



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

CONTRACT RR-16-4255

ROADWAY AND BRIDGE REHABILITATION I-355 VETERANS MEMORIAL TOLLWAY

VOLUME 6 OF 6

MILE POST 12.1 TO MILE POST 22.3
STATION 733 + 95.55 TO STATION 1275 + 00.00

VOLUME 1
GENERAL PLANS
ALIGNMENT AND TIES
MAINTENANCE OF TRAFFIC

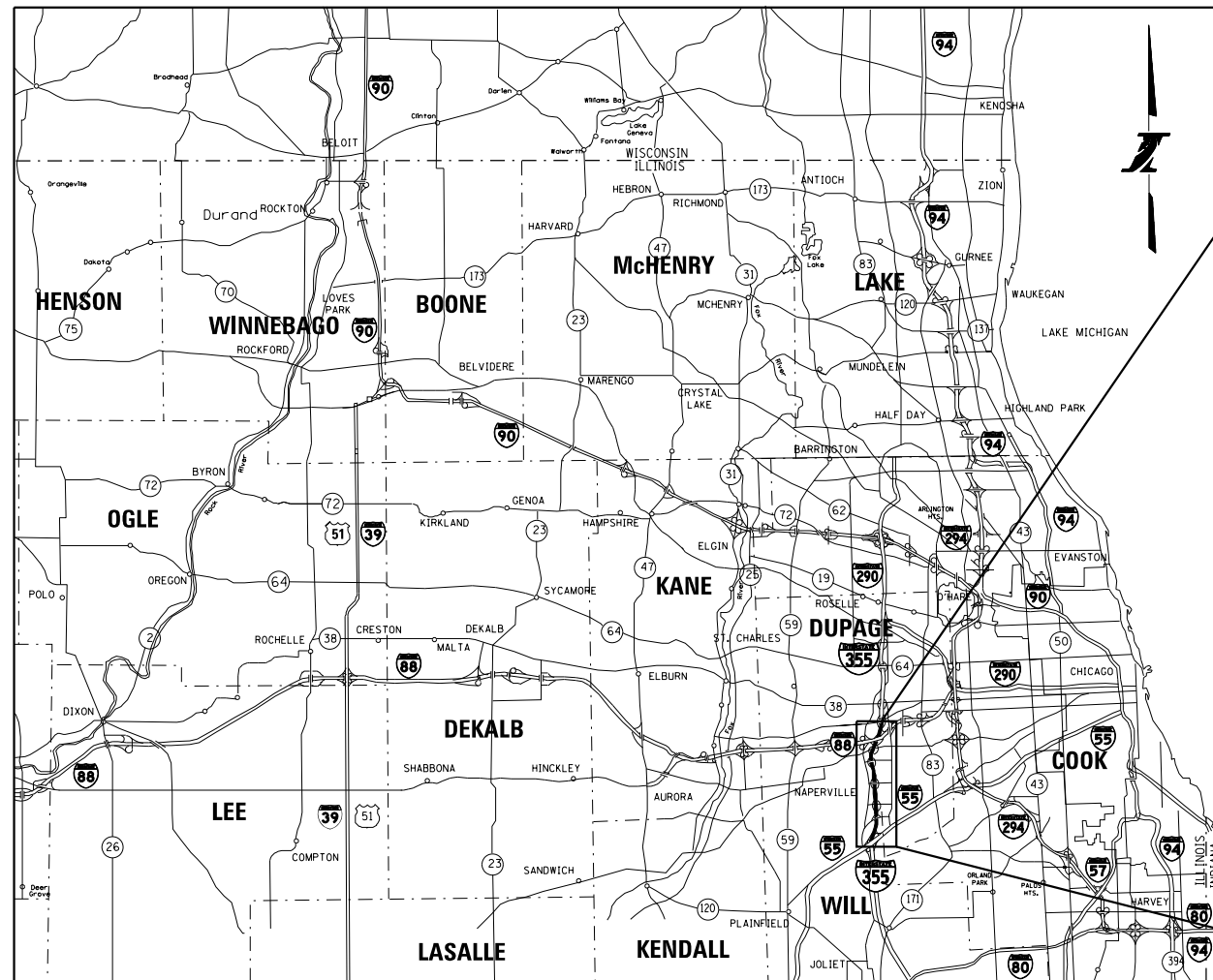
VOLUME 2
MAINTENANCE OF TRAFFIC
REMOVAL PLANS
ROADWAY PLANS

VOLUME 3
DRAINAGE PLANS
GRADING PLANS
EROSION CONTROL & LANDSCAPE
PAVEMENT MARKING & SIGNING
ITS PLANS

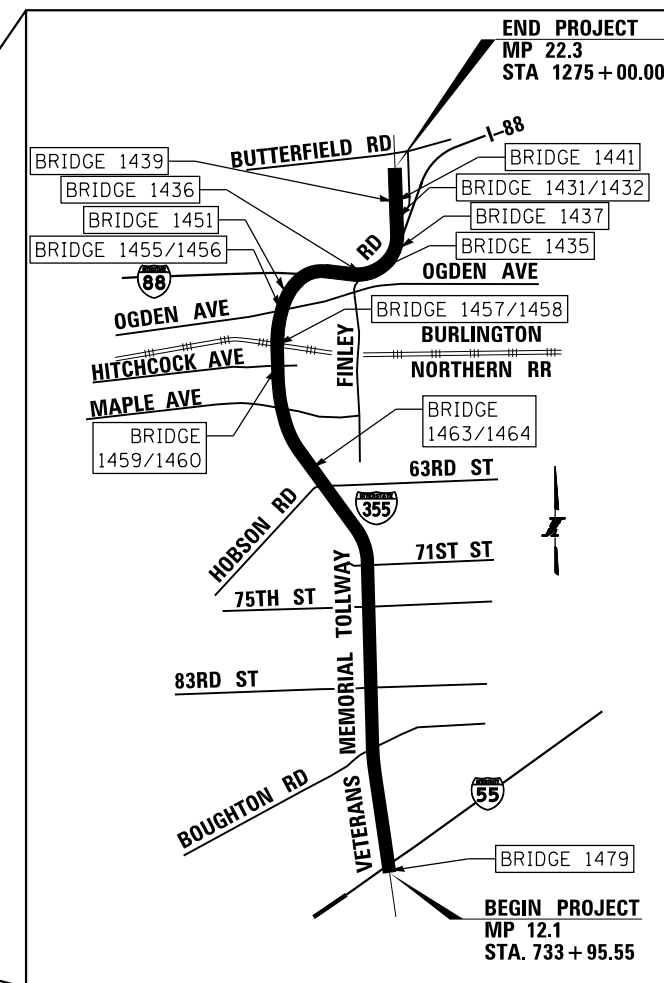
VOLUME 4
LIGHTING PLANS
BRIDGE PLANS

VOLUME 5
BRIDGE PLANS

VOLUME 6
BRIDGE PLANS
NOISE WALL PLANS
RETAINING WALL PLANS
CROSS SECTIONS



LOCATION MAP



CONSTRUCTION AREA MAP

DESIGN SECTION ENGINEER:



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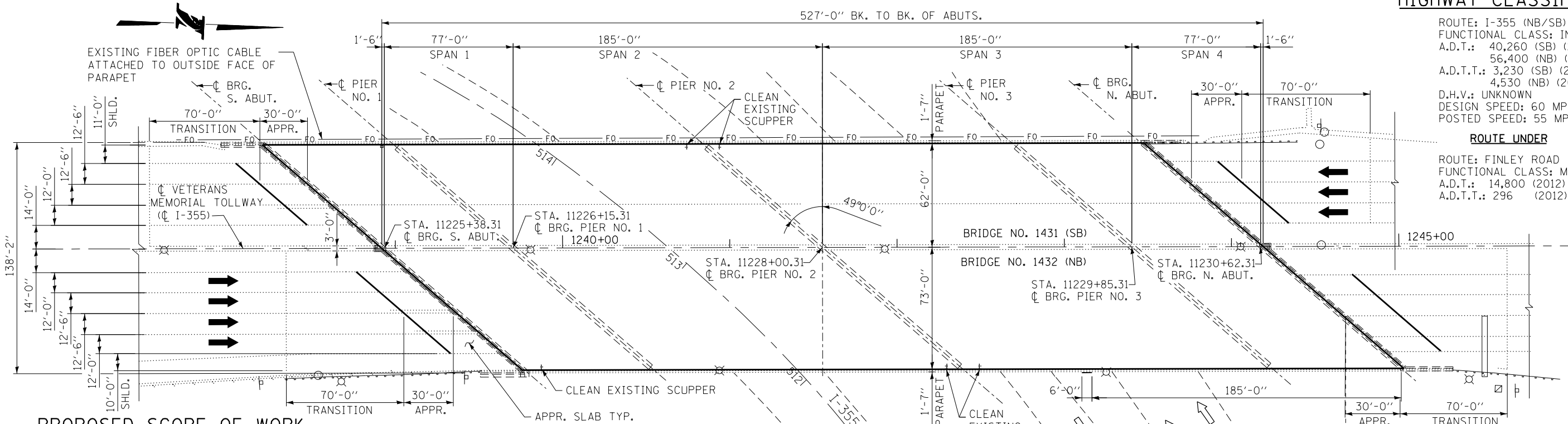
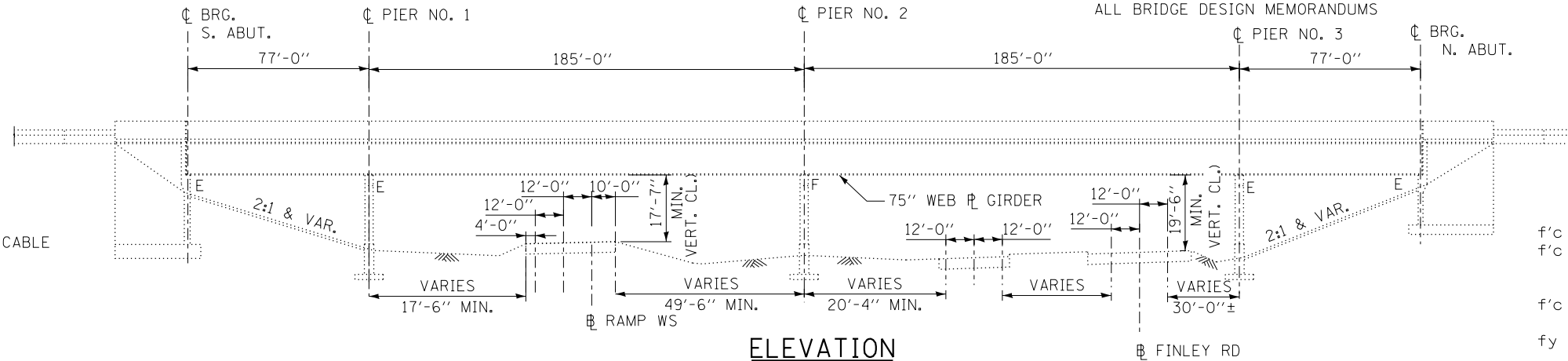
BENCHMARK:
TBM-10 CUT "□" IN TOP OF SW CORNER OF THE SW WINGWALL OF SB I-355 OVER FINLEY RD., ±1237+95, 62' LT. ELEV. 722.22

EXISTING STRUCTURE:
BRIDGE NUMBERS 1431 & 1432 WERE ORIGINALLY CONSTRUCTED IN 1989 UNDER THE ISTHA CONTRACT CIP-616 AS A FOUR SPAN CONTINUOUS STEEL PLATE GIRDER BRIDGES SPANNING TWO WB LANES OF WS RAMP C AND TWO WAY TWO LANE TRAFFIC ON FINLEY ROAD. BRIDGE NUMBER 1431 CARRIES THREE LANES OF SOUTHBOUND (SB) TRAFFIC AND BRIDGE NUMBER 1432 CARRIES FOUR LANES OF NORTHBOUND (NB) TRAFFIC ON I-355. THE LENGTH OF 527'-0" IS MEASURED BACK TO BACK OF ABUTMENTS, AND WIDTH OF 138'-2" OUT TO OUT OF DECK ON CONVENTIONAL CAST-IN-PLACE REINFORCED CONCRETE HIGHWALL TYPE ON SPREAD FOOTING ABUTMENTS. THREE CONVENTIONAL GRADE SEPARATION PIERS CAST-IN-PLACE REINFORCED CONCRETE TRAPEZOIDAL MULTI COLUMN BENT PIER UNITS WITH CAP BEAM AND CRASHWALL ON SPREAD FOOTING FOR BOTH BRIDGES.

TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

LEGEND:

-FO— EXISTING FIBER OPTIC CABLE



PROPOSED SCOPE OF WORK

1. SCARIFY 1" EXISTING BRIDGE DECK AND APPROACH SLAB OF BOTH BRIDGES.
2. OVERLAY BOTH BRIDGE DECK AND APPROACH SLABS USING 2 1/4" BRIDGE DECK LATEX CONCRETE OVERLAY.
3. SCARIFY TRANSITION SLABS, OVERLAY WITH ASPHALT.
4. REMOVE, CLEAN AND PATCH REPAIR SPALLED AREA OF DECK SLAB.
5. SEAL APPROACH SLABS, PARAPETS, MEDIAN BARRIER AND SLOPEWALL CRACKS.
6. REMOVE AND RECONSTRUCT DECK EXPANSION JOINT AT EACH ABUTMENT ON TOP OF THE RAIL TO MEET TOP SURFACE OF NEW DECK SLAB OVERLAY.
7. REMOVE AND RECONSTRUCT MAIN APPROACH AND TRANSITION SLAB EXPANSION JOINT HEADINGS.
8. CLEAN AND PAINT DETERIORATED AND RUSTY EXPANSION BEARINGS.
9. CLEAN AND SEAL CRACKS WIDER THAN 1/16", AND ALL LEACHING OR LEAKING CRACKS IN PIERS AND ABUTMENTS.
10. REPAIR DELAMINATED AND SPALLED CONCRETE IN PIERS AND ABUTMENTS.
11. REPLACE BROKEN SCUPPER GRATE AND CLEAN ALL SCUPPERS.
12. RECONSTRUCT EXISTING DRAINAGE SYSTEM IN BRIDGE 1431 ATTACHED TO WEST END OF PIER 2.
13. REPAIR DETERIORATED/SPALLED CONCRETE PARAPET.
14. REPLACE MISSING PREFORMED JOINT FILLER BETWEEN ABUTMENT & WINGWALLS.
15. CLEAN & PAINT STRUCTURAL STEEL GIRDERS, CROSS FRAMES & DIAPHRAGMS.

DESIGN SPECIFICATIONS

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL SUBSEQUENT INTERIMS.
ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL ADOPTED MARCH 2017
ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, 2012
ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017.
ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP's), JANUARY 1, 2018.
ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISION ADOPTED JANUARY 1, 2018.
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

DESIGN STRESSES

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - SUBSTRUCTURES REPAIRS)
f'c = 4,000 PSI (CLASS AX HIGH EARLY STRENGTH (BRIDGE DECK, BRIDGE APPROACH AND TRANSITION SLAB PATCH REPAIRS))
f'c = 4,000 PSI (CLASS BS PARAPETS AND BARRIERS REPAIRS)
fy = 60,000 PSI (REINFORCEMENT)

HIGHWAY CLASSIFICATION

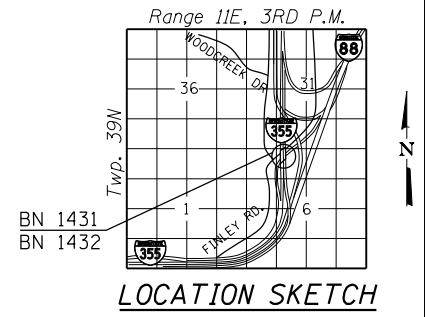
ROUTE: I-355 (NB/SB)
FUNCTIONAL CLASS: INTERSTATE
A.D.T.: 40,260 (SB) (2015), 56,400 (NB) (2015)
A.D.T.T.: 3,230 (SB) (2015), 4,530 (NB) (2015)
D.H.V.: UNKNOWN
DESIGN SPEED: 60 MPH
POSTED SPEED: 55 MPH

ROUTE UNDER

ROUTE: FINLEY ROAD
FUNCTIONAL CLASS: MINOR ARTERIAL
A.D.T.: 14,800 (2012)
A.D.T.T.: 296 (2012)

NOTES:

1. CONSTRUCTION STAGE LIMITS IS NOT SHOWN FOR CLARITY OF DRAWING. REFER TO CONSTRUCTION STAGING PLAN ON SHEET SL-03 FOR DETAILS AND ROADWAY MOT PLANS FOR OTHER INFORMATION NOT SHOWN.
2. SEE DECK PLANS, SHEETS SL-25 AND SL-26, FOR DECK REPAIR DETAILS.



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 100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

DRAWN BY MPS DATE 3/11/2018
CHECKED BY PAB/JPM/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
GENERAL PLAN & ELEVATION

SL-01 OF SL-39
SHT NO. SL-01
DRAWING NO. 1265 OF 1517

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SL-31	APPROACH REPAIR PLANS
SL-32	APPROACH SECTION
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SL-35	EXPANSION JOINT REPAIR DETAILS 3
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LIST OF ABBREVIATIONS

B.F.	BACK FACE
BK/	BACK OF
B/	BOTTOM OF
BRG	BEARING
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CL.	CLEARANCE
CU. FT.	CUBIC FEET
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
I.F.	INSIDE FACE
L.F.	LINEAR FOOT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
N. ABUT.	NORTH ABUTMENT
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
PROP.	PROPOSED
S. ABUT.	SOUTH ABUTMENT
S.B.	SOUTHBOUND
STA.	STATION
SHLDR	SHOULDER
S.F.	SQUARE FOOT
SO. FT.	SQUARE FOOT
SO. YD.	SQUARE YARD
S.Y.	SQUARE YARD
TYP.	TYPICAL

GENERAL NOTES

CAST-IN-PLACE CONCRETE:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS:

- REINFORCEMENT BARS, INCLUDING EPOXY- COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
- COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION:

- A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, " STRUCTURAL ASSESSMENT REPORT FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTION OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 811.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED (WITHOUT HEATING), CUT AND/OR BENT TO FIT, AND EPOXY PAINTED IF GOUGED. COST OF WHICH SHALL BE INCLUDED WITH "CONCRETE REMOVAL".
- THE PROTECTIVE SHIELD SYSTEM SHALL EXTENDED A MINIMUM OF 10' BEYOND THE INDICATED LIMITS OF REPAIR SHOWN IN THE PLANS OR 5' BEYOND THE ACTUAL LIMITS OF PARTIAL OR FULL DEPTH REPAIR AS IDENTIFIED IN THE FIELD, WHICHEVER IS GREATER.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431		BRIDGE 1432		TOTAL PLAN QUANTITY	RECORDED QUANTITY
				SUPER	SUB	SUPER	SUB		
	50102400	CONCRETE REMOVAL	CU. YD.	1.6	-	2.1	-	3.7	
	50157300	PROTECTIVE SHIELD	SQ. YD.	167	-	370	-	537	
	50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	1.6	-	2.1	-	3.7	
	50300260	BRIDGE DECK GROOVING	SQ. YD.	3,655	-	4,378	-	8,033	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,530	-	1,930	-	3,460	
	50800515	BAR SPLICERS	EACH	24	-	36	-	60	
	52000110	PREFORMED JOINT STRIP SEAL	FOOT	186	-	218	-	404	
**	JS120809	PVC DRAIN PIPE (8 IN.)	FOOT	50	-	-	-	50	
**	JS120810	ADJUST EXISTING SCUPPER	EACH	2	-	3	-	5	
**	JS120813	REMOVE EXISTING DRAINAGE PIPE	FOOT	50	-	-	-	50	
**	JS120815	CLEAN EXISTING SCUPPER	EACH	2	-	3	-	5	
**	JS120816	REPLACE EXISTING SCUPPER GRATE	EACH	1	-	-	-	1	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	6	173	-	192	371	
*	JT503013	ACCELERATED APPROACH SLAB REPAIR (PARTIAL)	SQ. YD.	42	-	55	-	97	
*	JT503022	ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ. YD.	-	-	1	-	1	
*	JT503032	ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	22	-	26	-	48	
*	JT503033	ACCELERATED APPROACH SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	21	-	25	-	46	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	-	94	-	20	114	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	-	2,524	-	2,874	5,398	
*	JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	4,160	-	4,204	-	8,364	
*	JT525230	BONDED PREFORMED JOINT SEAL REPLACEMENT, 3 IN.	FOOT	74	-	98	-	172	
*	JT525235	BONDED PREFORMED JOINT SEAL REPLACEMENT, 4 IN.	FOOT	114	-	150	-	264	
	X0323491	SLOPE WALL CRACK SEALING	FOOT	-	42	-	77	119	
	X0326331	CLEANING AND PAINTING BEARINGS	EACH	35	-	40	-	75	
	X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L. SUM	1	-	-	-	1	
	X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2	L. SUM	-	-	1	-	1	
	Z0006012	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4 INCHES	SQ. YD.	3,770	-	4,490	-	8,260	
	Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L. SUM	1	-	-	-	1	
	Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L. SUM	-	-	1	-	1	
	Z0012132	BRIDGE DECK SCARIFICATION, 1"	SQ. YD.	3,770	-	4,490	-	8,260	
	Z0012800	CONCRETE PAVEMENT SCARIFICATION	SQ. YD.	576	-	763	-	1,339	
	Z0043900	PREFORMED JOINT FILLER	FOOT	-	40	-	-	40	
	Z0065700	SLOPE WALL REPAIR	SQ. YD.	-	1	-	1	2	

- * INDICATES SPECIAL PROVISION
- ** INDICATES ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION

CONSTRUCTION (CONT.):

- CONCRETE SEALANT SHALL BE APPLIED TO THE TOP AND TRAFFIC FACE OF BRIDGE DECK BARRIERS AND PARAPETS, INCLUDING PARAPET ON BRIDGE WINGWALLS. SEALANT SHALL ALSO BE APPLIED TO ABUTMENT BACKWALL AND BRIDGE SEATS. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP), WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTIONS STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- DRAIN PIPE FOR BRIDGE DRAINAGE SYSTEM, INCLUDING ALL PIPING, FITTINGS, SUPPORT BRACKETS, INSERTS BOLTS AND SPLASH BLOCKS AS SHOWN, SHALL BE AS SPECIFIED IN THE LATEST IDOT GBSP FOR DRAINAGE SYSTEM, EXCEPT AS MODIFIED HEREIN. DRAIN PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE.
- POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE 8" DIAMETER SCHEDULE 80 MEETING THE REQUIREMENTS OF ASTM D1785 (F441), D2464 AND D2467 COLORED TO MATCH THE ADJACENT BEAM AND/OR THE EXISTING PIPING.

SL-02 OF SL-39

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



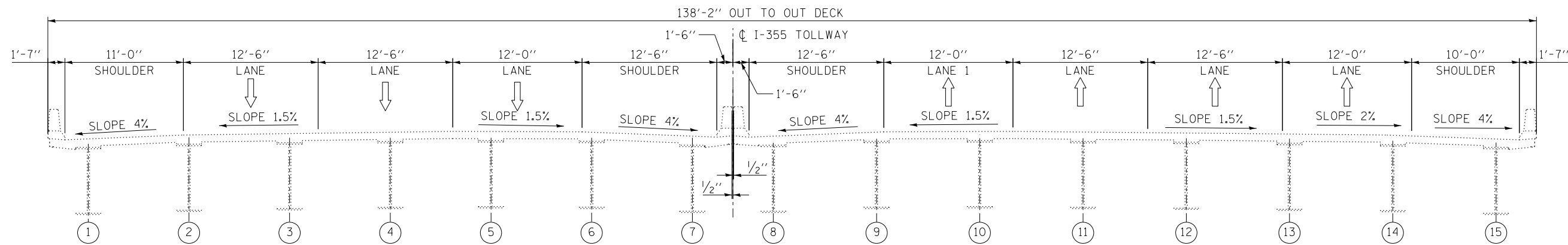
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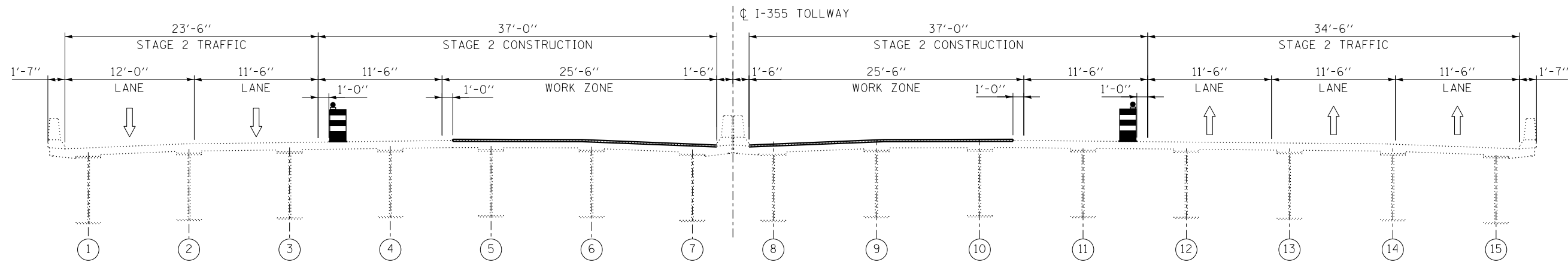
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

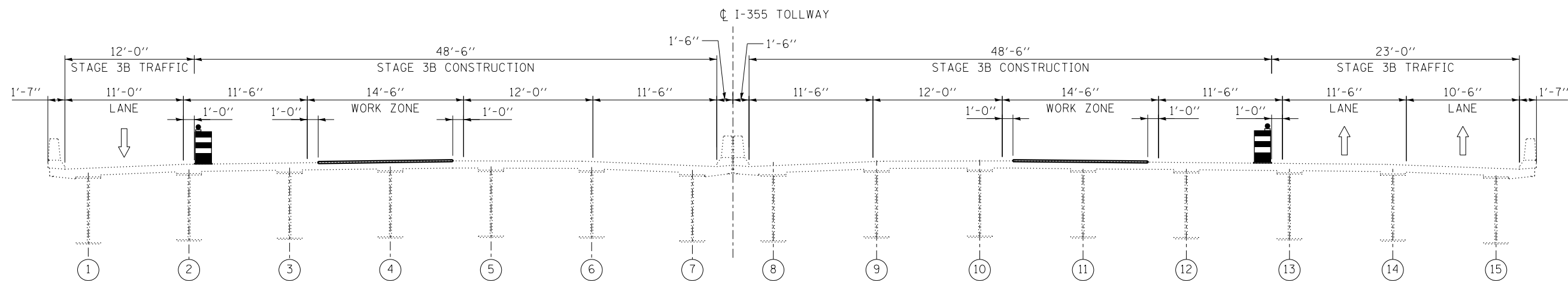
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GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL		1266 OF 1517



EXISTING CONDITIONS
(LOOKING NORTH)



STAGE 2 CONSTRUCTION
(LOOKING NORTH)



STAGE 3B CONSTRUCTION
(LOOKING NORTH)

NOTE:

SEE MOT-21 THROUGH MOT-23 FOR PAVEMENT MARKINGS AND OTHER INFORMATION NOT SHOWN.

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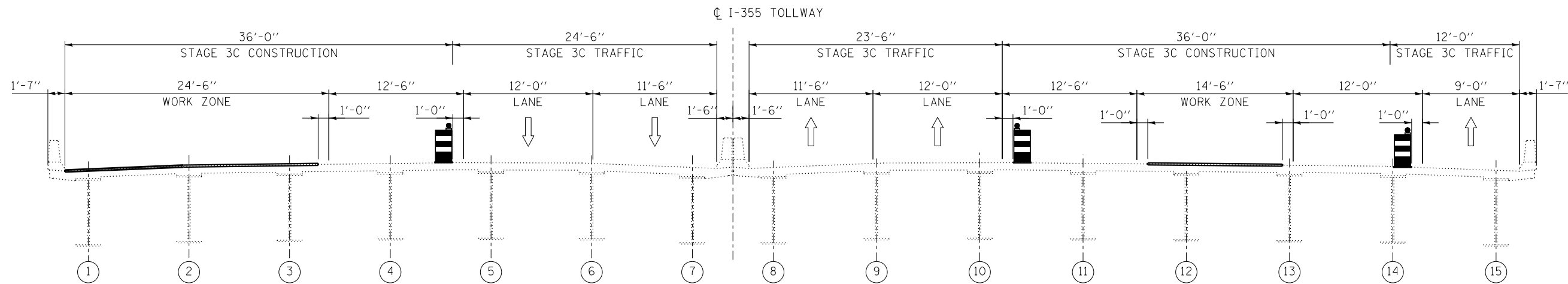
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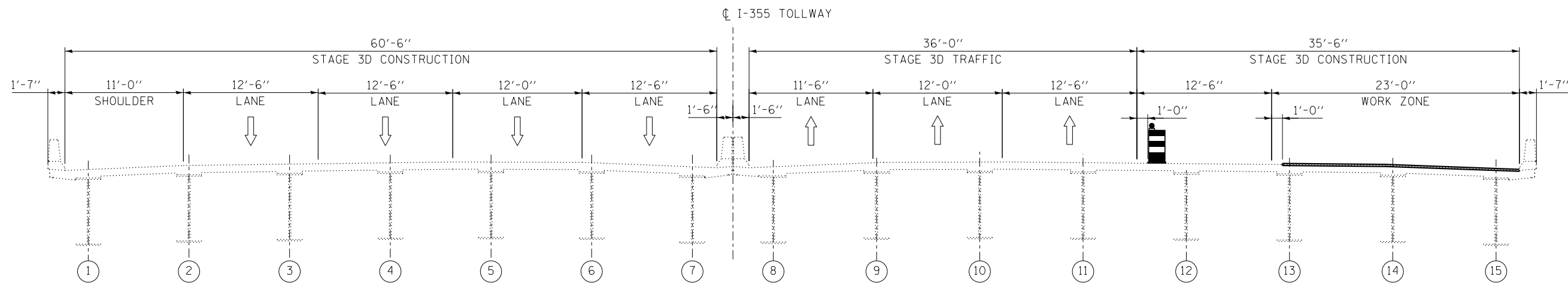
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STAGE 3C CONSTRUCTION
(LOOKING NORTH)



STAGE 3D CONSTRUCTION
(LOOKING NORTH)

NOTE:
SEE MOT-21 THROUGH MOT-23 FOR PAVEMENT MARKINGS AND OTHER INFORMATION NOT SHOWN.

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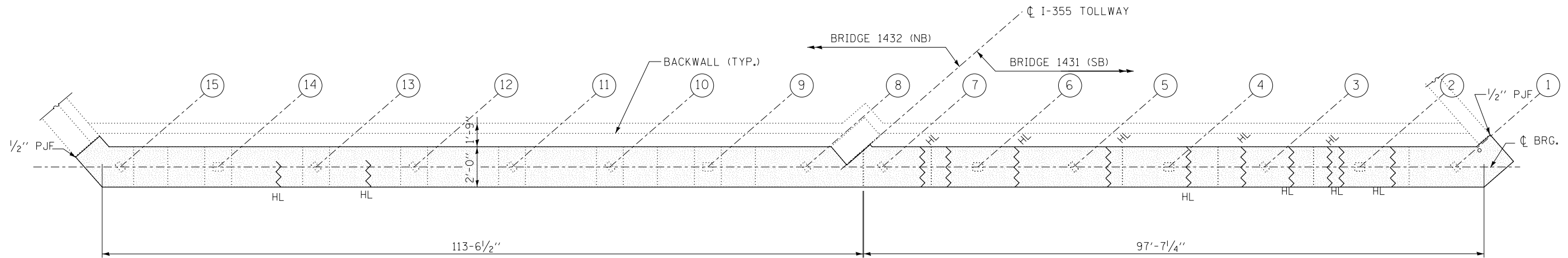
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 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



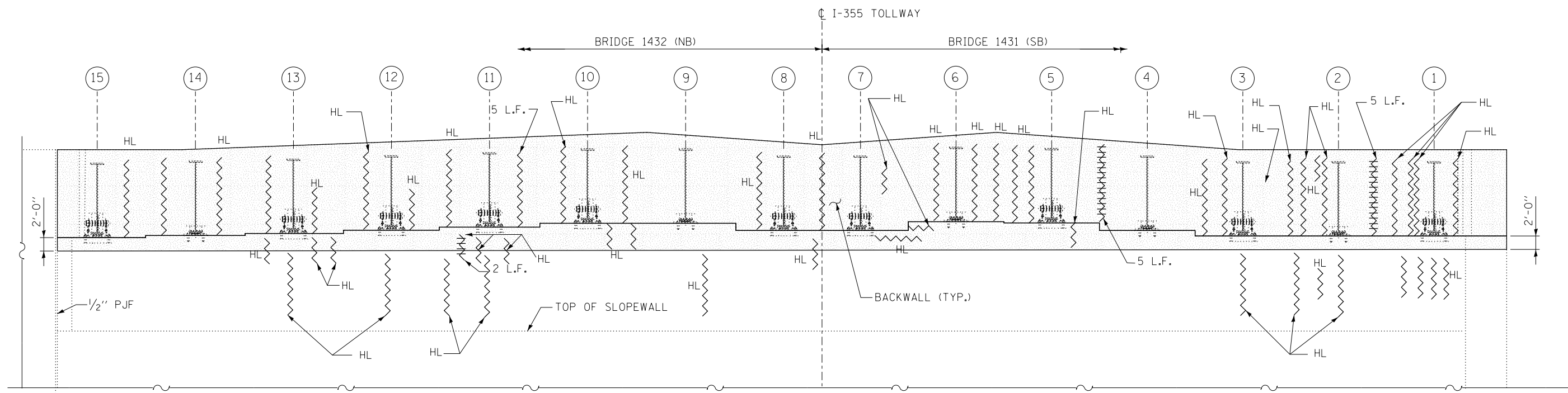
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 CONSTRUCTION STAGING

SL-04 OF SL-39
 SHT NO. SL-04
 DRAWING NO. 1268 OF 1517



TOP PLAN



ELEVATION
(LOOKING SOUTH)

NOTES:

- ALL BEARINGS, ① THRU ⑮, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS."
- APPLY CONCRETE SEALANT TO THE SURFACES OF ABUTMENT BACKWALLS, SEATS AND BREASTWALLS (FIRST 2 FEET BELOW THE ABUTMENT SEAT).

LEGEND:

- L.F. LOW PRESSURE EPOXY INJECTION
- L.F. CRACK WITH LEACHING OR LEAKING (LOW PRESSURE EPOXY INJECTION)
- APPLY CONCRETE SEALANT
- HAIRLINE CRACK (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)	BRIDGE 1432 (NB)	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	10	7	17
JT524010	APPLY CONCRETE SEALANT	SQ.FT.	1,257	1,462	2,719
X0326331	CLEANING AND PAINTING BEARING	EACH	7	8	15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018

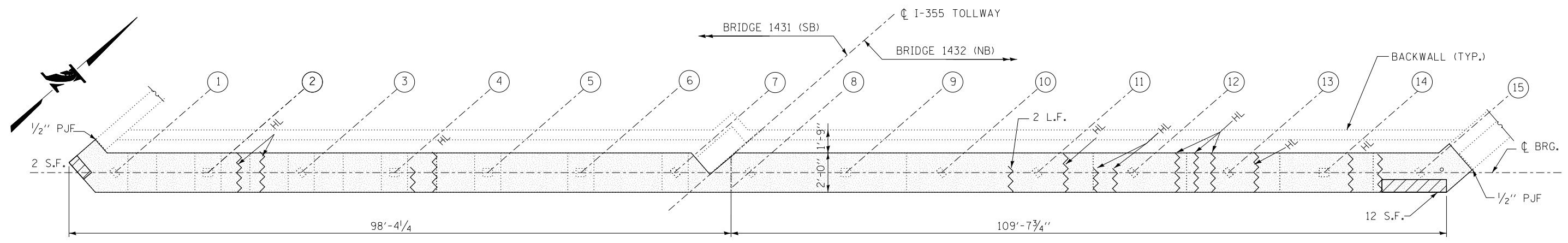


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

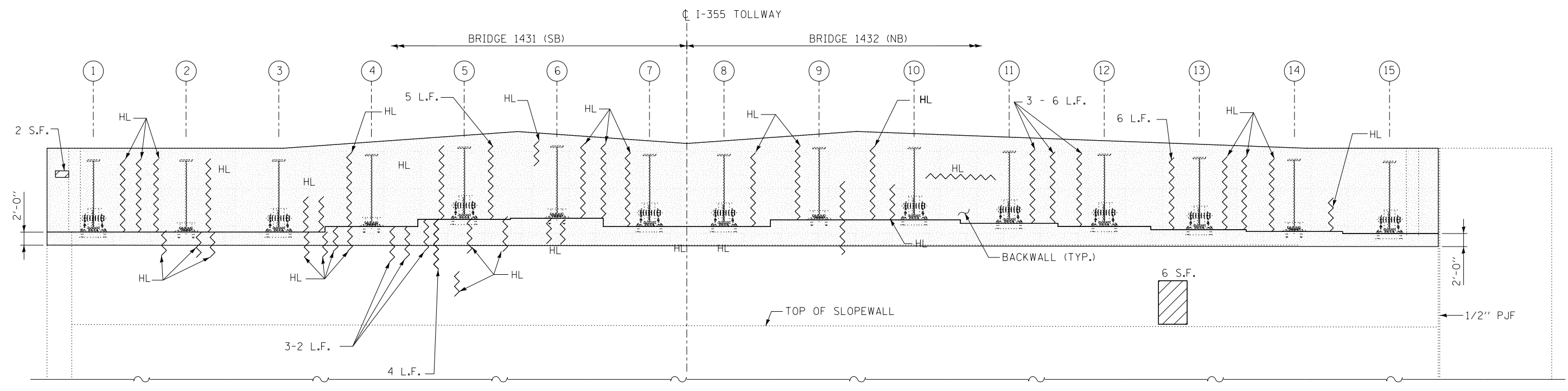
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 SOUTH ABUTMENT REPAIR

SL-05 OF SL-39
 SHT NO. SL-05
 DRAWING NO.
 1269 OF 1517



TOP PLAN







ELEVATION
(LOOKING NORTH)

NOTES:

- ALL BEARINGS, ① THRU ⑮, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS."
- APPLY CONCRETE SEALANT TO THE SURFACES OF ABUTMENT BACKWALLS, SEATS AND BRESTWALLS (FIRST 2 FEET BELOW THE ABUTMENT SEAT).

LEGEND:

-  STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES.)
-  APPLY CONCRETE SEALANT
-  L.F. LOW PRESSURE EPOXY INJECTION
-  HL HAIRLINE CRACK (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)	BRIDGE 1432 (NB)	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	15	26	41
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES.)	SQ.FT.	4	18	22
JT524010	APPLY CONCRETE SEALANT	SQ.FT.	1,267	1,412	2,679
X0326331	CLEANING AND PAINTING BEARING	EACH	7	8	15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



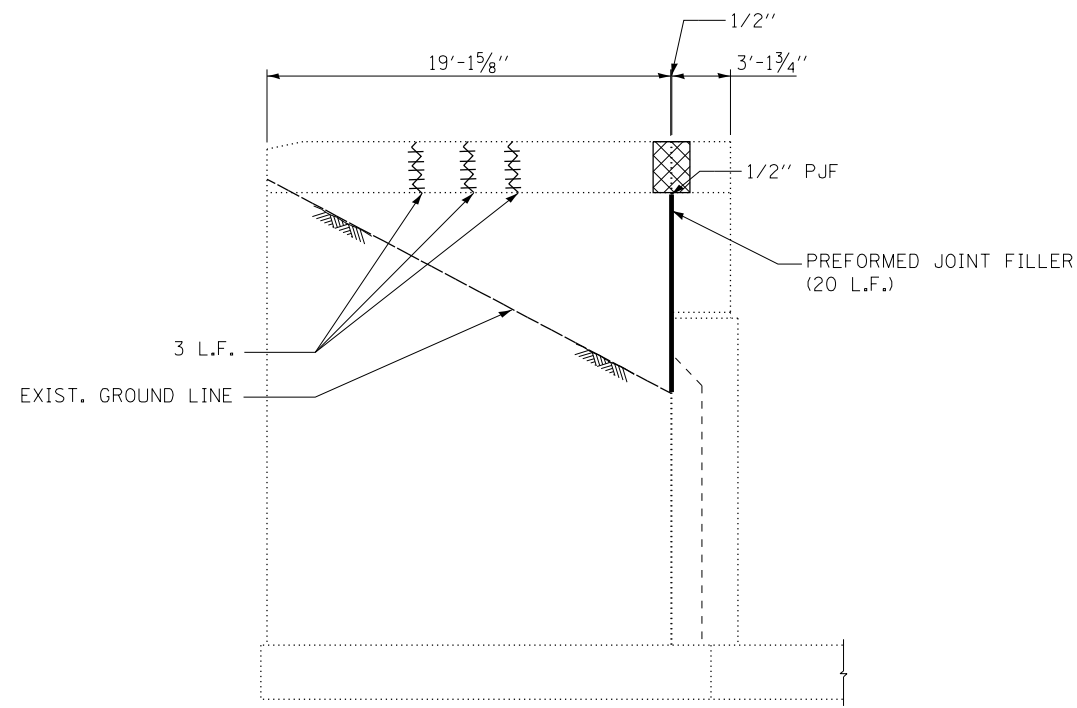
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

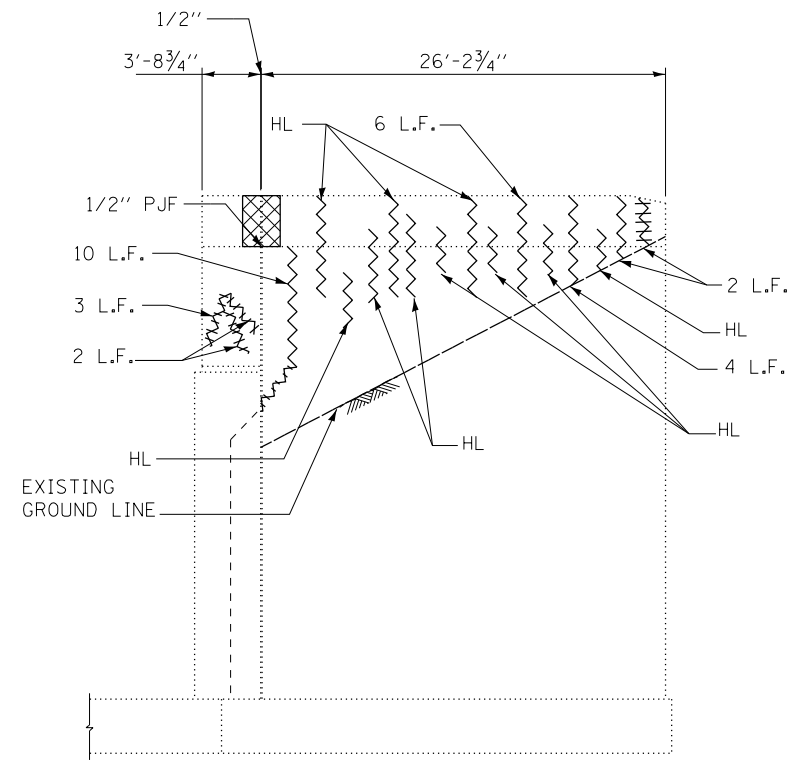
CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 NORTH ABUTMENT REPAIR

SL-06 OF SL-39
 SHT NO. SL-06
 DRAWING NO. 1270 OF 1517

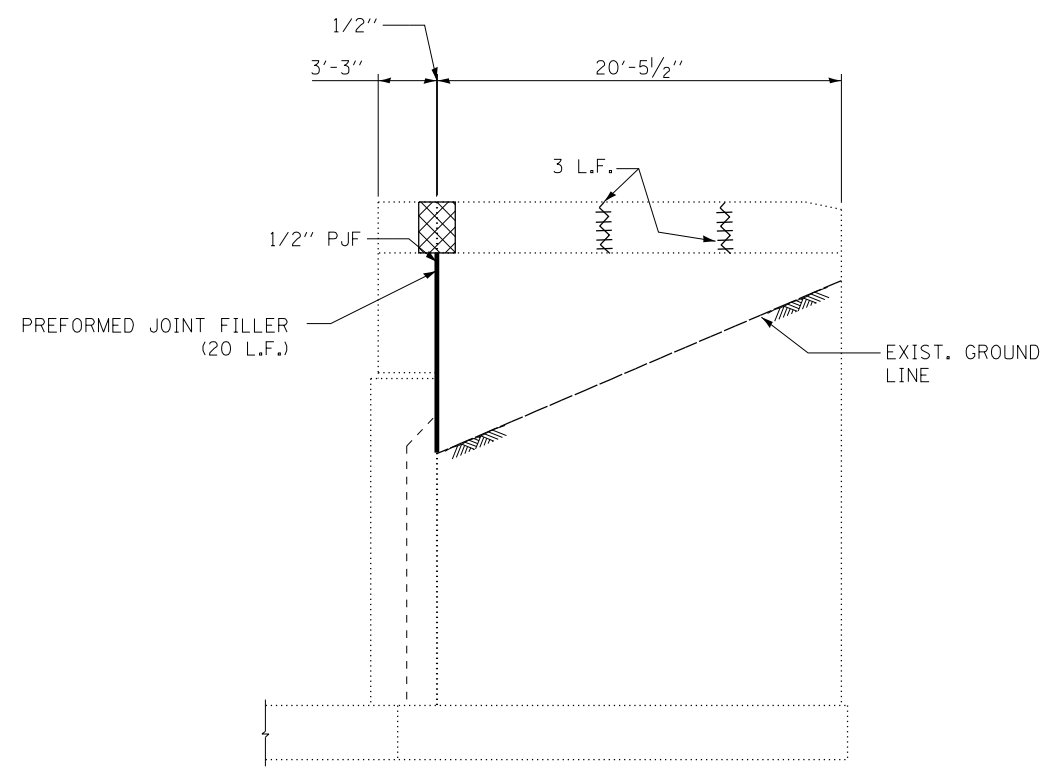
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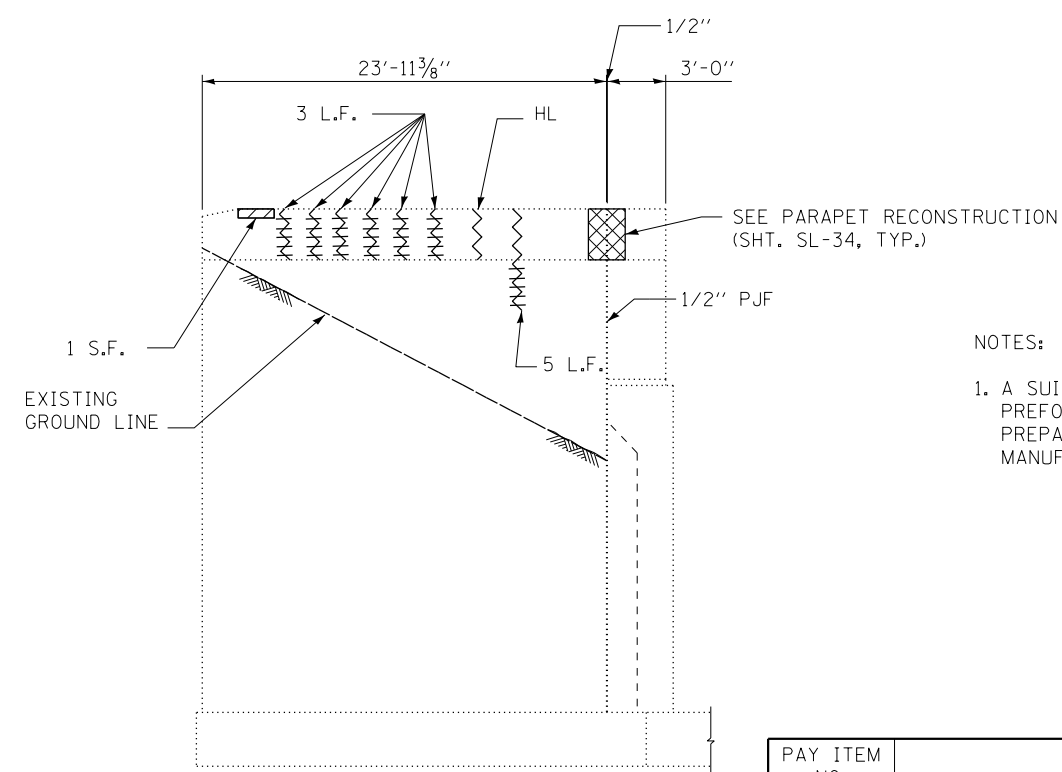
NW WINGWALL
(BRIDGE 1431)



NE WINGWALL
(BRIDGE 1432)



SW WINGWALL
(BRIDGE 1431)



SE WINGWALL
(BRIDGE 1432)

LEGEND:

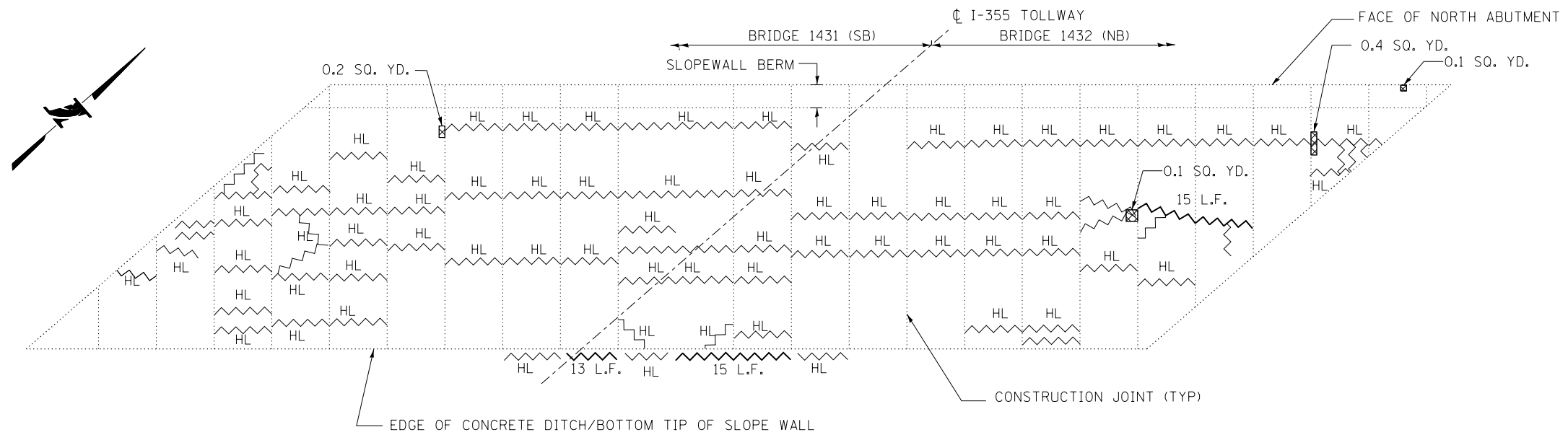
- PARAPET RECONSTRUCTION (SEE SHEET SL-34)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- L.F. CRACK WITH LEACHING, LOW PRESSURE EPOXY INJECTION
- PREFORMED JOINT FILLER
- HL HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTES:

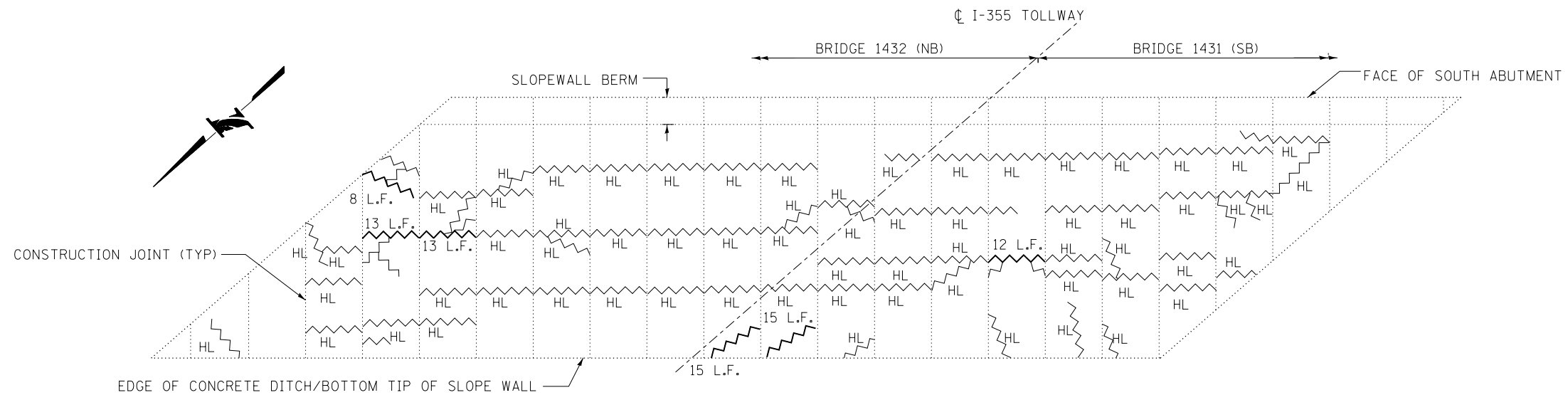
1. A SUITABLE ADHESIVE MUST BE COMPATIBLE WITH PREFORMED JOINT FILLER MATERIAL AND CONCRETE. SURFACE PREPARATION SHALL BE CONDUCTED IN ACCORDANCE WITH MANUFACTURER'S GUIDE.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)	BRIDGE 1432 (NB)	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	15	54	69
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	-	1	1
Z0043900	PREFORMED JOINT FILLER	FOOT	40	-	40



NORTH SLOPEWALL PLAN



SOUTH SLOPEWALL PLAN

LEGEND:



SLOPEWALL REPAIR



SLOPEWALL CRACK SEALING



HAIRLINE CRACKS
(FOR INFORMATION ONLY)

NOTE:

CRACKS WIDER THAN 1/2" SHALL BE SEALED USING "SLOPEWALL CRACK SEALING".

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)	BRIDGE 1432 (NB)	TOTAL QUANTITY
X0323491	SLOPE WALL CRACK SEALING	FOOT	42	77	119
Z0065700	SLOPEWALL REPAIR	SO. YD.	1	1	2

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DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

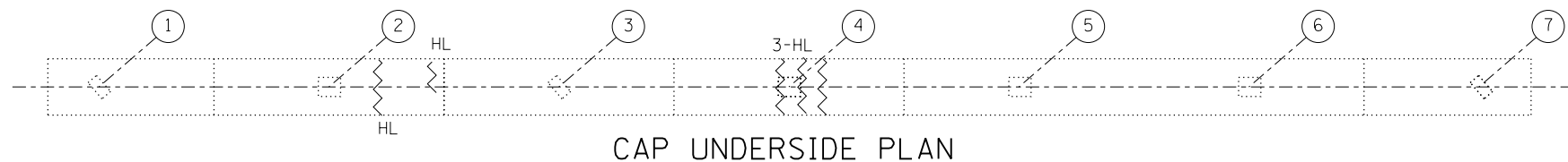
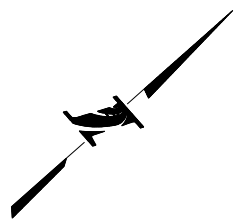


2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

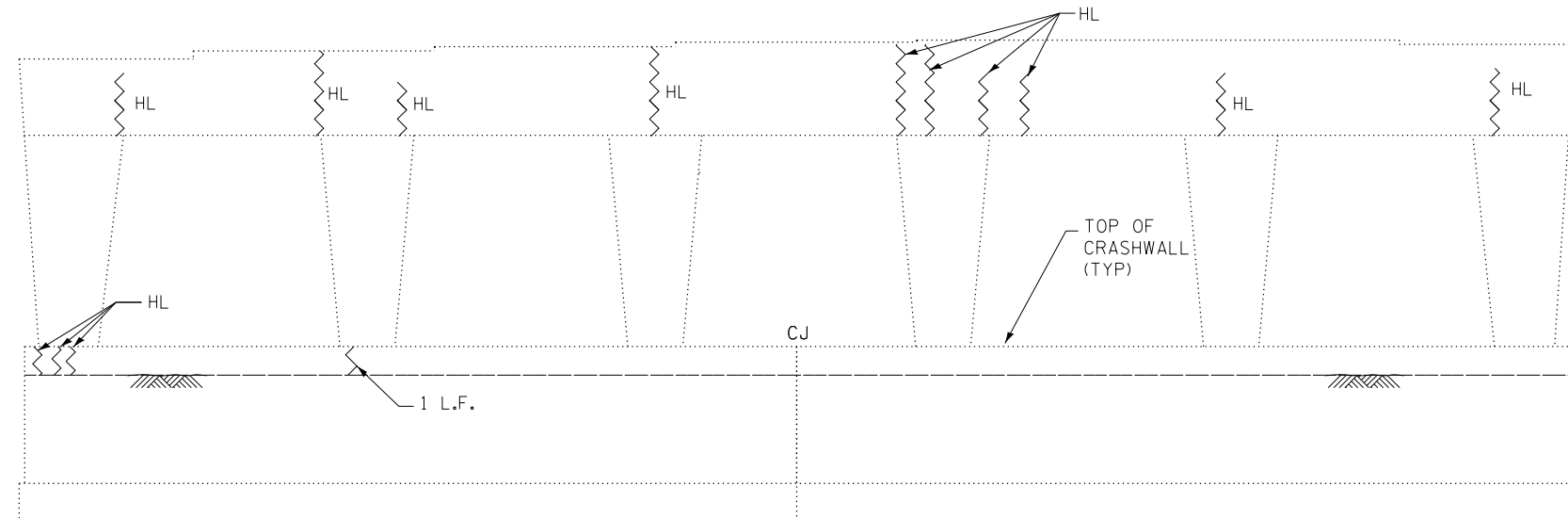
CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 SLOPEWALLS REPAIR PLANS

SL-08 OF SL-39
 SHT NO. SL-08
 DRAWING NO.
 1272 OF 1517

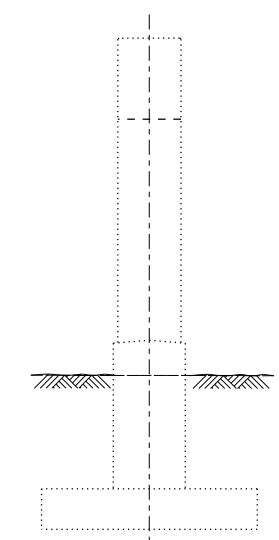


CAP UNDERSIDE PLAN

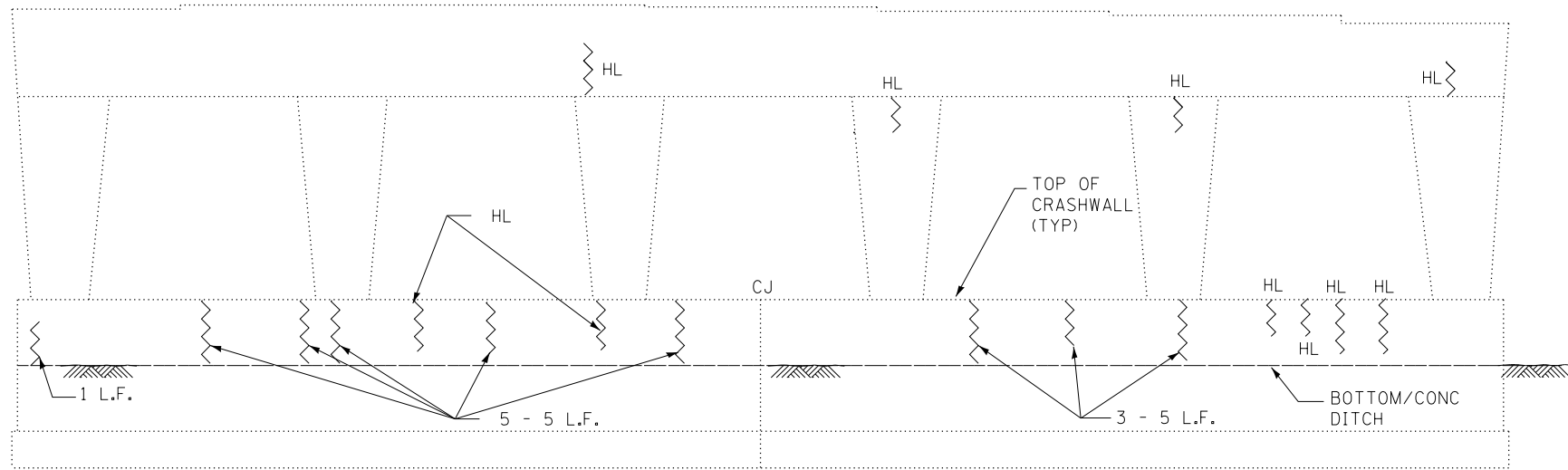
NOTE:
ALL BEARINGS, ① TO ⑦, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS".



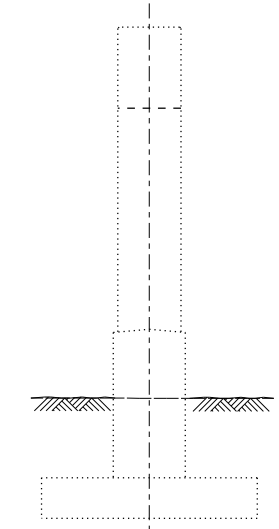
B.N. 1431 PIER 1 ELEVATION
(LOOKING NORTH)



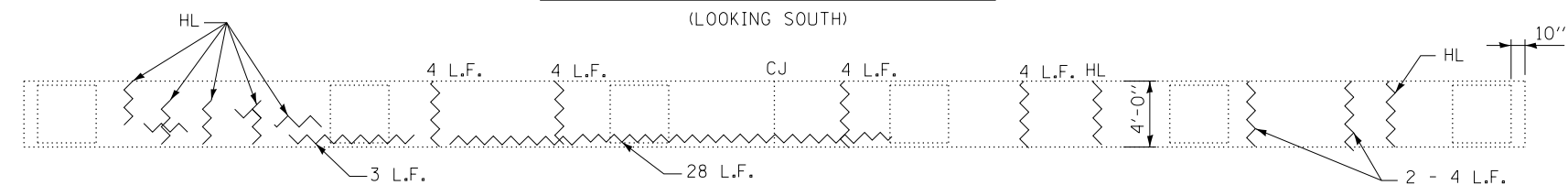
WEST END VIEW



B.N. 1431 PIER 1 ELEVATION
(LOOKING SOUTH)



EAST END VIEW



CRASHWALL TOP PLAN

- LEGEND:**
- L.F. LOW PRESSURE EPOXY INJECTION
 - CONSTRUCTION JOINT
 - HAIRLINE CRACK (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	97
X0326331	CLEANING AND PAINTING BEARINGS	EACH	7

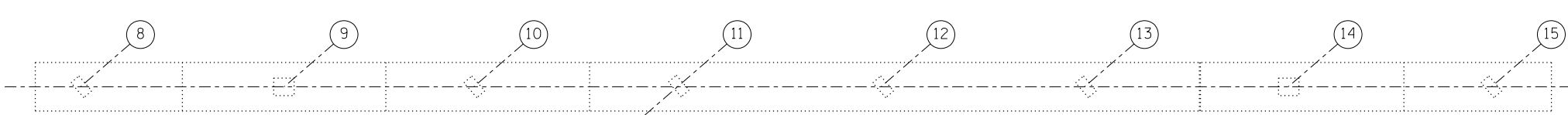
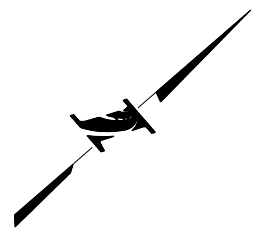
DRAWN BY MPS DATE 3/11/2018
CHECKED BY PAB/JPM/MMH DATE 3/11/2018



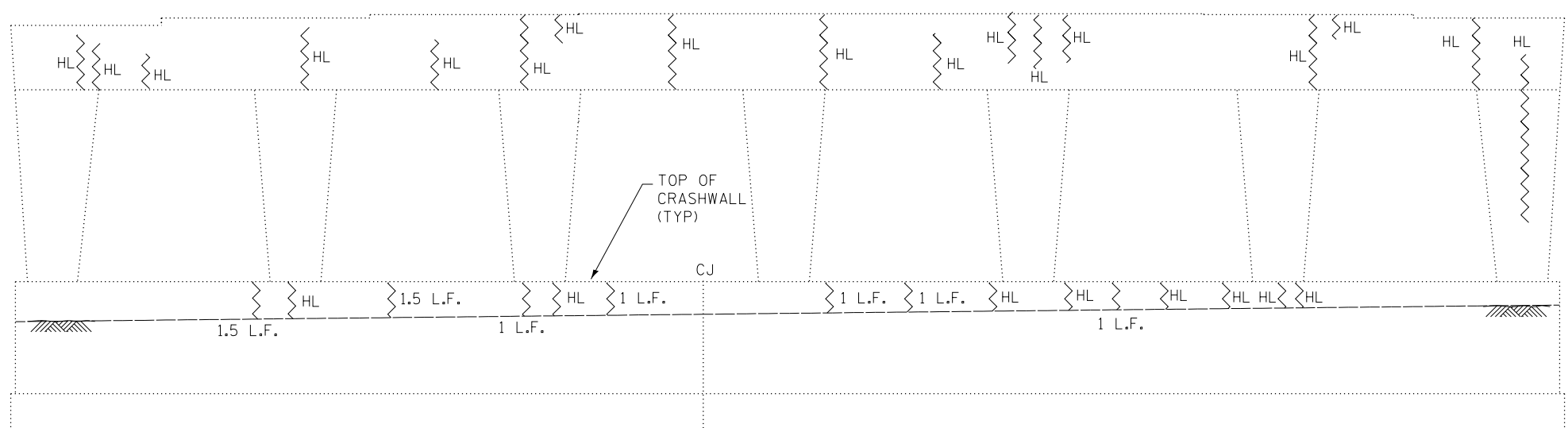
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 1 REPAIR - BN 1431 (S.B.)

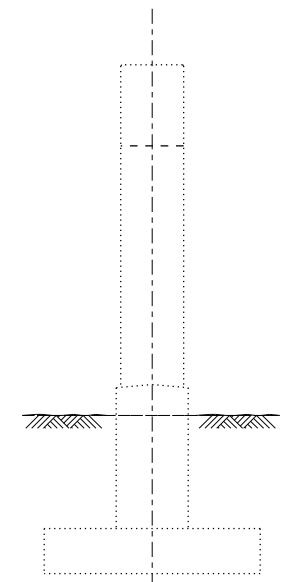
SL-09 OF SL-39
SHT NO. SL-09
DRAWING NO. 1273 OF 1517



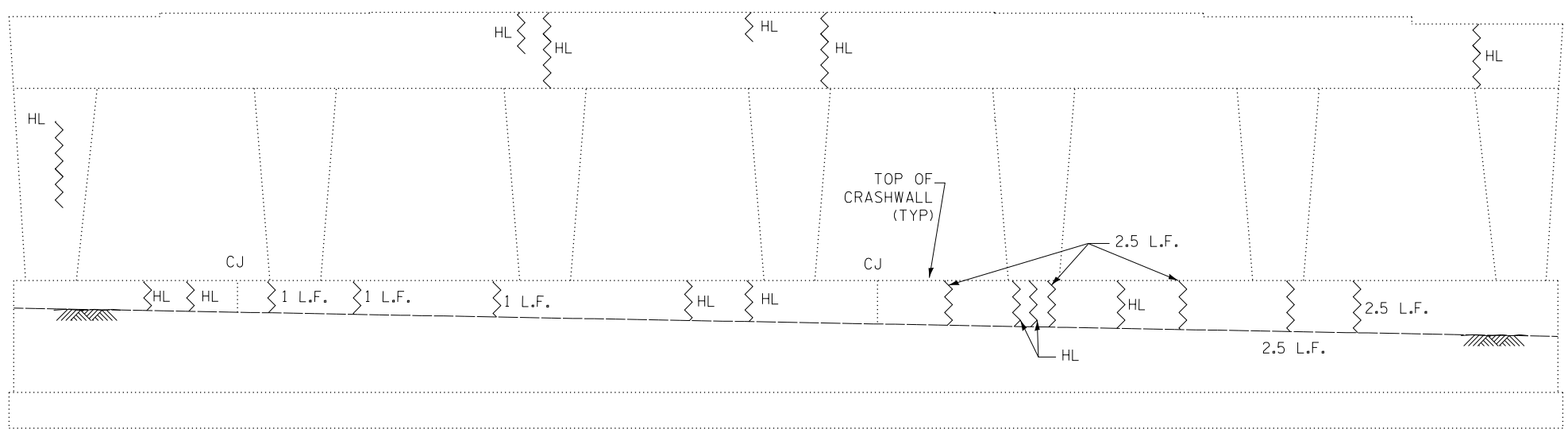
CAP UNDERSIDE PLAN



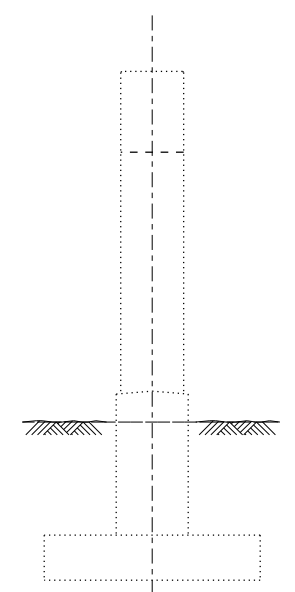
**B.N. 1432 PIER 1 ELEVATION
(LOOKING NORTH)**



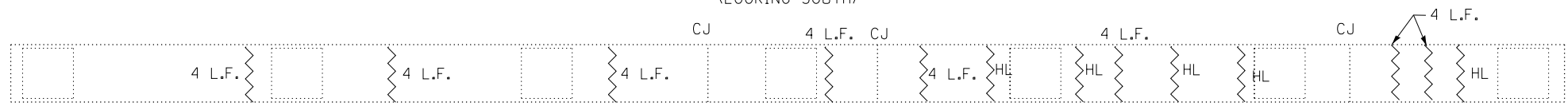
WEST END VIEW



**B.N. 1432 PIER 1 ELEVATION
(LOOKING SOUTH)**



EAST END VIEW



CRASHWALL TOP PLAN

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1432 (NB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	56
X0326331	CLEANING AND PAINTING BEARINGS	EACH	8

- LEGEND:**
- L.F. LOW PRESSURE EPOXY INJECTION
 - CJ CONSTRUCTION JOINT
 - HL HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:
ALL BEARINGS, ⑧ TO ⑮, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS".

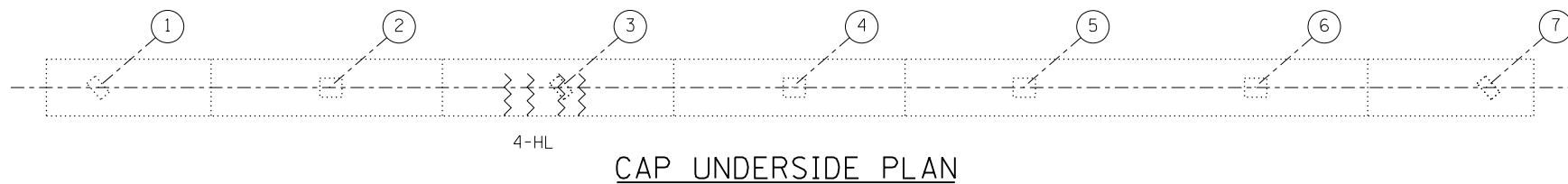
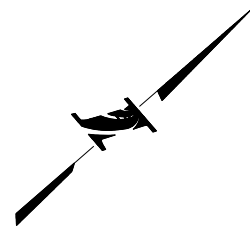
DRAWN BY **MPS** DATE **3/11/2018**
CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



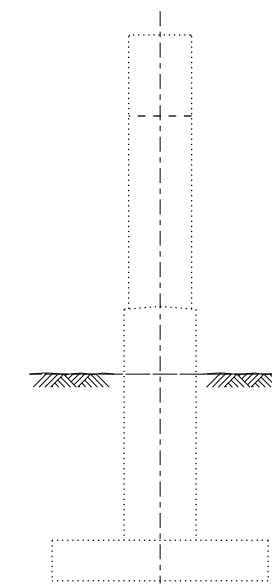
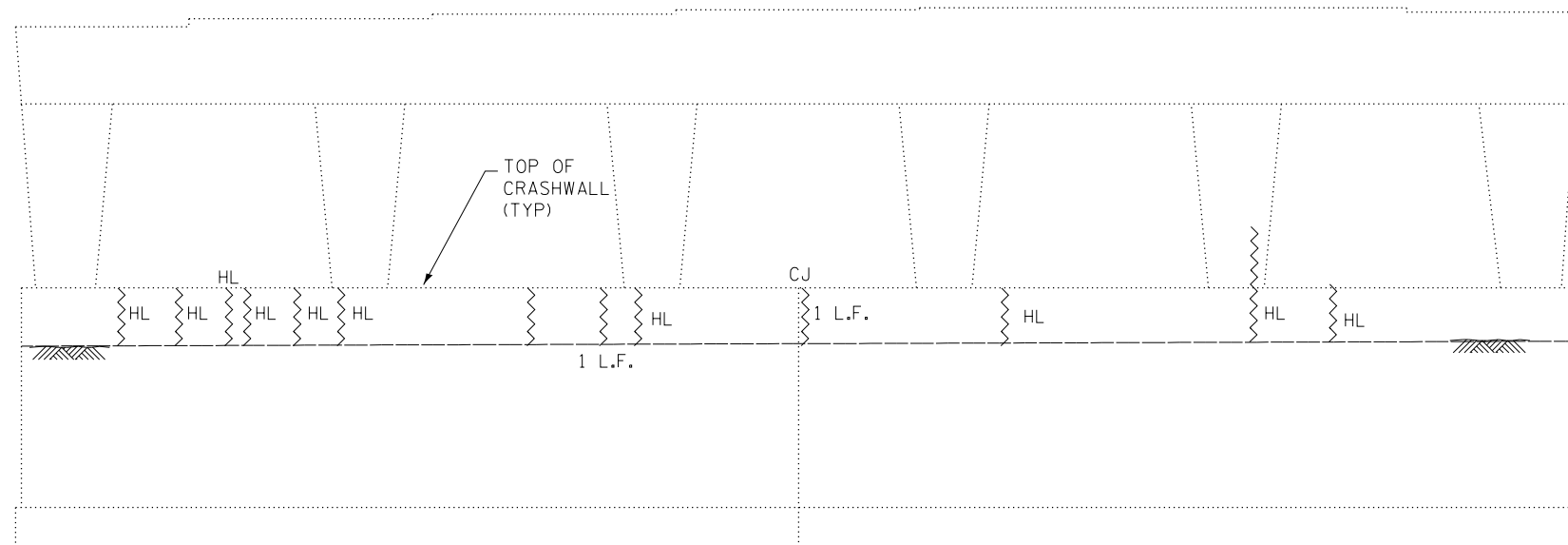
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 1 REPAIR BN 1432 (N.B.)

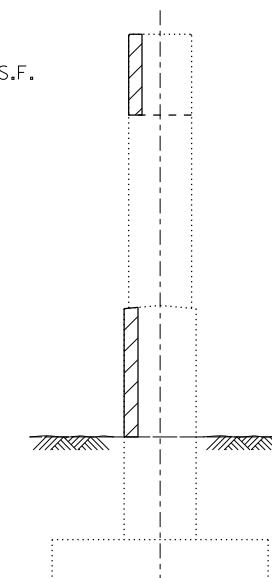
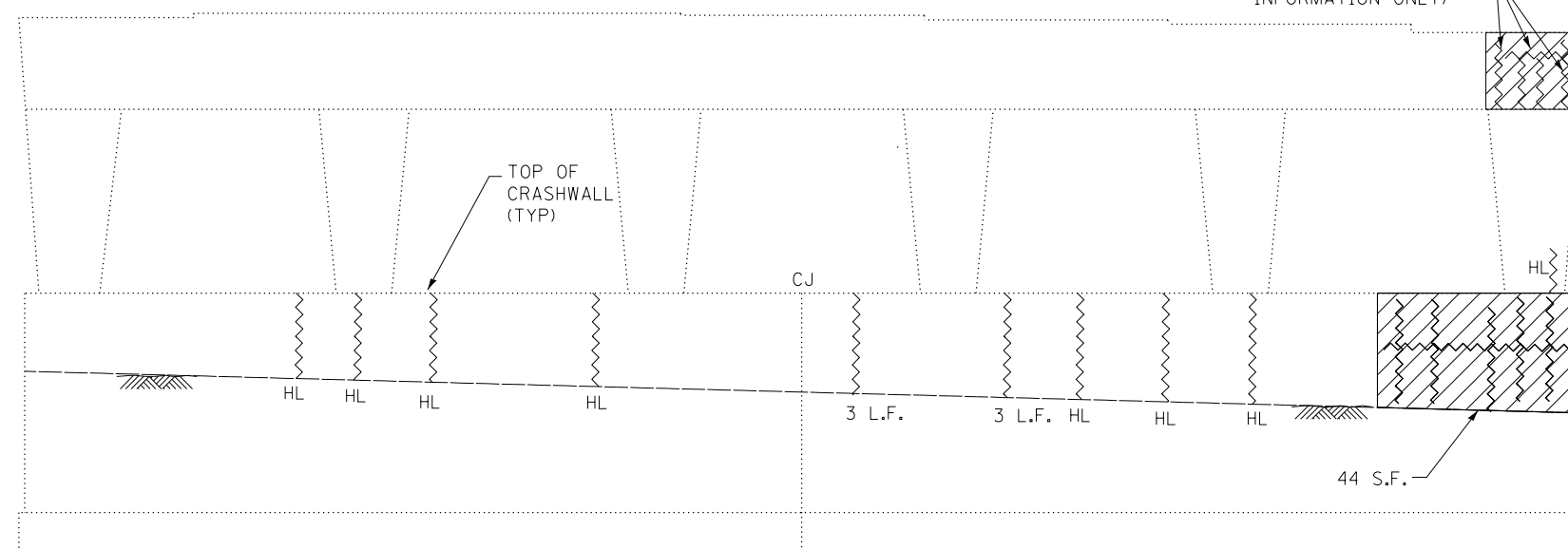
SL-10 OF SL-39
SHT NO. **SL-10**
DRAWING NO. **1274 OF 1517**



NOTE:
ALL BEARINGS, ① TO ⑦, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS".



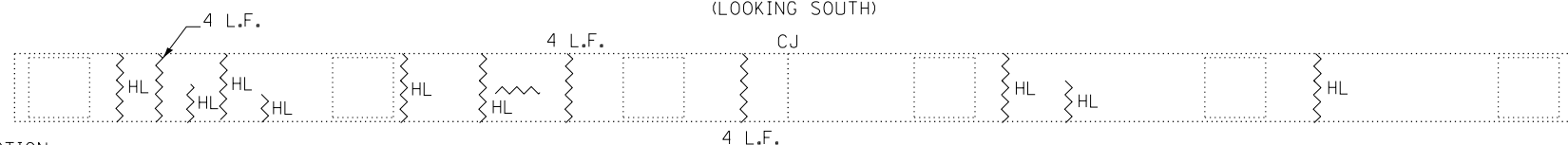
B.N. 1431 PIER 2 ELEVATION
(LOOKING NORTH)



B.N. 1431 PIER 2 ELEVATION
(LOOKING SOUTH)

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT
- HL HAIRLINE CRACK (FOR INFORMATION ONLY)



CRASHWALL TOP PLAN

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	20
JT503035	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ.FT.	74
X0326331	CLEANING AND PAINTING BEARINGS	EACH	7

SL-11 OF SL-39

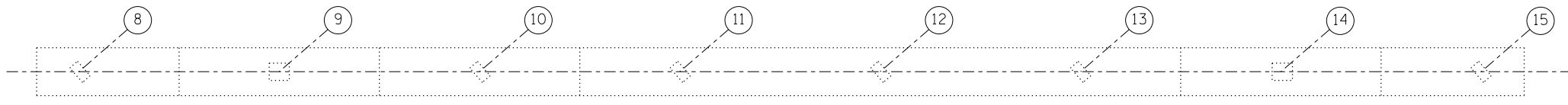
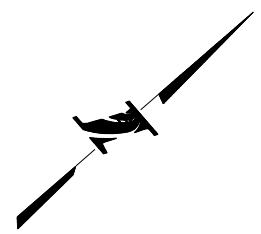
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CHECKED BY PAB/JPM/MMH DATE 3/11/2018



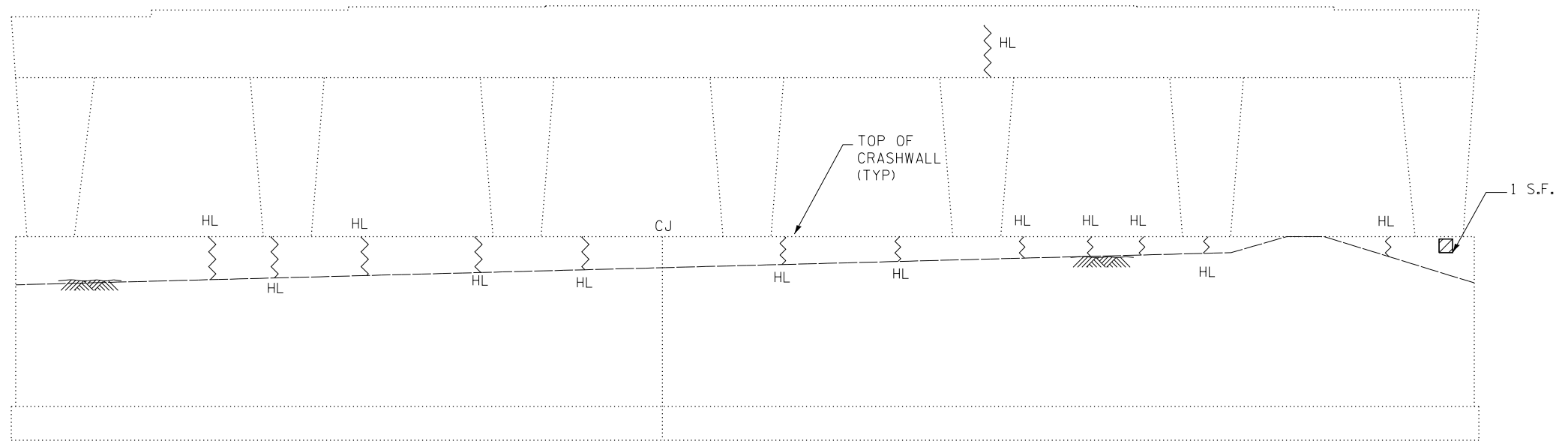
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 2 REPAIR BN 1431 (S.B.)

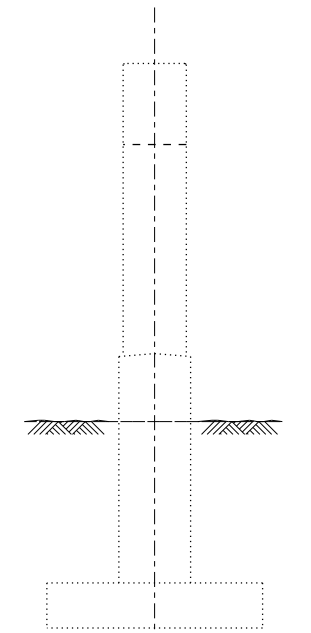
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DRAWING NO. 1275 OF 1517



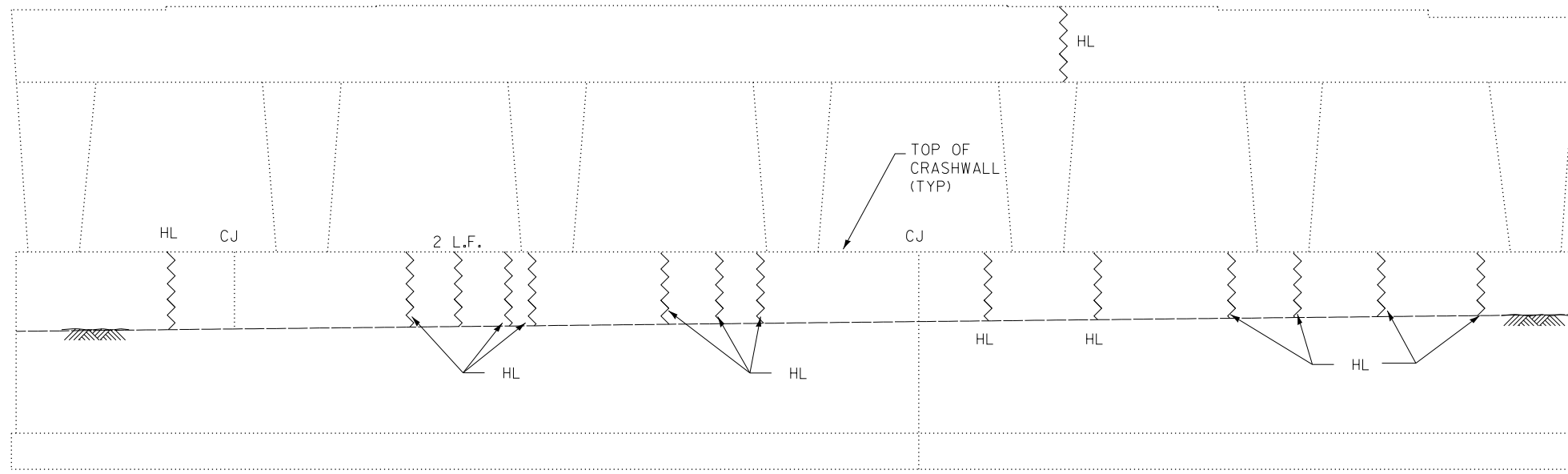
CAP UNDERSIDE PLAN



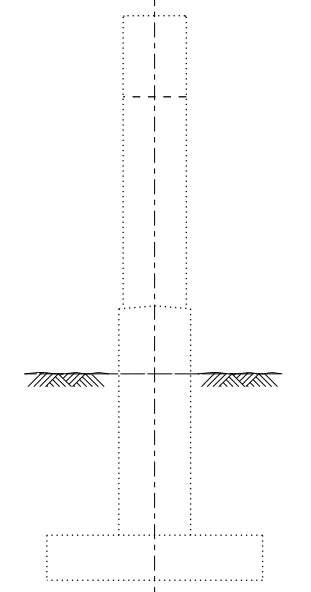
B.N. 1432 PIER 2 ELEVATION
(LOOKING NORTH)



WEST END VIEW



B.N. 1432 PIER 2 ELEVATION
(LOOKING SOUTH)



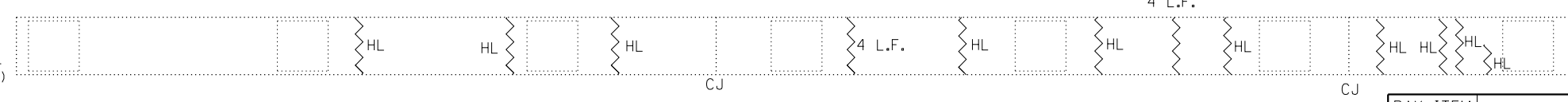
EAST END VIEW

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT
- HL HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:
ALL BEARINGS, ⑧ TO ⑮, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS"

CRASHWALL TOP PLAN



BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1432 (NB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	10
JT503035	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO.FT.	1
X0326331	CLEANING AND PAINTING BEARINGS	EACH	8

SL-12 OF SL-39

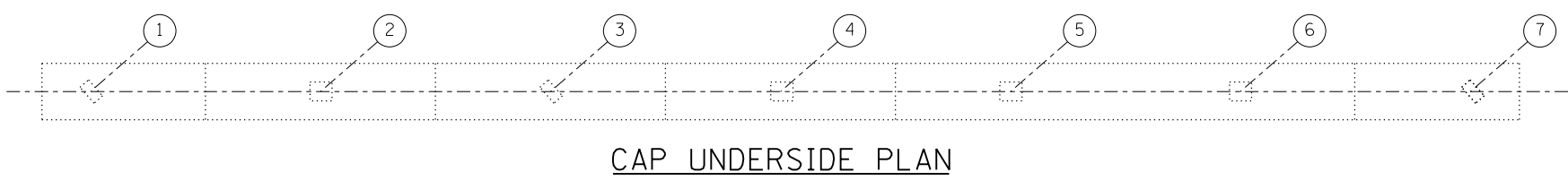
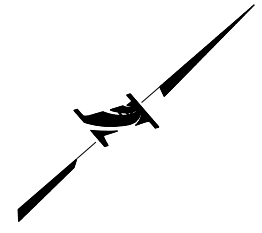
DRAWN BY **MPS** DATE **3/11/2018**
CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



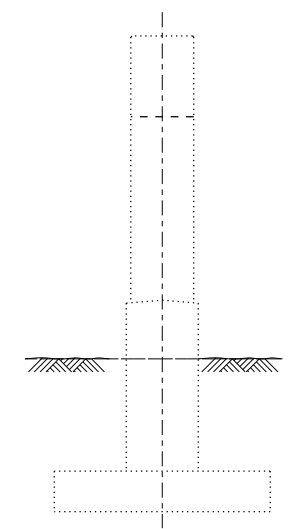
REVISIONS	
NO.	DATE

CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 2 REPAIR BN 1432 (N.B.)

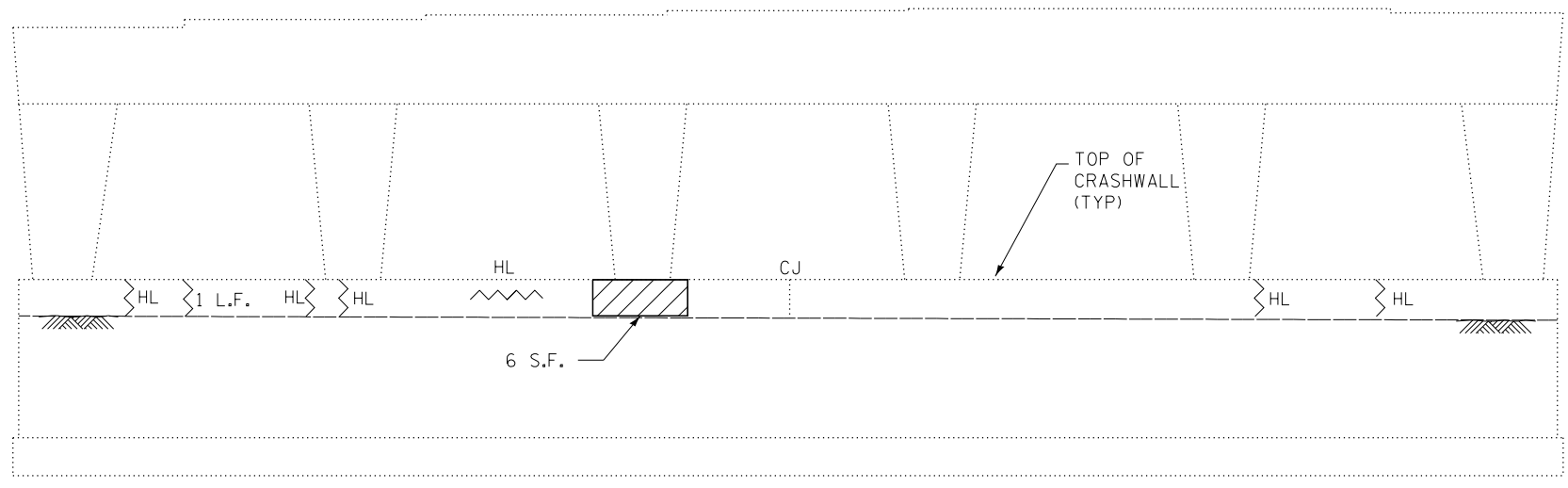
SHT NO. **SL-12**
DRAWING NO. **1276 OF 1517**



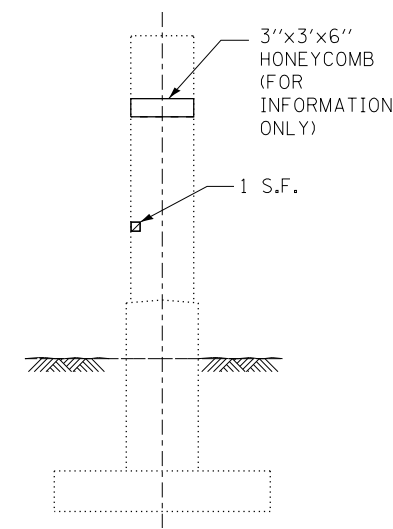
CAP UNDERSIDE PLAN



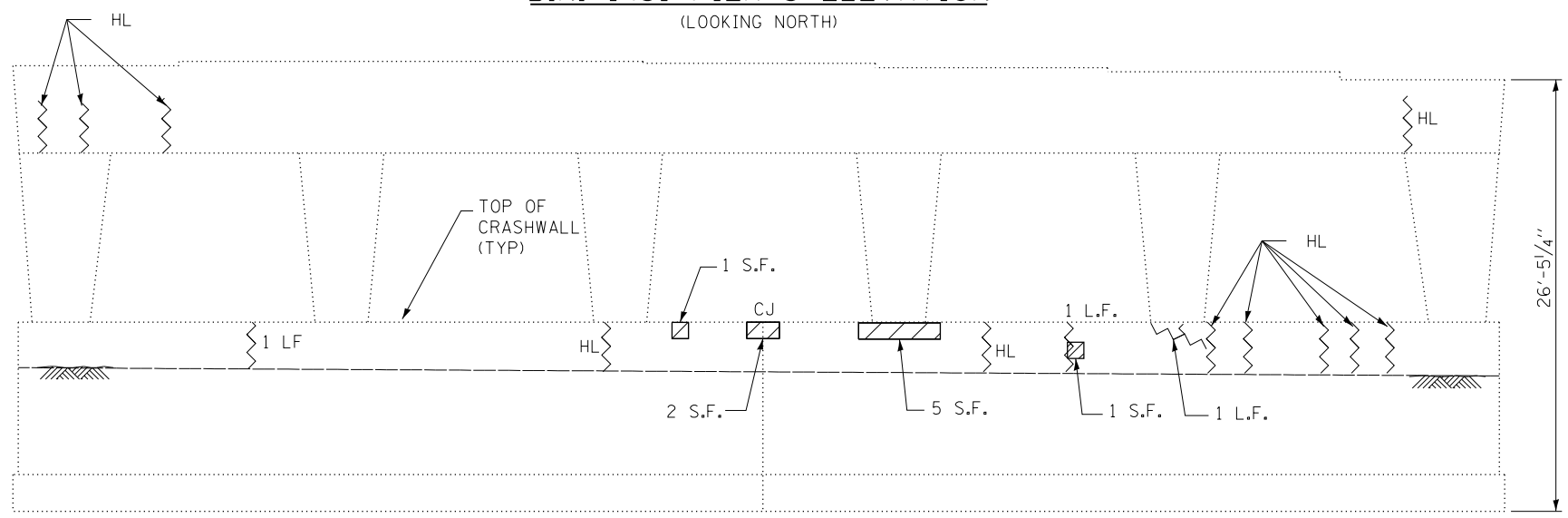
WEST END VIEW



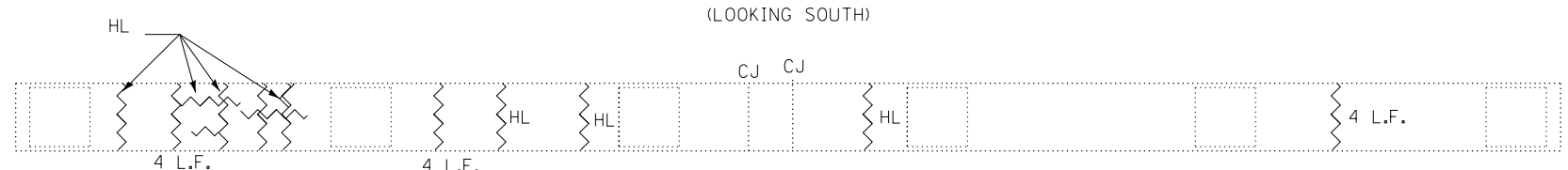
B.N. 1431 PIER 3 ELEVATION
(LOOKING NORTH)



EAST END VIEW



B.N. 1431 PIER 3 ELEVATION
(LOOKING SOUTH)



CRASHWALL TOP PLAN

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- LOW PRESSURE EPOXY INJECTION
- CONSTRUCTION JOINT
- HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:
ALL BEARINGS, ① TO ⑦, SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS".

