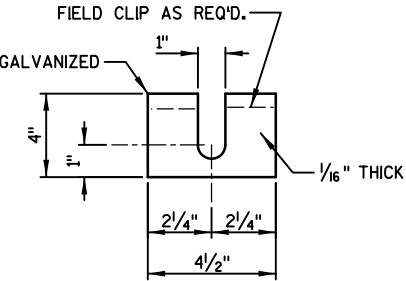


SECTION THRU PARAPET ON BRIDGE



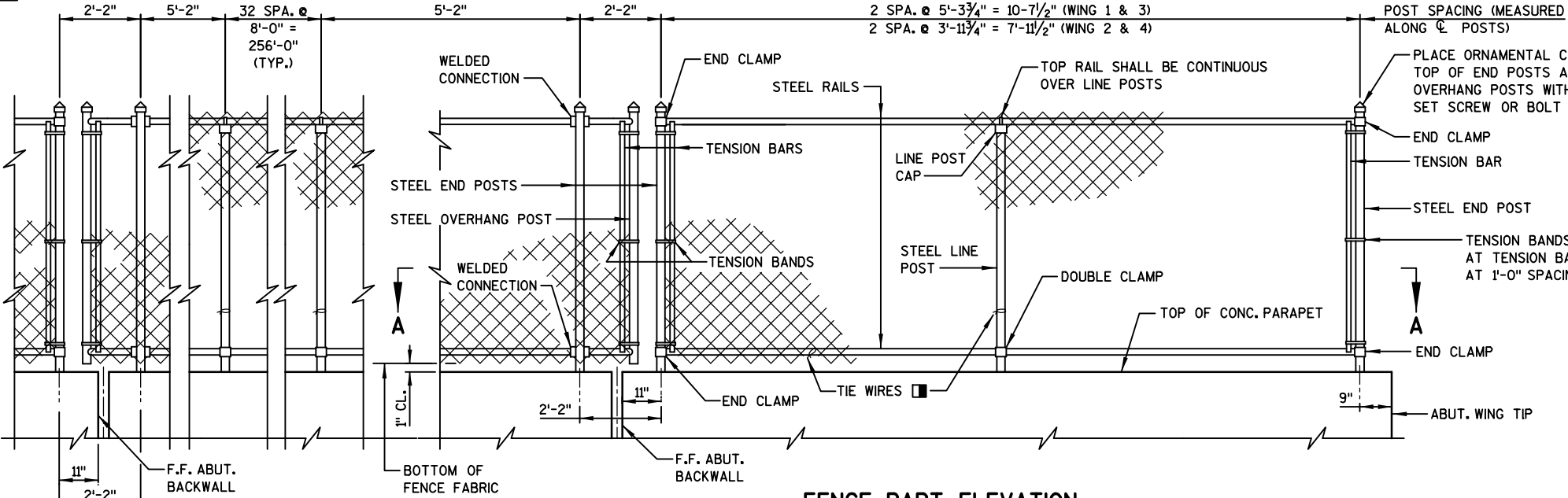
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12

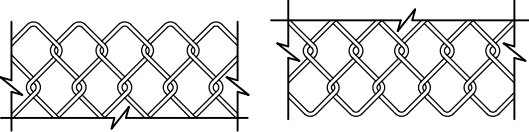
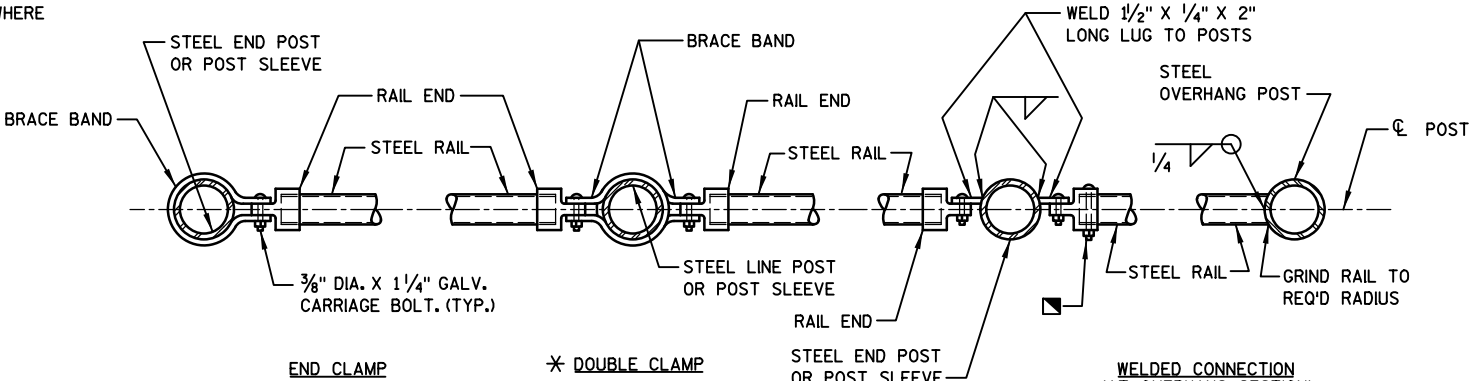


POST SHIM DETAILS

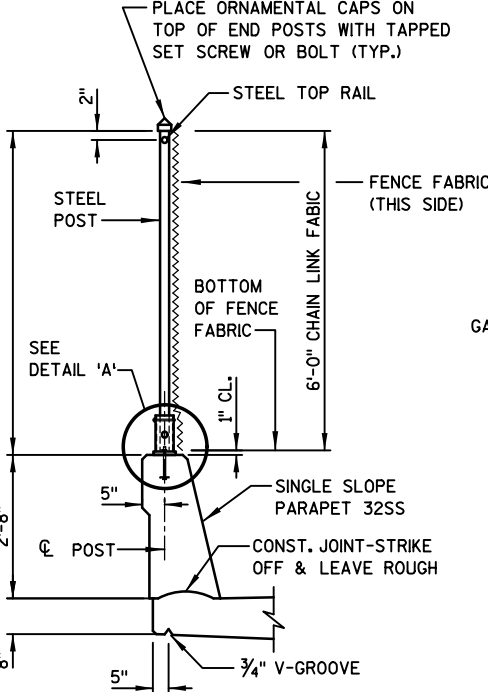
SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



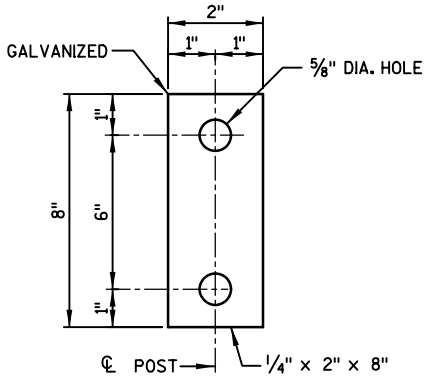
FENCE PART ELEVATION
VIEWING FABRIC SIDE



FENCE FABRIC
FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.



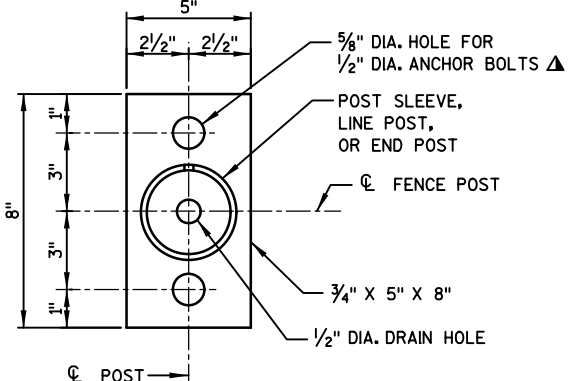
SECTION THRU FENCE ON
SINGLE SLOPE PARAPET 32SS



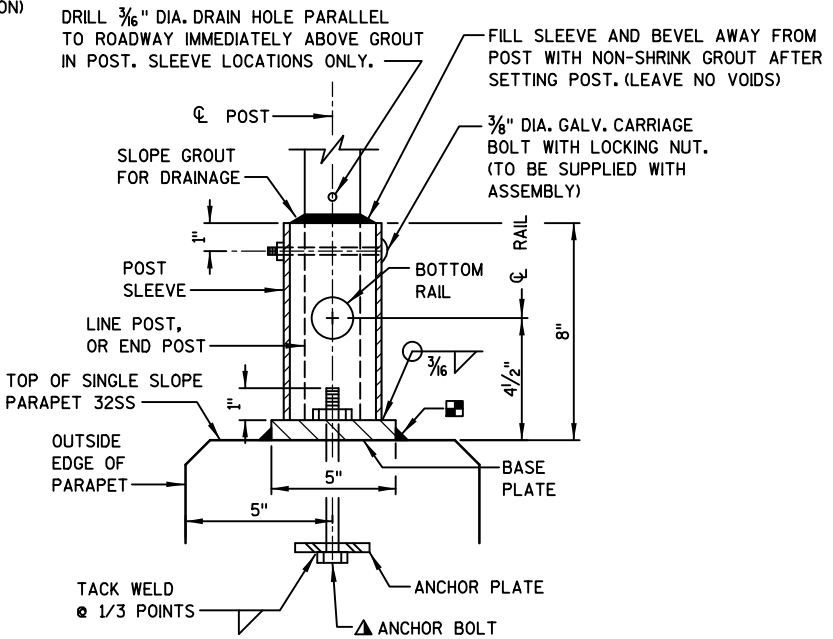
ANCHOR PLATE

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.

SECTION A-A
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

STATE PROJECT NUMBER

1067-02-72

NOTES

- POSTS ARE TO BE SET VERTICAL.
- ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM - COATED STEEL OR GALVANIZED STEEL.
- FABRIC SHALL CONFORM TO STM A491OR A392, CLASS 2. STEEL RAILS, POST AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.
- THE BID ITEM SHALL BE "FENCE CHAIN LINK 6-FT."
- COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.
- ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C OF THE POST.
- MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.