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	16
JT503035	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ.FT.	16
X0326331	CLEANING AND PAINTING BEARINGS	EACH	7

SL-13 OF SL-39

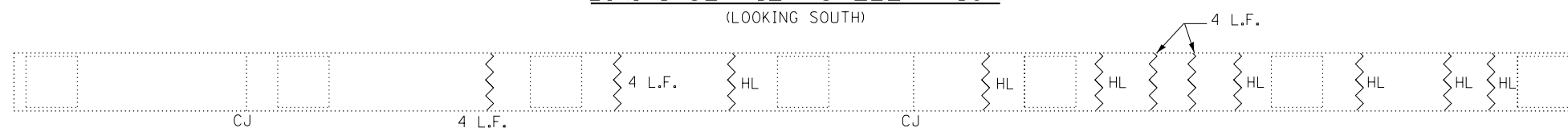
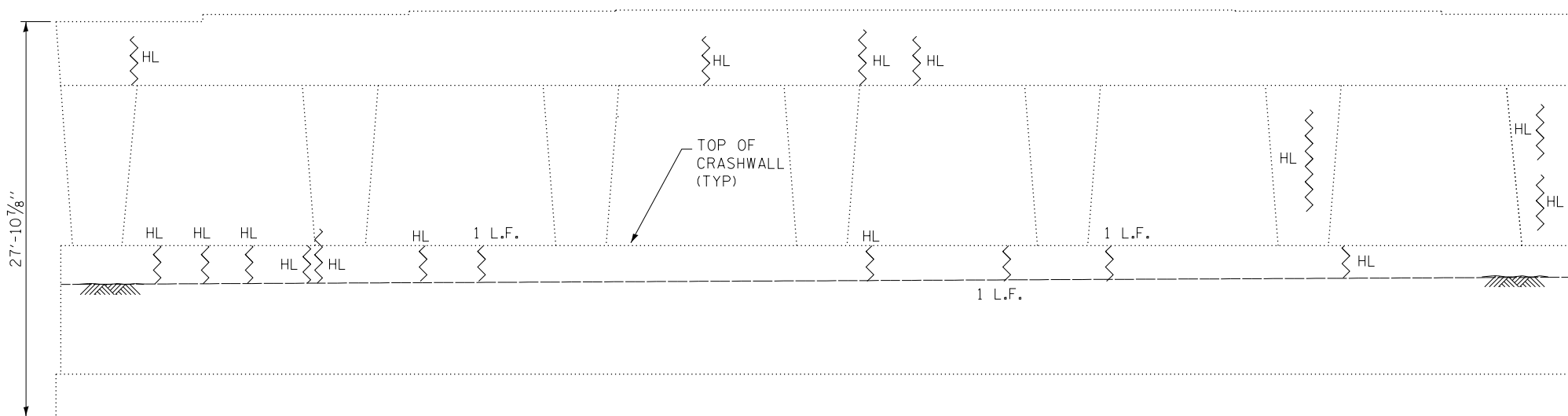
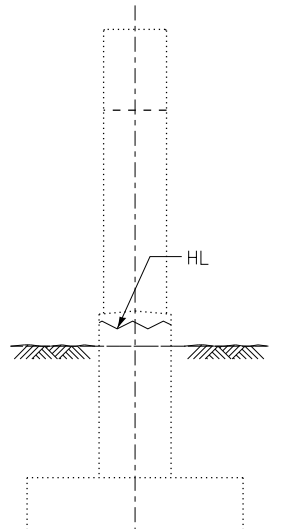
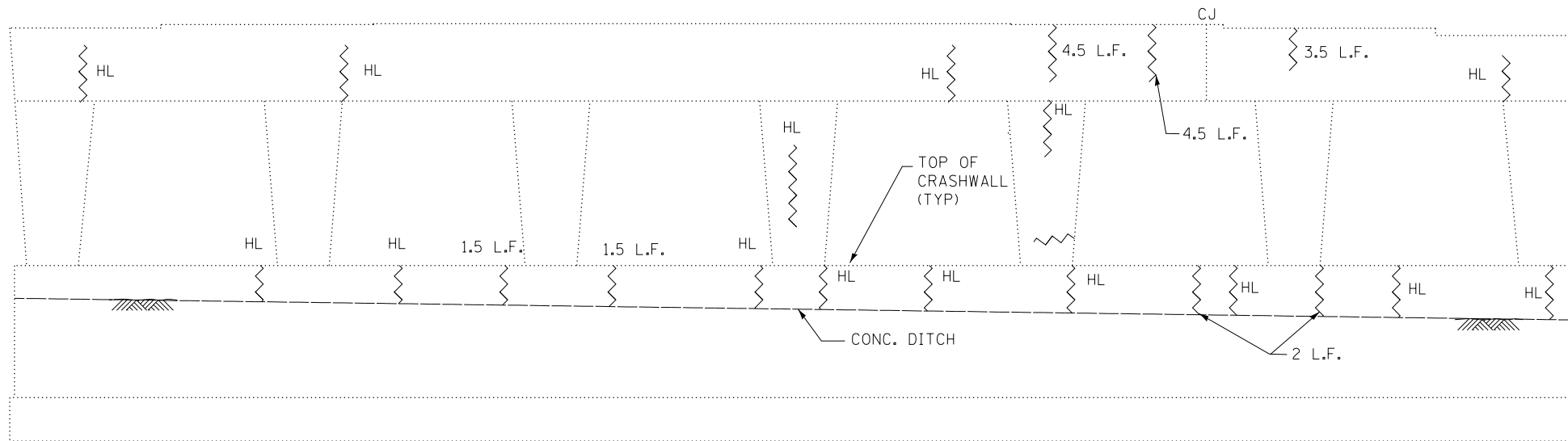
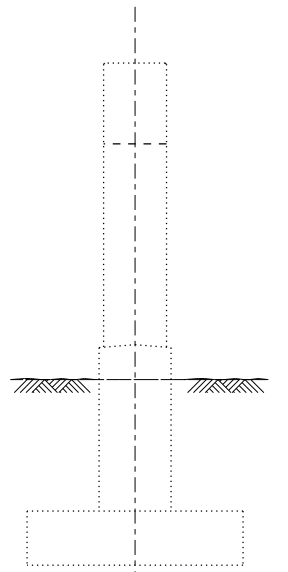
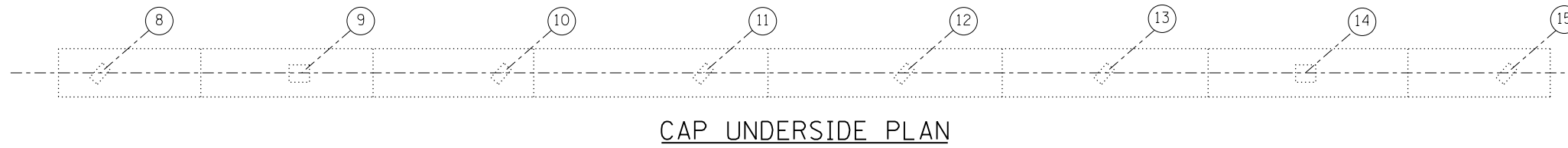
DRAWN BY MPS DATE 3/11/2018
CHECKED BY PAB/JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 3 REPAIR SN 1431 (S.B.)
SHT NO. SL-13
DRAWING NO. 1277 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Sheet\4255-sht-1431-1432-PIER-PEL14.dgn



- NOTES:**
- CRACK WIDTHS WIDER THAN 1/16" SHALL BE SEALED WITH LOW PRESSURE EPOXY INJECTION.
 - REPAIR OF THE EXISTING PIER SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE AREAS SHOWN.
 - ALL BEARINGS, (8) TO (15), SHALL BE CLEANED AND PAINTED. COST WILL BE PAID FOR AS "CLEANING AND PAINTING BEARINGS".

- LEGEND:**
- L.F. LOW PRESSURE EPOXY INJECTION
 - CJ CONSTRUCTION JOINT
 - HL HAIRLINE CRACK (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1432 (NB) QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	39
X0326331	CLEANING AND PAINTING BEARINGS	EACH	8

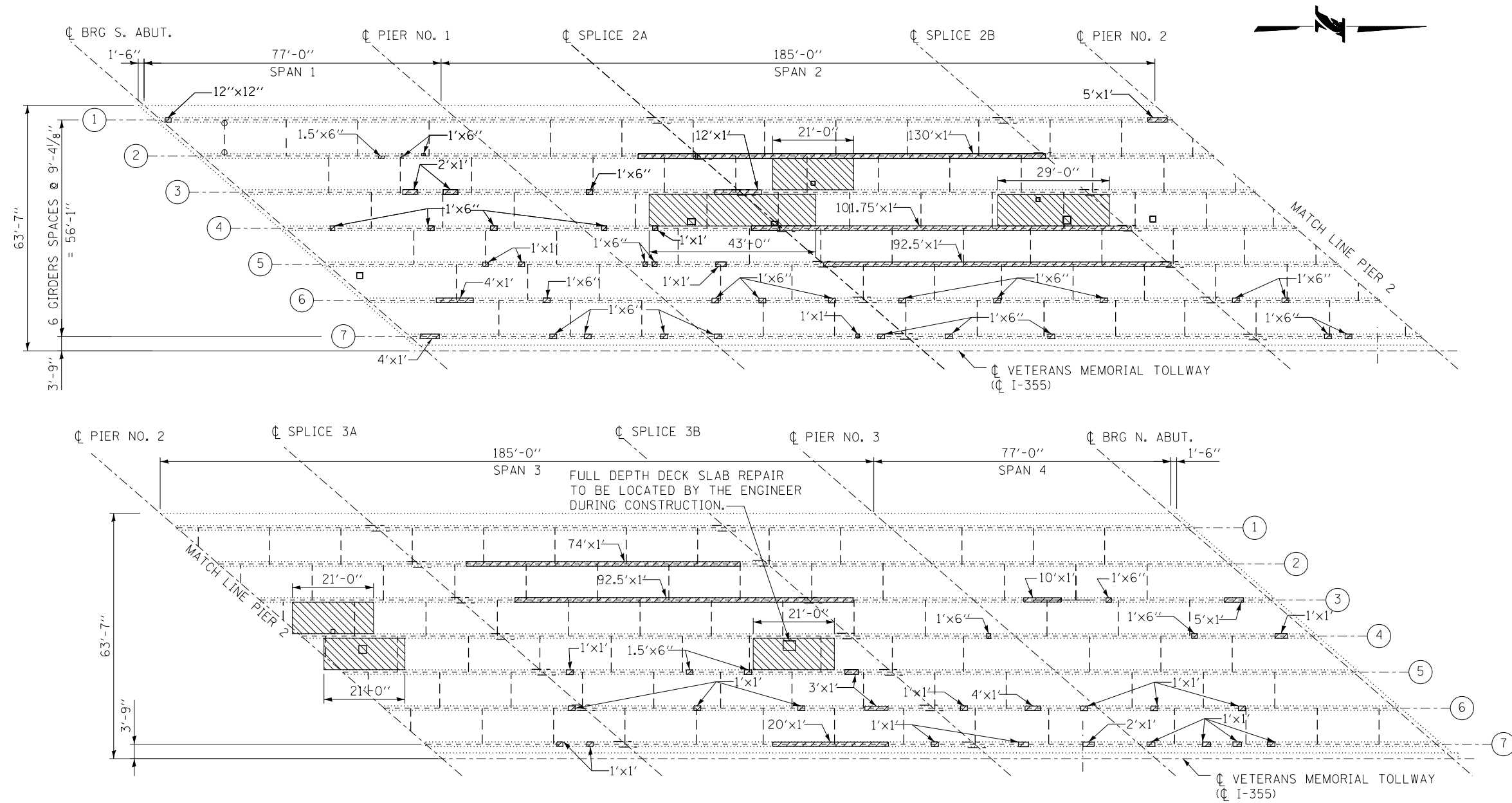
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 CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



REVISIONS	
NO.	DATE DESCRIPTION




CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PIER 3 REPAIR SN 1432 (N.B.)

SL-14 OF SL-39
 SHT NO. **SL-14**
 DRAWING NO. **1278 OF 1517**



DECK UNDERSIDE AND FRAMING PLAN - BRIDGE 1431

LEGEND:

-  DECK SLAB REPAIR ON TOP (FOR LOCATION & DETERMINATION OF PROTECTIVE SHIELD LIMITS ONLY)
-  PROTECTIVE SHIELD
-  CLEANING AND PAINTING STEEL BRIDGE NO. 1, CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1

NOTE:

1. PROTECTIVE SHIELD SHALL BE PLACED UNDER THE DECK WHERE PARTIAL AND FULL DEPTH SLAB REPAIRS ARE TO BE PERFORMED. THE DIMENSIONS SHOWN ARE ESTIMATED AND THE ACTUAL LOCATIONS AND LIMITS WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

BILL OF MATERIAL

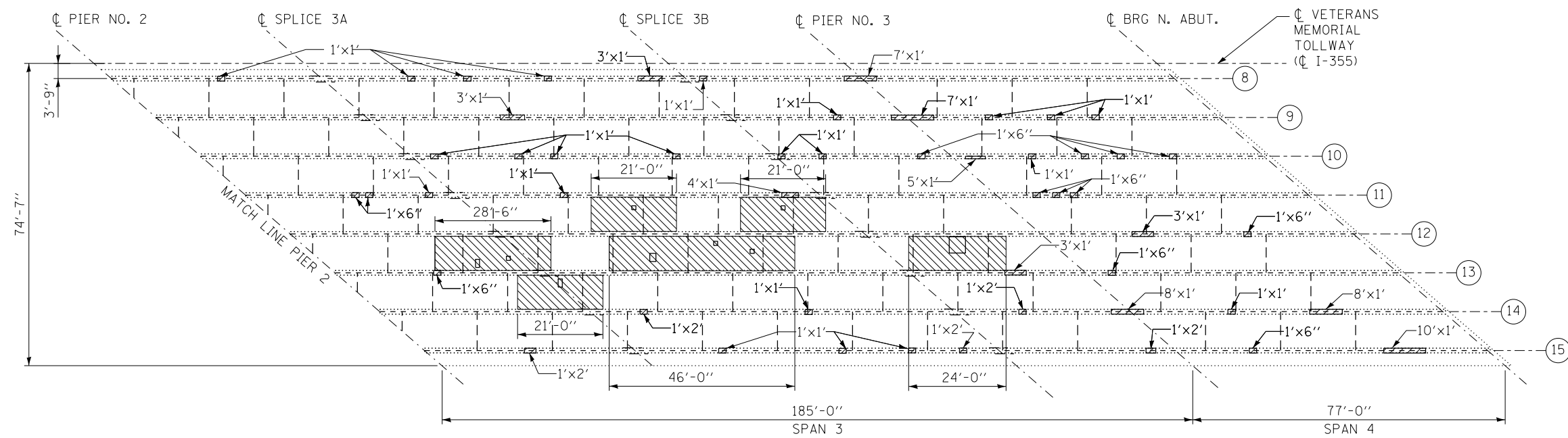
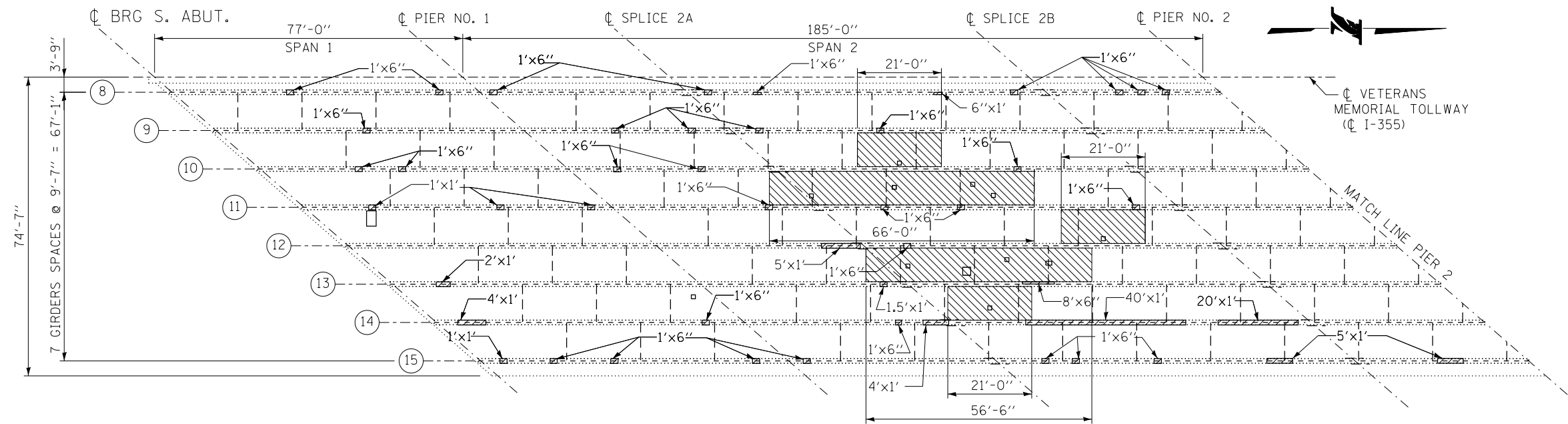
PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)
50157300	PROTECTIVE SHIELD	SQ.YD.	167
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L. SUM	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L.SUM	1

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 DECK UNDERSIDE & FRAMING PLAN BN 1431 (S.B.)



DECK UNDERSIDE AND FRAMING PLAN - BRIDGE 1432

NOTES:

1. PROTECTIVE SHIELD SHALL BE PLACED UNDER THE DECK WHERE PARTIAL AND FULL DEPTH SLAB REPAIRS ARE TO BE PERFORMED. THE DIMENSIONS SHOWN ARE ESTIMATED AND THE ACTUAL LOCATIONS AND LIMITS WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE AREA OF PAINT SCALING AND PEELING SHOWN ARE TO BE CLEANED AND PAINTED. THE QUANTITIES/MEASUREMENTS SHOWN ARE FOR ESTIMATING PURPOSES ONLY.
3. REPAIR OF THE EXISTING STEEL PAINT SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE AREAS SHOWN. THE ACTUAL AREAS TO BE REPAIRED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1432 (SB)
50157300	PROTECTIVE SHIELD	SQ.YD.	370
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2	L. SUM	1
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L.SUM	1

LEGEND:

- DECK SLAB REPAIR ON TOP (FOR LOCATION & DETERMINATION OF PROTECTIVE SHIELD LIMITS ONLY)
- PROTECTIVE SHIELD
- CLEANING AND PAINTING STEEL BRIDGE NO. 2, CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2

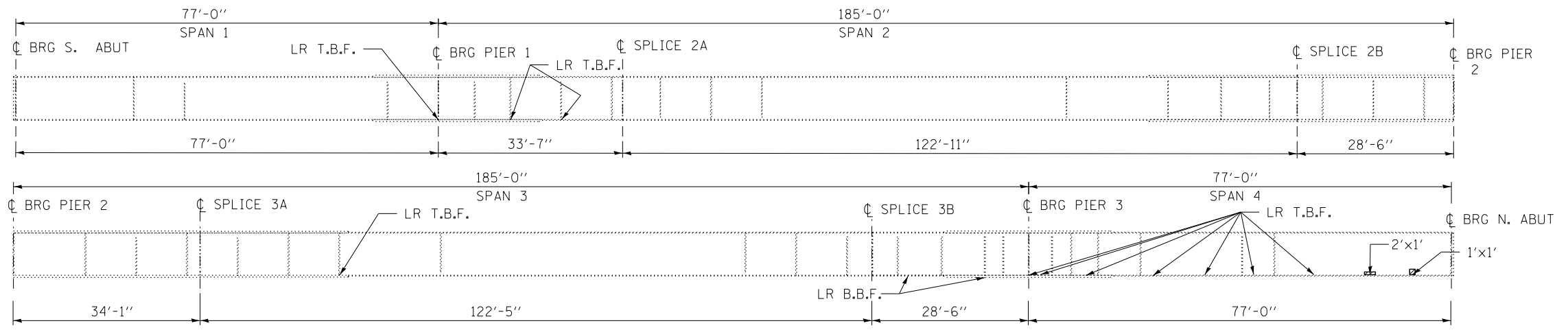
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 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



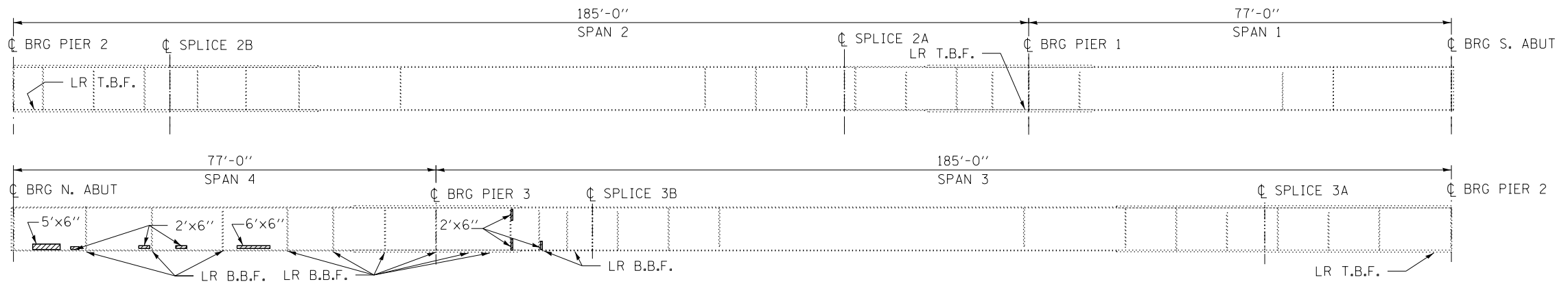
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 DECK UNDERSIDE & FRAMING PLAN SN 1432 (N.B.)

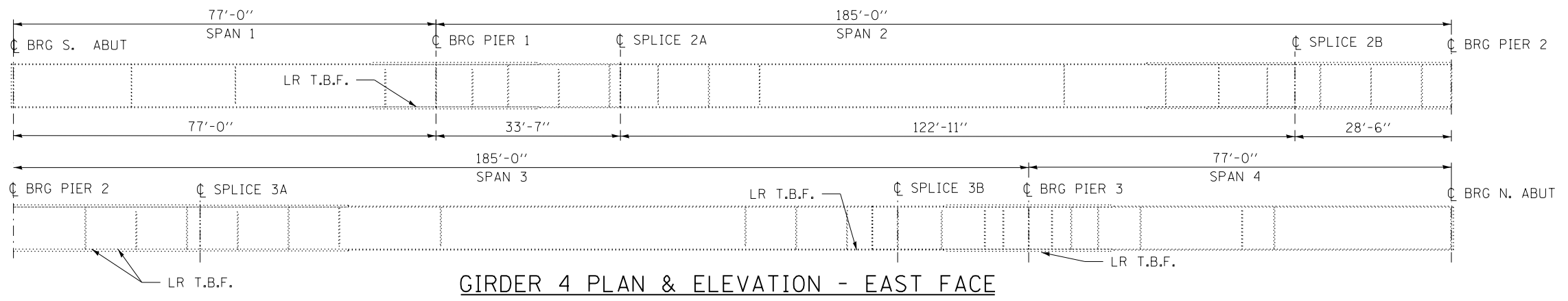
SL-16 OF SL-39
 SHT NO. SL-16
 DRAWING NO. 1280 OF 1517



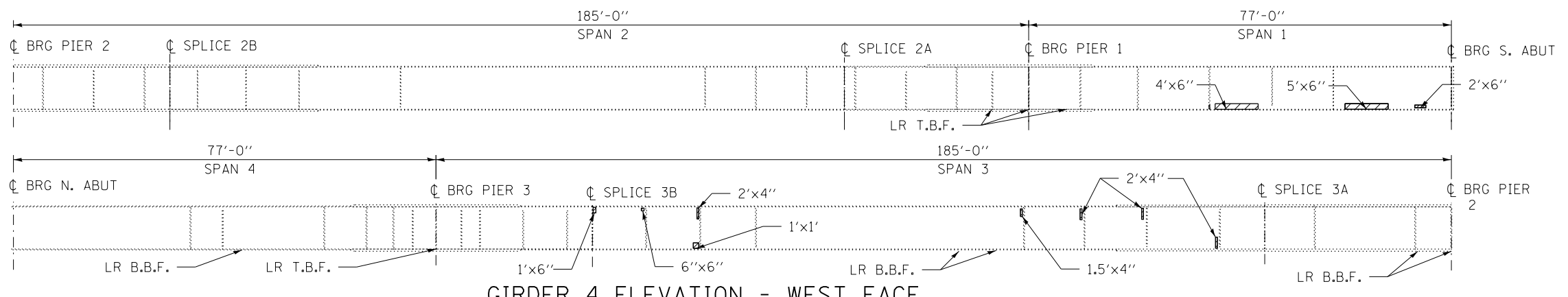
GIRDER 3 PLAN & ELEVATION - EAST FACE



GIRDER 3 ELEVATION - WEST FACE



GIRDER 4 PLAN & ELEVATION - EAST FACE



GIRDER 4 ELEVATION - WEST FACE

LEGEND:

- CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 1
- LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)
- B.T.F. BOTTOM OF TOP FLANGE
- T.B.F. TOP OF BOTTOM FLANGE
- B.B.F. BOTTOM OF BOTTOM FLANGE

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawing Files\2016\2016-1431-1432-girder elev-REL.dgn
 Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawing Files\2016\2016-1431-1432-girder elev-REL.dgn

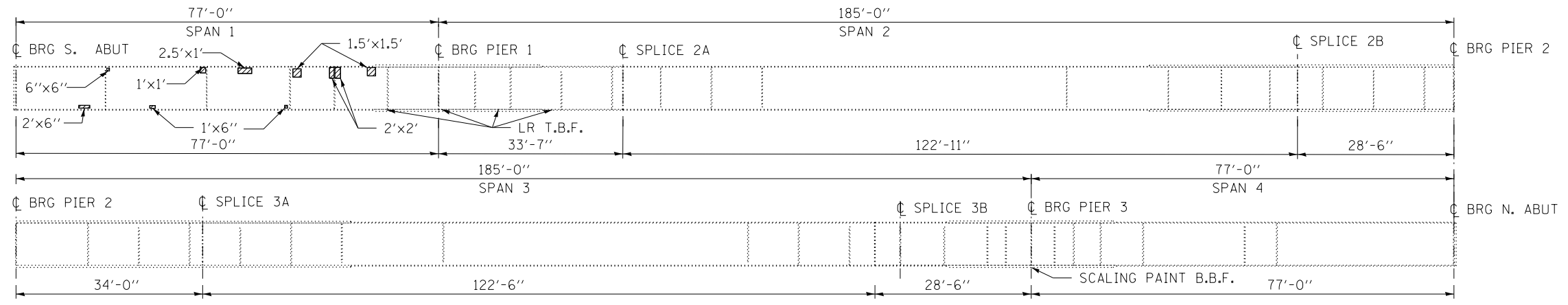
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 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



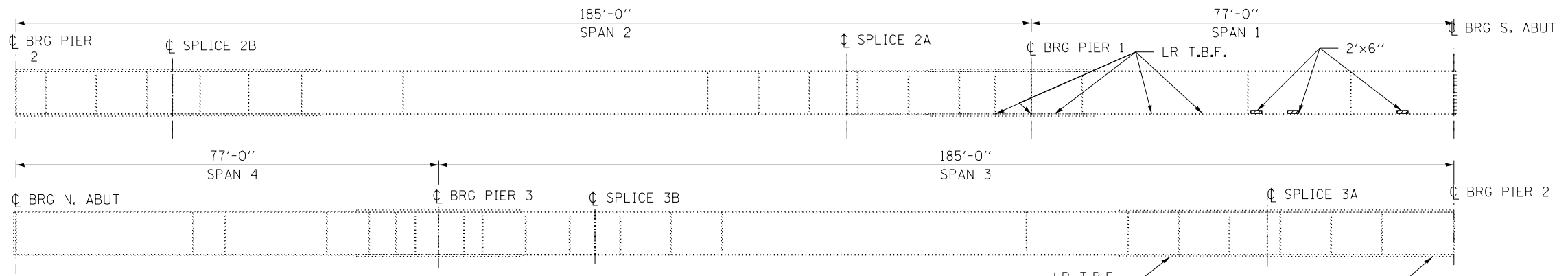
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 GIRDER 3 & 4 ELEVATIONS

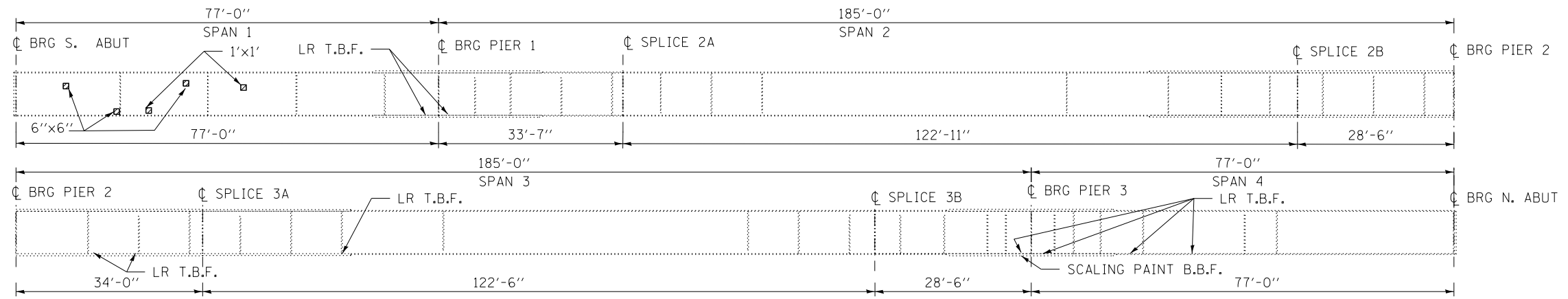
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 SHT NO. SL-18
 DRAWING NO. 1282 OF 1517



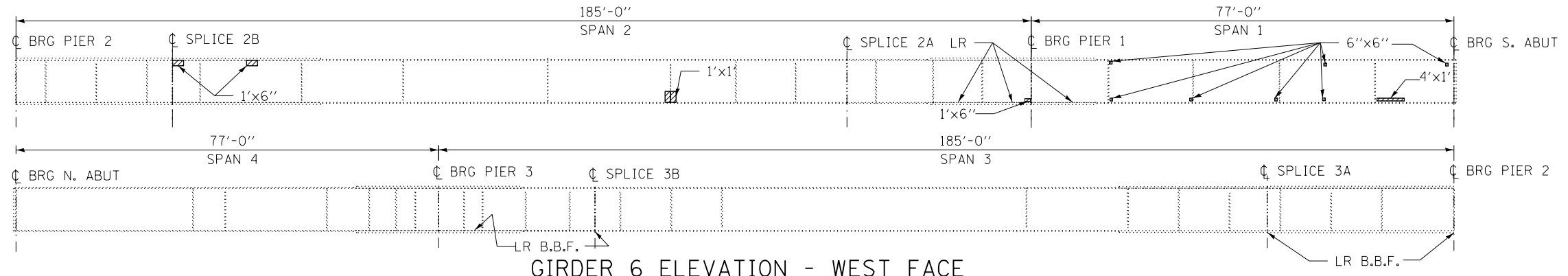
GIRDER 5 PLAN & ELEVATION - EAST FACE



GIRDER 5 ELEVATION - WEST FACE



GIRDER 6 PLAN & ELEVATION - EAST FACE



GIRDER 6 ELEVATION - WEST FACE

LEGEND:

- CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 1
- LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)
- B.T.F. BOTTOM OF TOP FLANGE
- T.B.F. TOP OF BOTTOM FLANGE
- B.B.F. BOTTOM OF BOTTOM FLANGE

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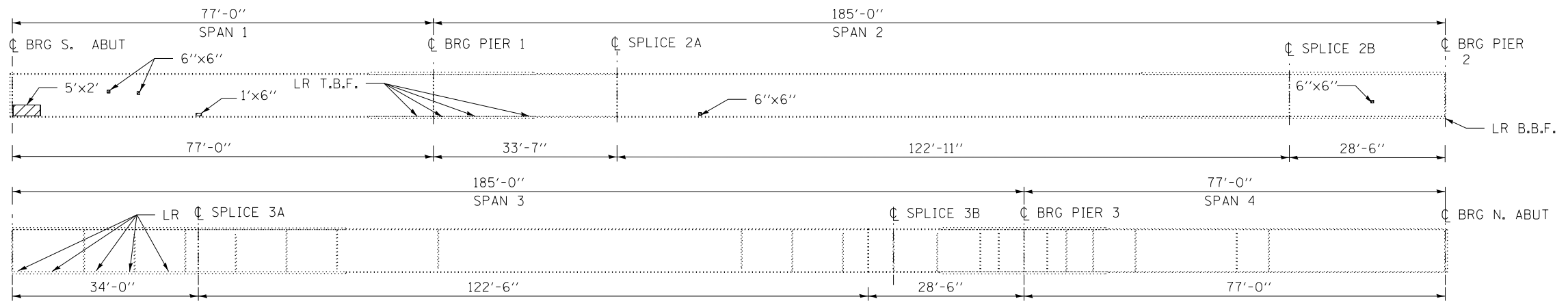
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 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



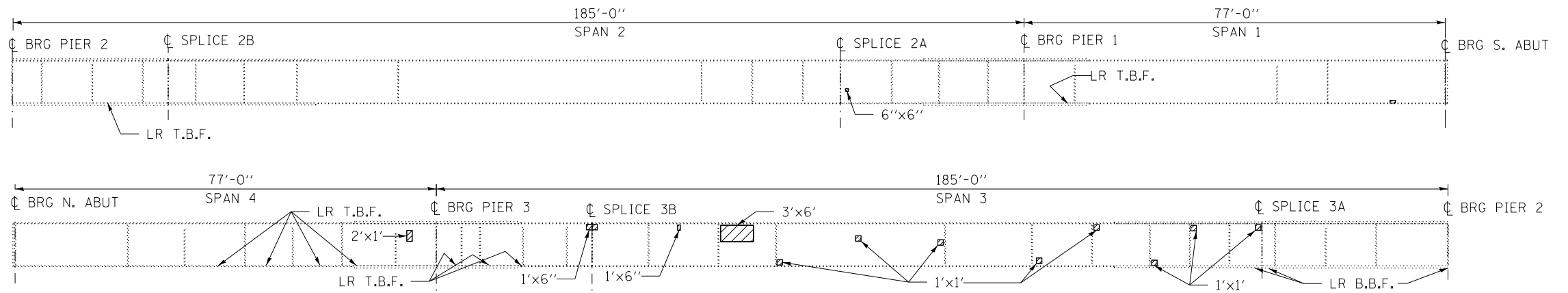
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 GIRDER 5 & 6 ELEVATIONS

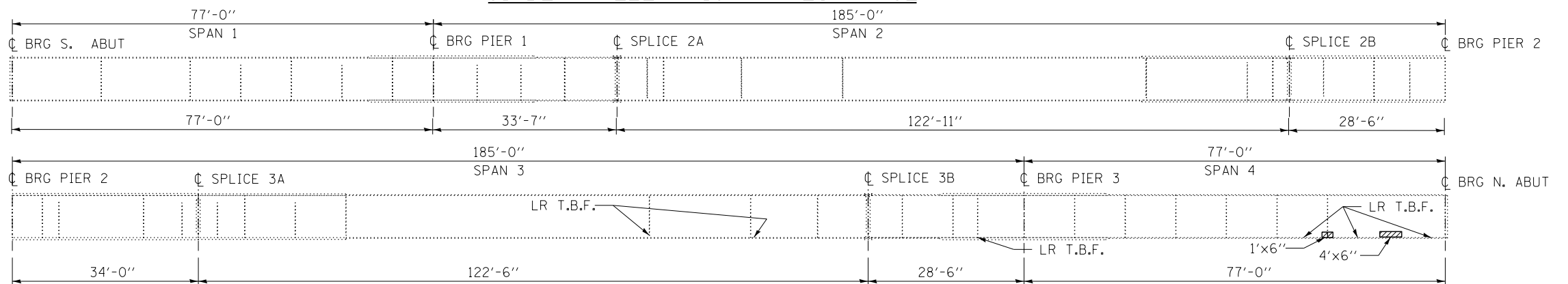


GIRDER 7 PLAN & ELEVATION - EAST FACE




GIRDER 7 ELEVATION - WEST FACE

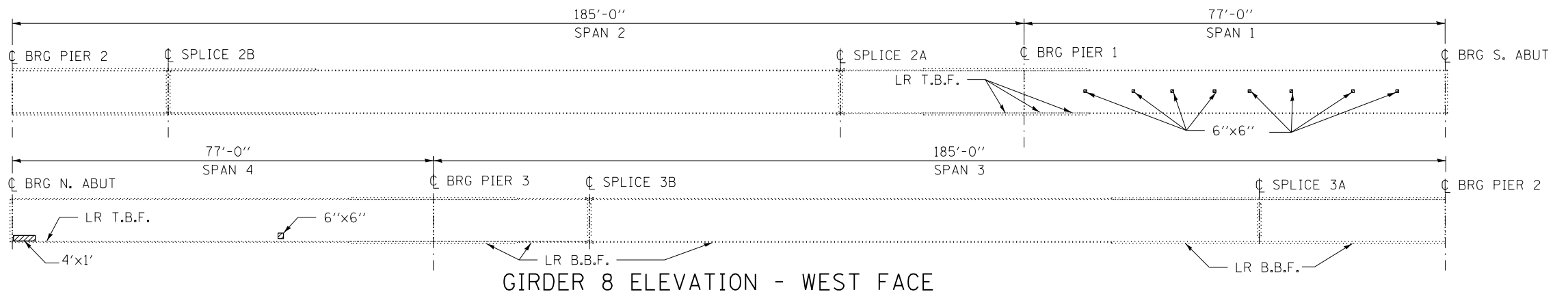
NOTE:
GIRDERS 1-7 SUPPORT BRIDGE 1431.
GIRDERS 8-15 SUPPORT BRIDGE 1432.



GIRDER 8 PLAN & ELEVATION - EAST FACE

LEGEND:

-  CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 1 "OR" NO. 2
- LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)
- B.T.F. BOTTOM OF TOP FLANGE
- T.B.F. TOP OF BOTTOM FLANGE
- B.B.F. BOTTOM OF BOTTOM FLANGE



GIRDER 8 ELEVATION - WEST FACE

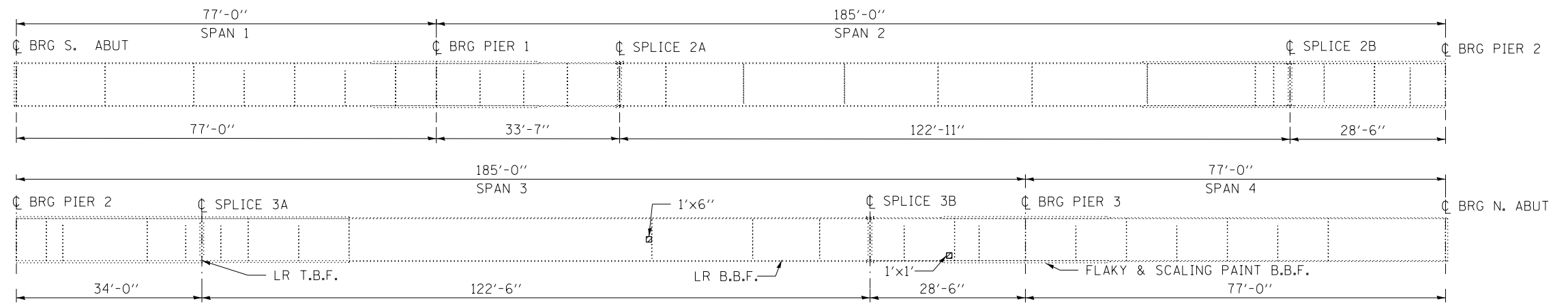
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CHECKED BY PAB/JPM/MMH DATE 3/11/2018



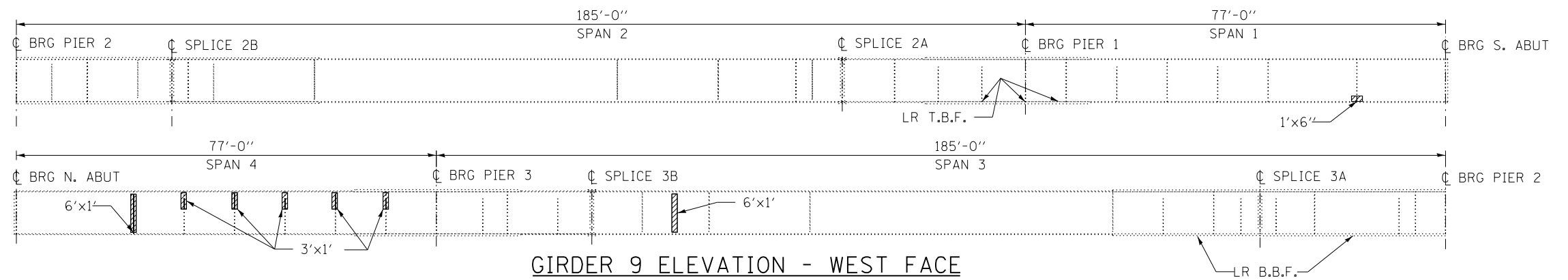
NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
GIRDER 7 & 8 ELEVATIONS

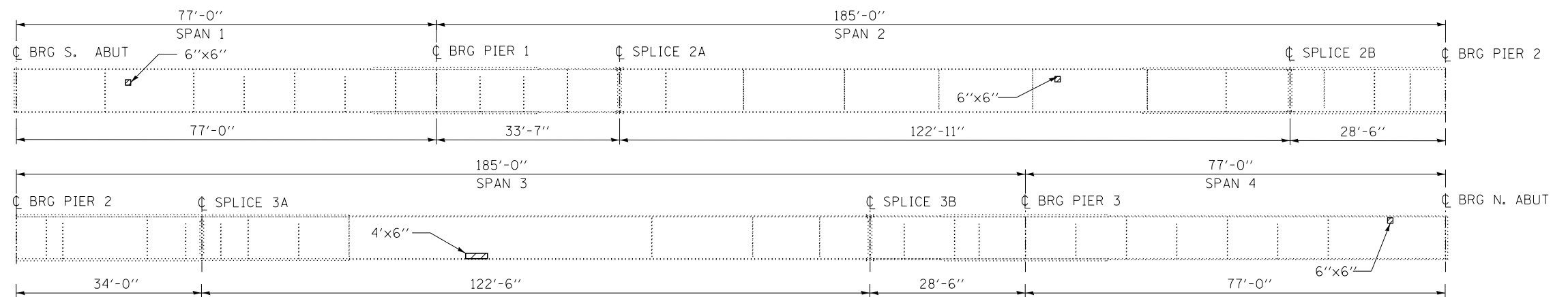
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SHT NO. SL-20
DRAWING NO. 1284 OF 1517



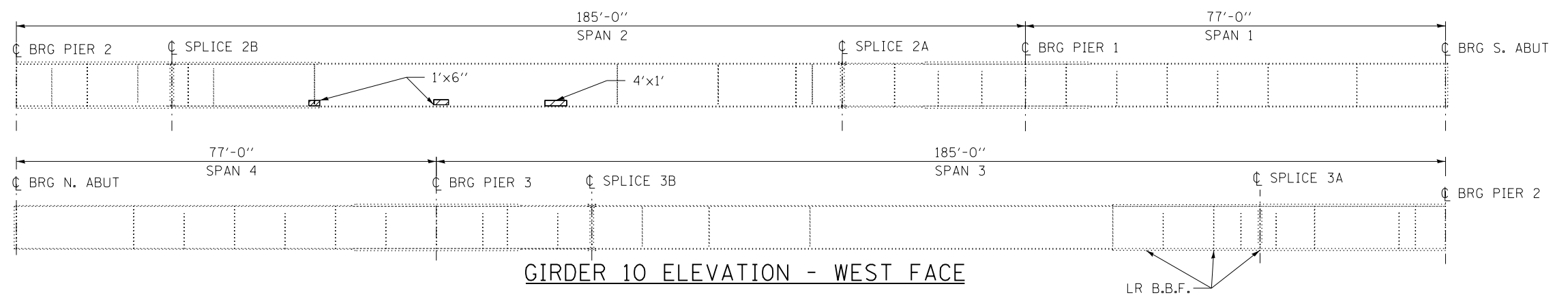
GIRDER 9 PLAN & ELEVATION - EAST FACE



GIRDER 9 ELEVATION - WEST FACE




GIRDER 10 PLAN & ELEVATION - EAST FACE



GIRDER 10 ELEVATION - WEST FACE

LEGEND:

-  CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 2
- LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)
- B.T.F. BOTTOM OF TOP FLANGE
- T.B.F. TOP OF BOTTOM FLANGE
- B.B.F. BOTTOM OF BOTTOM FLANGE

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018

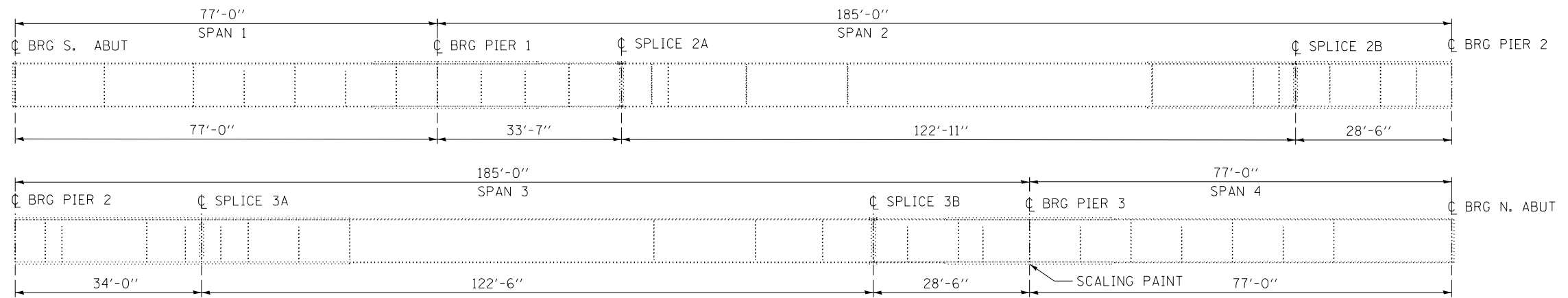


NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

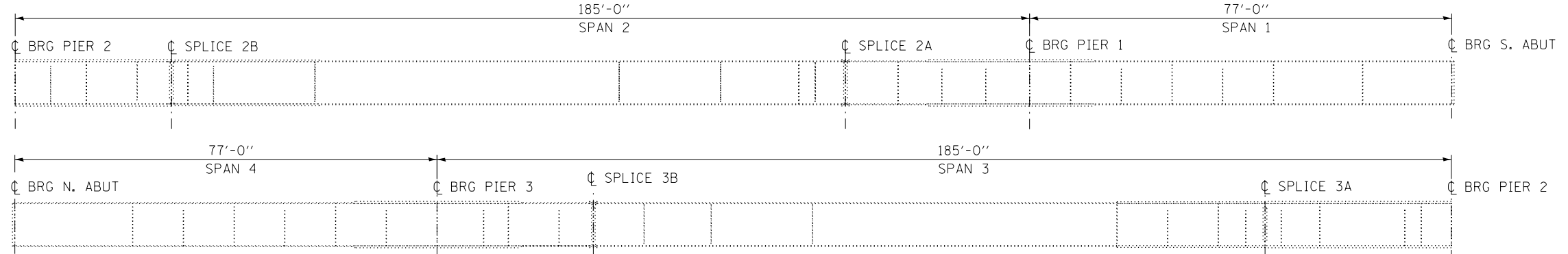
CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 GIRDER 9 & 10 ELEVATIONS

SL-21 OF SL-39
 SHT NO. SL-21
 DRAWING NO. 1285 OF 1517

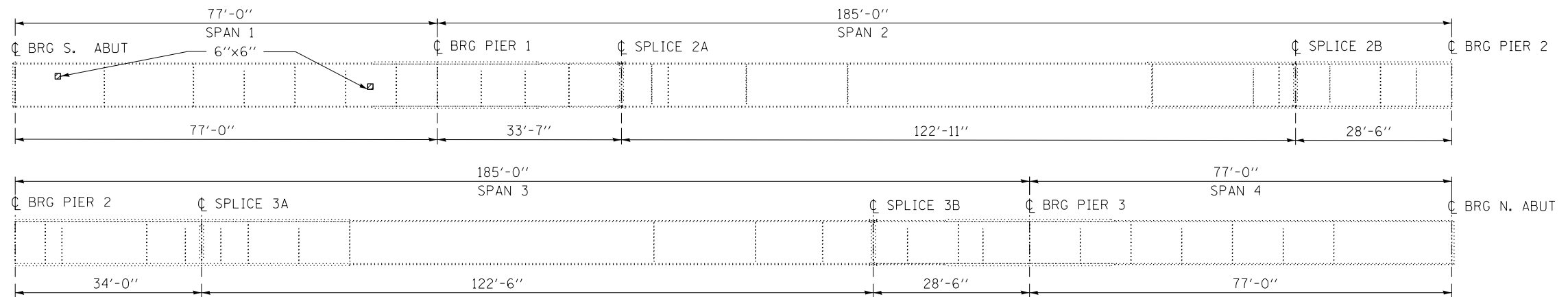
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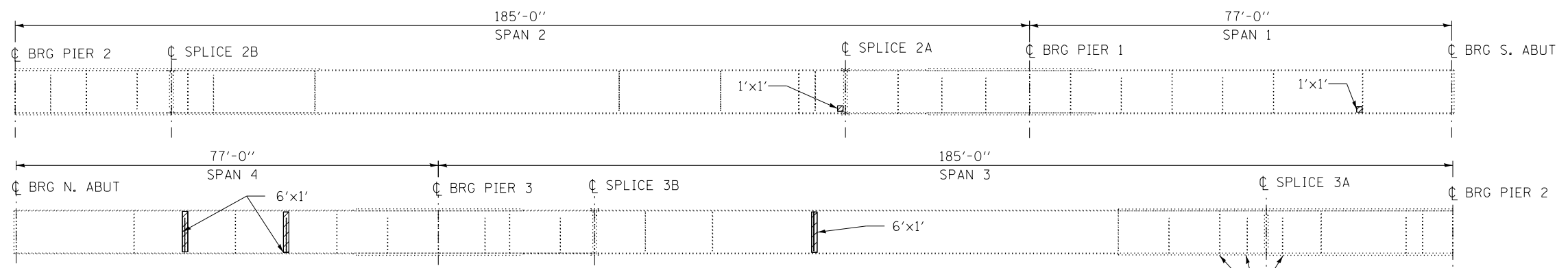
GIRDER 13 PLAN & ELEVATION - EAST FACE



GIRDER 13 ELEVATION - WEST FACE




GIRDER 14 PLAN & ELEVATION - EAST FACE



GIRDER 14 ELEVATION - WEST FACE

LEGEND:

-  CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 2
- LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)
- B.T.F. BOTTOM OF TOP FLANGE
- T.B.F. TOP OF BOTTOM FLANGE
- B.B.F. BOTTOM OF BOTTOM FLANGE

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings Files\2016\Structural\Sheet\4255-sht-1431-1432-girderlev-REL23.dgn

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018

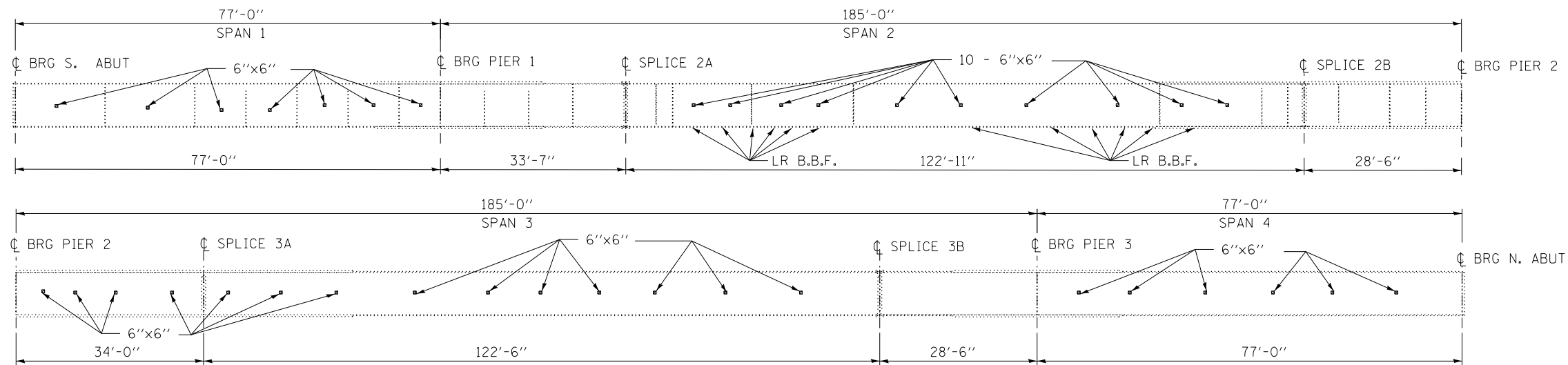


NO.		DATE	REVISIONS DESCRIPTION

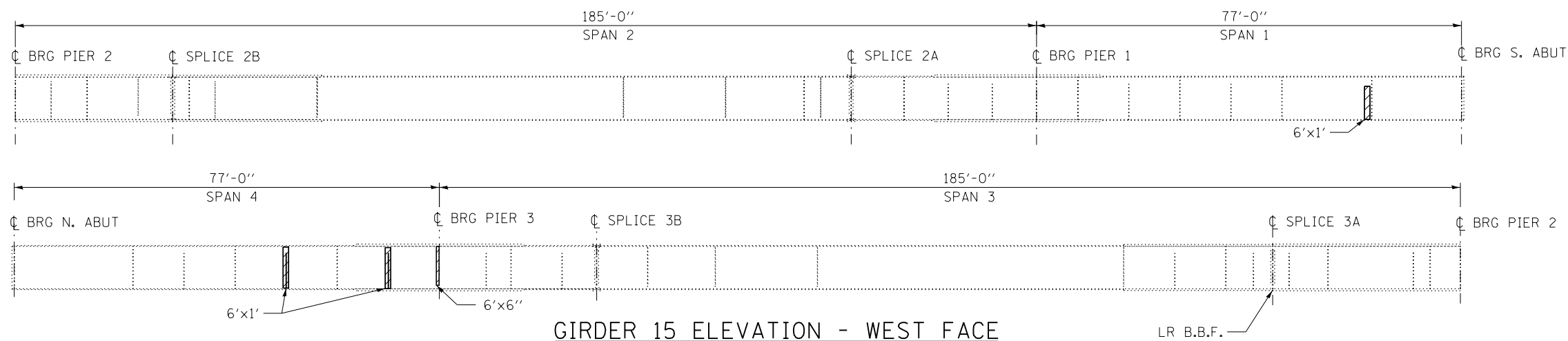
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 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 GIRDER 13 & 14 ELEVATIONS

SL-23 OF SL-39
 SHT NO. SL-23
 DRAWING NO. 1287 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Sheet\4255-sht-1431-1432-girderlev-REL 24.dgn



GIRDER 15 PLAN & ELEVATION - EAST FACE



GIRDER 15 ELEVATION - WEST FACE

LEGEND:

CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES, CLEANING AND PAINTING STEEL BRIDGE NO. 2

LR LIGHT RUST SURFACE (FOR INFORMATION ONLY - NOT TO BE PAINTED)

B.T.F. BOTTOM OF TOP FLANGE
 T.B.F. TOP OF BOTTOM FLANGE
 B.B.F. BOTTOM OF BOTTOM FLANGE

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018

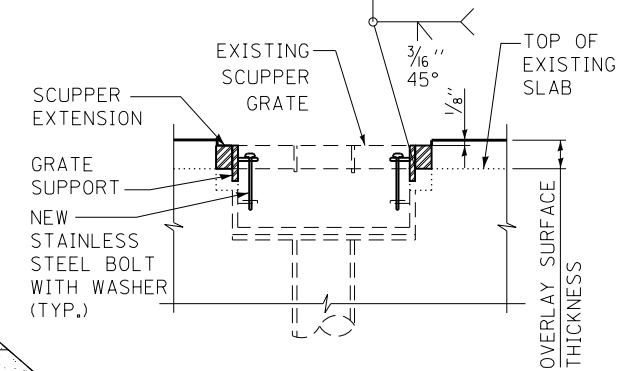
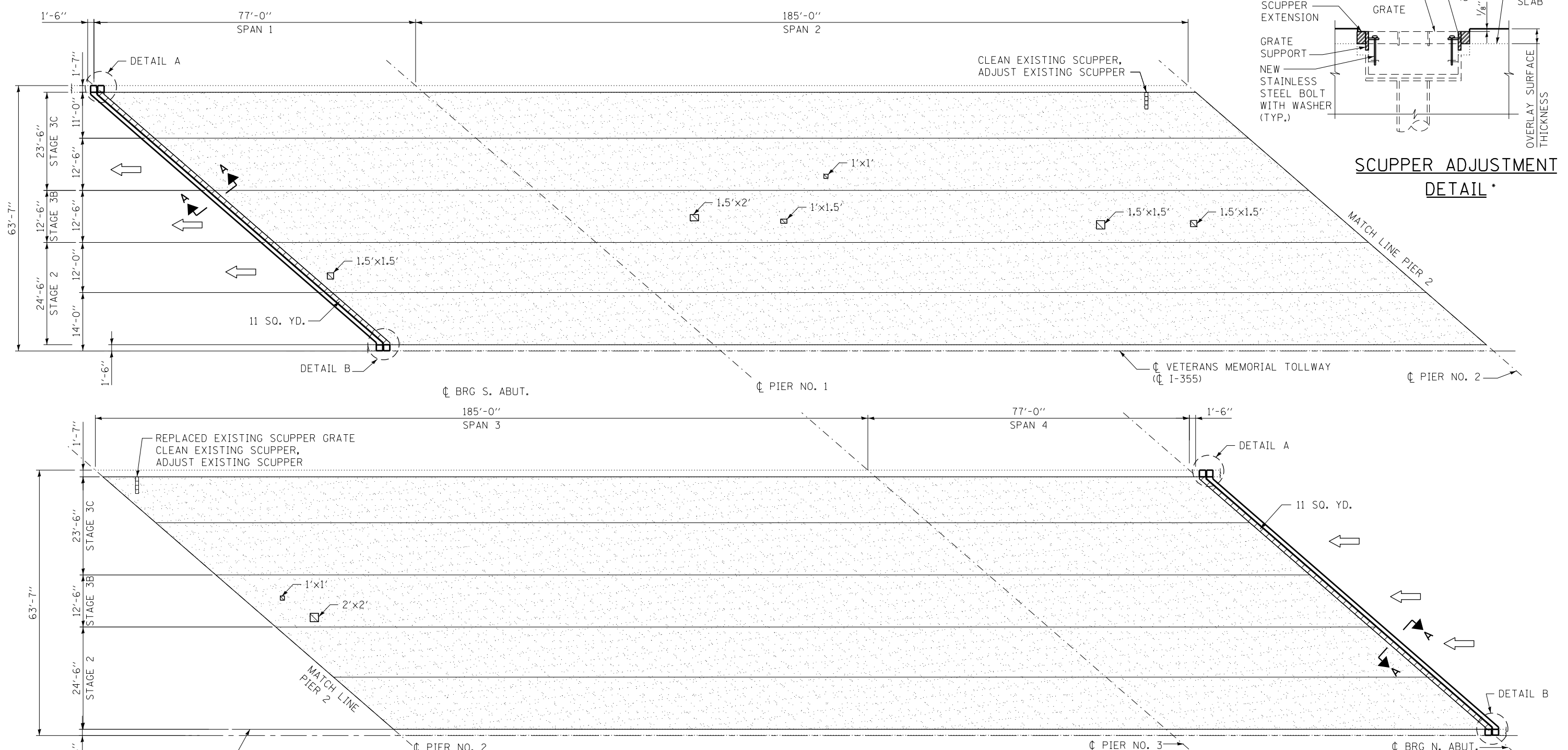


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 GIRDER 15 ELEVATION

SHT NO. SL-24
 DRAWING NO. 1288 OF 1517



SCUPPER ADJUSTMENT DETAIL*

DECK PLAN

BILL OF MATERIAL

LEGEND:

- SPALLED AREA (FOR INFORMATION ONLY)
- ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE II)
- BRIDGE DECK SCARIFICATION, 1"
- BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"

- NOTES:
1. REPAIR OF THE EXISTING BRIDGE DECK SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE AREAS SHOWN. THE ACTUAL LIMITS WILL BE DETERMINED AND DOCUMENTED BY THE ENGINEER AT THE TIME OF CONSTRUCTION FOR AS-BUILT PLAN.
 2. SCARIFICATION OF DECK SLAB SHOULD BE DONE PRIOR TO REMOVAL OF CONCRETE FOR FULL DEPTH REPAIR.
 3. SEE SHEET SL-34 FOR SECTION A-A DETAILS.
 4. SEE SHEET SL-28 FOR DETAIL A & DETAIL B.
 5. DECK SURVEY WAS CONDUCTED ON 10/11/2016 & 10/13/2016.
 6. THE CONTRACTOR COULD PROPOSE AN ALTERNATE SCUPPER ADJUSTMENT SYSTEM AND SUBMIT PLANS TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION.

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB) QUANTITY
50300260	BRIDGE DECK GROOVING	SQ. YD.	3,421
JS120810	ADJUST EXISTING SCUPPER	EACH	2
JS120815	CLEAN EXISTING SCUPPER	EACH	2
JS120816	REPLACE EXISTING SCUPPER GRATE	EACH	1
JT503032	ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	22
Z0006012	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4 INCHES	SQ. YD.	3,523
Z0012132	BRIDGE DECK SCARIFICATION, 1"	SQ. YD.	3,523

SL-25 OF SL-39

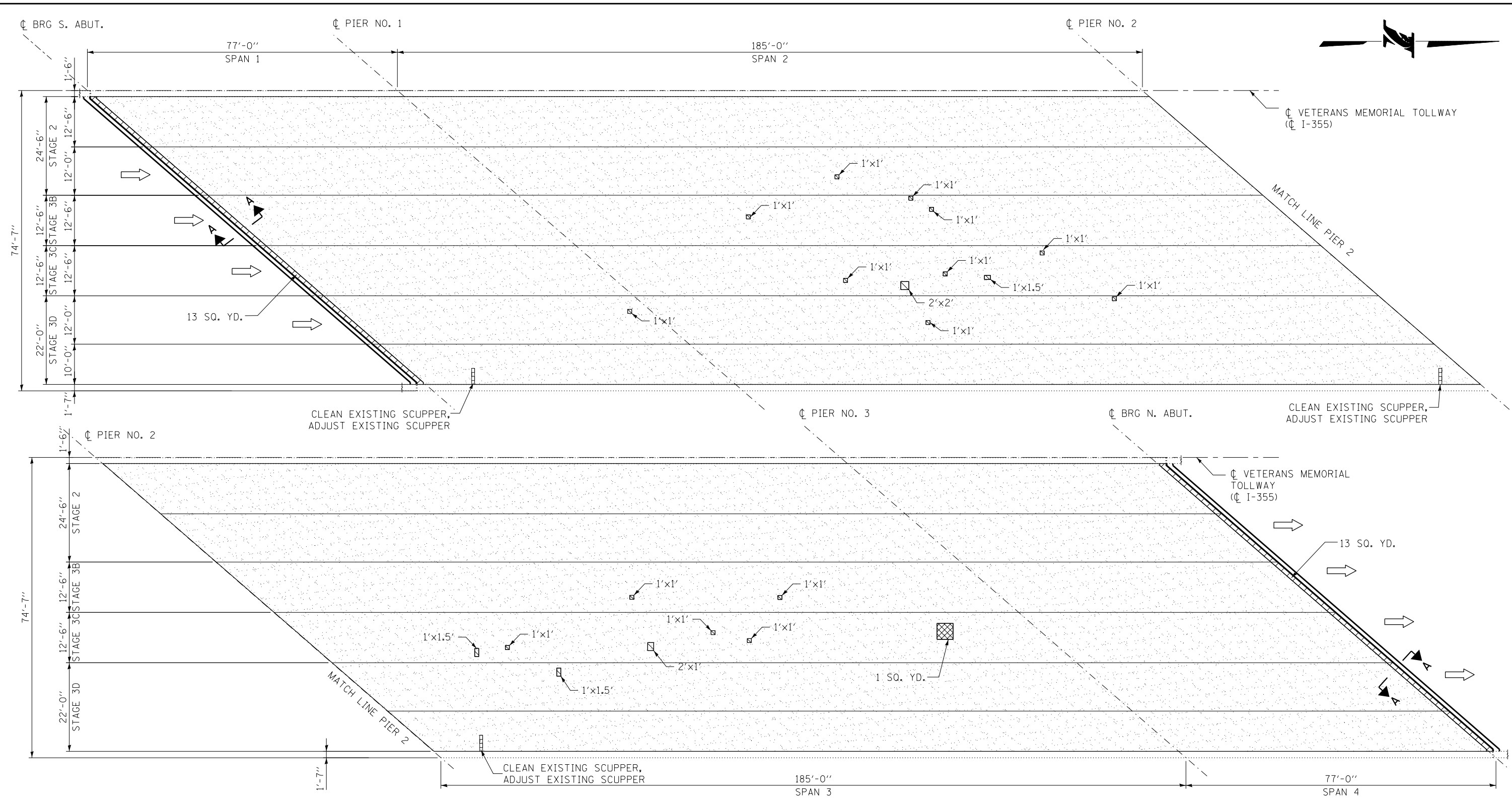
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 CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
DECK PLAN BN 1431 (S.B.)





SHT NO. **SL-25**
 DRAWING NO. **1289 OF 1517**



DECK PLAN

BILL OF MATERIAL

LEGEND:

-  SPALLED AREA (FOR INFORMATION ONLY)
-  ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE II)
-  ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE I)
-  BRIDGE DECK SCARIFICATION, 1"
BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"

NOTES:

1. REPAIR OF THE EXISTING BRIDGE DECK SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE AREAS SHOWN. THE ACTUAL LIMITS WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. SCARIFICATION OF DECK SLAB SHOULD BE DONE PRIOR TO REMOVAL OF CONCRETE FOR FULL DEPTH REPAIR.
3. SEE SHEET SL-34 FOR SECTION A-A DETAILS.
4. DECK SURVEY WAS CONDUCTED ON 10/11/2016 & 10/13/2016.

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1432 (NB) QUANTITY
50300260	BRIDGE DECK GROOVING	SQ. YD.	4,064
JS120810	ADJUST EXISTING SCUPPER	EACH	3
JS120815	CLEAN EXISTING SCUPPER	EACH	3
JT503022	ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ. YD.	1
JT503032	ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	26
Z0012132	BRIDGE DECK SCARIFICATION, 1"	SQ. YD.	4,163
Z0006012	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4 INCHES	SQ. YD.	4,163

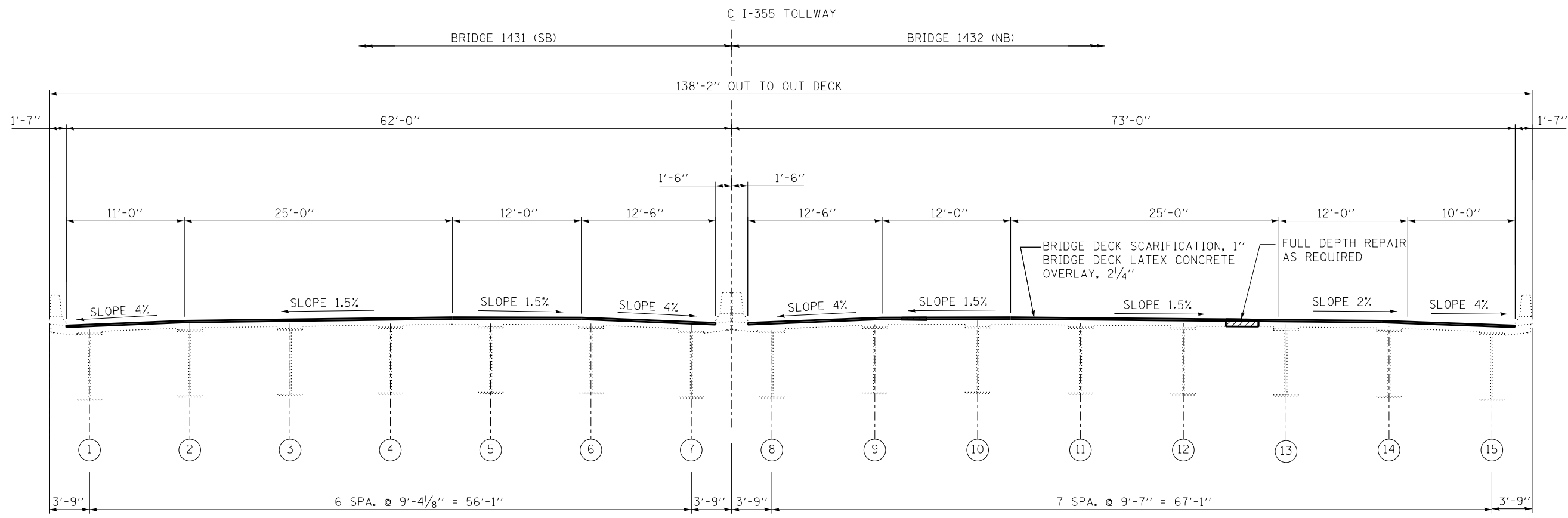
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 CHECKED BY **PAB/JPM/MMH** DATE **3/11/2018**



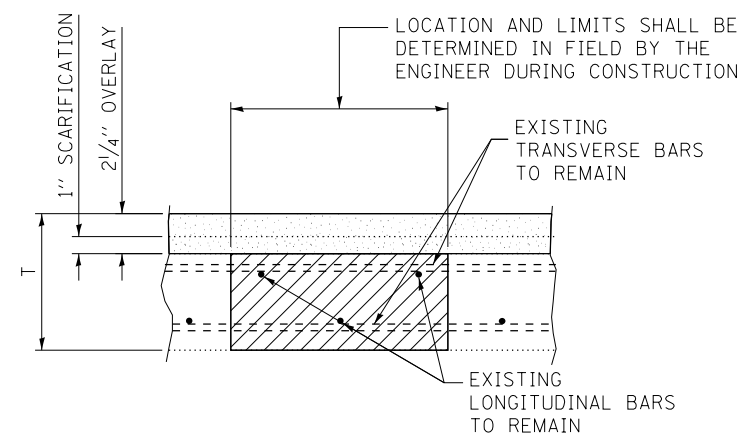
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
DECK PLAN BN 1432 (N.B.)

SL-26 OF SL-39
 SHT NO. **SL-26**
 DRAWING NO. **1290 OF 1517**



BRIDGE CROSS SECTION
(LOOKING NORTH)



DECK SLAB FULL DEPTH REPAIR DETAIL

LEGEND:

- ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE I)
- BRIDGE DECK SCARIFICATION, 1" BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"

NOTES:

1. EXISTING REINFORCING BARS TO BE INCORPORATED, WHICH IS CUT, OR DAMAGED DURING THE CONCRETE REMOVAL PROCESS SHALL BE REPLACED BY EMBEDDED REINFORCING STEEL OR ANCHORAGE, EQUAL TO OR GREATER THAN THE ORIGINAL REINFORCING STEEL, AT NO COST TO THE AUTHORITY.
2. FOR ACCELERATED DECK SLAB REPAIR (PARTIAL), REMOVE CONCRETE UP TO 3/4" BELOW THE LONGITUDINAL REINFORCEMENT OR TO SOUND CONCRETE.
3. IF DETERIORATION EXCEEDS T/2, THIS WORK SHALL BE PAID AS " ACCELERATED DECK SLAB REPAIR (FULL DEPTH, TYPE I)

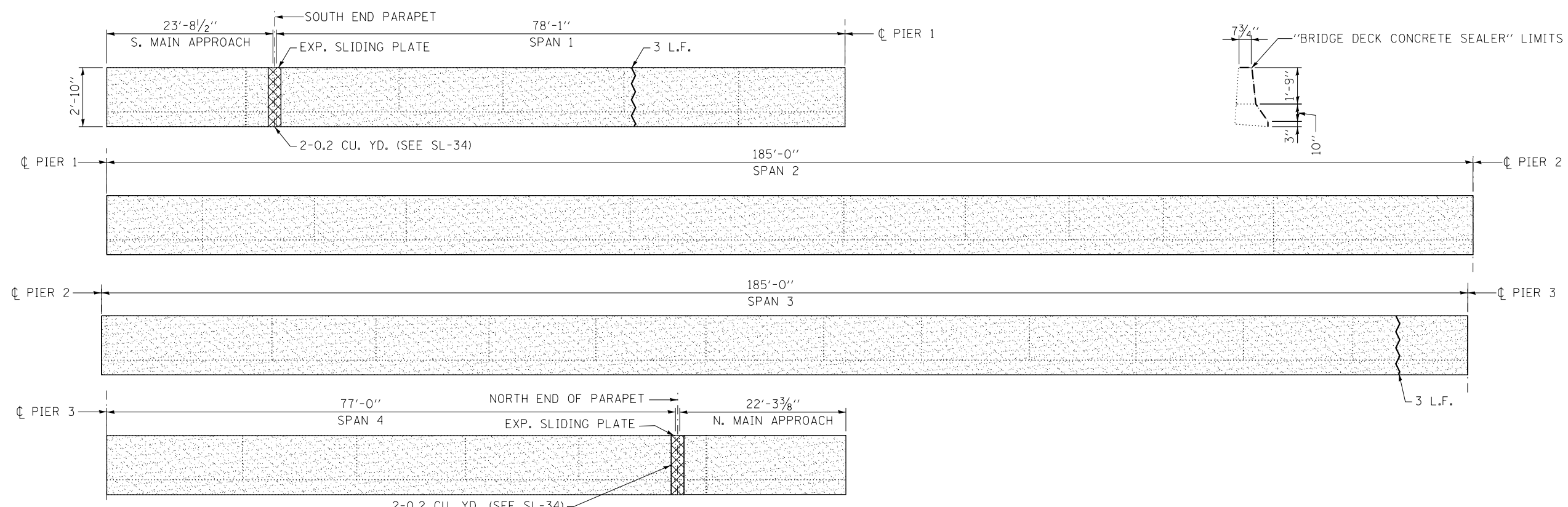
DRAWN BY MPS DATE 3/11/2018
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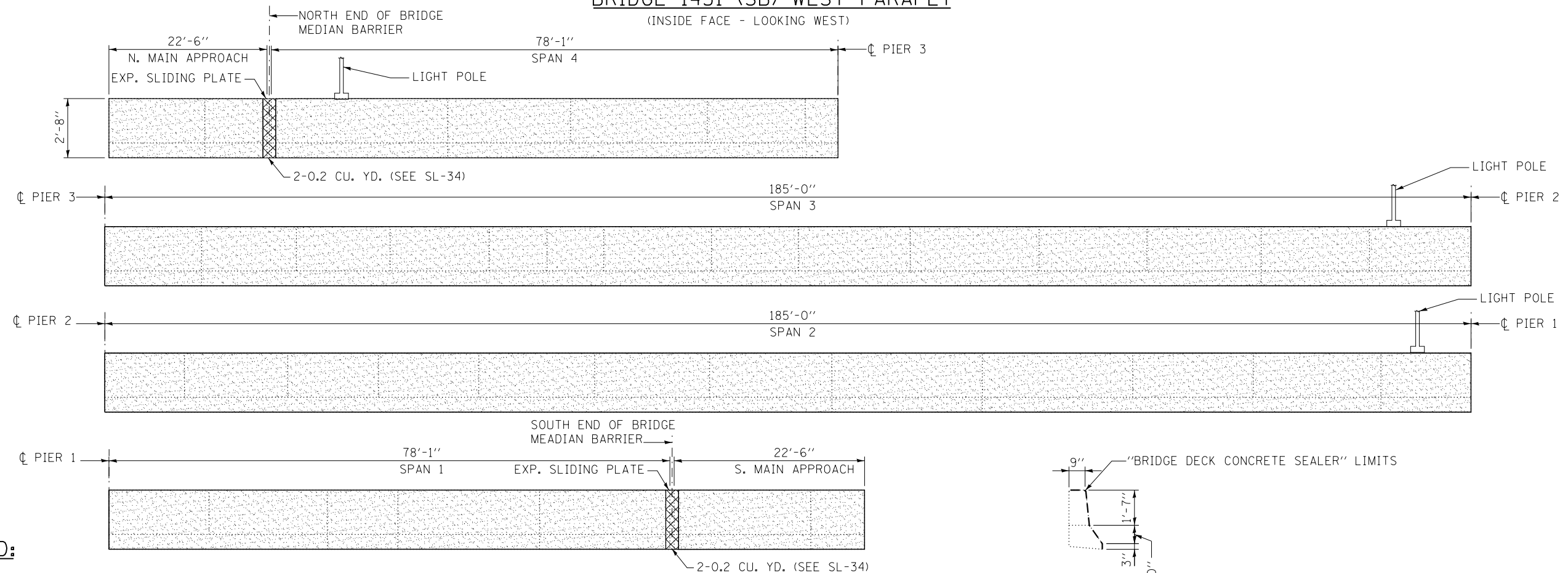
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
DECK CROSS SECTION

SL-27 OF SL-39
SHT NO. SL-27
DRAWING NO. 1291 OF 1517



BRIDGE 1431 (SB) WEST PARAPET
(INSIDE FACE - LOOKING WEST)



BRIDGE 1431 (SB) MEDIAN BARRIER
(WEST FACE- LOOKING EAST)

LEGEND:

- BRIDGE DECK CONCRETE SEALER
- CONCRETE REMOVAL, CONCRETE SUPERSTRUCTURE
- L.F. LOW PRESSURE EPOXY INJECTION

NOTES:
1. SEE SHEET SL-29 FOR QUANTITY.

DRAWN BY MPS DATE 3/11/2018
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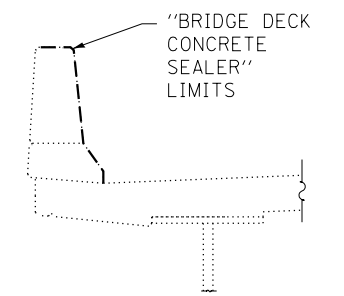
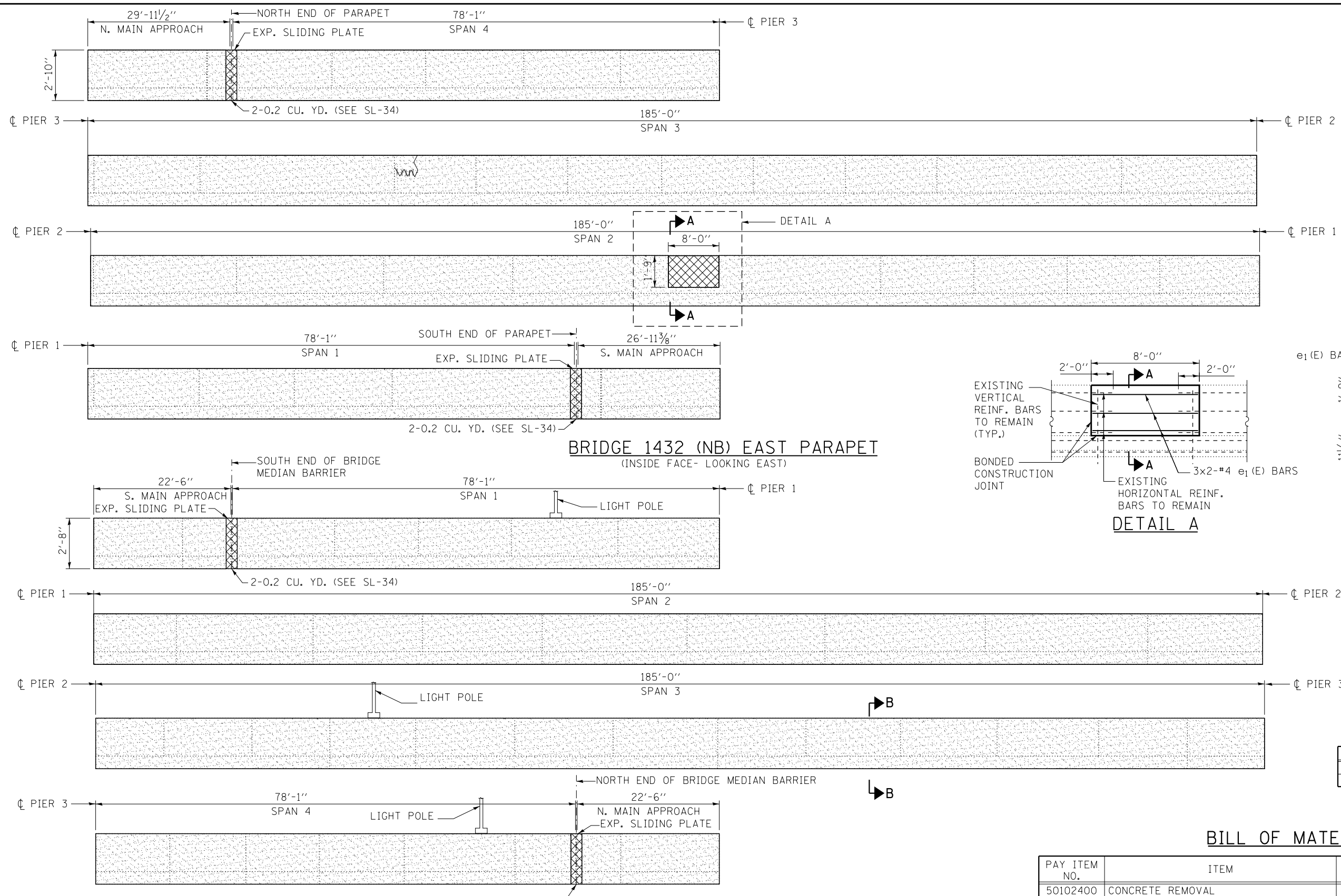
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REVISIONS		DESCRIPTION
NO.	DATE	

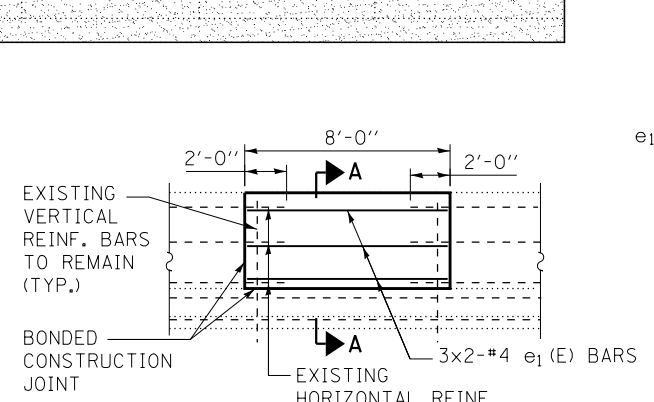
CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
PARAPET REPAIR DETAILS (SB)

SL-28 OF SL-39
SHT NO. SL-28
DRAWING NO. 1292 OF 1517

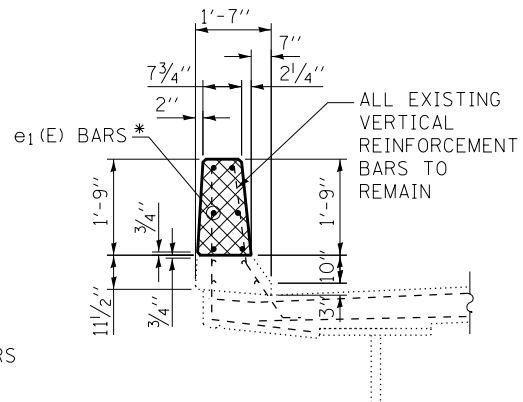
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SECTION B-B



DETAIL A



SECTION A-A

- NOTES:
- * 1. CUT AND REPLACE EXISTING HORIZONTAL REINFORCEMENT BARS AS SHOWN IN DETAIL A. COST INCLUDED WITH CONCRETE REMOVAL.
 - 2. EXISTING REINFORCEMENT BARS TO REMAIN SHALL BE CLEANED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST IS INCLUDED WITH CONCRETE REMOVAL.

BAR LIST

BAR	NO.	SIZE	LENGTH	SHAPE
e1 (E)	6	#4	7'-10"	—

BILL OF MATERIAL**

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB)	BRIDGE 1432 (NB)	TOTAL QUANTITY
50102400	CONCRETE REMOVAL	CU. YD.	1.6	2.1	3.7
50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	1.6	2.1	3.7
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	-	40	40
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	6	-	6
JT524010	BRIDGE DECK CONCRETE SEALER	SQ. FT.	4,160	4,204	8,364

** INCLUDES THIS SHEET AND SHEET SL-28.

- LEGEND:
- BRIDGE DECK CONCRETE SEALER
 - CONCRETE REMOVAL, CONCRETE SUPERSTRUCTURE

BRIDGE 1432 (NB) MEDIAN BARRIER
(EAST FACE - LOOKING WEST)

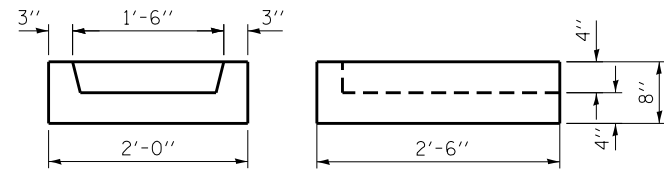
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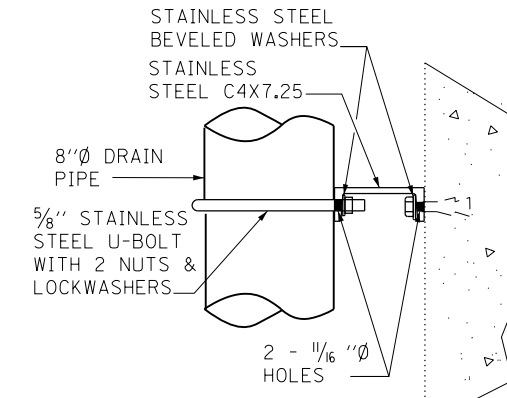
REVISIONS	
NO.	DESCRIPTION

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 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 PARAPET REPAIR DETAILS (NB)

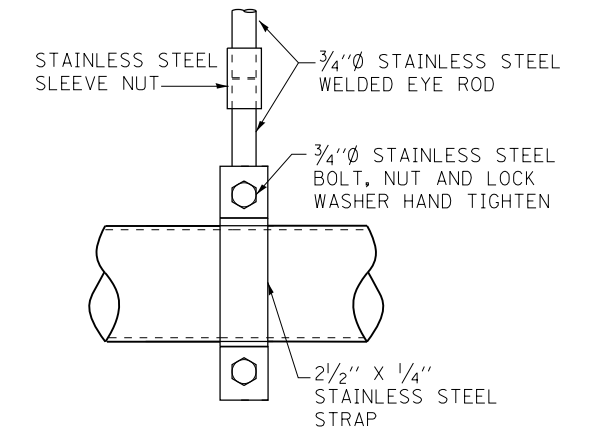
SHT NO. SL-29
 DRAWING NO. 1293 OF 1517



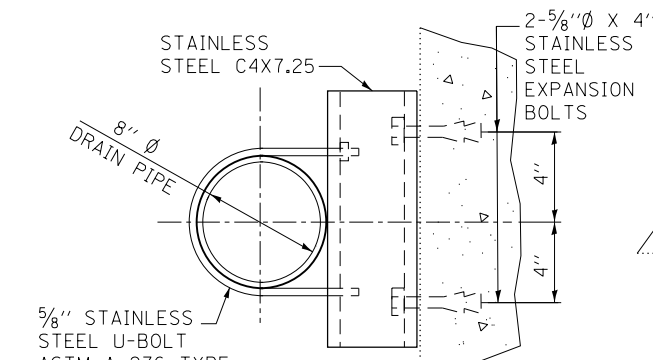
CONCRETE SPLASH DETAIL



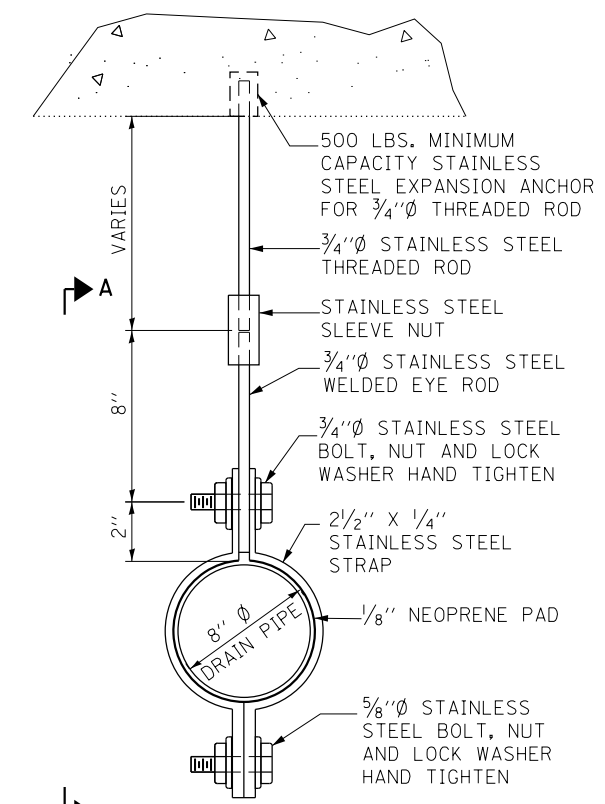
ELEVATION VIEW



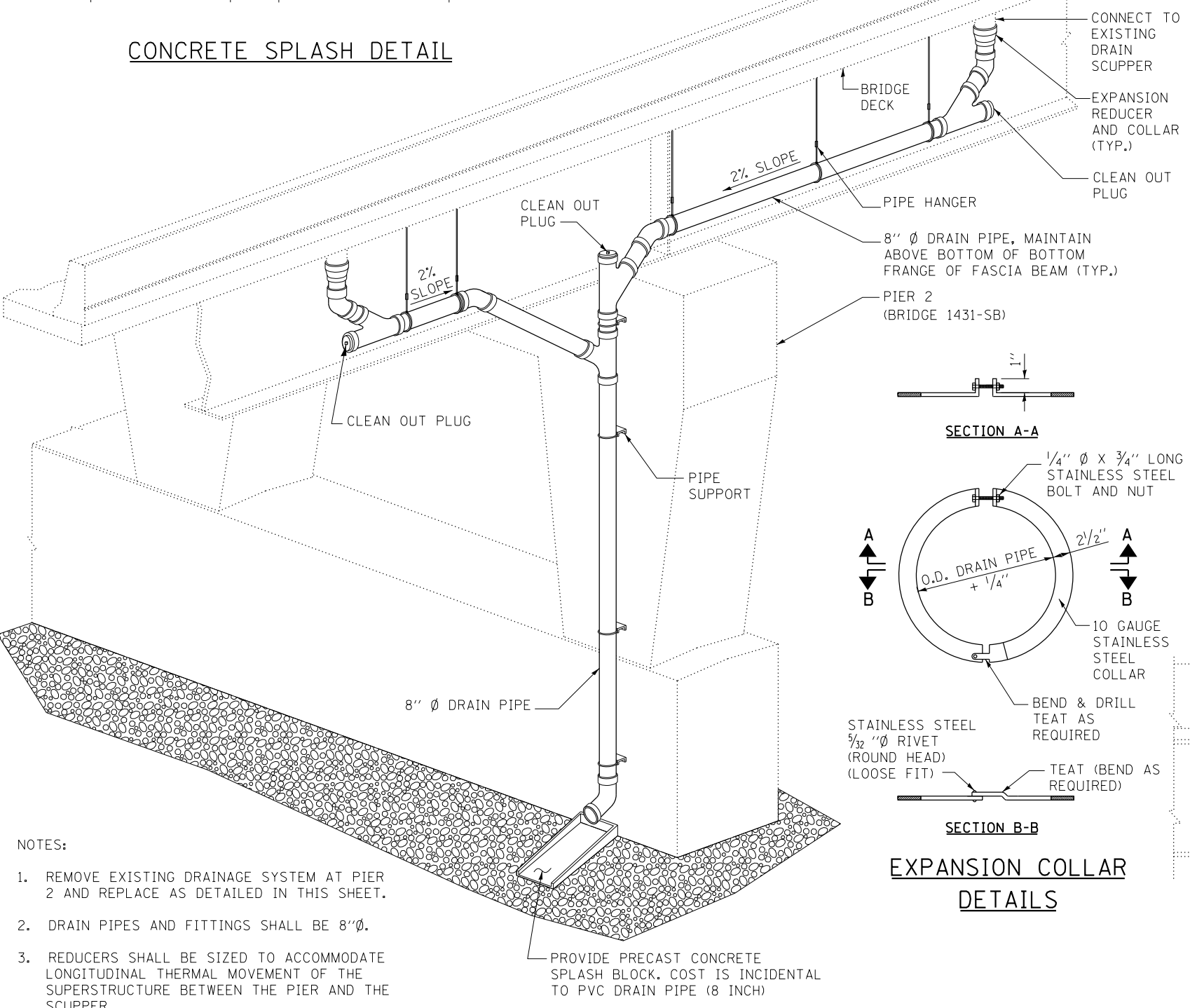
ELEVATION A-A



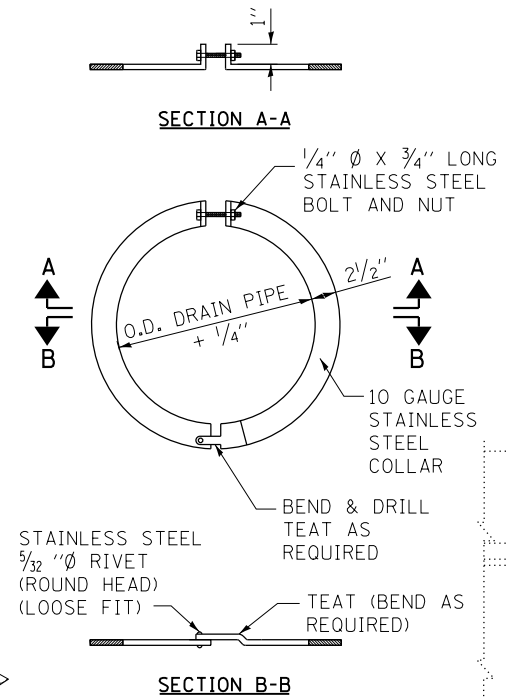
VERTICAL DRAIN PIPE SUPPORT DETAIL



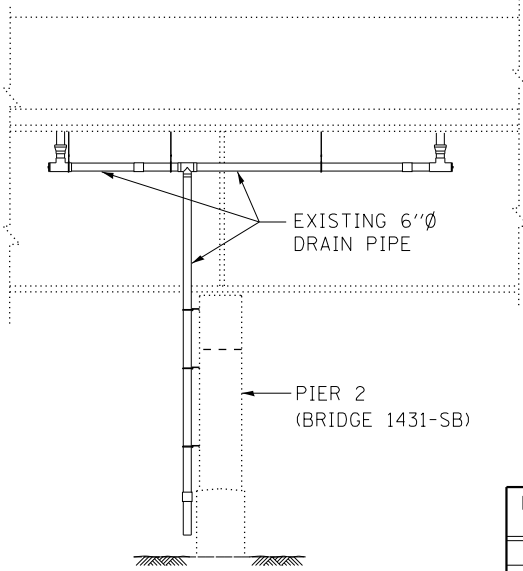
PIPE HANGER ASSEMBLY DETAIL



PROPOSED DRAINAGE SYSTEM AT PIER 2 (SB) AT BRIDGE 1431 ONLY



EXPANSION COLLAR DETAILS



EXISTING DRAINAGE SYSTEM TO BE REMOVED & RECONSTRUCTED AT BRIDGE 1431 ONLY

- NOTES:
1. REMOVE EXISTING DRAINAGE SYSTEM AT PIER 2 AND REPLACE AS DETAILED IN THIS SHEET.
 2. DRAIN PIPES AND FITTINGS SHALL BE 8"Ø.
 3. REDUCERS SHALL BE SIZED TO ACCOMMODATE LONGITUDINAL THERMAL MOVEMENT OF THE SUPERSTRUCTURE BETWEEN THE PIER AND THE SCUPPER.
 4. BOLT PATTERN AND SIZE IN DRAIN PIPE FLANGE TO MATCH SCUPPER FLANGE.
 5. EXPANSION ANCHORS, PIPE HANGERS, CLAMPS, PIPE SUPPORT, FITTINGS, ETC. WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PAY ITEM "PVC DRAIN PIPE (8 IN.)"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431 (SB) QUANTITY
JS120809	PVC DRAIN PIPE (8 IN.)	FOOT	50
JS120813	REMOVE EXISTING DRAINAGE PIPE	FOOT	50

* INCLUDES THE REMOVAL OF ALL EXISTING PIPE HANGERS, PIPES FITTING, PIPE SUPPORTS, CLAMPS, ETC.

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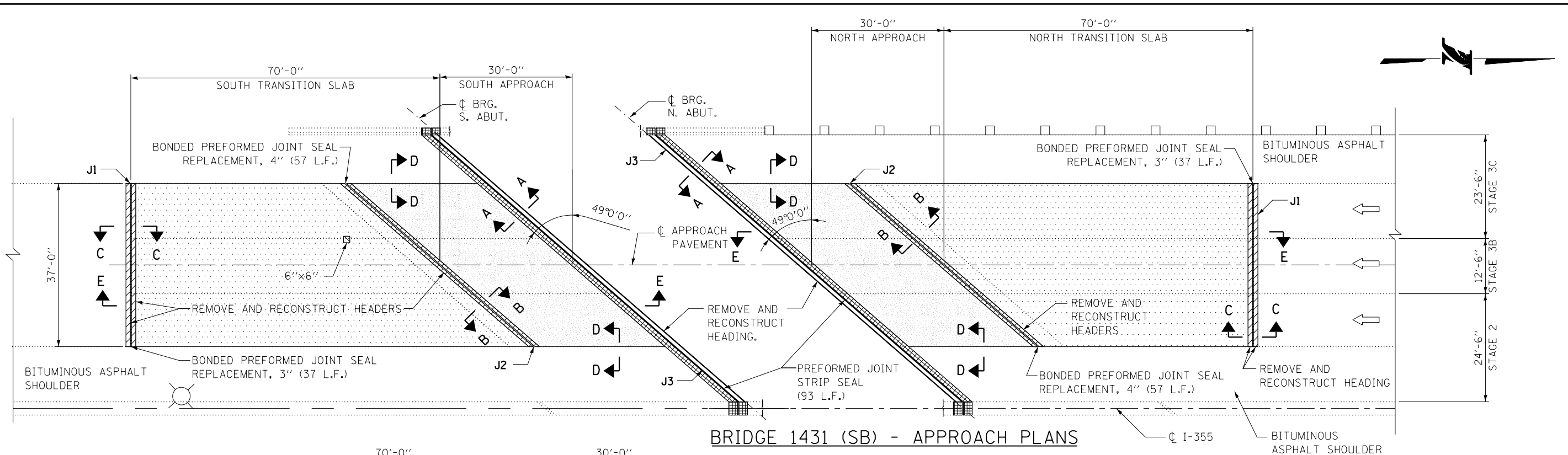
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NO.	DESCRIPTION

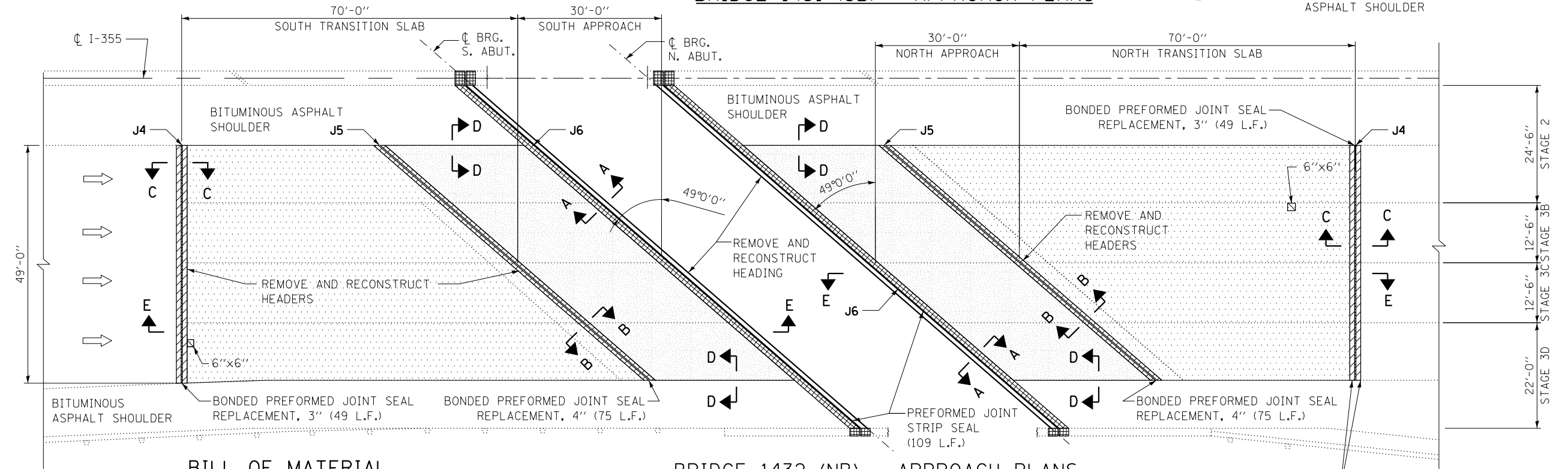
CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 DRAINAGE SYSTEM RECONSTRUCTION PLAN

SL-30 OF SL-39
 SHT NO. SL-30
 DRAWING NO. 1294 OF 1517

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BRIDGE 1431 (SB) - APPROACH PLANS



BRIDGE 1432 (NB) - APPROACH PLANS

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431	BRIDGE 1432	TOTAL QUANTITY
50300260	BRIDGE DECK GROOVING	SQ. YD.	234	314	548
52000110	PREFORMED JOINT STRIP SEAL	FOOT	186	218	404
JT503013	ACCELERATED APPROACH SLAB REPAIR (PARTIAL)	SQ. YD.	42	55	97
JT503013	ACCELERATED APPROACH SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	21	25	46
JT525230	BONDED PREFORMED JOINT SEAL REPLACEMENT, 3"	FOOT	74	98	172
JT525235	BONDED PREFORMED JOINT SEAL REPLACEMENT, 4"	FOOT	114	150	264
Z0006012	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4"	SQ. YD.	247	327	574
Z0012132	BRIDGE DECK SCARIFICATION, 1"	SQ. YD.	247	327	574
Z0012800	CONCRETE PAVEMENT SCARIFICATION	SQ. YD.	576	763	1,339

LEGEND:

- ACCELERATED APPROACH SLAB REPAIR (PARTIAL)
- ACCELERATED APPROACH SLAB REPAIR (FULL DEPTH, TYPE II)
- SPALL (FOR INFORMATION ONLY)
- PARAPET RECONSTRUCTION (SEE SHEET SL-28 & SL-29)
- BRIDGE DECK SCARIFICATION, 1", BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/4 INCHES, BRIDGE DECK GROOVING
- CONCRETE PAVEMENT SCARIFICATION, ASPHALT OVERLAY (SEE ROADWAY PLANS)

DRAWN BY **MPS** DATE **3/11/2018**
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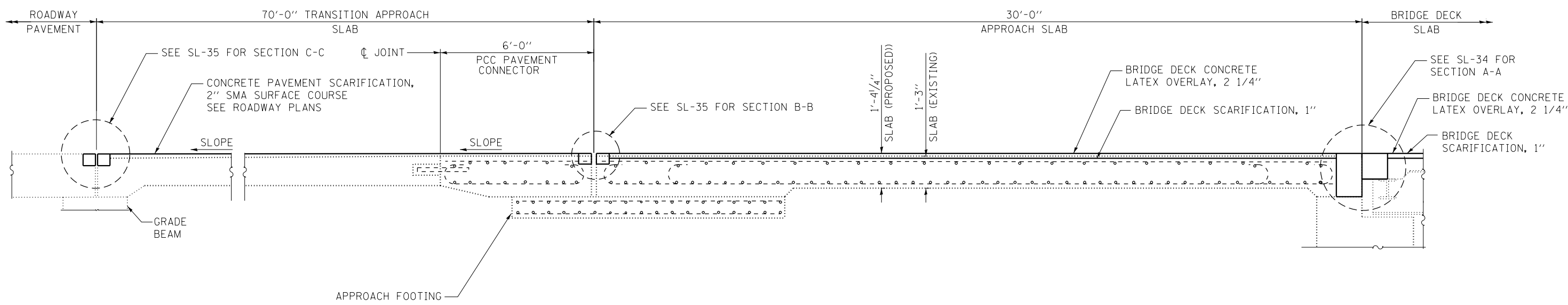
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. **RR-16-4255**
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
APPROACH REPAIR PLANS

SL-31 OF SL-39
 SHT NO. **SL-31**
 DRAWING NO. **1295 OF 1517**

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APPROACH SLAB SECTION E-E

WORK THIS WITH SHEET SL-31.

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CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 APPROACH SECTION

SHT NO. SL-32
 DRAWING NO.
 1296 OF 1517

BILL OF MATERIAL

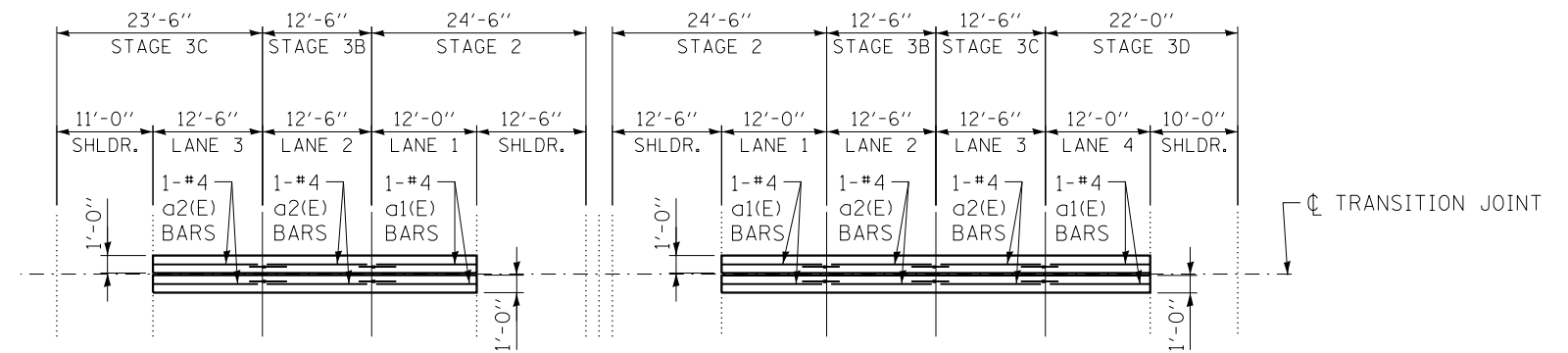
PAY ITEM NO.	ITEM	UNIT	BRIDGE 1431	BRIDGE 1432	TOTAL QUANTITY
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,530	1,890	3,420
50800515	BAR SPLICERS	EACH	24	36	60

BAR SCHEDULE

BAR	NO.		SIZE	LENGTH	SHAPE
	BN: 1431	BN: 1432			
a1(E)	4	8	#4	11'-8"	—
a2(E)	8	8	#4	12'-2"	—
a3(E)	4	8	#4	18'-0"	—
a4(E)	8	8	#4	18'-9"	—
a5(E)	4	-	#5	35'-5"	—
a6(E)	4	8	#5	18'-8"	—
a7(E)	4	4	#5	37'-0"	—
a8(E)	-	4	#5	33'-2"	—
a9(E)	4	-	#6	35'-5"	—
a10(E)	4	8	#6	18'-8"	—
a11(E)	4	4	#6	37'-0"	—
a12(E)	-	4	#6	33'-2"	—
d1(E)	374	495	#4	1'-5"	C

NOTES:

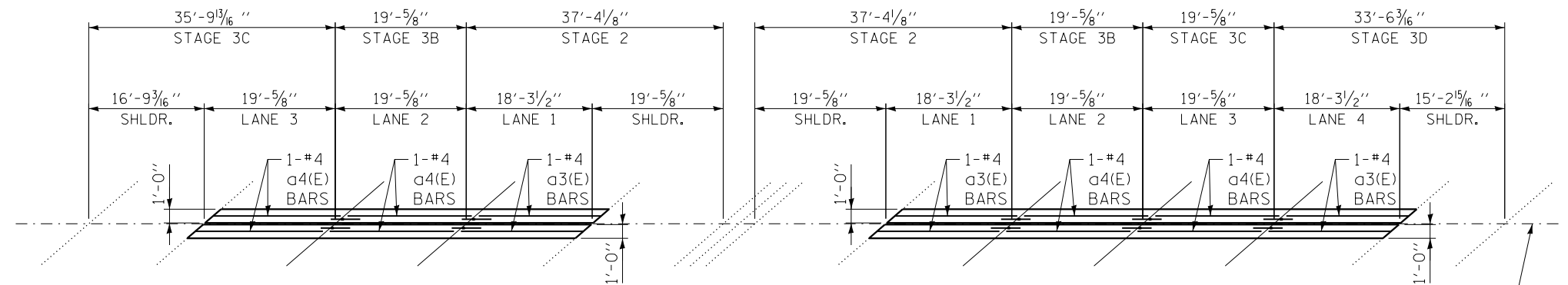
1. NORTH AND SOUTH JOINTS ARE IDENTICAL.
2. QUANTITIES INCLUDE NORTH AND SOUTH JOINTS.
3. WORK THIS SHEET WITH SL-31.
4. SEE SHEET SL-37 FOR BAR SPLICER ASSEMBLY DETAILS.



J1 - BRIDGE 1431 TRANSITION

J4 - BRIDGE 1432 TRANSITION

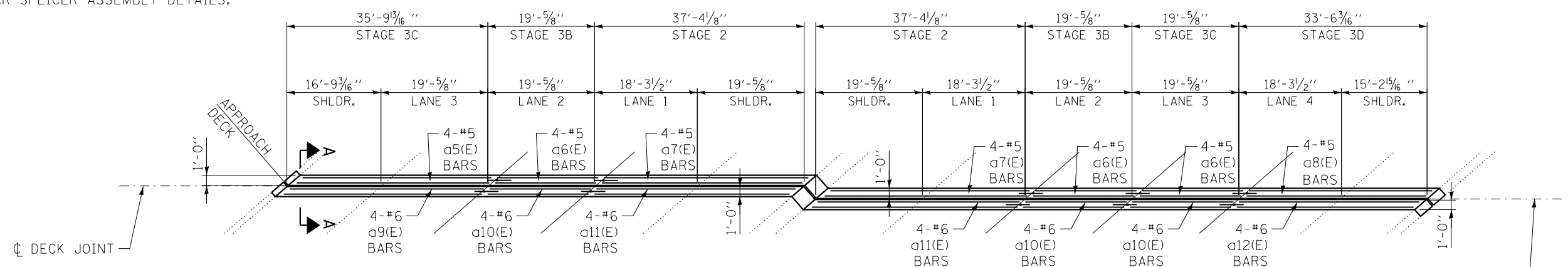
PLAN



J2 - BRIDGE 1431 APPROACH

J5 - BRIDGE 1432 APPROACH

PLAN



J3 - BRIDGE 1431 DECK

J6 - BRIDGE 1432 DECK

PLAN

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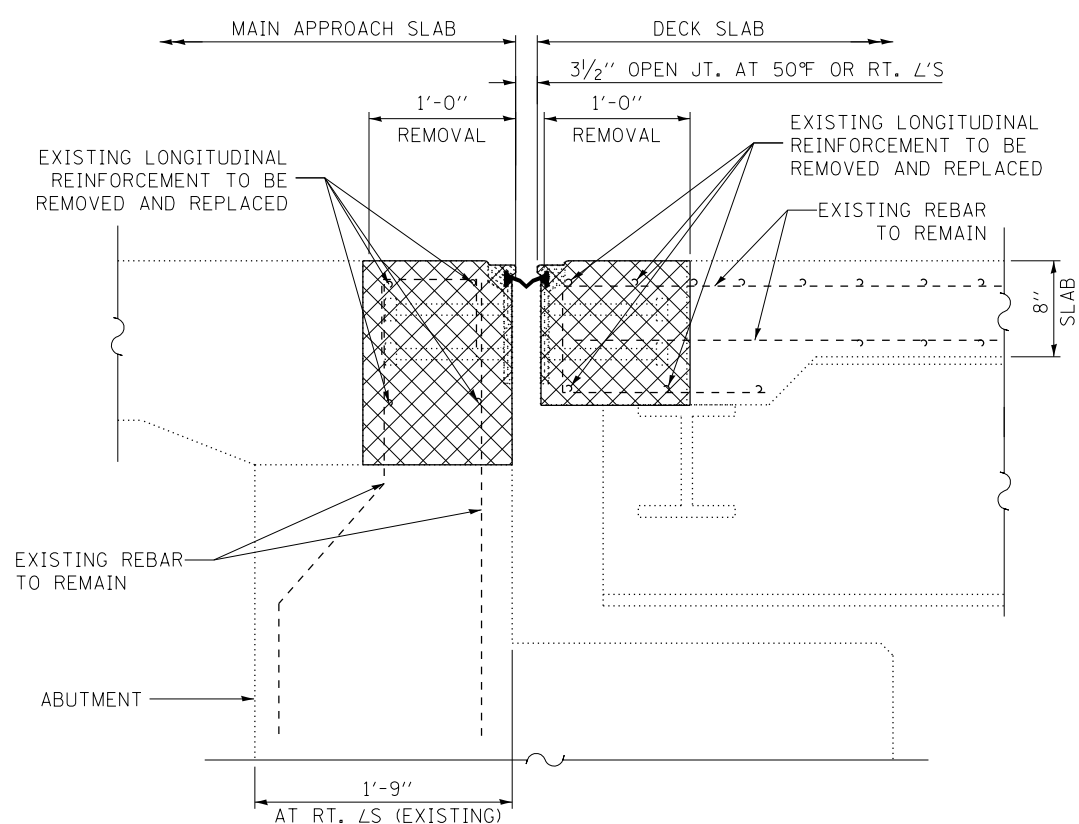
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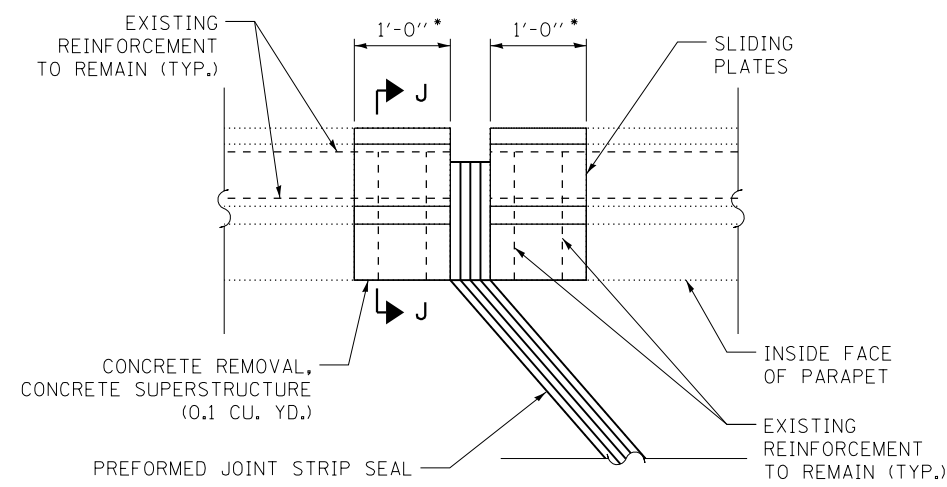
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 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 EXPANSION JOINT REPAIR DETAILS 1

SL-33 OF SL-39
 SHT NO. SL-33
 DRAWING NO.
 1297 OF 1517

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SECTION A-A
EXISTING

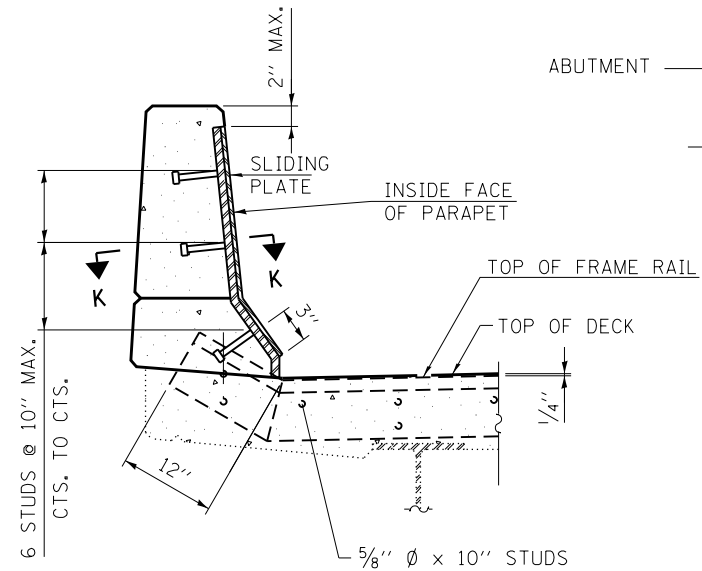


JOINT DETAIL AT PARAPET PLAN

LEGEND:

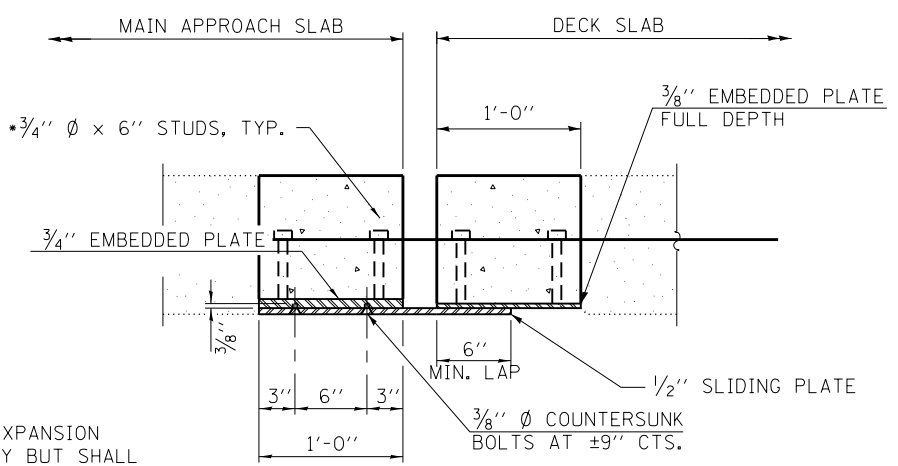


NOTES:
 REMOVAL AND REINSTALLATION OF THE EXISTING EXPANSION SLIDING PLATE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PAY ITEM "PREFORMED JOINT STRIP SEAL".

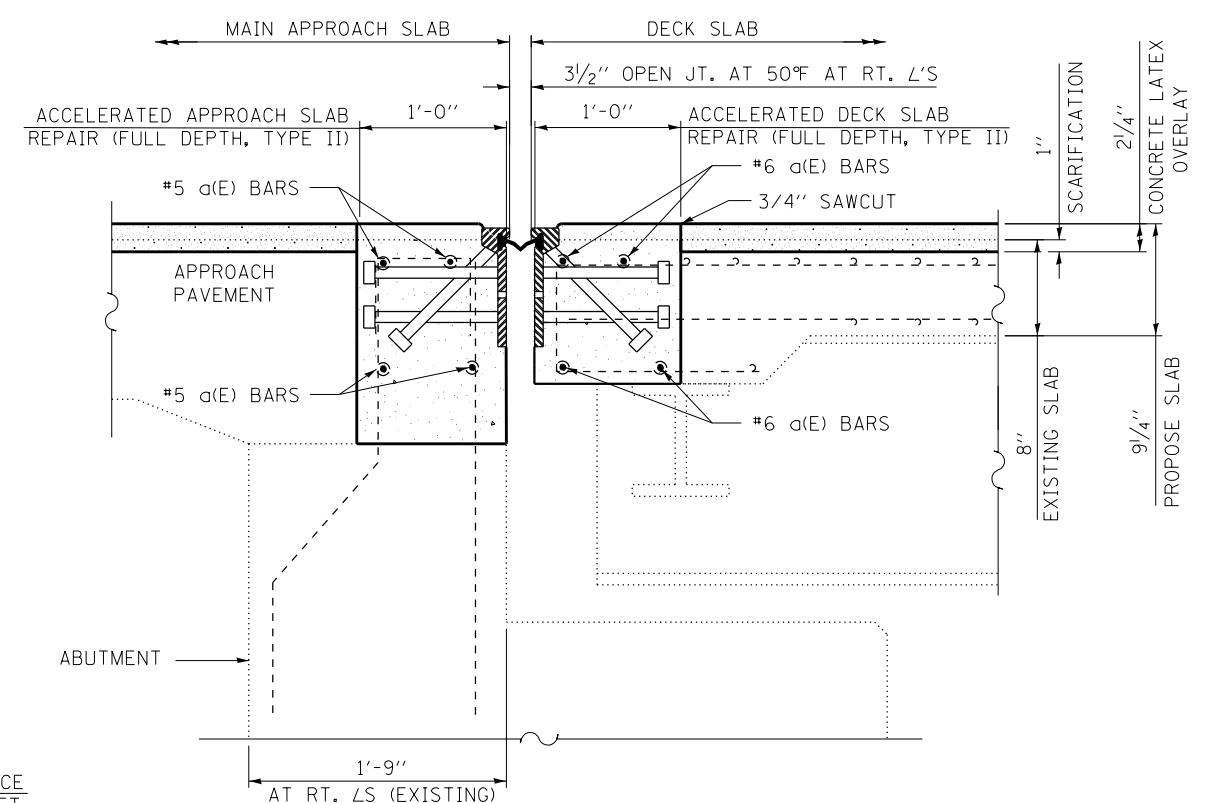


SECTION J-J

SEE SHEET SL-36 FOR MORE DETAILS



SECTION K-K



SECTION A-A
PROPOSED

SEE SHEET SL-36 FOR MORE DETAILS

NOTES:

THE STRIP SEAL SHALL BE MADE CONTINUOUS AND SHALL HAVE A MINIMUM THICKNESS OF 1/4". THE CONFIGURATION OF THE STRIP SEAL SHALL MATCH THE CONFIGURATION OF THE LOCKING EDGE RAILS. OPEN OR "WEBBED" STRIP SEAL GLAND CONFIGURATIONS ARE NOT PERMITTED. THE GLAND SHALL BE SIZED FOR A MAXIMUM RATED MOVEMENT OF 4 INCHES.

THE LOCKING EDGE RAILS DEPICTED ARE CONFIGURED FOR TYPICAL APPLICATIONS AND ARE CONCEPTUAL ONLY. THE ACTUAL CONFIGURATION OF THE LOCKING EDGE RAILS AND MATCHING STRIP SEAL MAY VARY FROM MANUFACTURER TO MANUFACTURER PROVIDED THEY FIT THE APPLICATION AND MEET THE MINIMUM ANCHORAGE SHOWN. FLANGED EDGE RAILS, HOWEVER, WILL NOT BE ALLOWED. LOCKING EDGE RAILS MAY EXCEED THE 4 1/2" MAXIMUM DEPTH PROVIDED THE ANCHORAGE SYSTEM IS REVISED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

THE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS SHALL BE FOLLOWED.

ALL STEEL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION ACCORDING TO ARTICLE 520.03 OF THE STANDARD SPECIFICATIONS.

THE MAXIMUM SPACE BETWEEN LOCKING EDGE RAIL SEGMENTS SHALL BE 3/16" AND SEALED WITH A SUITABLE SEALANT; HOWEVER, ANY RAIL JOINT WITHIN 10' MEASURED PERPENDICULAR TO THE FACE OF THE CURB OR PARAPET SHALL BE WELDED AS SHOWN IN THE LOCKING EDGE RAIL SPLICE DETAIL.

COST OF PARAPET SLIDING PLATES, EMBEDDED PLATES, AND ANCHORAGE STUDS INCLUDED WITH PREFORMED JOINT STRIP SEAL.

34" F-SHAPE BARRIER SHOWN, 42" F-SHAPE BARRIER SIMILAR AS NOTED. THE CONCRETE OPENING BELOW THE STRIP SEAL WILL VARY BASED ON THE LOCKING EDGE RAIL CHOSEN BY THE CONTRACTOR. DECK AND PARAPET LENGTHS SHOWN ELSEWHERE IN THE PLANS ARE DIMENSIONED TO THE CONCRETE OPENING, NOT THE JOINT OPENING, AND ARE BASED ON THE ROLLED LOCKING EDGE RAIL. IF THE CONTRACTOR ELECTS TO USE A DIFFERENT LOCKING EDGE RAIL, DIMENSIONAL ADJUSTMENTS MAY BE REQUIRED. ONE EXCEPTION TO THIS WOULD BE THE STRIP SEAL JOINT AT THE END OF THE PRECAST BRIDGE APPROACH SLAB. FOR THESE CASES THE PAVEMENT CONNECTOR LENGTH SHALL BE ADJUSTED, NOT THE LENGTH OF THE BRIDGE APPROACH SLAB.

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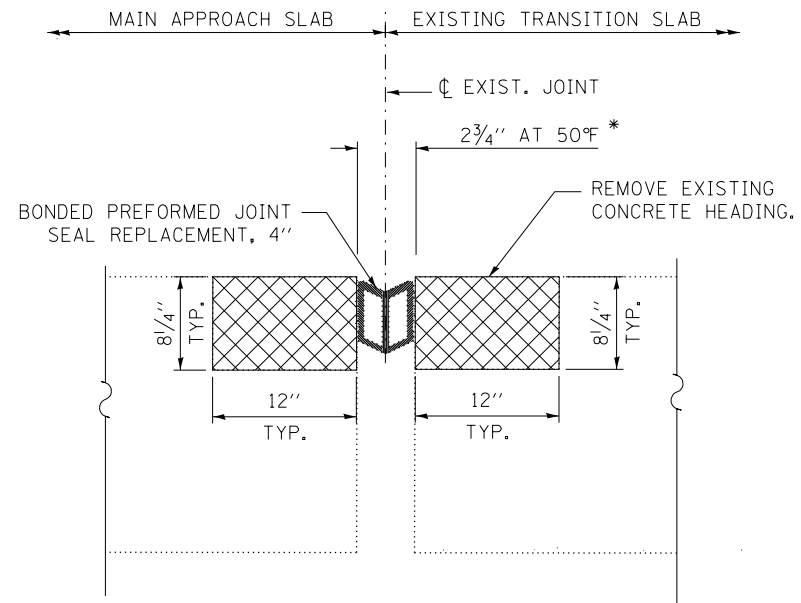


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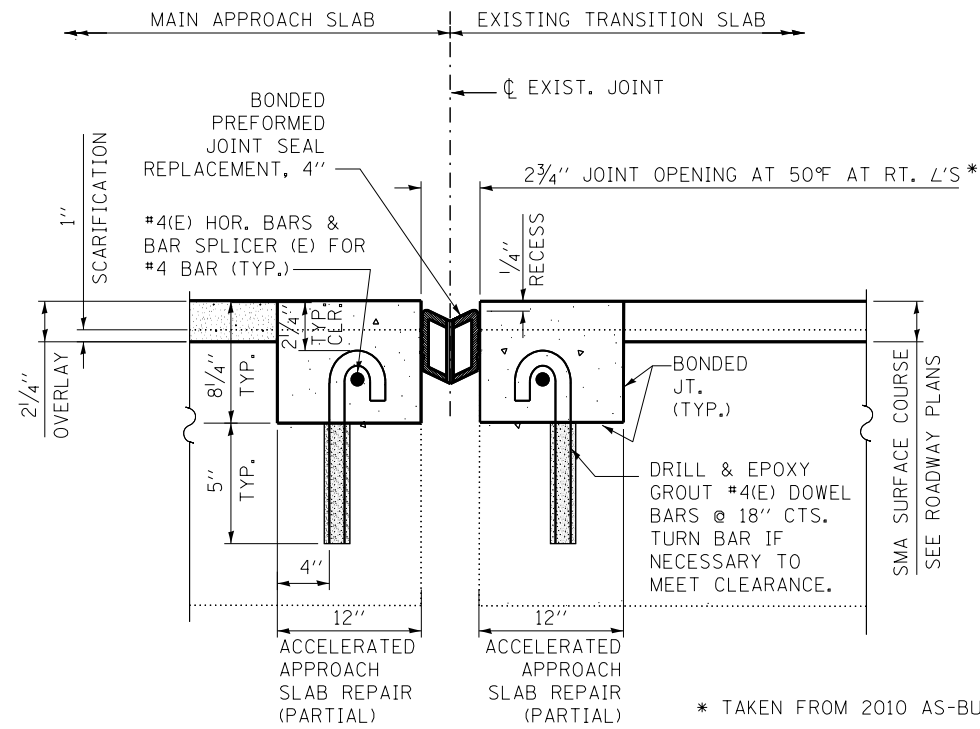
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
 EXPANSION JOINT REPAIR DETAILS 2

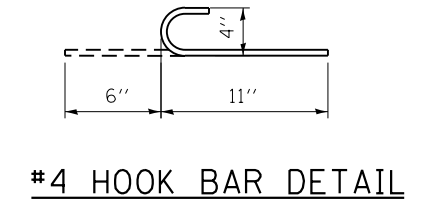
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 SHT NO. SL-34
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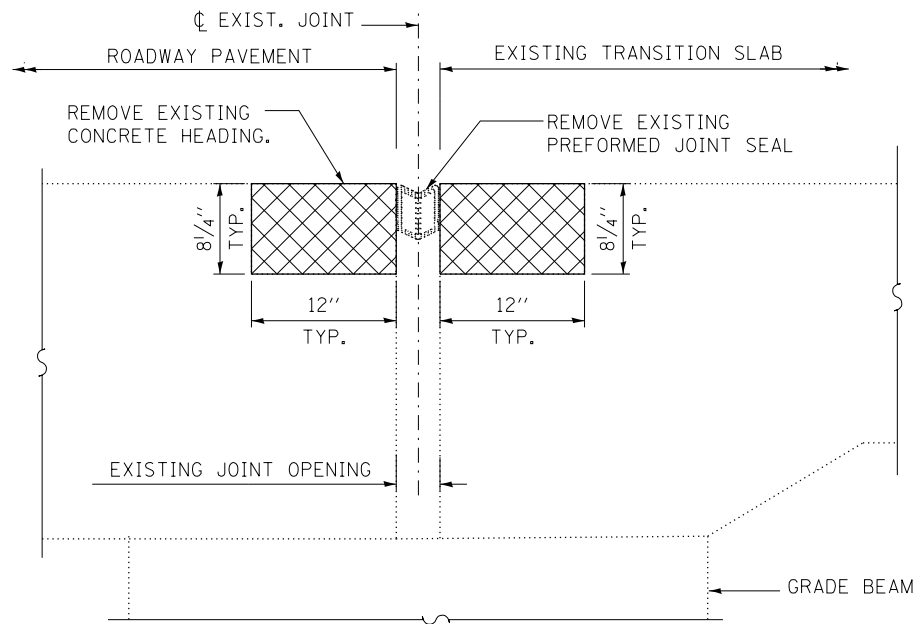
SECTION B-B
EXISTING & REMOVAL



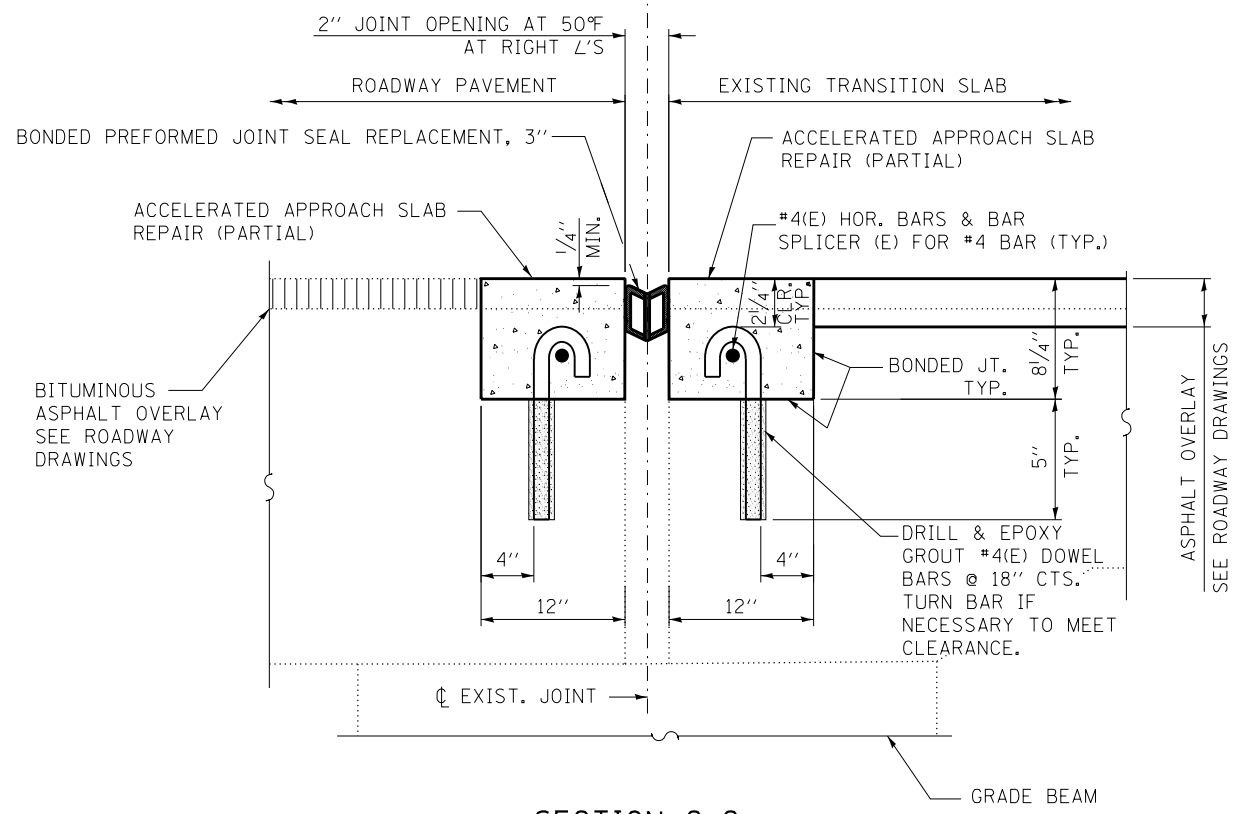
SECTION B-B
PROPOSED



* TAKEN FROM 2010 AS-BUILT PLANS



SECTION C-C
EXISTING & REMOVAL



SECTION C-C
PROPOSED PRESSURE RELIEF JOINT

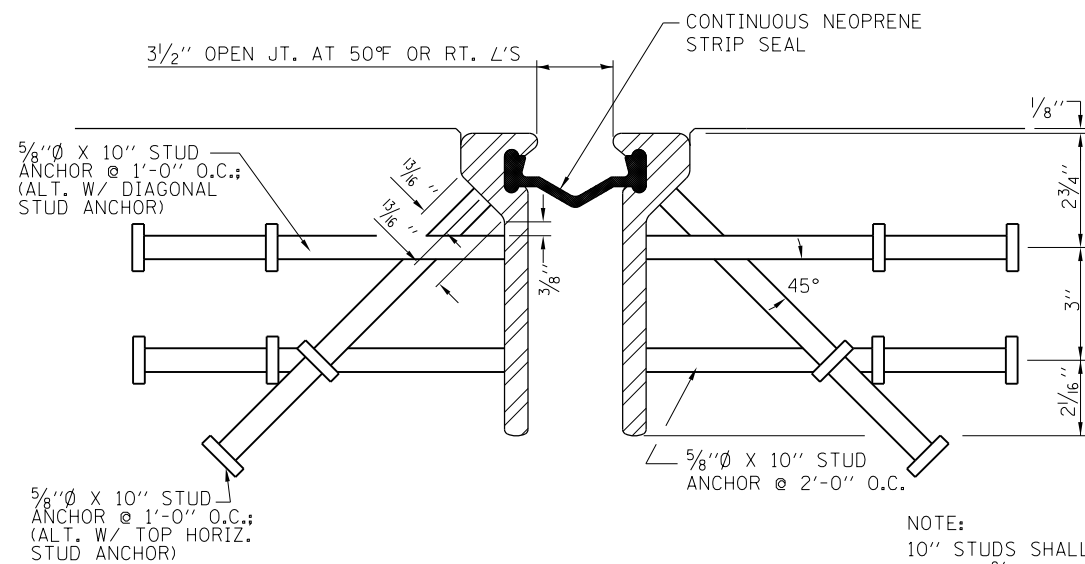
NOTES:

1. REMOVE AND RECONSTRUCT EXISTING HEADING IN ACCORDANCE WITH THESE DETAILS AND THE SPECIAL PROVISION FOR "ACCELERATED APPROACH SLAB REPAIR (PARTIAL)".
2. COST OF REINFORCING BARS, BAR SPLICERS AND DOWEL BARS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PAY ITEM "ACCELERATED APPROACH SLAB REPAIR (PARTIAL)".
3. WORK THIS SHEET WITH SHEET SL-31, 32, 33, & 34.
4. REPLACE EXISTING PREFORMED JOINT SEAL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

LEGEND:

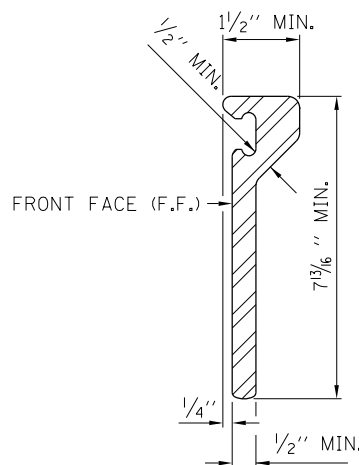


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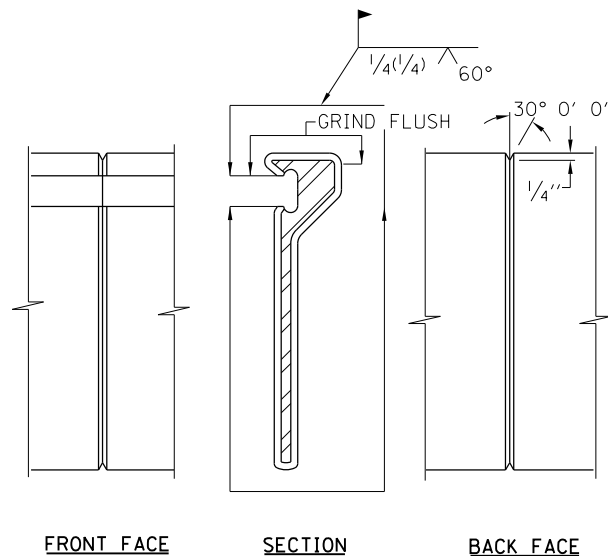


SECTION THRU EXPANSION JOINT

PAID FOR AS "PREFORMED JOINT STRIP SEAL".



TYPICAL SECTION THRU FRAME RAIL

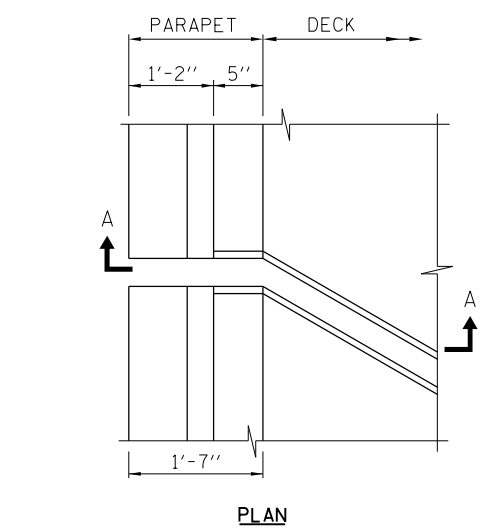


FRAME RAIL SPLICE DETAIL

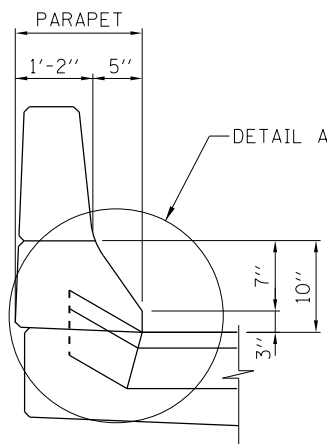
NOTE:
10" STUDS SHALL BE MADE OF (1)-6 9/16" & (1)-4 1/8" (LENGTH BEFORE WELDING) PIGGY-BACKED.

NOTE:
WELD ON FRONT SIDE OF FRAME MAY BE OMITTED AT STAGE CONSTRUCTION LINES

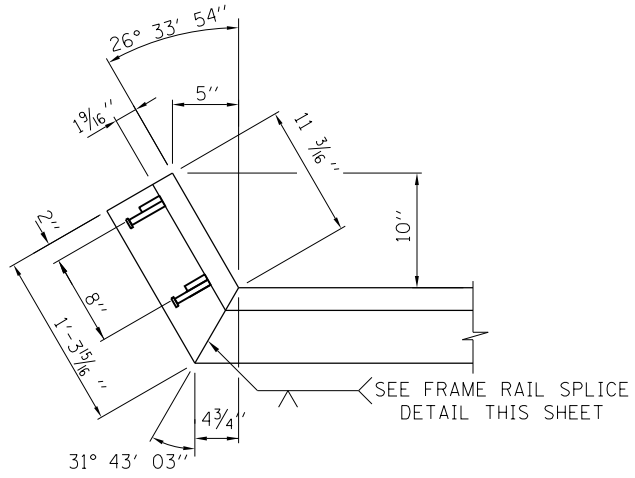
NOTE:
DIMENSIONS "A" AND "B" ARE PERPENDICULAR TO THE EXPANSION JOINT



PLAN



SECTION A-A



DETAIL A

UPTURN AT PARAPEIT

NOTES:

1. WORK THIS DRAWING WITH THE BASE SHEET FOR EXPANSION JOINT FRAME RAIL SUPPORT SYSTEM.
2. EXPANSION JOINT SHALL FOLLOW ROADWAY GRADE & CROSS SLOPE. EXPANSION JOINT TO BE SET TO GRADE BY ATTACHING FRAME RAILS TO BACKWALL AND BEAMS.
3. FRAME RAILS AND OTHER STEEL SHALL BE AASHTO M270 GRADE 36, (ASTM A36).
4. STUD ANCHORS SHALL BE AASHTO M169 (ASTM A108).
5. EXPANSION ANCHORS SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS, SECTION 1211.
6. FRAME RAIL ASSEMBLY SHALL BE FABRICATED IN 20 FT. MAXIMUM LENGTHS. SHOP AND FIELD SPLICES SHALL BE PLACED AT CROWN BREAKS, CONSTRUCTION STAGE LINES, AND TRANSVERSE BREAKS IN DECK.
7. AT SPLICES, A CONTINUOUS GROUND SMOOTH WELD SHALL BE PROVIDED EXCEPT ON SURFACES IN LOCKING CONTACT WITH SEAL WHICH SHALL HAVE NO BURRS.
8. ALL STUD ANCHORS TO BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.
9. AFTER FABRICATION IS COMPLETE FRAME RAILS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M111 (ASTM A123).
10. CORRESPONDING SECTIONS SHALL BE TEMPORARILY SHOP ASSEMBLED, CHECKED FOR FIT, AND MATCH MARKED WITH STENCIL AND BLACK PAINT FOR SHIPMENT.
11. NEOPRENE SEAL SHALL BE CONTINUOUS. FACTORY VULCANIZED HORIZONTAL MITERS SHALL BE REQUIRED FOR ALL SKEWS.
12. NEOPRENE SEAL SHALL BE INSTALLED CONTINUOUS, SPLICING OF SEAL IN THE FIELD IS NOT PERMITTED.
13. NEOPRENE SEAL SHALL BE BONDED TO THE FRAME RAILS WITH AN ADHESIVE MEETING THE REQUIREMENTS OF ASTM D4070.
14. SUPPORT PLATES, NUTS AND WASHERS CONNECTED TO FRAME RAILS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M111 AND M232 (ASTM A123 AND A153).
15. SUPPORT PLATES ON STEEL GIRDERS SHALL BE WELDED IN ACCORDANCE WITH ARTICLES 505.04 (q) & 505.08 (n) OF THE IDOT STANDARD SPECIFICATIONS.
16. FURNISHING AND INSTALLING EXPANSION JOINT FRAME RAIL SUPPORT SYSTEM SHALL BE INCLUDED IN THE COST OF BRIDGE EXPANSION JOINT SYSTEM.
17. JOINT OPENINGS SHALL BE ADJUSTED IN ACCORDANCE WITH THE FIELD ENGINEER'S INSTRUCTIONS.
18. UPON COMPLETION OF FIELD WELDING, THE CONTRACTOR SHALL CLEAN THE WELD AREA AND APPLY A COATING OF ORGANIC ZINC-RICH PAINT IN ACCORDANCE WITH SSPC-PS12.01.

M-BRG-500

SL-36 OF SL-39

DRAWN BY MPS DATE 3/11/2018
CHECKED BY PAB/JPM/MMH DATE 3/11/2018

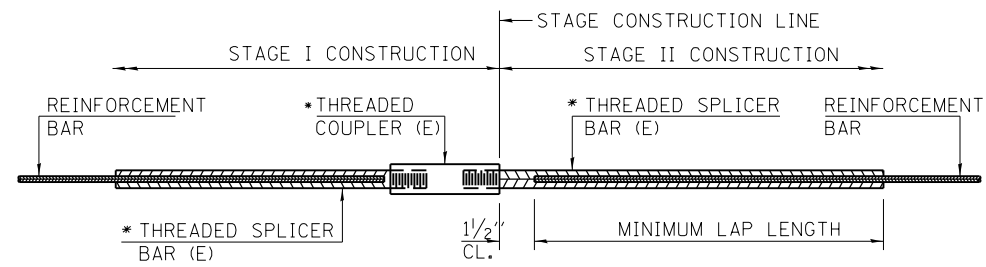


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
EXPANSION JOINT FRAME RAIL AND SEAL

SHT NO. SL-36
DRAWING NO. 1300 OF 1517

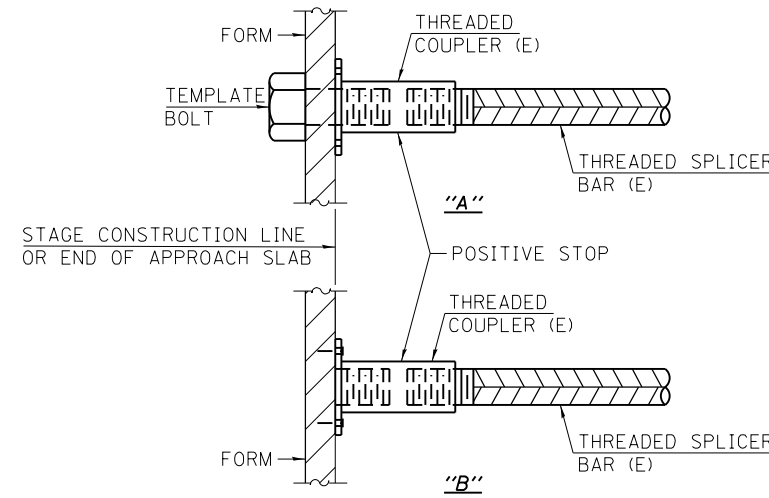


STANDARD BAR SPLICER ASSEMBLY

THREADED SPLICER BAR LENGTH = MIN. LAP LENGTH + 1/2" + THREAD LENGTH

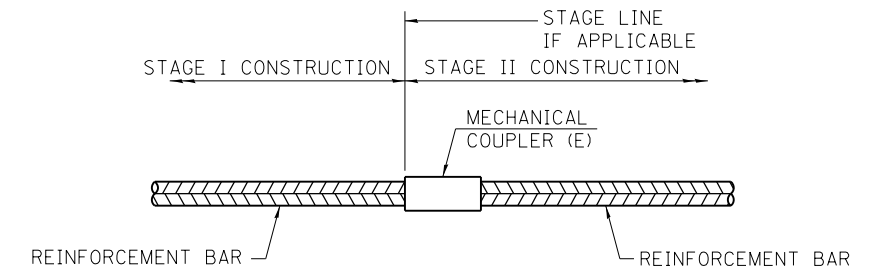
- * EPOXY NOT REQUIRED ON BAR SPLICER ASSEMBLY COMPONENTS USED IN CONJUNCTION WITH BLACK BARS.

LOCATION	BAR SIZE	NO. ASSEMBLIES REQUIRED	MINIMUM LAP LENGTH
1431 TRANS. JT.	#4	8	2'-0"
1432 TRANS. JT.	#4	12	2'-0"
1431 APPR. JT.	#4	8	2'-0"
1432 APPR. JT.	#4	12	2'-0"
1431 DECK. JT.	#4	8	2'-0"
1432 DECK. JT.	#4	12	2'-0"



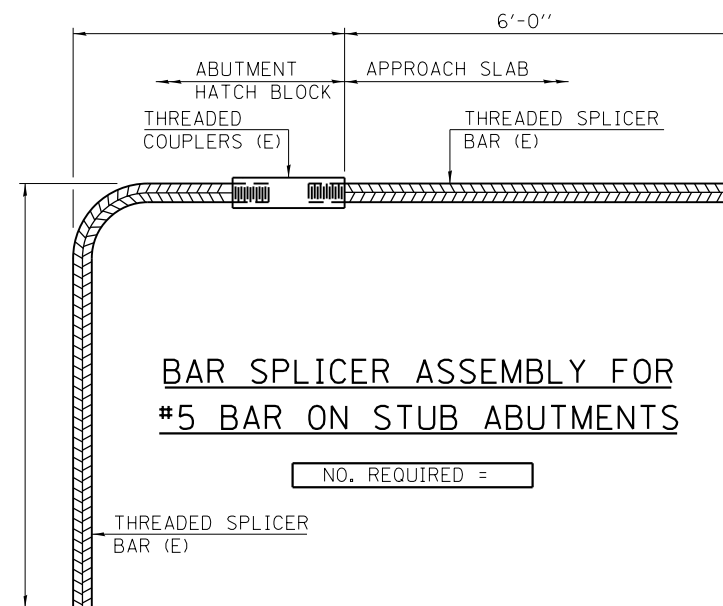
INSTALLATION AND SETTING METHODS

- "A" : SET BAR SPLICER ASSEMBLY BY MEANS OF A TEMPLATE BOLT.
- "B" : SET BAR SPLICER ASSEMBLY BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.
- (E) : INDICATES EPOXY COATING.



STANDARD MECHANICAL SPLICER

LOCATION	BAR SIZE	NO. ASSEMBLIES REQUIRED



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

NOTES

- SPLICER BARS SHALL BE DEFORMED WITH THREADED ENDS AND HAVE A MINIMUM 60 KSI YIELD STRENGTH.
- ALL REINFORCEMENT SHALL BE LAPPED AND TIED TO THE SPLICER BARS.
- BAR SPLICER ASSEMBLIES SHALL BE EPOXY COATED ACCORDING TO THE REQUIREMENTS FOR REINFORCEMENT BARS. SEE SECTION 508 OF THE STANDARD SPECIFICATIONS.
- SEE APPROVED LIST OF BAR SPLICER ASSEMBLIES AND MECHANICAL SPLICERS FOR ALTERNATIVES.

BSD-1 2-17-2017

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY PAB/JPM/MMH DATE 3/11/2018



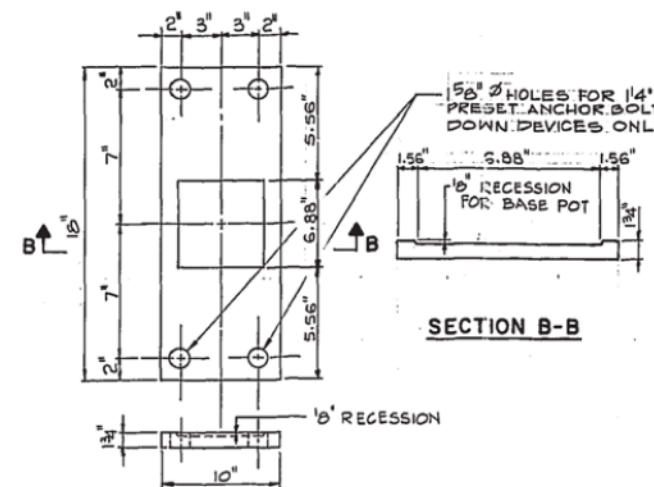
100 S. Wacker Drive, Suite 700 • Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415



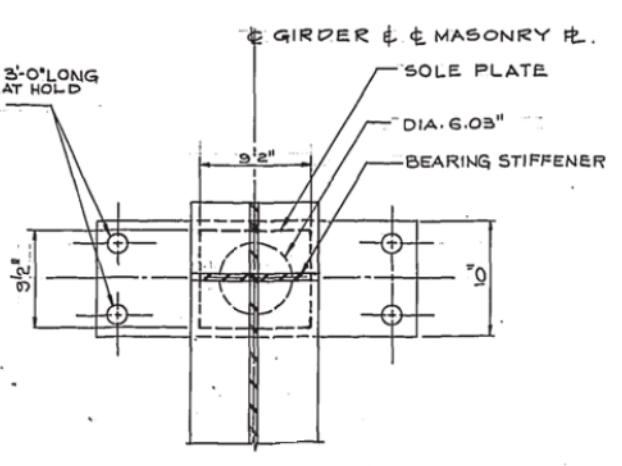
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255	SL-37 OF SL-39
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966	SHT NO. SL-37
BAR SPLICER ASSEMBLY DETAILS	DRAWING NO. 1301 OF 1517

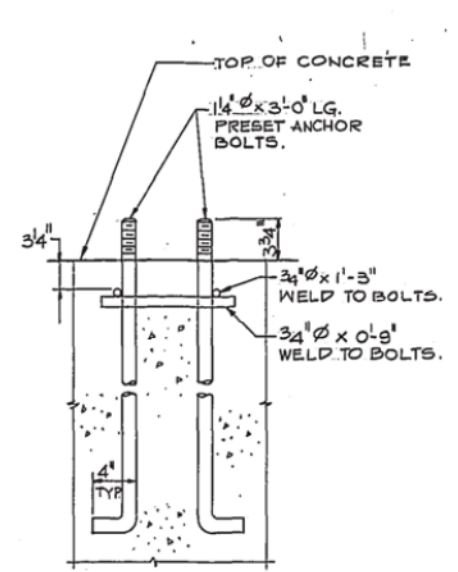
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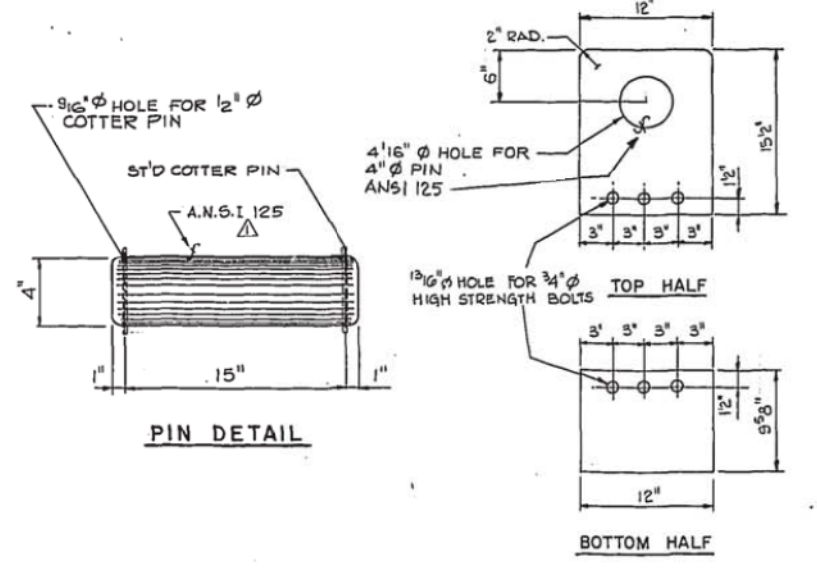
MASONRY PLATE



TOP PLAN

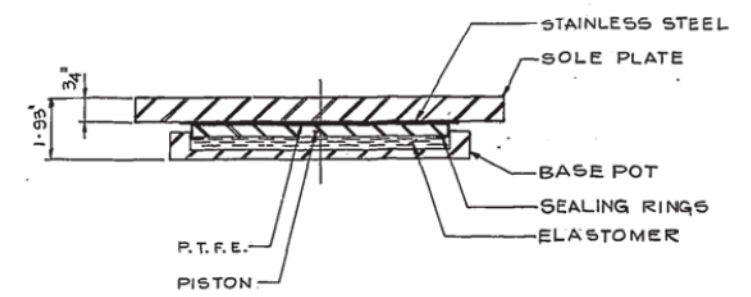


ANCHOR BOLT DETAIL

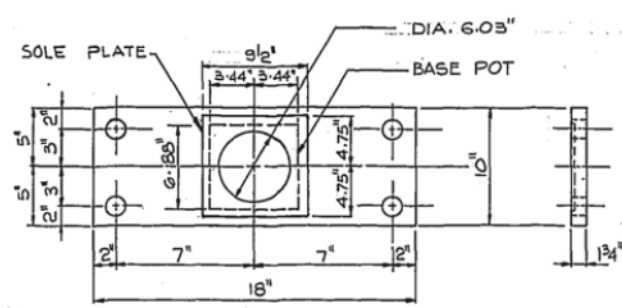


PIN DETAIL

SIDE PLATE DETAILS

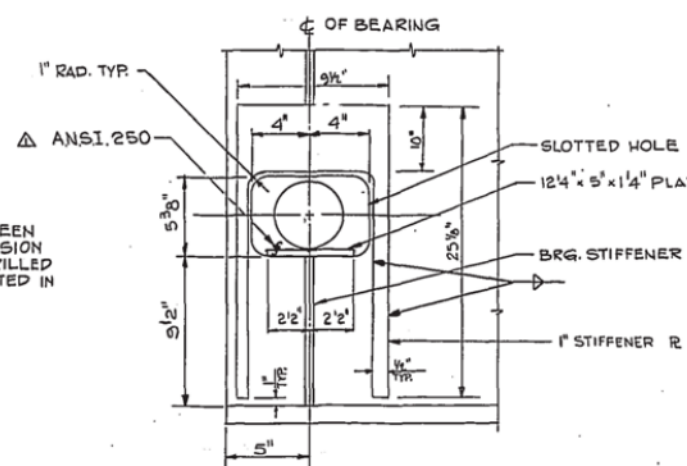


NON-GUIDED EXPANSION BEARING

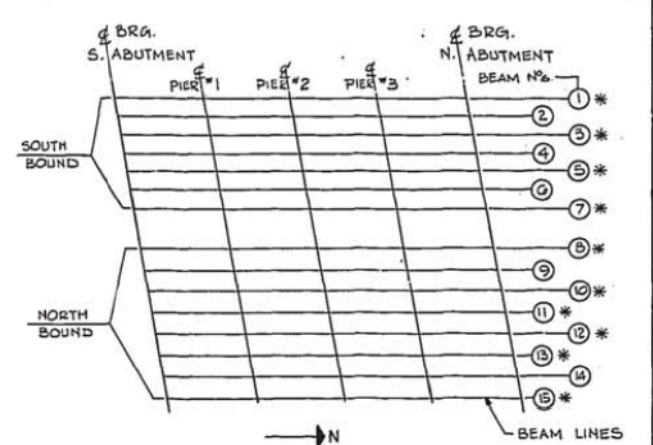


BOTTOM PLAN

NOTES:
 AFTER GIRDERS HAVE BEEN ERECTED HOLES AT EXPANSION BEARINGS SHALL BE DRILLED AND ANCHOR BOLTS GROUTED IN PLACE.

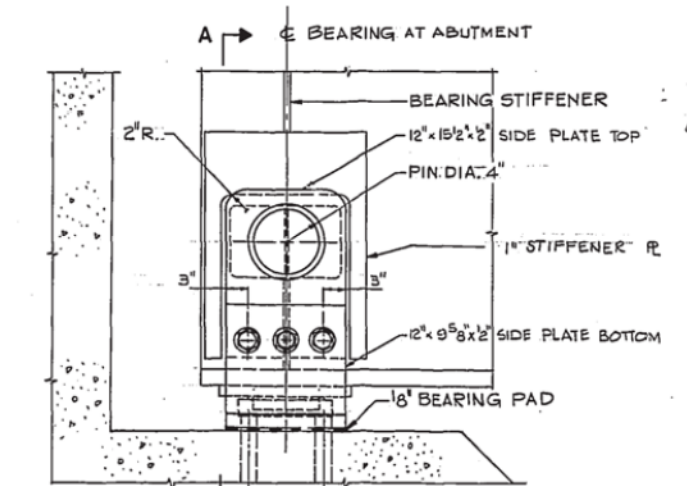


GIRDER DETAIL



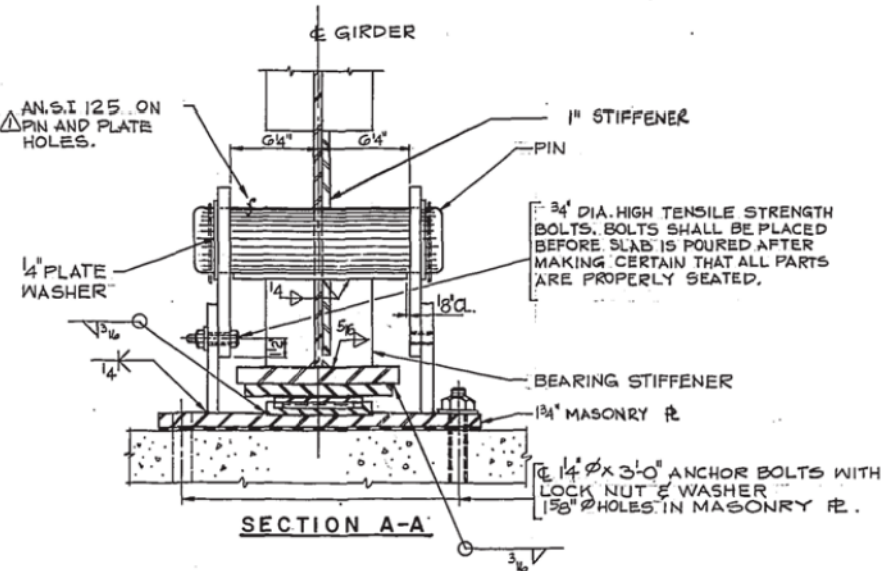
LOCATION OF HOLD DOWN DEVICE

* DENOTES HOLD DOWN LOCATION @ ABUTMENTS FOR ALL OTHER BEARING DETAILS SEE SHT. NS 27.



ELEVATION

PERMANENT HOLD DOWN DEVICE



SECTION A-A

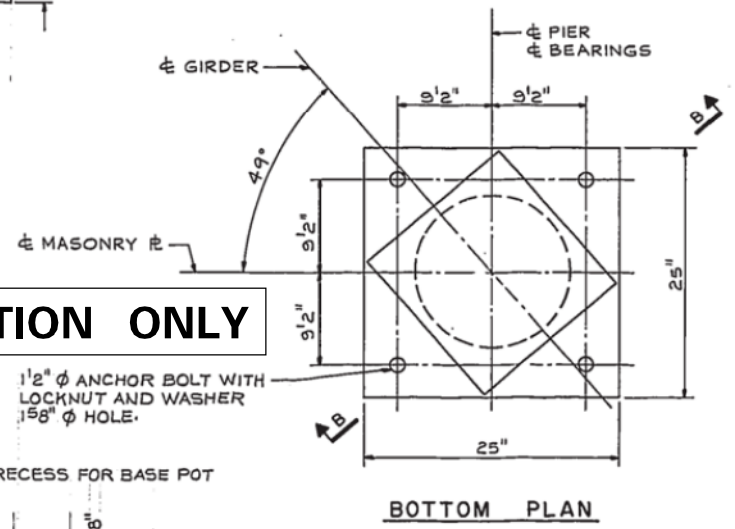
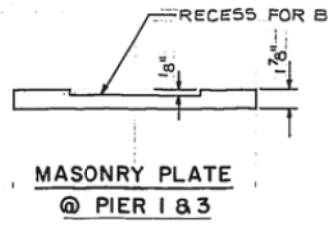
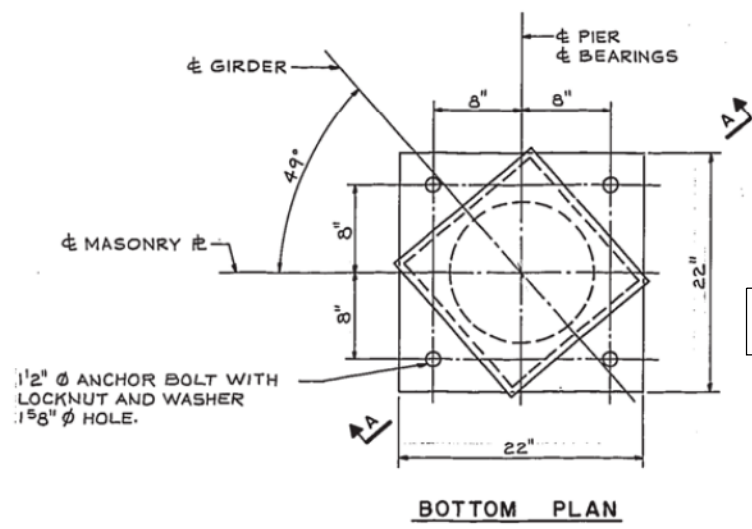
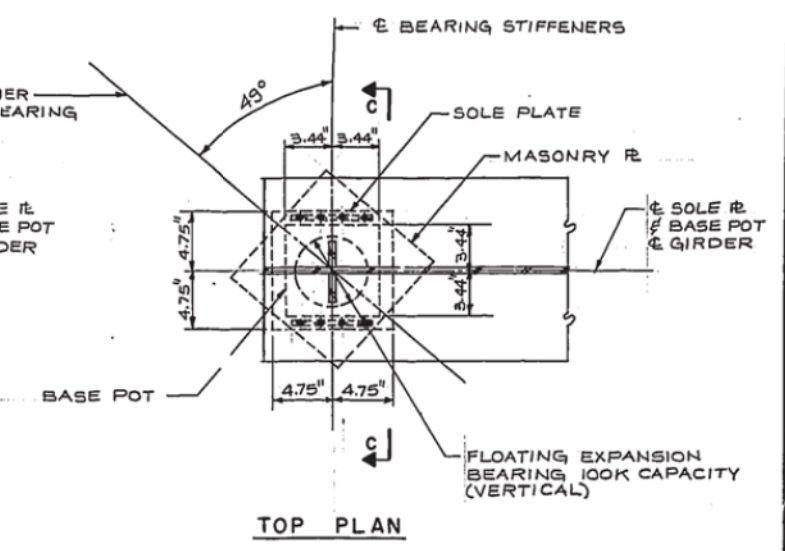
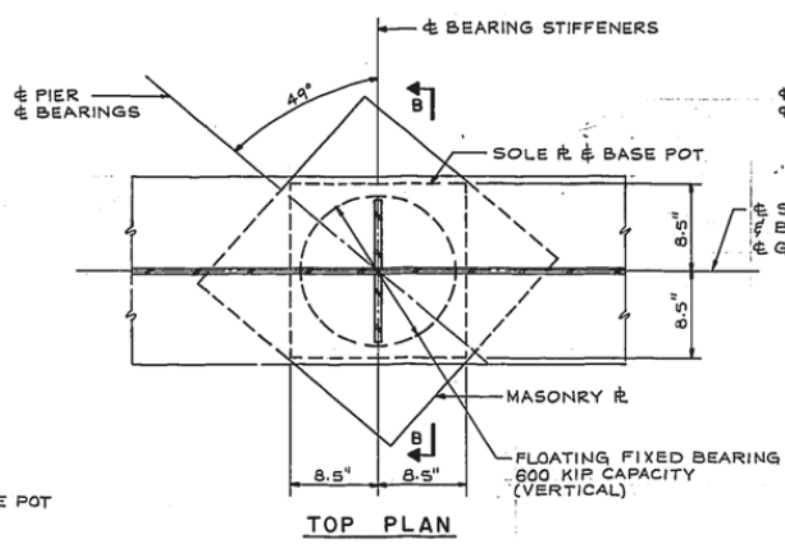
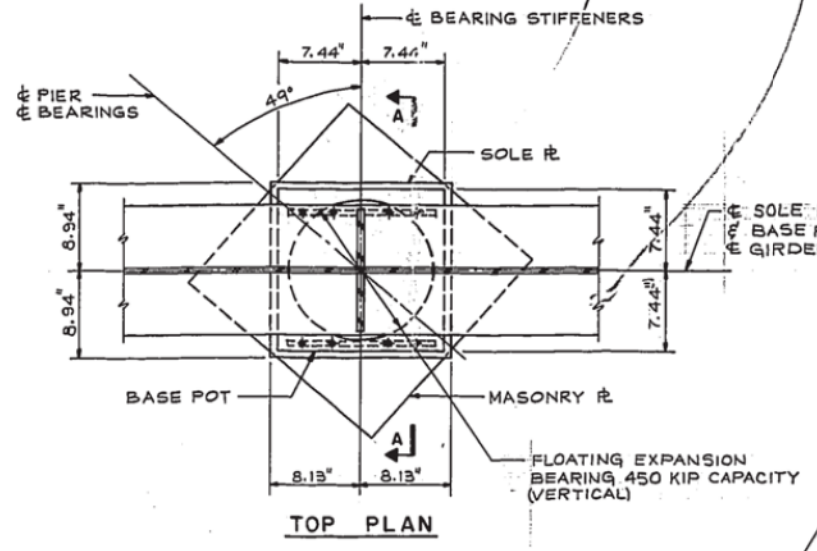
PERMANENT HOLD DOWN DEVICE

NOTES:

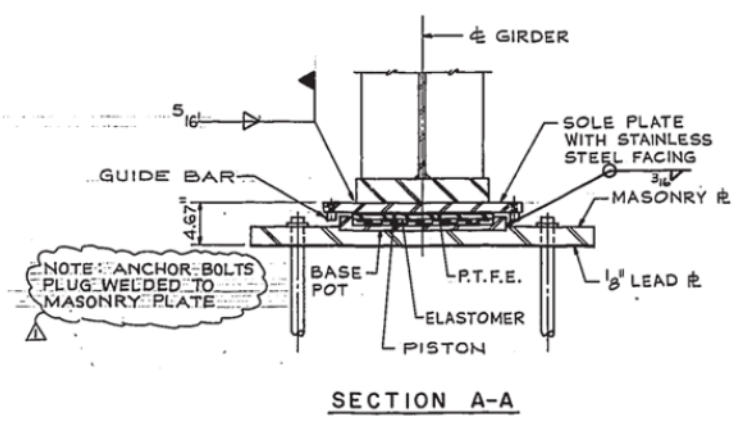
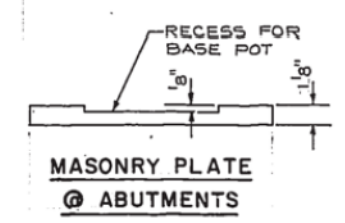
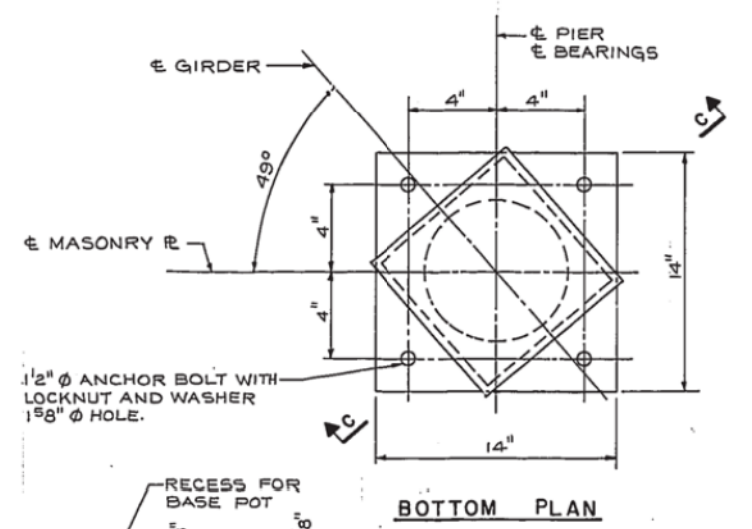
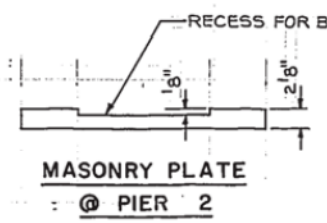
- ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.
- ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
- ANCHOR BOLTS SHALL BE THREADED 3" PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADED.
- ALL MATERIAL EXCEPT MASONRY PLATES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE MADE OF M223 STEEL.
- FLOATING BEARINGS SHALL BE AS MANUFACTURED BY THE SPENCER DYNAMICS CORPORATION, PROVIDENCE, RHODE ISLAND OR APPROVED EQUIVALENT.
- R.T.F.E. MEANS POLYTETRAFLUOROETHYLENE

FOR INFORMATION ONLY

DRAWN <u>G.S.</u> CHECKED <u>MRH</u>	DATE <u>FEB. 1987</u> SCALE <u>NONE</u>	PRC CONSOER TOWNSEND DESIGN SECTION ENGINEER CHICAGO, ILLINOIS	THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY EAST-WEST TOLLWAY AND MIDWEST ROAD OAK BROOK, ILLINOIS 60521	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>03-17-87</td> <td>APPENDUM NO. 2</td> </tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION	1	03-17-87	APPENDUM NO. 2	CONTRACT CIP-616 N-S TOLLWAY OVER FINLEY ROAD HOLD DOWN DEVICE BEARING DETAILS	NS 26 DRAWING NO. 497 OF 861
REVISIONS															
NO.	DATE	DESCRIPTION													
1	03-17-87	APPENDUM NO. 2													

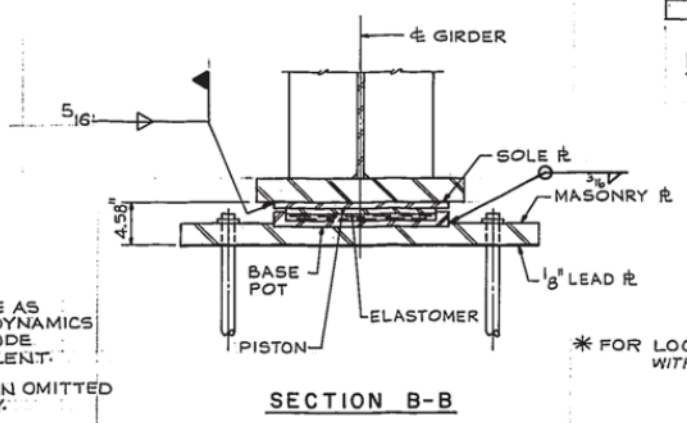


FOR INFORMATION ONLY

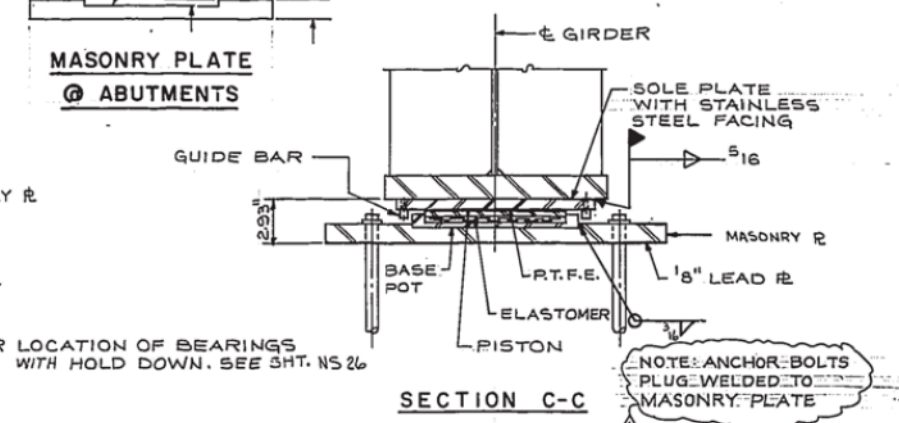


GUIDED EXPANSION BEARING DETAILS @ PIERS 1 & 3

- NOTES**
- FLOATING BEARINGS SHALL BE AS MANUFACTURED BY SPENCER DYNAMICS CORPORATION, PROVIDENCE, RHODE ISLAND OR APPROVED EQUIVALENT.
 - ANCHOR BOLT HOLES HAVE BEEN OMITTED IN THE TOP PLAN FOR CLARITY.
 - SET ANCHOR BOLTS 1/8" INTO MASONRY.
 - ALL STEEL SHALL BE M 183.



FIXED BEARING DETAILS @ PIER 2



GUIDED EXPANSION BEARING DETAILS @ ABUTMENTS*

DRAWN BP
CHECKED MRF

DATE FEB. 1987
SCALE NONE

PRC CONSOER TOWNSEND
DESIGN SECTION ENGINEER
CHICAGO, ILLINOIS

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
EAST-WEST TOLLWAY AND MIDWEST ROAD
OAK BROOK, ILLINOIS 60521

REVISIONS	
NO.	DESCRIPTION
1	8-9-89 RECORD DRAWING

CONTRACT CIP-616
N-S TOLLWAY OVER FINLEY ROAD
POT BEARING DETAILS

NS 27
DRAWING NO.
498 OF 861

DRAWN BY MPS DATE 3/11/2018
CHECKED BY PAB/JPM/MMH DATE 3/11/2018

Primera
100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-4415

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
B.N. 1431(SB) & 1432(NB) - S.N. 022-9966
REFERENCE - 2 EXISTING BEARING

SL-39 OF SL-39
SHT NO. SL-39
DRAWING NO.
1303 OF 1517

GENERAL NOTES

CONSTRUCTION

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION TOLERANCES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES ARE SHOWN FOR INFORMATION ONLY.
3. NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS WILL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
4. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COSTS WILL BE AT THE CONTRACTOR'S EXPENSE.
5. NO CONCRETE CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINES BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 1-800-892-0123.
7. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH THAT FOR, "CONCRETE REMOVAL".
8. WHENEVER THE MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF THE EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
9. THE PROTECTIVE SHIELD SYSTEM SHALL EXTEND A MINIMUM OF 10 FEET BEYOND THE INDICATED LIMITS OF REPAIR SHOWN IN THE PLANS OR 5 FEET BEYOND THE ACTUAL LIMITS OF PARTIAL OR FULL DEPTH REPAIRS AS IDENTIFIED IN THE FIELD, WHICHEVER IS GREATER.
10. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP), WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. AND THE LATEST NATIONAL BRIDGE INSPECTIONS STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

SCOPE OF WORK:

1. CONTRACTOR SHALL LAYOUT THE SITE AND MARK ANY UTILITIES, PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT THE ENGINEER IF INTERFERENCES ARE LOACTED.
2. PARKING STALLS SHALL BE ISOLATED FOR CONSTRUCTION.
3. INSTALL DRILLED SHAFTS.
4. INSTALL COLUMNS.
5. INSTALL SHORING. (BY CONTRACTOR)
6. INSTALL CANOPY.
7. REMOVE SHORING AFTER CONCRETE STRENGTH.
8. REPAIR DISTURBED ASPHALT. (INCIDENTAL TO PAY ITEM: DRILLED SHAFT IN SOIL)
9. DEMOBILIZE

DESIGN SPECIFICATIONS:

INTERNATIONAL BUILDING CODE (IBC), (2015)
 AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7 (2010)
 AMERICAN CONCRETE INSTITUTE (ACI) 318 (2014)

DESIGN LOADS:

DEAD LOAD: 150 PSF
 SNOW LOAD: 75 PSF
 WIND LOAD: ±35.5 PSF
 VEHICLE LOAD: 6,000 LB AT 2'-3"

DESIGN STRESSES:

CONCRETE COMPRESSIVE STRENGTH, f'c = 5,000 PSI
 REINFORCEMENT BARS (ASTM A775), fy = 60,000 PSI

GENERAL NOTES (CONT.)