LEGEND

- CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.
- 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT AND WASHER.
- ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH, EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.
- ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".
- BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CK'D. DJW
FENCING DETAILS			SHEET 16

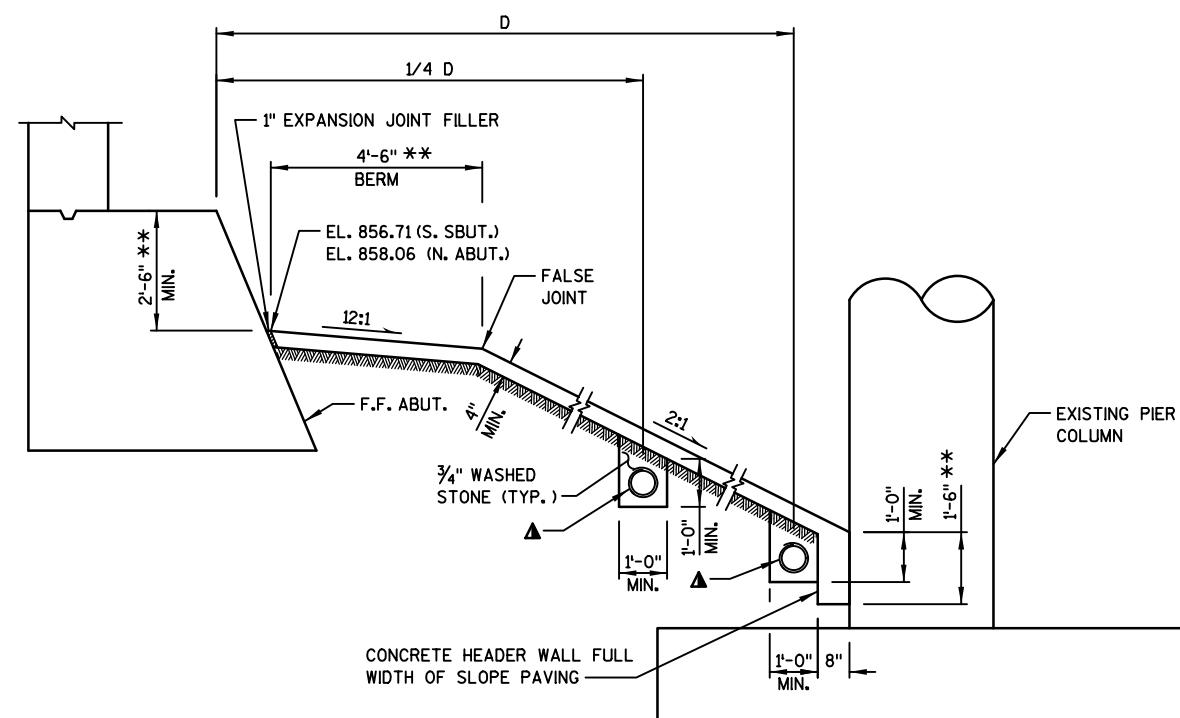
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREIN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

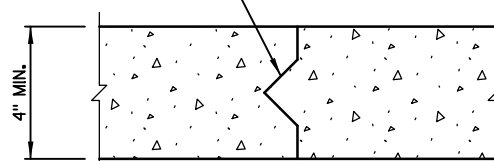
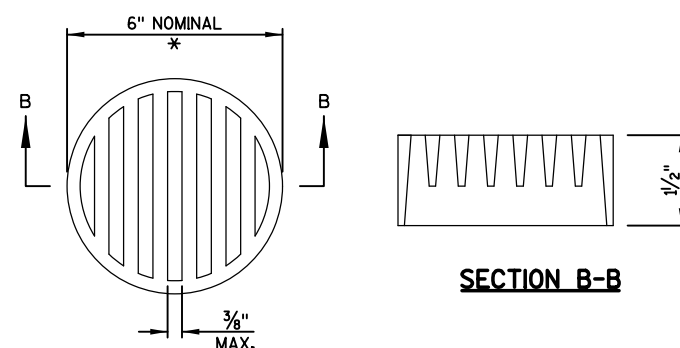
LEGEND

** MATCH EXISTING SLOPE PAVING CONSTRUCTION.

▲ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

**TYPICAL SECTION**

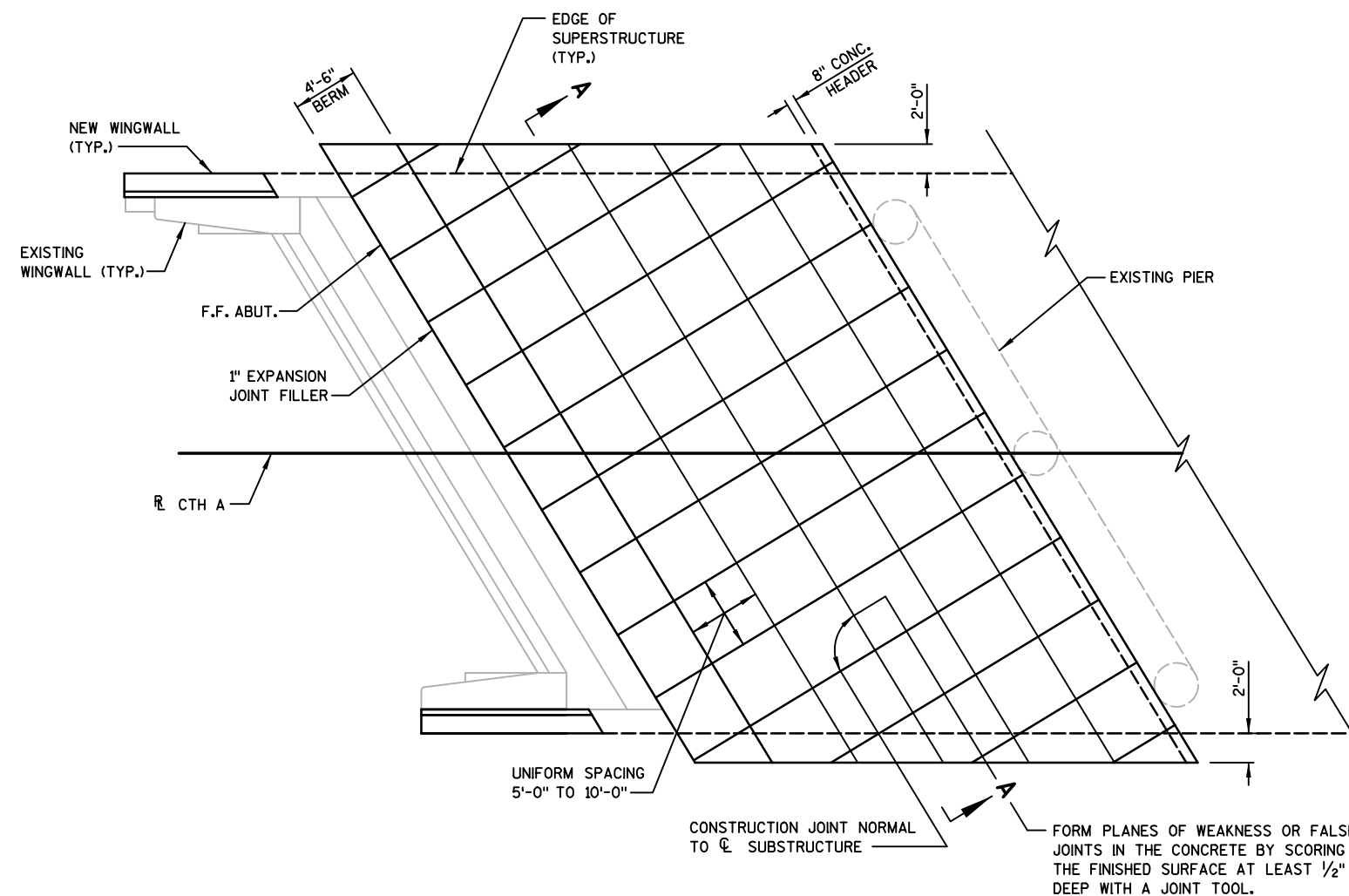
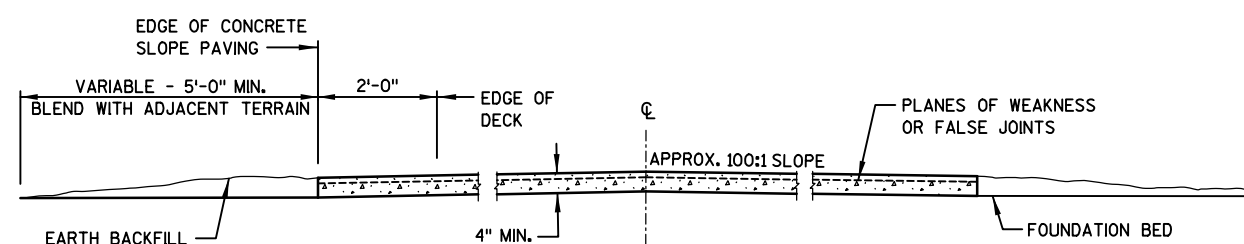
KEYED CONST. JOINT FORMED BY 2" X 2"

**CONSTRUCTION JOINT****SECTION B-B****NOTES:**

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

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

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

RODENT SHIELD DETAIL**PLAN**
(SOUTH ABUTMENT SHOWN,
NORTH ABUTMENT SIMILAR)**SECTION A-A**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-28-41			
DRAWN BY		OTH	PLANS CK'D. DJW
SLOPE PAVING CONCRETE			SHEET 17

CTH A, SOUTH OF B-28-41

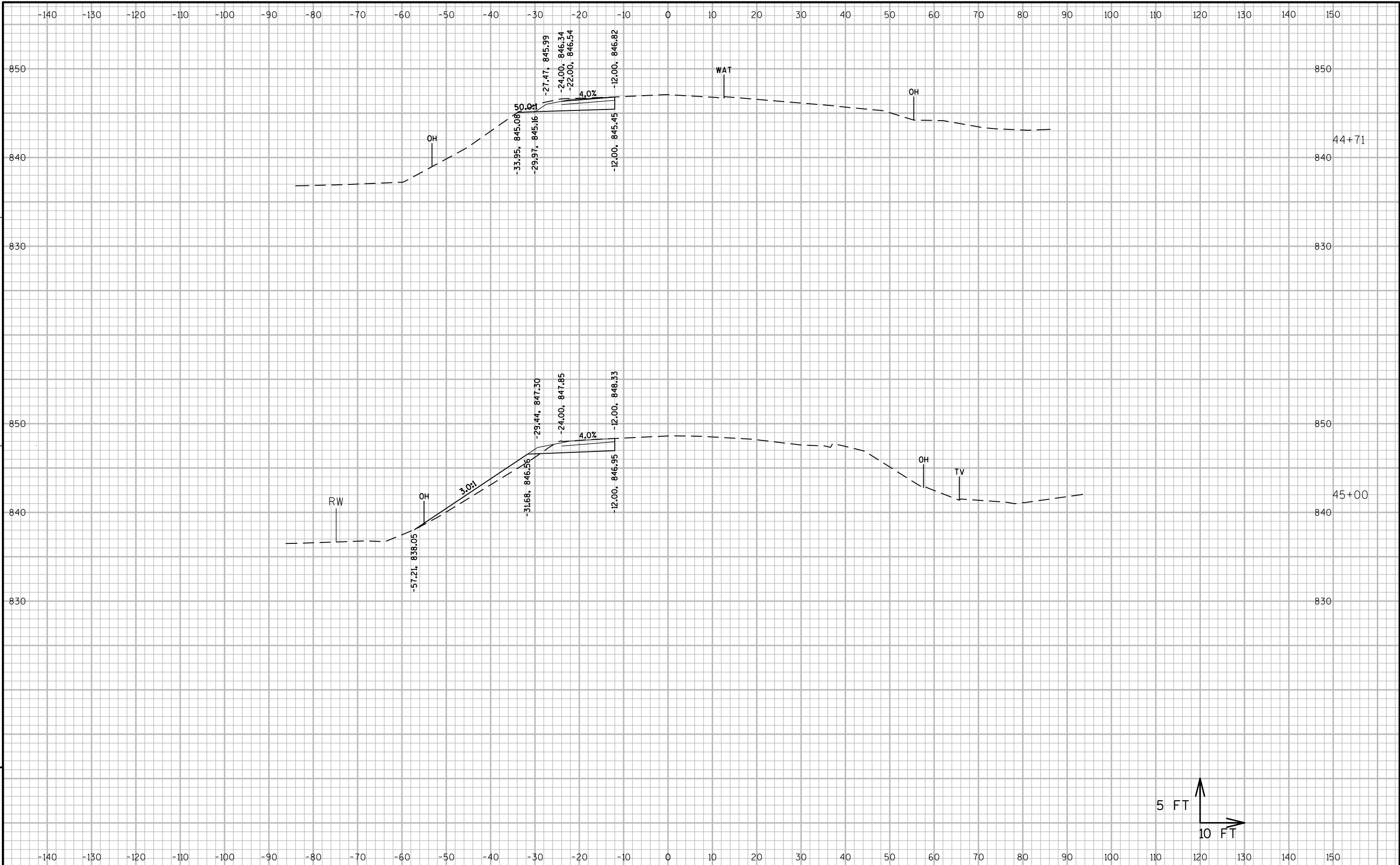
CTH A, SOUTH		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 3
STATION	DISTANCE	CUT	FILL	EBS	CUT NOTE 1	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	
44+71.00	0	24.3	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0
45+00.00	29	19.7	14.9	1.0	23.6	8.0	1.2	23.6	10.0	14
45+07.00	7	18.7	23.9	0.9	5.0	5.0	0.2	28.6	16.3	12
45+31.68	25	17.2	3.5	0.9	16.4	12.6	0.8	45.0	32.0	13
45+50.00	18	48.7	0.6	2.4	22.4	1.4	1.1	67.4	33.8	34
45+56.68	7	47.5	0.1	2.4	11.9	0.1	0.6	79.3	33.9	45
46+00.00	43	49.8	0.0	2.5	78.1	0.1	3.9	157.4	34.0	123
46+01.95	2	49.7	0.0	2.5	3.6	0.0	0.2	161.0	34.0	127
46+26.95	25	40.7	0.8	2.0	41.8	0.4	2.1	202.8	34.4	168
46+50.00	23	33.7	1.1	1.7	31.7	0.8	1.6	234.5	35.4	199
46+51.95	2	33.0	1.2	1.7	2.4	0.1	0.1	236.9	35.5	201
47+00.00	48	30.8	5.3	1.5	56.8	5.8	2.8	293.7	42.8	251
47+50.00	50	43.2	7.4	2.2	68.5	11.8	3.4	362.2	57.5	305
48+00.00	50	39.8	0.0	2.0	76.8	6.9	3.8	439.0	66.1	372
48+45.00	45	36.3	11.4	1.8	63.4	9.5	3.2	502.4	77.9	421
COLUMN TOTALS					505.9	62.3	25.1			