CAST-IN-PLACE CONCRETE

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF 1 FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS

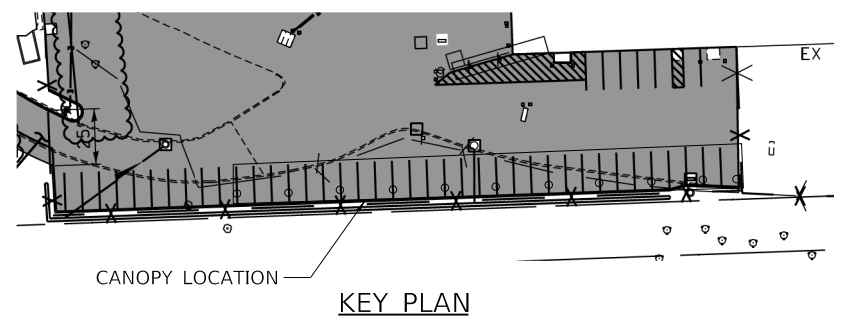
1. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM 706), GRADE 60, DEFORMED BARS.
2. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY-COATED.
3. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
4. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
5. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

ABBREVIATIONS

- ABUT. - ABUTMENT
- APPROX. - APPROXIMATE
- BPJS - BONDED PREFORMED JOINT SEAL
- BRG. - BEARING
- CL. - CLEAR
- DIM. - DIMENSION
- E. - EAST
- ELEV. - ELEVATION
- EXIST. - EXISTING
- MAX. - MAXIMUM
- MIN. - MINIMUM
- N. - NORTH
- N.B. - NORTHBOUND
- NO. - NUMBER
- P.G.L. - PROFILE GRADE LINE
- S. - SOUTH
- S.B. - SOUTHBOUND
- SHLDR. - SHOULDER
- STA. - STATION
- TYP. - TYPICAL
- W. - WEST

LIST OF SHEETS

SZ-01	GENERAL DATA
SZ-02	PLAN, ELEVATION, AND DETAILS
SZ-03	SOIL BORINGS



TOTAL BILL OF MATERIALS (SNOW CANOPY)

CODE	ITEM	UNIT	SUBSTRUCTURE	SUPERSTRUCTURE	TOTAL	RECORDED QUANTITIES
50300255	CONCRETE SUPERSTRUCTURE	CU YD	-	323.8	323.8	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	16,640	65,260	81,900	
51603000	DRILLED SHAFT IN SOIL	CU YD	74.9	-	74.9	
* JT524010	APPLY CONCRETE SEALANT	SQ FT	-	5,588	5,588	

* TOLLWAY SPECIAL PROVISION ITEM
 ** IDOT SPECIAL PROVISION ITEM
 GBSP IDOT GUIDE BRIDGE SPECIAL PROVISION

SZ-01 OF SZ-03

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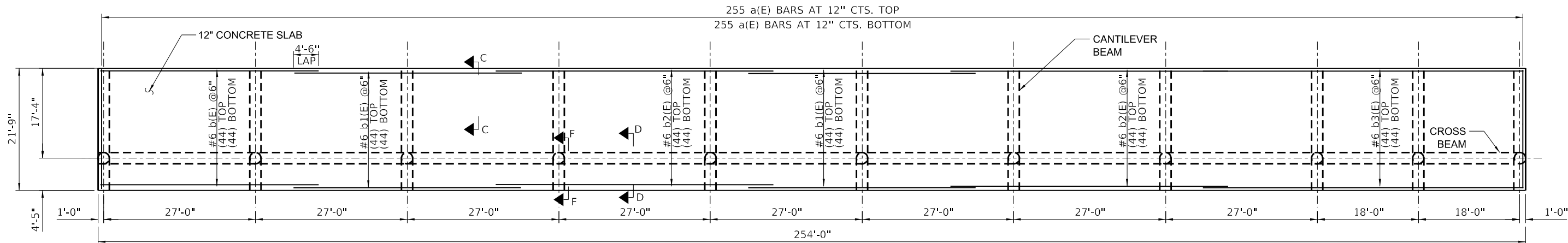
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 CHECKED BY EML DATE 03/11/2018



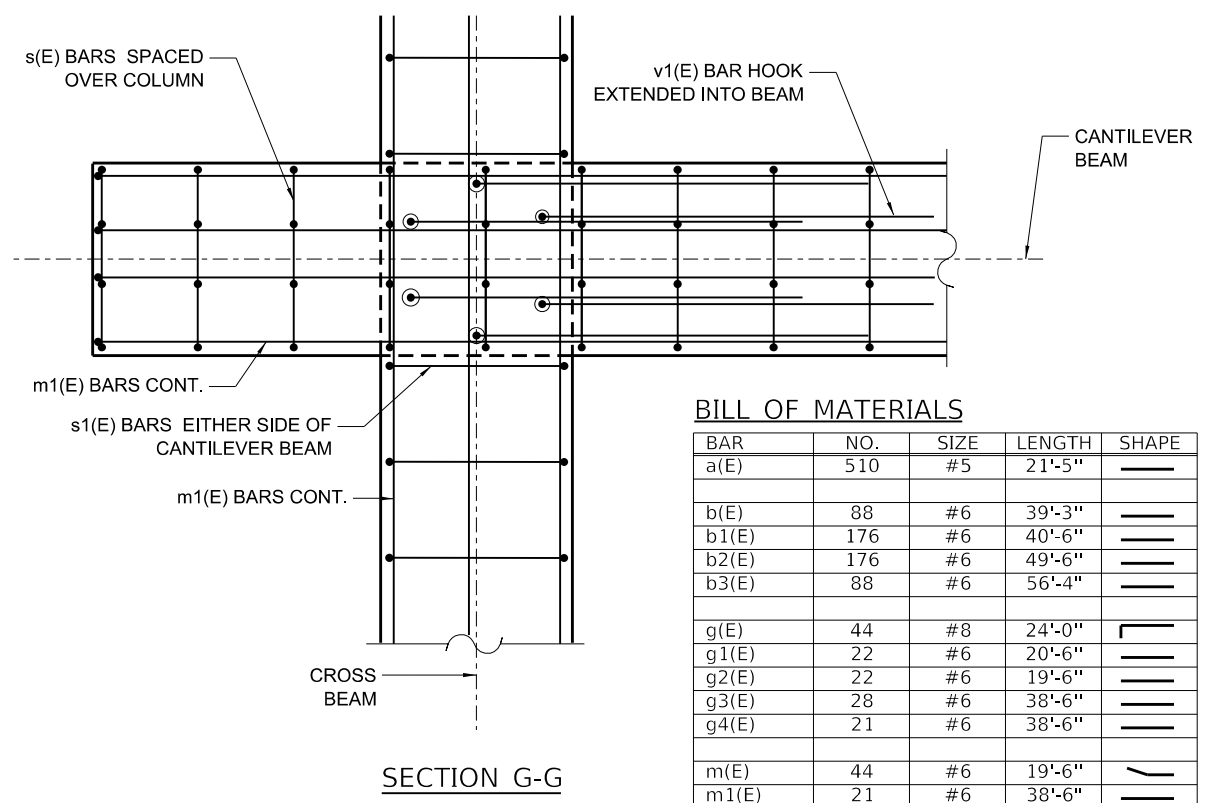
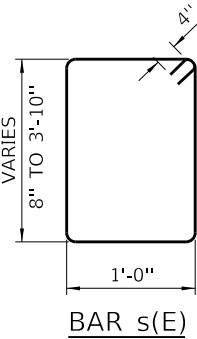
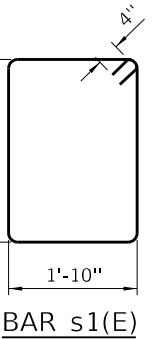
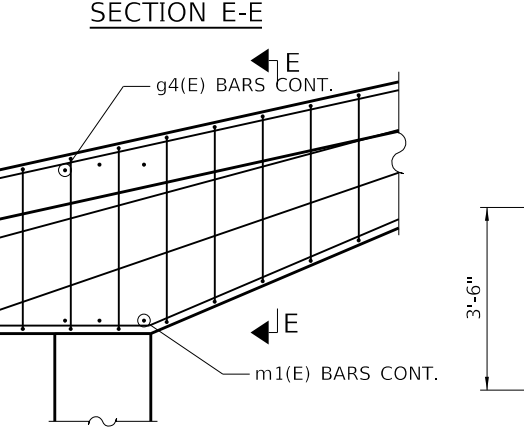
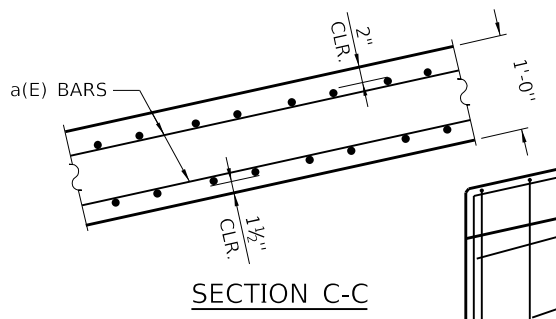
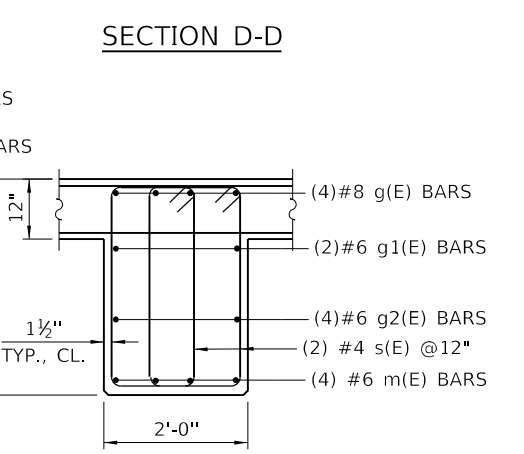
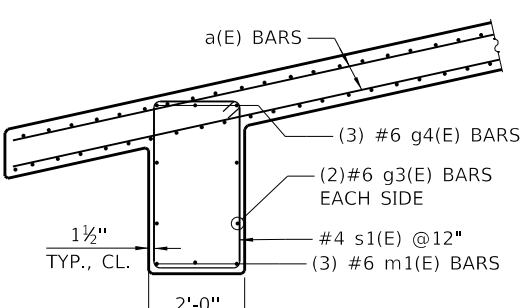
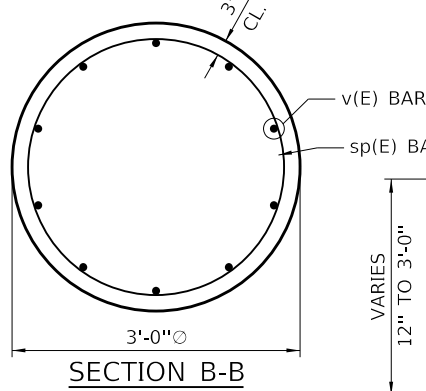
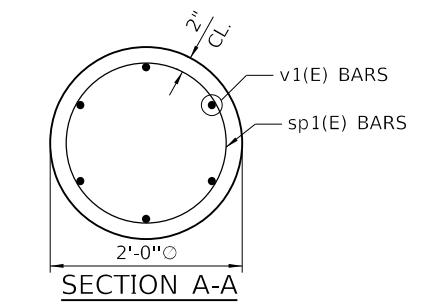
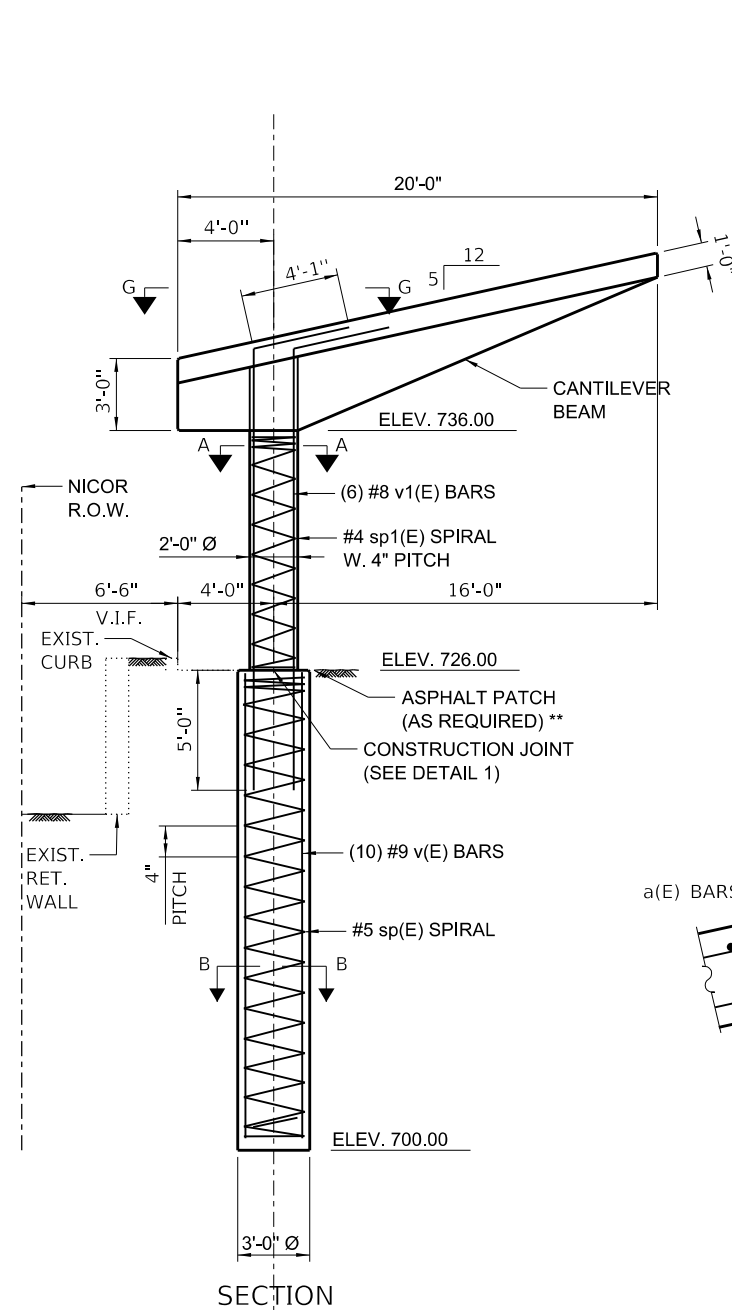
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 SNOW CANOPY
 GENERAL DATA

SHT NO. SZ- 01
 DRAWING NO.
 1304 OF 1517



SLAB PLAN



BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	510	#5	21'-5"	—
b(E)	88	#6	39'-3"	—
b1(E)	176	#6	40'-6"	—
b2(E)	176	#6	49'-6"	—
b3(E)	88	#6	56'-4"	—
g(E)	44	#8	24'-0"	—
g1(E)	22	#6	20'-6"	—
g2(E)	22	#6	19'-6"	—
g3(E)	28	#6	38'-6"	—
g4(E)	21	#6	38'-6"	—
m(E)	44	#6	19'-6"	—
m1(E)	21	#6	38'-6"	—
s(E)	231	#4	7'-1"	□
s1(E)	255	#4	11'-4"	□
sp(E)	11	#5	25'-6"	⋈
sp1(E)	11	#4	10'-0"	⋈
v(E)	110	#10	25'-6"	—
v1(E)	66	#8	22'-1"	—
CONCRETE STRUCTURES			CU YD	323.8
REINFORCEMENT BARS, EPOXY COATED			POUND	81,900
DRILLED SHAFT IN SOIL			CU YD	74.9
APPLY CONCRETE SEALANT			SQ FT	5,588

* FOR PURPOSES OF THE BILL OF MATERIALS, s(E) IS CALCULATED AT THE AVERAGE STIRRUP HEIGHT OF 2'-3" ACTUAL SIZES TO BE PROVIDED BY THE MATERIAL FABRICATOR.

** ASPHALT PATCHING INCLUDED WITH PAY ITEM: DRILLED SHAFT IN SOIL

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DRAWN BY PRD DATE 03/11/2018
 CHECKED BY EML DATE 03/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

NO.		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. SZ- 02
 SNOW CANOPY
 PLAN, ELEVATION, AND DETAILS DRAWING NO.
 1305 OF 1517



SOIL BORING LOG

Page 1 of 1

Date 2/15/18

ROUTE Veterans Memorial Tollway-I 355 DESCRIPTION Proposed Snow Shelter, Tollway Maintenance Building 14 LOGGED BY J.W.

SECTION M-14 Maintenance Facility LOCATION 3480 Finley Road, Downers Grove, Illinois

COUNTY DuPage DRILLING METHOD 3 1/2" Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H S	B L O C K S Q u T	U C S T	M O D E S	Surface Water Elev. N/A ft Stream Bed Elev. N/A ft	Groundwater Elev.: First Encounter N/A ft Upon Completion N/A ft After Hrs. N/A ft	ft	(ft) (ft)	(ft)	(ft)	(tsf)	(%)
Approximately 8 inches of ASPHALT												
Approximately 10 inches of GRAVEL												
Medium stiff, Brown and gray CLAY LOAM												
Possible fill												
Increased percentage of GRAVEL and SAND observed from 4 1/2' to 5'												
N value may be influenced due to the presence of gravel												
Dense, Brown SANDY CLAY LOAM												
Possible fill												
Stiff, Black CLAY to SILTY CLAY												
End of boring at approximately 15 feet below existing grade.												
No free groundwater encountered during drilling operations.												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 2/15/18

ROUTE Veterans Memorial Tollway-I 355 DESCRIPTION Proposed Snow Shelter, Tollway Maintenance Building 14 LOGGED BY J.W.

SECTION M-14 Maintenance Facility LOCATION 3480 Finley Road, Downers Grove, Illinois

COUNTY DuPage DRILLING METHOD 3 1/2" Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H S	B L O C K S Q u T	U C S T	M O D E S	Surface Water Elev. N/A ft Stream Bed Elev. N/A ft	Groundwater Elev.: First Encounter N/A ft Upon Completion N/A ft After Hrs. N/A ft	ft	(ft) (ft)	(ft)	(ft)	(tsf)	(%)
Approximately 8 inches of ASPHALT												
UNDOCUMENTED FILL: Brown SAND to SANDY LOAM												
Increased percentage of GRAVEL observed from 23 1/2' to 25'												
Brown SANDY CLAY LOAM												
Possible fill												
Soft to very stiff, Dark brown CLAY to SILTY CLAY												
Possible fill												
Stiff, Gray CLAY to SILTY CLAY												
Stiff, Gray CLAY to SILTY CLAY												
End of boring at approximately 30 feet below existing grade.												
No free groundwater observed during drilling operations.												
Stiff, Brown SILTY CLAY to SILTY CLAY LOAM												
End of boring at approximately 15 feet below existing grade.												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 2/19/18

ROUTE Veterans Memorial Tollway-I 355 DESCRIPTION Proposed Snow Shelter, Tollway Maintenance Building 14 LOGGED BY J.W.

SECTION M-14 Maintenance Facility LOCATION 3480 Finley Road, Downers Grove, Illinois

COUNTY DuPage DRILLING METHOD 3 1/2" Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H S	B L O C K S Q u T	U C S T	M O D E S	Surface Water Elev. N/A ft Stream Bed Elev. N/A ft	Groundwater Elev.: First Encounter 6 ft Upon Completion N/A ft After Hrs. N/A ft	ft	(ft) (ft)	(ft)	(ft)	(tsf)	(%)
Approximately 8 inches of ASPHALT												
UNDOCUMENTED FILL: Brown SAND (with gravel)												
Soft, Gray CLAY LOAM												
No recovery in attempted Shelby tube sample at 8 1/2' to 11'												
Medium stiff to stiff, Black and dark brown CLAY to SILTY CLAY												
End of boring at approximately 15 feet below existing grade.												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

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SZ-03 OF SZ-03

DRAWN BY PRD DATE 03/11/2018
CHECKED BY EML DATE 03/11/2018



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
SNOW CANOPY
SOIL BORINGS

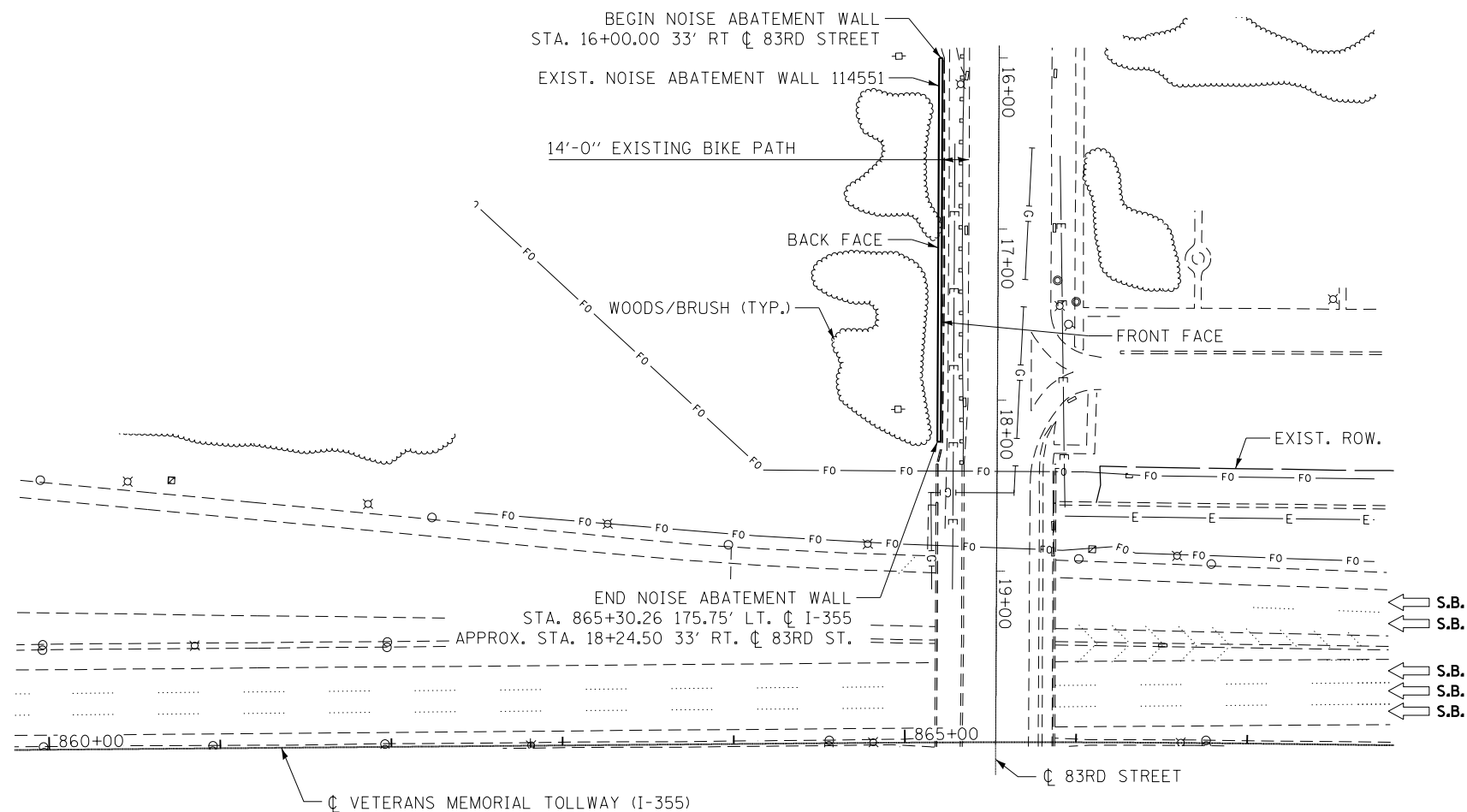
SHT NO. SZ- 01
DRAWING NO.
1306 OF 1517

BENCH MARK:
 "+ MARK ON NORTH BOLT OF FIRE HYDRANT, ON THE NORTH SIDE OF 83RD ST.,
 APPROXIMATELY 105' WEST OF CL BEARING OF WEST ABUTMENT. ELEV. = 780.44.

EXISTING STRUCTURE:
 THE NOISE ABATEMENT WALL NS14.59N,SB(R), ORIGINALLY CONSTRUCTED IN 1989 IN CONTRACT
 CIP-612, IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 1"X10" HORIZONTAL CAP
 BOARDS ON TOP, 2"X8" HORIZONTAL TOP AND BOTTOM BOARDS ON BOTH FACES, 2"X6" BATTENS
 ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS, WHICH ARE 2 1/16" THICK
 THROUGHOUT THE LENGTH OF THE WALL. THE PANELS ARE ANCHORED INTO A TRENCH FILLED
 WITH BACKFILL MATERIAL.

THE ORIGINAL LENGTH OF THE WALL WAS 274'-9 3/4". THE WALL LENGTH WAS REDUCED DUE TO
 THE SOUTHERN WIDENING OF THE 83RD ST. BRIDGE TO ACCOMMODATE A PEDESTRIAN BIKE PATH.
 THE MEASURED WALL LENGTH AT THE TIME OF INSPECTION WAS APPROXIMATELY 224'-6" FT.

TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.



NOISE WALL PLAN

LEGEND

- FO— EXISTING FIBER OPTIC LINE
- E— EXISTING ELECTRICAL
- G— EXISTING GAS LINE
- ⊗ EXISTING LIGHT POLE
- ⊕ EXISTING UTILITY
- EXISTING MANHOLE

DESIGN SPECIFICATIONS

- 2002 AASHTO STANDARD SPECIFICATIONS, 17TH EDITION.
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
- ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDA.
- AASHTO STANDARD SPECIFICATIONS FOR WOOD PRODUCTS, JANUARY 2007.
- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015 EDITION.

CONSTRUCTION SPECIFICATIONS

- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

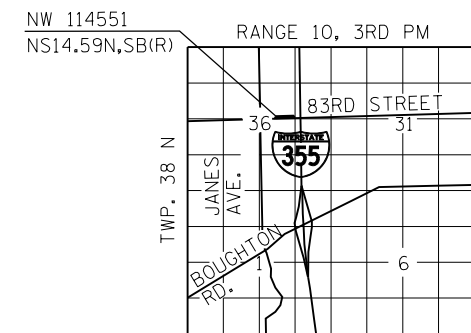
DESIGN STRESSES

NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE #2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

SCOPE OF WORK

1. CAP BOARDS, TOP BOARDS, BOTTOM BOARDS AND BATTENS THAT ARE SPLIT, DETERIORATED AND/OR DETACHED SHALL BE REMOVED AND REPLACED WITH EQUIVALENT SIZED TIMBER BOARDS.
2. SPLIT PANEL PLANKS SHALL BE COVERED WITH 2"X6" STRUCTURAL TIMBER BOARDS ON THE BACK FACE OF THE WALL.
3. CLEAR VEGETATION WITHIN 2 FT. OF THE BACK AND FRONT FACES OF THE ENTIRE LENGTH OF WALL.
4. TIMBER BRACING SHALL BE INSTALLED ON THE BACK FACE OF THE WALL.



LOCATION SKETCH

NWA-01 OF NWA-05

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114551 - NS14.59N,SB(R)
 GENERAL PLAN

SHT NO. NWA-01
 DRAWING NO.
 1307 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Wall\Sh1\4255-sh1-114551.spc-REL.01.dgn

INDEX OF SHEETS

- NWA-01 GENERAL PLAN
- NWA-02 GENERAL NOTES, INDEX OF SHEETS AND T.B.O.M.
- NWA-03 NOISE WALL ELEVATION 1
- NWA-04 NOISE WALL ELEVATION 2
- NWA-05 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F.	BACK FACE
BK/	BACK OF
B/	BOTTOM OF
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CU. FT.	CUBIC FEET
CU. YD.	CUBIC YARD
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
GEN.	GENERAL
I.F.	INSIDE FACE
L.F.	LINEAR FOOT
L. SUM.	LUMP SUM
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
PROP.	PROPOSED
ROW.	RIGHT-OF-WAY
RT.	RIGHT
S.B.	SOUTHBOUND
SHLDR.	SHOULDER
SHT.	SHEET
STA.	STATION
SQ. FT. OR S.F.	SQUARE FOOT
SQ. YD.	SQUARE YARD
SY	SQUARE YARD
T.B.O.M.	TOTAL BILL OF MATERIAL
TYP.	TYPICAL

GENERAL NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "PERFORMANCE BASED NOISE ABATEMENT WALL".

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	50200100	STRUCTURE EXCAVATION	CU. YD.	2	
*	JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES	FOOT	247	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	280	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	137**	

- * INDICATES SPECIAL PROVISION
- ** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

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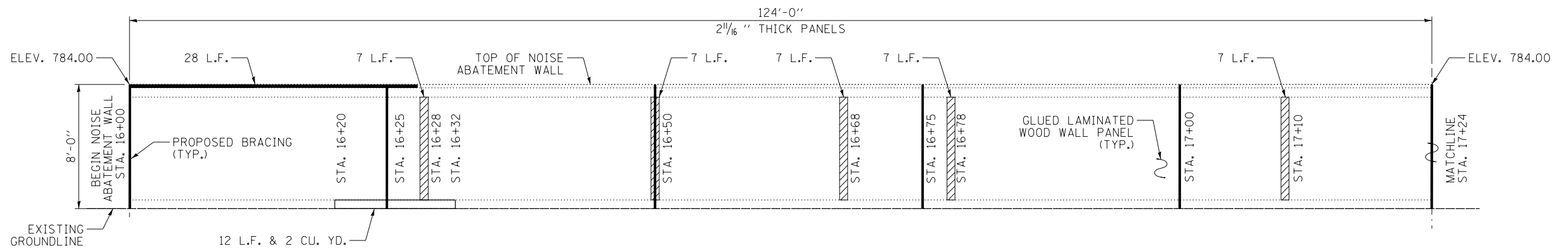
NWA-02 OF NWA-05

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018

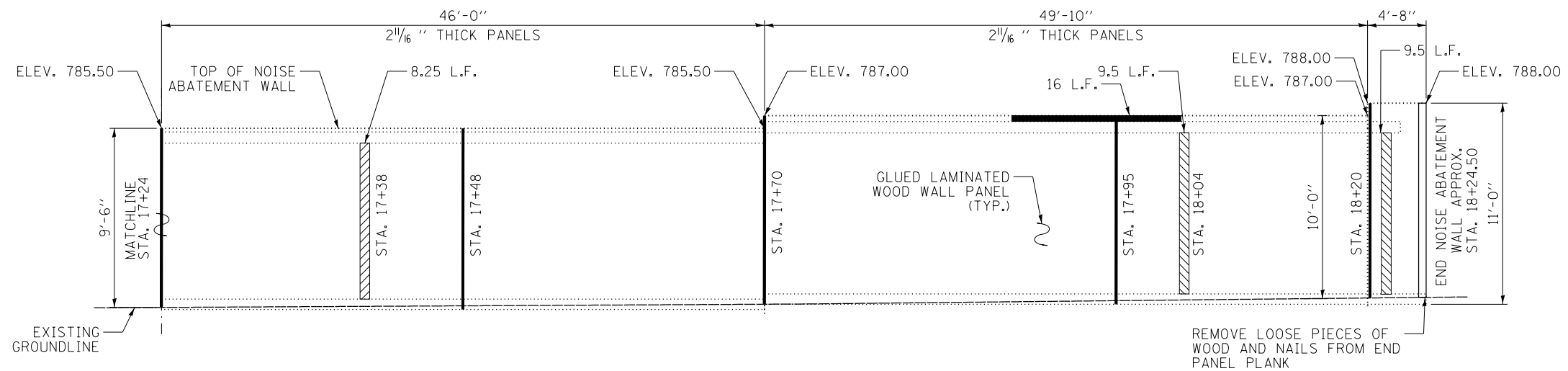


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. NWA-02
 NOISE WALL 114551 - NS14.59N,SB(R) DRAWING NO.
 GEN. NOTES, INDEX OF SHTS. & T.B.O.M. 1308 OF 1517









WALL BACK ELEVATION
(LOOKING NORTH)



WALL BACK ELEVATION
(LOOKING NORTH)

COST INCLUDED IN "REMOVE AND REPLACE TREATED TIMBER"

LEGEND

-  STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)
-  REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"X6" BATTEN)
-  REMOVE AND REPLACE TREATED TIMBER (1'X10" CAP BOARD)
-  REMOVE AND REPLACE TREATED TIMBER (L.F.) & STRUCTURE EXCAVATION (CU. YD.) (SEE PANEL PLANK REPAIR DETAIL ON NWA-05)
-  REPAIR PANEL PLANK
-  INSTALL BRACING (SEE NWA-05 FOR QUANTITIES)

NOTES:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	TOTAL QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	2
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	19
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	100

DRAWN BY MMZ DATE 3/11/2018
CHECKED BY MMH DATE 3/11/2018

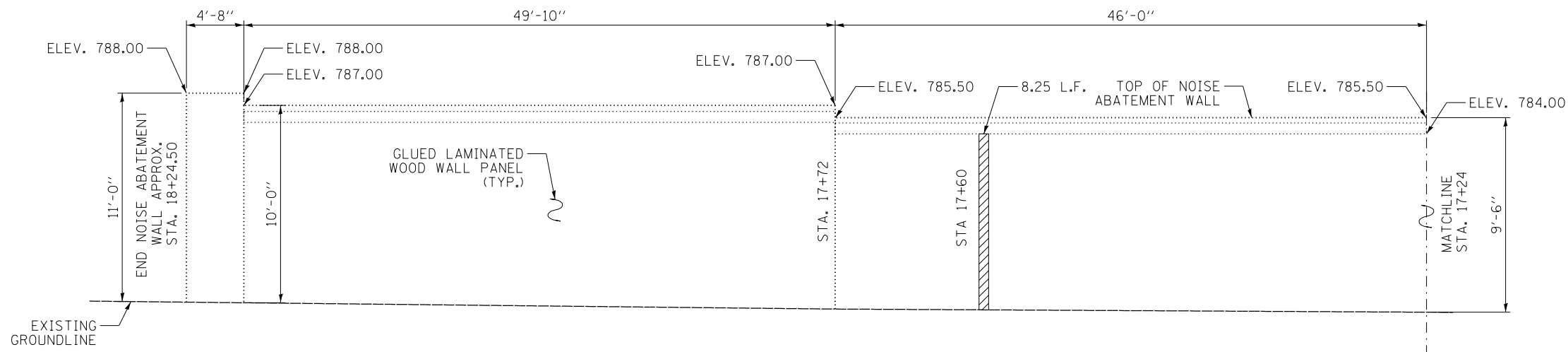


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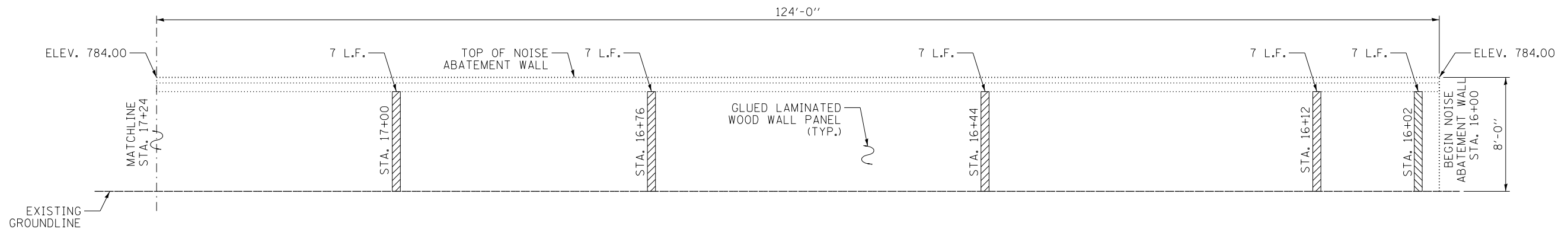
CONTRACT NO. RR-16-4255
NOISE WALL 11451 - NS14,59N,SB(R)
NOISE WALL ELEVATION 1

SHT NO. NWA-03
DRAWING NO. 1309 OF 1517

NWA-03 OF NWA-05



WALL FRONT ELEVATION
(LOOKING SOUTH)



WALL FRONT ELEVATION
(LOOKING SOUTH)

LEGEND

- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"x6" BATTEN)

NOTES:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	TOTAL QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	7
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	37

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**



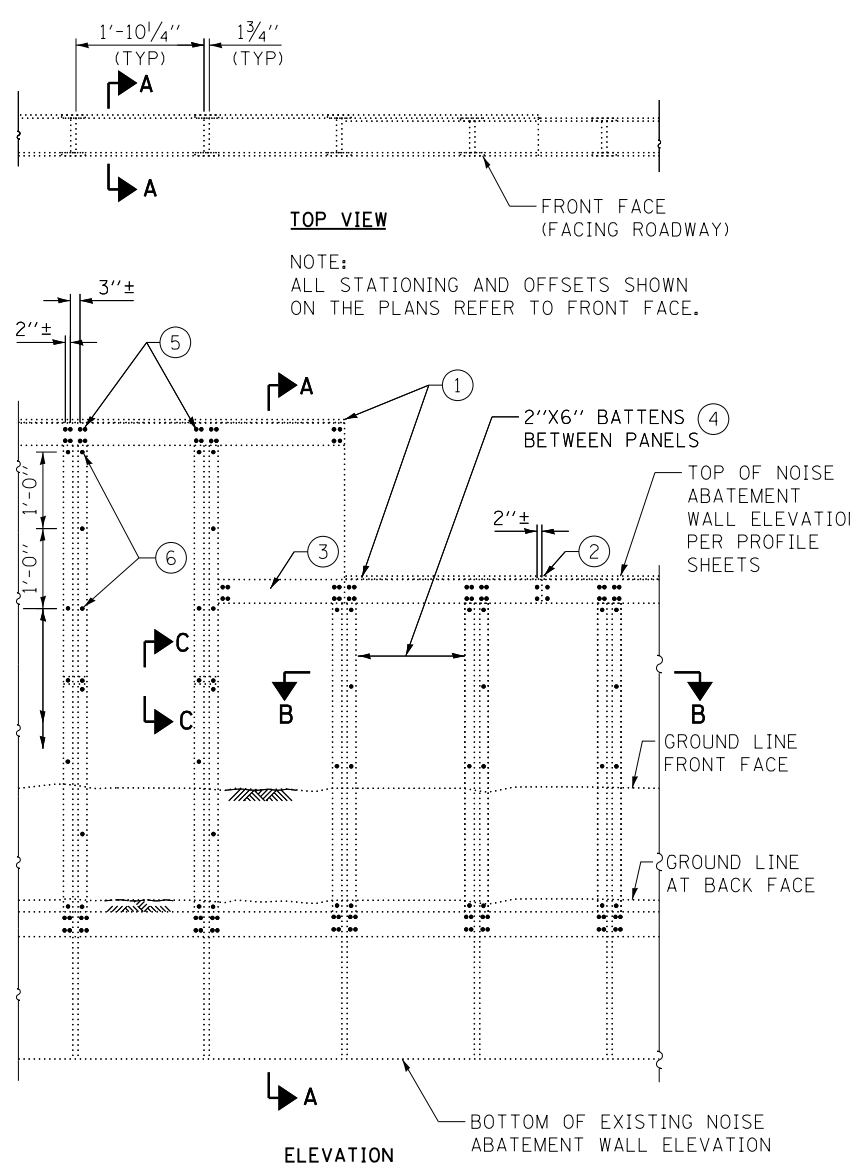
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NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11451 - NS14,59N,SB(R)
 NOISE WALL ELEVATION 2

SHT NO. NWA-04
 DRAWING NO.
 1310 OF 1517

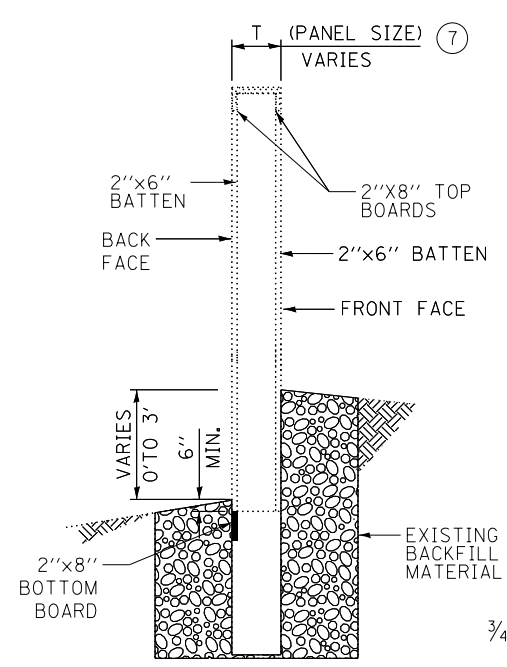
NWA-04 OF NWA-05

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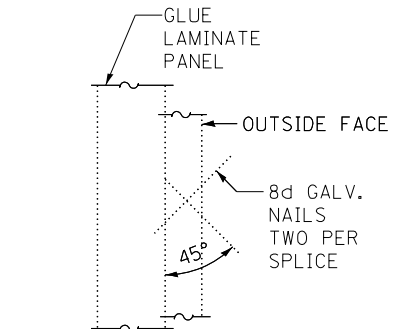


EXISTING WALL DETAILS

- ① 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"x8" S WITH FOUR 8d GALVANIZED NAILS PER PANEL. INCIDENTAL TO "REMOVE AND REPLACE TREATED TIMBER".
- ② MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.).
- ③ OVERLAY 2"x8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ ON BACK FACE THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP). SPACE AS SHOWN.
- ⑥ 2" SPACING STAGGER AS SHOWN 16d GALV. RING SHANK NAILS.

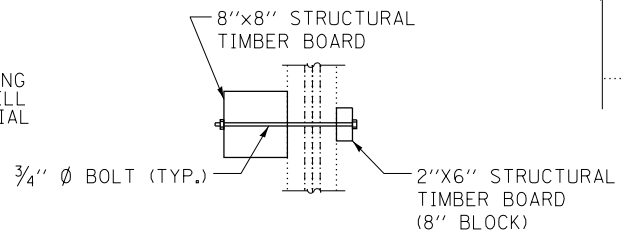


SECTION A-A



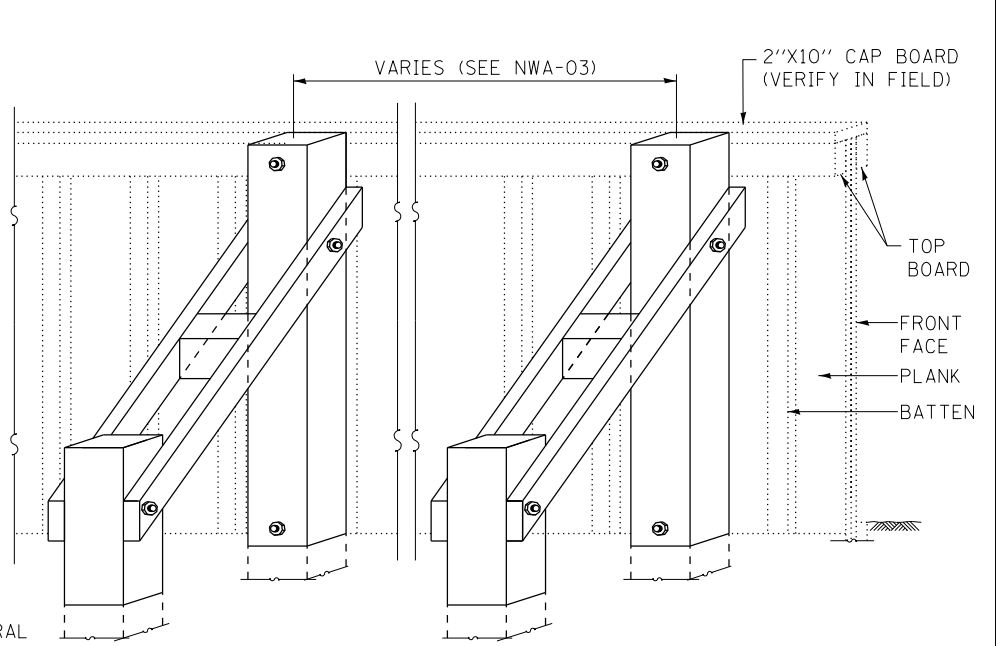
SECTION C-C

PERMISSIBLE BATTEN SPLICE (TYP.)

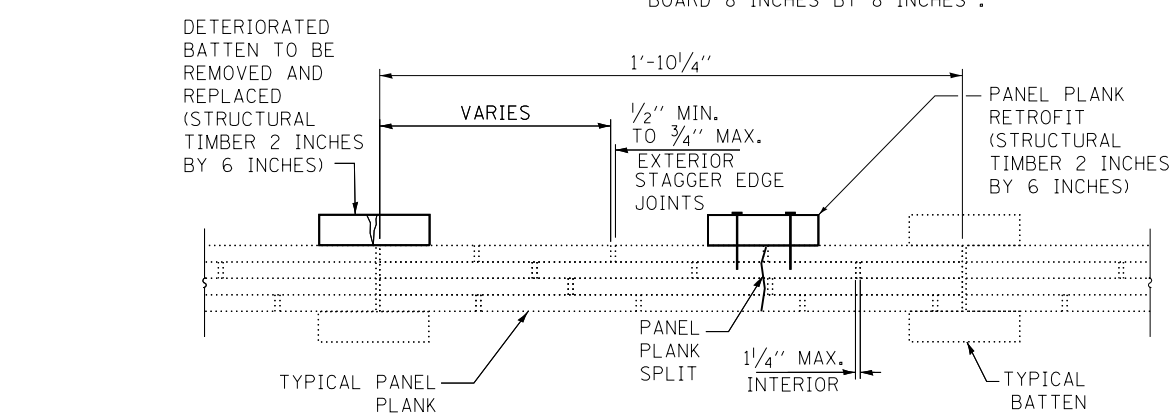


SECTION D-D

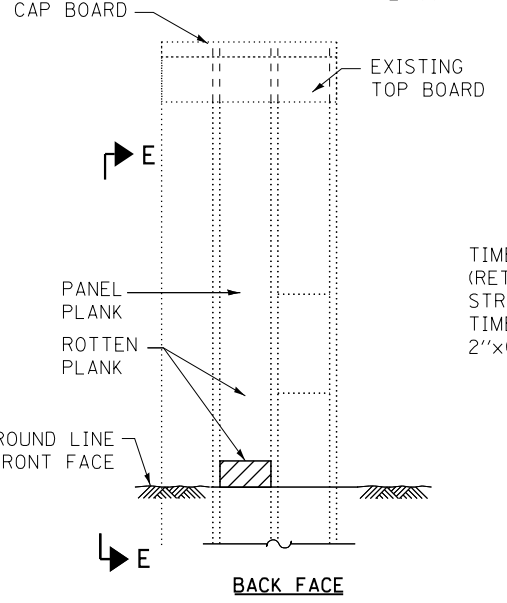
COST INCLUDED IN "STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".



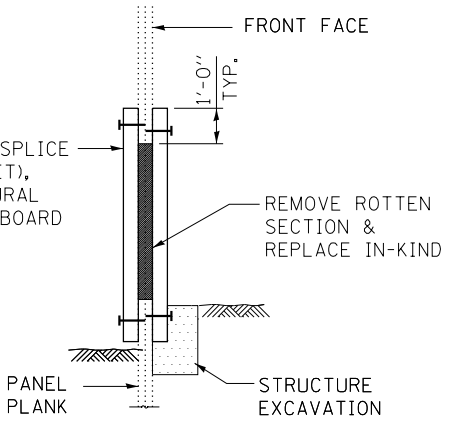
WALL BRACING ELEVATION DETAIL



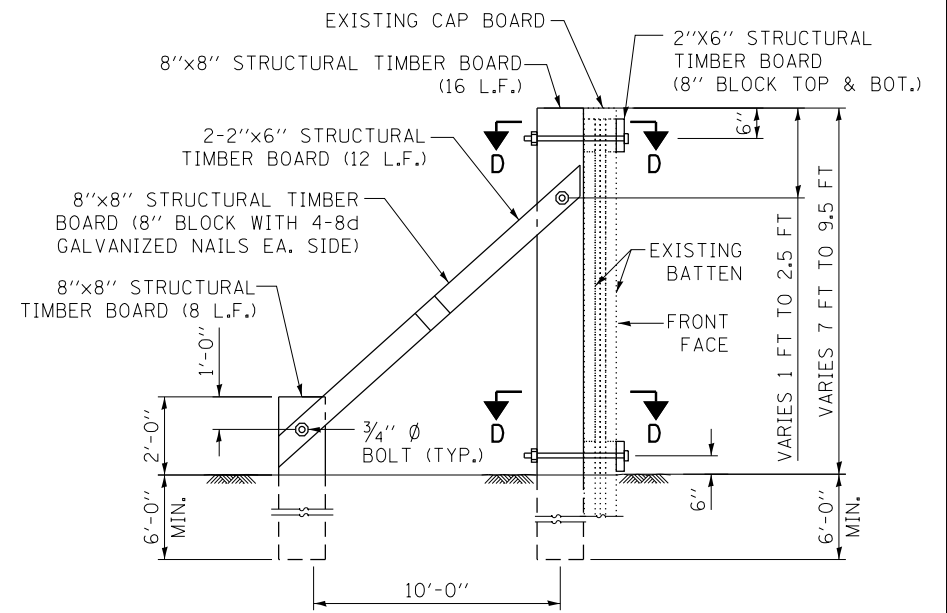
SECTION B-B



PANEL PLANK REPAIR DETAIL



SECTION E-E ROTTEN PLANK



WALL BRACING SECTION DETAIL

COST OF BOLT ASSEMBLIES INCLUDED IN "STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES *	FOOT	247
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES *	FOOT	254

* SOUTHERN PINE GRADE #1 AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114551 - NS14,59N,SB(R)
 STANDARD REPAIR DETAILS

NWA-05 OF NWA-05
 SHT NO. NWA-05
 DRAWING NO. 1311 OF 1517

BENCHMARK: CUT "□" IN THE NE CORNER OF THE WEST OVERHEAD CONCRETE SIGN TRUSS FOUNDATION (SIGN READS "BOUGHTON RD. 1/2 MILE") SB I-355 ± STA. 899+01, 84' LT. ELEV = 755.52

EXISTING STRUCTURE: NOISE WALL NS14.60N,SB(R) WAS ORIGINALLY CONSTRUCTED IN 1997 UNDER CONTRACT CIP-93-700P WITH REPAIRS PERFORMED UNDER CONTRACT RR-08-5475 IN 2010. THE NOISE WALL, WITH A TOTAL LENGTH OF 3803'-4", IS COMPOSED OF PRECAST CONCRETE POSTS AND PANELS. AESTHETICALLY THE PRECAST PANELS UTILIZE A LIMESTONE BRICK FORM LINER. THAT MAXIMUM EXPOSED HEIGHT OF THE WALL IS 24'-7". THE CONCRETE PANEL THICKNESS IS 4 1/4" AND 1'-6" X 1'-6" POSTS.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGED CONSTRUCTION. NO SALVAGE.

SCOPE OF WORK

1. CRACKS, DELAMINATED CONCRETE PATCHES, SHALLOW SPALLS AND SPALLS WITH EXPOSED REBAR SHALL BE REPAIRED UTILIZING STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.), SHALLOW CONCRETE REPAIR AND LOW PRESSURE EPOXY INJECTION.
2. VEGETATION SHALL BE CLEARED FROM THE FRONT AND BACK FACE OF THE ENTIRE LENGTH OF WALL WITH REMOVE VEGETATION.

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION

AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, ADOPTED MARCH 2017.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.

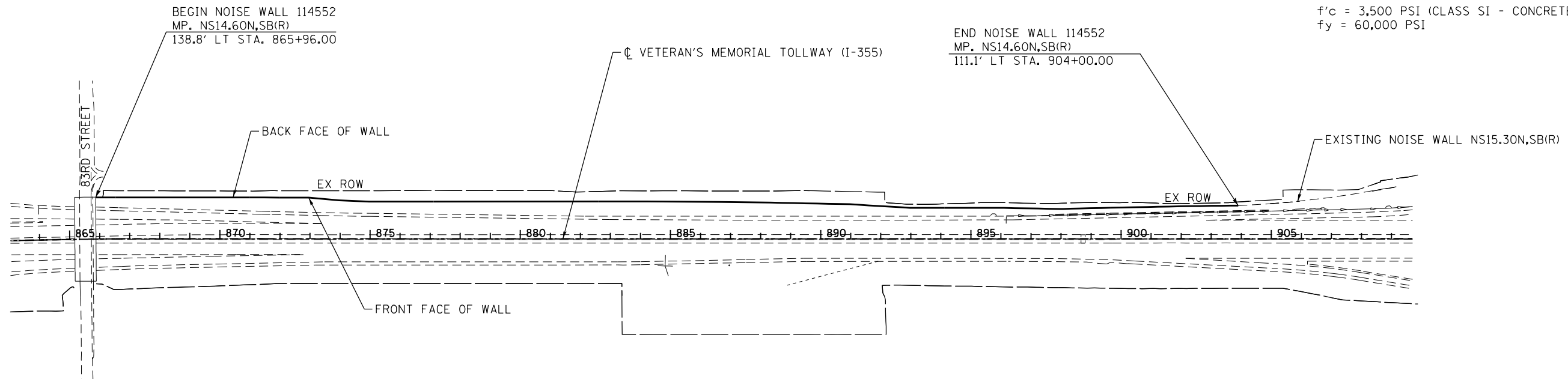
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

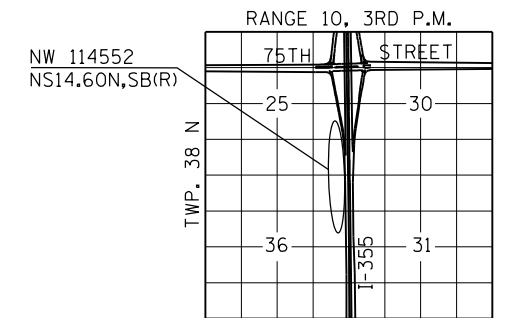
DESIGN STRESSES

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - CONCRETE REPAIRS)
fy = 60,000 PSI



NOISE WALL PLAN



LOCATION SKETCH

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

SE3
3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
(630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 114552 - NS14.60N,SB(R)
GENERAL PLAN

SHT NO. NWB-01
DRAWING NO.
1312 OF 1517

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INDEX OF SHEETS

- NWB-01 GENERAL PLAN
- NWB-02 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
- NWB-03 NOISE WALL ELEVATION 1
- NWB-04 NOISE WALL ELEVATION 2
- NWB-05 NOISE WALL ELEVATION 3
- NWB-06 NOISE WALL ELEVATION 4
- NWB-07 NOISE WALL ELEVATION 5
- NWB-08 NOISE WALL ELEVATION 6
- NWB-09 NOISE WALL ELEVATION 7
- NWB-10 NOISE WALL ELEVATION 8

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- CL CENTERLINE
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- F.F. FRONT FACE
- L SUM LUMP SUM
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- PROP. PROPOSED
- R.O.W. RIGHT-OF-WAY
- S.B. SOUTHBOUND
- SQ. FT. SQUARE FOOT
- STA. STATION
- TYP. TYPICAL

GENERAL NOTES

1. THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
2. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
3. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR ANY QUANTITY ABOVE THOSE LISTED, AND AGREED TO BY THE ENGINEER, IN ACCORDANCE WITH SECTION 109.04 OF THE IDOT STANDARD SPECIFICATIONS.
4. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT AND/OR BENT TO FIT. COST SHALL BE INCIDENTAL TO STRUCTURAL REPAIR OF CONCRETE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TOLLWAY AT LEAST 5 DAYS IN ADVANCE OF ANY CONSTRUCTION NEAR TOLLWAY OWNER FACILITIES (ELECTRICAL, COMMUNICATION CABLES, FIBER OPTIC CABLE, TRAFFIC CONTROL, CAMERAS, ETC) USING THE TOLLWAY WEBSITE WWW.ILLINOISVIRTUALTOLLWAY.COM/UTILITYLOCATES. ANY BURIED FACILITY WITHIN 2 FEET OF AN EXCAVATION LOCATION SHALL FIRST BE EXPOSED BY THE CONTRACTOR BY HAND DIGGING. ONCE EXPOSED, THE CONTRACTOR SHALL PROTECT THE FACILITY. IF CONTRACTOR CUTS OR DAMAGES THE TOLLWAY FACILITY, EITHER THROUGH CARELESSNESS OR FAILURE TO FOLLOW THE ABOVE PROCEDURE HE/SHE SHALL BE HELD RESPONSIBLE FOR THE REPAIR OF THE DAMAGE AT HIS/HER EXPENSE, AND TO THE SATISFACTION OF THE TOLLWAY.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
7. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
8. NO CONCRETE CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS COMPLETED IN 2017 AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVIENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

CAST-IN-PLACE CONCRETE GENERAL NOTES:

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT OF MEASURE	TOTAL QUANTITY	RECORDED QUANTITY
••	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	66	
•	JT201005	REMOVE VEGETATION	L SUM	1	
•	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	11	
•	JT503050	SHALLOW CONCRETE REPAIR	SQ FT	33	

- REQUIRES SPECIAL PROVISION
- INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

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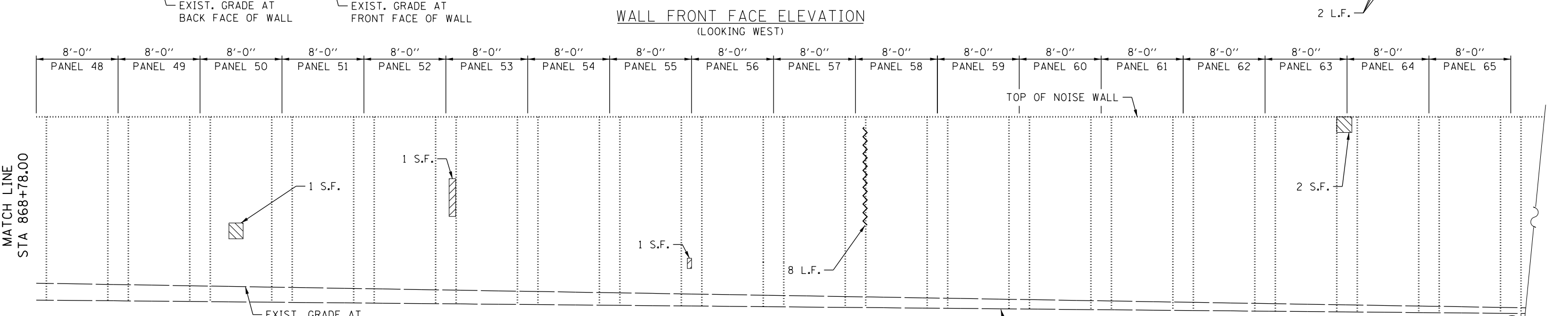
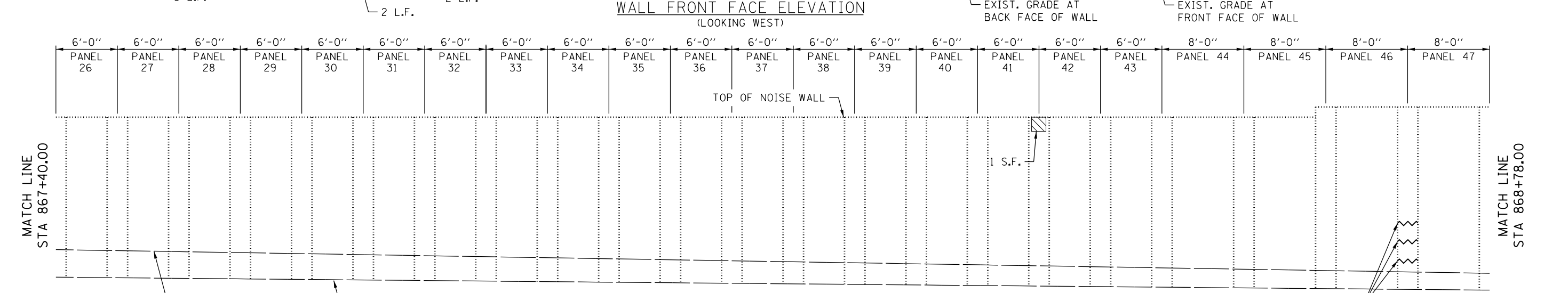
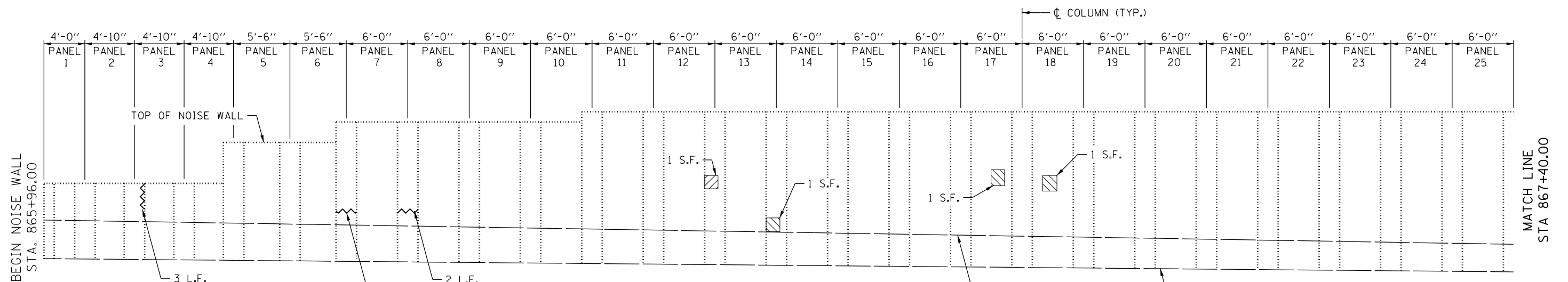
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 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. NWB-02
 NOISE WALL 114552 - NS14.60N,SB(R) DRAWING NO.
 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL 1313 OF 1517

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- LEGEND**
- X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
 - X S.F. SHALLOW CONCRETE REPAIR
 - X L.F. LOW PRESSURE EPOXY INJECTION

NOTE: NO REPAIRS ON FRONT FACE OF WALL ANTICIPATED BETWEEN PANELS 65 AND 179 BASED ON 2017 INSPECTION.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	3
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	21
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	7

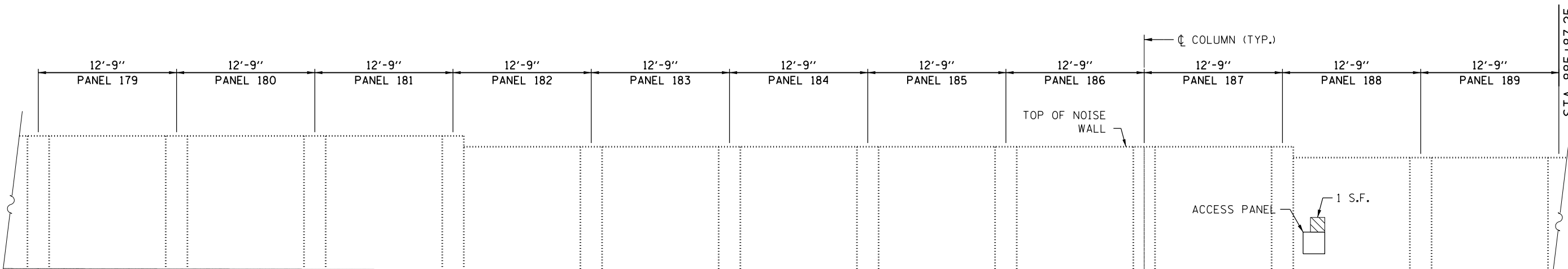
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 CHECKED BY RRD DATE 3/11/2018



NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-16-4255
 NOISE WALL 11452 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 1

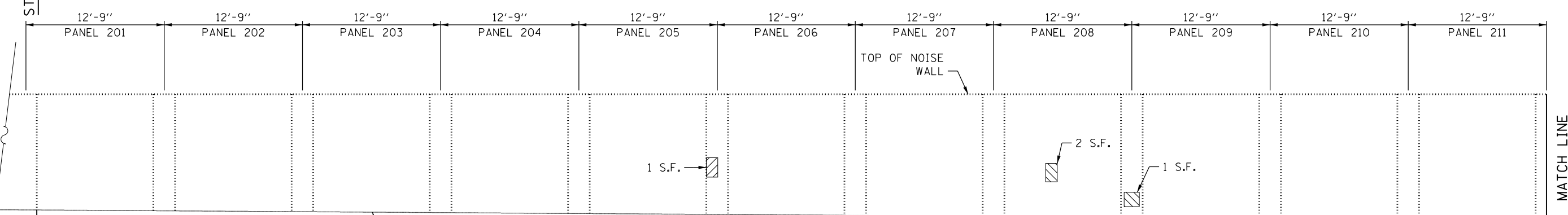
SHT NO. NWB-03
 DRAWING NO. 1314 OF 1517



NOTE: BASED ON 2017 INSPECTION, NO REPAIRS ON FRONT FACE OF WALL ANTICIPATED BETWEEN PANELS 65 AND 179.

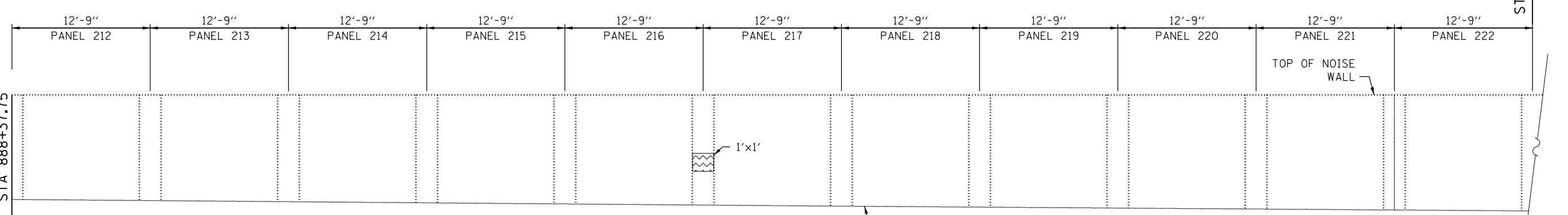
WALL FRONT FACE ELEVATION
(LOOKING WEST)

EXIST. GRADE FRONT AND BACK FACE OF WALL



EXIST. GRADE FRONT AND BACK FACE OF WALL

WALL FRONT FACE ELEVATION
(LOOKING WEST)



EXIST. GRADE FRONT AND BACK FACE OF WALL

WALL FRONT FACE ELEVATION
(LOOKING WEST)

- LEGEND**
- X L.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
 - X S.F. SHALLOW CONCRETE REPAIR
 - MAP CRACKING (INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	1
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	4

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

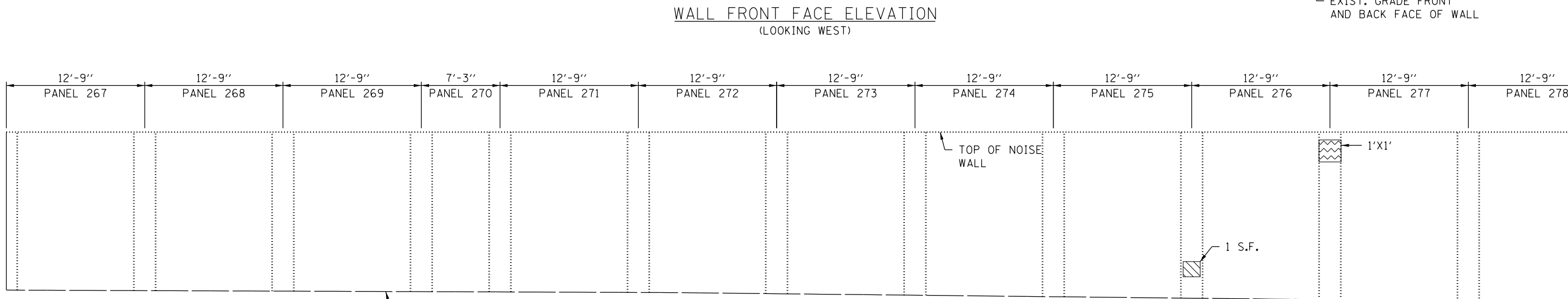
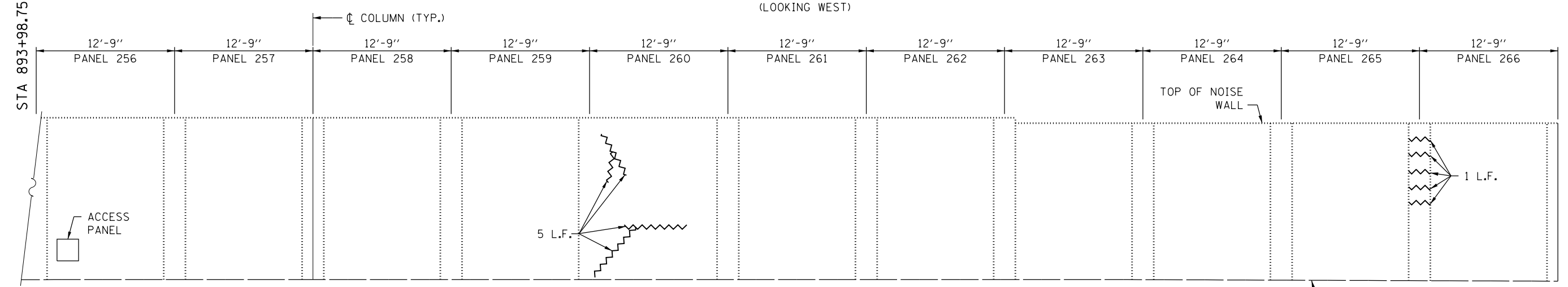
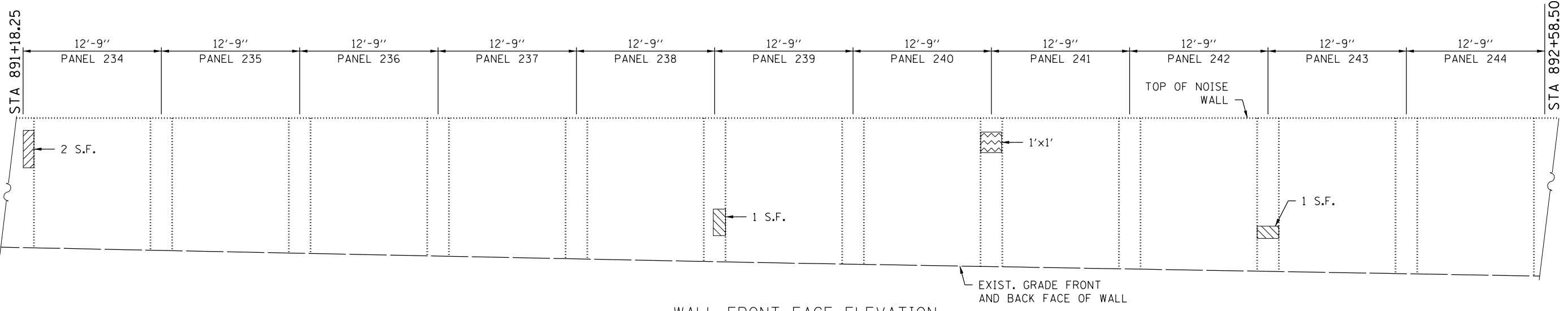


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
NOISE WALL 11452 - NS14.60N,SB(R)
NOISE WALL ELEVATION 2

SHT NO. NWB-04
DRAWING NO. 1315 OF 1517

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- LEGEND**
- X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
 - MAP CRACKING (FOR INFORMATION ONLY)
 - SHALLOW CONCRETE REPAIR
 - X L.F. LOW PRESSURE EPOXY INJECTION

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	2
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	25
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	3

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

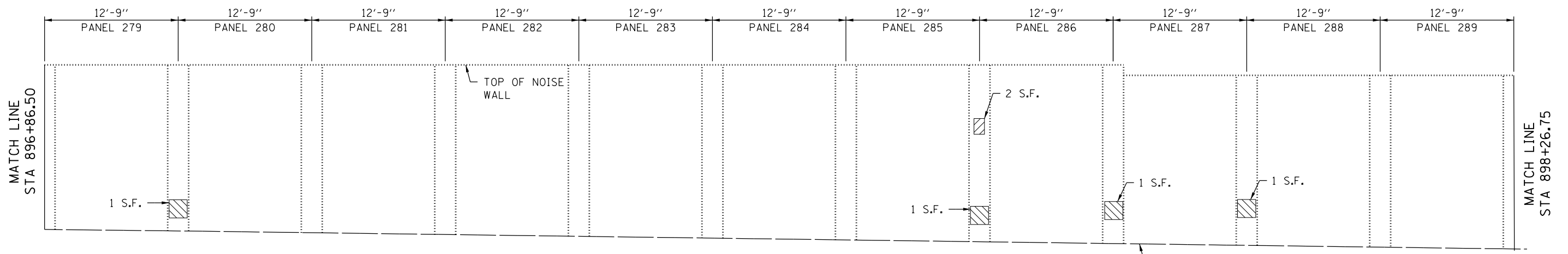


REVISIONS	
NO.	DATE

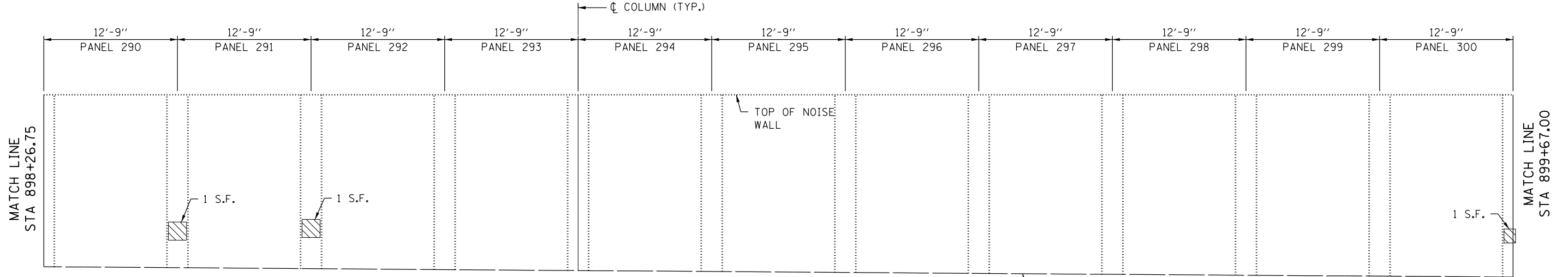
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 NOISE WALL 11452 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 3

SHT NO. NWB-05
 DRAWING NO. 1316 OF 1517

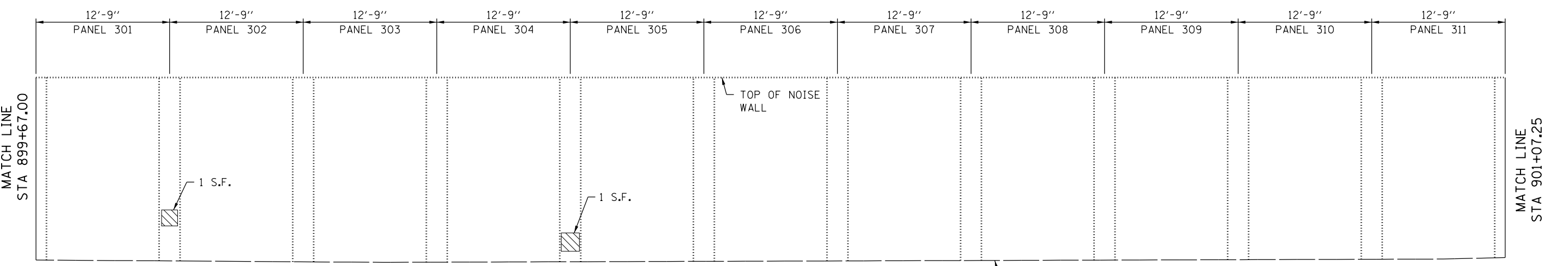
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WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)

LEGEND

X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)

X S.F. SHALLOW CONCRETE REPAIR

MAP CRACKING (FOR INFORMATION ONLY)

STATION INCREASE →

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	2
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	9

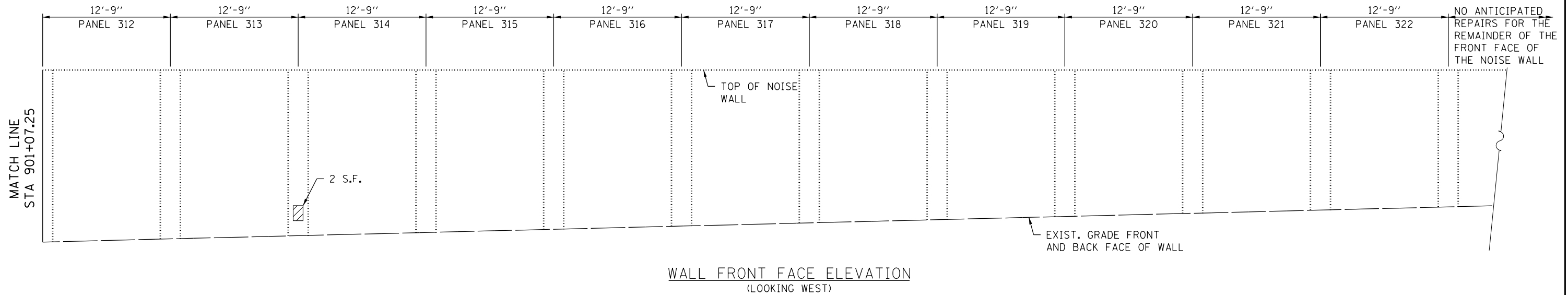
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11452 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 4

SHT NO. NWB-06
 DRAWING NO. 1317 OF 1517



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LEGEND

X S.F.
 STRUCTURAL REPAIR OF CONCRETE
 (DEPTH EQUAL TO OR LESS THAN 5 IN.)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	2

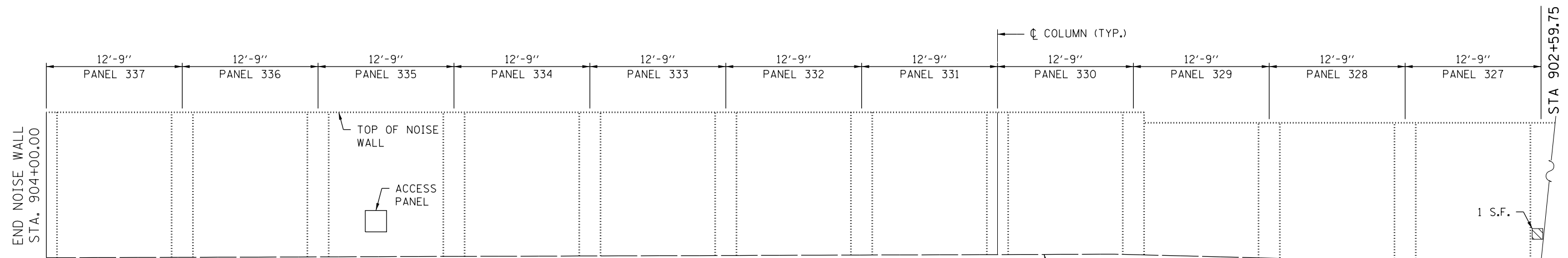
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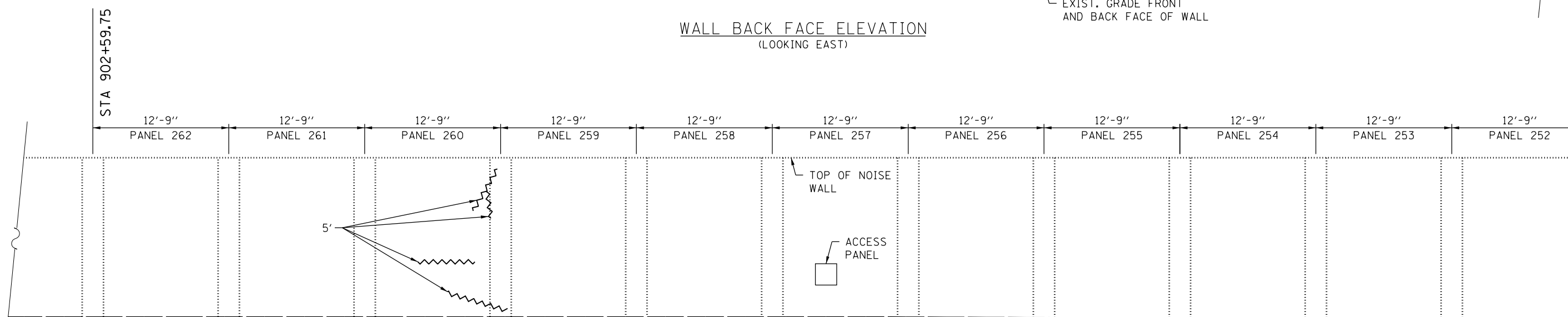
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NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114552 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 5

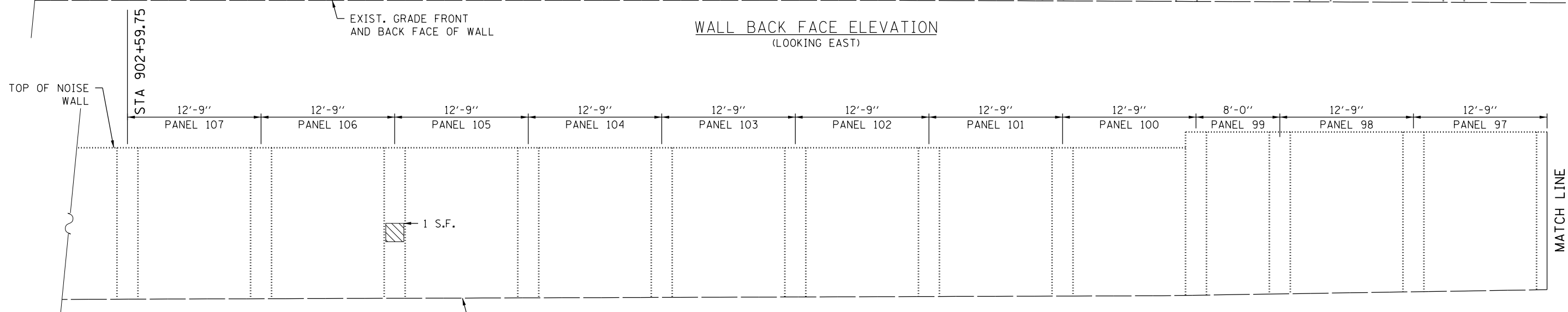
SHT NO. NWB-07
 DRAWING NO.
 1318 OF 1517



WALL BACK FACE ELEVATION
(LOOKING EAST)



WALL BACK FACE ELEVATION
(LOOKING EAST)



WALL BACK FACE ELEVATION
(LOOKING EAST)

- LEGEND**
- X S.F. SHALLOW CONCRETE REPAIR
 - X L.F. LOW PRESSURE EPOXY INJECTION

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	20
JT503050	SHALLOW CONCRETE REPAIR	SO FT	2

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

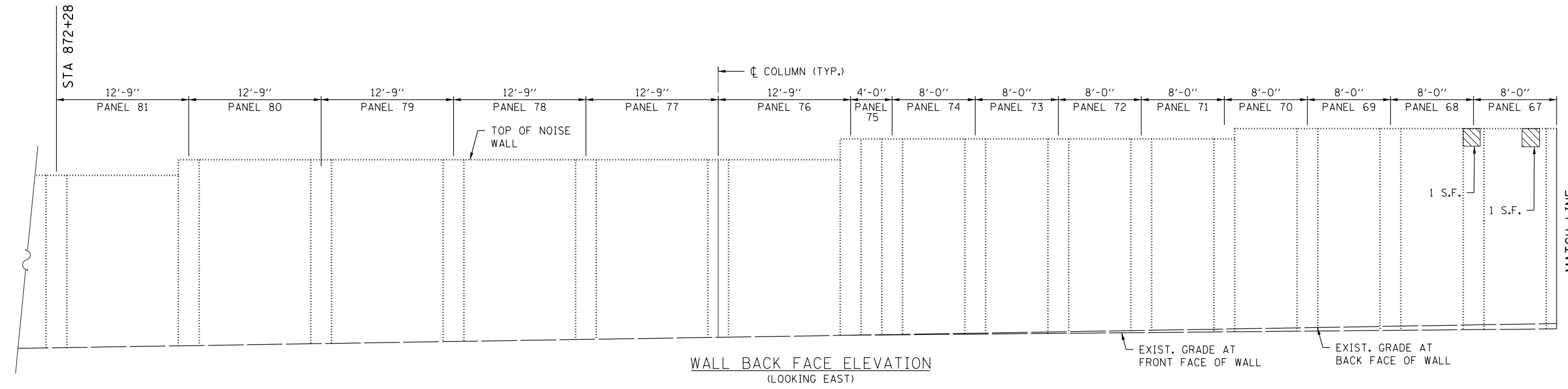
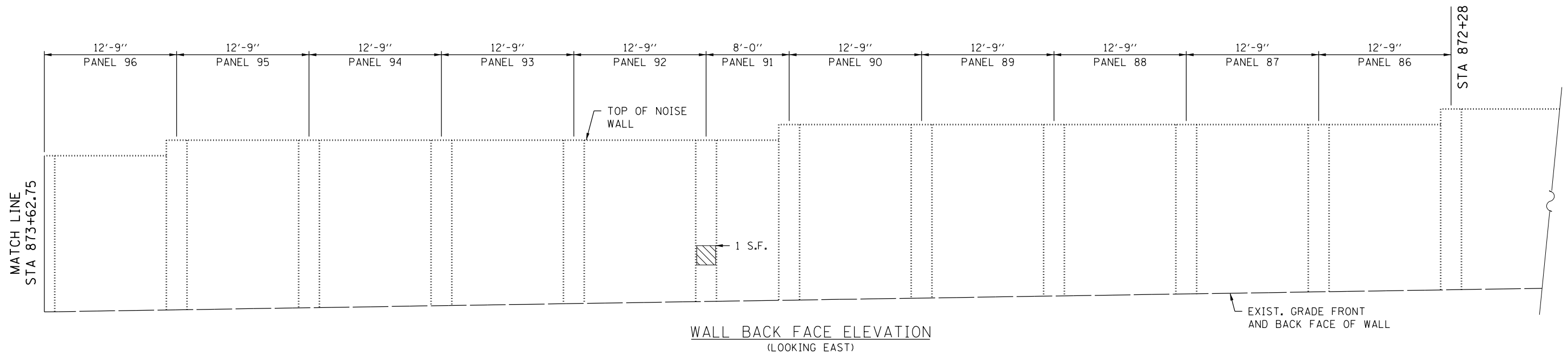


NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11452 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 6

SHT NO. NWB-08
 DRAWING NO. 1319 OF 1517

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LEGEND

X S.F.
SHALLOW CONCRETE REPAIR

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	3

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

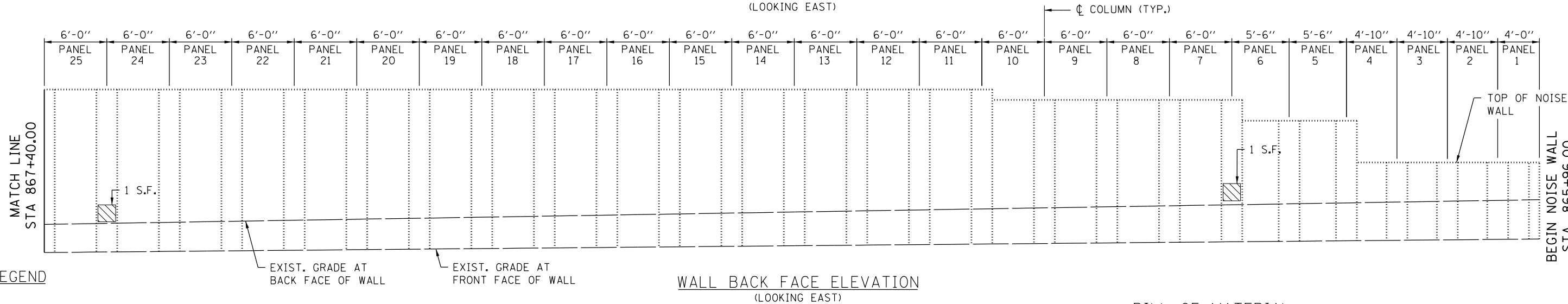
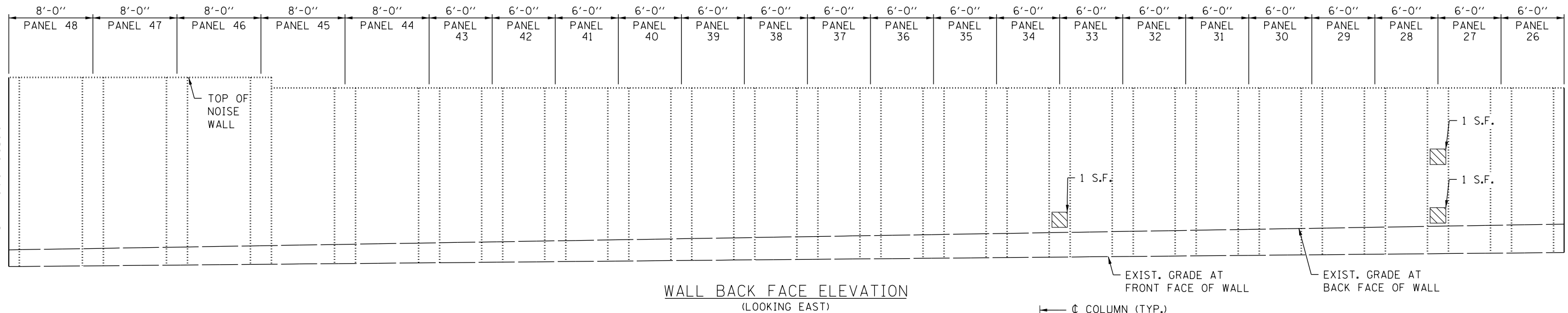
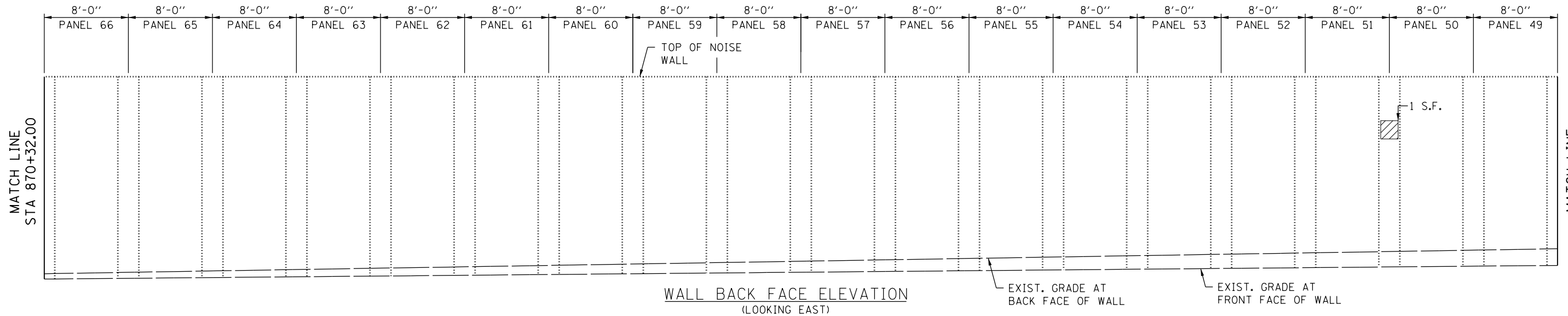


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
NOISE WALL 11452 - NS14.60N,SB(R)
NOISE WALL ELEVATION 7

SHT NO. NWB-09
DRAWING NO. 1320 OF 1517

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LEGEND

- X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- X S.F. SHALLOW CONCRETE REPAIR

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	1
JT503050	SHALLOW CONCRETE REPAIR	SQ FT	5

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

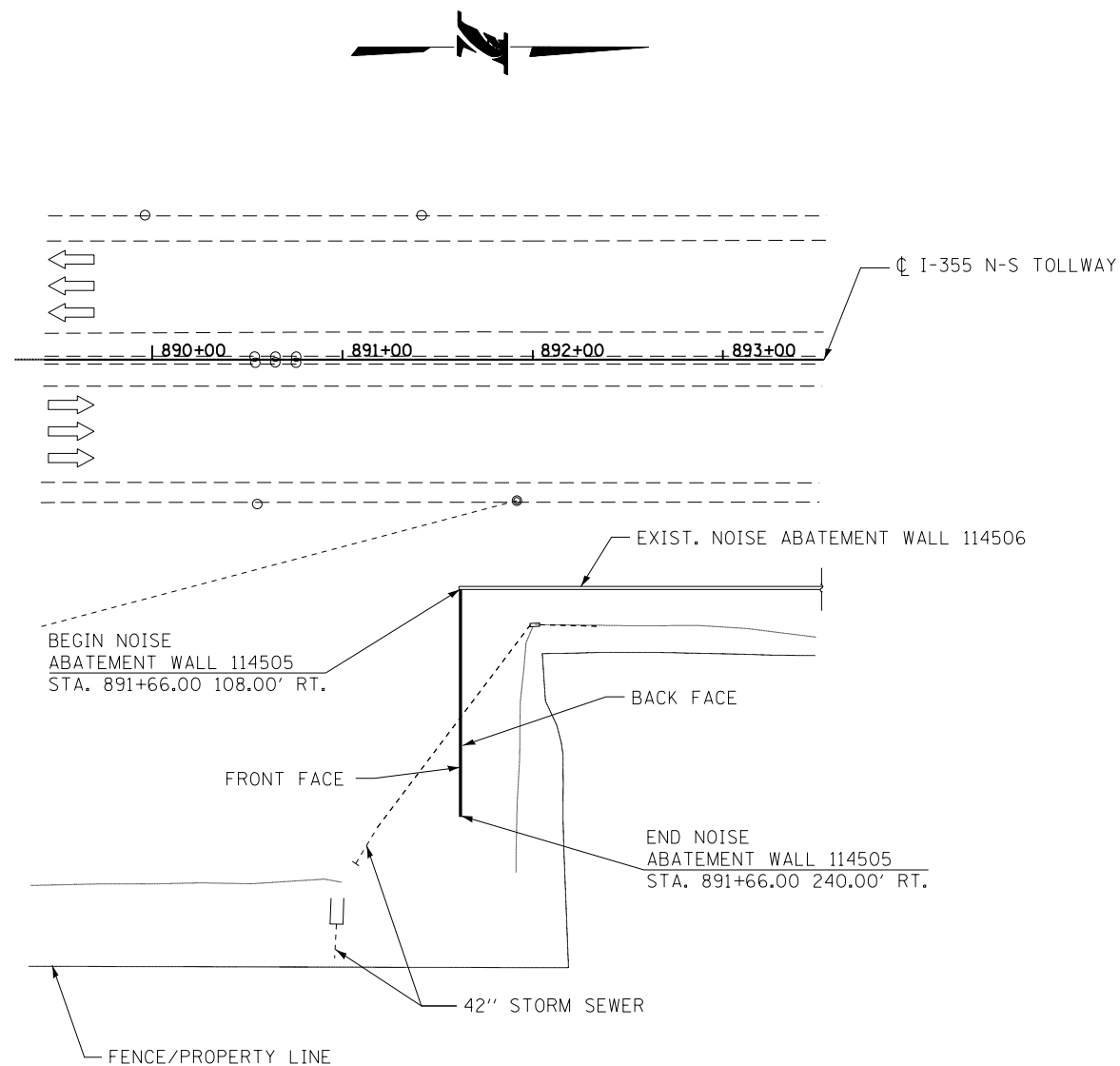
CONTRACT NO. RR-16-4255
 NOISE WALL 11452 - NS14.60N,SB(R)
 NOISE WALL ELEVATION 8

SHT NO. NWB-10
 DRAWING NO. 1321 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawings Files\4255\Structural\Walls\Sh\11452-ns14.60n-sb-r-noise-wall-SE318.dgn

BENCHMARK:
 CHISELED "□" CUT IN SOUTHWEST CORNER OF SIGN FOUNDATION N.B. N-S TOLLWAY.
 SIGN READS "75TH STREET 1/4 MILE." LOCATED AT APPROXIMATELY N-S TOLLWAY
 STATION 881+55. 94' RT.
 ELEV. 758.965'.

EXISTING STRUCTURE:
 NOISE ABATEMENT WALL NS15.10N,NB DESIGNED IN 1987 UNDER CONTRACT CIP-612. THE
 WALL IS 138'-0" AND IS COMPOSED OF 1"X10" CAP BOARDS, 2"X8" BATTENS, 2"X10"
 HORIZONTAL BOARDS, AND GLUE LAMINATED PLANKS OF 2 1/8" THICKNESS. THE WALL
 PANELS ARE ANCHORED INTO A TRENCH AND FILLED WITH BACKFILL MATERIAL.



NOISE WALL PLAN

LEGEND

- CATCH BASIN
- MANHOLE
- CULVERT

DESIGN SPECIFICATIONS

- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
- ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDA.
- 2002 AASHTO STANDARD SPECIFICATIONS, 17TH EDITION.
- AASHTO STANDARD SPECIFICATION FOR WOOD PRODUCTS, JANUARY 1, 2007.
- NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2015 EDITION.

CONSTRUCTION SPECIFICATIONS

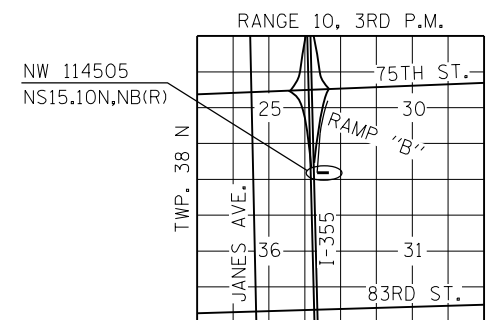
- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016.
- NDS MANUAL FOR ENGINEERED WOOD CONSTRUCTION, 2015 EDITION.

DESIGN STRESSES

ALL LUMBER SHALL BE SOUTHERN PINE GRADE #2 OR BETTER AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION.

SCOPE OF WORK:

1. REMOVE AND REPLACE THE FOLLOWING NOISE WALL MEMBERS:
 - DETERIORATED, LOOSE, SPLITTING AND WARPED CAP BOARDS AND BOTTOM BOARDS.
 - DETERIORATED BATTENS, PANEL PLANKS.
2. REPAIR EXISTING WOOD NOISE ABATEMENT WALL THAT IS OUT-OF-PLUMB OR BOWING BY RETROFITTING THE TOP BOARDS AND PROVIDING BRACING ON THE BACK FACE.
3. VEGETATION SHALL BE CLEARED FROM BOTH FACES OF THE ENTIRE LENGTH OF WALL.



LOCATION SKETCH

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114505 - NS15.10N,NB
 GENERAL PLAN

NWC-01 OF NWC-04
 SHT NO. NWC-01
 DRAWING NO.
 1322 OF 1517

INDEX OF SHEETS

NWC-01	GENERAL PLAN
NWC-02	GENERAL NOTES, INDEX OF SHEETS, & TOTAL BILL OF MATERIAL
NWC-03	NOISE WALL NORTH & SOUTH ELEVATIONS
NWC-04	STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

N.B.	NORTHBOUND
S.B.	SOUTHBOUND
STA.	STATION
ELEV.	ELEVATION
C.I.P	CAST-IN-PLACE
☐	CENTERLINE
BRG	BEARING
S. ABUT.	SOUTH ABUTMENT
N. ABUT.	NORTH ABUTMENT
TYP.	TYPICAL
MAX.	MAXIMUM
MIN.	MINIMUM
BOT.	BOTTOM
EXIST.	EXISTING
EXP.	EXPANSION
SHLDR	SHOULDER
☐	BASELINE
P.G.L.	PROFILE GRADE LINE
E.F.	EACH FACE
F.F.	FRONT FACE
B.F.	BACK FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
BK.	BACK OF
B/	BOTTOM OF
T/	TOP OF
PROP.	PROPOSED
HP	H-PILE
WF	W-FLANGE
CL.	CLEARANCE
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
L.F.	LINEAR FOOT
CU. FT.	CUBIC FEET
EA	EACH
BIT.	BITUMINOUS
PAV.	PAVEMENT
LT.	LEFT
RT.	RIGHT

GENERAL NOTES

CONSTRUCTION:

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, "STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTIONS OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.
- REPAIRS ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
- WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "PERFORMANCE BASED NOISE ABATEMENT WALL".

TOTAL BILL OF MATERIAL

SPECIAL PROVISION	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
*	JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES	FOOT	51	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	89	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	98**	

- * INDICATES SPECIAL PROVISION
- ** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

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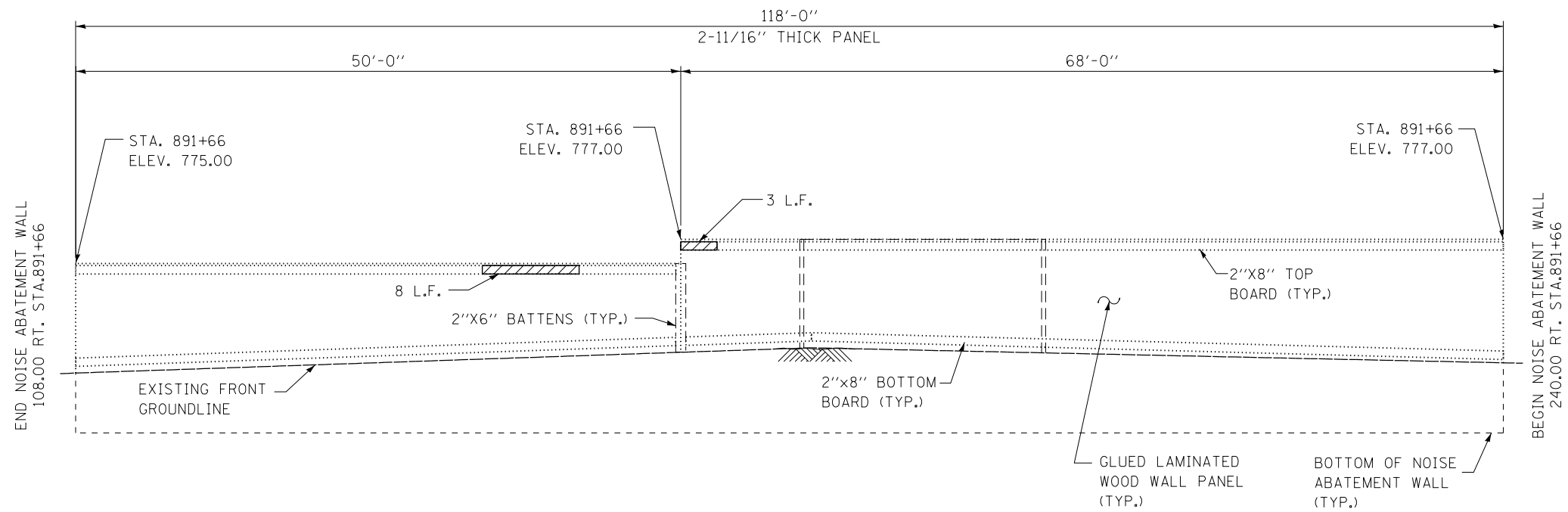
NWC-02 OF NWC-04

DRAWN BY **PAB** DATE **3/11/2018**
 CHECKED BY **MMZ/MMH** DATE **3/11/2018**



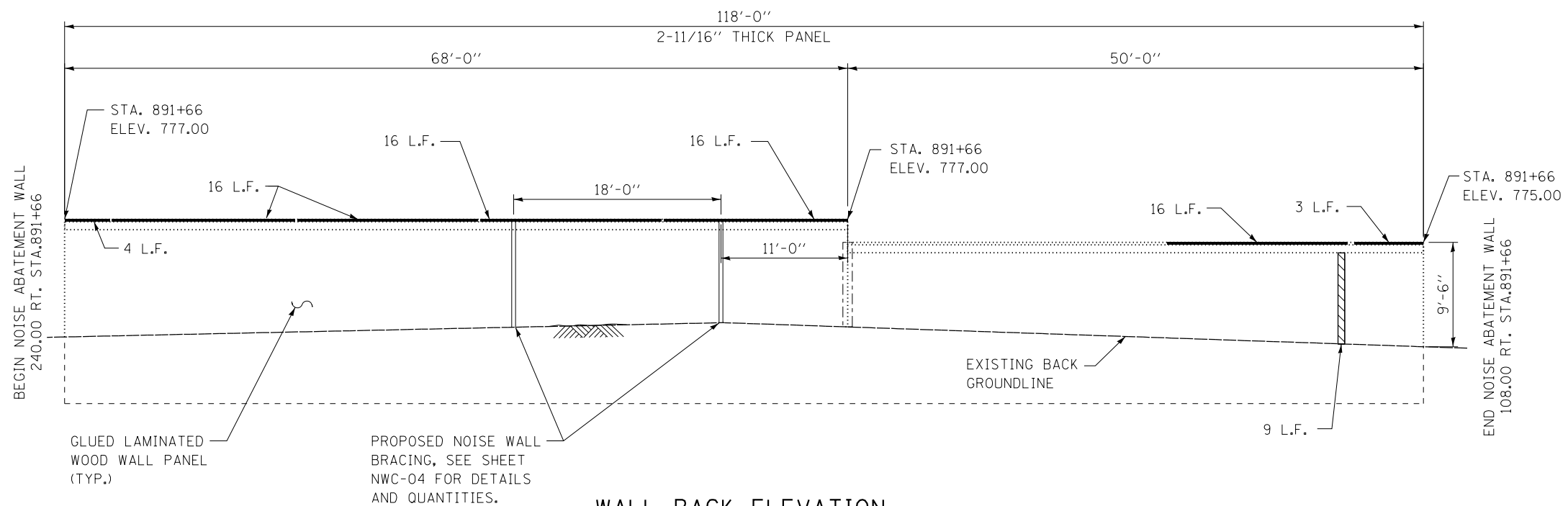
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255	SHT NO. NWC-02
NOISE WALL 114505 - NS15.10N,NB	DRAWING NO.
GEN. NOTES, INDEX OF SHEETS, & T.B.O.M.	1323 OF 1517



WALL FRONT ELEVATION




(LOOKING NORTH)



WALL BACK ELEVATION

(LOOKING SOUTH)

LEGEND

-  STRUCTURAL TIMBER BOARD
2 INCHES BY 6 INCHES
-  REMOVE AND REPLACE TREATED TIMBER,
1"X10" CAP BOARD
-  REMOVE AND REPLACE TREATED TIMBER,
2"X8" TOP/BOTTOM BOARD

NOTE:

"REMOVE VEGETATION" TO BE APPLIED ALONG THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	9
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	98

NWC-03 OF NWC-04

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018



100 S. Wacker Drive, Suite 700 • Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

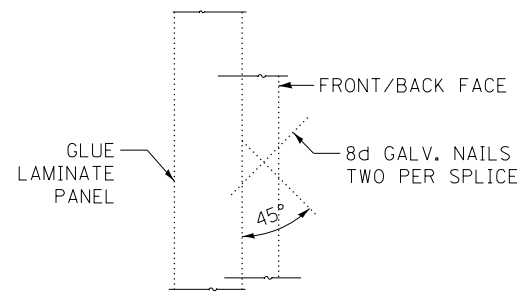


2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

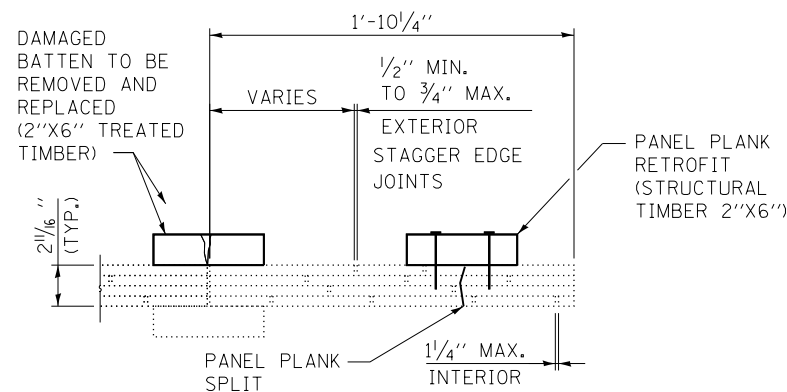
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 114505 - NS15.10N,NB
NOISE WALL NORTH & SOUTH ELEVATIONS

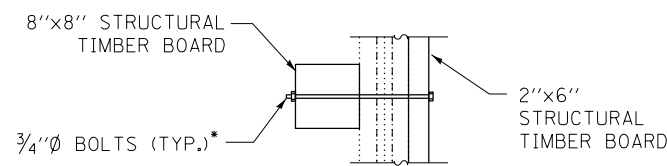
SHT NO. NWC-03
DRAWING NO.
1324 OF 1517



SECTION B-B
PERMISSIBLE BATTEN SPLICE (TYP.)

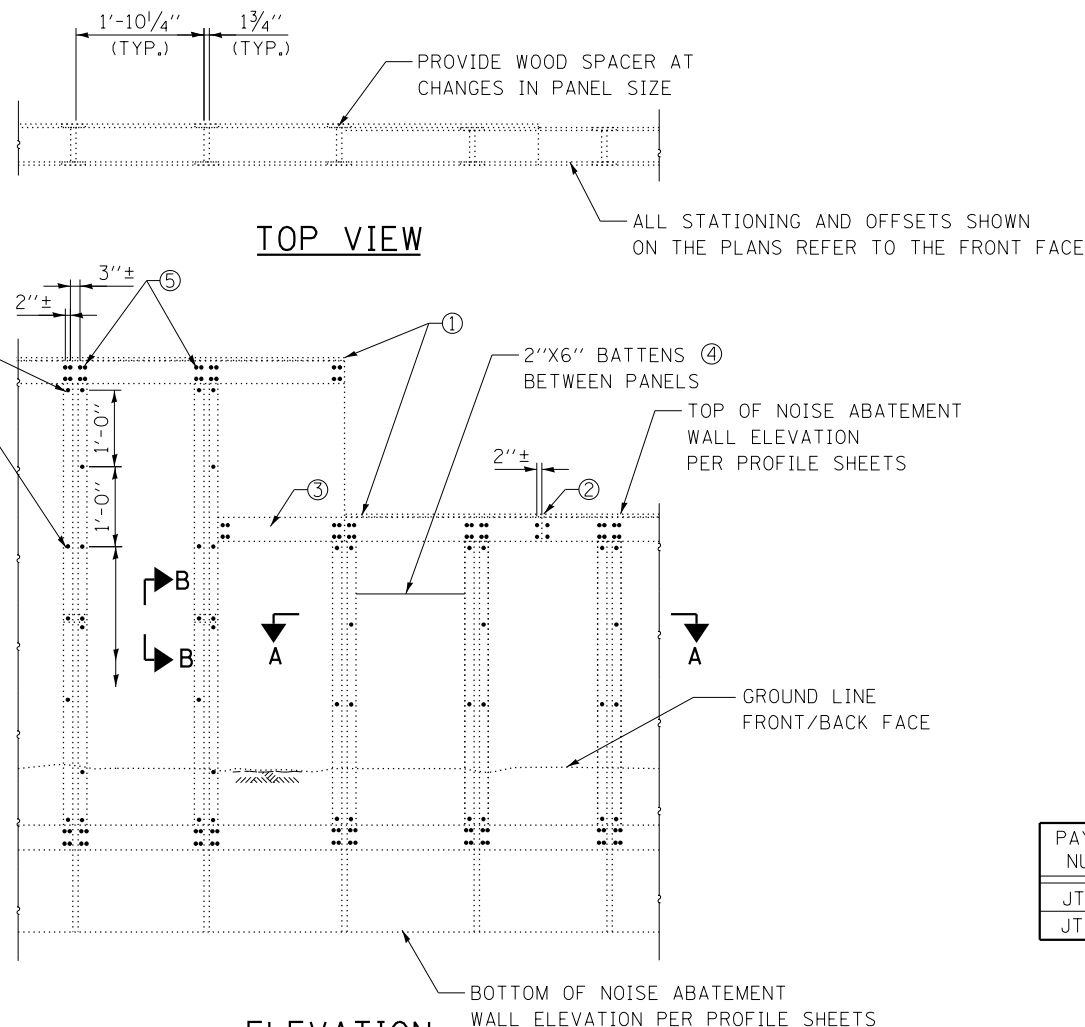


SECTION A-A

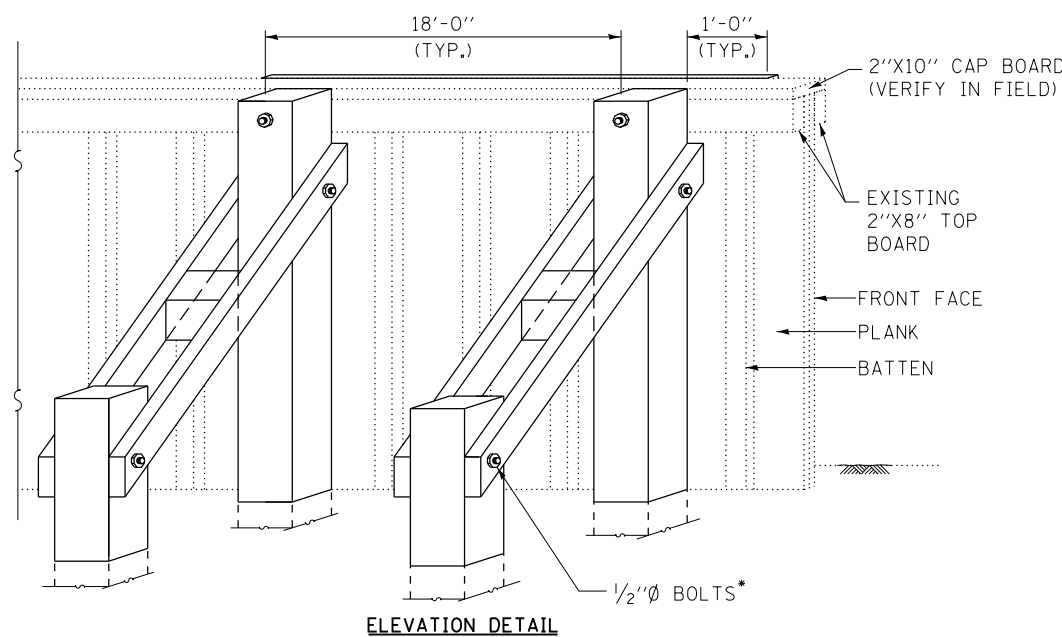


SECTION D-D

* 3/4"Ø BOLTS TO BE INCIDENTAL TO "JT131419 STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".



ELEVATION
EXISTING WALL DETAILS

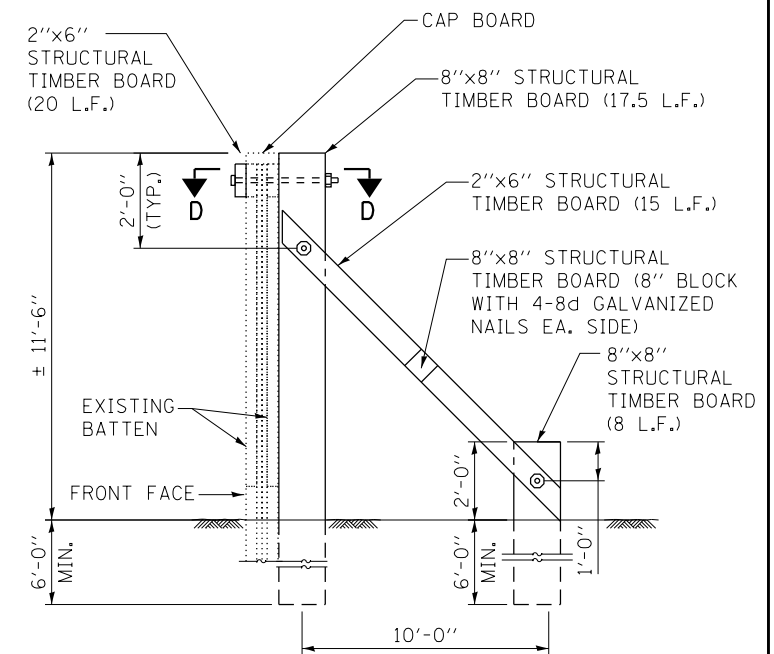


ELEVATION DETAIL

- ① - 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"X8"S WITH FOUR 8d GAL. NAILS PER PANEL. INCIDENTAL TO WALL CONSTRUCTION.
- ② - MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARDS IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.)
- ③ - OVERLAY 2"X8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ - ON BOTH FACES THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ - EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP.) SPACE AS SHOWN.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES	FOOT	51
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	80



SECTION DETAIL

NOISE WALL BRACING DETAIL

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

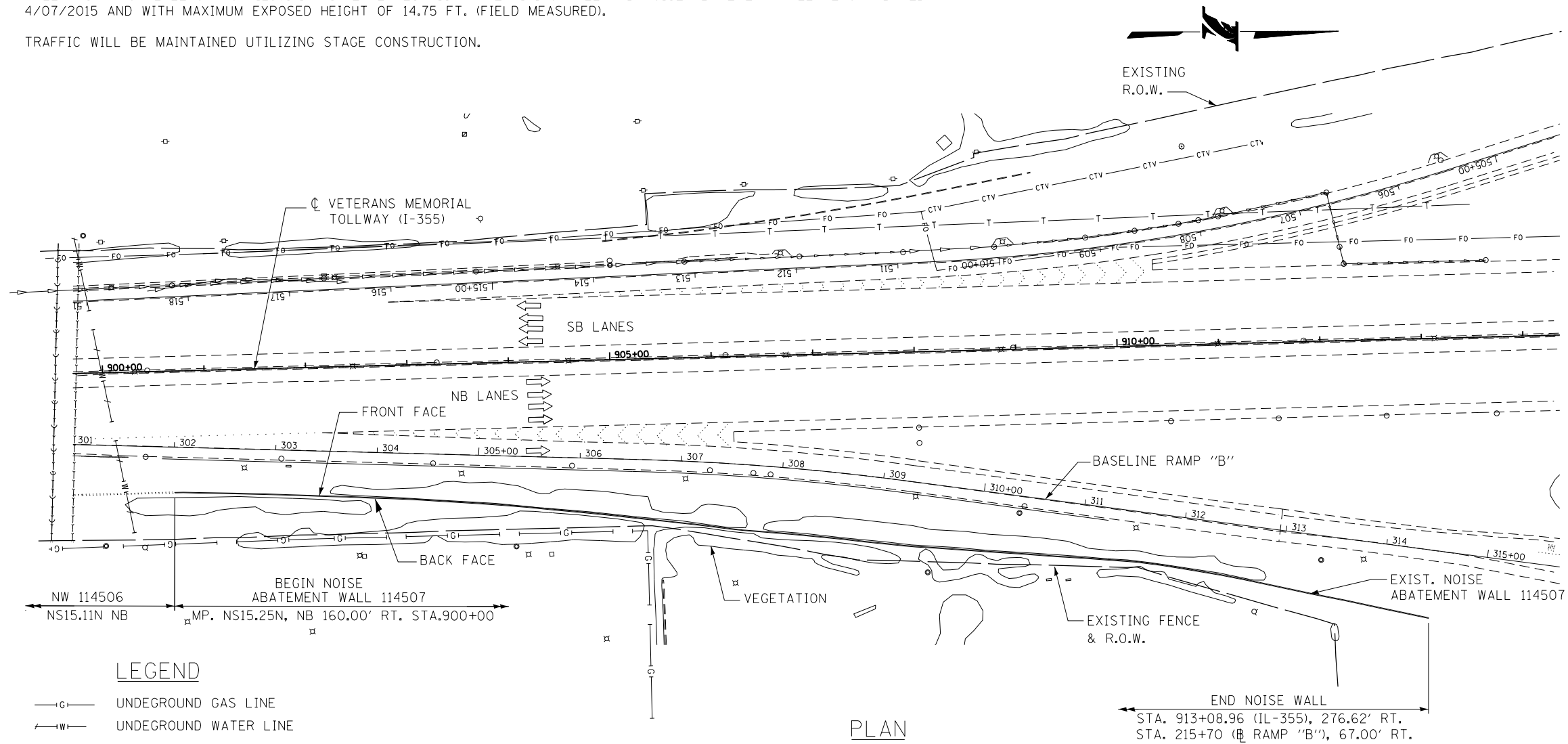
CONTRACT NO. RR-16-4255
NOISE WALL 114505 - NS15.10N,NB
STANDARD REPAIR DETAILS

NWC-04 OF NWC-04
SHT NO. NWC-04
DRAWING NO.
1325 OF 1517

BENCHMARK:
 CUT "□" IN THE NE CORNER OF THE WEST OVERHEAD CONC. SIGN TRUSS FOUNDATION (SIGN READS "BOUGHTON RD. 1/2 MILE") SB I-355 ± STA. 899+01, 84' LT. ELEV. 755.52

EXISTING STRUCTURE:
 THE NOISE ABATEMENT WALL NS15.25N, NB (R), ORIGINALLY CONSTRUCTED IN 1987 UNDER CONTRACT CIP-612, IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 1" THICK OF VARIABLE WIDTH HORIZONTAL CAP BOARDS ON TOP, 2"x8" HORIZONTAL TOP AND BOTTOM BOARDS ON BOTH FACES, 2"x6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS, AND PANEL WITH PLANKS THICKNESSES VARIES FROM 2 11/16" TO 3 7/16" AT SHORTER WALL AND TALLER WALL RESPECTIVELY. THE WALL HAS A TOTAL LENGTH OF 1256.41 FT. PER LATEST ISTHA RETAINING WALL AND NOISE ABATEMENT WALL REPORT DATED 4/07/2015 AND WITH MAXIMUM EXPOSED HEIGHT OF 14.75 FT. (FIELD MEASURED).

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.



LEGEND

- G— UNDEGROUND GAS LINE
- W— UNDEGROUND WATER LINE
- FO— UNDEGROUND FIBER OPTIC
- T— UNDEGROUND TELEPHONE LINE
- ctv— UNDEGROUND TELEPHONE LINE
- S— EXISTING SEWER STORM LINE
- S— UNDERGROUND SANITARY LINE

SCOPE OF WORK

1. REMOVE AND REPLACE THE FOLLOWING NOISE WALL MEMBERS:
 - DETERIORATED, LOOSE AND WARPED CAP BOARDS
 - SPLITTING, DETERIORATED AND WARPING TOP BOARDS
 - BROKEN AND DETERIORATED BOTTOM BOARDS
 - BROKEN, LOOSE, DETERIORATED, SPLITTING AND WARPED BATTENS
 - DETERIORATED PANEL PLANKS
2. REMOVE ALL BUSHES AND TREES WITHIN 2 FT. OF BOTH FACES OF THE ENTIRE LENGTH OF WALL.

DESIGN SPECIFICATION

- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012
- 2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.
- ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS
- AASHTO STANDARD SPECIFICATIONS FOR WOOD PRODUCTS
- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015 EDITION

CONSTRUCTION SPECIFICATIONS

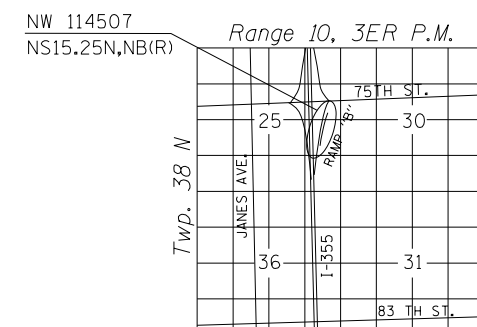
- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JAN. 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

NDS MANUAL FOR ENGINEERED WOOD CONSTRUCTION, 2015 EDITION

DESIGN STRESSES

NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.



LOCATION SKETCH

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114507 - NS15.25N,NB(R)
 STA. 900+20 - STA. 913+08.96

NWD-01 OF NWD-09
 SHT NO. NWD-01
 DRAWING NO. 1326 OF 1517

INDEX OF SHEETS

- NWD-01 GENERAL PLAN
- NWD-02 GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- NWD-03 BACK ELEVATION
STA. 900+00 TO STA. 903+95
- NWD-04 BACK ELEVATION
STA. 903+95 TO STA. 909+25
- NWD-05 BACK ELEVATION
STA. 909+25 TO STA. 912+11
- NWD-06 FRONT ELEVATION
STA. 907+51 TO STA. 912+11
- NWD-07 FRONT ELEVATION
STA. 902+21 TO STA. 907+51
- NWD-08 FRONT ELEVATION
STA. 900+00 TO STA. 902+21
- NWD-09 TYPICAL REPAIR DETAILS

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PREFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES. THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "REMOVE AND REPLACE TIMBER BOARD".
11. "TREE REMOVAL (6 TO 15 UNITS IN DIAMETER)" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL WHEREVER TREES ARE 6 TO 15 UNITS IN DIAMETER.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	45	
	50200100	STRUCTURE EXCAVATION	CU. YD.	28	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	418	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER **	FOOT	1,267	

* INDICATES SPECIAL PROVISION

** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- BK/ BACK OF
- B/ BOTTOM OF
- BOT. BOTTOM
- C.I.P. CAST-IN-PLACE
- CL CENTERLINE
- CU. FT. CUBIC FEET
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- EXP. EXPANSION
- E.F. EACH FACE
- F.F. FRONT FACE
- I.F. INSIDE FACE
- LF LINEAR FOOT
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- O.F. OUTSIDE FACE
- P.G.L. PROFILE GRADE LINE
- P.J.F. PREFORMED JOINT FILLER
- PROP. PROPOSED
- S.B. SOUTHBOUND
- S.P. SPECIAL PROVISION
- STA. STATION
- SHLDR SHOULDER
- SF SQUARE FOOT
- SQ. FT. SQUARE FOOT
- SQ. YD. SQUARE YARD
- SY SQUARE YARD
- TYP. TYPICAL

NWD-02 OF NWD-09

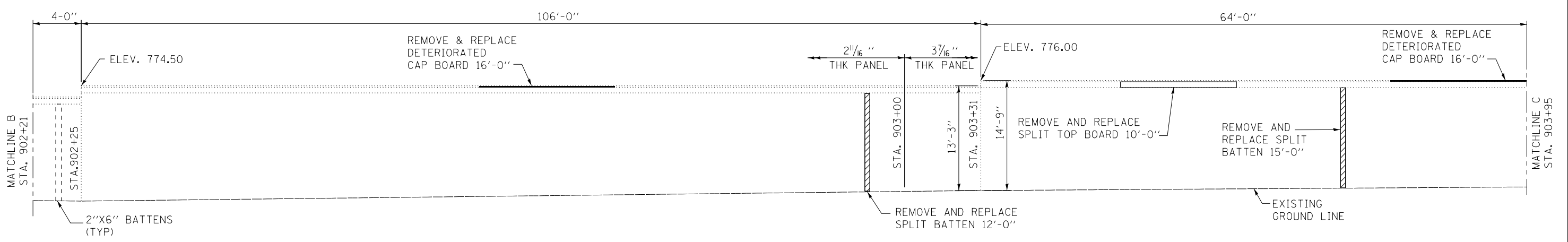
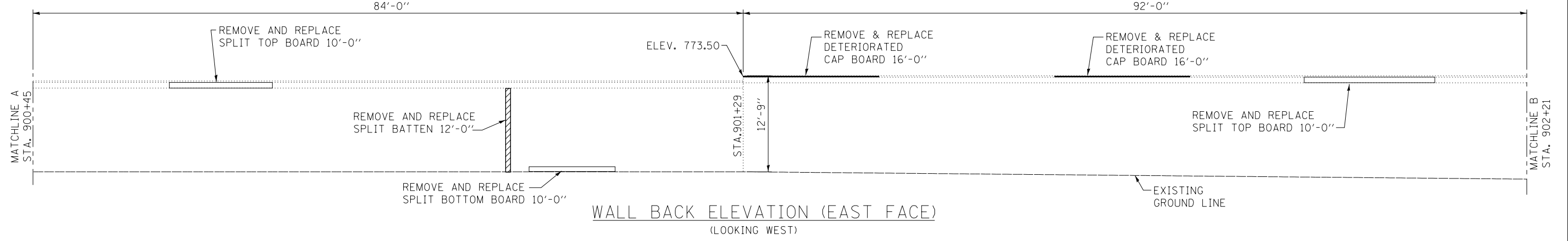
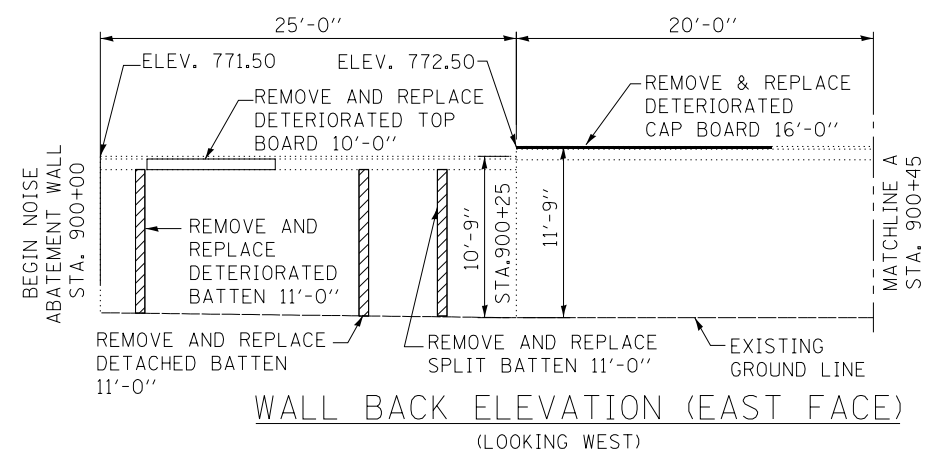
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 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. NWD-02
 NOISE WALL 114507 - NS15.25N,NB(R) DRAWING NO.
 GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL 1327 OF 1517

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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

WALL BACK ELEVATION (EAST FACE) (LOOKING WEST)

- NOTE:**
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
 - REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
 - "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	152
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	222

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 CHECKED BY JPM/MMH DATE 3/11/2018



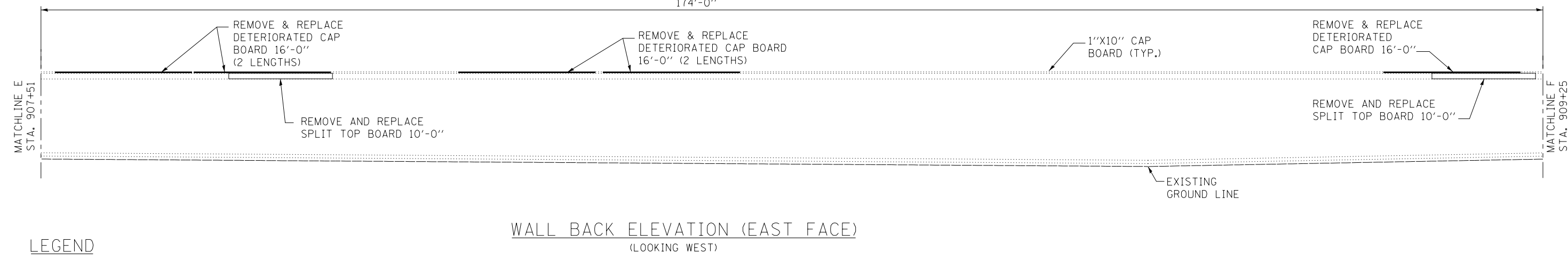
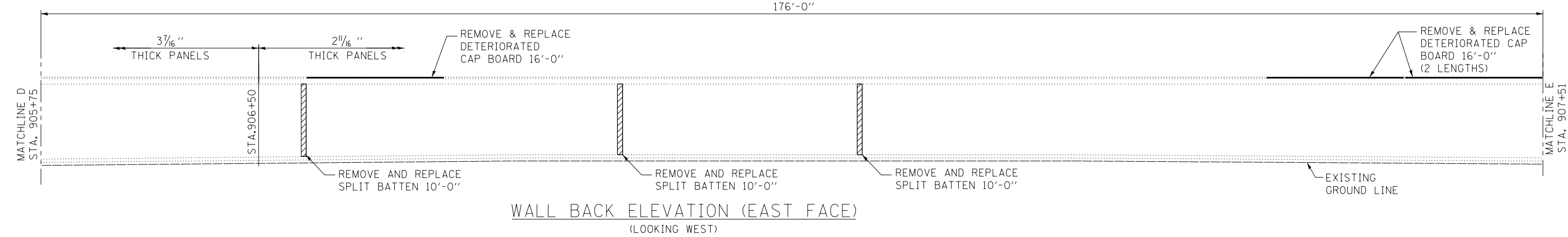
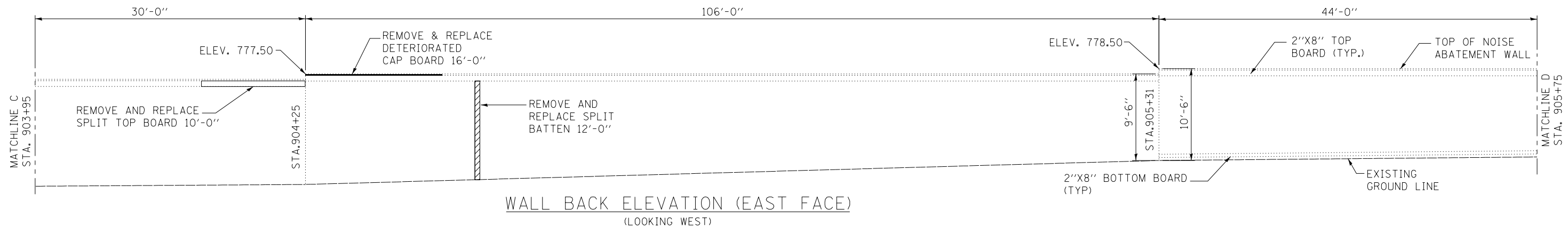
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114507 - NS15.25N,NB(R)
 BACK ELEVATION STA. 900+00 TO STA. 903+95

NWD-03 OF NWD-09
 SHT NO. NWD-03
 DRAWING NO. 1328 OF 1517

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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
3. REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
4. "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	94
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	216

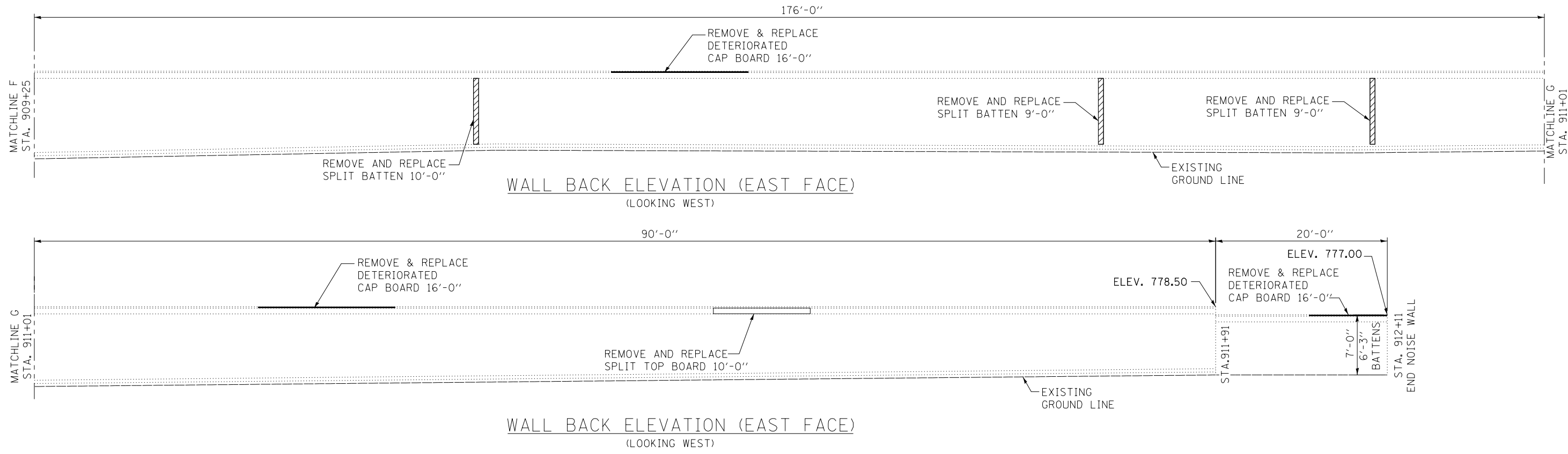
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 CHECKED BY JPM/MMH DATE 3/11/2018








REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114507 - NS15.25N,NB(R)
 BACK ELEVATION STA. 903+95 TO STA. 909+25

NWD-04 OF NWD-09
 SHT NO. NWD-04
 DRAWING NO. 1329 OF 1517



LEGEND

-  INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
-  INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
-  INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
-  INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
-  INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
3. REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
4. "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	172
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	86

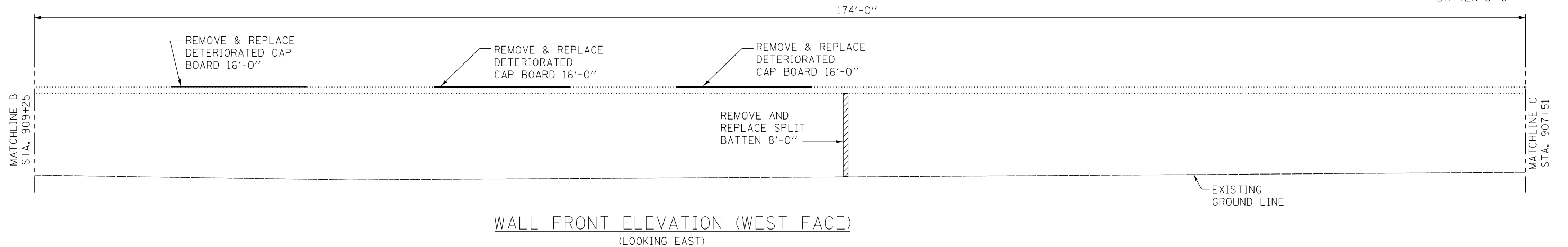
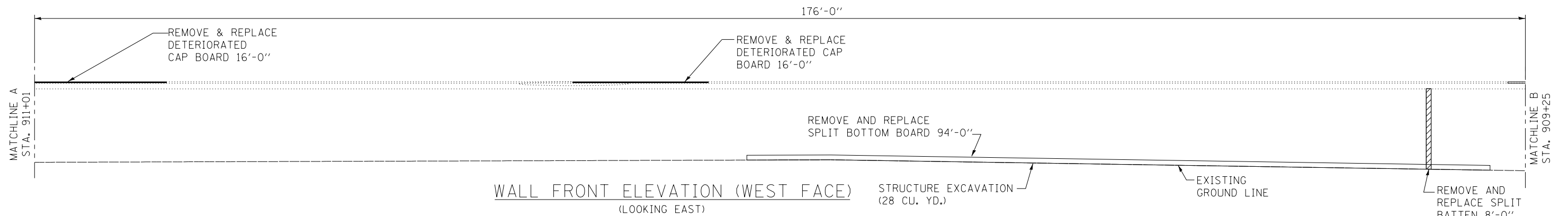
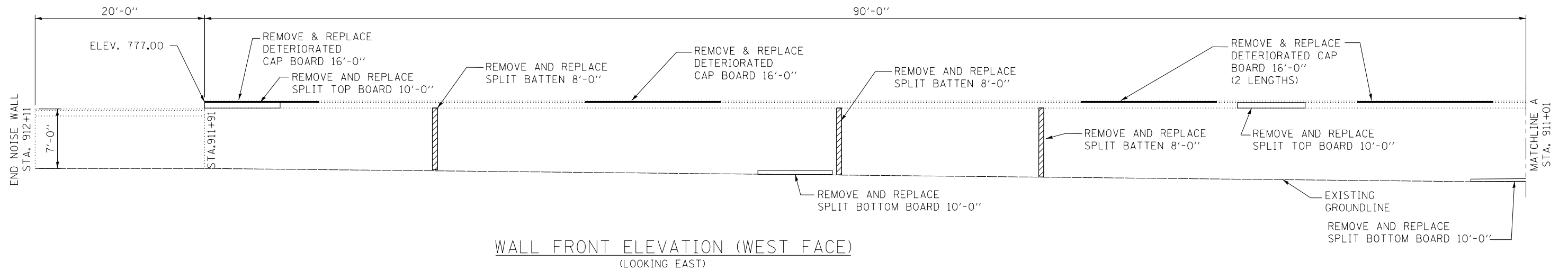
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REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114507 - NS15.25N,NB(R)
 BACK ELEVATION STA. 909+25 TO STA. 912+11

NWD-05 OF NWD-09
 SHT NO. NWD-05
 DRAWING NO.
 1330 OF 1517



LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
3. REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
4. "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	28
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	318

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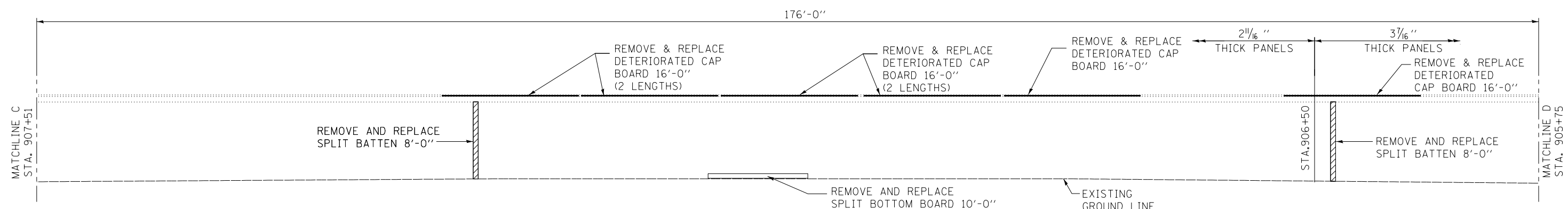


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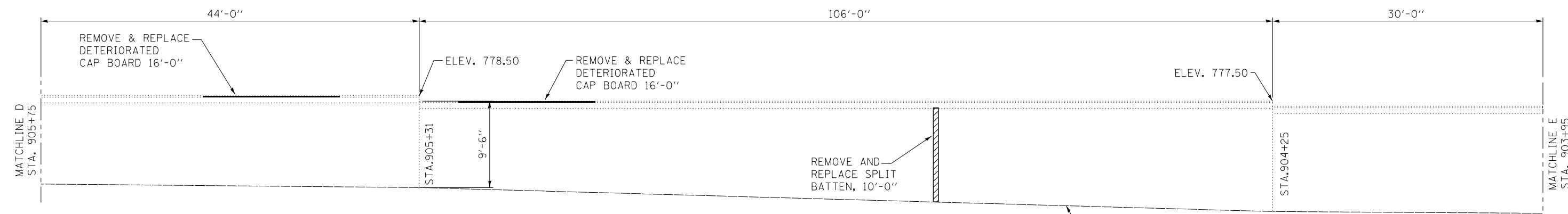
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 NOISE WALL 114507 - NS15.25N,NB(R)
 FRONT ELEVATION STA. 907+51 TO STA. 912+11

NWD-06 OF NWD-09
 SHT NO. NWD-06
 DRAWING NO. 1331 OF 1517

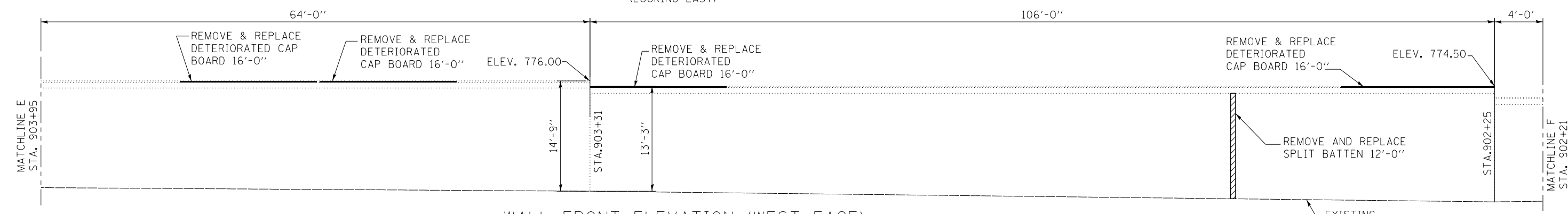
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WALL FRONT ELEVATION (WEST FACE)
(LOOKING EAST)



WALL FRONT ELEVATION (WEST FACE)
(LOOKING EAST)



WALL FRONT ELEVATION (WEST FACE)
(LOOKING EAST)



LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
3. REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
4. "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	240

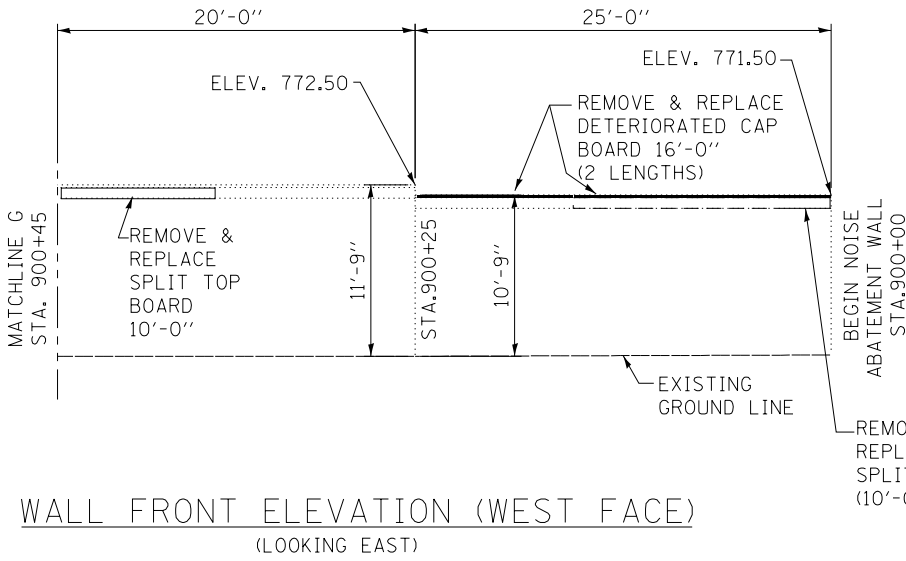
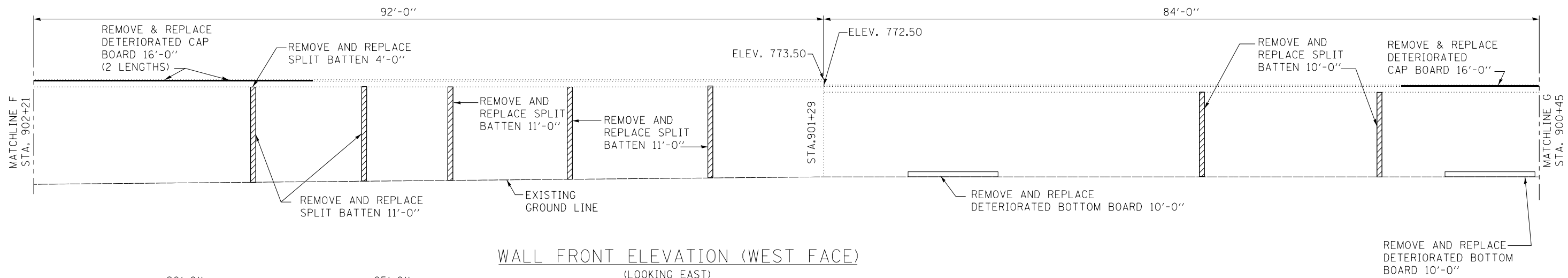
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
NOISE WALL 114507 - NS15.25N,NB(R)
FRONT ELEVATION STA. 902+21 TO STA. 907+51

NWD-07 OF NWD-09
SHT NO. NWD-07
DRAWING NO. 1332 OF 1517



LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWD-09.
3. REPAIR ALL DETERIORATED PANEL PLANKS ALONG THE GROUND LINE THROUGHOUT THE ENTIRE LENGTH OF WALL.
4. "REMOVE VEGETATION" TO BE APPLIED TO THE ENTIRE FRONT AND BACK FACE OF THE WALL.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	185

NWD-08 OF NWD-09

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114507 - NS15.25N,NB(R)
 FRONT ELEVATION STA. 902+21 TO STA. 900+00

SHT NO. NWD-08
 DRAWING NO.
 1333 OF 1517

BENCHMARK:

CUT "□" IN THE NE CORNER OF THE WEST OVERHEAD CONC. SIGN TRUSS FOUNDATION (SIGN READS "BOUGHTON RD. 1/2 MILE") SB I-355 ± STA. 899+01, 84' LT. ELEV = 755.52

EXISTING STRUCTURE:

THE NOISE ABATEMENT WALL NS15.30N,SB(R) WAS ORIGINALLY CONSTRUCTED IN 1989 UNDER CONTRACT CIP-612. THE NOISE WALL, WITH A TOTAL LENGTH OF 1363.18', IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 2"X8" HORIZONTAL CAP BOARDS ON TOP, 2"X8" HORIZONTAL TOP AND BOTTOM BOARDS ON BOTH FACES, 2"X6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS. THE MAXIMUM EXPOSED HEIGHT OF THE WALL IS 15'-3".

WORK WILL BE PERFORMED UNDER STAGED CONSTRUCTION. NO SALVAGE.

DESIGN SPECIFICATIONS

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION.
- AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, 17TH EDITION WITH ALL INTERIMS.
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.

CONSTRUCTION SPECIFICATIONS

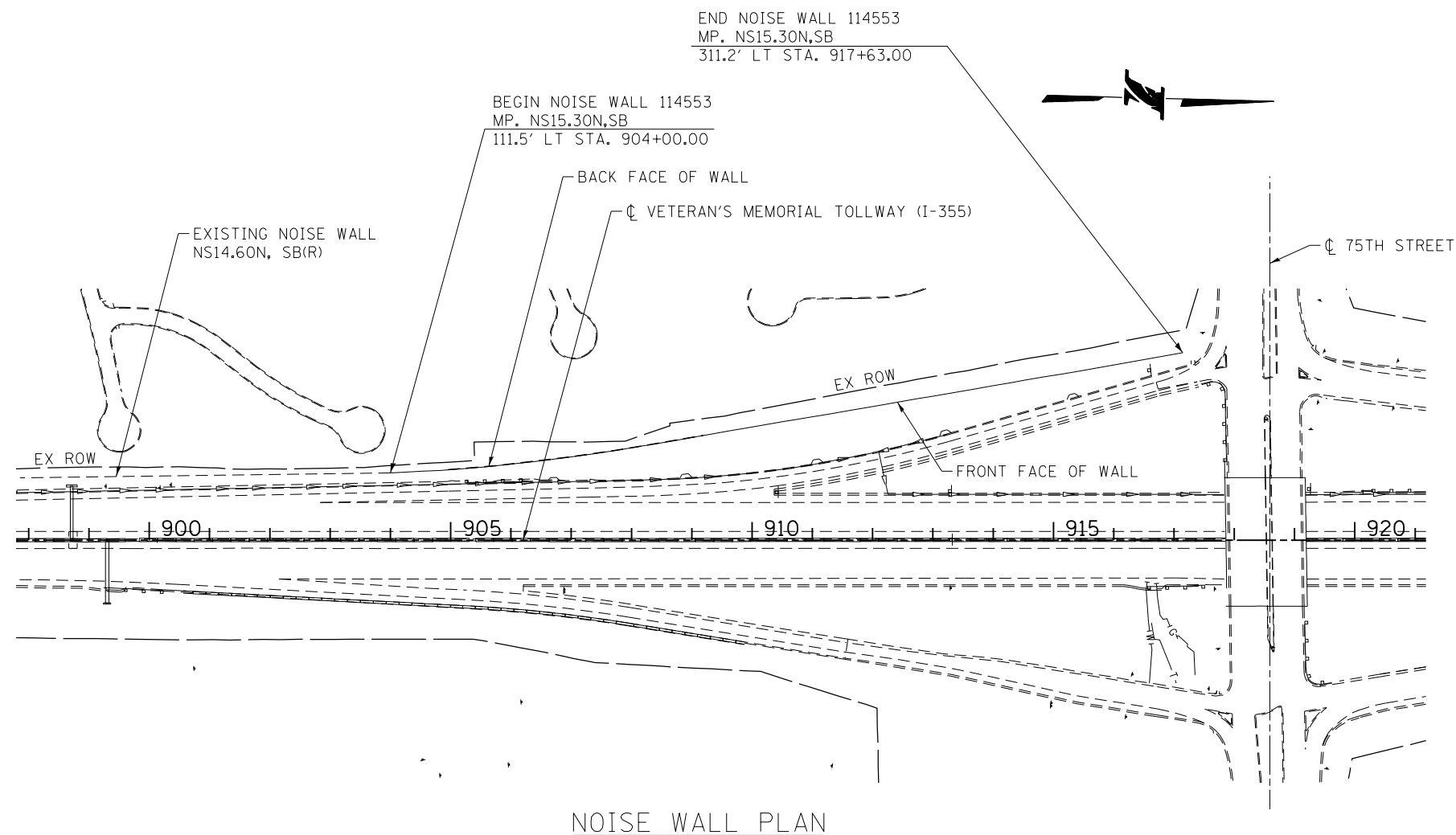
- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016
- ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

DESIGN STRESSES

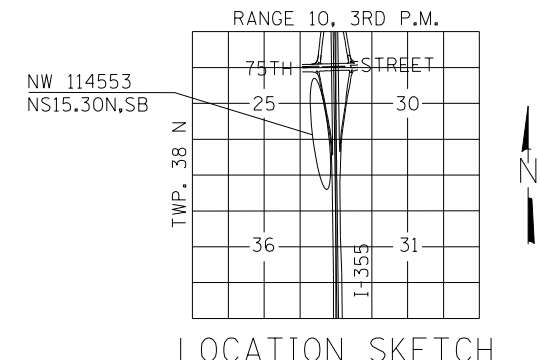
- NEW CONSTRUCTION**
- ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

SCOPE OF WORK

1. CAP BOARDS, TOP BOARDS, BOTTOM BOARDS AND BATTENS THAT ARE SPLIT, DETERIORATED AND/OR DETACHED SHALL BE REMOVED AND REPLACED WITH EQUIVALENT SIZED TIMBER BOARDS UTILIZING "REMOVE AND REPLACE TREATED TIMBER".
2. SPLIT PANEL PLANKS SHALL BE COVERED WITH "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES".
3. VEGETATION SHALL BE CLEARED FROM THE FRONT AND BACK FACE OF THE ENTIRE LENGTH OF WALL WITH "REMOVE VEGETATION".



NOISE WALL PLAN



LOCATION SKETCH

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DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114553 - NS15.30N,SB(R)
 GENERAL PLAN

SHT NO. NWE-01
 DRAWING NO. 1335 OF 1517

INDEX OF SHEETS

- NWE-01 GENERAL PLAN
- NWE-02 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
- NWE-03 NOISE WALL ELEVATION 1
- NWE-04 NOISE WALL ELEVATION 2
- NWE-05 NOISE WALL ELEVATION 3
- NWE-06 NOISE WALL ELEVATION 4
- NWE-07 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- CL CENTERLINE
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- F.F. FRONT FACE
- L SUM LUMP SUM
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- PROP. PROPOSED
- R.O.W. RIGHT-OF-WAY
- S.B. SOUTHBOUND
- SQ. FT. SQUARE FOOT
- STA. STATION
- TYP. TYPICAL

GENERAL NOTES

1. THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
2. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
3. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR ANY QUANTITY ABOVE THOSE LISTED, AND AGREED TO BY THE ENGINEER, IN ACCORDANCE WITH SECTION 109.04 OF THE IDOT STANDARD SPECIFICATIONS.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TOLLWAY AT LEAST 5 DAYS IN ADVANCE OF ANY CONSTRUCTION NEAR TOLLWAY OWNER FACILITIES (ELECTRICAL, COMMUNICATION CABLES, FIBER OPTIC CABLE, TRAFFIC CONTROL, CAMERAS, ETC) USING THE TOLLWAY WEBSITE WWW.ILLINOISVIRTUALTOLLWAY.COM/UTILITYLOCATES. ANY BURIED FACILITY WITHIN 2 FEET OF AN EXCAVATION LOCATION SHALL FIRST BE EXPOSED BY THE CONTRACTOR BY HAND DIGGING. ONCE EXPOSED, THE CONTRACTOR SHALL PROTECT THE FACILITY. IF CONTRACTOR CUTS OR DAMAGES THE TOLLWAY FACILITY, EITHER THROUGH CARELESSNESS OR FAILURE TO FOLLOW THE ABOVE PROCEDURE HE/SHE SHALL BE HELD RESPONSIBLE FOR THE REPAIR OF THE DAMAGE AT HIS/HER EXPENSE, AND TO THE SATISFACTION OF THE TOLLWAY.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
6. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
7. REPAIRS SHOWN ARE BASED UPON INSPECTIONS COMPLETED IN 2017 AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVINIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT OF MEASURE	TOTAL QUANTITY	RECORDED QUANTITY
	50200100	STRUCTURE EXCAVATION	CU YD	12	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	310	
*	JT201005	REMOVE VEGETATION	L SUM	1	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	1,249	

- * REQUIRES SPECIAL PROVISION
- ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

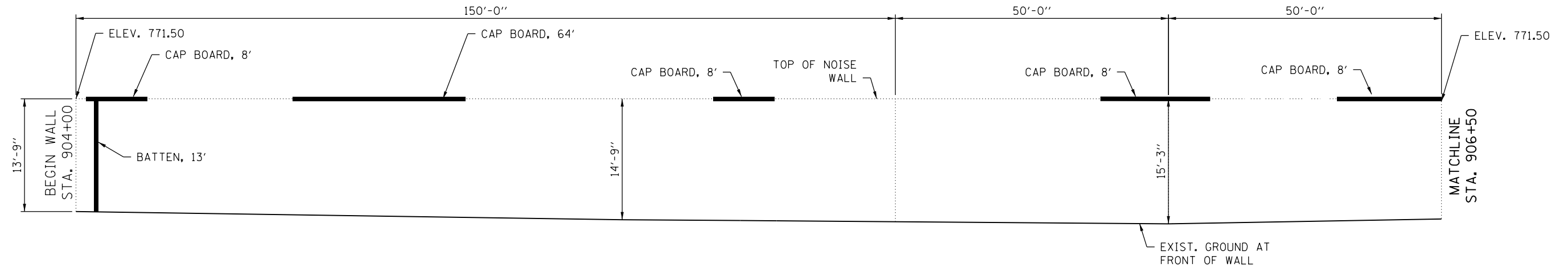
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DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

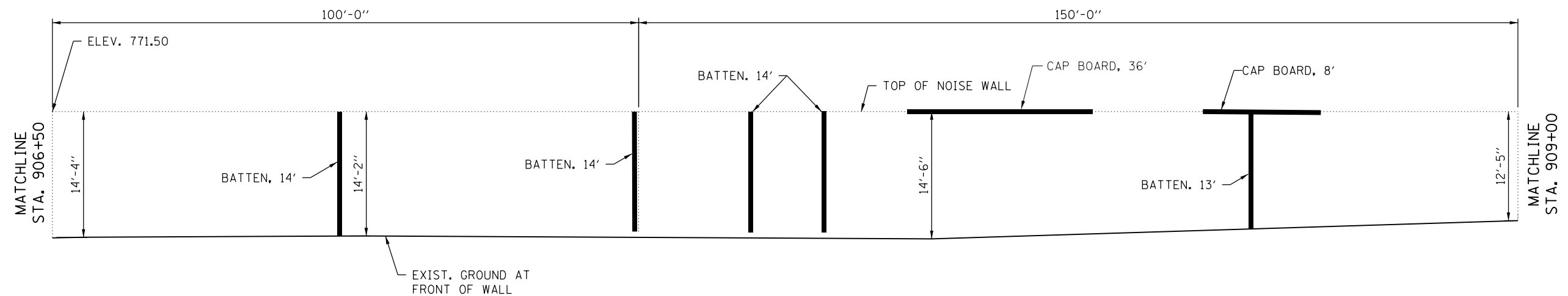


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. NWE-02
 NOISE WALL 114553 - NS15.30N,SB(R) DRAWING NO.
 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL 1336 OF 1517



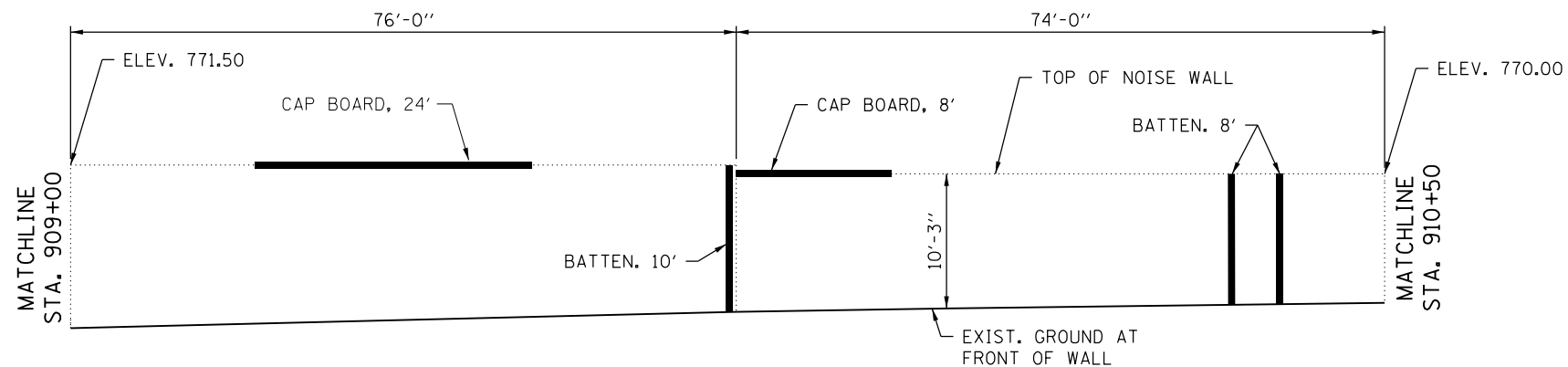
WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)

NOTE:

1. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
2. SEE SHEET NWE-07 FOR REPAIR DETAILS.



WALL FRONT FACE ELEVATION
(LOOKING WEST)

LEGEND

- "BOARD TYPE", X'
- █ REMOVE AND REPLACE TREATED TIMBER

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	280

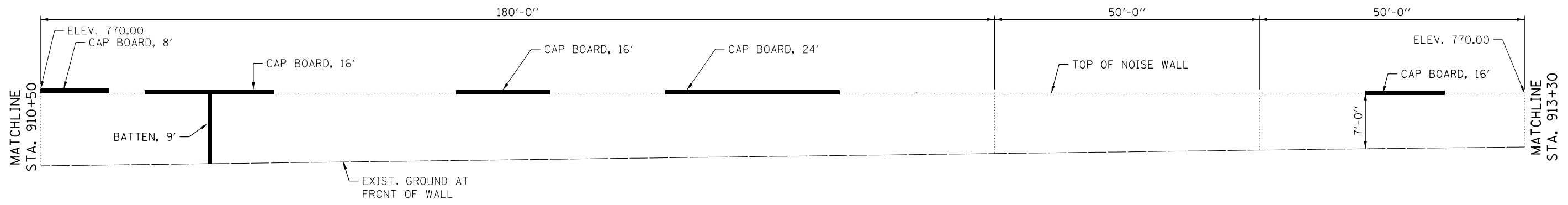
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CHECKED BY RRD DATE 3/11/2018



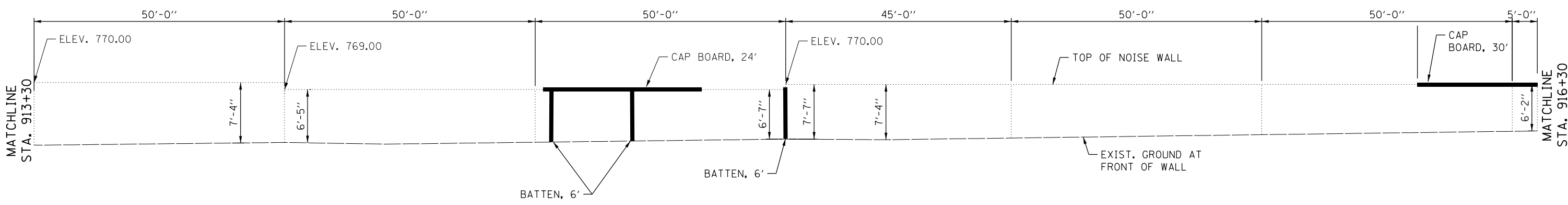
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 11453 - NS15.30N,SB(R)
NOISE WALL ELEVATION 1

SHT NO. NWE-03
DRAWING NO. 1337 OF 1517

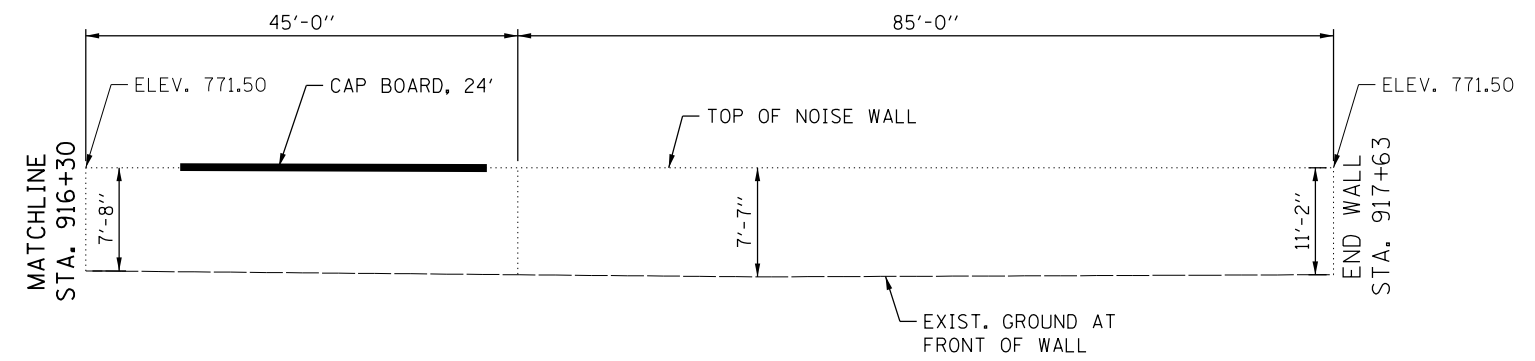


WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)

- NOTE:
1. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
 2. SEE SHEET NWE-07 FOR REPAIR DETAILS.



WALL FRONT FACE ELEVATION
(LOOKING WEST)

LEGEND
 "BOARD TYPE", X'
 ——— REMOVE AND REPLACE TREATED TIMBER

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	185

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

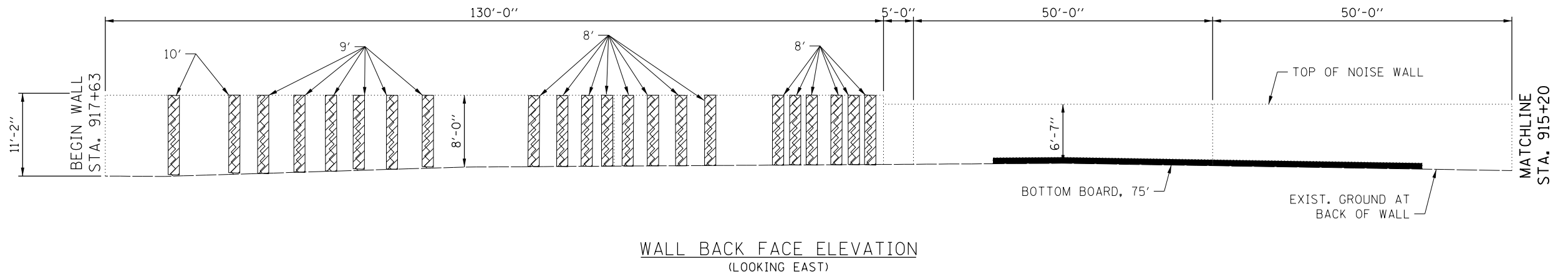


REVISIONS	
NO.	DESCRIPTION

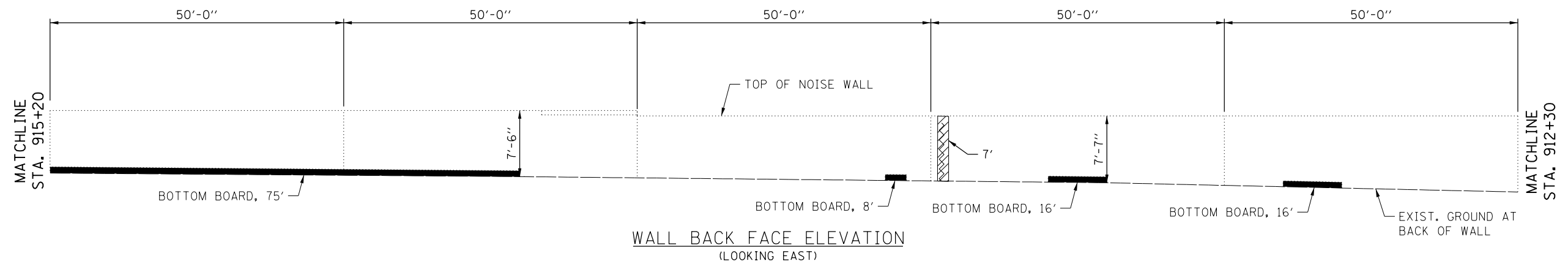
CONTRACT NO. RR-16-4255
 NOISE WALL 11453 - NS15.30N,SB(R)
 NOISE WALL ELEVATION 2

SHT NO. NWE-04
 DRAWING NO. 1338 OF 1517

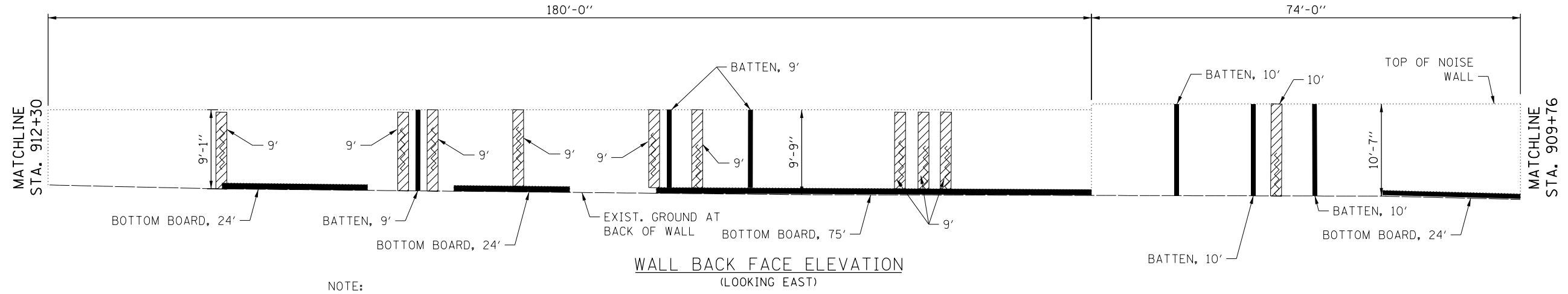
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WALL BACK FACE ELEVATION
(LOOKING EAST)



WALL BACK FACE ELEVATION
(LOOKING EAST)



WALL BACK FACE ELEVATION
(LOOKING EAST)

LEGEND

- "BOARD TYPE", X'
REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

NOTE:

1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
2. TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SEE SHEET NWE-07 FOR REPAIR DETAILS.
4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	284
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	394

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

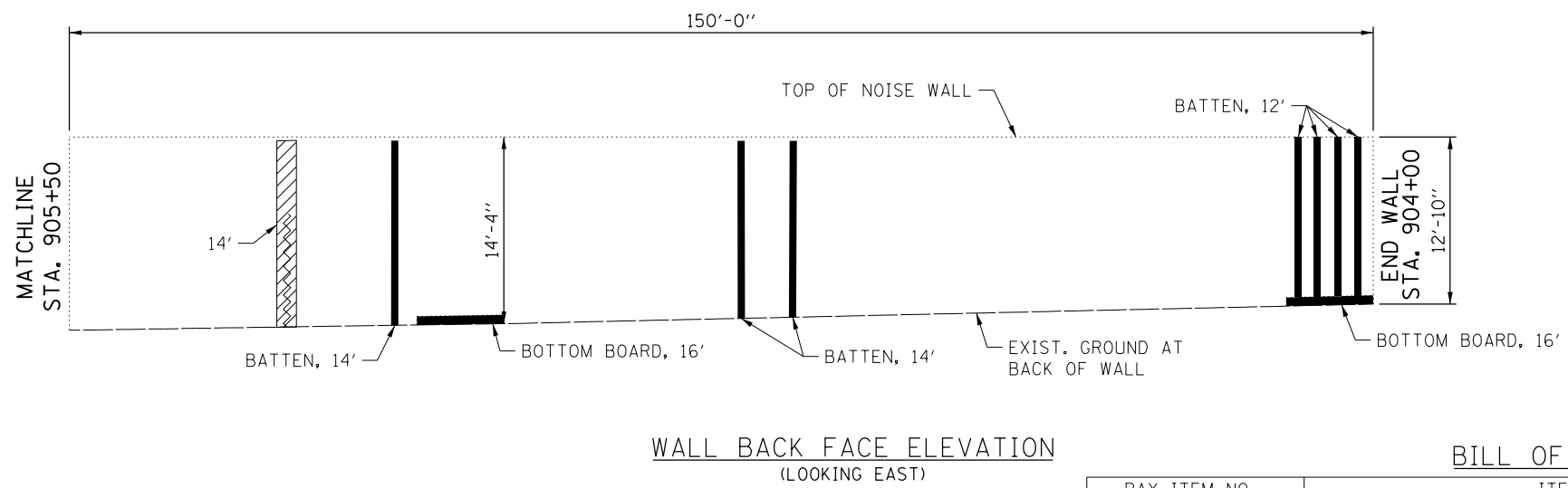
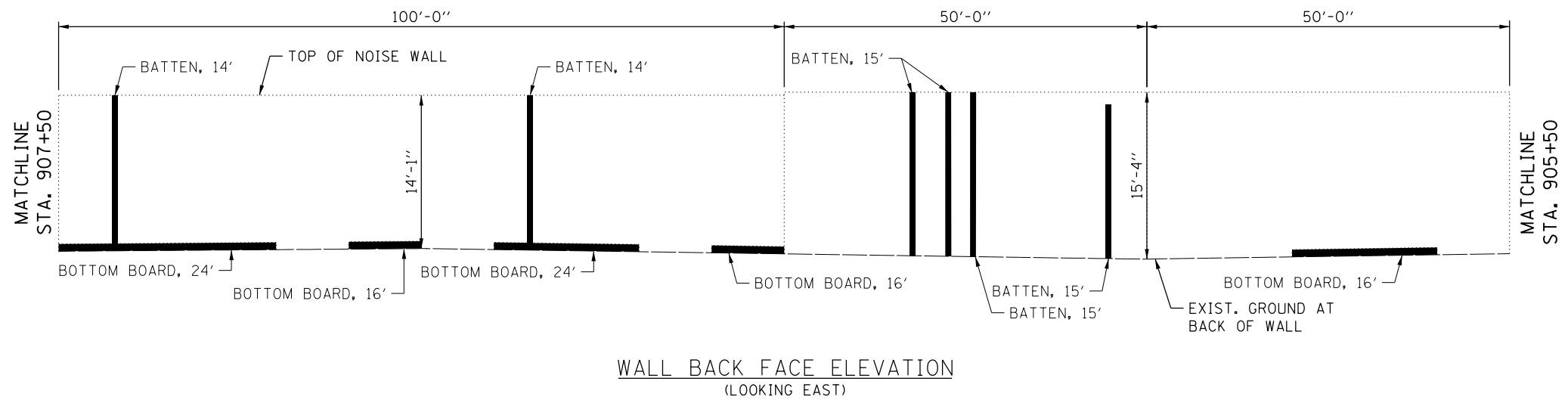
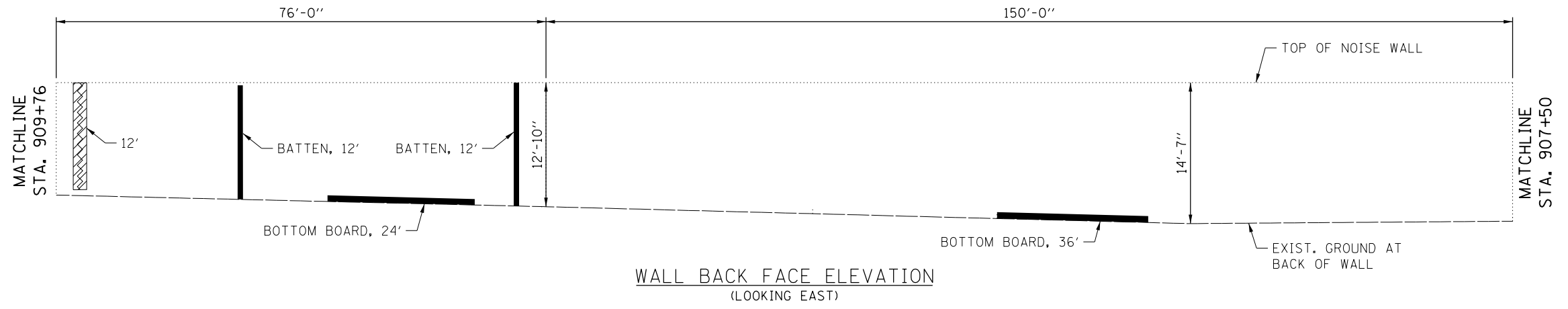


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11453 - NS15.30N,SB(R)
 NOISE WALL ELEVATION 3

SHT NO. NWE-05
 DRAWING NO. 1339 OF 1517

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- NOTE:
1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
 2. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
 3. SEE SHEET NWE-07 FOR REPAIR DETAILS.
 4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

LEGEND

- "BOARD TYPE", X'
- REMOVE AND REPLACE TREATED TIMBER
- ~ ~ ~ PANEL PLANK SPLITTING
- ▨ STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	26
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	390

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS

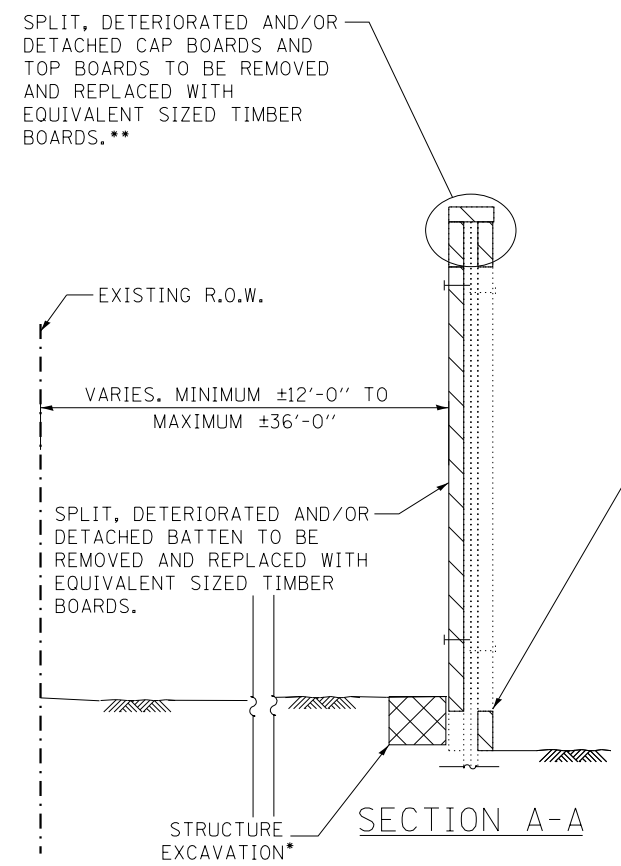
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11453 - NS15.30N,SB(R)
 NOISE WALL ELEVATION 4

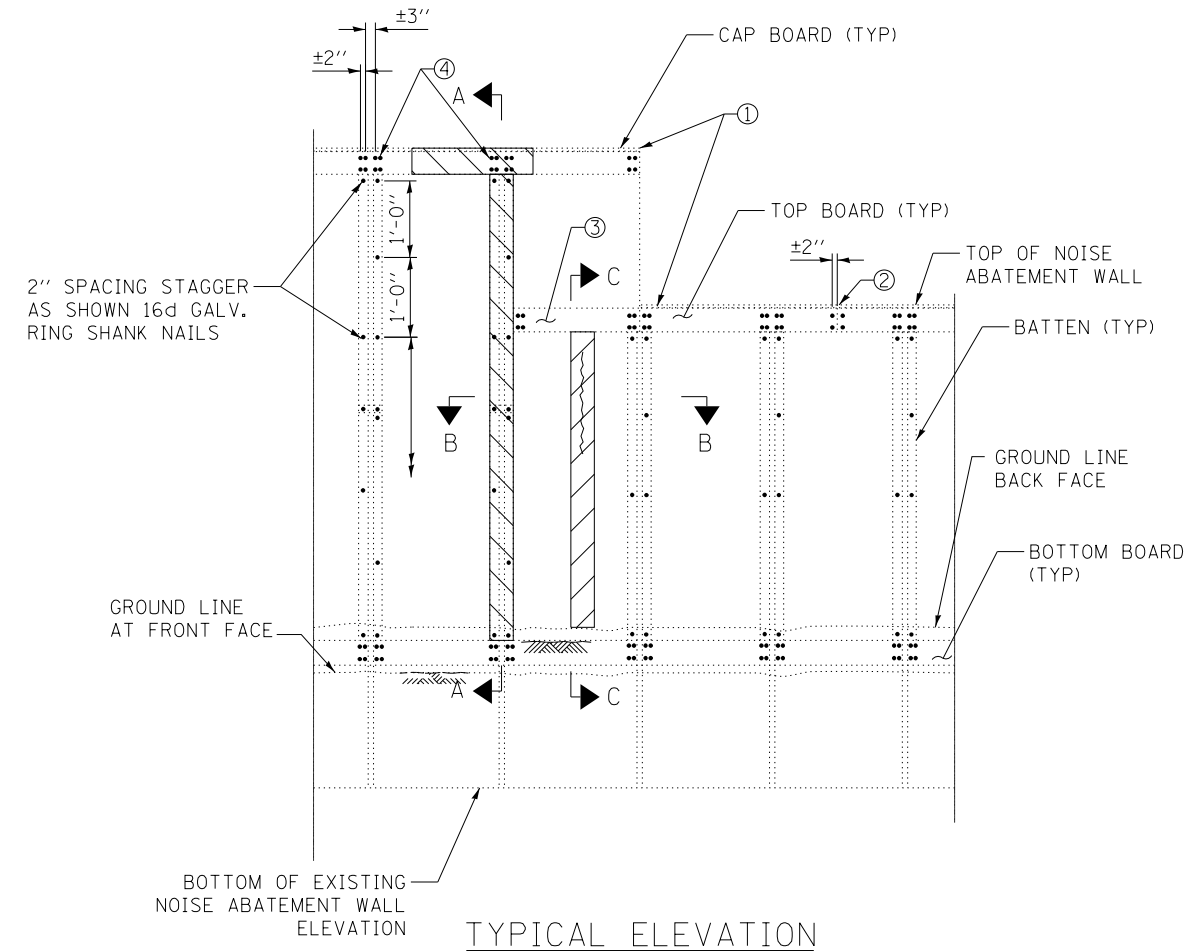
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 DRAWING NO. 1340 OF 1517

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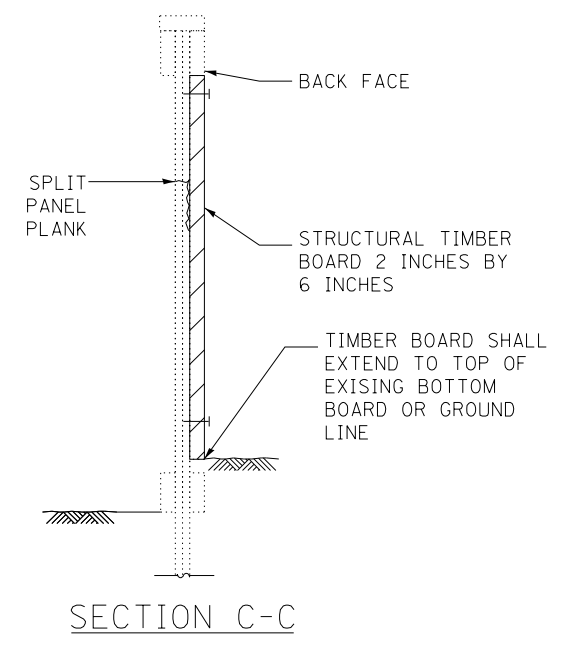
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SECTION A-A



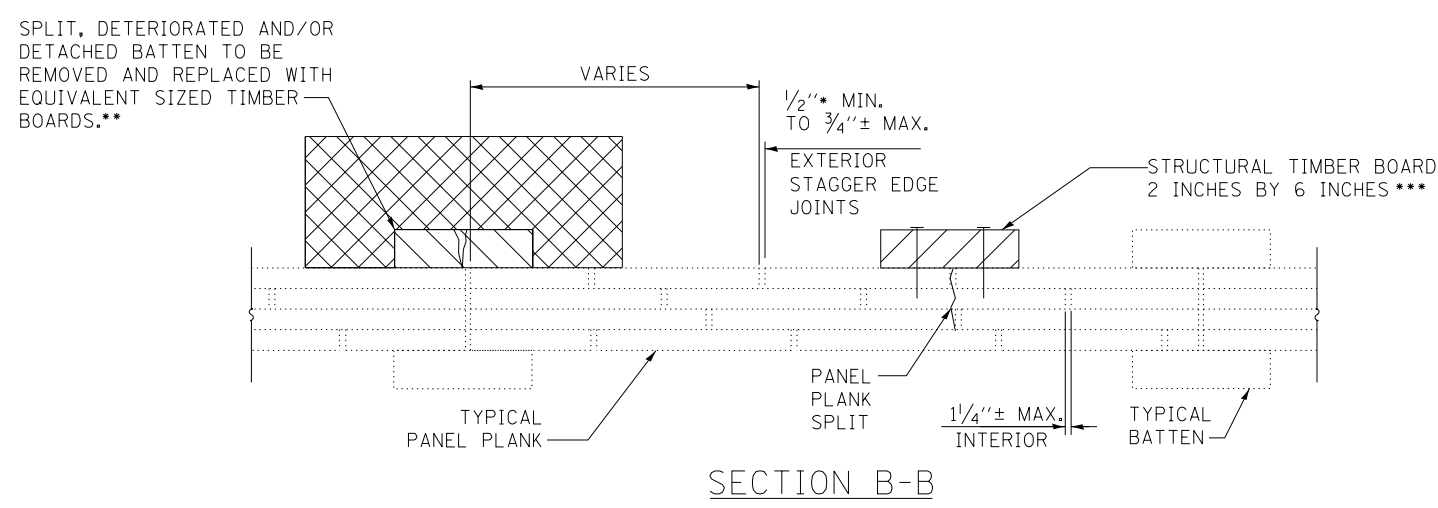
TYPICAL ELEVATION



SECTION C-C

*RESTORE DISTURBED AREA WITH SEEDING, CLASS 2E IF AREA IS WITHIN 20' OF EDGE OF PAVEMENT OR SEEDING CLASS 4F IF AREA IS GREATER THAN 20' AWAY FROM EDGE OF PAVEMENT. NITROGEN FERTILIZER NUTRIENT AND POTASSIUM FERTILIZER NUTRIENT ARE REQUIRED AT ALL SEEDED AREAS.

**MATCH EXISTING NAIL PATTERN
 ***MATCH ADJACENT BATTEN NAIL PATTERN



SECTION B-B

EXISTING DETAILS (FOR INFORMATION ONLY)

- ① - 1" NOM. CAP BOARD COVERS TOP OF PANEL AND TOP BOARDS. FASTENED TO 2"X8" S WITH FOUR 8d GALVANIZED NAILS PER PANEL.
- ② - MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.)
- ③ - OVERLAY 2"X8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ - EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP). SPACE AS SHOWN.

LEGEND

- REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES
- STRUCTURE EXCAVATION

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114553 - NS15.30N,SB(R)
 STANDARD REPAIR DETAILS

SHT NO. NWE-07
 DRAWING NO.
 1341 OF 1517

BENCH MARK:
 CUT "X" IN TOP THE SE BOLT OF LIGHT POLE BASE ± 125' S. OF AN OVERHEAD SIGN TRUSS
 ±STATION 939+15, 89' LT. ELEV. 747.39.

EXISTING STRUCTURE:
 NOISE ABATEMENT WALL NS16.10N,NB DESIGNED IN 1987 ON CONTRACT CIP-612. IT IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 1" THICK OF VARIABLE WIDTH HORIZONTAL CAP BOARDS ON TOP, 2"x8" HORIZONTAL TOP BOARDS ON BOTH FACES, 2"x8" BOTTOM BOARDS ON THE FRONT FACE ONLY, 2"x6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS, AND PANELS WITH PLANK THICKNESSES VARYING FROM 2 1/16" THRU 3 5/16". THE WALL PANELS ARE ANCHORED INTO A TRENCH FILLED WITH BACKFILL MATERIAL. THE WALL HAS A TOTAL LENGTH OF 3,780.31 FT.

TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

SCOPE OF WORK

1. REMOVE AND REPLACE DETERIORATED, LOOSE, SPLITTING AND WARPED CAP BOARDS, BATTENS AND BOTTOM BOARDS.
2. PROVIDE BATTENS ON BACK FACE OF WALL TO FASTEN SPLIT PLANKS WITH WIDE OPENINGS.
3. FIX SEGMENT OF THE WALL THAT IS OUT OF PLUMB OR BOWING BY RETROFITTING THE TOP BOARDS AND PROVIDING BRACING ON THE BACK FACE.
4. REMOVE ALL BUSHES AND TREES WITHIN 2FT OF THE BACK AND FRONT FACES OF THE ENTIRE LENGTH OF WALL.

DESIGN STRESSES

NEW CONSTRUCTION

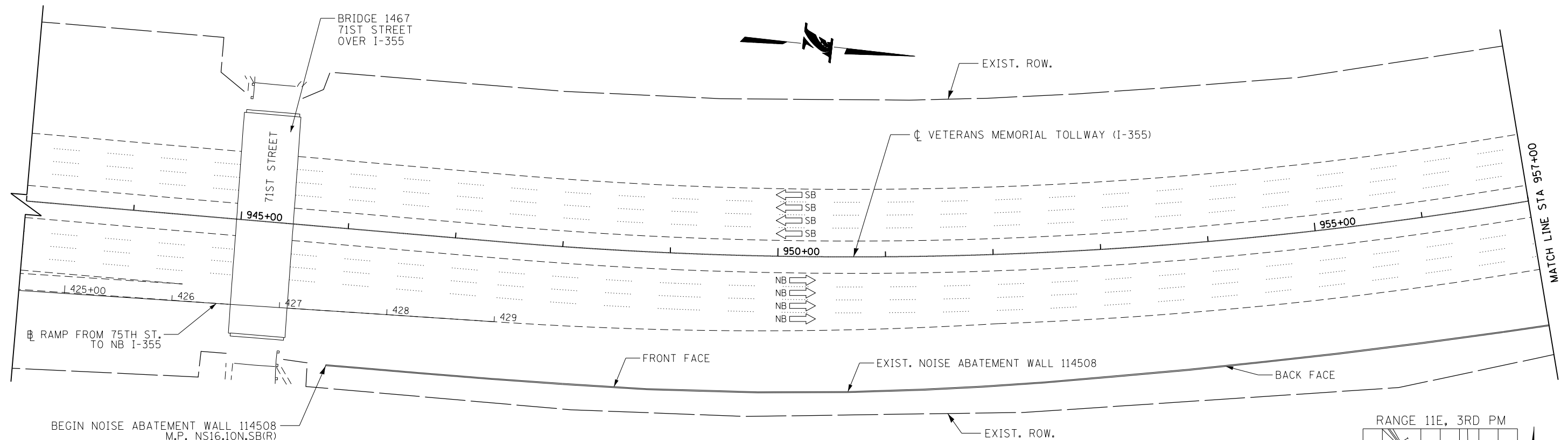
ALL LUMBER SHALL BE SOUTHERN PINE, GRADE #2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

DESIGN SPECIFICATIONS

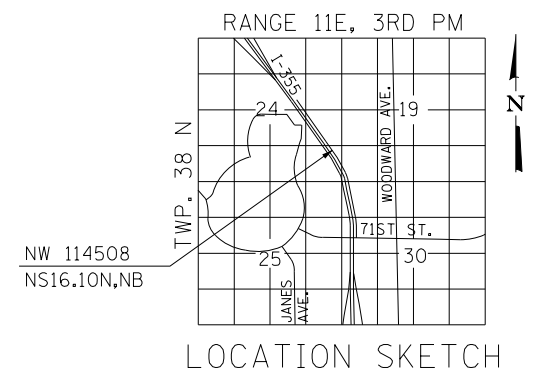
- 2002 AASHTO STANDARD SPECIFICATIONS, 17TH EDITION.
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
- ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDA.
- AASHTO STANDARD SPECIFICATIONS FOR WOOD PRODUCTS, JANUARY 2007.
- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015 EDITION.

CONSTRUCTION SPECIFICATIONS

- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.