- NOTES:
- 1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
 - 2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
 - 3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

CTH A, NORTH OF B-28-41

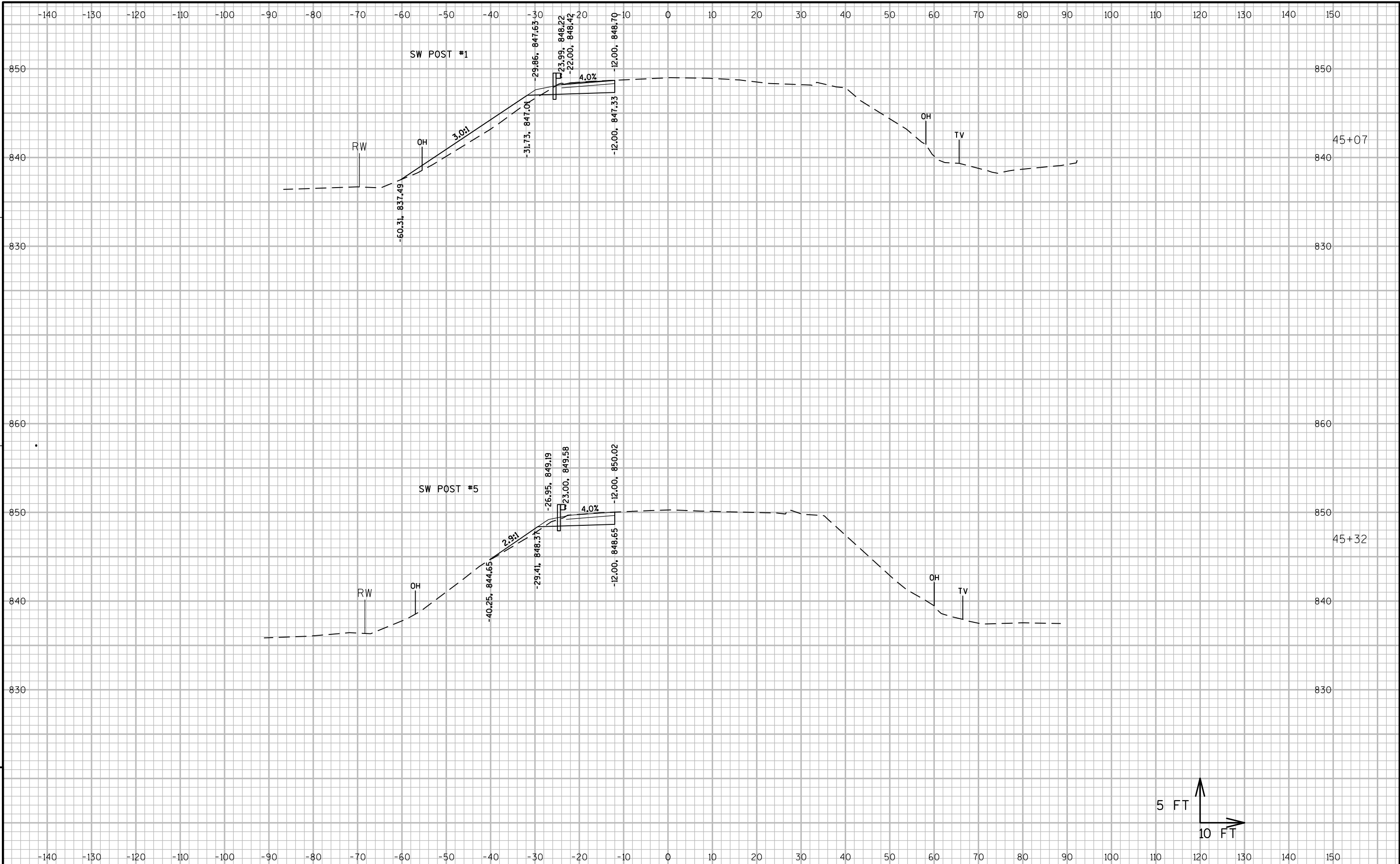
CTH A, NORTH		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 3
STATION	DISTANCE	CUT	FILL	EBS	CUT NOTE 1	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	
51+60.00	0	35.3	57.5	1.8	0.0	0.0	0.0	0.0	0.0	0
52+00.00	40	39.0	6.7	1.9	55.0	47.5	2.7	55.0	59.4	-4
52+39.98	40	36.8	100.5	1.8	56.1	79.4	2.8	111.1	158.6	-48
52+50.00	10	39.9	147.6	2.0	14.2	46.0	0.7	125.4	216.2	-91
52+64.98	15	48.5	189.7	2.4	24.5	93.6	1.2	149.9	333.2	-183
52+89.98	25	30.4	193.2	1.5	36.5	177.2	1.8	186.4	554.7	-368
53+00.00	10	32.3	174.4	1.6	11.6	68.2	0.6	198.0	640.0	-442
53+50.00	50	10.9	66.5	0.5	40.1	223.0	2.0	238.1	918.8	-682
54+00.00	50	15.8	68.1	0.8	24.8	124.6	1.2	262.8	1,074.6	-815
54+50.00	50	17.1	42.4	0.9	30.5	102.3	1.5	293.3	1,202.5	-917
54+60.25	10	17.5	33.9	0.9	6.6	14.5	0.3	299.9	1,220.6	-930
54+85.25	25	17.3	35.3	0.9	16.1	32.0	0.8	316.0	1,260.6	-958
55+00.00	15	17.8	42.0	0.9	9.6	21.1	0.5	325.6	1,287.0	-978
55+10.25	10	18.2	47.7	0.9	6.8	17.0	0.3	332.4	1,308.3	-995
55+50.00	40	15.5	5.2	0.8	24.7	38.9	1.2	357.2	1,356.9	-1,030
55+60.25	10	14.0	1.7	0.7	5.6	1.3	0.3	362.7	1,358.6	-1,029
COLUMN TOTALS					362.7	1,086.8	18.1			