PLAN



LOCATION SKETCH

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



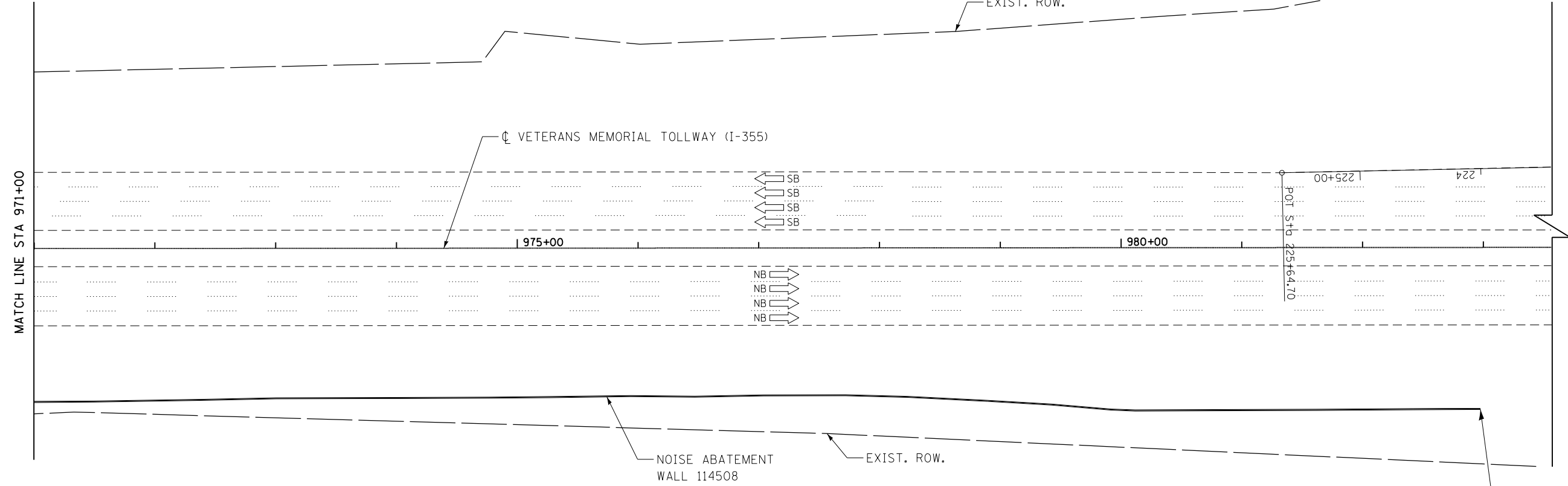
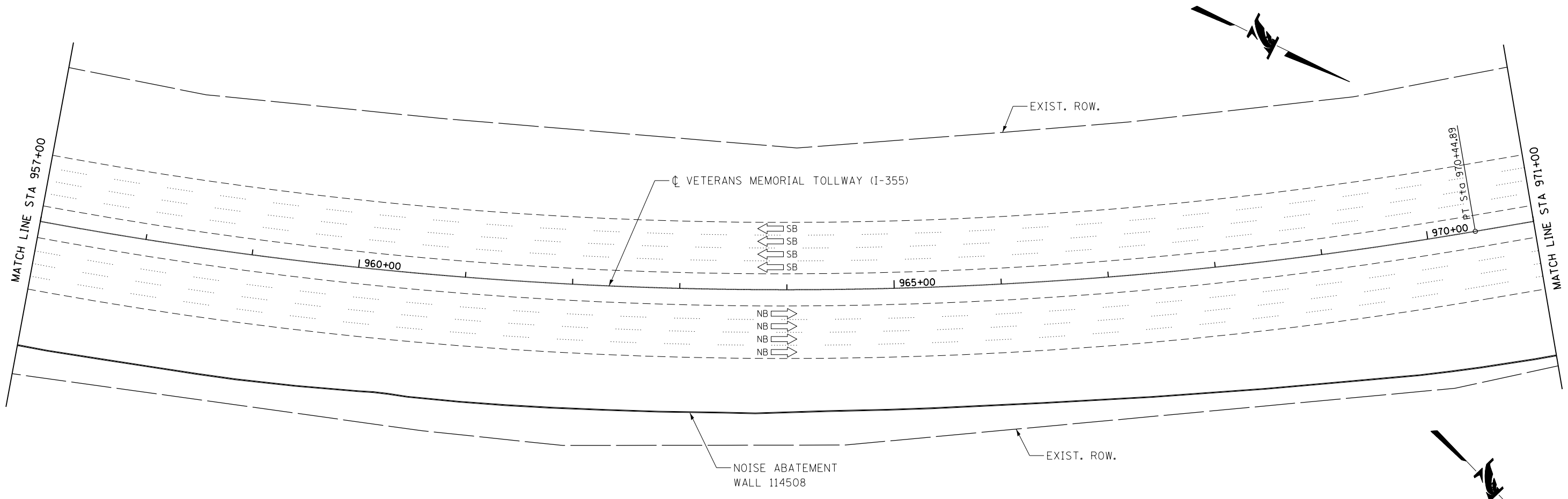
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114508 - NS16.10N,NB
 GENERAL PLAN

NWF-01 OF NWF-07
 SHT NO. NWF-01
 DRAWING NO.
 1342 OF 1517

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END NOISE ABATEMENT
 WALL 114508
 M.P. NS16.10N,SB(R)
 STA. 983+00 133.00 RT.

NWF-02 OF NWF-07

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



NO.		DATE	REVISIONS	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114508 - NS16.10N,NB
 GENERAL PLAN

SHT NO. NWF-02
 DRAWING NO.
 1343 OF 1517

INDEX OF SHEETS

- NWF-01 GENERAL PLAN 1
- NWF-02 GENERAL PLAN 2
- NWF-03 GENERAL NOTES & T.B.O.M.
- NWF-04 NOISE WALL ELEVATION 1
- NWF-05 NOISE WALL ELEVATION 2
- NWF-06 NOISE WALL ELEVATION 3
- NWF-07 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F.	BACK FACE
BK/	BACK OF
B/	BOTTOM OF
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CU. FT.	CUBIC FEET
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
I.F.	INSIDE FACE
L.F.	LINEAR FOOT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
PROP.	PROPOSED
ROW.	RIGHT-OF-WAY
S.B.	SOUTHBOUND
STA.	STATION
SHLDR	SHOULDER
S.F.	SQUARE FOOT
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
SY	SQUARE YARD
TYP.	TYPICAL

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PREFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES. THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "PERFORMANCE BASED NOISE ABATEMENT WALL".

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	50200100	STRUCTURE EXCAVATION	CU. YD.	12	
*	JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES	FOOT	574	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	721	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	640**	

- * INDICATES SPECIAL PROVISION
- ** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

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DRAWN BY	MMZ	DATE	3/11/2018
CHECKED BY	MMH	DATE	3/11/2018

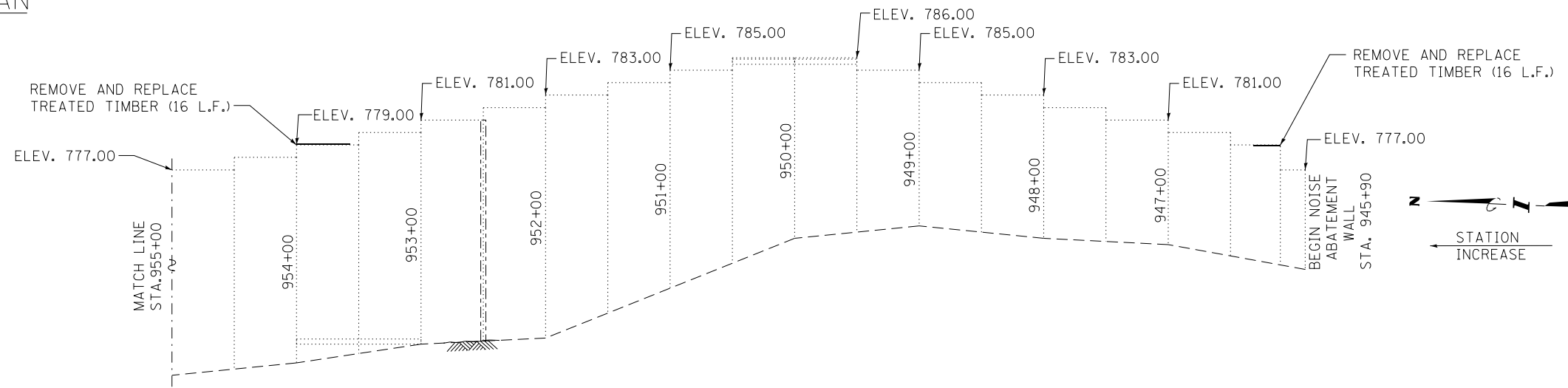


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NO.	DATE	DESCRIPTION

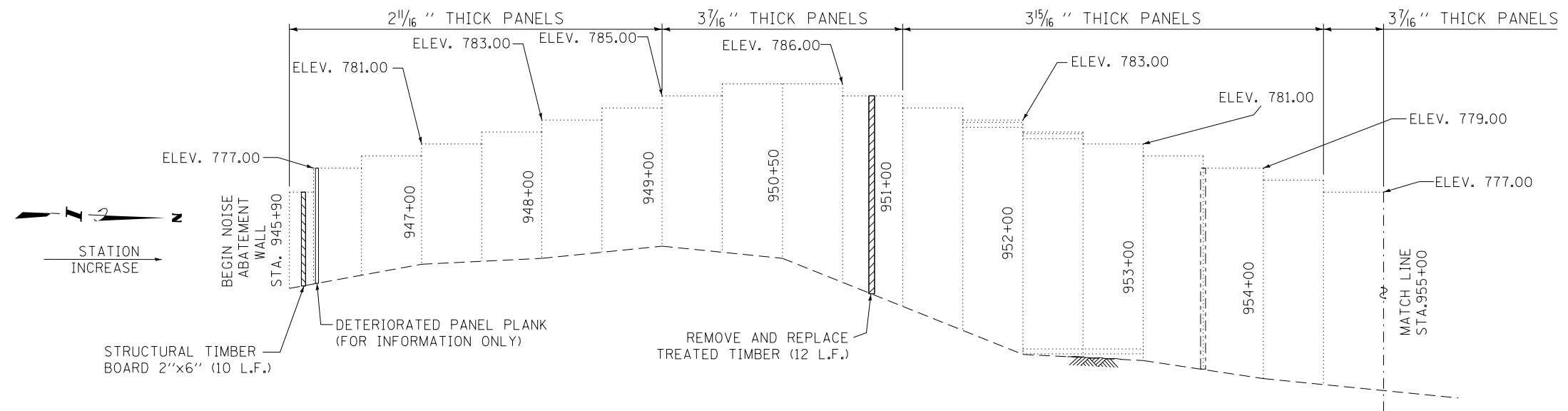
CONTRACT NO. RR-16-4255	NOISE WALL 114508 - NS16.10N,NB
	GENERAL NOTES

SHT NO. NWF-03	DRAWING NO. 1344 OF 1517
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INSPECTION SKETCH PLAN






WALL FRONT ELEVATION (LOOKING EAST)



WALL BACK ELEVATION (LOOKING WEST)

LEGEND

-  STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)
-  REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"x6" BATTEN)
-  REMOVE AND REPLACE TREATED TIMBER (DAMAGED 1"x10" CAP BOARD)

NOTE:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	10
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	44

NWF-04 OF NWF-07

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018

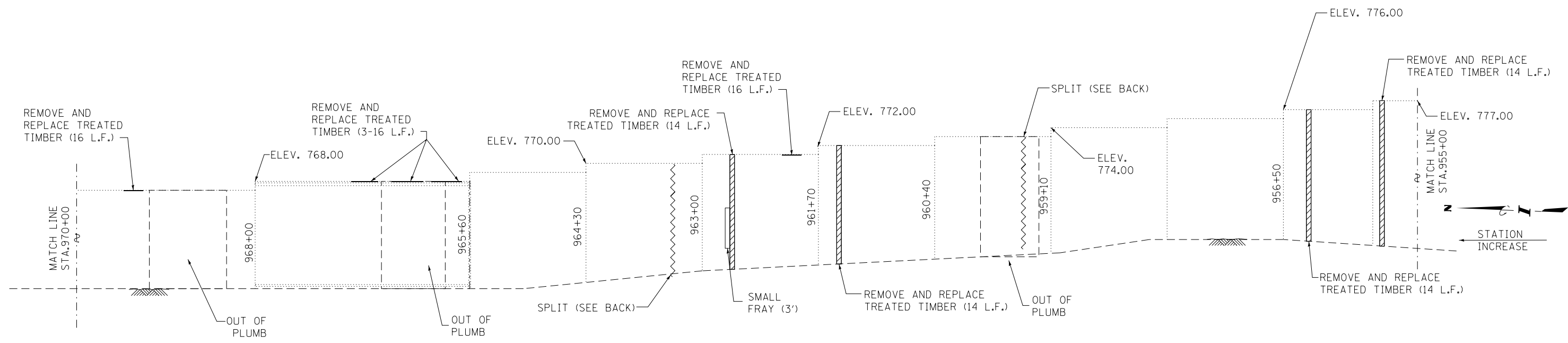


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NO.	DATE

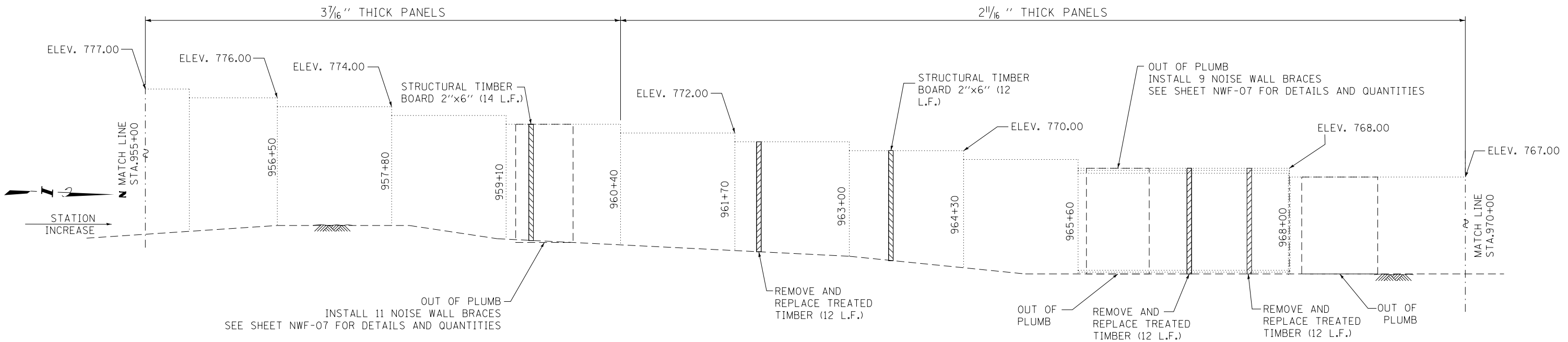
CONTRACT NO. RR-16-4255
 NOISE WALL 114508 - NS16.10N,NB
 STA. 945+90 TO STA. 970+00

SHT NO. NWF-04
 DRAWING NO. 1345 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings Files\4255\Structural\Walls\Sh1\4255-sh1-14508-wall-PEL-05.dgn



WALL FRONT ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING WEST)

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	26
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	172

LEGEND

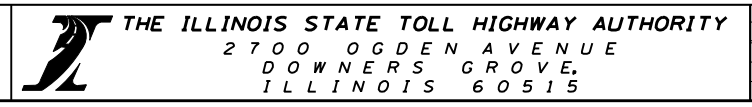
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"X6" BATTEN)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 1'X10" CAP BOARD)

NOTE:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

NWF-05 OF NWF-07

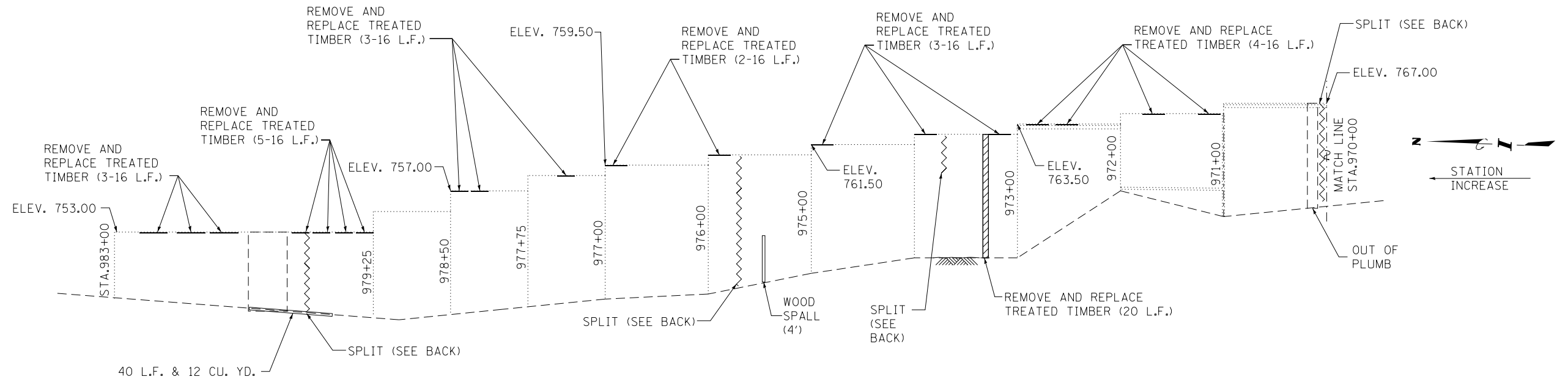
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 CHECKED BY **MMH** DATE **3/11/2018**



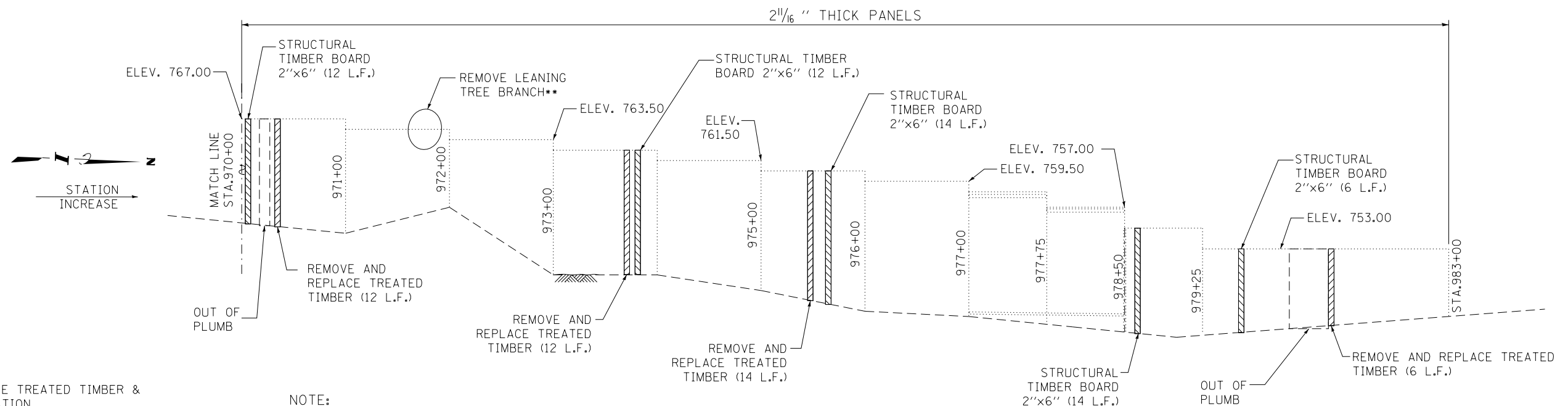
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
 NOISE WALL 114508 - NS16.10N,NB
 STA. 970+00 TO STA. 983+00

SHT NO. **NWF-05**
 DRAWING NO. **1346**
 OF 1517



WALL FRONT ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING WEST)

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	12
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	58
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	424

LEGEND

REMOVE AND REPLACE TREATED TIMBER & STRUCTURAL EXCAVATION (SEE PANEL PLANK RETROFIT ON RWF-07)

STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)

REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"x6" BATTEN)

REMOVE AND REPLACE TREATED TIMBER (DAMAGED 1"x10" CAP BOARD)

NOTE:

- ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
- "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawing Files\4255\Structural\Walls\Sh1\4255-sh1-14508-wall-PEL06.dgn
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DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



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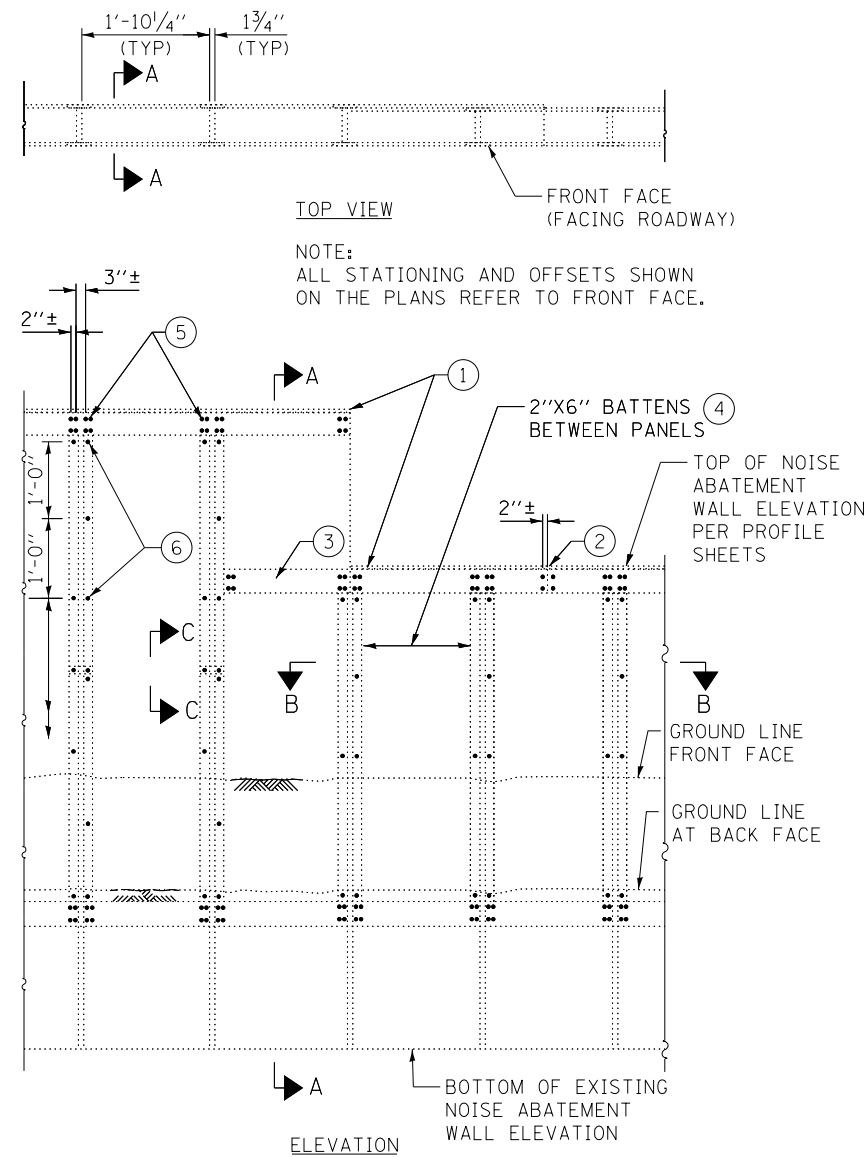


2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

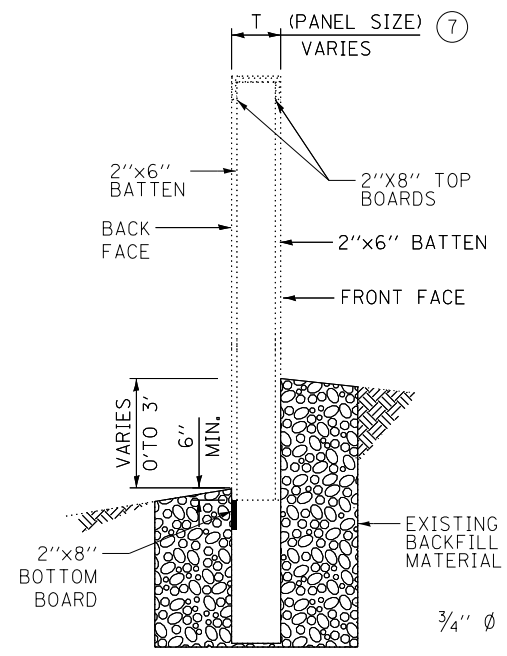
CONTRACT NO. RR-16-4255
 NOISE WALL 114508 - NS16.10N,NB
 STA. 970+00 TO STA. 983+00

NWF-06 OF NWF-07
 SHT NO. NWF-06
 DRAWING NO.
 1347 OF 1517

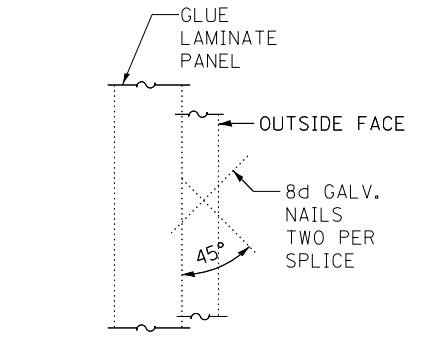


EXISTING WALL DETAILS

- ① 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"x8"s WITH FOUR 8d GALVANIZED NAILS PER PANEL. INCIDENTAL TO "REMOVE AND REPLACE TREATED TIMBER".
- ② MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.).
- ③ OVERLAY 2"x8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ ON BACK FACE THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP.). SPACE AS SHOWN.
- ⑥ 2" SPACING STAGGER AS SHOWN 16d GALV. RING SHANK NAILS.
- ⑦ PANEL SIZE T VARIES (SEE NOISE WALL ABATEMENT WALL ELEVATIONS).

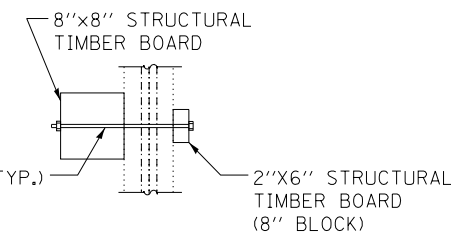


SECTION A-A



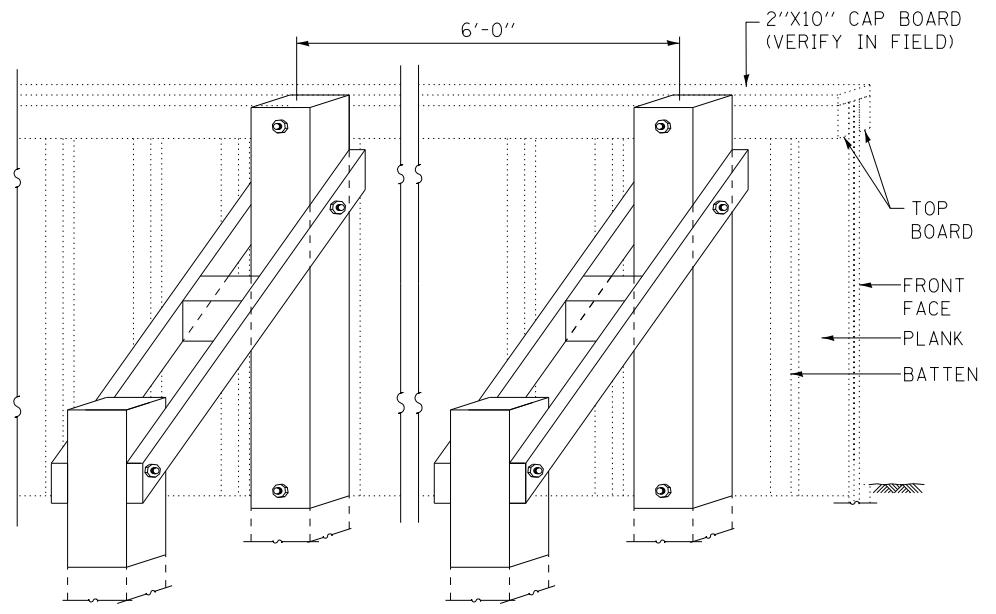
SECTION C-C

PERMISSIBLE BATTEN SPLICE (TYP.)

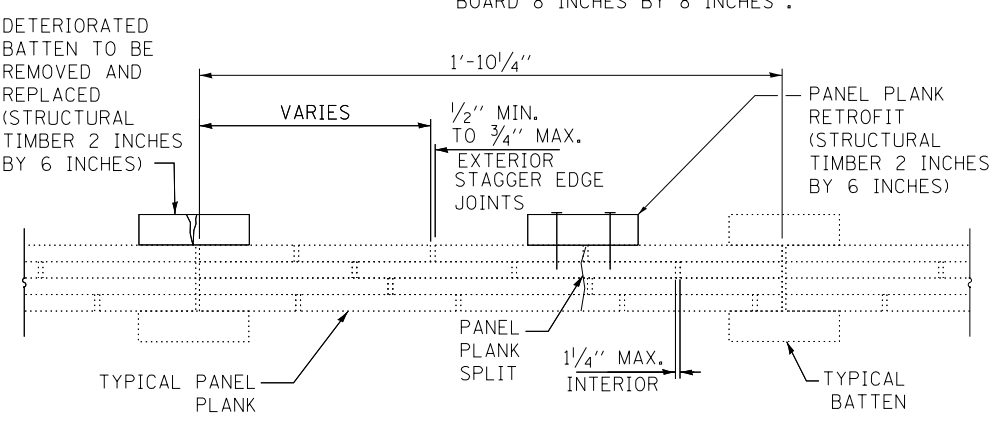


SECTION D-D

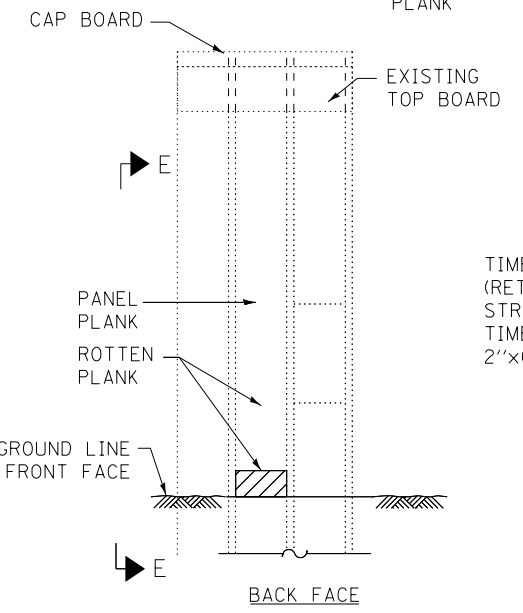
COST INCLUDED IN "STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".



WALL BRACING ELEVATION DETAIL

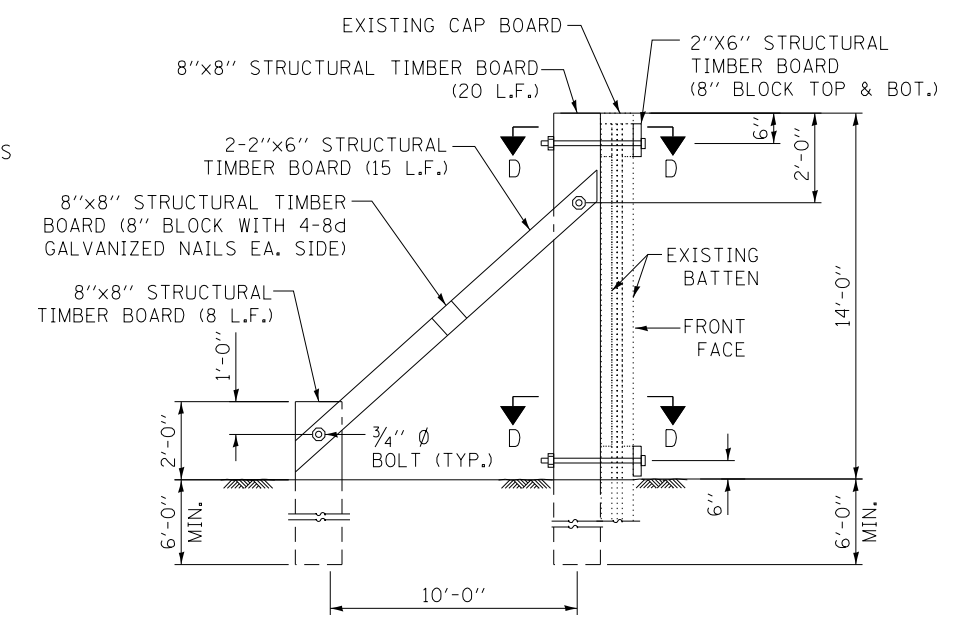


SECTION B-B



SECTION E-E

PANEL PLANK REPAIR DETAIL



WALL BRACING SECTION DETAIL

COST OF BOLT ASSEMBLIES INCLUDED IN "STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES *	FOOT	574
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	627

* SOUTHERN PINE GRADE #1 AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114508 - NS16.10N,NB
 STANDARD REPAIR DETAILS

NWF-07 OF NWF-07
 SHT NO. NWF-07
 DRAWING NO. 1348 OF 1517

BENCHMARK:
 CUT "X" IN TOP THE SE BOLT OF LIGHT POLE BASE, +/- 125' S. OF AN OVERHEAD SIGN TRUSS (SIGN READS "BOUGHTON RD. 1 3/4 MILES), +/- STA. 939+15, 89'LT. ELEV. = 747.39

EXISTING STRUCTURE:
 THE NOISE ABATEMENT WALL, ORIGINALLY CONSTRUCTED IN 1987 UNDER CONTRACT CIP-612, FROM STA. 945+90 TO STA. 980+00 AND CONTRACT CIP FROM STA. 980+00 TO STA. 983+00 IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 1" THICK OF VARIABLE WIDTH HORIZONTAL CAP BOARDS ON TOP, 2"x8" HORIZONTAL TOP BOARDS ON BOTH FACES, 2"x6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS, AND PANEL WITH PLANKS THICKNESSES VARIES FROM 2 11/16" THRU 3 15/16" AT SHORTER THRU TALLER WALL RESPECTIVELY. THE WALL PANELS ARE ANCHORED INTO A TRENCH FILLED WITH BACKFILL MATERIAL. THE WALL HAS A TOTAL LENGTH OF 3639.1 FT.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN SPECIFICATION

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

AASHTO STANDARD SPECIFICATIONS FOR WOOD PRODUCTS

NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015 EDITION

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JAN. 1, 2018.

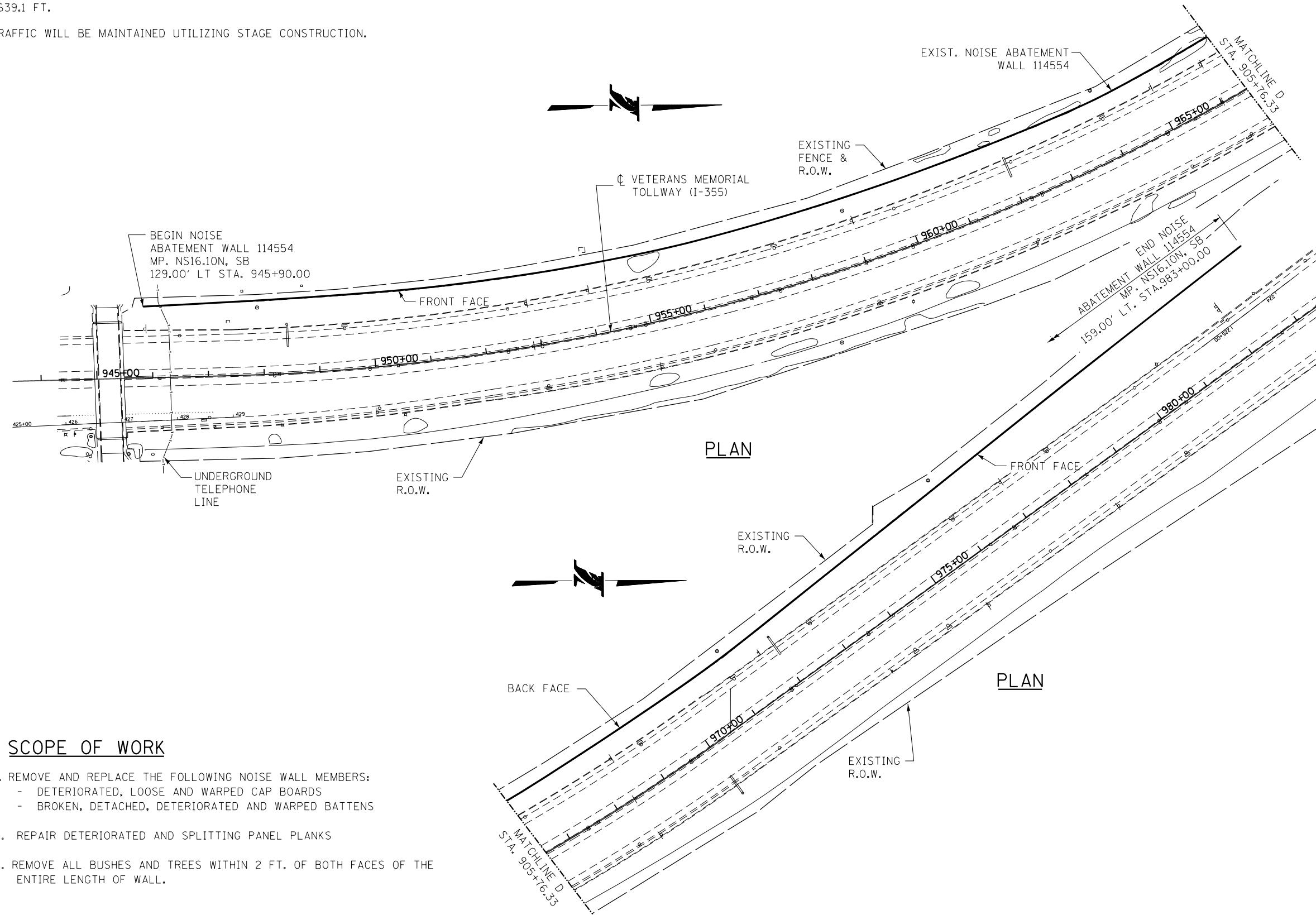
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

NDS MANUAL FOR ENGINEERED WOOD CONSTRUCTION, 2015 EDITION

DESIGN STRESSES

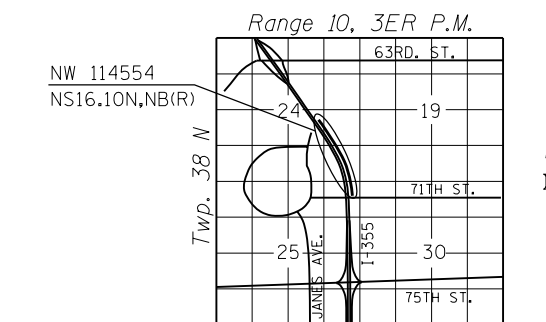
NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.



SCOPE OF WORK

1. REMOVE AND REPLACE THE FOLLOWING NOISE WALL MEMBERS:
 - DETERIORATED, LOOSE AND WARPED CAP BOARDS
 - BROKEN, DETACHED, DETERIORATED AND WARPED BATTENS
2. REPAIR DETERIORATED AND SPLITTING PANEL PLANKS
3. REMOVE ALL BUSHES AND TREES WITHIN 2 FT. OF BOTH FACES OF THE ENTIRE LENGTH OF WALL.



LOCATION SKETCH

NWG-01 OF NWG-15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

Primera
 100 S. Wacker Drive, Suite 700 • Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. NWG-01
NOISE WALL 114554 - NS16.10N,SB	DRAWING NO. 1349 OF 1517
GENERAL PLAN	

INDEX OF SHEETS

- NWG-01 GENERAL PLAN
- NWG-02 GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- NWG-03 FRONT ELEVATION
STA. 945+90 TO STA. 951+18
- NWG-04 FRONT ELEVATION
STA. 951+18 TO STA. 955+00
- NWG-05 FRONT ELEVATION
STA. 955+00 TO STA. 961+44
- NWG-06 FRONT ELEVATION
STA. 961+44 TO STA. 970+00
- NWG-07 FRONT ELEVATION
STA. 970+00 TO STA. 976+04
- NWG-08 FRONT ELEVATION
STA. 976+04 TO STA. 980+00
- NWG-09 BACK ELEVATION
STA. 945+90 TO STA. 951+18
- NWG-10 BACK ELEVATION
STA. 951+18 TO STA. 955+00
- NWG-11 BACK ELEVATION
STA. 955+00 TO STA. 961+44
- NWG-12 BACK ELEVATION
STA. 961+44 TO STA. 970+00
- NWG-13 BACK ELEVATION
STA. 970+00 TO STA. 976+04
- NWG-14 BACK ELEVATION
STA. 976+04 TO STA. 980+00
- NWG-15 TYPICAL REPAIR DETAILS

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PREFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES. THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "REMOVE AND REPLACE TREATED TIMBER".
11. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.
12. "TREE REMOVAL (6 TO 15 UNITS IN DIAMETER)" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL WHEREVER TREES ARE 6 TO 15 UNITS IN DIAMETER.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	50	
	50200100	STRUCTURE EXCAVATION	CU. YD.	2	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	73	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER**	FOOT	294	

* INDICATES SPECIAL PROVISION

** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- BK/ BACK OF
- B/ BOTTOM OF
- BOT. BOTTOM
- C.I.P. CAST-IN-PLACE
- CL CENTERLINE
- CU. FT. CUBIC FEET
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- EXP. EXPANSION
- E.F. EACH FACE
- F.F. FRONT FACE
- I.F. INSIDE FACE
- LF LINEAR FOOT
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- O.F. OUTSIDE FACE
- P.G.L. PROFILE GRADE LINE
- P.J.F. PREFORMED JOINT FILLER
- PROP. PROPOSED
- S.B. SOUTHBOUND
- S.P. SPECIAL PROVISION
- STA. STATION
- SHLDR SHOULDER
- SF SQUARE FOOT
- SQ. FT. SQUARE FOOT
- SQ. YD. SQUARE YARD
- SY SQUARE YARD
- TYP. TYPICAL

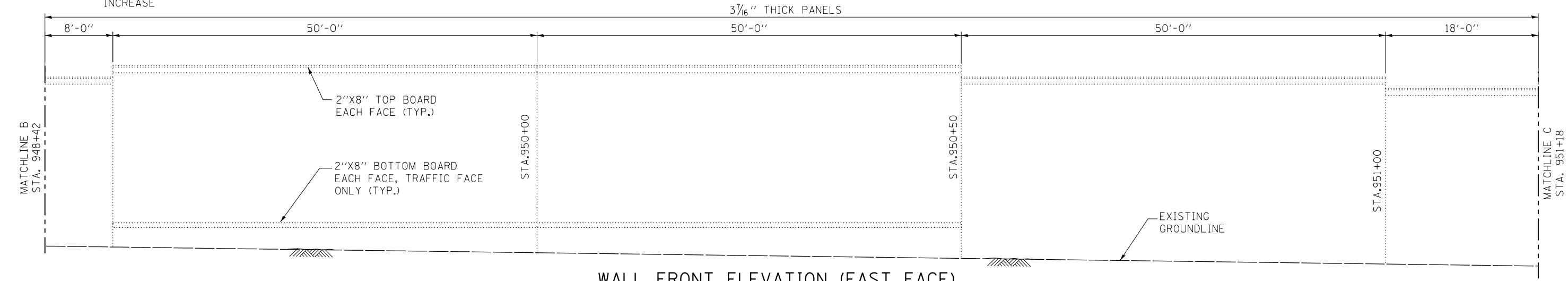
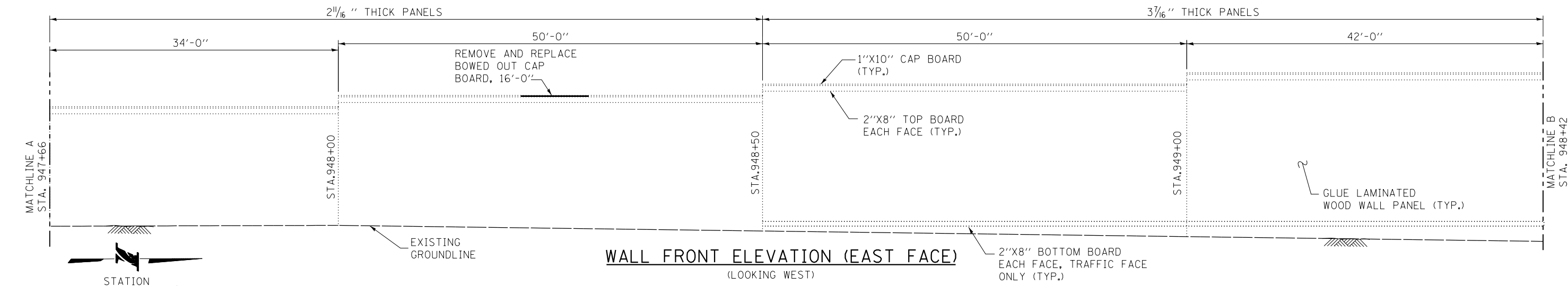
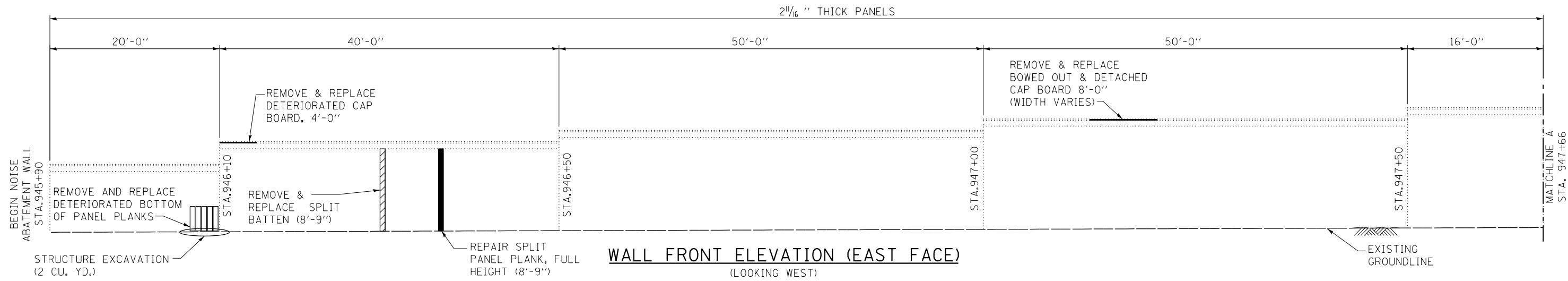
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 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114554 - NS16.10N,SB
 GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL
 SHT NO. NWG-02
 DRAWING NO. 1350 OF 1517

Projects\2016\20161616-Veterans Memorial Tollway\Drawings\Current Drawings Files\4255-Struc\Wall\Sh1\4255-sh1-11454.dwg
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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- NOTE:**
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 - ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"
 - 1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	2
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	9
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	37

NWG-03 OF NWG-15

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

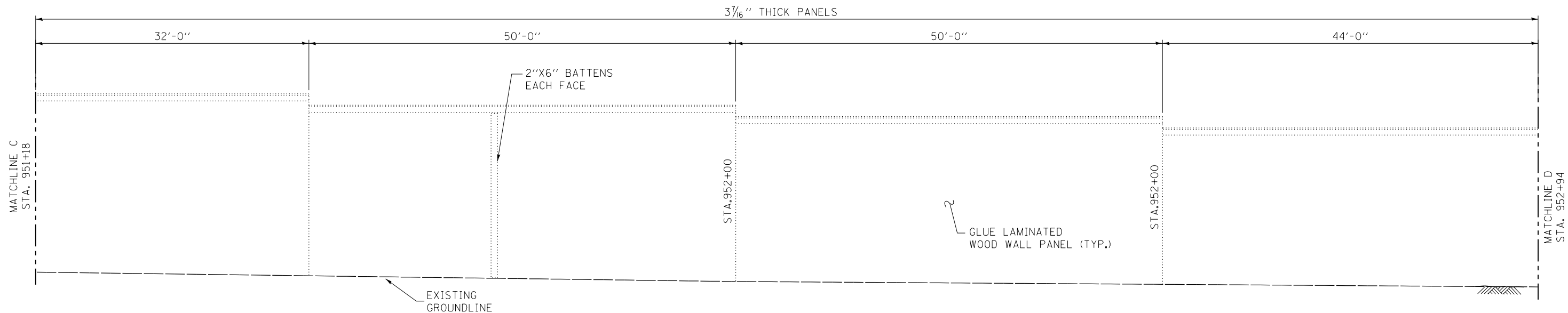


REVISIONS	
NO.	DATE

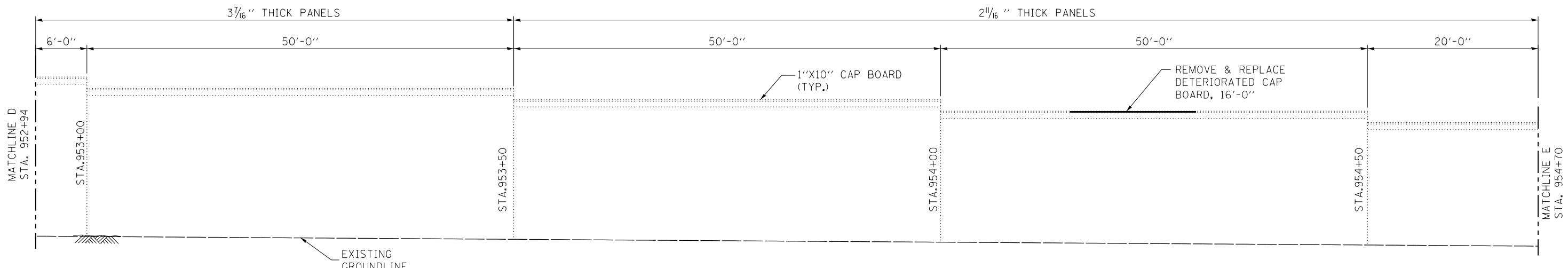
CONTRACT NO. **RR-16-4255**
NOISE WALL 11454 - NS16.10N,SB
FRONT ELEVATION STA. 945+90 - STA. 951+18

SHT NO. **NWG-03**
 DRAWING NO. **1351** OF **1517**

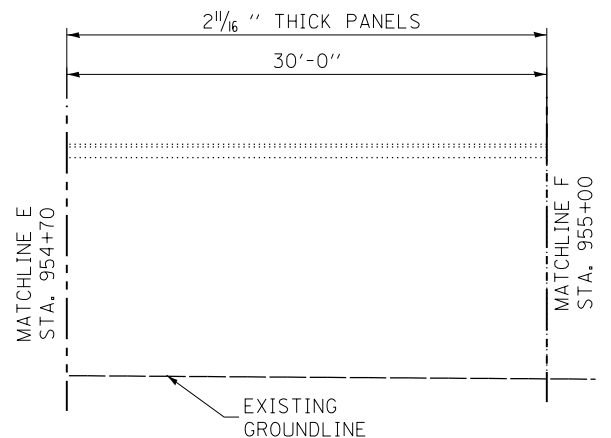
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WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)



WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)



WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

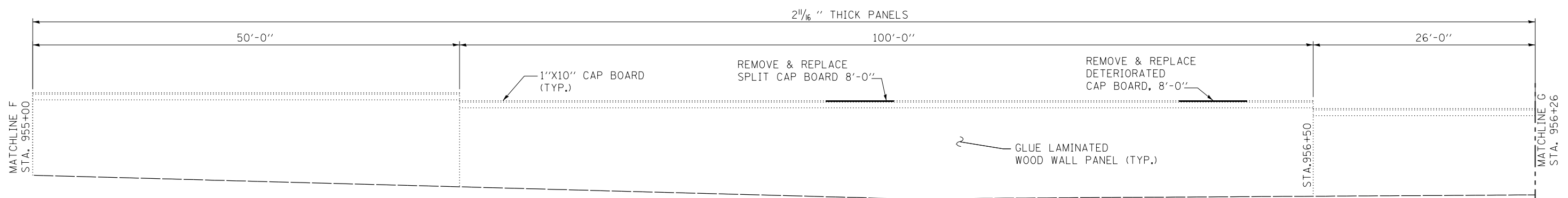
NOTES:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

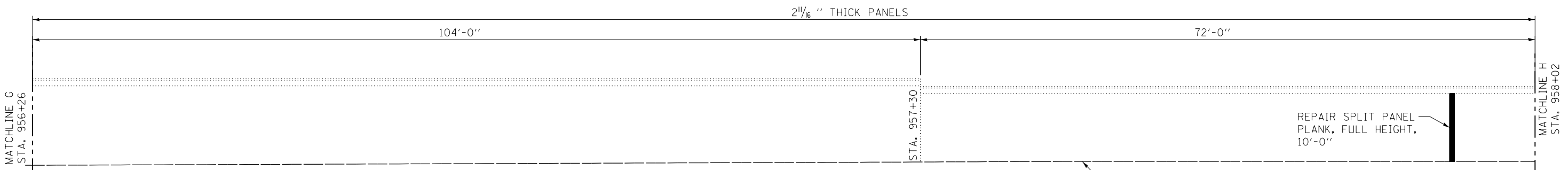
BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	16

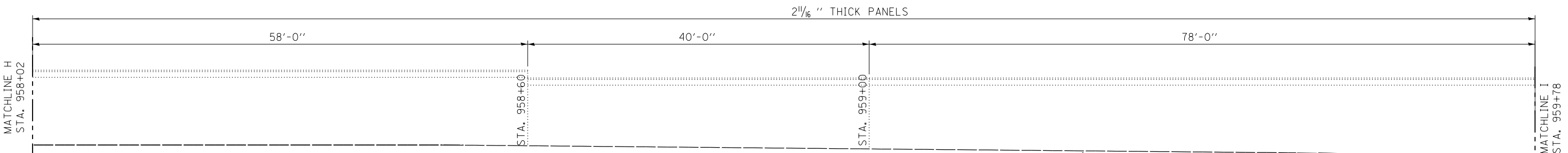
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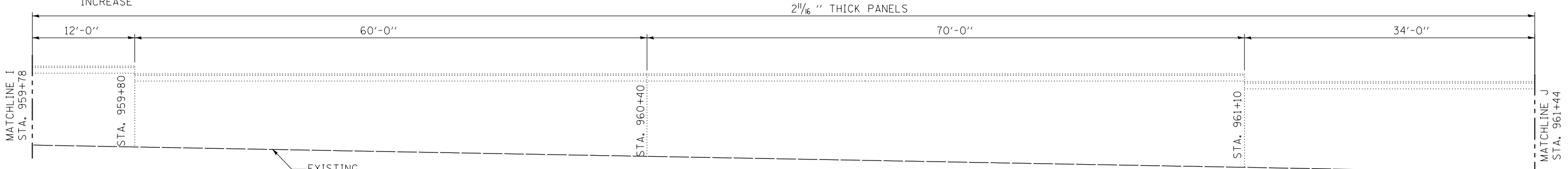
WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)



WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)



WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)



WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- * PAID AS "REMOVE AND REPLACE TREATED TIMBER" ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"
 NOTES:
 1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	10
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	16

NWG-05 OF NWG-15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

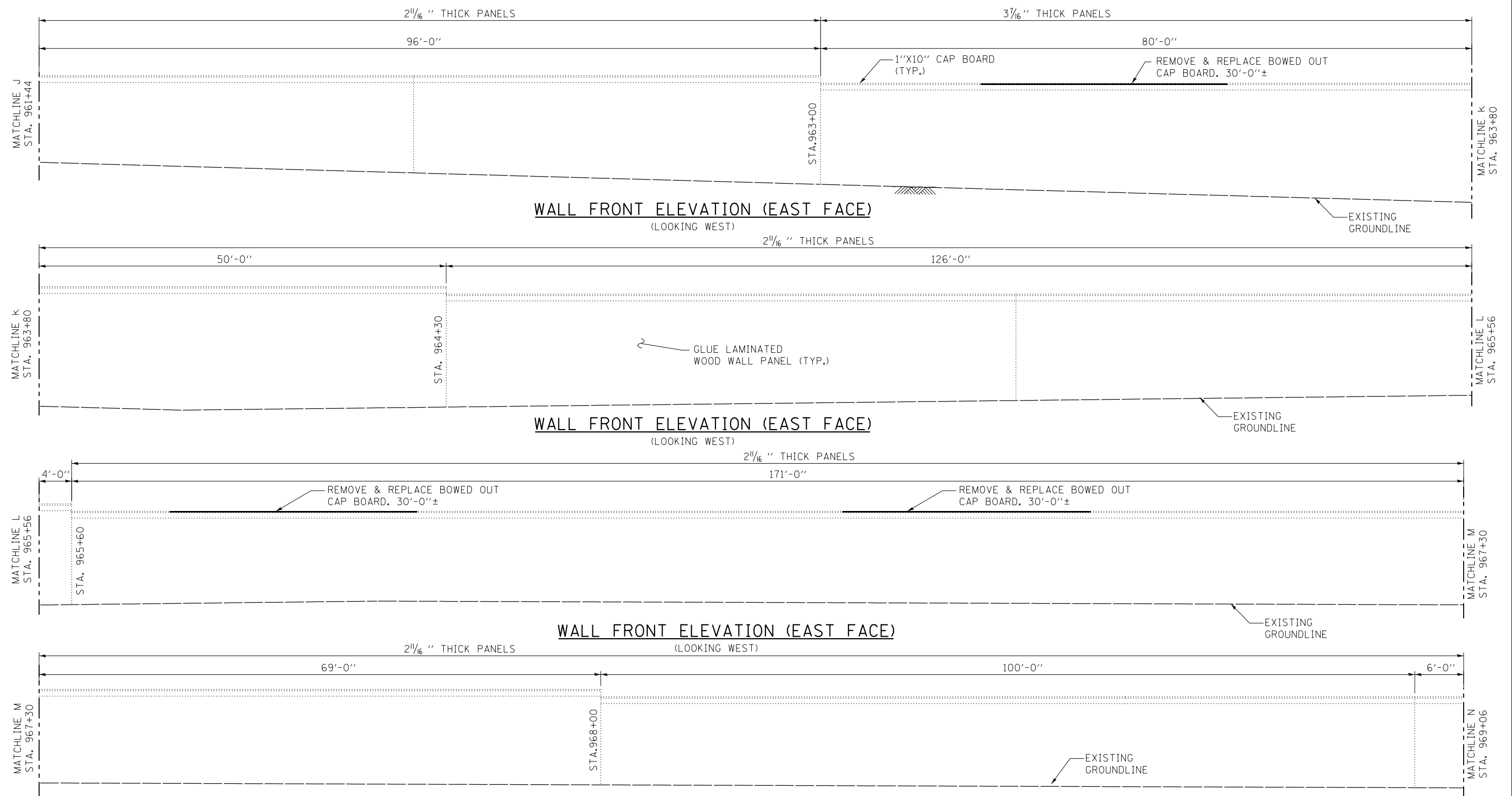


NO.	DATE	REVISIONS	
		DESCRIPTION	

CONTRACT NO. RR-16-4255
 NOISE WALL 114554 - NS16.10N,SB
 FRONT ELEVATION STA. 955+00 - STA. 961+44

SHT NO. NWG-05
 DRAWING NO. 1353 OF 1517

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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *

INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *

INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

WALL FRONT ELEVATION (EAST FACE)
(LOOKING WEST)

NOTES:

1. WALL ELEVATION FROM STA. 969+06 TO STA 970+00 HAS NO RECORDED DEFECT AND THEREFORE NOT SHOWN.
2. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
3. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	90

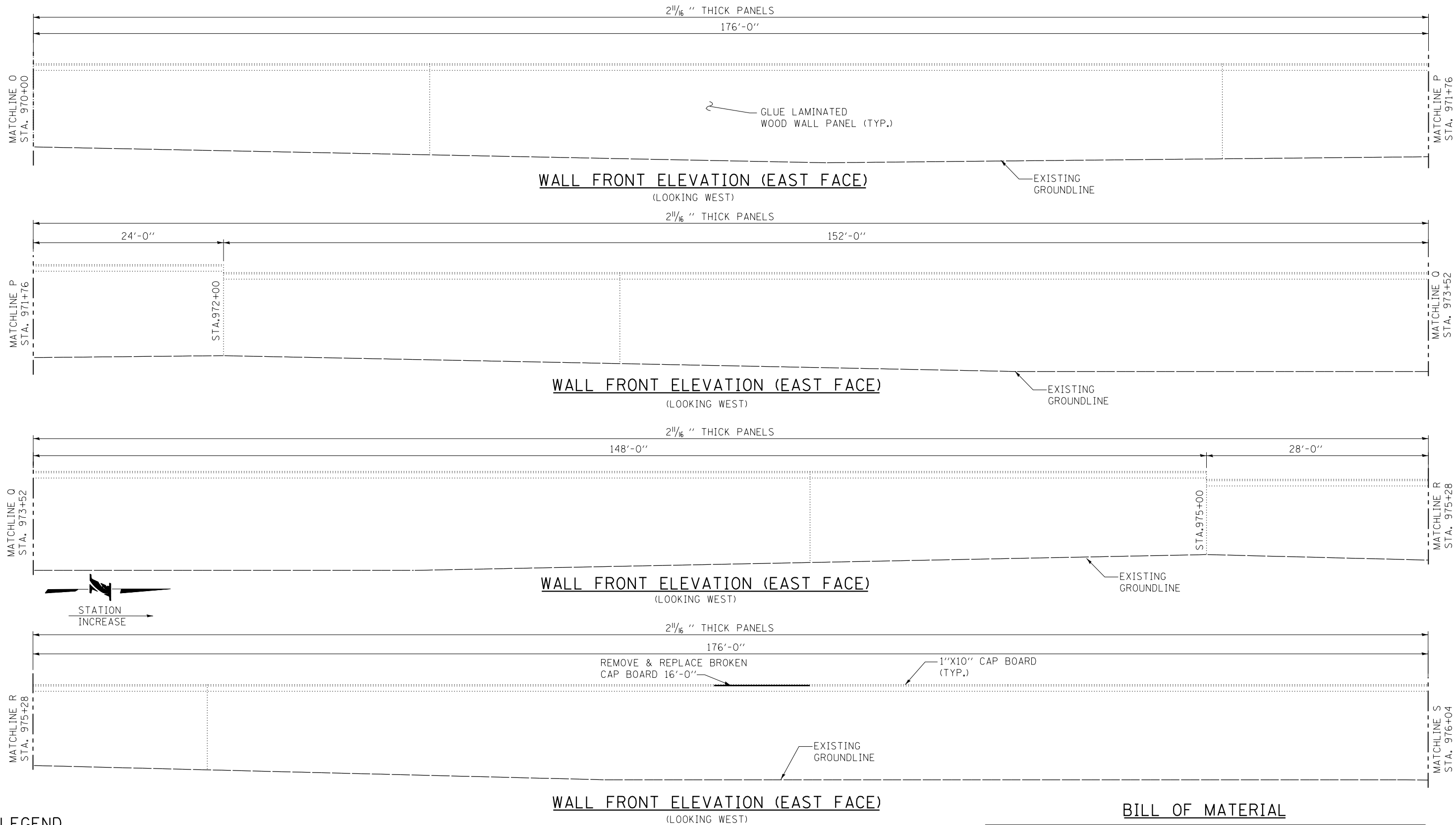
DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114554 - NS16.10N,SB
 FRONT ELEVATION STA. 961+44 - STA. 970+00
 SHT NO. NWG-06
 DRAWING NO. 1354 OF 1517

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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- * PAID AS "REMOVE AND REPLACE TREATED TIMBER" ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"
- NOTES:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	SQ. FT.	16

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

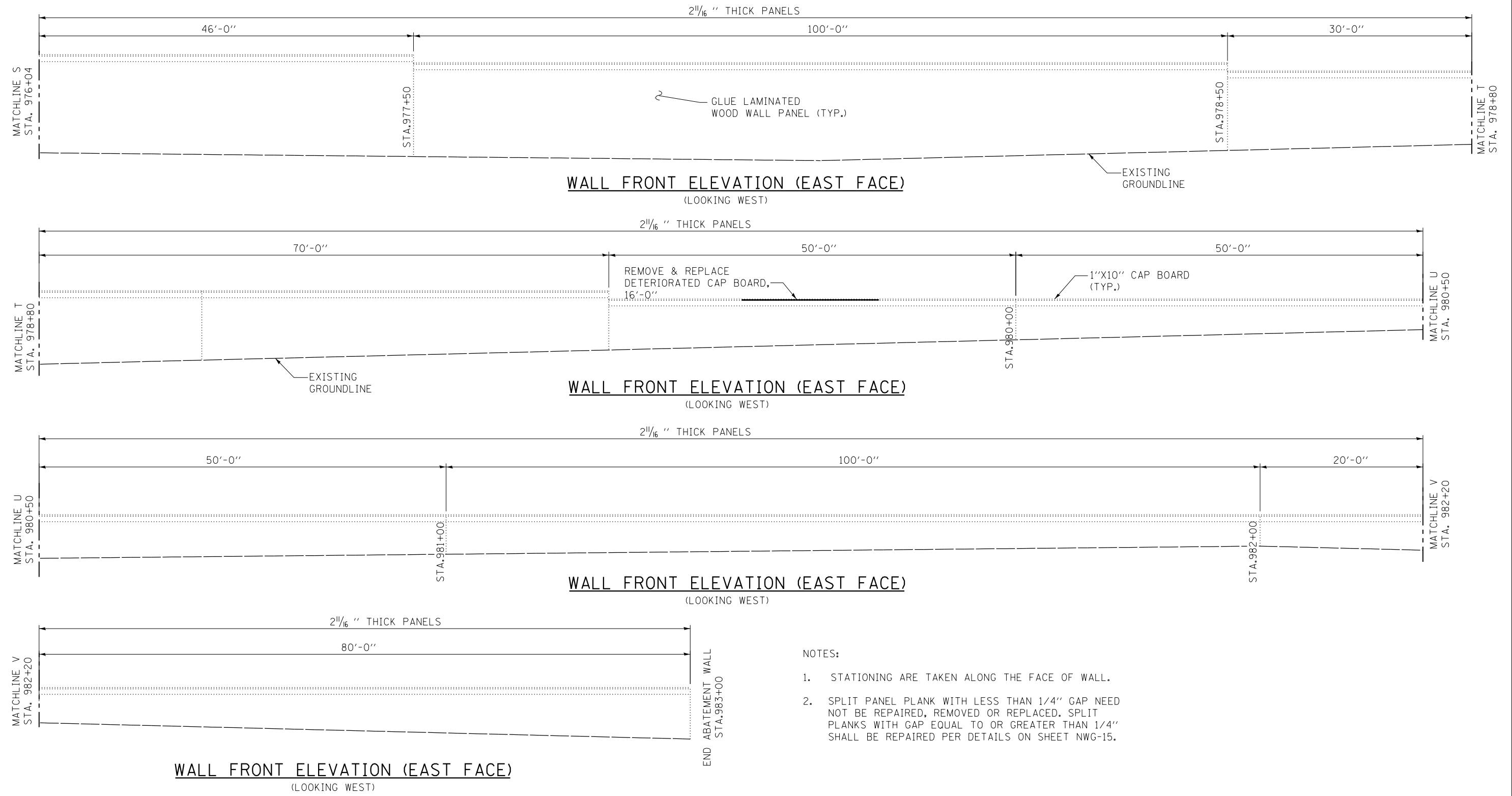


NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. **RR-16-4255**
NOISE WALL 114554 - NS16.10N,SB
FRONT ELEVATION STA. 970+00 - STA. 976+04

NWG-07 OF NWG-15
 SHT NO. **NWG-07**
 DRAWING NO. **1355 OF 1517**

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- NOTES:**
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	16

DRAWN BY **MPS** DATE **3/11/2018**

CHECKED BY **JPM/MMH** DATE **3/11/2018**



REVISIONS	
NO.	DESCRIPTION

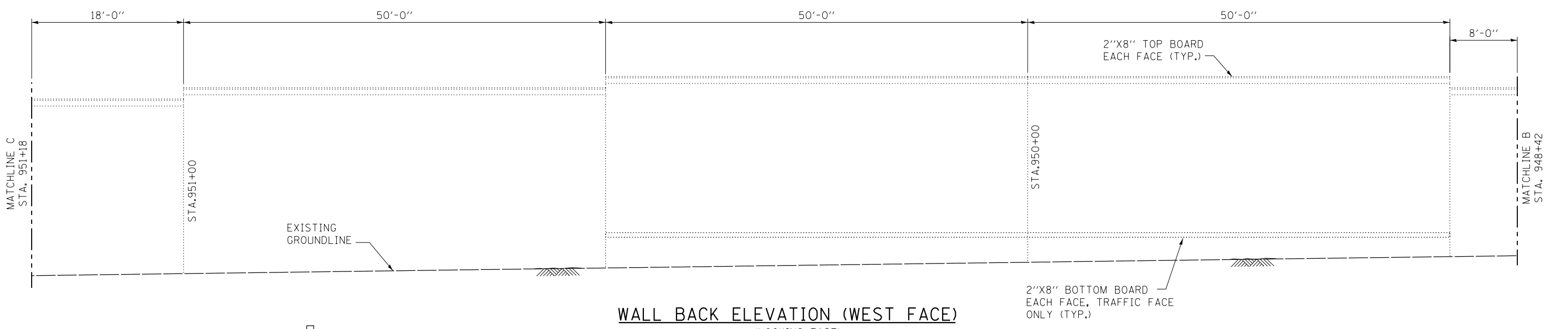
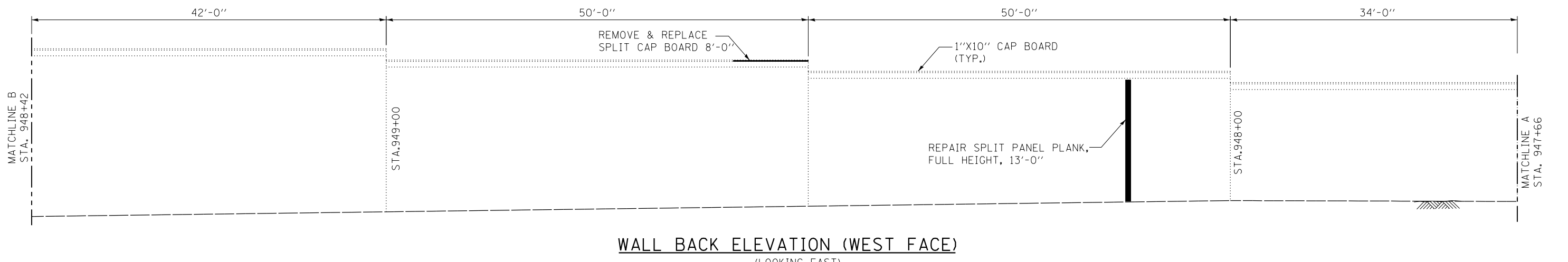
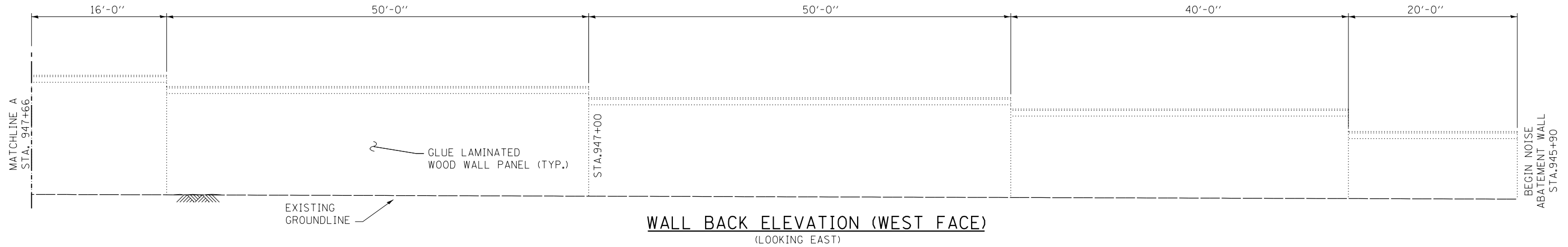
CONTRACT NO. **RR-16-4255**

NOISE WALL 114554 - NS16.10N,SB

FRONT ELEVATION STA. 976+04 - STA. 980+00

SHT NO. **NWG-08**

DRAWING NO. **1356** OF **1517**



LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *

- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	13
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	8

- NOTES:
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

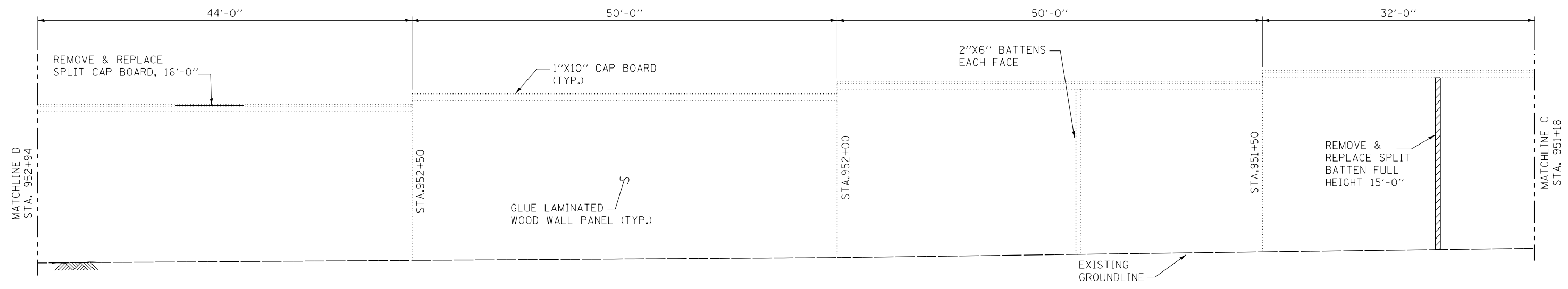


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NO.	DATE DESCRIPTION

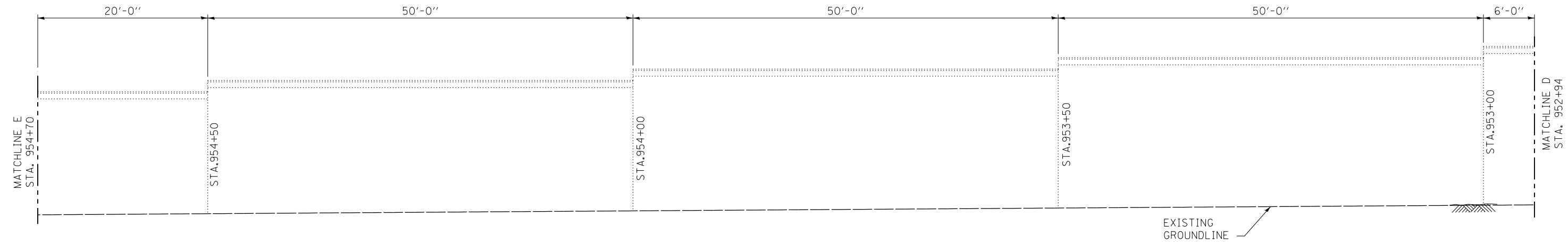
CONTRACT NO. RR-16-4255
 NOISE WALL 114554 - NS16.10N,SB
 BACK ELEVATION STA. 945+90 - STA. 951+18

NWG-09 OF NWG-15
 SHT NO. NWG-09
 DRAWING NO. 1357 OF 1517

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WALL BACK ELEVATION (WEST FACE)
(LOOKING EAST)



WALL BACK ELEVATION (WEST FACE)
(LOOKING EAST)



LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

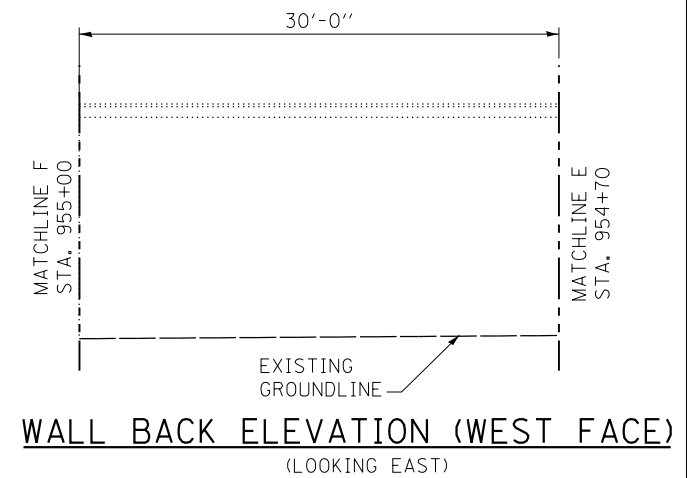
** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

NOTES:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	31



WALL BACK ELEVATION (WEST FACE)
(LOOKING EAST)

NWG-10 OF NWG-15

DRAWN BY **MPS** DATE **3/11/2018**

CHECKED BY **JPM/MMH** DATE **3/11/2018**



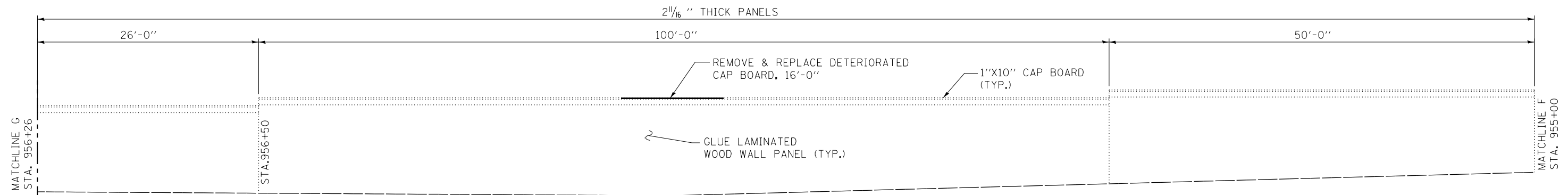
REVISIONS		
NO.	DATE	DESCRIPTION

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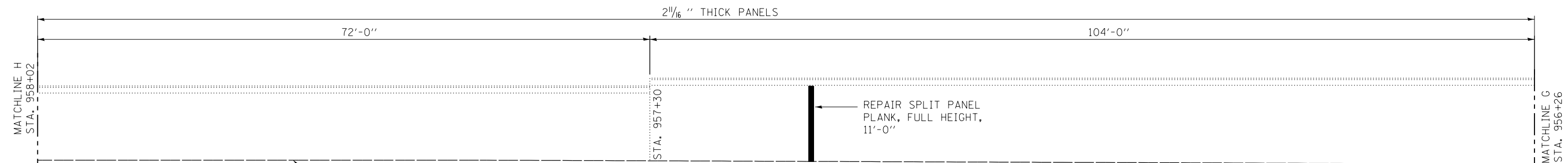
NOISE WALL 114554 - NS16.10N,SB DRAWING NO. **1358 OF 1517**

BACK ELEVATION STA. 951+18 - STA. 955+00

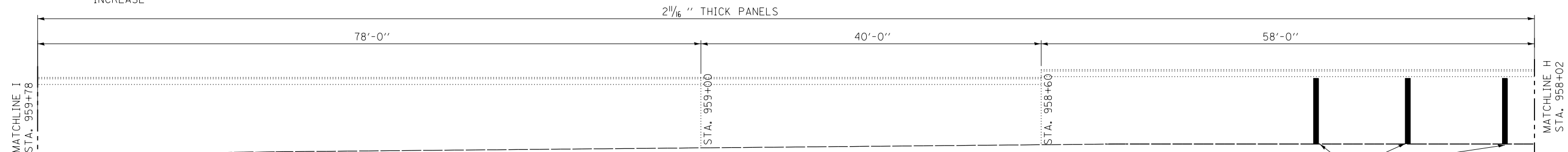
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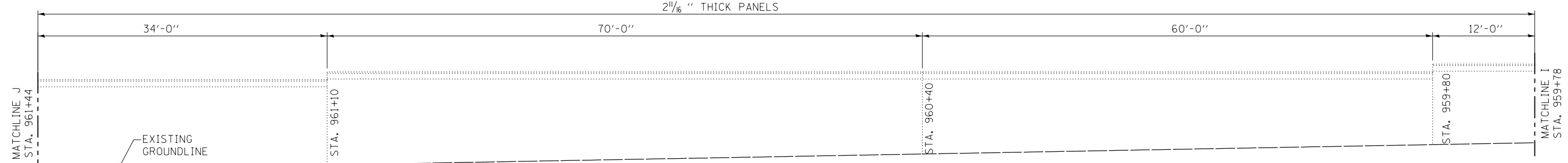
WALL BACK ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION (WEST FACE)
(LOOKING WEST)



WALL BACK ELEVATION (WEST FACE)
(LOOKING WEST)

BILL OF MATERIAL

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *

- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

NOTES:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.

2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	41
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	16

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

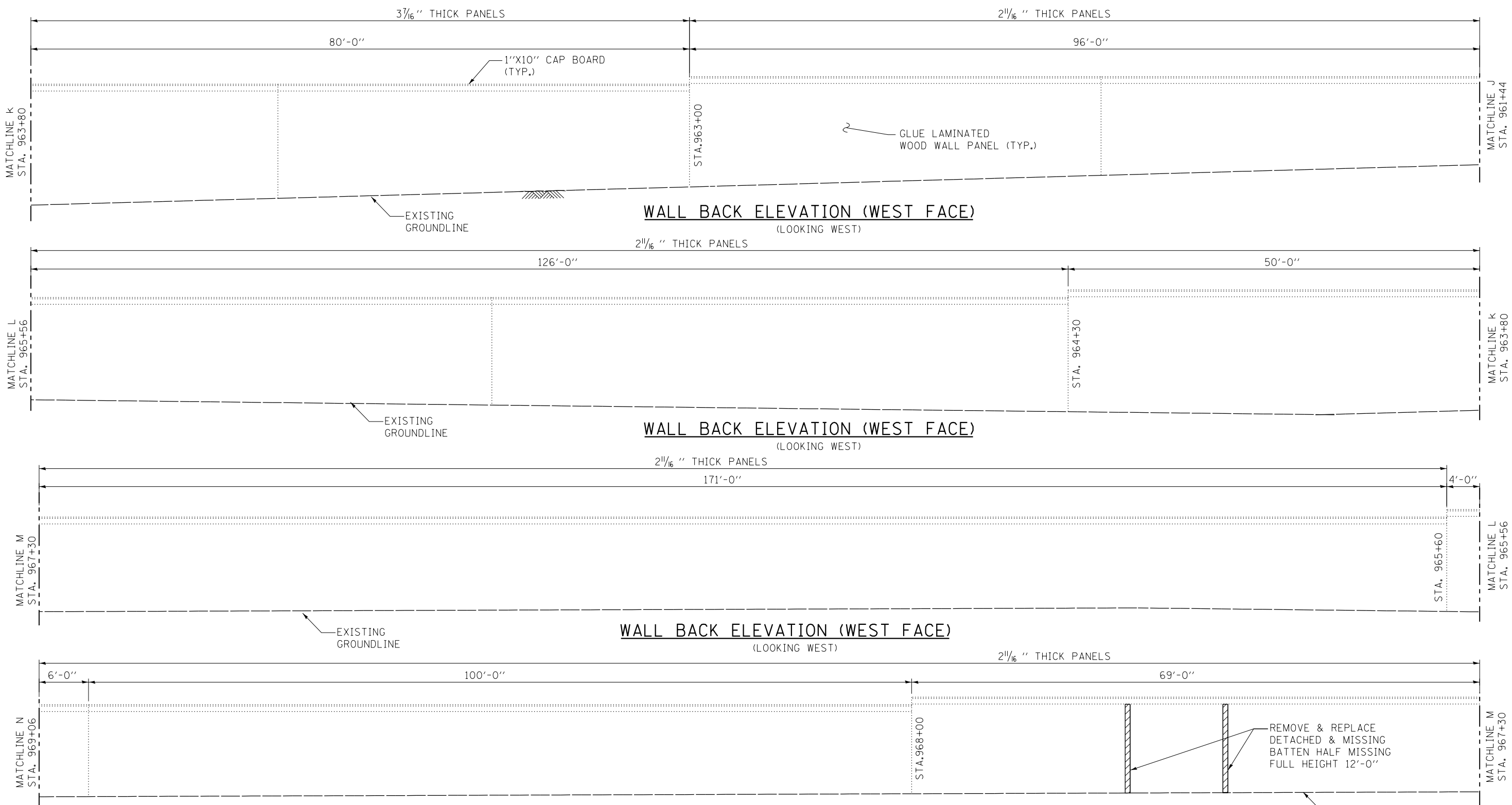


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114554 - NS16.10N,SB
 BACK ELEVATION STA. 955+00 - STA. 961+44

NWG-11 OF NWG-15
 SHT NO. NWG-11
 DRAWING NO. 1359 OF 1517

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WALL BACK ELEVATION (WEST FACE)
(LOOKING WEST)

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *

- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

NOTES:

1. WALL ELEVATION FROM STA. 969+06 TO STA 970+00 HAS NO RECORDED DEFECT AND THEREFORE NOT SHOWN.
2. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
3. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	24

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

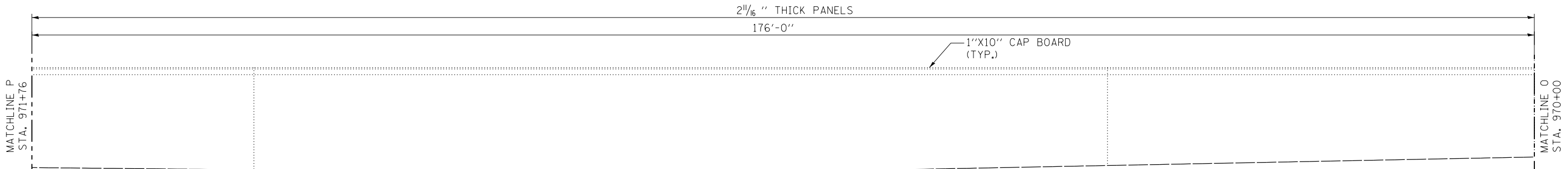


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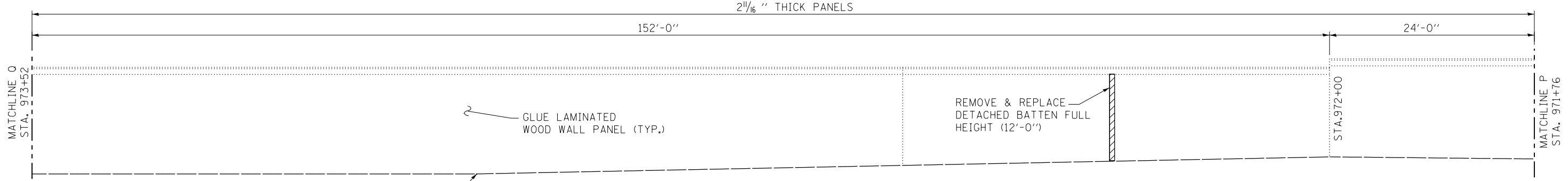
CONTRACT NO. **RR-16-4255**
NOISE WALL 114554 - NS16.10N,SB
BACK ELEVATION STA. 961+44 - STA. 970+00

NWG-12 OF NWG-15
 SHT NO. **NWG-12**
 DRAWING NO. **1360** OF **1517**

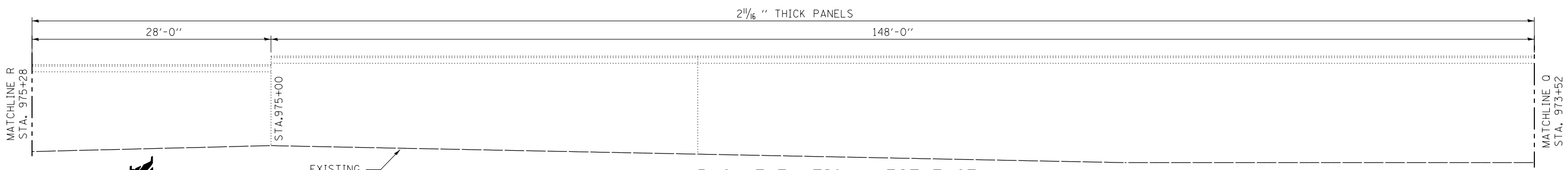
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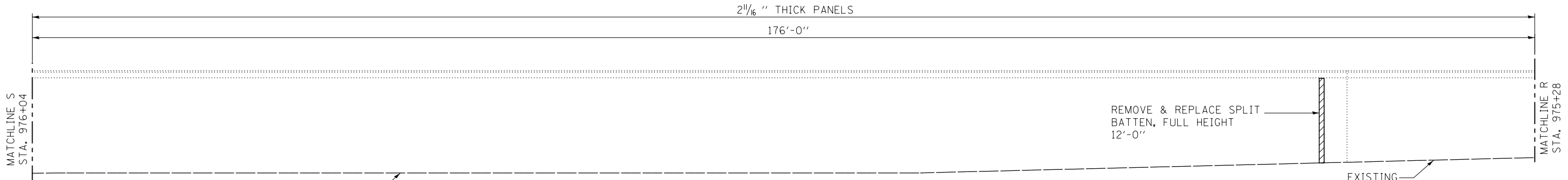
WALL BACK ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION (WEST FACE)
(LOOKING WEST)



WALL BACK ELEVATION (WEST FACE)
(LOOKING WEST)

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- NOTES:
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 - ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"
 - 1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	24

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

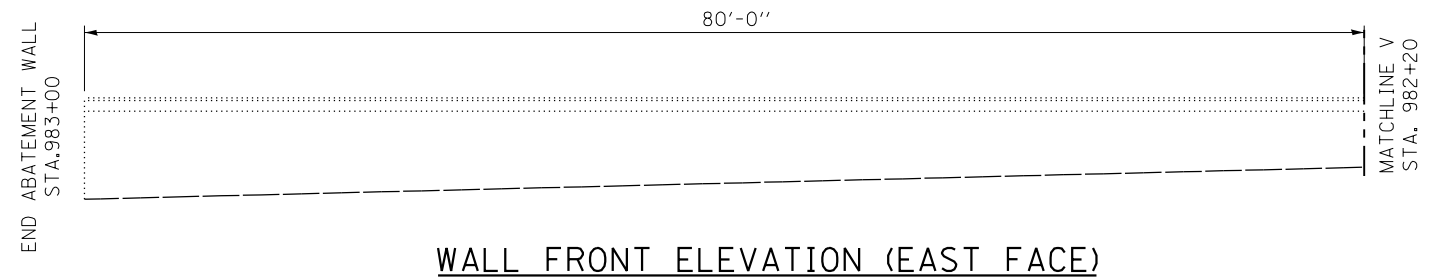
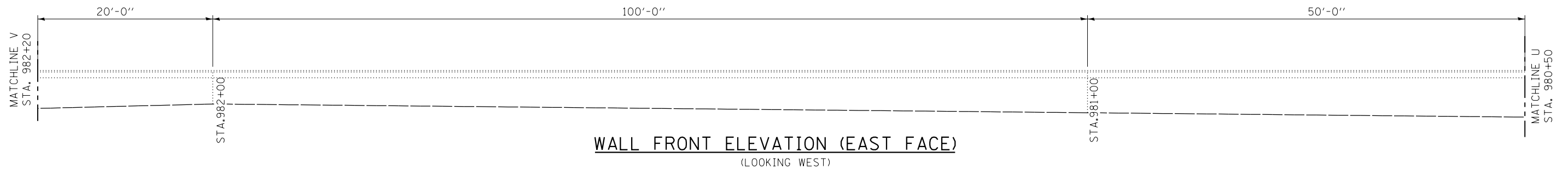
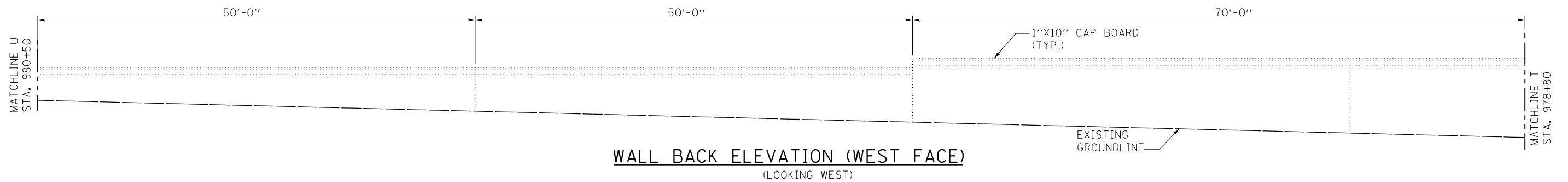
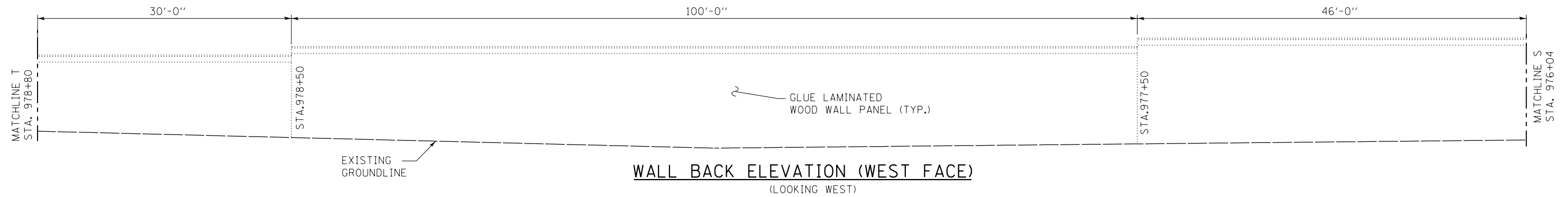


REVISIONS	
NO.	DATE

CONTRACT NO. **RR-16-4255**
NOISE WALL 114554 - NS16.10N,SB
BACK ELEVATION STA. 970+00 - STA. 976+04

NWG-13 OF NWG-15
 SHT NO. **NWG-13**
 DRAWING NO. **1361** OF **1517**

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NOTES:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWG-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**



100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415



2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. **RR-16-4255**
 NOISE WALL 11454 - NS16.10N,SB
 BACK ELEVATION STA. 976+04 - STA. 980+00

NWG-14 OF NWG-15
 SHT NO. **NWG-14**
 DRAWING NO.
1362 OF 1517

BENCH MARK:
CHISLED "□" ON NORTH RIM MANHOLE AT N.W. CORNER OF JACKSON DRIVE AND ROSS ROAD INTERSECTION IN PAVEMENT. (APPROX. STATION 1019+00) ELEV. 669.04.

EXISTING STRUCTURE:
NOISE ABATEMENT WALL NS17.55N,NB WAS ORIGINALLY DESIGNED UNDER 1987 IN CONTRACT CIP-614. IT IS A CONTINUOUS GLUED LAMINATED WOODEN PANEL WALL WITH 1" THICK OF VARIABLE WIDTH HORIZONTAL CAP BOARDS ON TOP, 2"x8" HORIZONTAL TOP BOARDS ON BOTH FACES, 2"x8" BOTTOM BOARDS ON THE FRONT FACE ONLY, 2"x6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS, AND PANELS WITH PLANK THICKNESSES VARYING FROM 2 11/16" THRU 3 15/16". THE WALL PANELS ARE ANCHORED INTO A TRENCH FILLED WITH BACKFILL MATERIAL AND THE TALLER WALL PANELS ARE FASTENED TO A COLUMN EMBEDDED INTO THE GROUND WITH CONCRETE ENCASEMENT. THE WALL HAS A TOTAL LENGTH OF 1,792.7 FT.

TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

SCOPE OF WORK

1. REMOVE AND REPLACE DETERIORATED, LOOSE, SPLIT AND WARPED CAP BOARDS, BATTENS AND BOTTOM BOARDS.
2. PROVIDE BATTENS ON BACK FACE OF WALL AND FASTEN SPLIT PLANKS WITH WIDE OPENING.
3. REMOVE ALL BUSHES AND TREES WITHIN 2FT OF THE BACK AND FRONT FACES OF THE ENTIRE LENGTH OF WALL.
4. TIMBER BRACING SHALL BE INSTALLED ON THE BACK FACE OF THE WALL.

DESIGN SPECIFICATIONS

- 2002 AASHTO STANDARD SPECIFICATIONS, 17TH EDITION.
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
- ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDA.
- AASHTO STANDARD SPECIFICATIONS FOR WOOD PRODUCTS, JANUARY 2007.
- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015 EDITION.

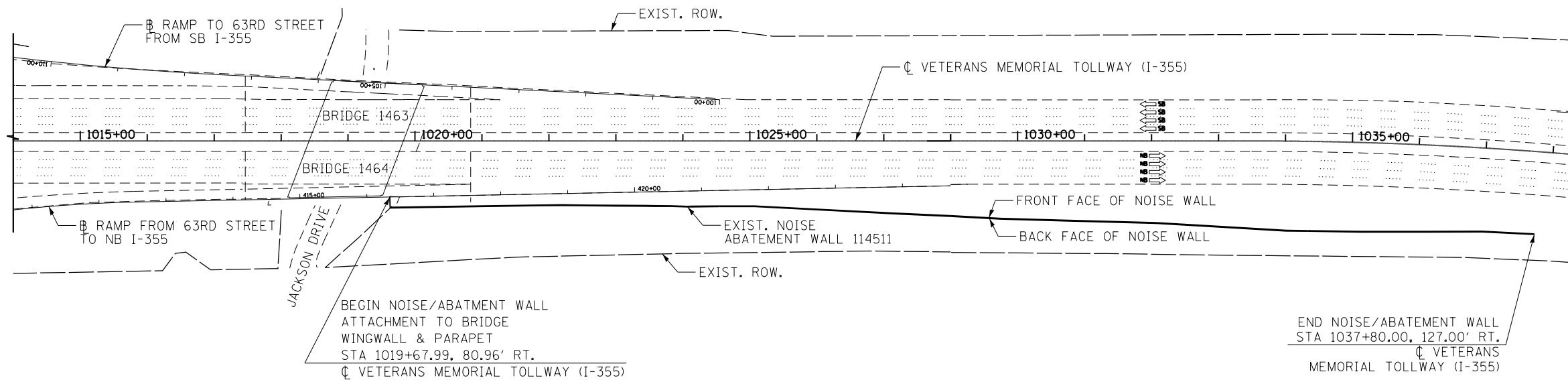
CONSTRUCTION SPECIFICATIONS

- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

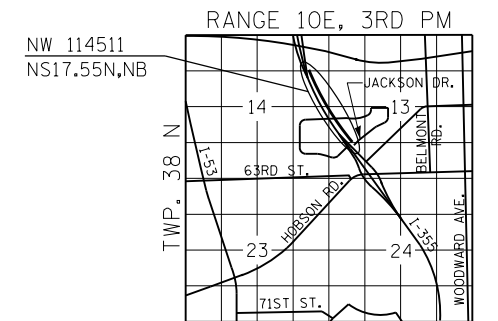
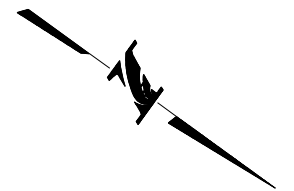
DESIGN STRESSES

NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE #2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.



PLAN



LOCATION SKETCH

DRAWN BY MMZ DATE 3/11/2018
CHECKED BY MMH DATE 3/11/2018



100 S. Wacker Drive, Suite 700 • Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 114511 - NS17.55N,NB
GENERAL PLAN

NWH-01 OF NWH-05
SHT NO. NWH-01
DRAWING NO. 1364 OF 1517

INDEX OF SHEETS

NWH-01	GENERAL PLAN
NWH-02	GENERAL NOTES
NWH-03	NOISE WALL ELEVATION 1
NWH-04	NOISE WALL ELEVATION 2
NWH-05	STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F.	BACK FACE
BK/	BACK OF
B/	BOTTOM OF
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CU. FT.	CUBIC FEET
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
I.F.	INSIDE FACE
L.F.	LINEAR FOOT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
PROP.	PROPOSED
ROW.	RIGHT-OF-WAY
RT.	RIGHT
S.B.	SOUTHBOUND
STA.	STATION
SHLDR	SHOULDER
S.F.	SQUARE FOOT
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
S.Y.	SQUARE YARD
TYP.	TYPICAL

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PREFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES. THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "REMOVE AND REPLACE TREATED TIMBER".

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	50200100	STRUCTURE EXCAVATION	CU. YD.	48	
*	JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES	FOOT	124	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	114	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	342**	

- * INDICATES SPECIAL PROVISION
- ** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM).

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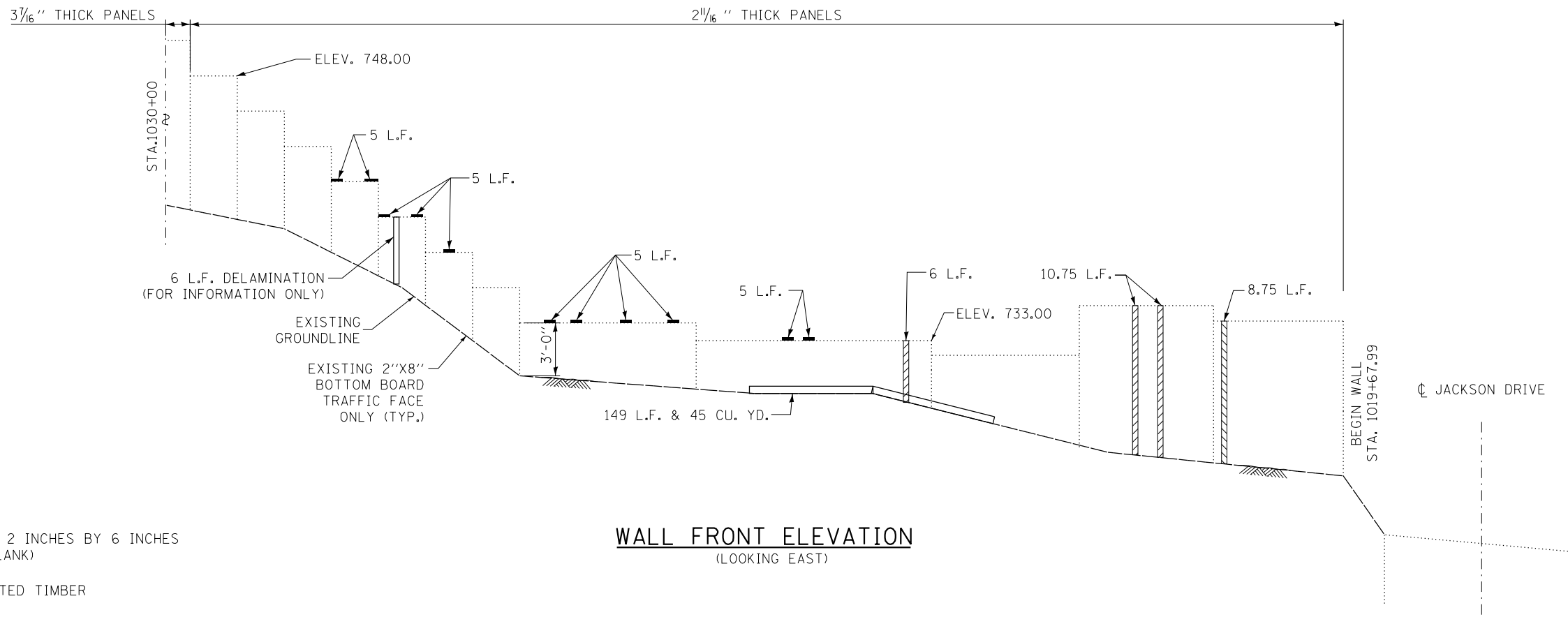
NWH-02 OF NWH-05

DRAWN BY	MMZ	DATE	3/11/2018
CHECKED BY	MMH	DATE	3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. NWH-02
NOISE WALL 114511 - NS17.55N,NB	DRAWING NO. 1365 OF 1517
GENERAL NOTES	



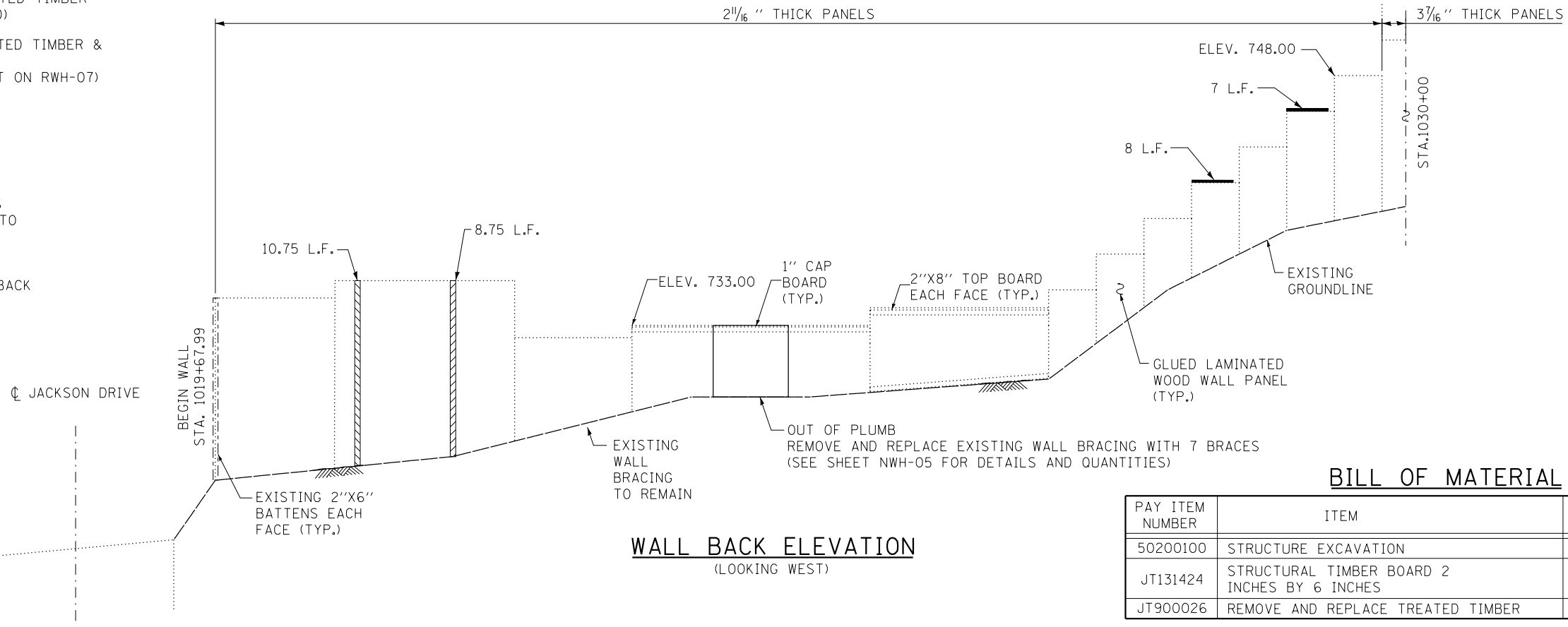
WALL FRONT ELEVATION
(LOOKING EAST)

LEGEND

- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES (INSTALL OVER SPLIT IN PLANK)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"X6" BATTEN)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 1"X10" CAP BOARD)
- REMOVE AND REPLACE TREATED TIMBER & STRUCTURAL EXCAVATION (SEE PANEL PLANK RETROFIT ON RWH-07)

NOTES:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.



WALL BACK ELEVATION
(LOOKING WEST)

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	ESTIMATED QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	45
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	20
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	256

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DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018

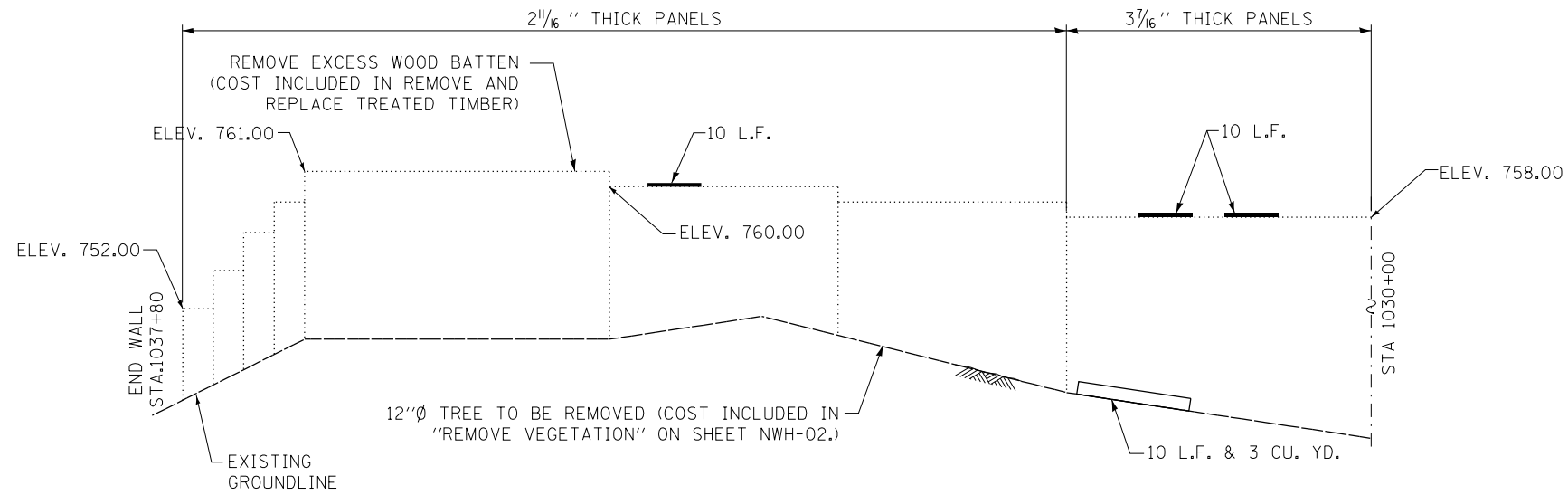


REVISONS	
NO.	DATE DESCRIPTION

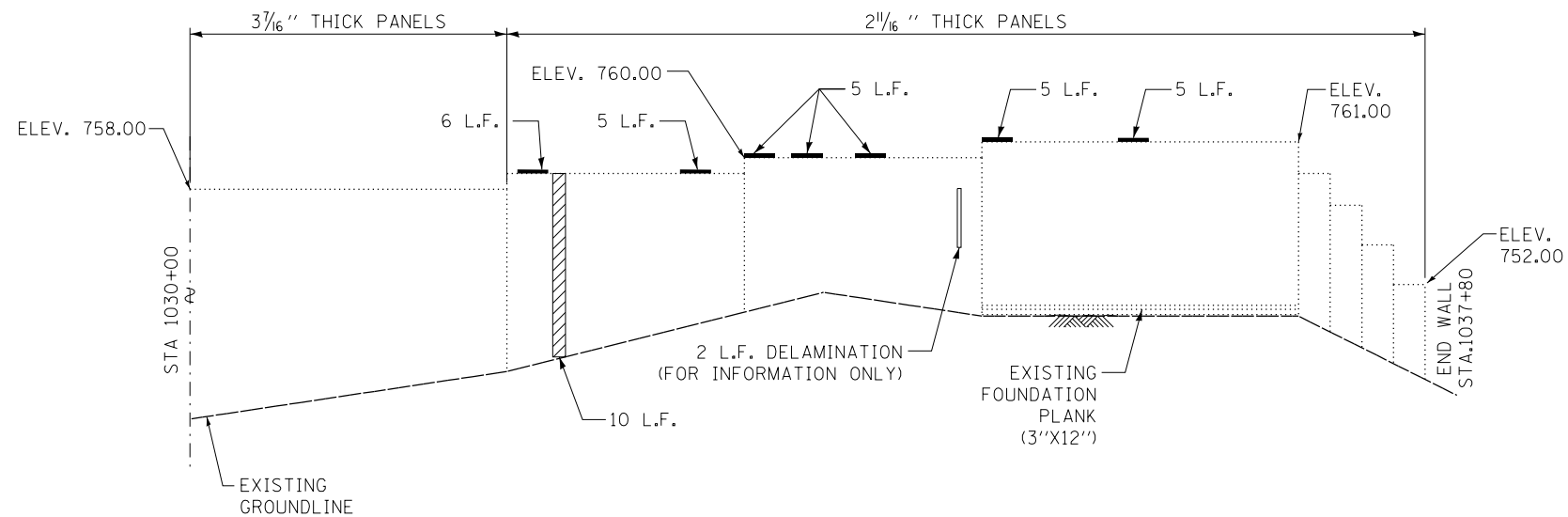
CONTRACT NO. RR-16-4255
 NOISE WALL 114511 - NS17.55N,NB
 NOISE WALL ELEVATION 1

NWH-03 OF NWH-05

SHT NONWH-03
 DRAWING NO. 1366 OF 1517



WALL FRONT ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING WEST)

LEGEND

- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 2"X6" BATTEN)
- REMOVE AND REPLACE TREATED TIMBER (DAMAGED 1"X10" CAP BOARD)
- REMOVE AND REPLACE TREATED TIMBER & STRUCTURAL EXCAVATION (SEE PANEL PLANK RETROFIT ON RW-07)

NOTES:

1. ALL STATIONING AND OFFSETS SHOWN ON THE PLANS REFER TO FRONT FACE.
2. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	ESTIMATED QUANTITY
50200100	STRUCTURE EXCAVATION	CU. YD.	3
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	86

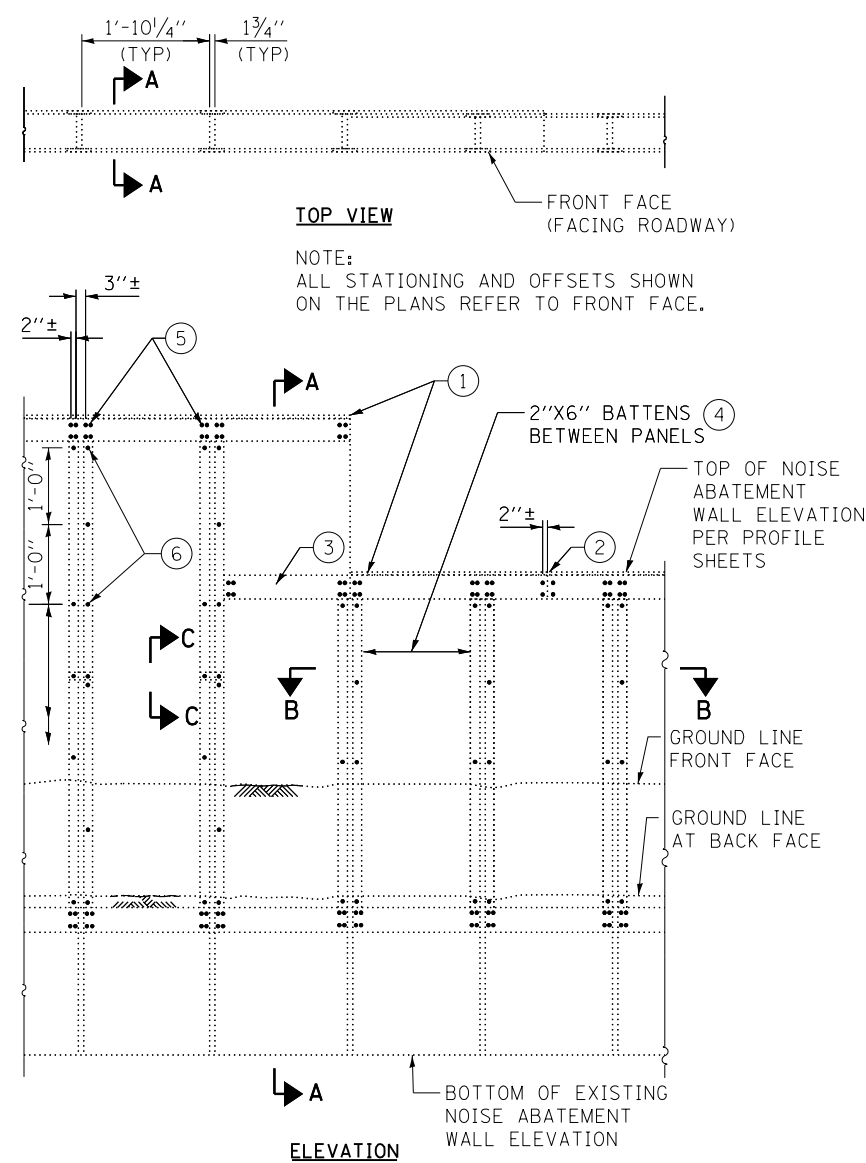
DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**



REVISIONS		
NO.	DATE	DESCRIPTION

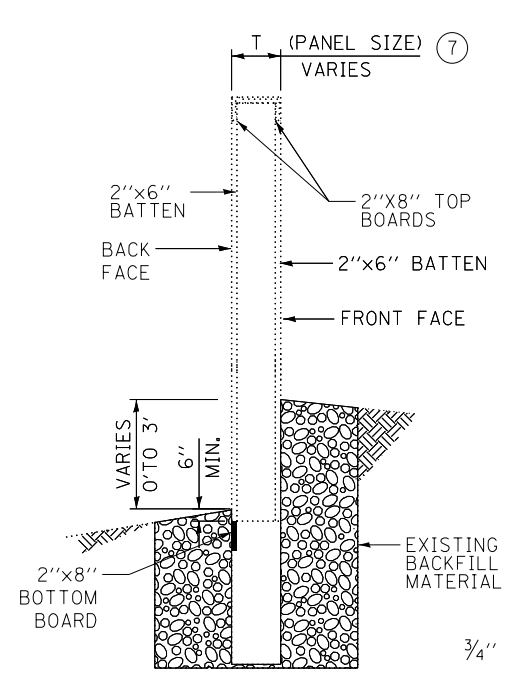
CONTRACT NO. RR-16-4255
 NOISE WALL 114511 - NS17.55N,NB
 NOISE WALL ELEVATION 2

NWH-04 OF NWH-05
 SHT NONWH-04
 DRAWING NO. 1367 OF 1517

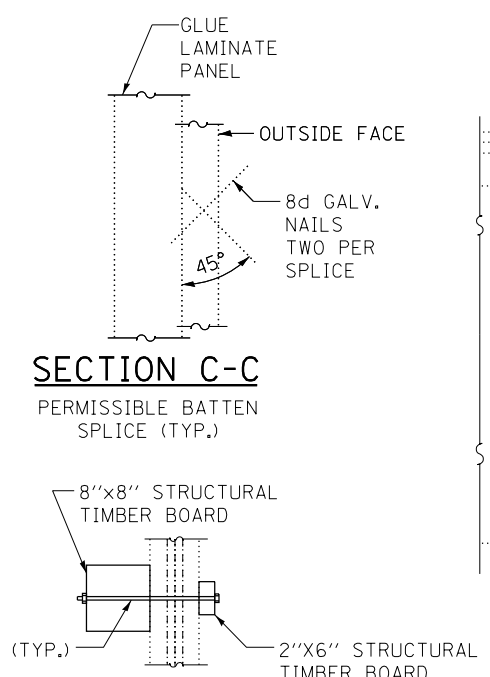


EXISTING WALL DETAILS

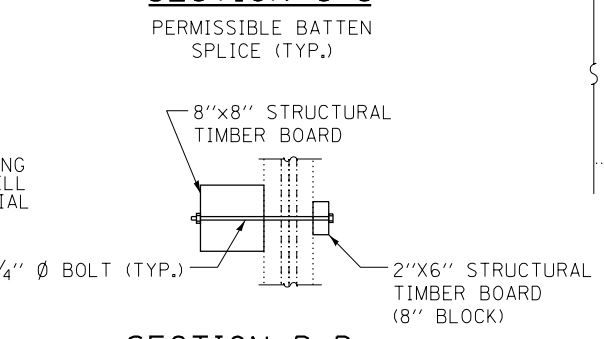
- ① 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"x8"s WITH FOUR 8d GALVANIZED NAILS PER PANEL. INCIDENTAL TO "REMOVE AND REPLACE TREATED TIMBER".
- ② MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.).
- ③ OVERLAY 2"x8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ ON BACK FACE THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP.). SPACE AS SHOWN.
- ⑥ 2" SPACING STAGGER AS SHOWN 16d GALV. RING SHANK NAILS.
- ⑦ PANEL SIZE T VARIES (SEE NOISE WALL ABATEMENT WALL ELEVATIONS).



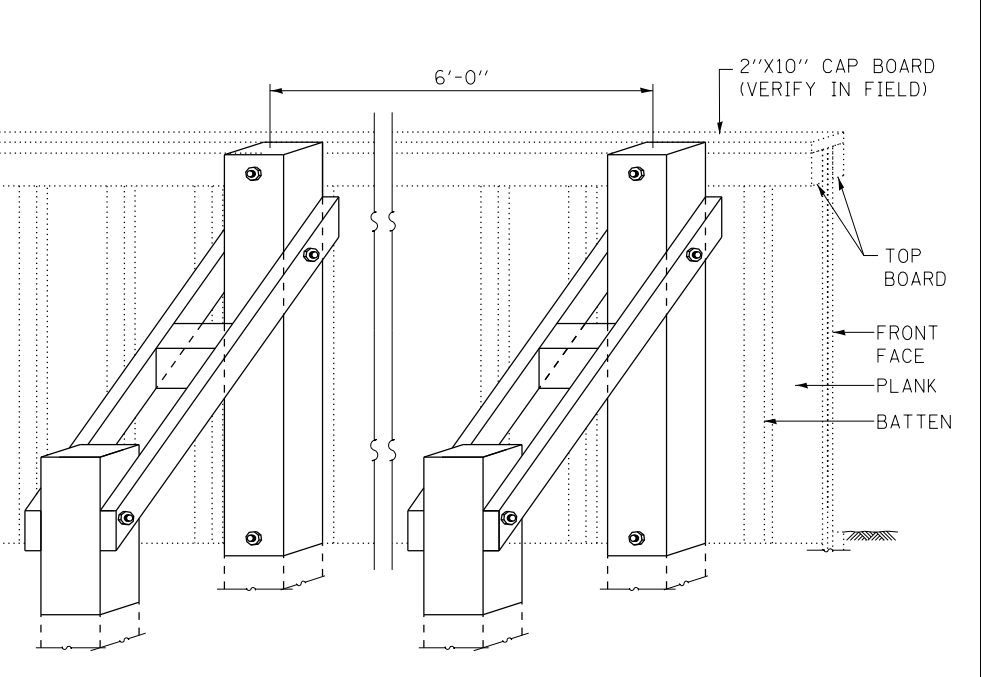
SECTION A-A



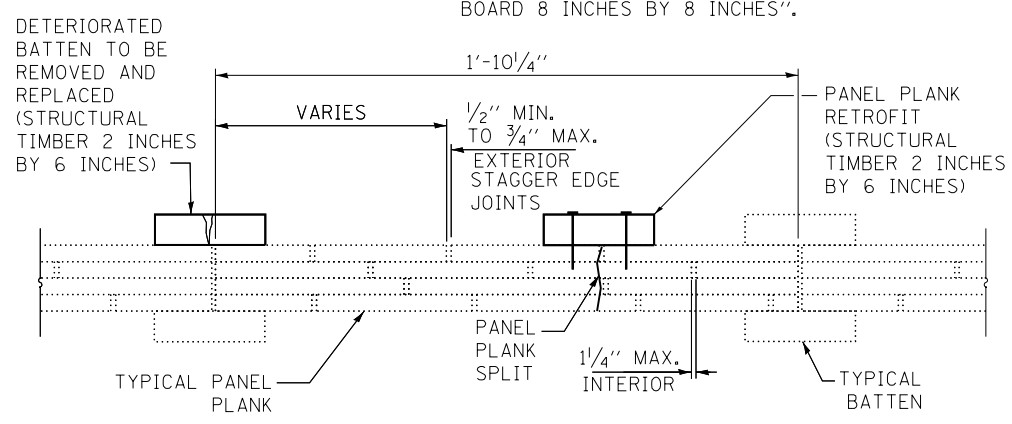
SECTION C-C



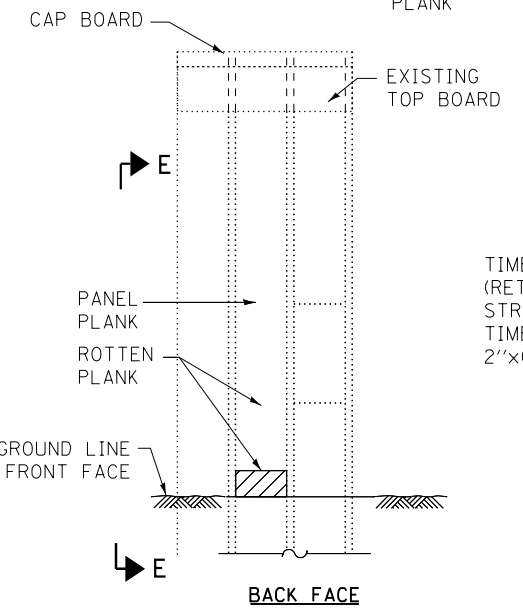
SECTION D-D



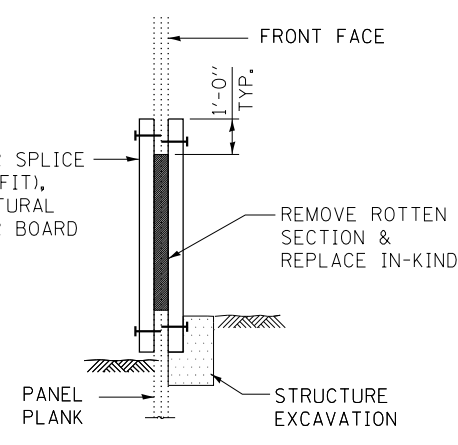
WALL BRACING ELEVATION DETAIL



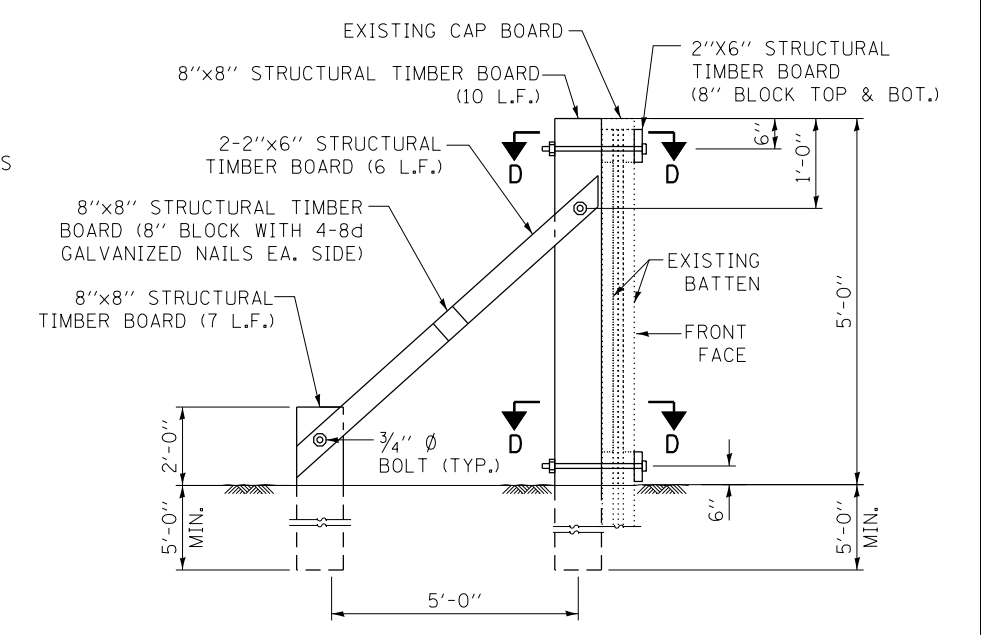
SECTION B-B



PANEL PLANK REPAIR DETAIL



SECTION E-E
 ROTTEN PLANK



WALL BRACING SECTION DETAIL

COST OF BOLT ASSEMBLIES INCLUDED IN "STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES".

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT131419	STRUCTURAL TIMBER BOARD 8 INCHES BY 8 INCHES *	FOOT	124
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	94

* SOUTHERN PINE GRADE #1 AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114511 - NS17.55N,NB
 STANDARD REPAIR DETAILS

NWH-05 OF NWH-05
 SHT NO. NWH-05
 DRAWING NO. 1368 OF 1517

BENCH MARK:
 CUT " " IN TOP OF CONCRETE RETAINING WALL NB I-355 ± 100'
 SOUTH OF PLAZA 83, 30' SOUTH OF SIGN (SIGN READS "EMERGENCY
 STOPPING ONLY") ± STA. 1067+60, 76' RT. ELEV = 734.12

EXISTING STRUCTURE:
 THE NOISE ABATEMENT WALL NS17.55N,SB WAS EXTENDED IN 2008 UNDER CONTRACT I-07-5476. THE MIDDLE SECTION OF WALL WAS PREVIOUSLY CONSTRUCTED FOR WHICH RECORD DRAWINGS ARE NOT AVAILABLE. THE NOISE WALL HAS A TOTAL LENGTH OF 2652.65'. THE NOISE WALL IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 2"X8" HORIZONTAL CAP BOARDS ON TOP, 2"X8" TOP AND BOTTOM BOARDS ON BOTH FACES, 2"X6" BATTENS ON BOTH FACES AT EVERY JOINT OPENING BETWEEN PANELS AND PANEL PLANKS. THAT MAXIMUM EXPOSED HEIGHT OF THE WALL IS 16'-0".

WORK WILL BE PERFORMED UNDER STAGED CONSTRUCTION. NO SALVAGE.

DESIGN SPECIFICATIONS

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION.
- AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, 17TH EDITION WITH ALL INTERIMS.
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.

CONSTRUCTION SPECIFICATIONS

- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.
- ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

DESIGN STRESSES

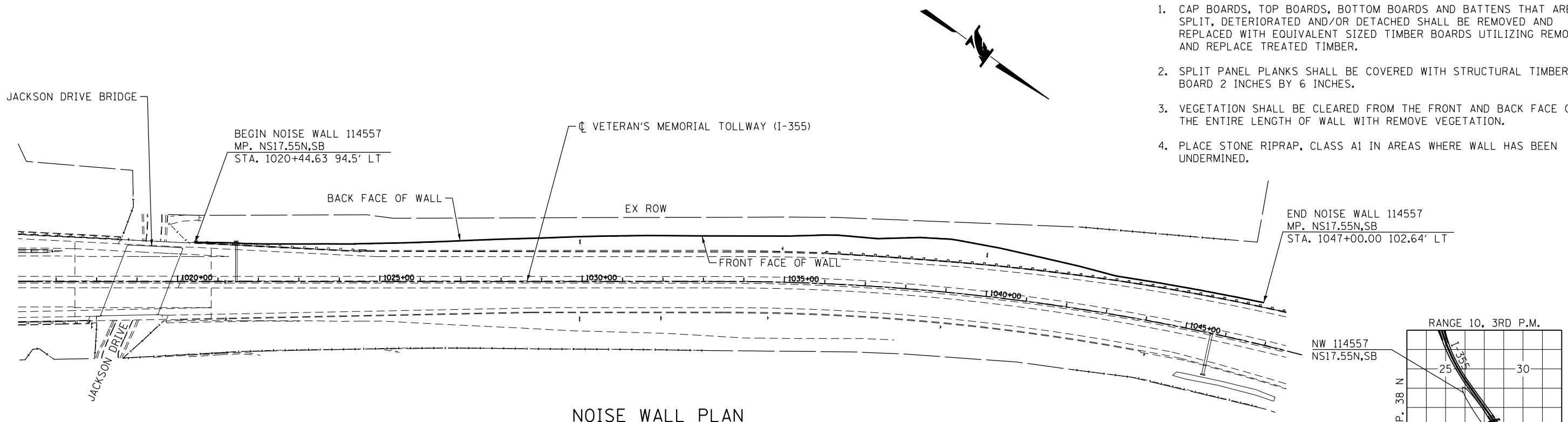
NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

SCOPE OF WORK

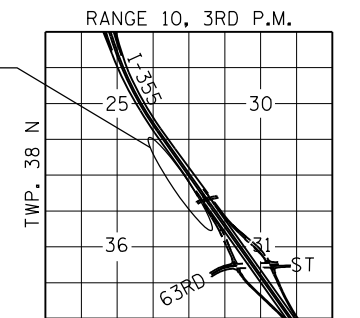
- CAP BOARDS, TOP BOARDS, BOTTOM BOARDS AND BATTENS THAT ARE SPLIT, DETERIORATED AND/OR DETACHED SHALL BE REMOVED AND REPLACED WITH EQUIVALENT SIZED TIMBER BOARDS UTILIZING REMOVE AND REPLACE TREATED TIMBER.
- SPLIT PANEL PLANKS SHALL BE COVERED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
- VEGETATION SHALL BE CLEARED FROM THE FRONT AND BACK FACE OF THE ENTIRE LENGTH OF WALL WITH REMOVE VEGETATION.
- PLACE STONE RIPRAP, CLASS A1 IN AREAS WHERE WALL HAS BEEN UNDERMINED.

Projects\2016\20161616-Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Wall\Sh1\4255-sh1-114557.dgn



NOISE WALL PLAN

END NOISE WALL 114557
 MP. NS17.55N,SB
 STA. 1047+00.00 102.64' LT



LOCATION SKETCH

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114557 - NS17.55N,SB
 GENERAL PLAN

SHT NO. NWI-01
 DRAWING NO. 1369 OF 1517

INDEX OF SHEETS

NWI-01	GENERAL PLAN
NWI-02	GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
NWI-03	NOISE WALL ELEVATION 1
NWI-04	NOISE WALL ELEVATION 2
NWI-05	NOISE WALL ELEVATION 3
NWI-06	NOISE WALL ELEVATION 4
NWI-07	NOISE WALL ELEVATION 5
NWI-08	NOISE WALL ELEVATION 6
NWI-09	NOISE WALL ELEVATION 7
NWI-10	NOISE WALL ELEVATION 8
NWI-11	STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F.	BACK FACE
CL	CENTERLINE
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
F.F.	FRONT FACE
L SUM	LUMP SUM
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
PROP.	PROPOSED
R.O.W.	RIGHT-OF-WAY
S.B.	SOUTHBOUND
SQ. FT.	SQUARE FOOT
STA.	STATION
TYP.	TYPICAL

GENERAL NOTES

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2. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
3. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR ANY QUANTITY ABOVE THOSE LISTED, AND AGREED TO BY THE ENGINEER, IN ACCORDANCE WITH SECTION 109.04 OF THE IDOT STANDARD SPECIFICATIONS.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TOLLWAY AT LEAST 5 DAYS IN ADVANCE OF ANY CONSTRUCTION NEAR TOLLWAY OWNER FACILITIES (ELECTRICAL, COMMUNICATION CABLES, FIBER OPTIC CABLE, TRAFFIC CONTROL, CAMERAS, ETC) USING THE TOLLWAY WEBSITE WWW.ILLINOISVIRTUALTOLLWAY.COM/UTILITYLOCATES. ANY BURIED FACILITY WITHIN 2 FEET OF AN EXCAVATION LOCATION SHALL FIRST BE EXPOSED BY THE CONTRACTOR BY HAND DIGGING. ONCE EXPOSED, THE CONTRACTOR SHALL PROTECT THE FACILITY. IF CONTRACTOR CUTS OR DAMAGES THE TOLLWAY FACILITY, EITHER THROUGH CARELESSNESS OR FAILURE TO FOLLOW THE ABOVE PROCEDURE HE/SHE SHALL BE HELD RESPONSIBLE FOR THE REPAIR OF THE DAMAGE AT HIS/HER EXPENSE, AND TO THE SATISFACTION OF THE TOLLWAY.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
6. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
7. REPAIRS SHOWN ARE BASED UPON INSPECTIONS COMPLETED IN 2017 AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORDED QUANTITY
	28100101	STONE RIPRAP, CLASS A1	SQ YD	5	
	50200100	STRUCTURE EXCAVATION	CU YD	10	
	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	363	
	JT201005	REMOVE VEGETATION	L SUM	1	
	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	486	

• REQUIRES SPECIAL PROVISION

•• INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

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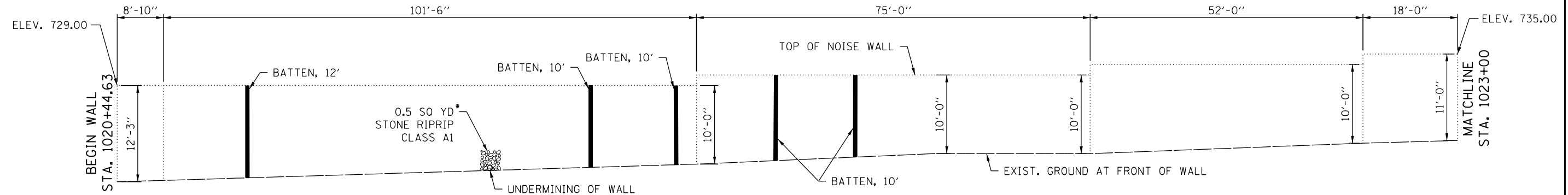
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 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

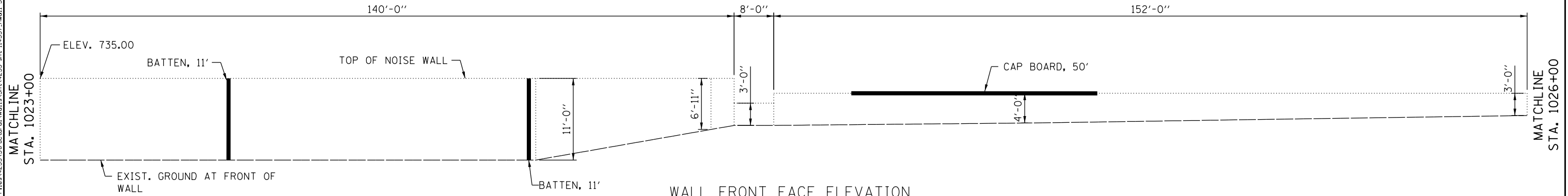
CONTRACT NO. RR-16-4255
 NOISE WALL 114557 - NS17.55N,SB
 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL

SHT NO. NWI-02
 DRAWING NO. 1370 OF 1517

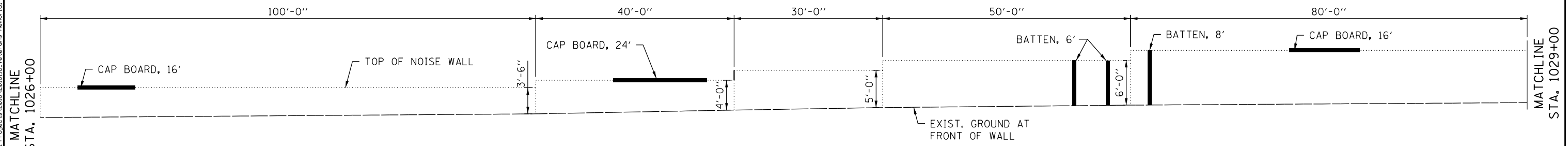


WALL FRONT FACE ELEVATION
(LOOKING EAST)

* PLACE 0.5 SQ YD ON EACH SIDE OF WALL



WALL FRONT FACE ELEVATION
(LOOKING EAST)



WALL FRONT FACE ELEVATION
(LOOKING EAST)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	200

NOTE:

- TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- SEE SHEET NWI-11 FOR REPAIR DETAILS.

LEGEND

- BOARD TYPE, X'
- REMOVE AND REPLACE TREATED TIMBER

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

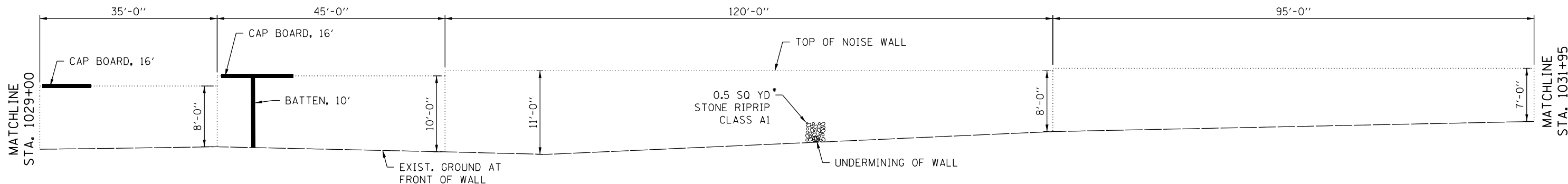


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
NOISE WALL 114557 - NS17.55N,SB
NOISE WALL ELEVATION 1

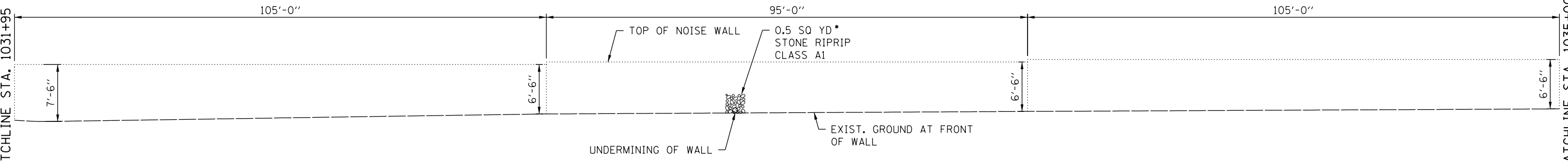
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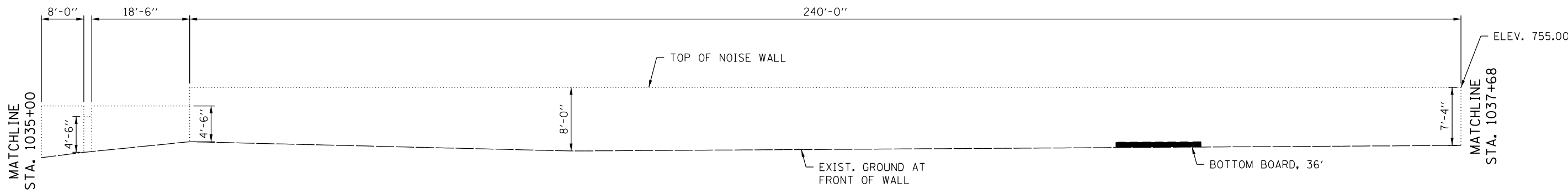


WALL FRONT FACE ELEVATION
(LOOKING EAST)

* PLACE 0.5 SQ YD ON EACH SIDE OF WALL



WALL FRONT FACE ELEVATION
(LOOKING EAST)



WALL FRONT FACE ELEVATION
(LOOKING EAST)

LEGEND

— "BOARD TYPE", X'
REMOVE AND REPLACE TREATED TIMBER

NOTE:

- TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- SEE SHEET NWI-11 FOR REPAIR DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	78

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018



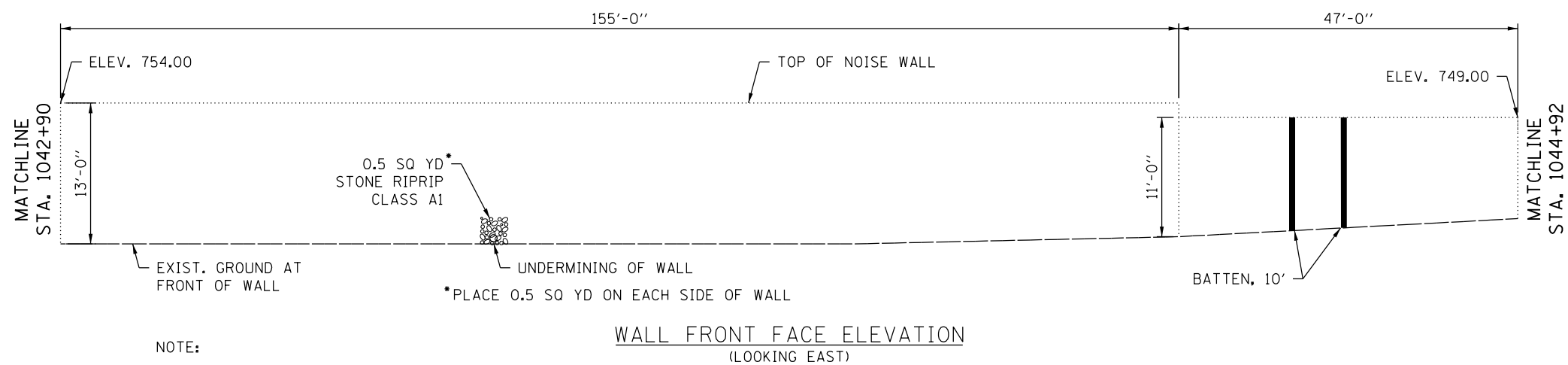
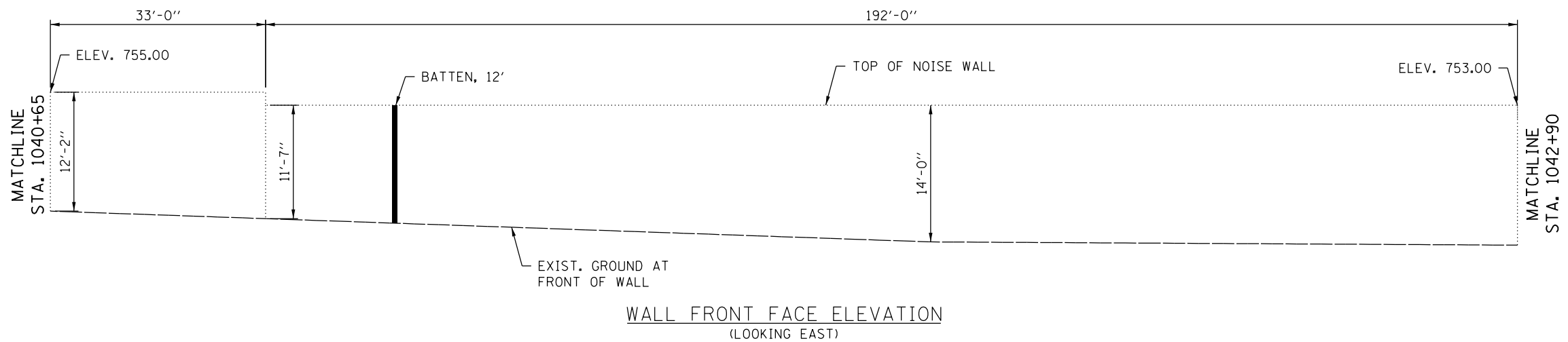
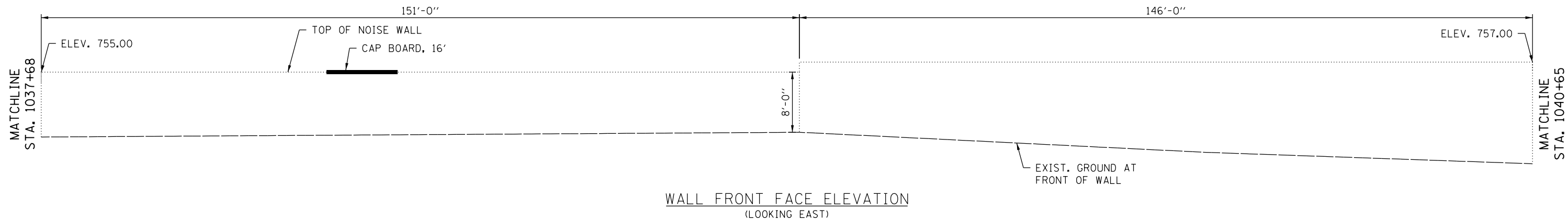
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 11457 - NS17.55N,SB
NOISE WALL ELEVATION 2

SHT NO. NWI-04
DRAWING NO. 1372 OF 1517

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LEGEND

"BOARD TYPE", X'
 REMOVE AND REPLACE TREATED TIMBER

NOTE:

1. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
2. SEE SHEET NWI-11 FOR REPAIR DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	48

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

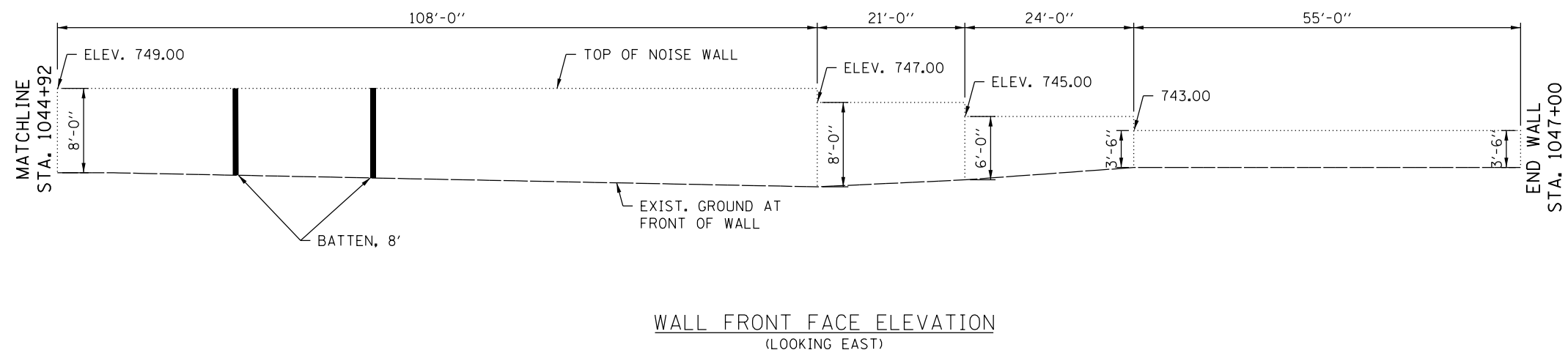


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 11457 - NS17,55N,SB
 NOISE WALL ELEVATION 3

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 DRAWING NO.
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WALL FRONT FACE ELEVATION
(LOOKING EAST)

LEGEND

"BOARD TYPE", X'
 REMOVE AND REPLACE TREATED TIMBER

NOTE:

- TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- SEE SHEET NWI-11 FOR REPAIR DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	16

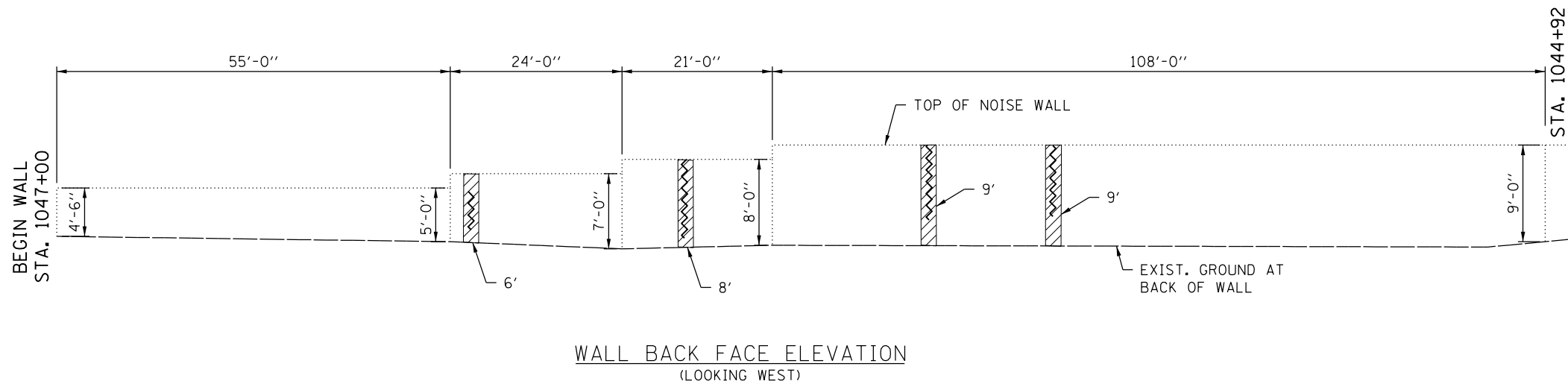
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 CHECKED BY RRD DATE 3/11/2018



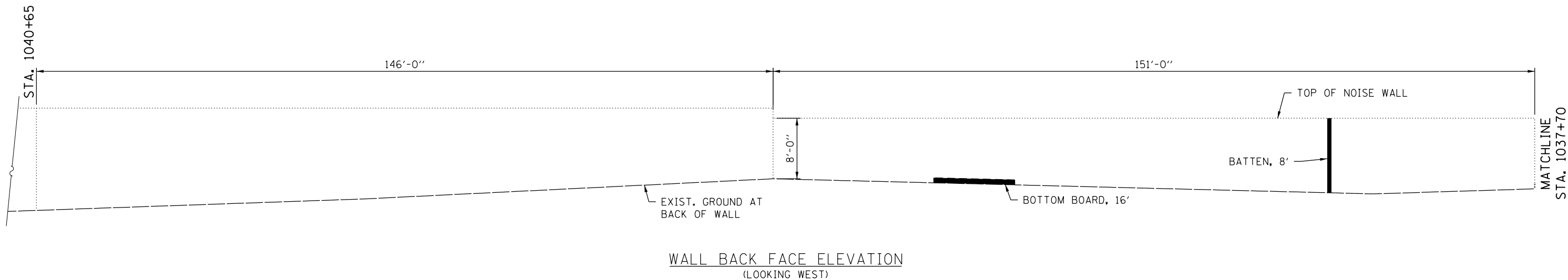
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114557 - NS17.55N,SB
 NOISE WALL ELEVATION 4

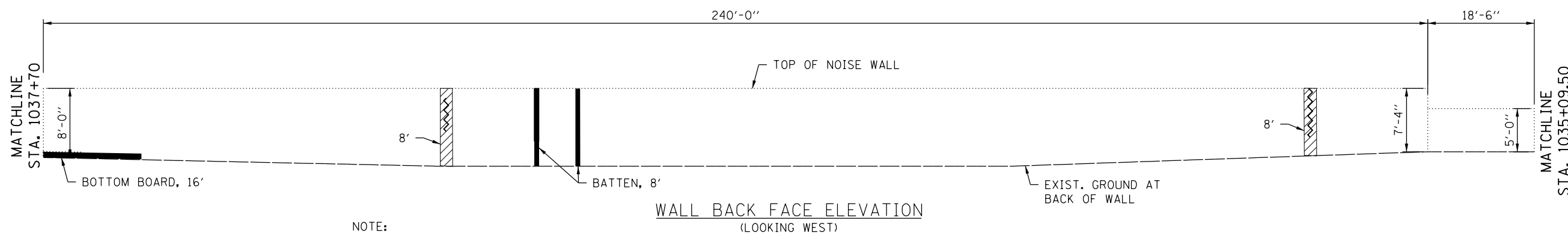
SHT NO. NWI-06
 DRAWING NO.
 1374 OF 1517



WALL BACK FACE ELEVATION
(LOOKING WEST)



WALL BACK FACE ELEVATION
(LOOKING WEST)



WALL BACK FACE ELEVATION
(LOOKING WEST)

NOTE:

1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
2. TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SEE SHEET NWI-11 FOR REPAIR DETAILS.
4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

LEGEND

- "BOARD TYPE", X'
- REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	48
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	56

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

SE3
3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
(630) 641-9900

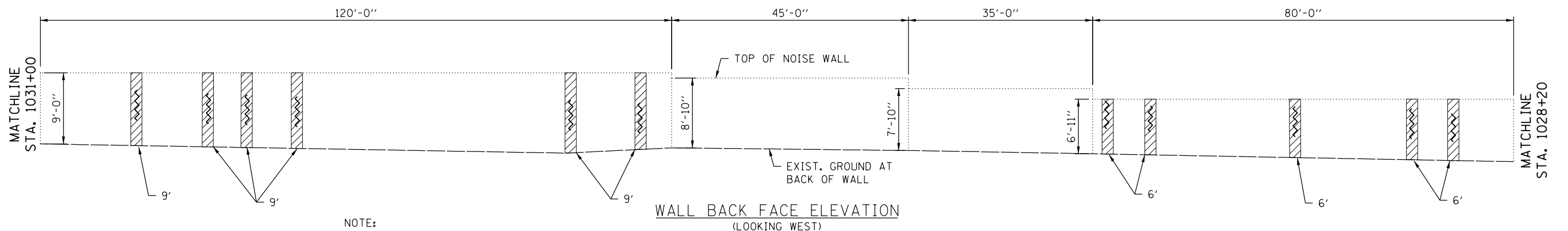
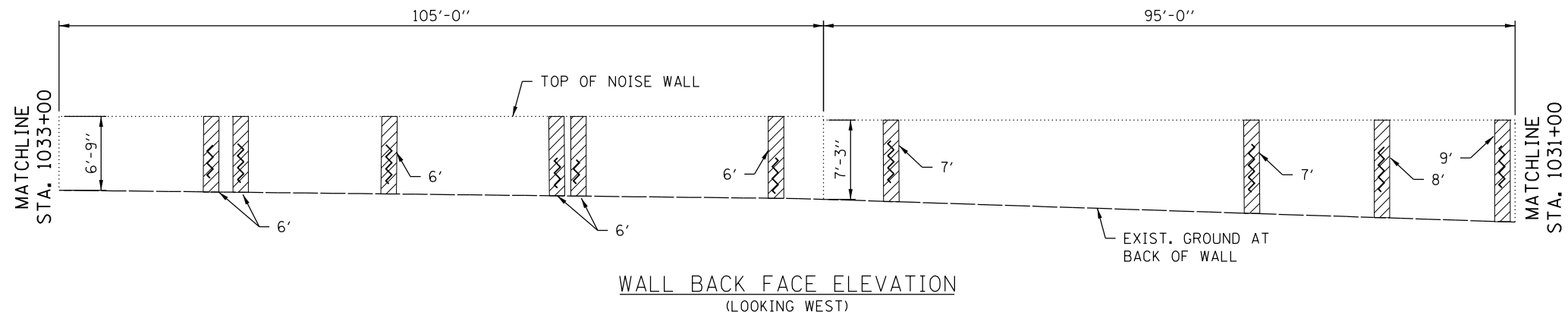
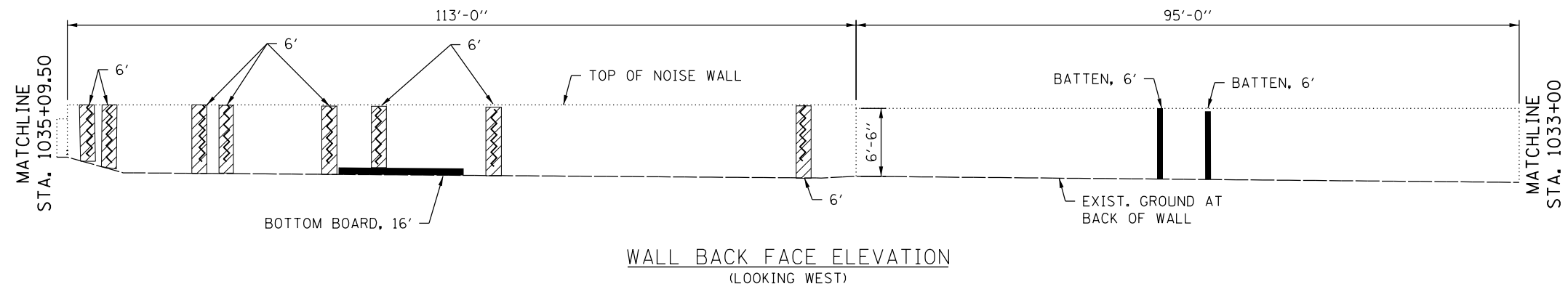
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
NOISE WALL 114557 - NS17,55N,SB
NOISE WALL ELEVATION 5

SHT NO. NWI-07
DRAWING NO.
1375 OF 1517

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LEGEND

- "BOARD TYPE", X'
- REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

NOTE:

1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
2. TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SEE SHEET NWI-11 FOR REPAIR DETAILS.
4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	199
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	28

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

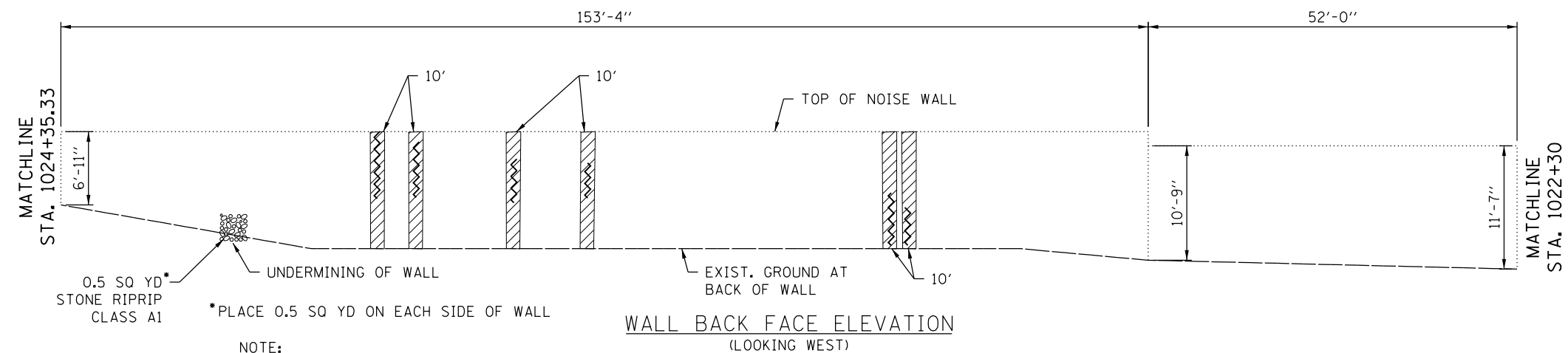
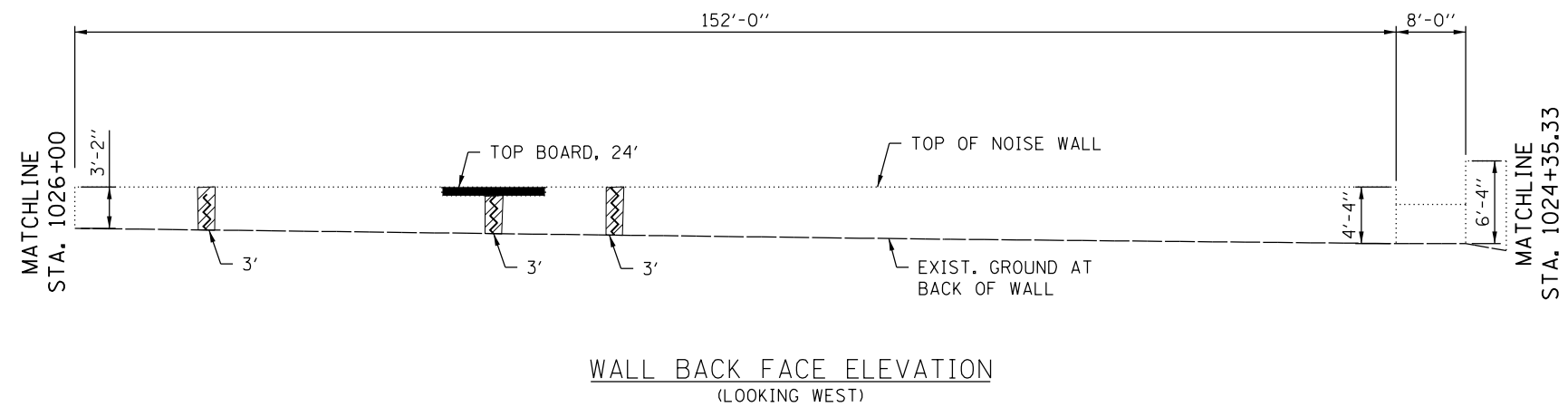
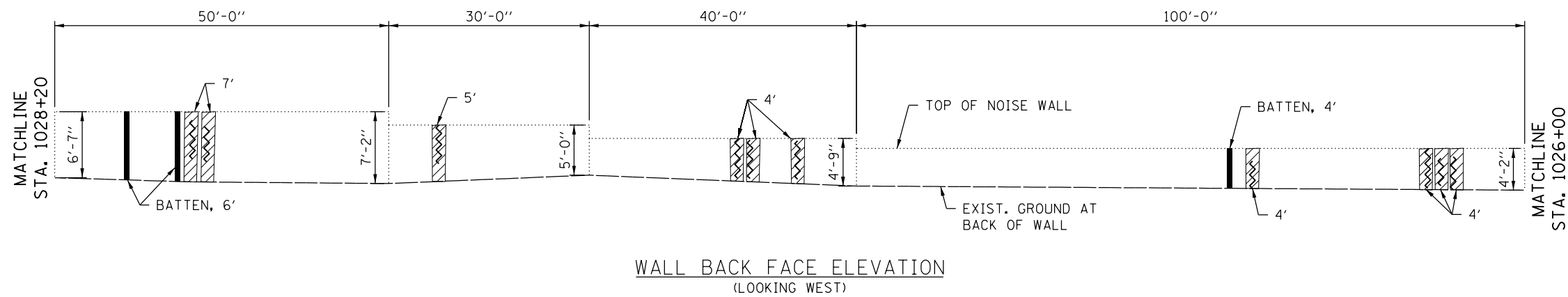


REVISIONS	
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CONTRACT NO. RR-16-4255
 NOISE WALL 11457 - NS17.55N,SB
 NOISE WALL ELEVATION 6

SHT NO. NWI-08
 DRAWING NO.
 1376 OF 1517

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0.5 SQ YD*
STONE RIPRIP
CLASS A1

UNDERMINING OF WALL

*PLACE 0.5 SQ YD ON EACH SIDE OF WALL

- NOTE:
1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
 2. TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
 3. SEE SHEET NWI-11 FOR REPAIR DETAILS.
 4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

LEGEND

- "BOARD TYPE", X'
- REMOVE AND REPLACE TREATED TIMBER
- ~ PANEL PLANK SPLITTING
- ▨ STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	116
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	40

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



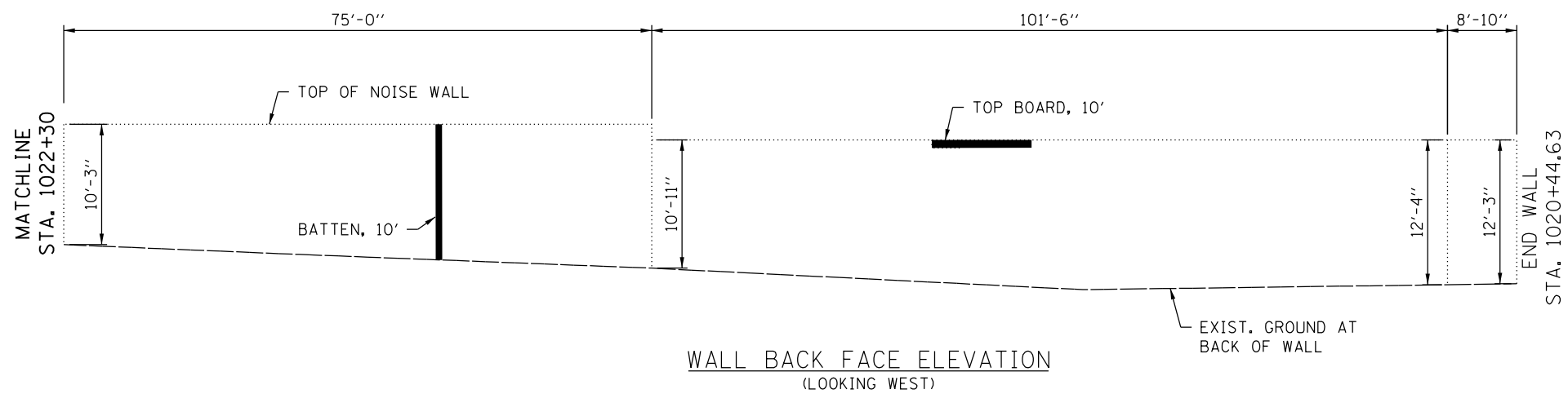
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CONTRACT NO. RR-16-4255
 NOISE WALL 114557 - NS17.55N,SB
 NOISE WALL ELEVATION 7

SHT NO. NWI-09
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 1377 OF 1517

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LEGEND

"BOARD TYPE", X'
 REMOVE AND REPLACE TREATED TIMBER

NOTE:

1. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
2. SEE SHEET NWI-11 FOR REPAIR DETAILS.
3. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	20

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

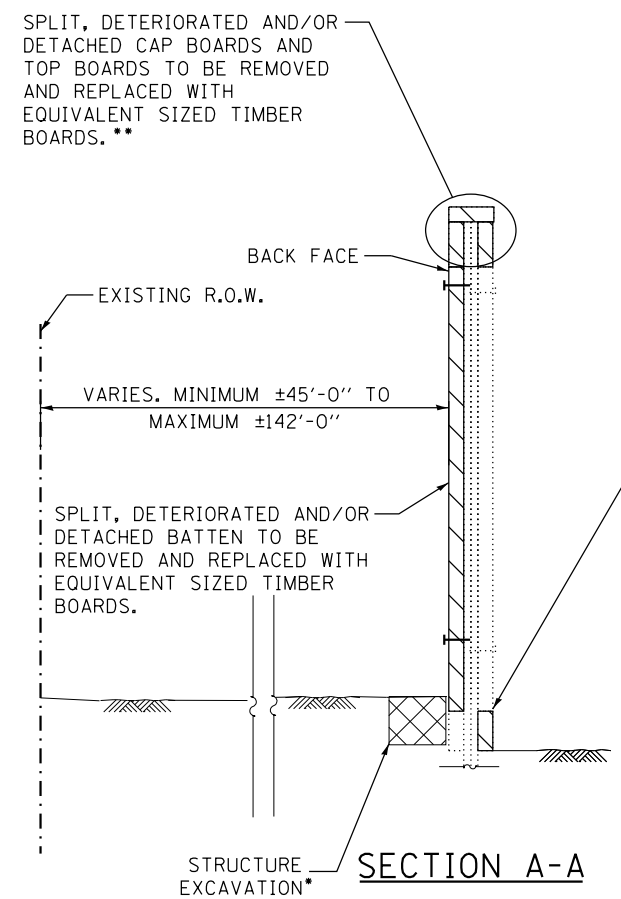


REVISIONS	
NO.	DATE

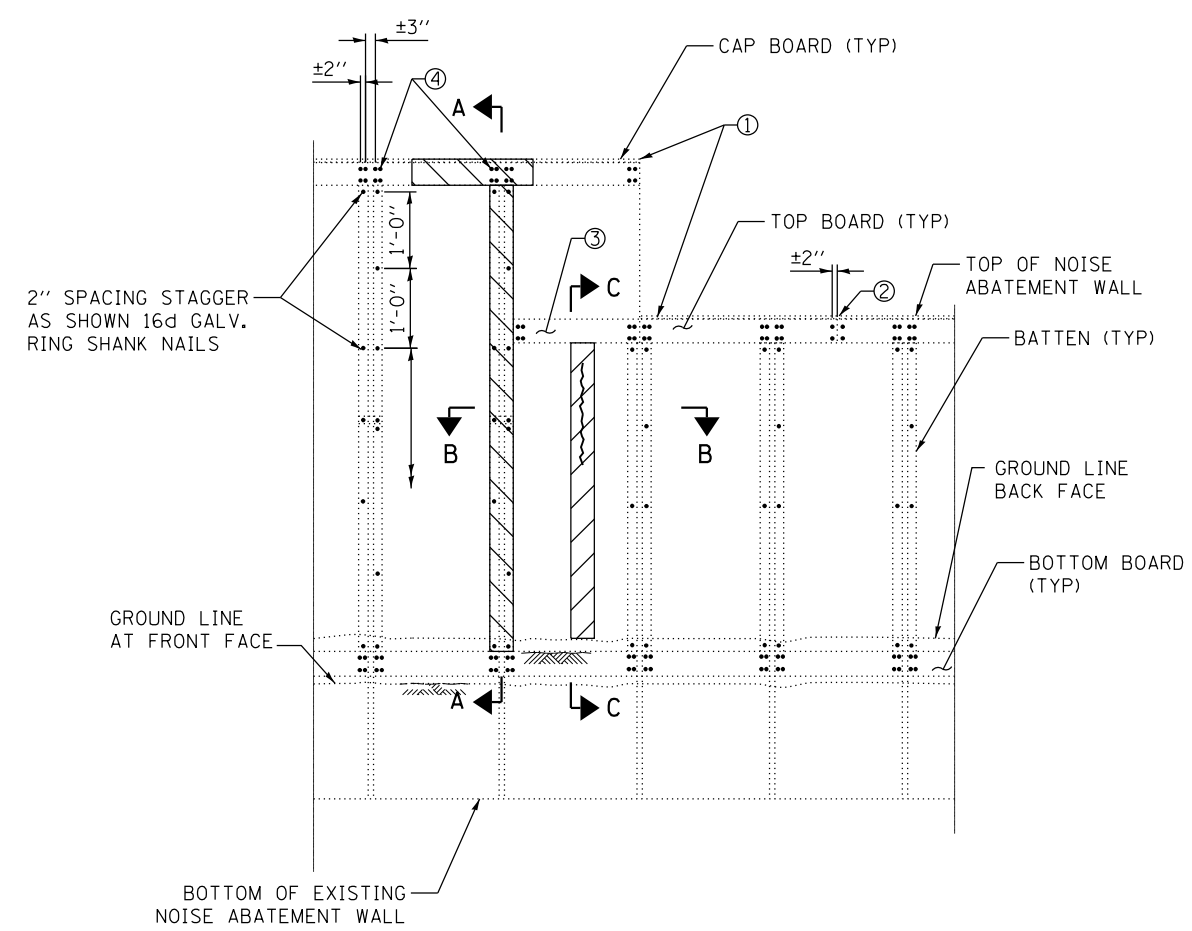
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 NOISE WALL ELEVATION 8

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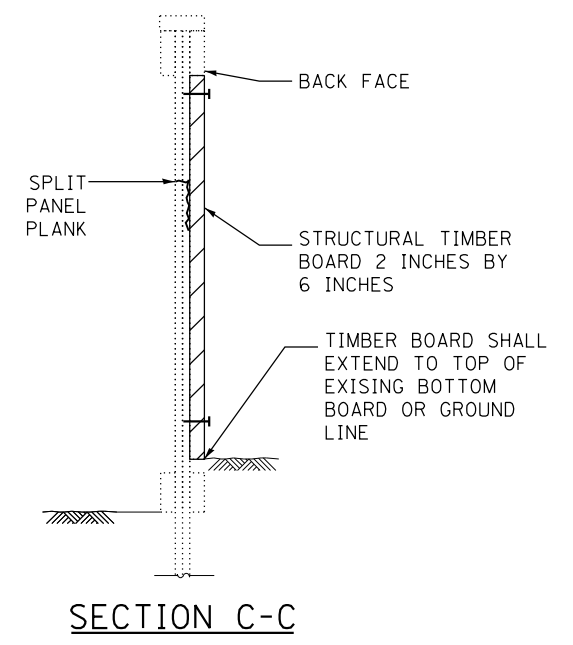
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SECTION A-A



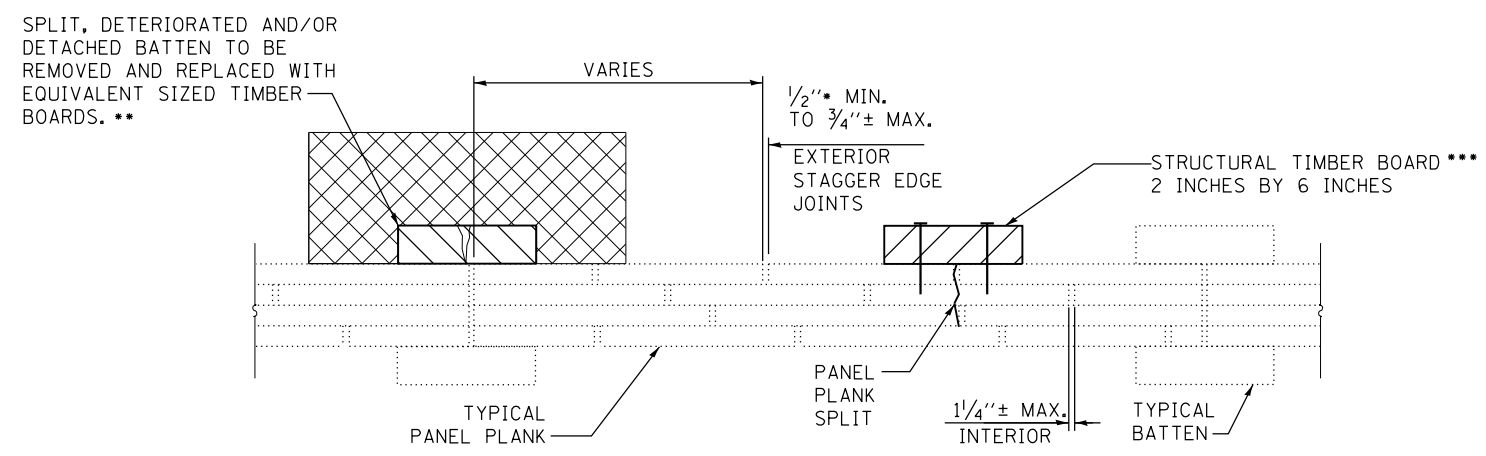
TYPICAL ELEVATION



SECTION C-C

* RESTORE DISTURBED AREA WITH SEEDING, CLASS 2E IF AREA IS WITHIN 20' OF EDGE OF PAVEMENT OR SEEDING CLASS 4F IF AREA IS GREATER THAN 20' AWAY FROM EDGE OF PAVEMENT. NITROGEN FERTILIZER NUTRIENT AND POTASSIUM FERTILIZER NUTRIENT ARE REQUIRED AT ALL SEEDED AREAS.

- ** MATCH EXISTING NAIL PATTERN
- *** MATCH ADJACENT BATTEN NAIL PATTERN



SECTION B-B

EXISTING DETAILS (FOR INFORMATION ONLY)

- ① - 1" NOM. CAP BOARD COVERS TOP OF PANEL AND TOP BOARDS. FASTENED TO 2"x8"s WITH FOUR 8d GALVANIZED NAILS PER PANEL.
- ② - MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.)
- ③ - OVERLAY 2"x8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ - EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP.), SPACE AS SHOWN.

LEGEND

- REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES
- STRUCTURE EXCAVATION

DRAWN BY SVJ DATE 3/11/2018
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SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-16-4255
 NOISE WALL 11457 - NS17.55N,SB
 STANDARD REPAIR DETAILS

SHT NO. NWI-11
 DRAWING NO.
 1379 OF 1517

BENCH MARK:

CUT "□" IN TOP OF THE NORTH END OF THE NW CONCRETE PARAPET WALL OF SB I-355 BRIDGE OF HITCHCOCK AVE. STA. ± 1091+90, 146' LT

EXISTING STRUCTURE:

THE NOISE ABATEMENT WALL NS18.90N,SB(R) WAS ORIGINALLY CONSTRUCTED IN 2008 UNDER CONTRACT I-07-5476, ON TOP OF CONCRETE RETAINING WALL NS18.90R,SB(R), ID NUMBER 114038. THE NOISE WALL, WITH A TOTAL LENGTH OF 1209'-9 1/2", IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WITH 2"X8" HORIZONTAL CAP BOARDS ON TOP, 2"X8" HORIZONTAL TOP AND BOTTOM BOARDS ON BOTH FACES, 2"X6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS AND PANEL PLANKS. THE MAXIMUM EXPOSED HEIGHT OF THE WALL IS 8'-2".

WORK WILL BE PERFORMED UNDER STAGED CONSTRUCTION. NO SALVAGE.

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION.

AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

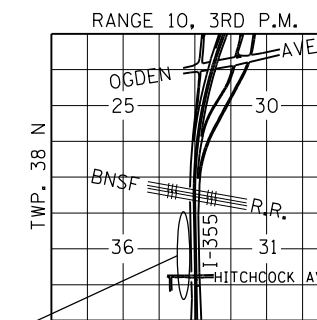
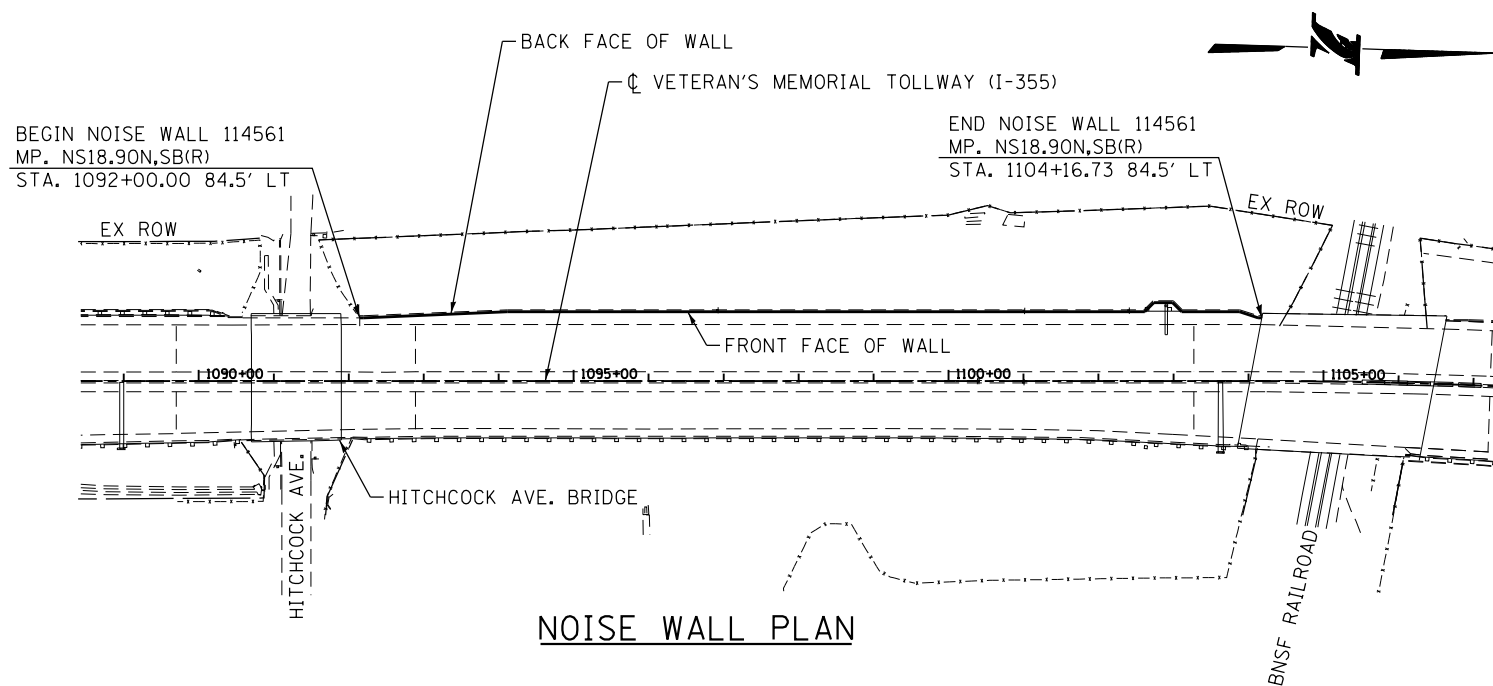
DESIGN STRESSES

NEW CONSTRUCTION

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.

SCOPE OF WORK

1. CAP BOARDS, TOP BOARDS, BOTTOM BOARDS AND BATTENS THAT ARE SPLIT, DETERIORATED AND/OR DETACHED SHALL BE REMOVED AND REPLACED WITH EQUIVALENT SIZED TIMBER BOARDS UTILIZING "REMOVE AND REPLACE TREATED TIMBER".
2. SPLIT PANEL PLANKS SHALL BE COVERED WITH "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES".
3. REMOVE VEGETATION ADJACENT TO BACK FACE OF RETAINING WALL NS18.90N, SB(R).