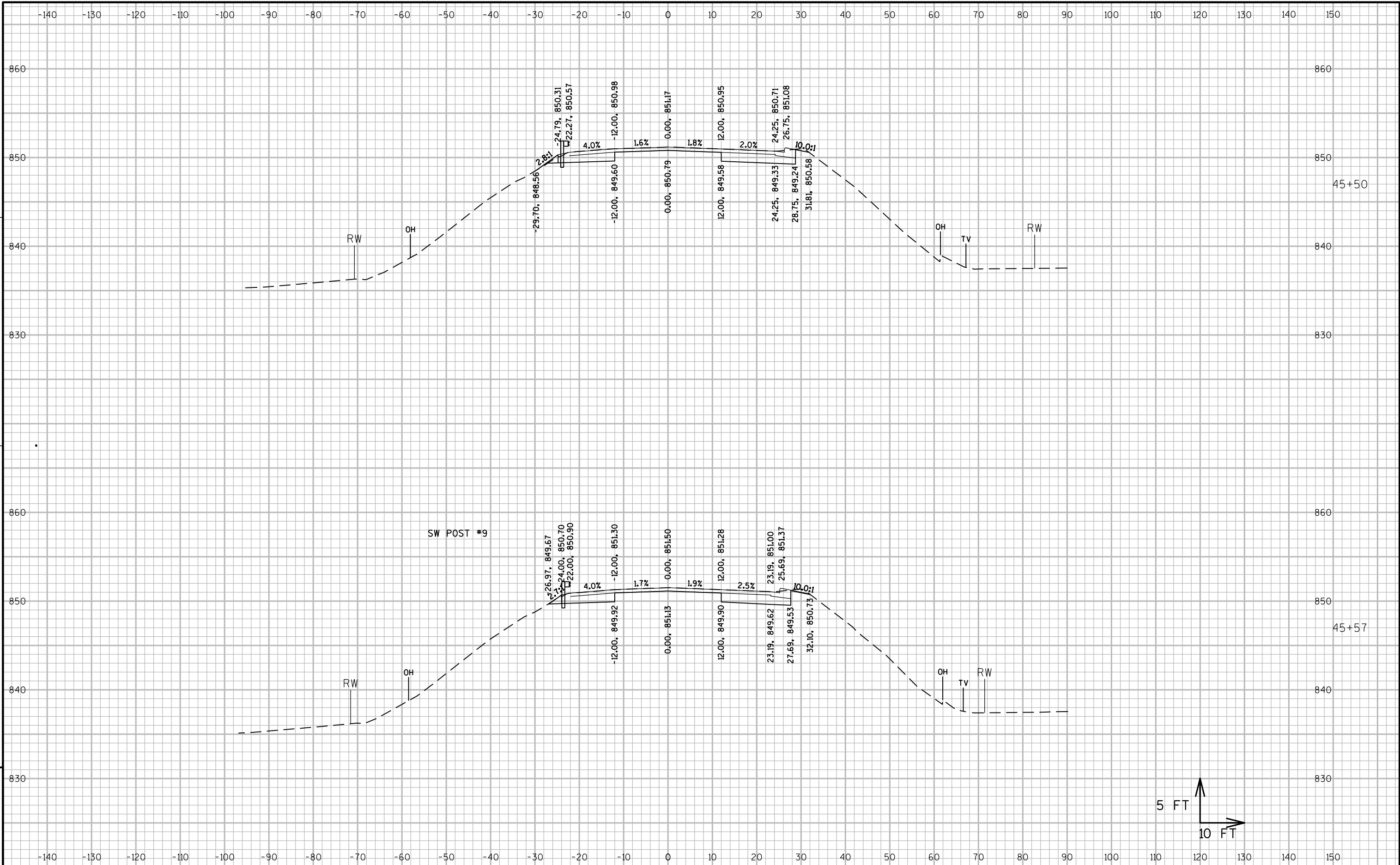
- NOTES:
- 1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
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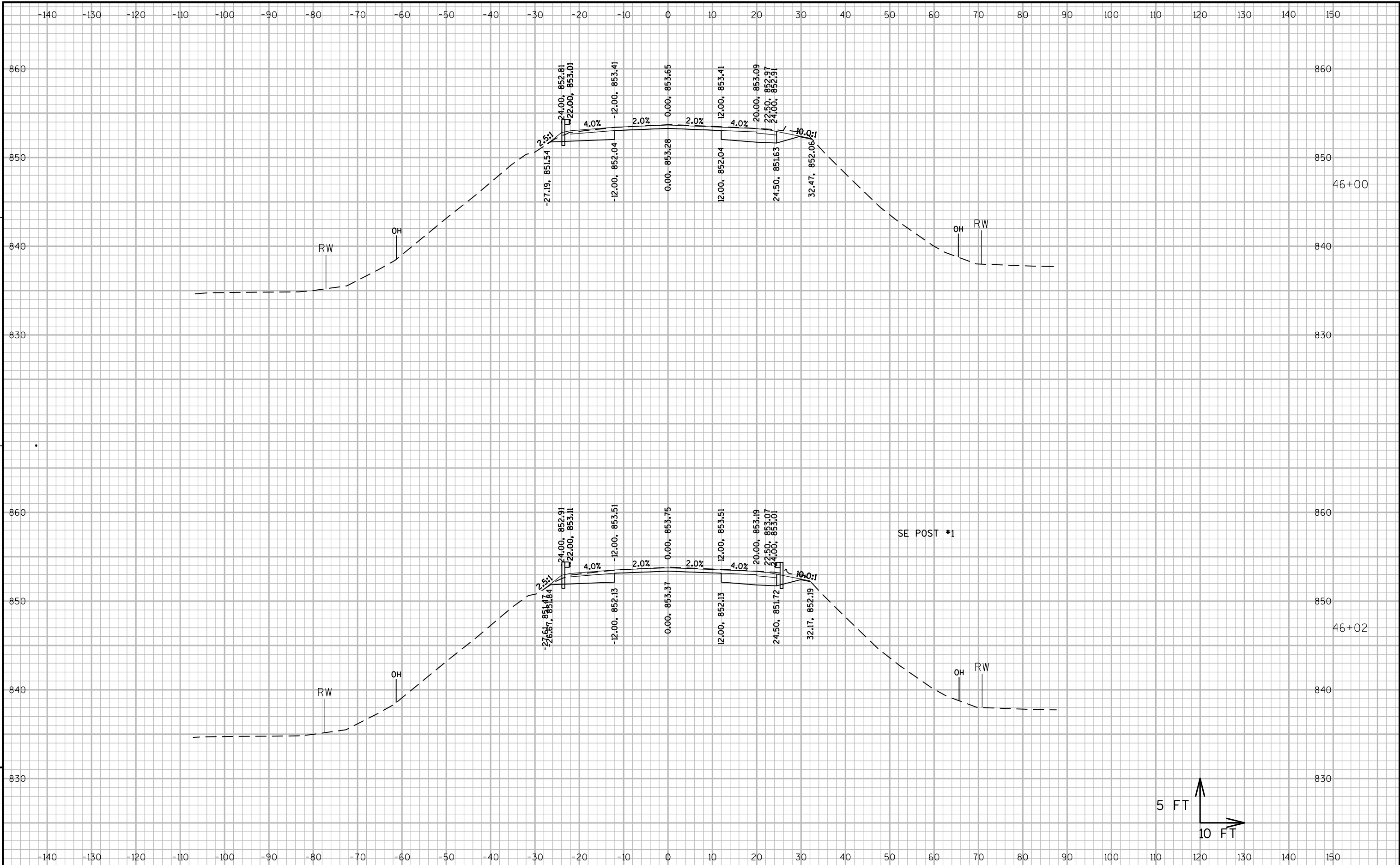


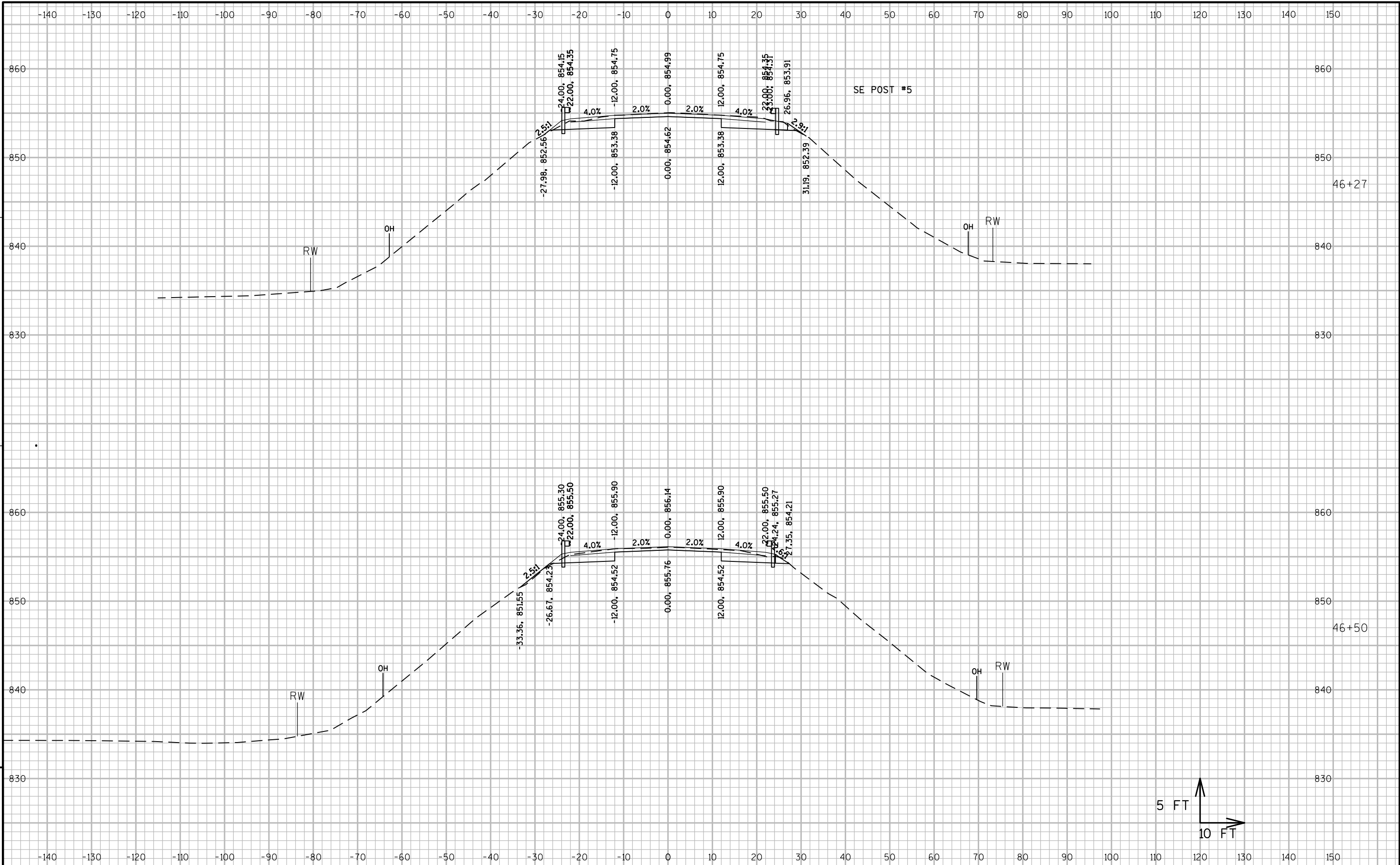
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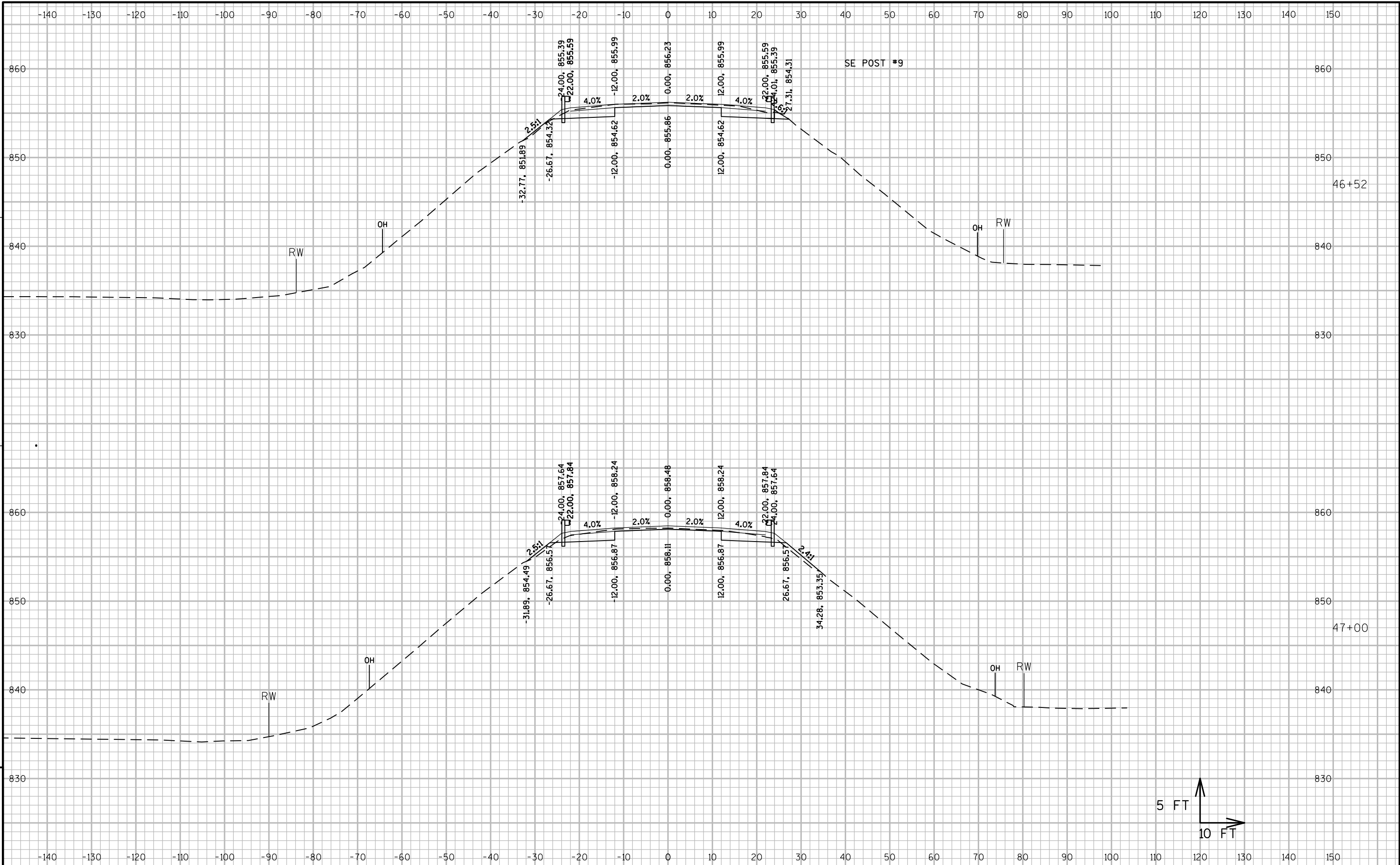
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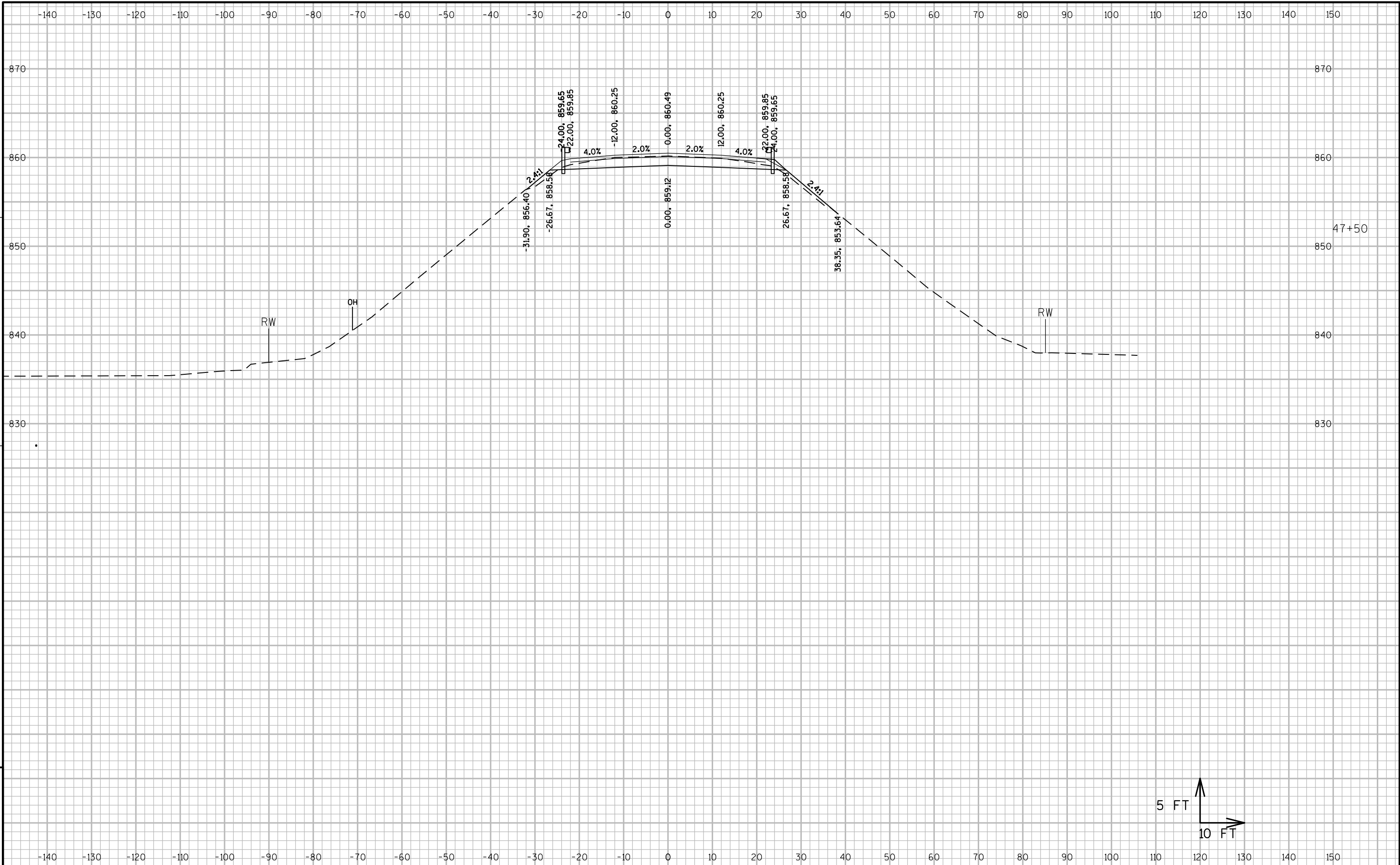






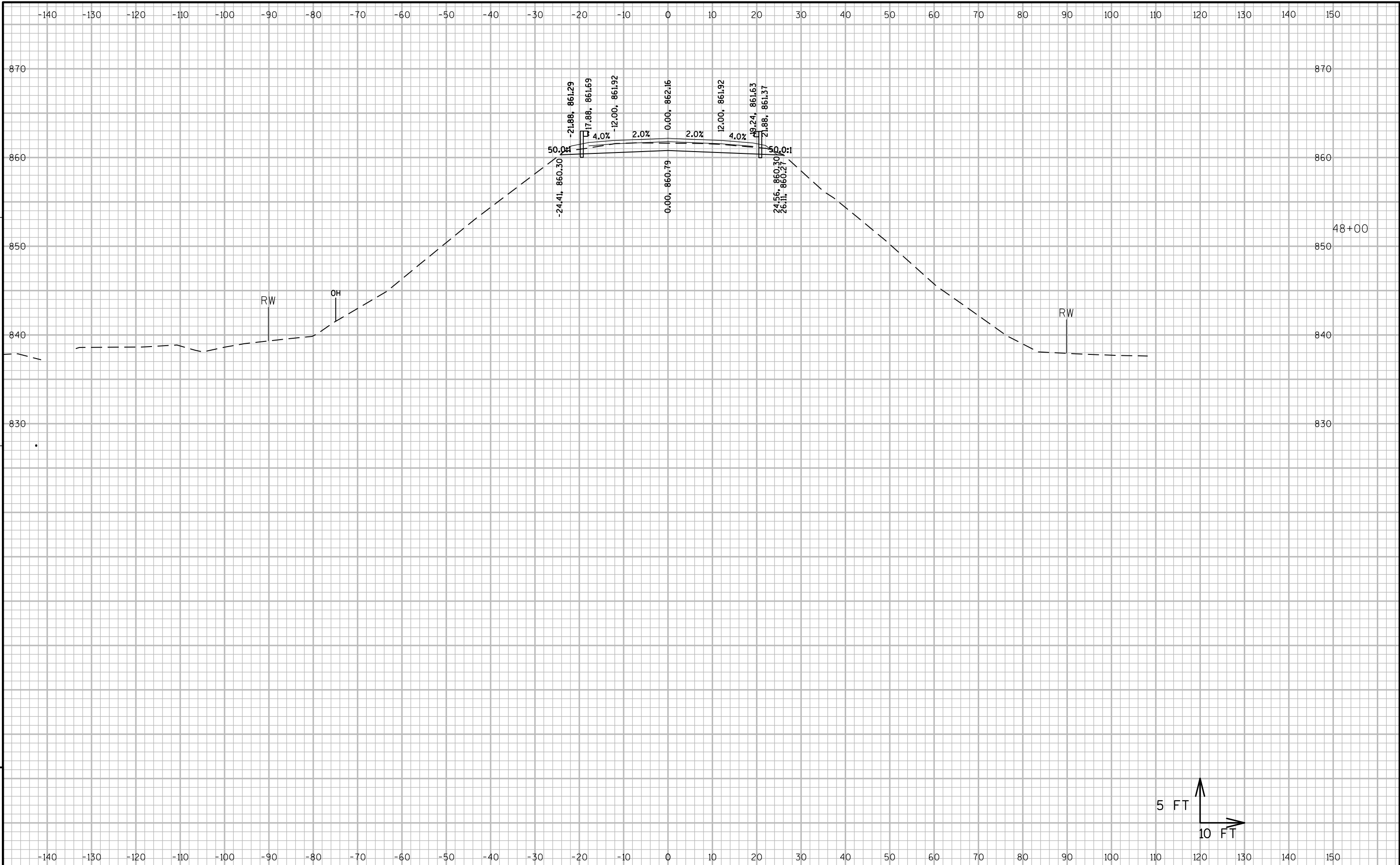






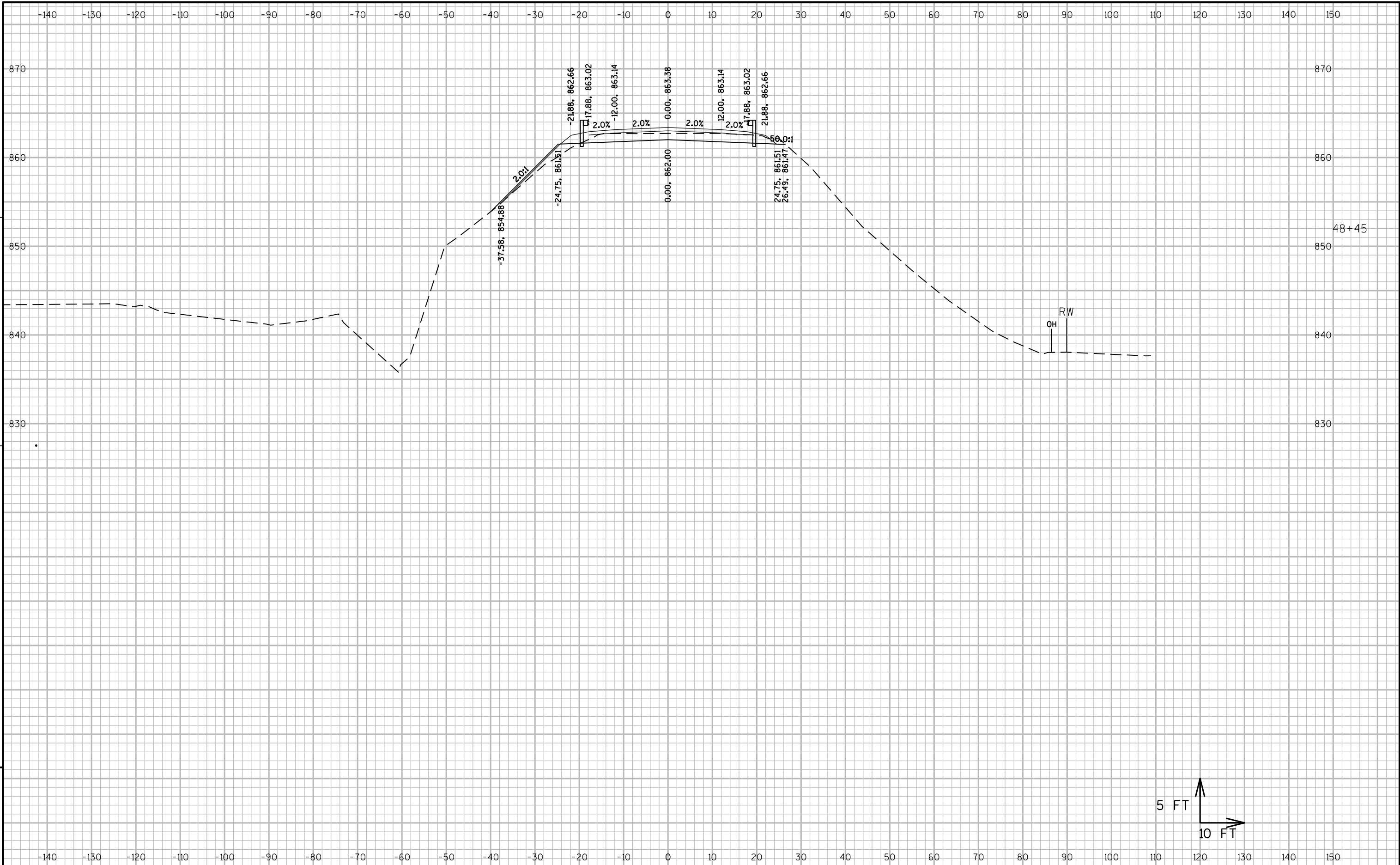
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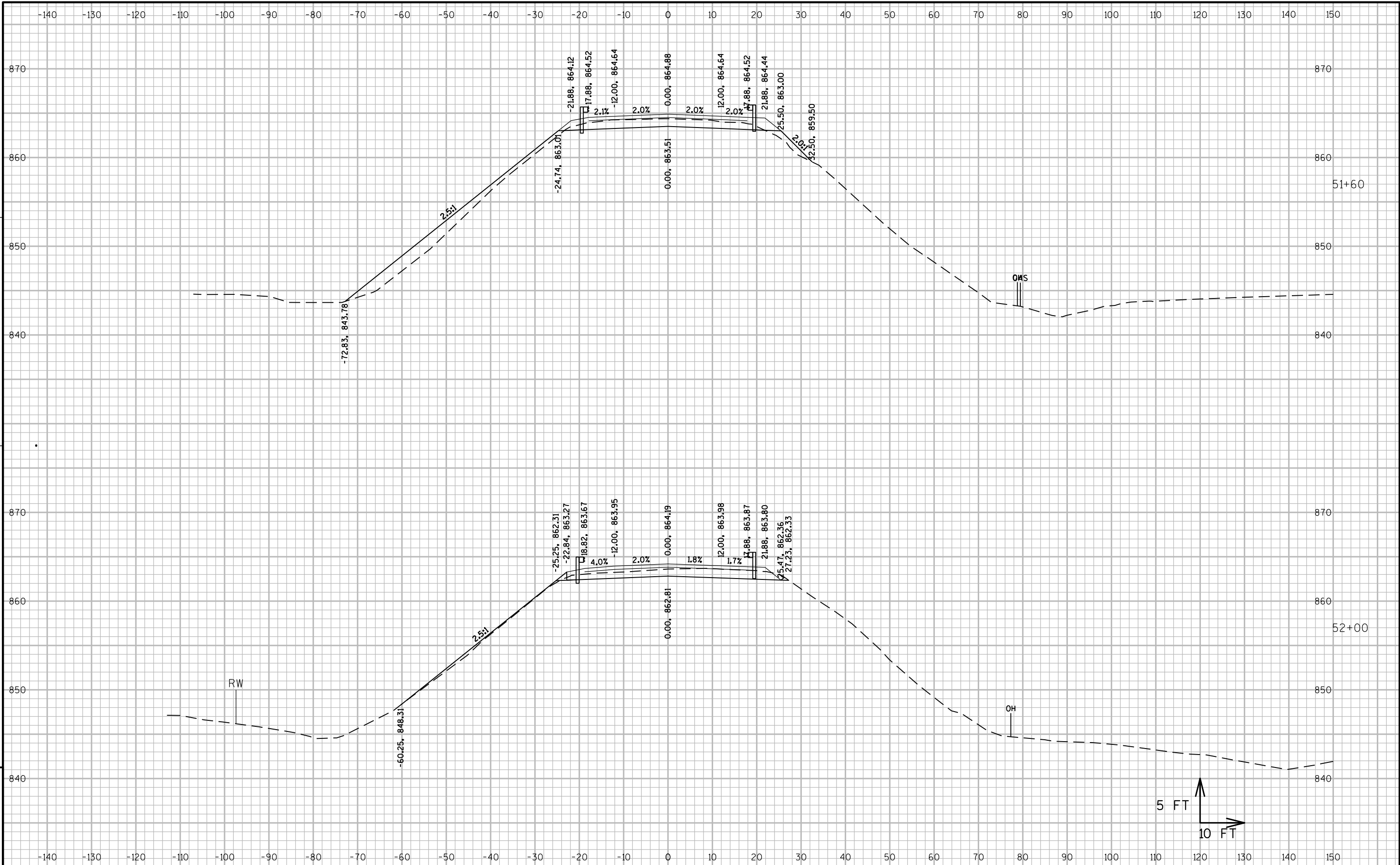
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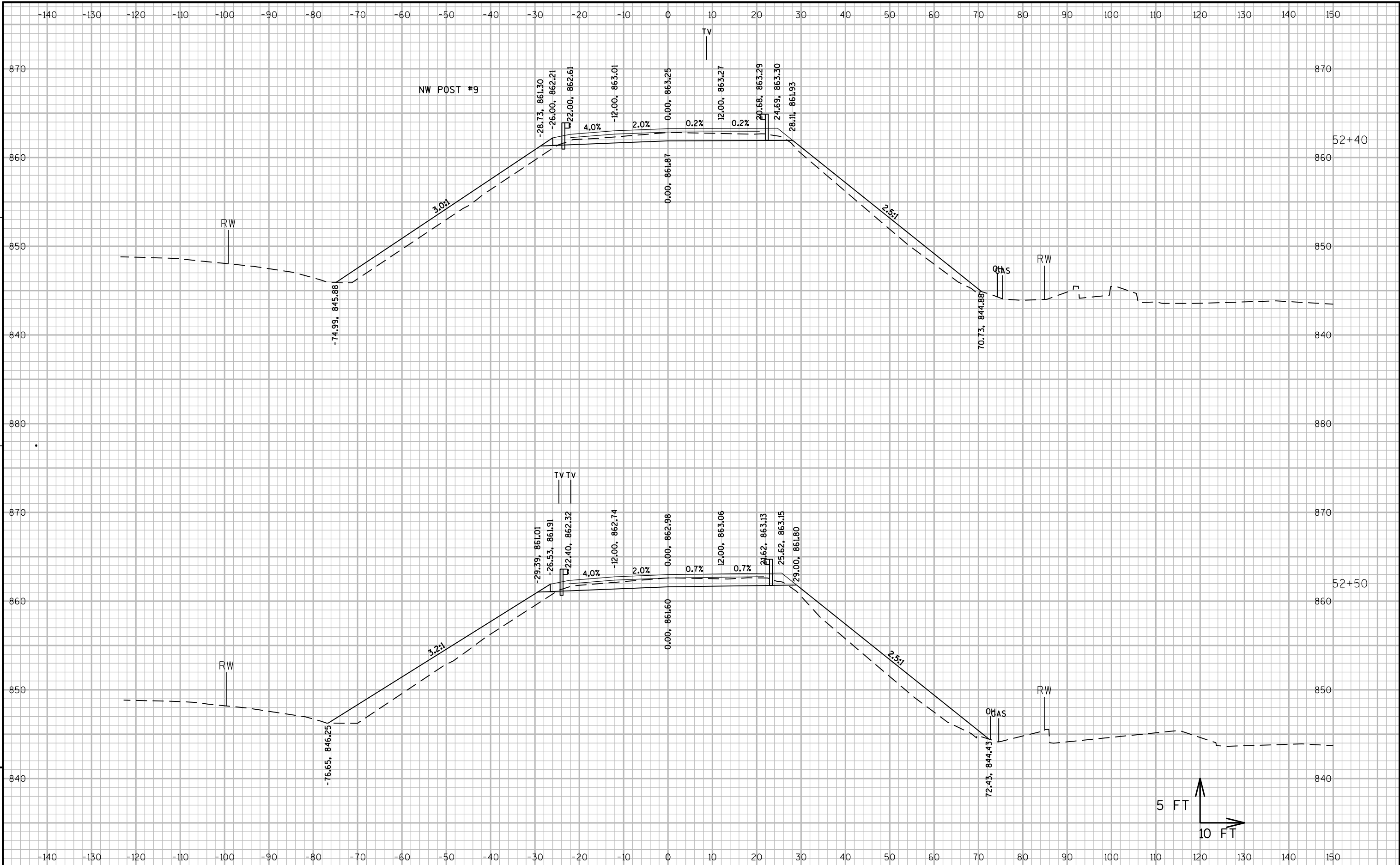
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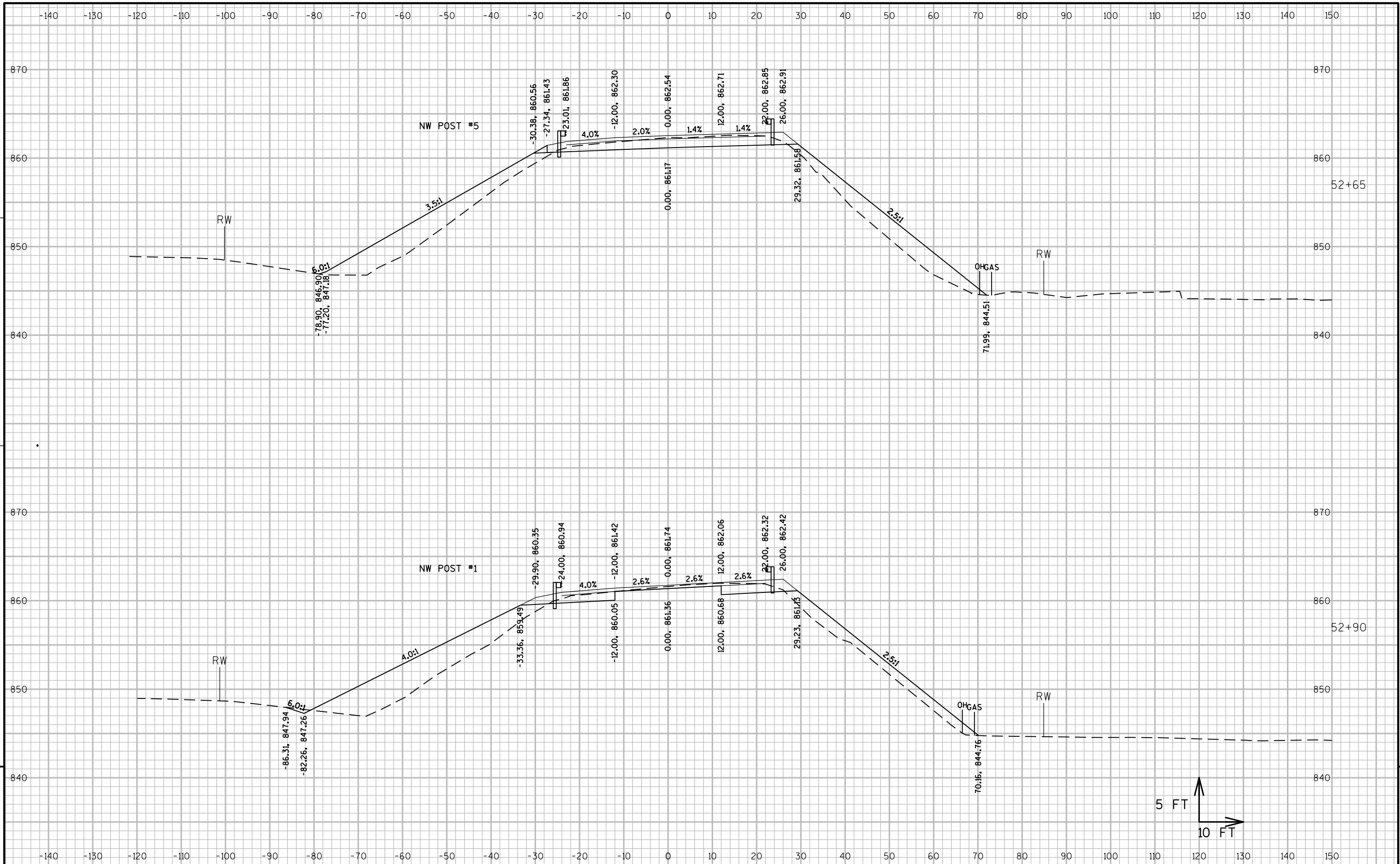


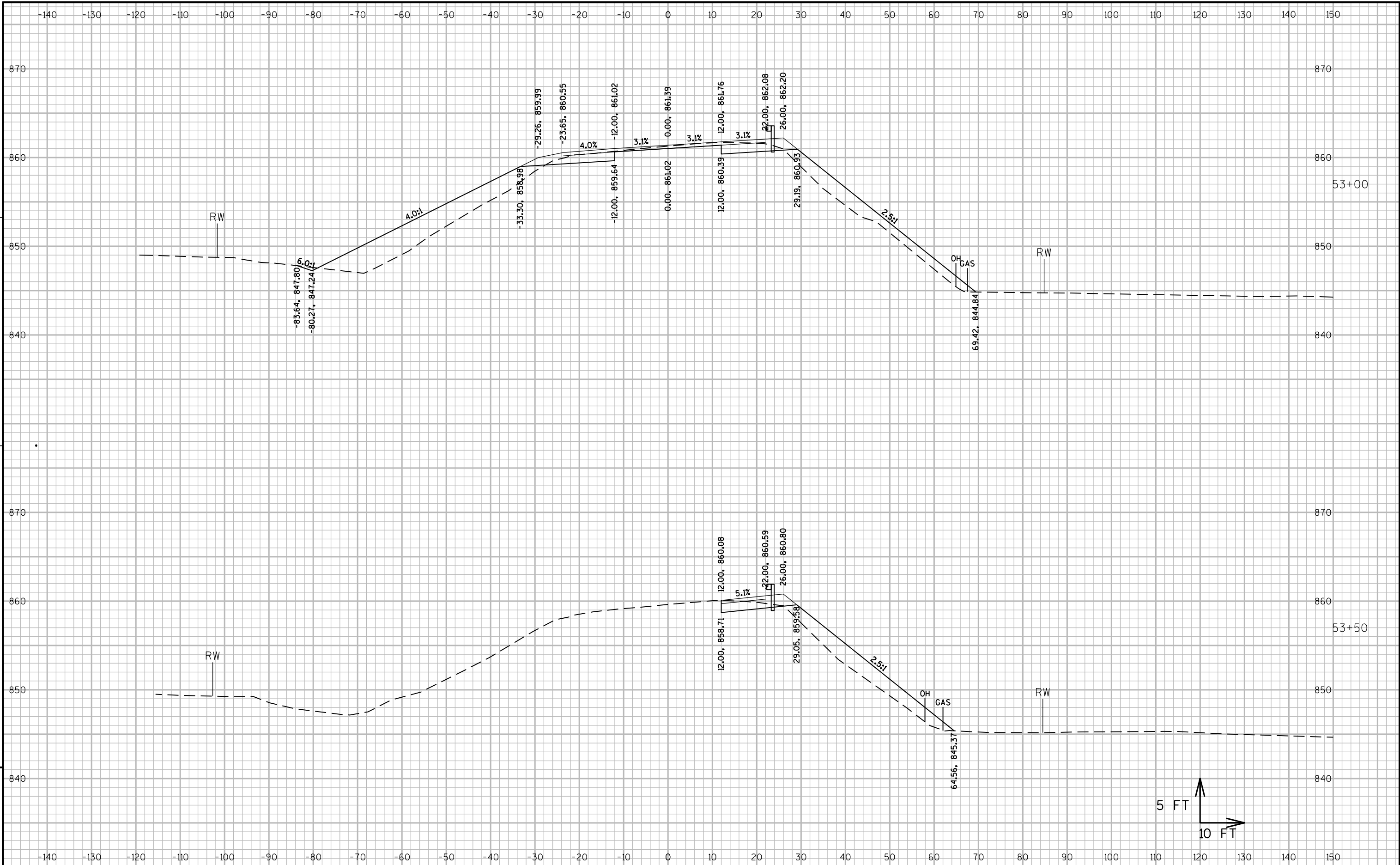
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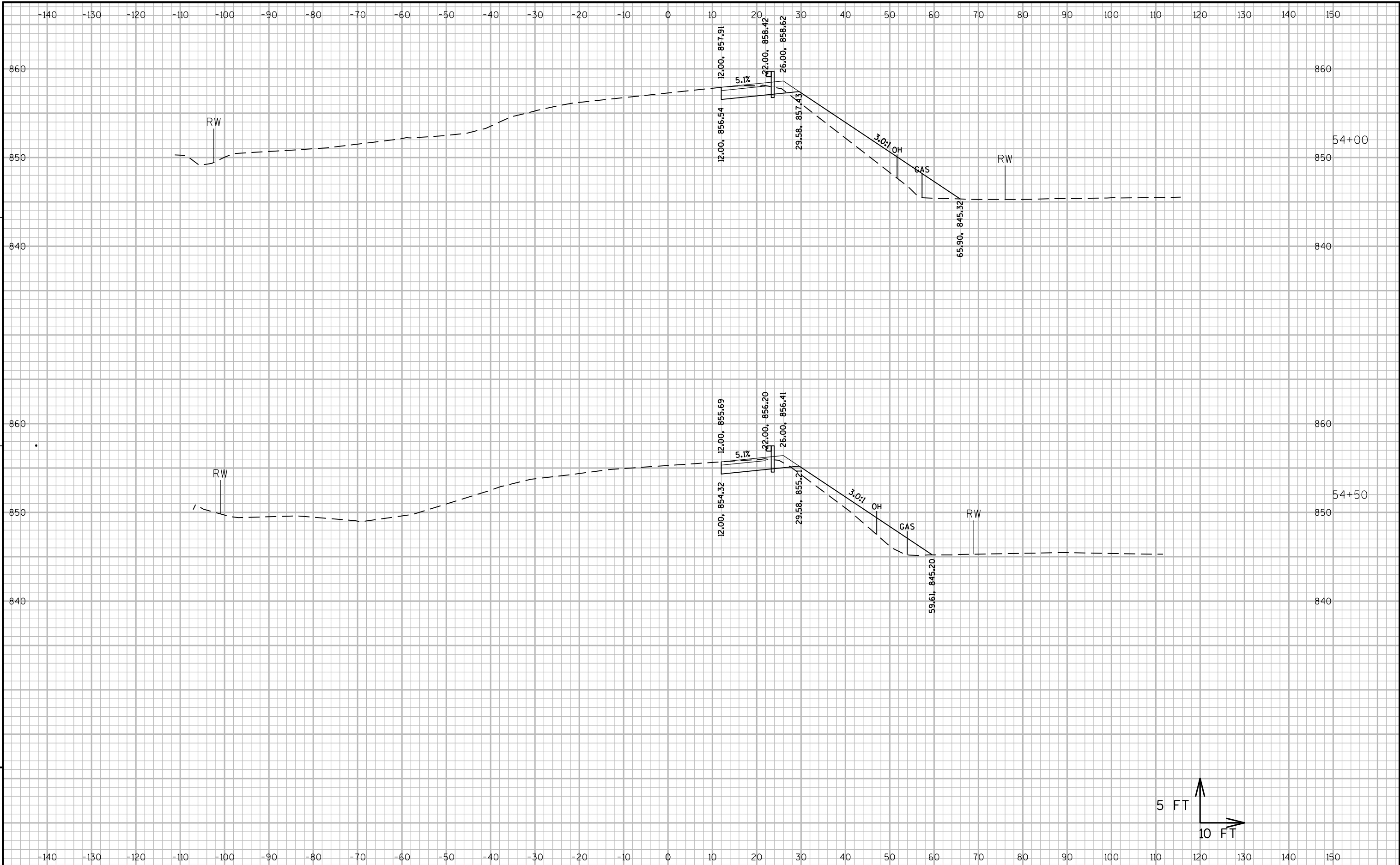
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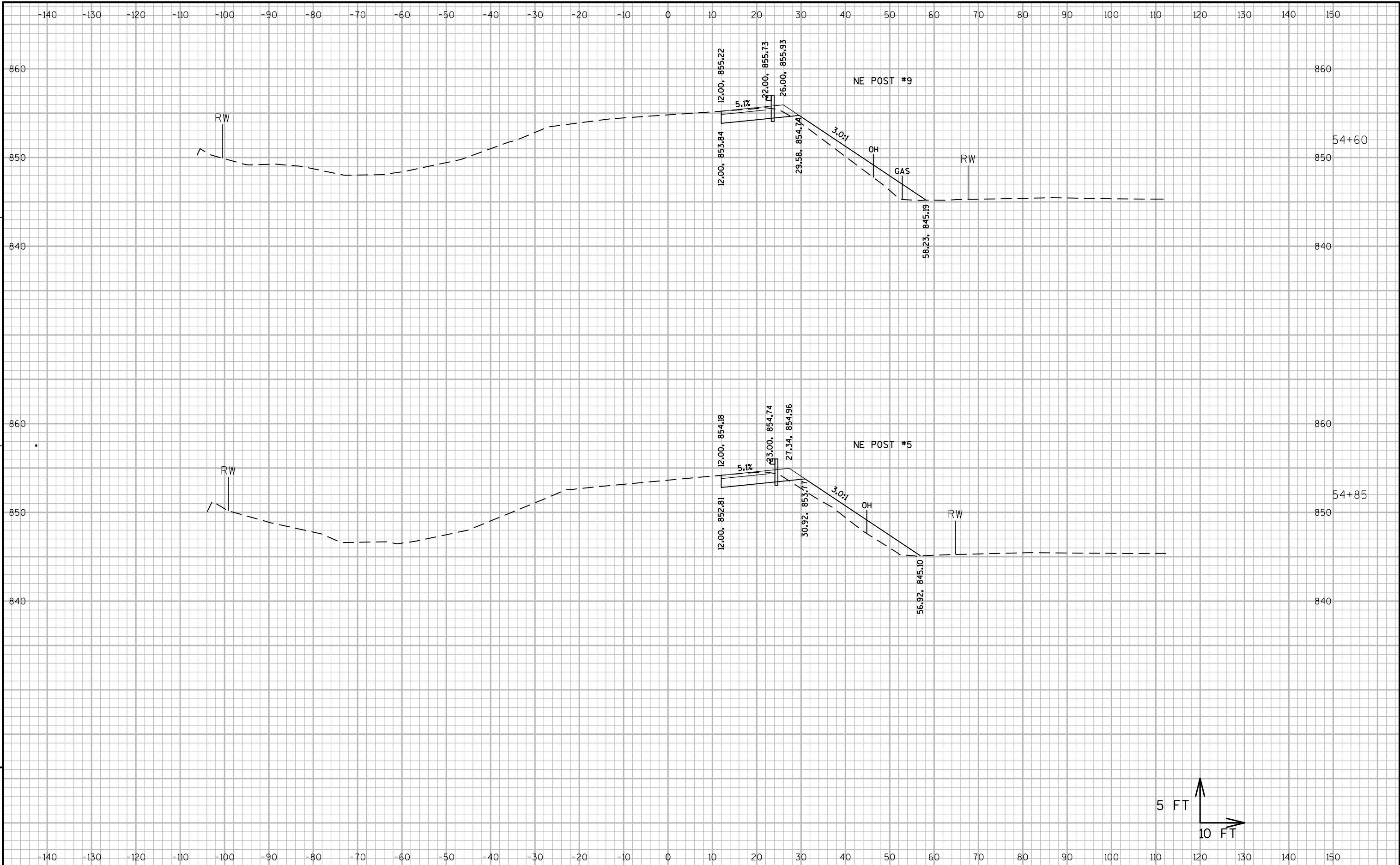






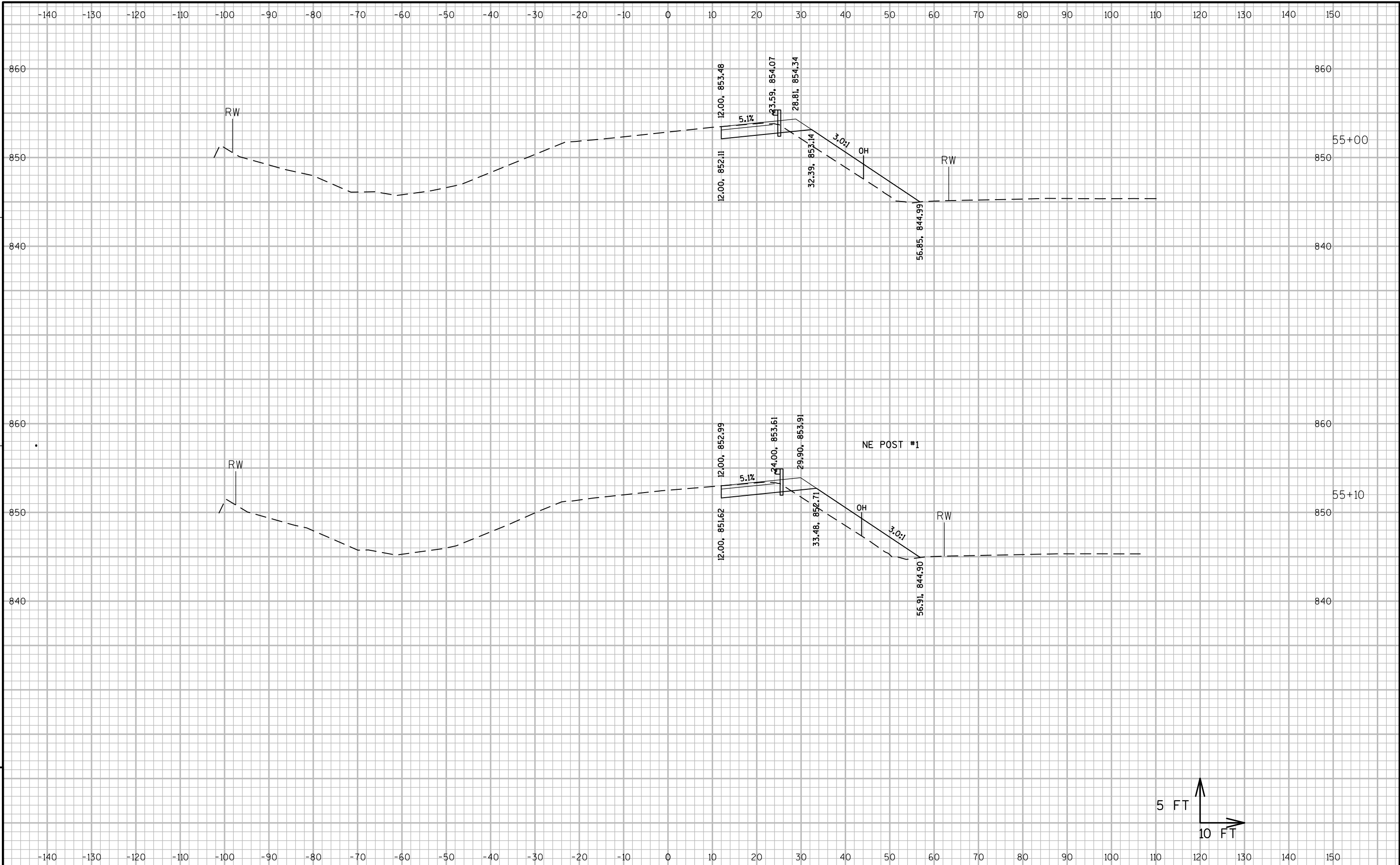
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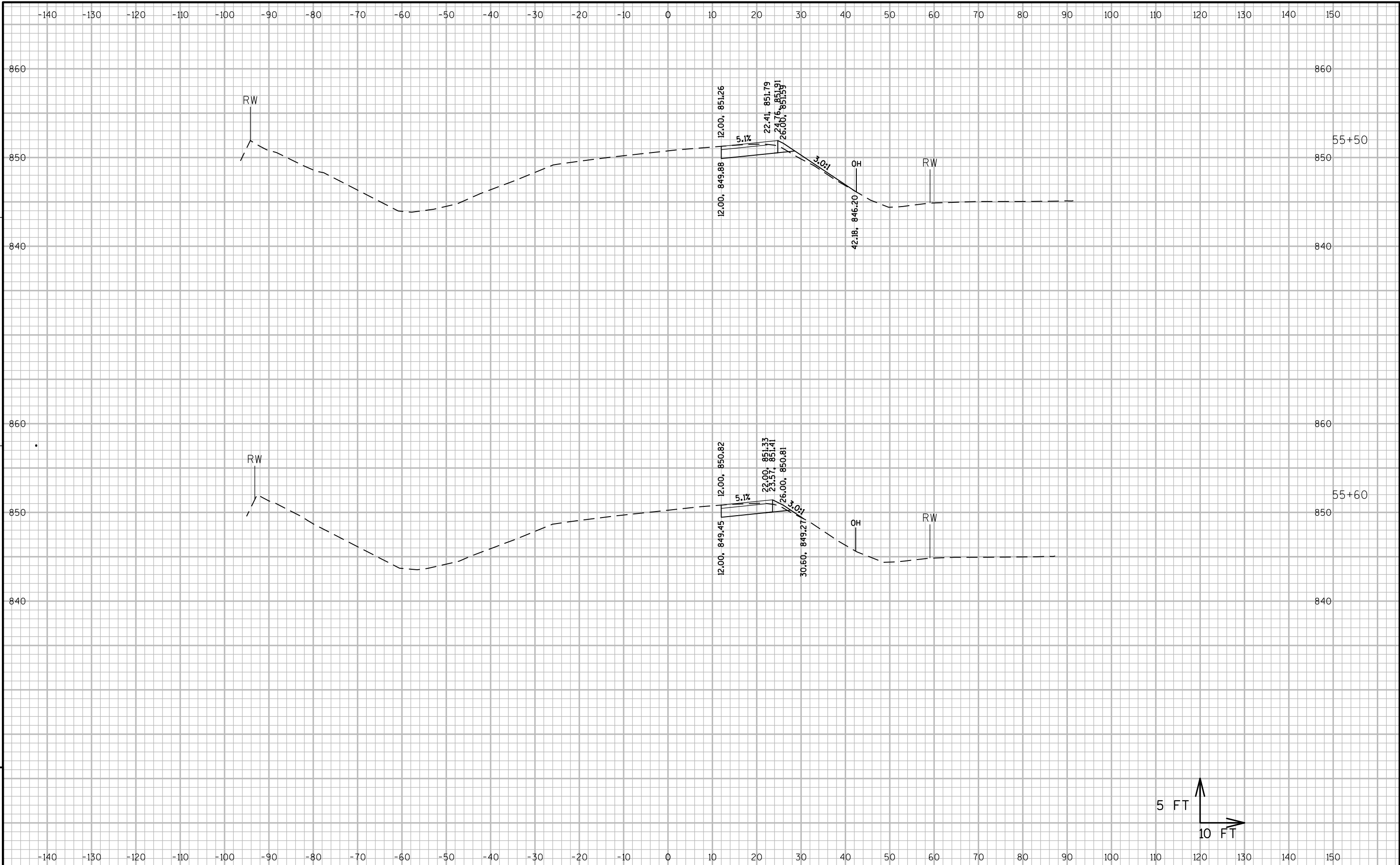
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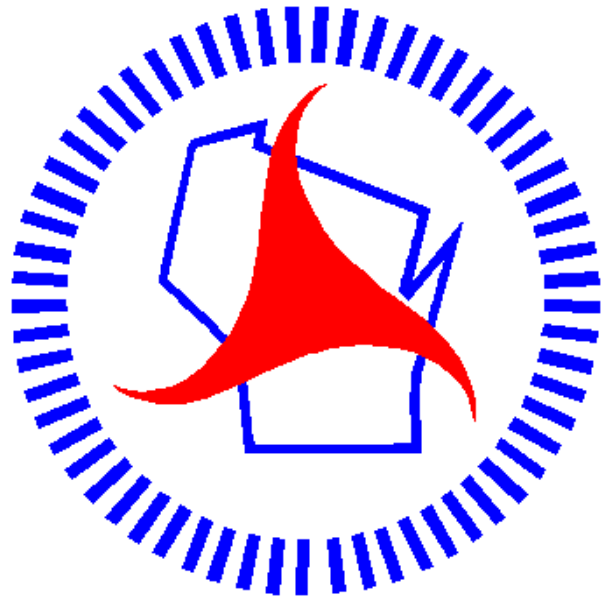
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