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DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114561 - NS18.90N,SB(R)
 GENERAL PLAN

SHT NO. NWJ-01
 DRAWING NO. 1380 OF 1517

INDEX OF SHEETS

NWJ-01 GENERAL PLAN
 NWJ-02 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
 NWJ-03 NOISE WALL ELEVATION 1
 NWJ-04 NOISE WALL ELEVATION 2
 NWJ-05 NOISE WALL ELEVATION 3
 NWJ-06 NOISE WALL ELEVATION 4
 NWJ-07 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F. BACK FACE
 C CENTERLINE
 EA EACH
 ELEV. ELEVATION
 EXIST. EXISTING
 F.F. FRONT FACE
 L SUM LUMP SUM
 MAX. MAXIMUM
 MIN. MINIMUM
 N.B. NORTHBOUND
 PROP. PROPOSED
 R.O.W. RIGHT-OF-WAY
 S.B. SOUTHBOUND
 SQ. FT. SQUARE FOOT
 STA. STATION
 TYP. TYPICAL

GENERAL NOTES

1. THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
2. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
3. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR ANY QUANTITY ABOVE THOSE LISTED, AND AGREED TO BY THE ENGINEER, IN ACCORDANCE WITH SECTION 109.04 OF THE IDOT STANDARD SPECIFICATIONS.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TOLLWAY AT LEAST 5 DAYS IN ADVANCE OF ANY CONSTRUCTION NEAR TOLLWAY OWNER FACILITIES (ELECTRICAL, COMMUNICATION CABLES, FIBER OPTIC CABLE, TRAFFIC CONTROL, CAMERAS, ETC) USING THE TOLLWAY WEBSITE WWW.ILLINOISVIRTUALTOLLWAY.COM/UTILITYLOCATES. ANY BURIED FACILITY WITHIN 2 FEET OF AN EXCAVATION LOCATION SHALL FIRST BE EXPOSED BY THE CONTRACTOR BY HAND DIGGING. ONCE EXPOSED, THE CONTRACTOR SHALL PROTECT THE FACILITY. IF CONTRACTOR CUTS OR DAMAGES THE TOLLWAY FACILITY, EITHER THROUGH CARELESSNESS OR FAILURE TO FOLLOW THE ABOVE PROCEDURE HE/SHE SHALL BE HELD RESPONSIBLE FOR THE REPAIR OF THE DAMAGE AT HIS/HER EXPENSE, AND TO THE SATISFACTION OF THE TOLLWAY.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
6. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
7. REPAIRS SHOWN ARE BASED UPON INSPECTIONS COMPLETED IN 2017 AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT OF MEASURE	TOTAL QUANTITY	RECORDED QUANTITY
•	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	31	
•	JT201005	REMOVE VEGETATION	L SUM	1	
•	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	208	

- REQUIRES SPECIAL PROVISION
- INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

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DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

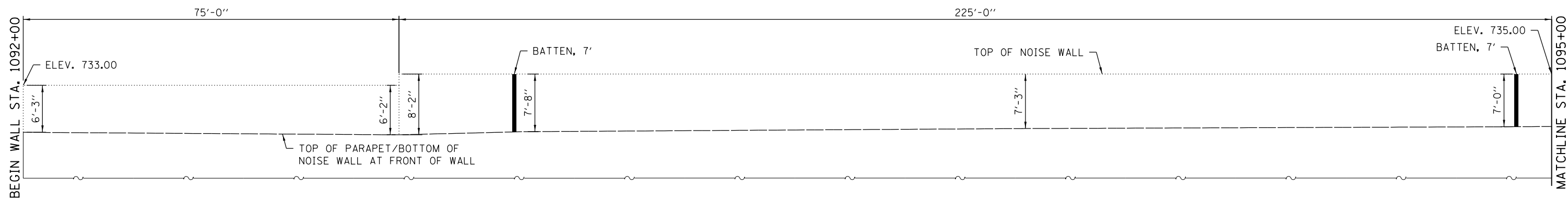
SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

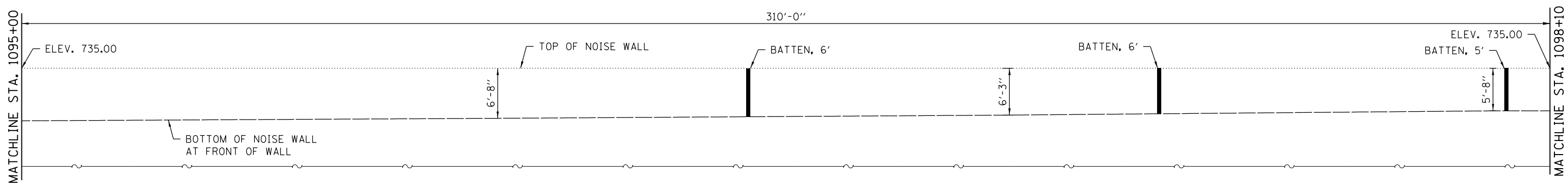
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. NWJ-02
 NOISE WALL 114561 - NS18.90N,SB(R) DRAWING NO.
 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL 1381 OF 1517

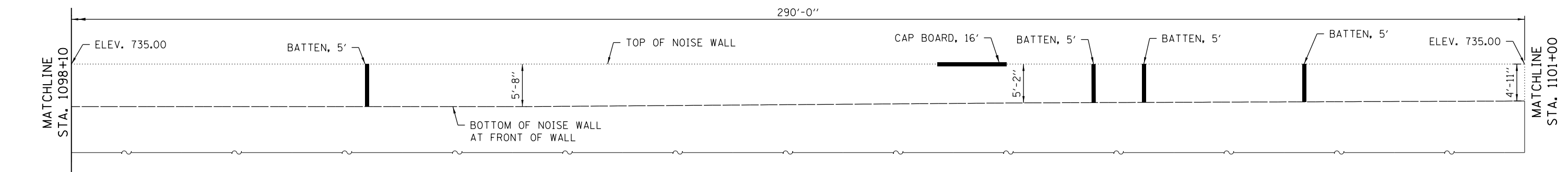
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WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL FRONT FACE ELEVATION
(LOOKING WEST)

LEGEND

"BOARD TYPE", X'
 REMOVE AND REPLACE TREATED TIMBER

NOTE:

- TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- SEE SHEET NWJ-07 FOR REPAIR DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	67

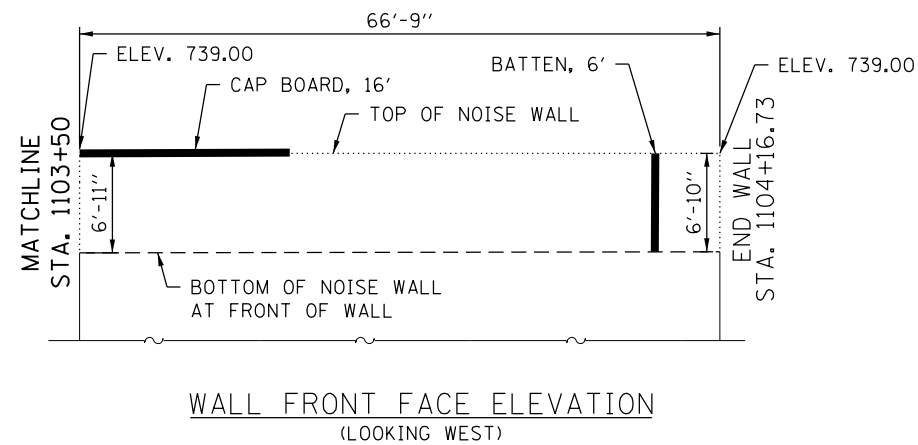
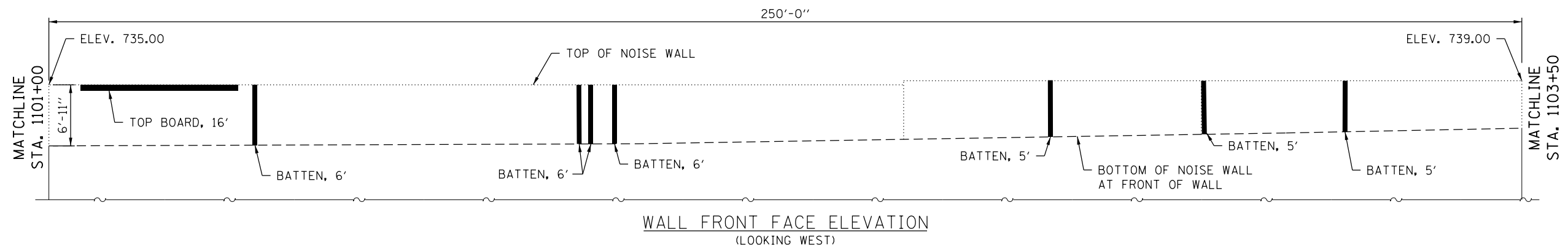
DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114561 - NS18.90N,SB(R)
 NOISE WALL ELEVATION 1

SHT NO. NWJ-03
 DRAWING NO. 1382 OF 1517



NOTE:

- TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- SEE SHEET NWJ-07 FOR REPAIR DETAILS.

LEGEND

— "BOARD TYPE", X'
REMOVE AND REPLACE TREATED TIMBER

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	77

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

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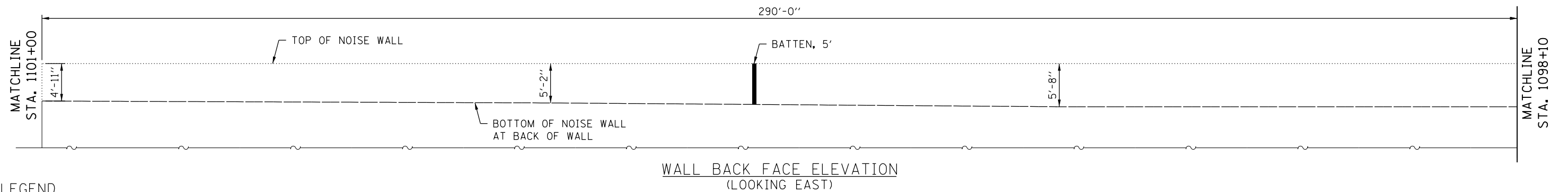
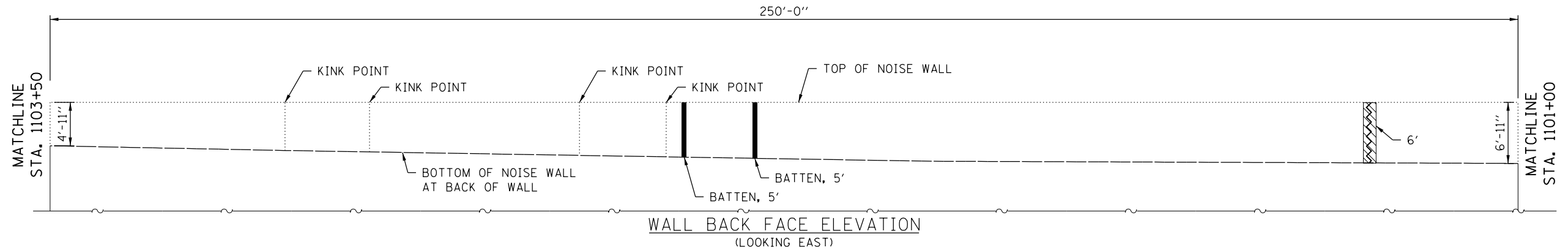
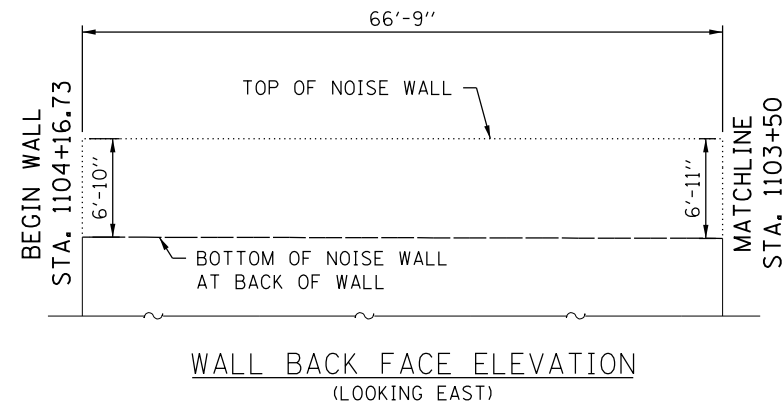
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
NOISE WALL 114561 - NS18.90N,SB(R)
NOISE WALL ELEVATION 2

SHT NO. NWJ-04
DRAWING NO.
1383 OF 1517

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LEGEND

- "BOARD TYPE", X'
REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- X'
STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

NOTE:

1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
2. TIMBER BOARD LENGTHS SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SEE SHEET NWJ-07 FOR REPAIR DETAILS.
4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	6
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	15

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

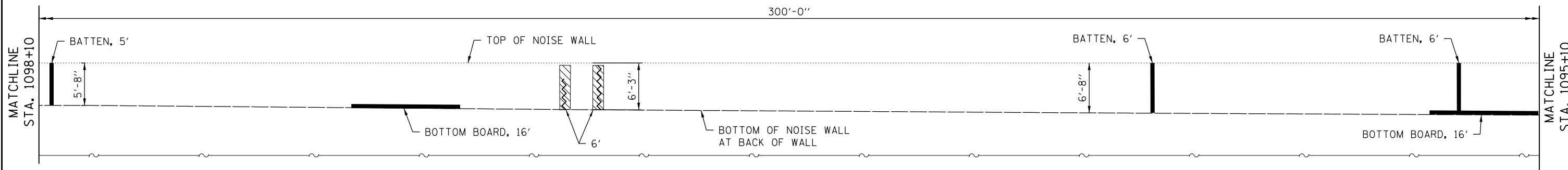


REVISIONS	
NO.	DATE DESCRIPTION

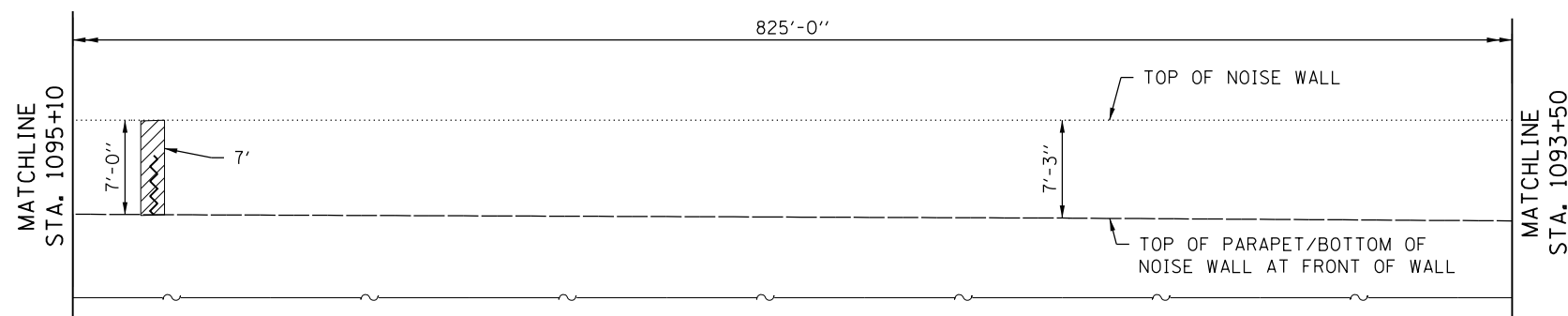
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 NOISE WALL 114561 - NS18.90N,SB(R)
 NOISE WALL ELEVATION 3

SHT NO. NWJ-05
 DRAWING NO.
 1384 OF 1517

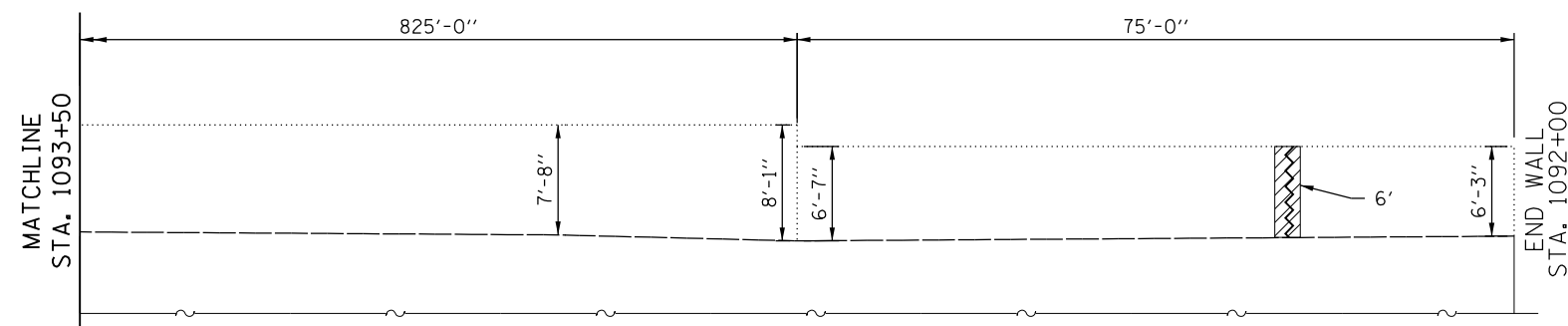
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WALL BACK FACE ELEVATION
(LOOKING WEST)



WALL BACK FACE ELEVATION
(LOOKING WEST)



WALL BACK FACE ELEVATION
(LOOKING WEST)

NOTE:

1. ALL PANEL PLANK SPLITS THAT EXTEND THROUGH THE PANEL SHALL BE REPAIRED WITH STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES.
2. TIMBER BOARD LENGTHS SHOWN ARE SHOWN ARE APPROXIMATE. ACTUAL LENGTHS REQUIRED SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SEE SHEET NWJ-07 FOR REPAIR DETAILS.
4. SEE FRONT FACE ELEVATION VIEWS FOR WALL ELEVATIONS.

LEGEND

- "BOARD TYPE", X'
REMOVE AND REPLACE TREATED TIMBER
- PANEL PLANK SPLITTING
- X'
STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	25
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	49

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

SE3
3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
(630) 641-9900

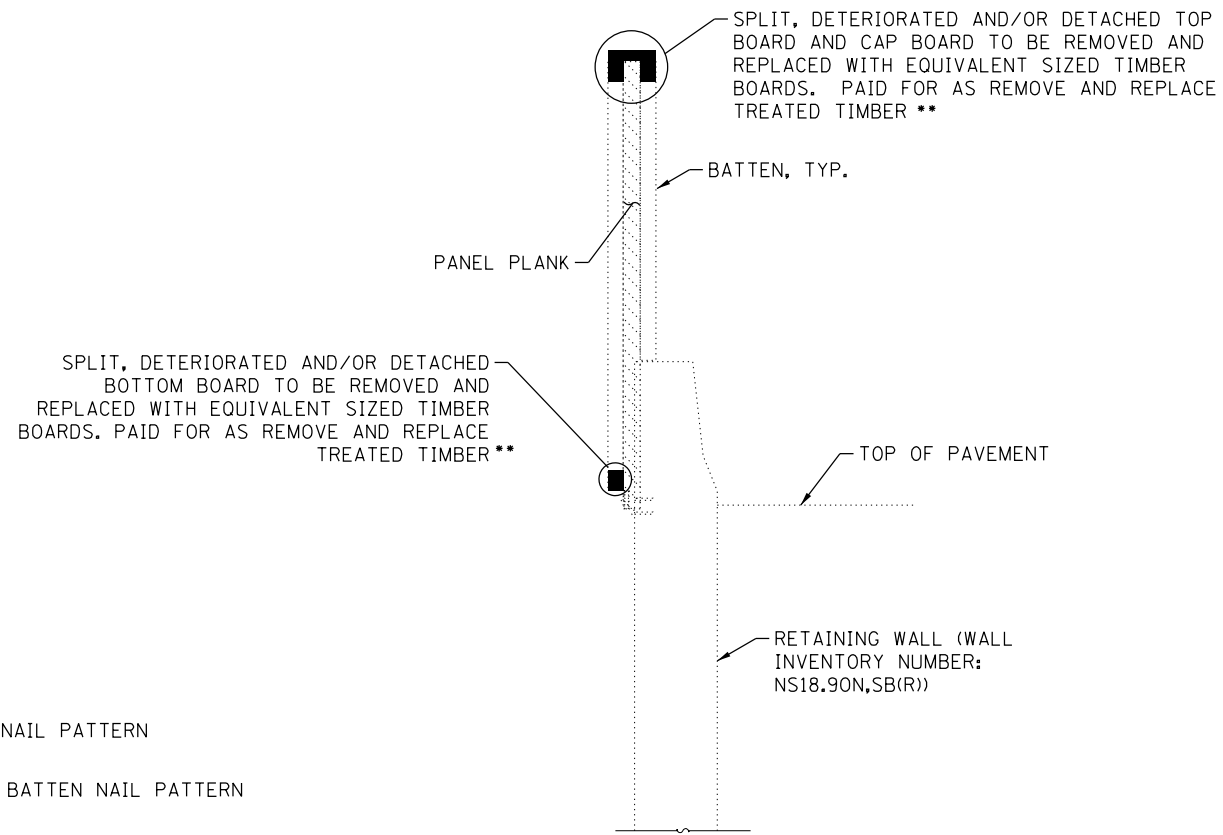
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-16-4255
NOISE WALL 114561 - NS18.90N,SB(R)
NOISE WALL ELEVATION 4

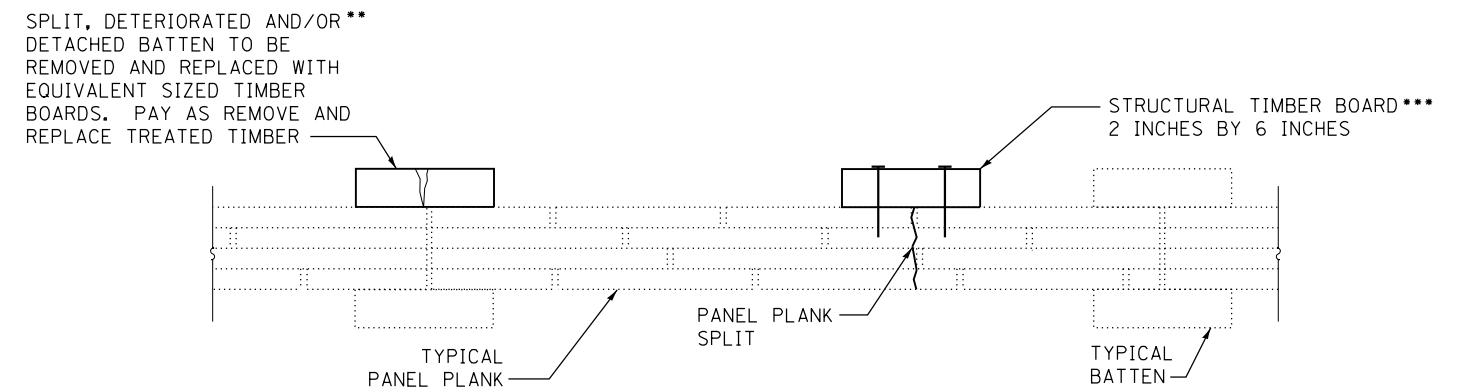
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DRAWING NO.
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- ** MATCH EXISTING NAIL PATTERN
- *** MATCH ADJACENT BATTEN NAIL PATTERN

TYPICAL SECTION
RETAINING WALL MOUNTED NOISE WALL



REPAIR DETAIL

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

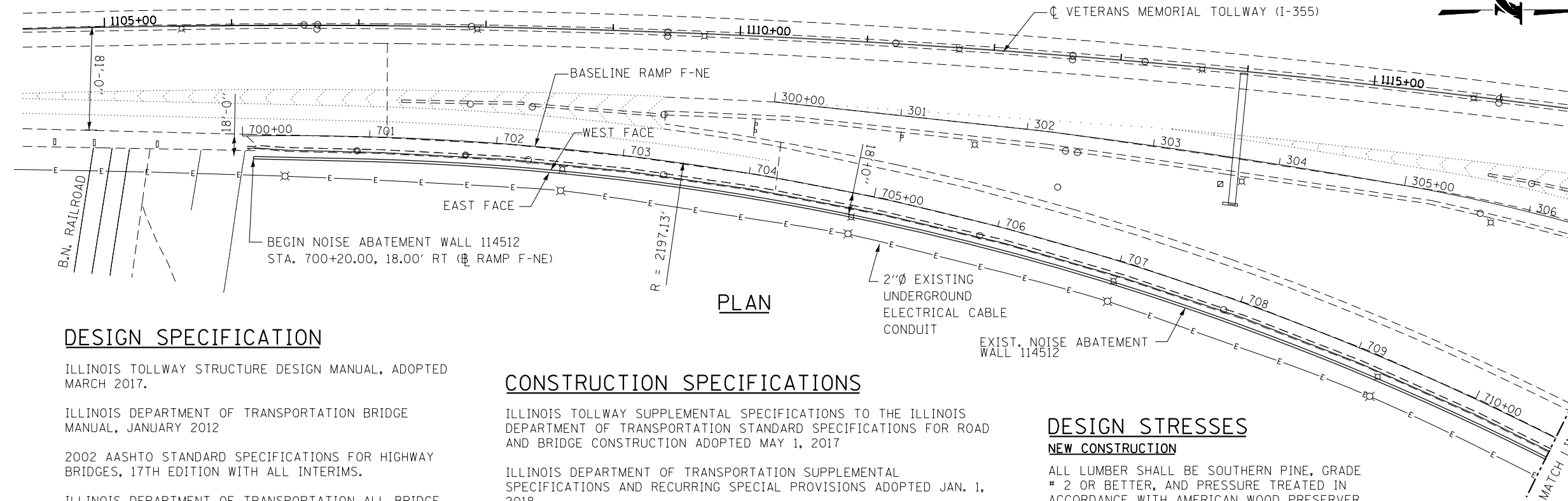
CONTRACT NO. RR-16-4255
 NOISE WALL 114561 - NS18.90N,SB(R)
 STANDARD REPAIR DETAILS

SHT NO. NWJ-07
 DRAWING NO.
 1386 OF 1517

BENCHMARK:
 CUT "□" IN SW CORNER OF E. OVERHEAD SIGN TRUSS FOUNDATION NB I-355 (SIGN READS "OGDEN AVE. EXIST" ± STA. 1113+91, 104' RT. ELEV. 729.59.

EXISTING STRUCTURE:
 THE NOISE ABATEMENT WALL WAS ORIGINALLY CONSTRUCTED IN 1989 UNDER CONTRACT CIP-615 AND WAS REPAIRED IN 2013 UNDER CONTRACT NO. RR-12-4047. THE WALL IS A CONTINUOUS GLUE LAMINATED WOODEN PANEL WALL WITH 1"x10" HORIZONTAL CAP BOARDS ON TOP, 2"x8" HORIZONTAL TOP AND BOTTOM BOARDS ON BOTH FACES, 2"x6" BATTENS ON BOTH FACES PLACED AT EVERY JOINT OPENING BETWEEN PANELS AND PANEL WITH 2 11/16" THICK MULTIPLE PLANKS. THE PANELS ARE ANCHORED INTO A TRENCH FILLED WITH BACKFILL MATERIAL, AND THE TALLER WALL PANELS ARE FASTENED TO A COLUMN EMBEDDED INTO THE GROUND WITH CONCRETE ENCASEMENT. THE WALL HAS A TOTAL LENGTH OF 2,368.95 FT. PER LATEST ISTHA RETAINING WALL AND NOISE ABATEMENT WALL REPORT DATED 4/23/2015.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.



PLAN

DESIGN SPECIFICATION

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

AASHTO STANDARD SPECIFICATION FOR WOOD PRODUCTS

NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2015 EDITION

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JAN. 1, 2018.

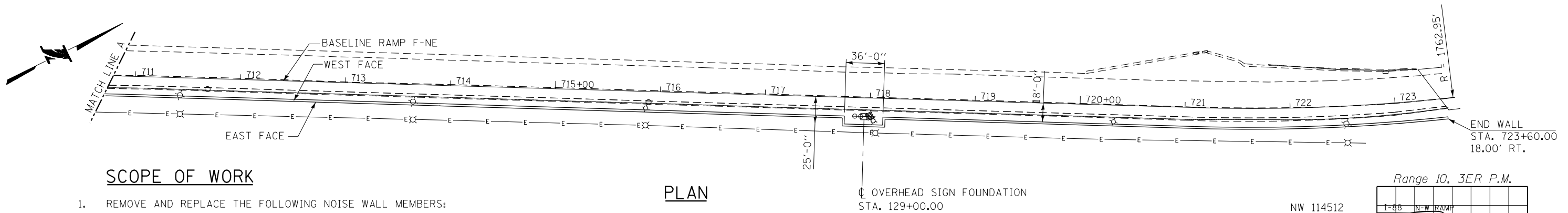
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

NDS MANUAL FOR ENGINEERED WOOD CONSTRUCTION, 2015 EDITION

DESIGN STRESSES

NEW CONSTRUCTION

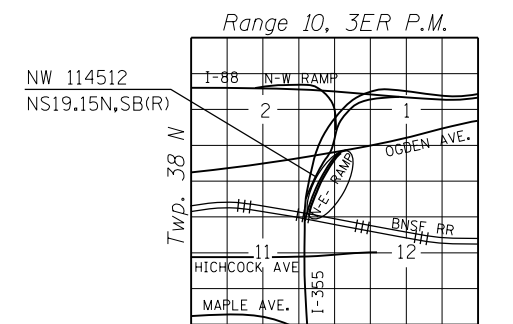
ALL LUMBER SHALL BE SOUTHERN PINE, GRADE # 2 OR BETTER, AND PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVER ASSOCIATION.



PLAN

SCOPE OF WORK

- REMOVE AND REPLACE THE FOLLOWING NOISE WALL MEMBERS:
 - DETERIORATED AND ROTTING, LOOSE, DETACHED, WARPING AND SPLITTING CAP BOARDS.
 - DETERIORATED AND SPLITTING BOTTOM BOARDS.
 - SPLIT, WARPED AND BOWING BATTENS.
 - BROKEN, DETERIORATED, DELAMINATED AND SPLIT PANELS.
 - PROVIDE BATTENS ON BOTH FACES OF WALL AND FASTEN SPLIT PLANKS WITH WIDE OPENING.
- REMOVE ALL BUSHES AND TREES WITHIN 2 FT. OF THE BACK AND FRONT FACES OF THE ENTIRE LENGTH OF WALL.



LOCATION SKETCH

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
NOISE WALL 114512 - NS19.15N,NB(R)
 GENERAL PLAN

NWK-01 OF NWK-15
 SHT NO. **NWK-01**
 DRAWING NO. **1387** OF **1517**

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- NWK-01 GENERAL PLAN
- NWK-02 GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- NWK-03 BACK ELEVATION
STA. 700+20 TO STA. 703+00
- NWK-04 BACK ELEVATION
STA. 703+00 TO STA. 707+00
- NWK-05 BACK ELEVATION
STA. 707+00 TO STA. 711+00
- NWK-06 BACK ELEVATION
STA. 711+00 TO STA. 715+00
- NWK-07 BACK ELEVATION
STA. 715+00 TO STA. 719+00
- NWK-08 BACK ELEVATION
STA. 719+00 TO STA. 723+60
- NWK-09 FRONT ELEVATION
STA. 700+20 TO STA. 703+00
- NWK-10 FRONT ELEVATION
STA. 703+00 TO STA. 707+00
- NWK-11 FRONT ELEVATION
STA. 707+00 TO STA. 711+00
- NWK-12 FRONT ELEVATION
STA. 711+00 TO STA. 715+00
- NWK-13 FRONT ELEVATION
STA. 715+00 TO STA. 719+00
- NWK-14 FRONT ELEVATION
STA. 719+00 TO STA. 723+60
- NWK-15 TYPICAL REPAIR DETAILS

LIST OF ABBREVIATIONS

B.F.	BACK FACE
BK/	BACK OF
B/	BOTTOM OF
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CU. FT.	CUBIC FEET
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
I.F.	INSIDE FACE
LF	LINEAR FOOT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
PROP.	PROPOSED
S.B.	SOUTHBOUND
S.P.	SPECIAL PROVISION
STA.	STATION
SHLDR	SHOULDER
SF	SQUARE FOOT
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
SY	SQUARE YARD
TYP.	TYPICAL

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PERFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
9. REPAIRS SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
10. WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "REMOVE AND REPLACE TREATED TIMBER".
11. "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.
12. "PAINTING" TO BE APPLIED TO THE FRONT AND SIDE FACES OF NEW BOARDS ON THE FRONT FACE OF THE WALL.
13. "TREE REMOVAL (6 TO 15 UNITS IN DIAMETER)" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL WHEREVER TREES ARE 6 TO 15 UNITS IN DIAMETER.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	24	
	50200100	STRUCTURE EXCAVATION	CU. YD.	3	
*	JT131420	PAINTING	SQ. FT.	2,055	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	1,057	
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	1,442	

* INDICATES SPECIAL PROVISION

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\2016\Structural\Wall\Sh114255-sh1-14512-structnote-FEL02.dgn






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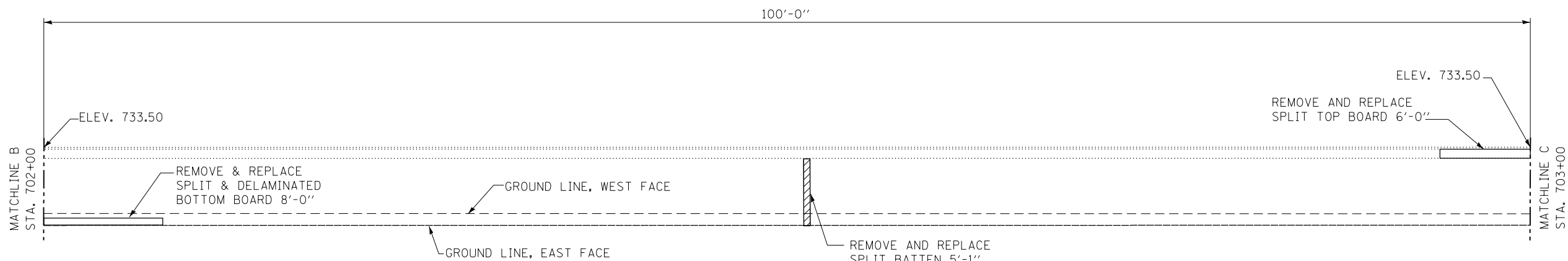
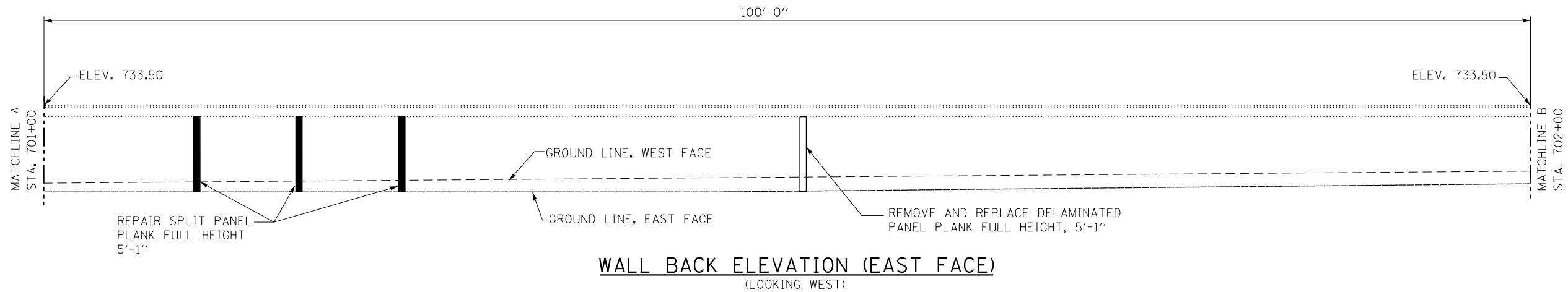
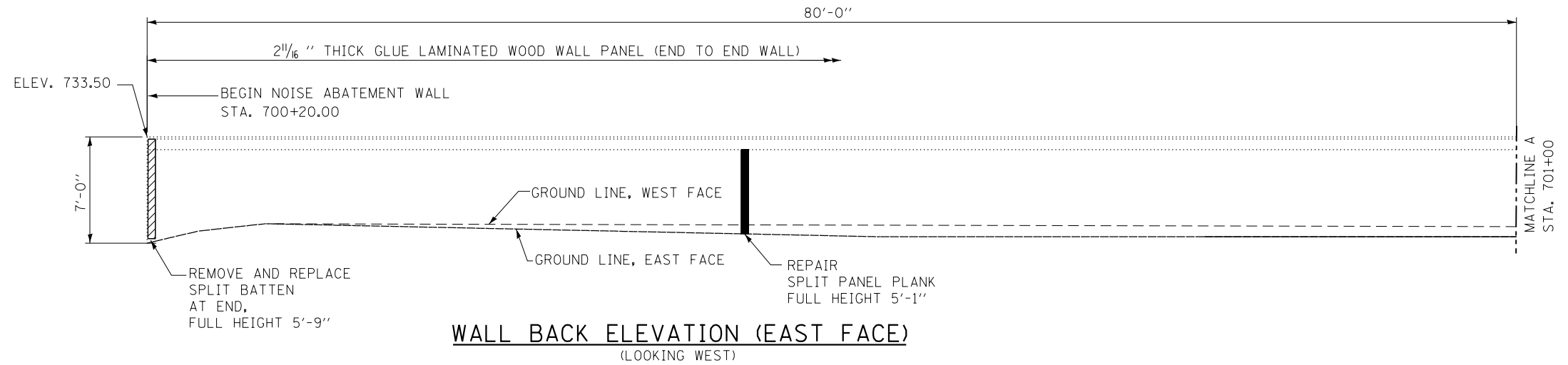


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. NWK-02
NOISE WALL 114512 - NS19.15N,NB(R)	DRAWING NO. 1388 OF 1517
GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL	

LEGEND

-  INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
 -  INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
 -  INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
 -  INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
 -  INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"



NOTE:

1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

WALL BACK ELEVATION (EAST FACE)
(LOOKING WEST)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	21
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	26

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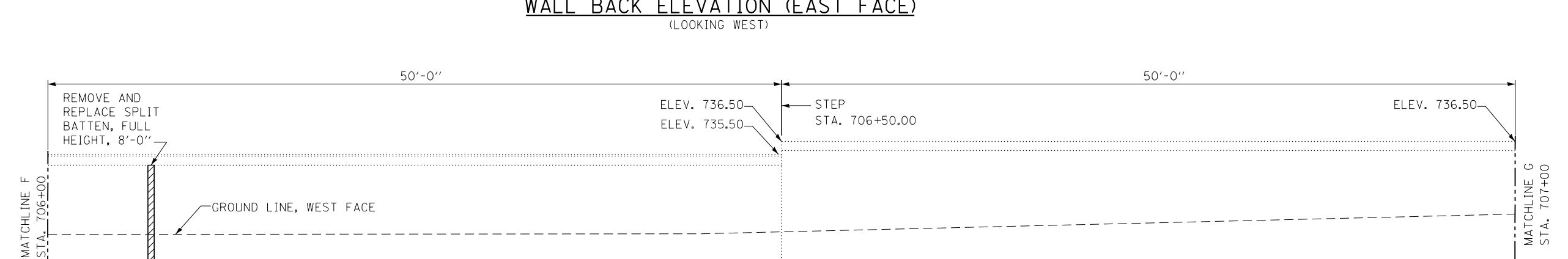
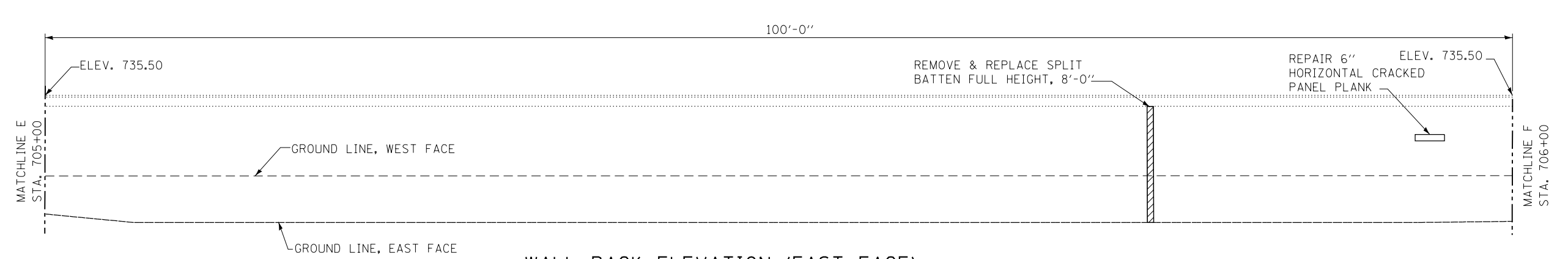
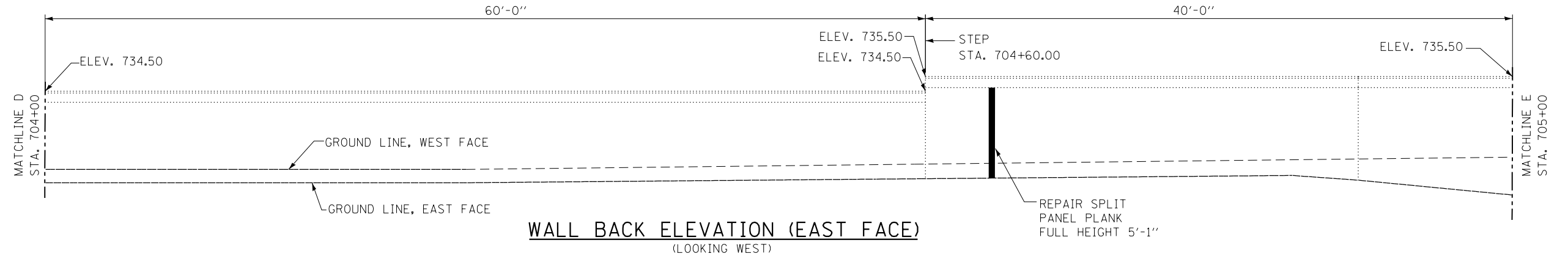
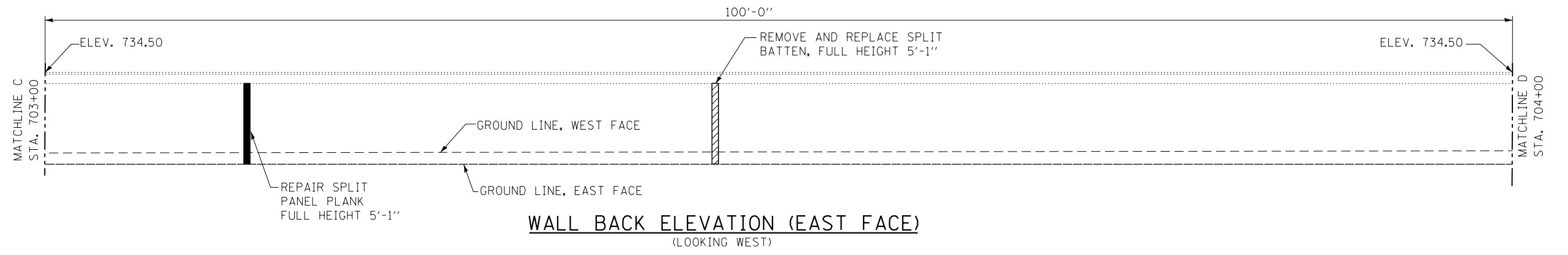
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 BACK ELEVATION - STA. 700+20 - STA. 703+00

NWK-03 OF NWK-15
 SHT NO. NWK-03
 DRAWING NO. 1389 OF 1517

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- NOTE:**
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.
 - PANEL PLANK WITH HORIZONTAL CRACKS SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15

- LEGEND**
- INDICATES REMOVAL AND REPLACEMENT OF BATTEN
 - INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD
 - INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD
 - INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
 - INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	11
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	26

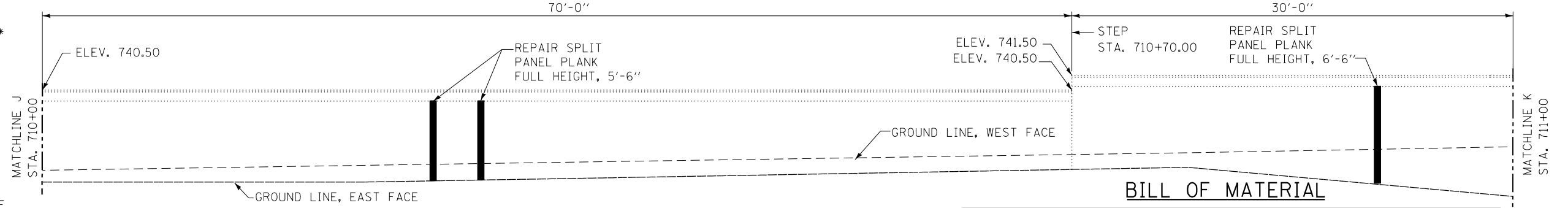
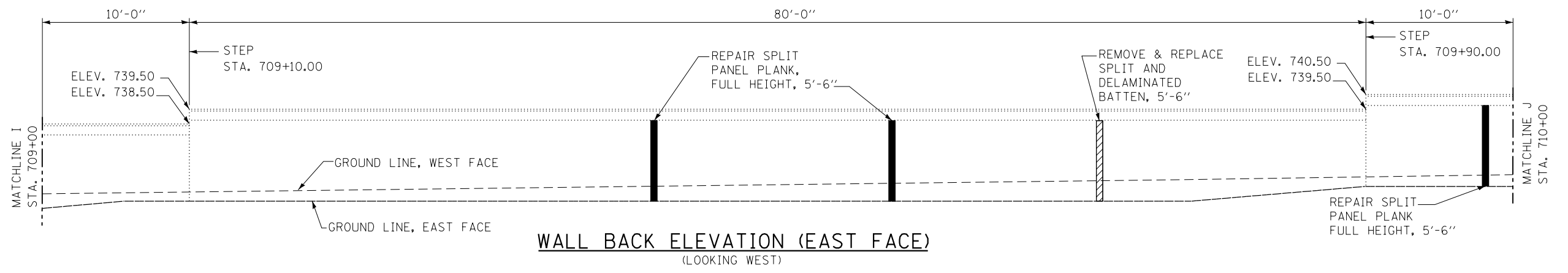
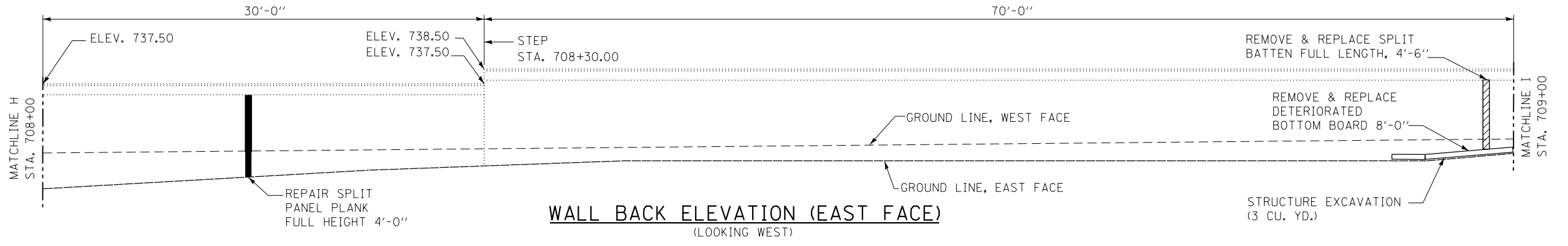
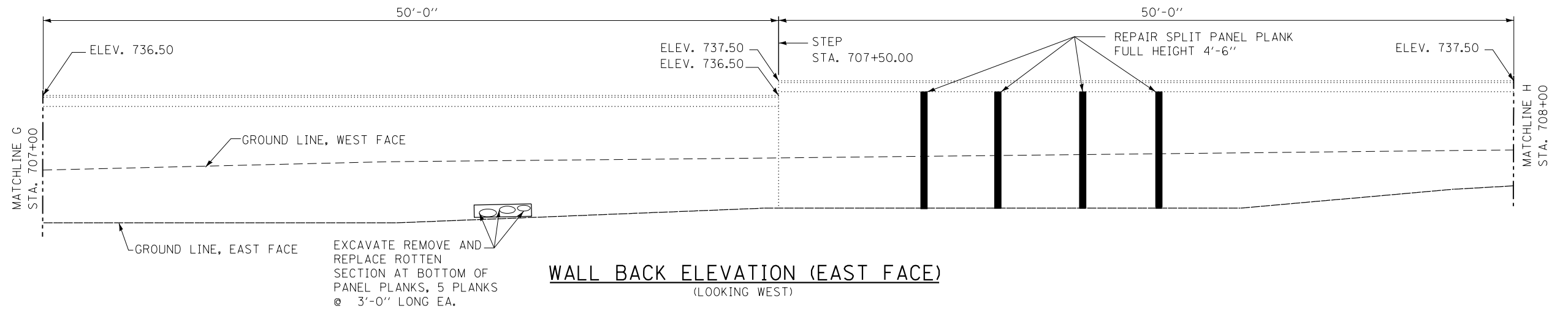
NWK-04 OF NWK-15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 BACK ELEVATION - STA. 703+00 - STA. 707+00
 SHT NO. NWK-04
 DRAWING NO. 1390 OF 1517



- NOTE:
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
 - INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
 - INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
 - INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
 - INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	56
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	44
50200100	STRUCTURE EXCAVATION	CU. YD.	3

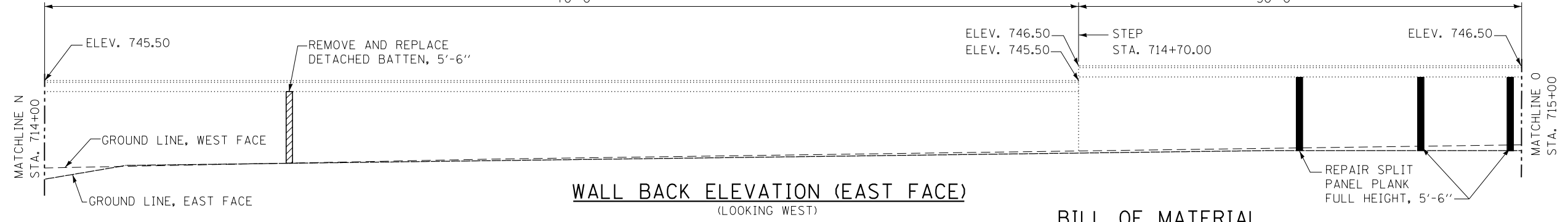
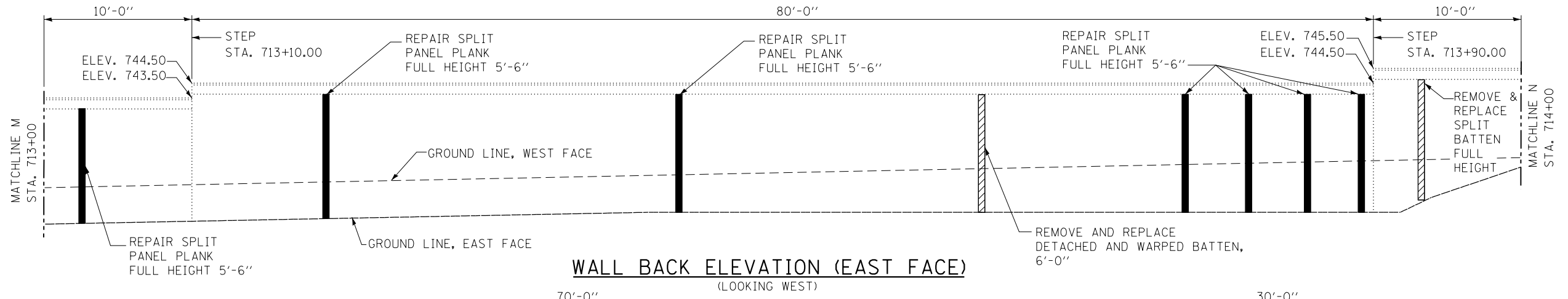
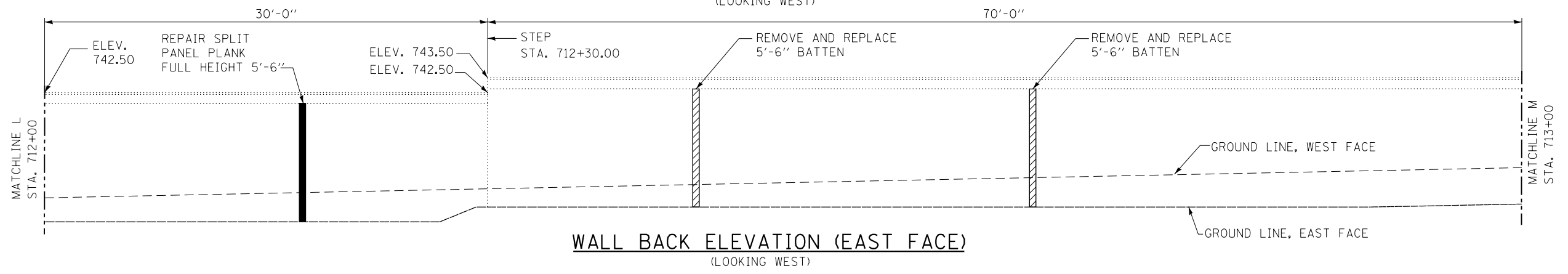
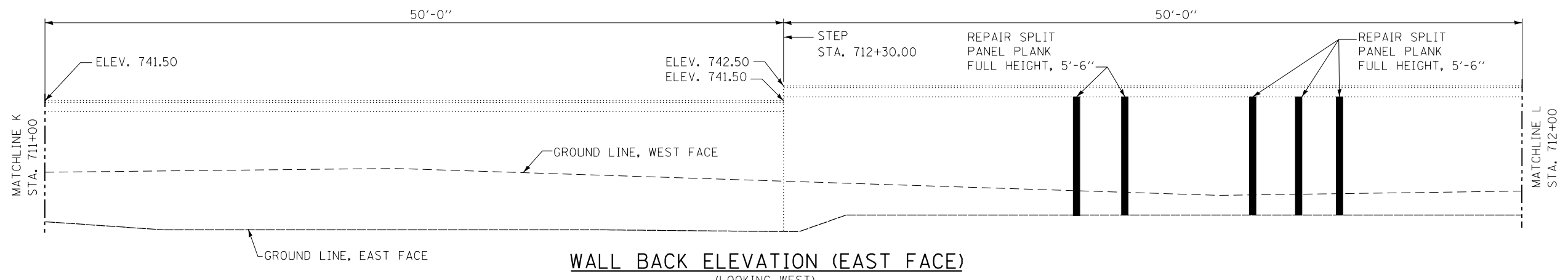
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DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255 SHT NO. NWK-05
NOISE WALL 114512 - NS19.15N,NB(R) DRAWING NO.
BACK ELEVATION - STA. 707+00 - STA. 711+00 1391 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
 - INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
 - INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
 - INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
 - INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **
- * PAID AS "REMOVE AND REPLACE TREATED TIMBER"
- ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	88
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	30

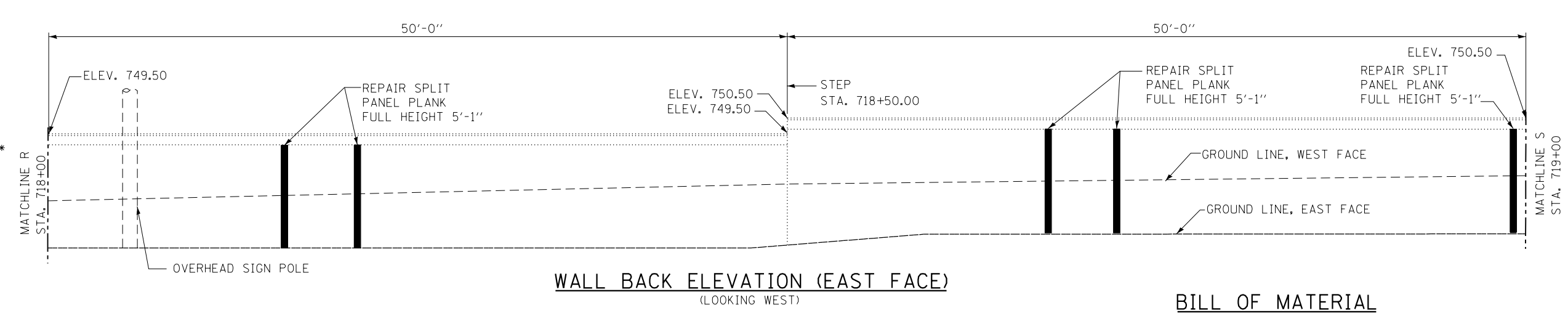
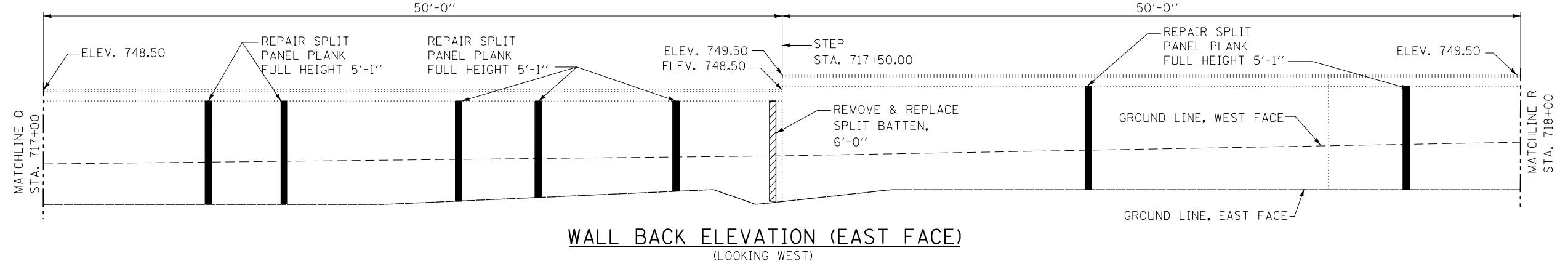
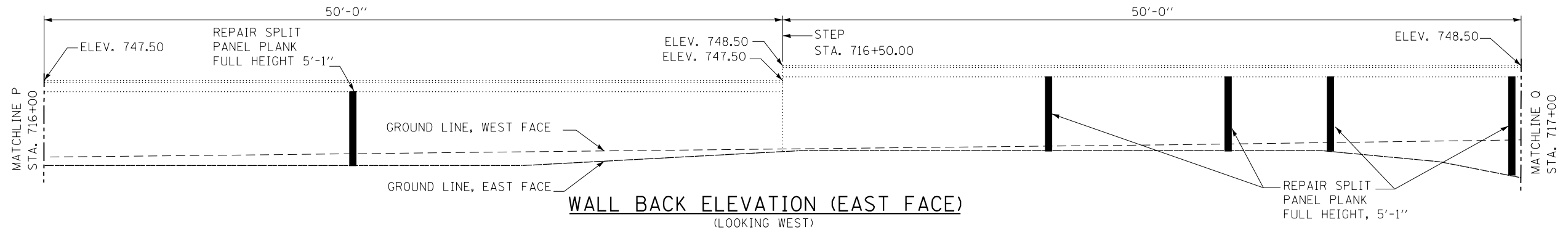
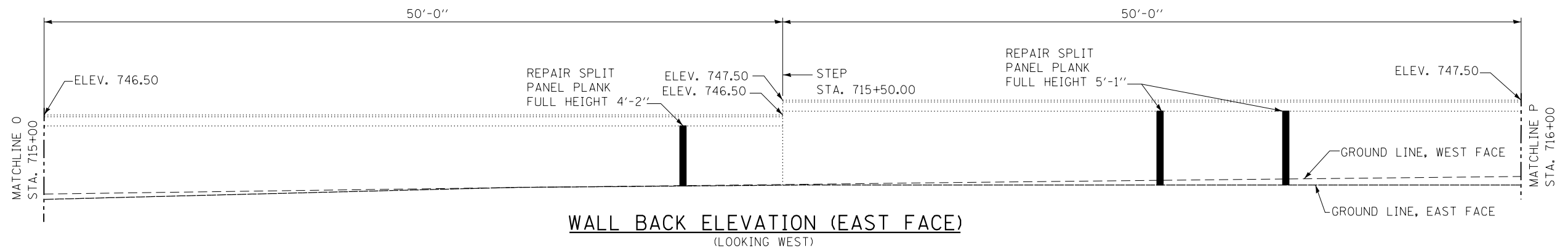
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 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE DESCRIPTION

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 BACK ELEVATION - STA. 711+00 - STA. 715+00

NWK-06 OF NWK-15
 SHT NO. NWK-06
 DRAWING NO. 1392 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE**

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	101
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	6

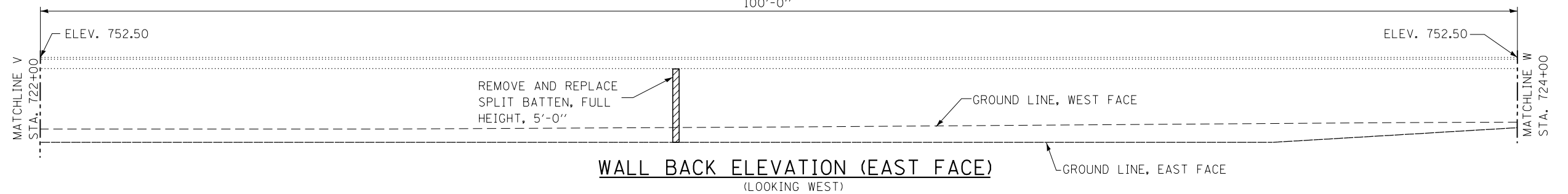
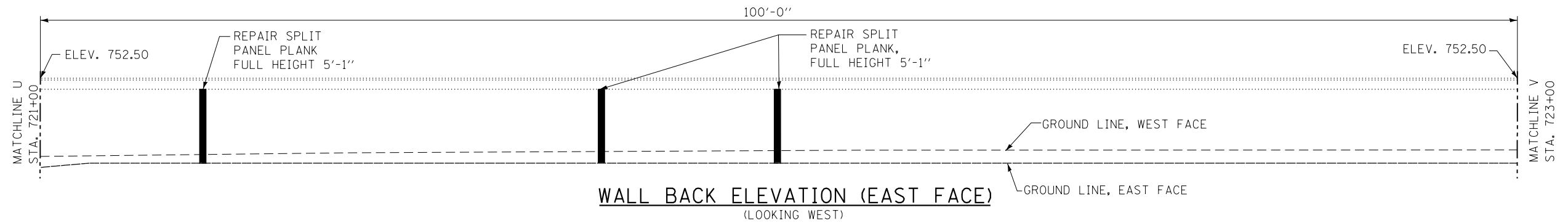
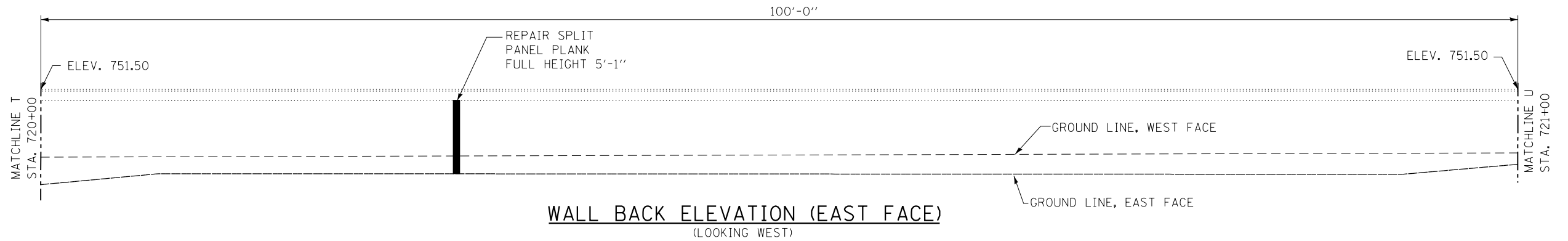
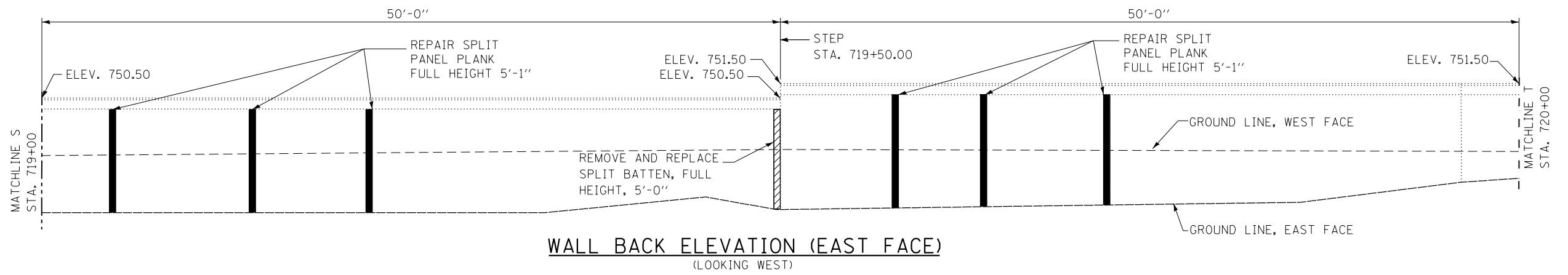
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 BACK ELEVATION - STA. 715+00 - STA. 719+00

NWK-07 OF NWK-15
 SHT NO. NWK-07
 DRAWING NO. 1393 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
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LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	55
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	10

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 CHECKED BY JPM/MMH DATE 3/11/2018








REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
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 SHT NO. NWK-08
 DRAWING NO. 1394 OF 1517

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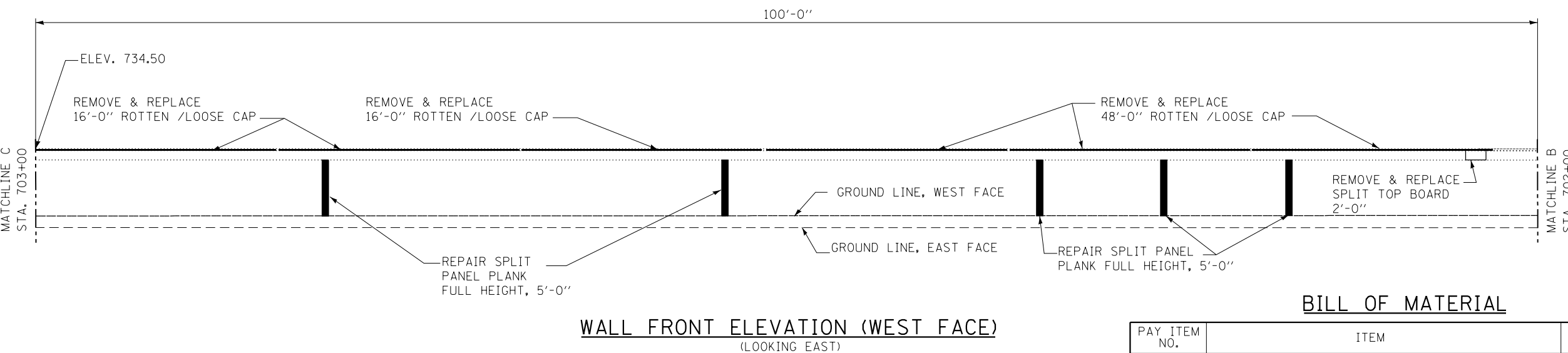
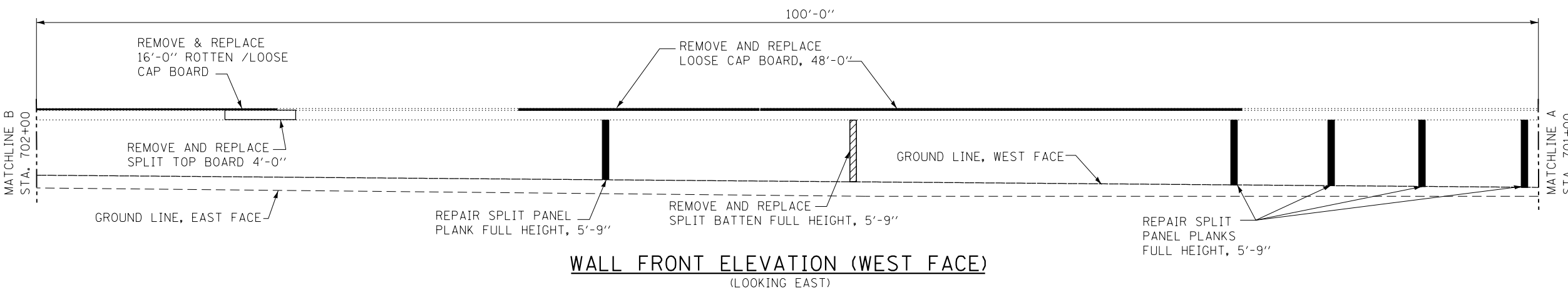
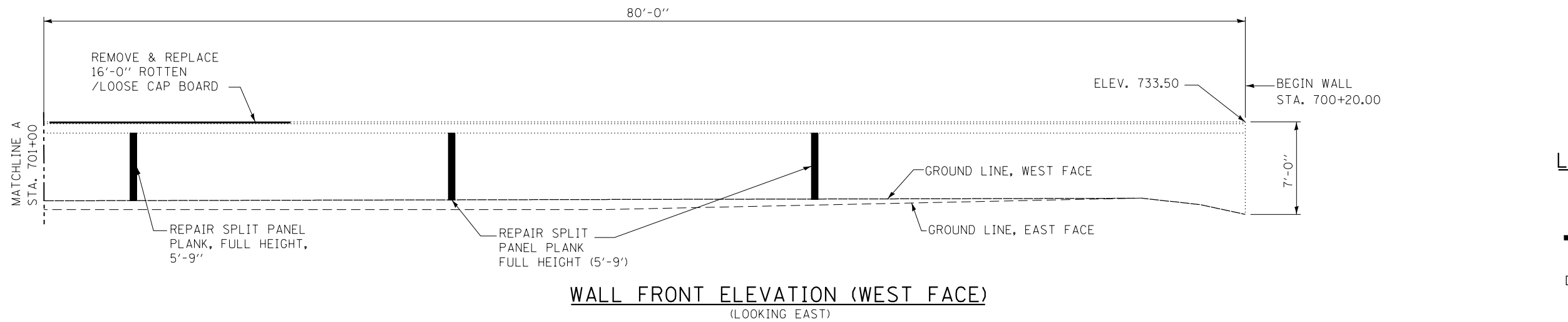
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LEGEND

-  INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
-  INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
-  INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
-  INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
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* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"



BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	286
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	71
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	328

NWK-09 OF NWK-15

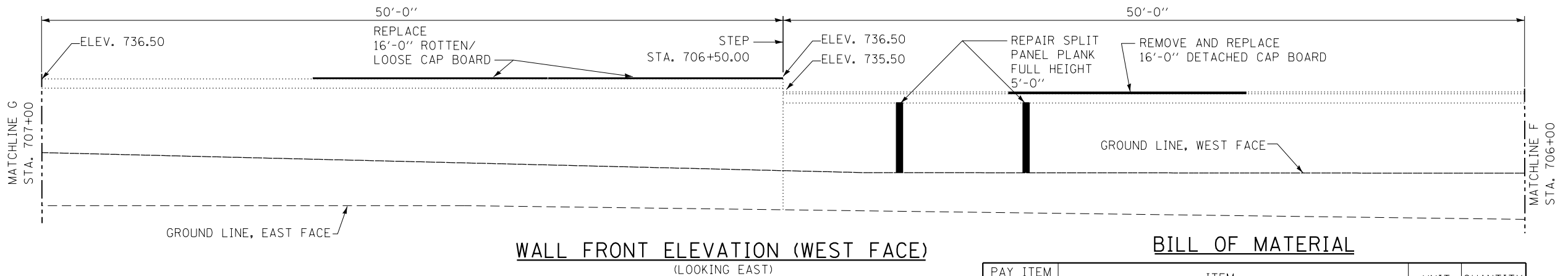
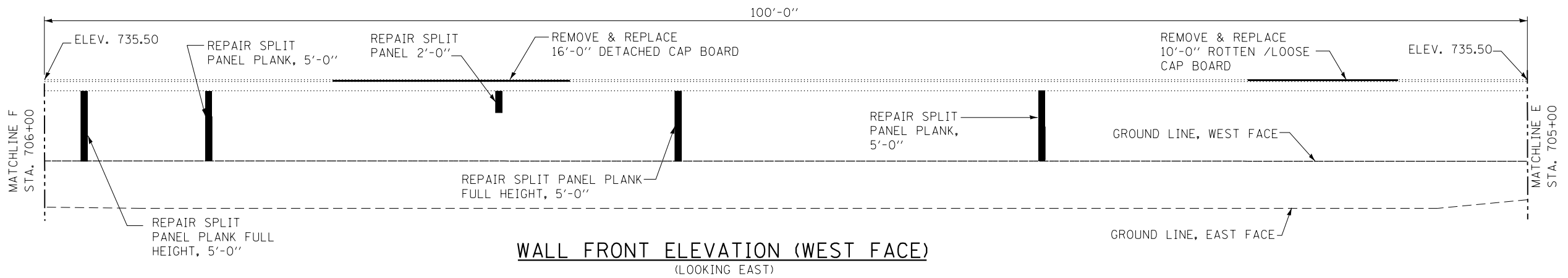
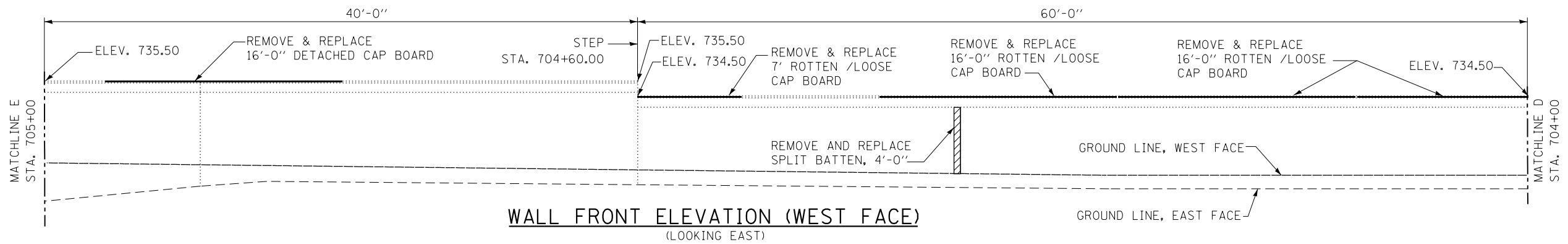
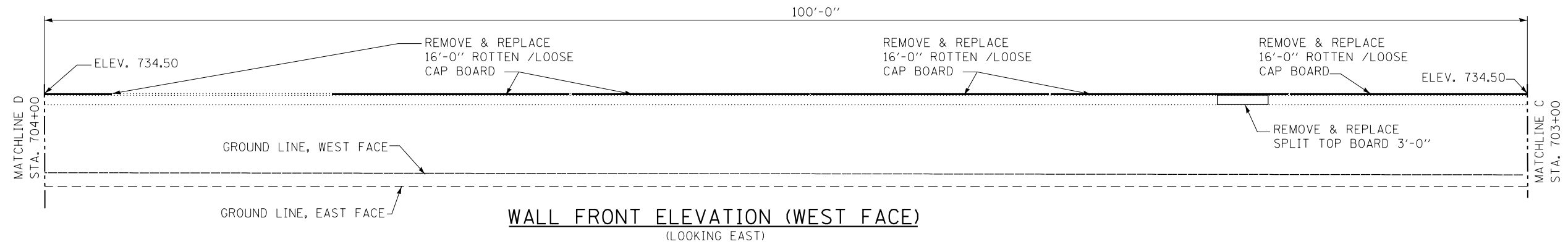
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 700+20 - STA. 703+00
 SHT NO. NWK-09
 DRAWING NO. 1395 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawing Files\4255-sta-114512-noise-wall-FEL09.dgn



- NOTE:
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	310
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	32
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	248

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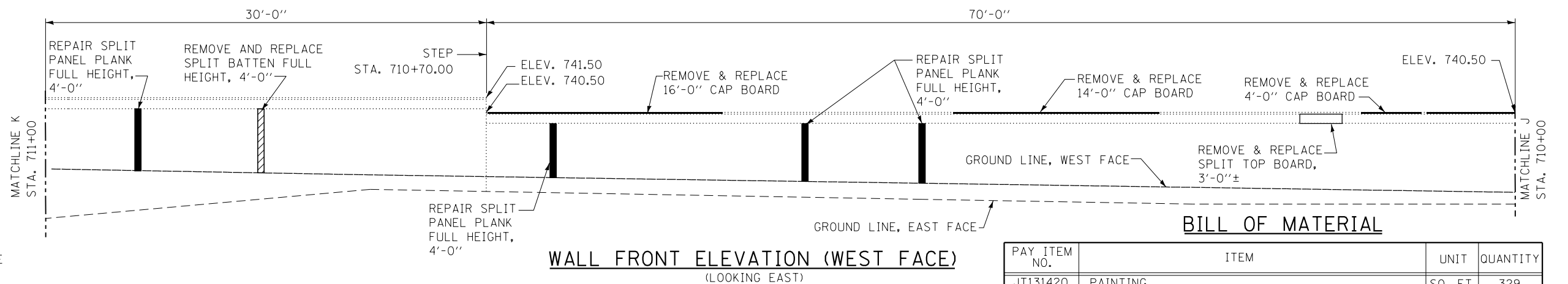
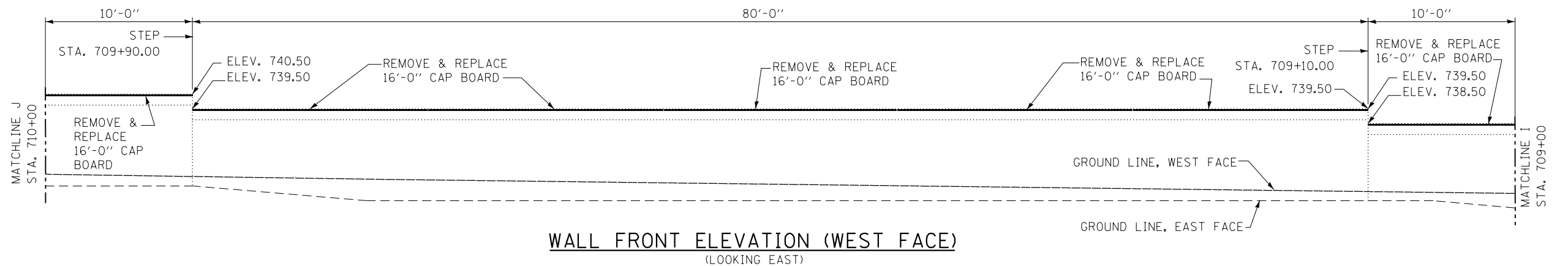
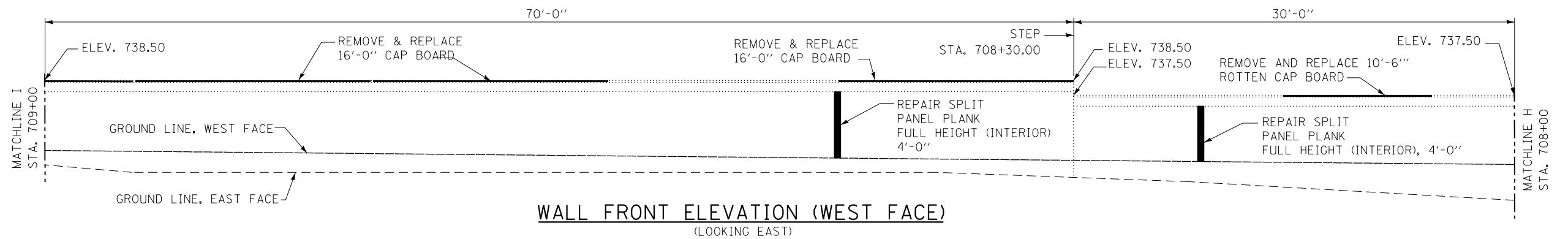
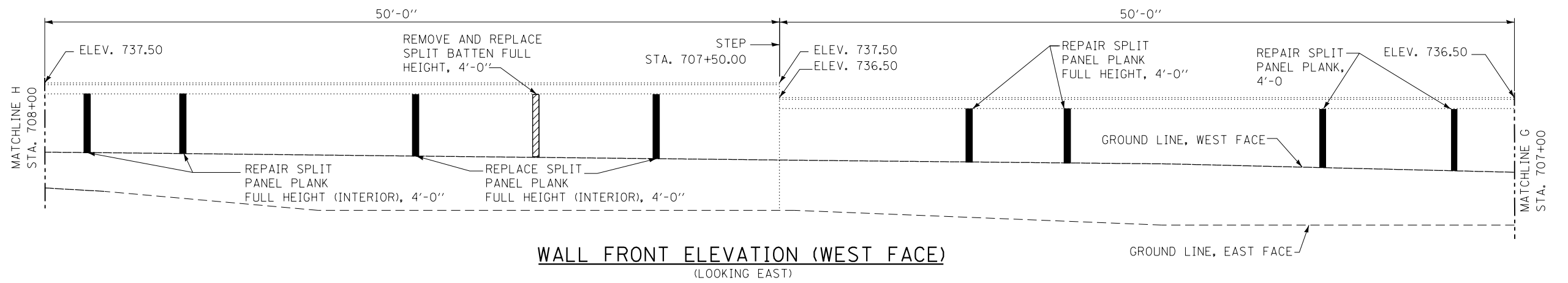


2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 703+00 - STA. 707+00

NWK-10 OF NWK-15
 SHT NO. NWK-10
 DRAWING NO. 1396 OF 1517



- NOTE:
- STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 - SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	329
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	56
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	186

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

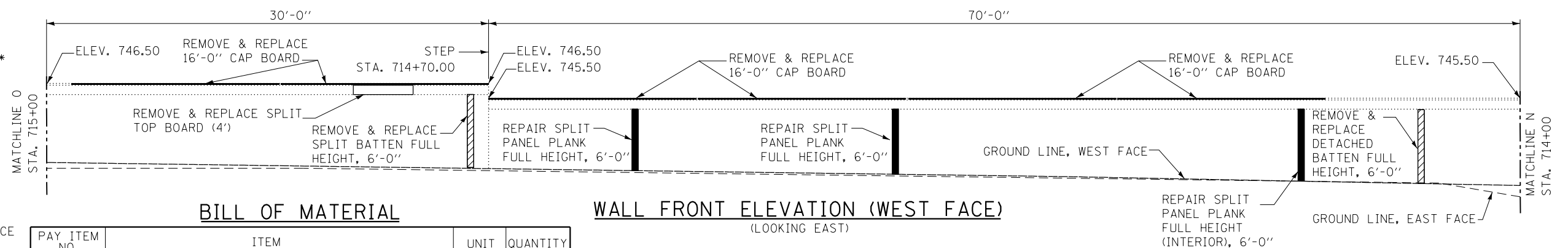
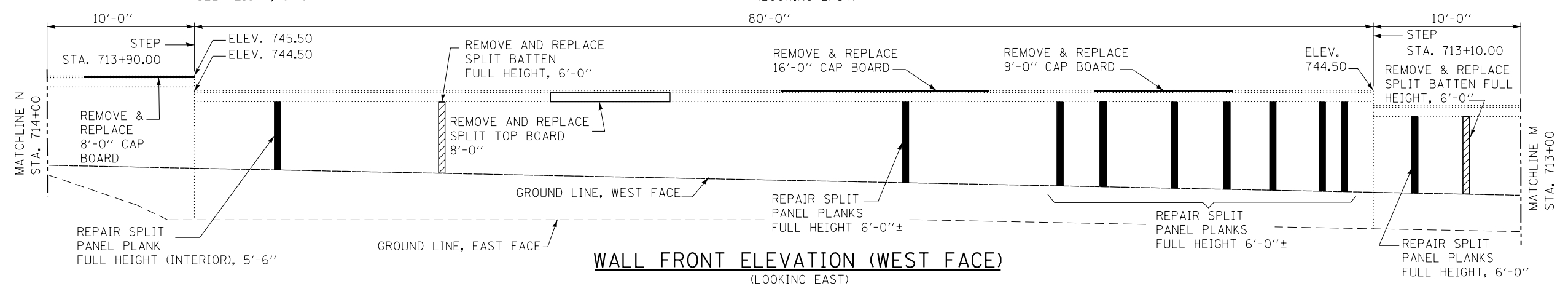
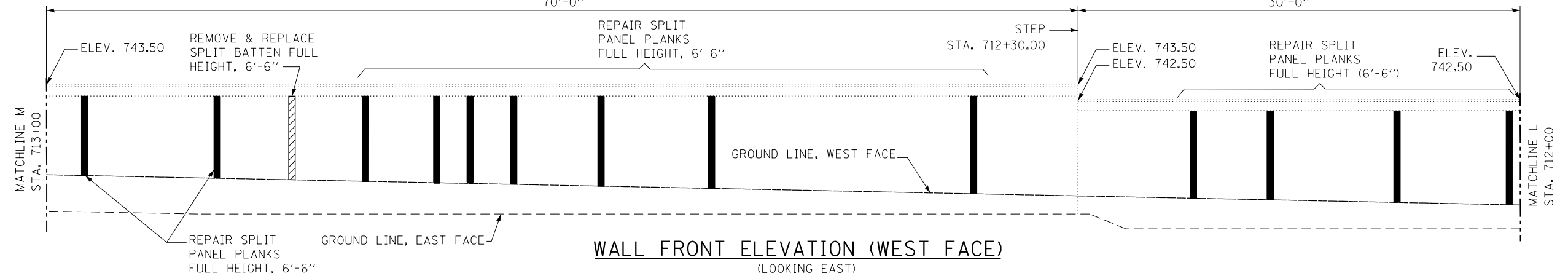
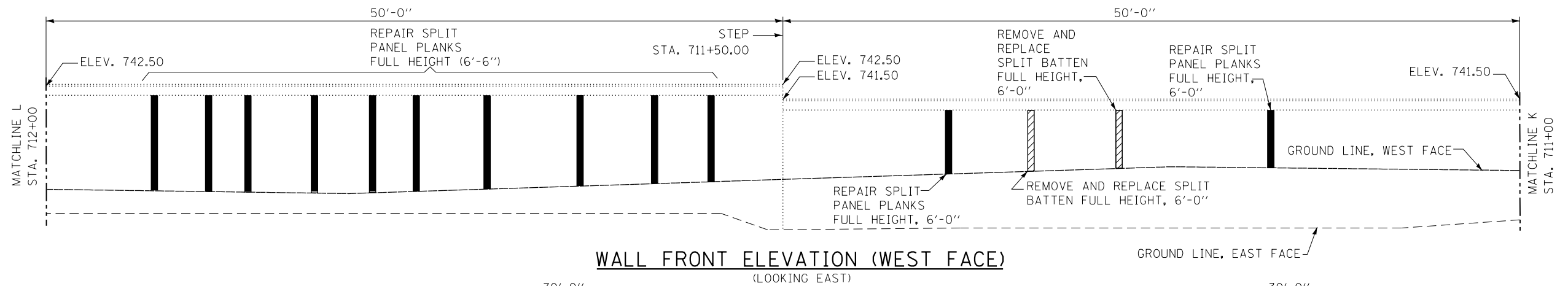


2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 707+00 - STA. 711+00

NWK-11 OF NWK-15
 SHT NO. NWK-11
 DRAWING NO. 1397 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	419
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	239
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	197

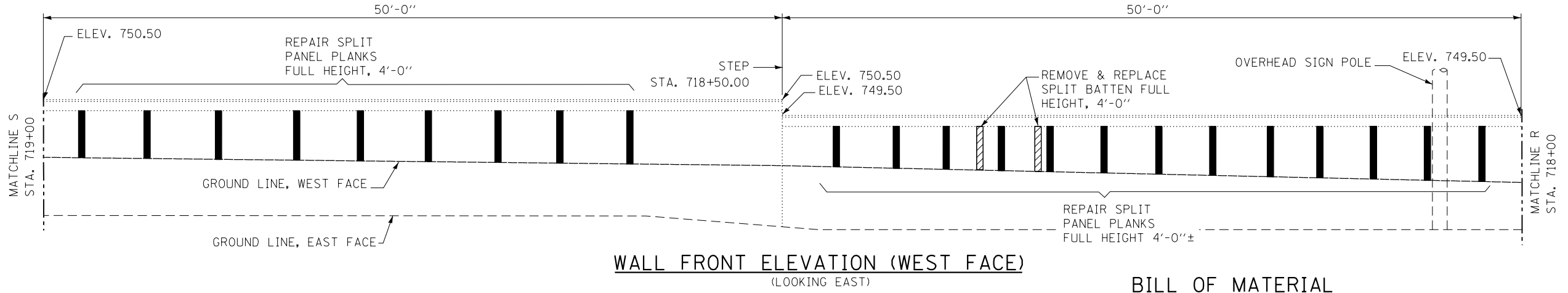
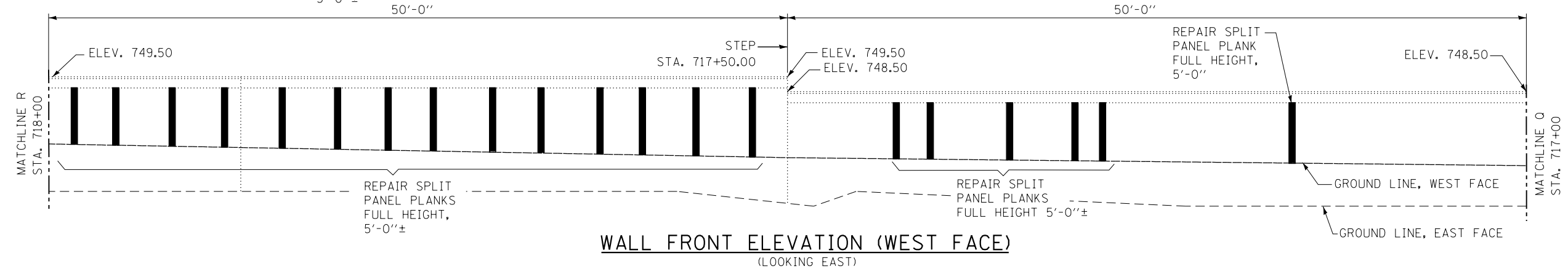
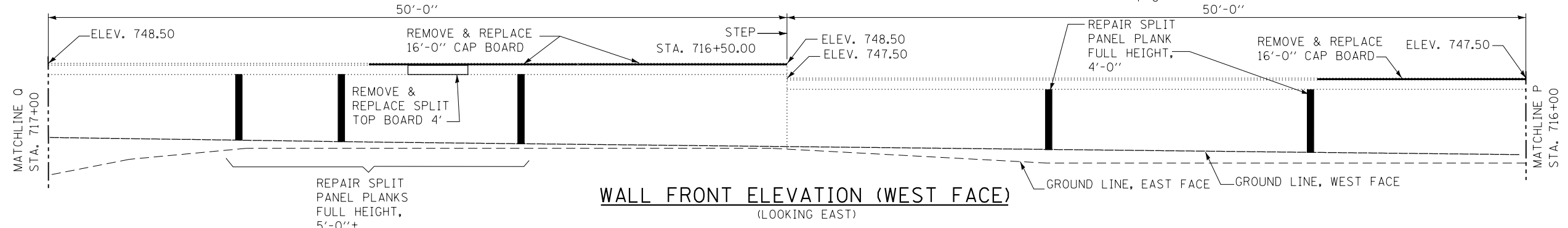
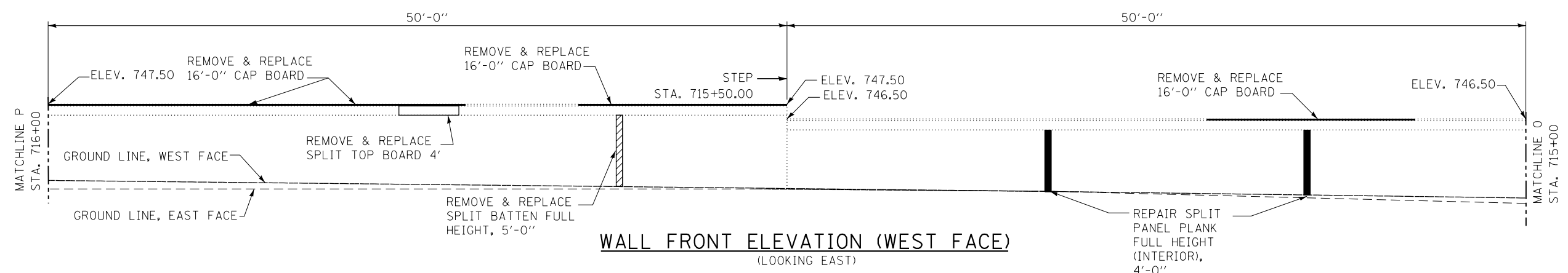
DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 711+00 - STA. 715+00

SHT NO. NWK-12
 DRAWING NO. 1398 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
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- INDICATES PANEL PLANK REPAIR, RETROFIT/SPLICE **

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"
 ** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	351
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	219
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	133

NWK-13 OF NWK-15

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

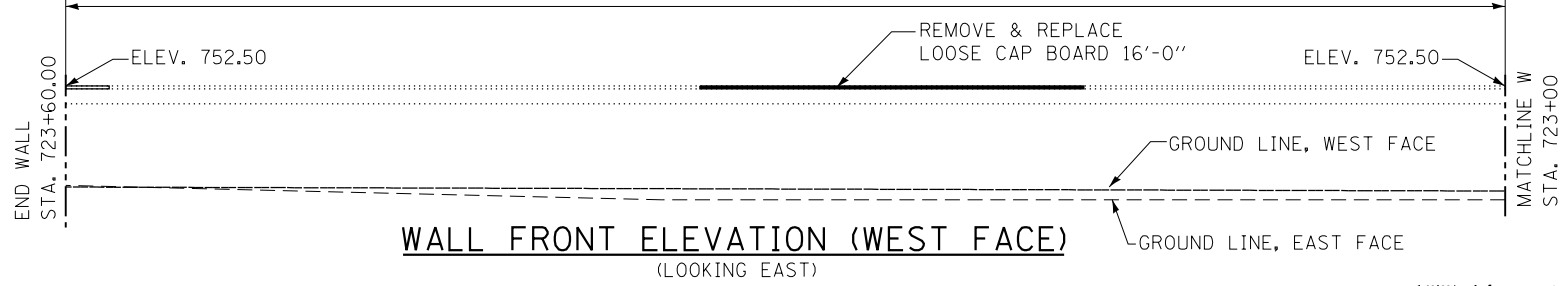
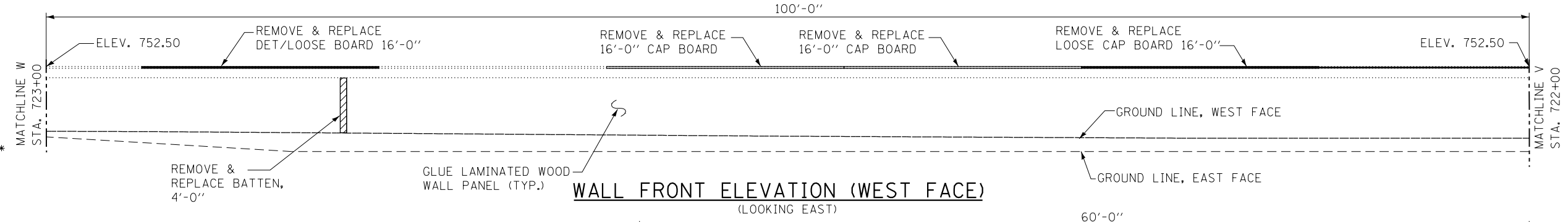
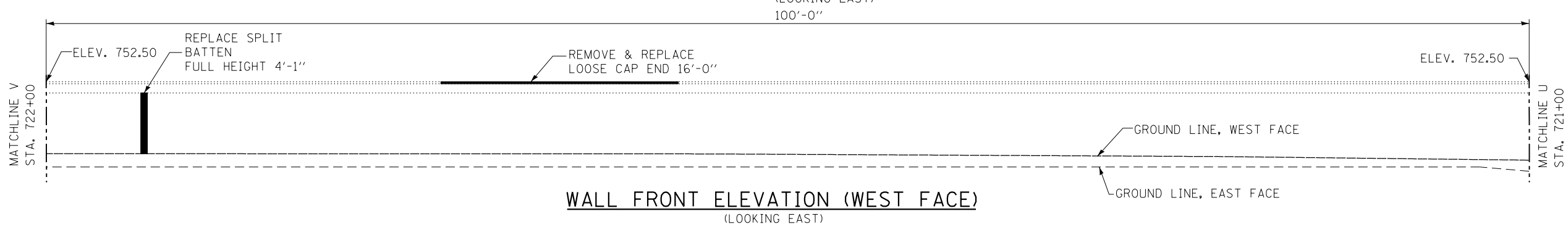
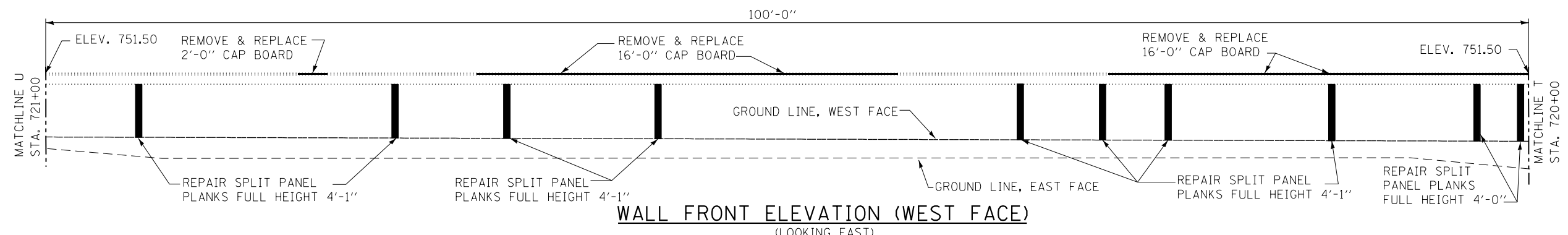
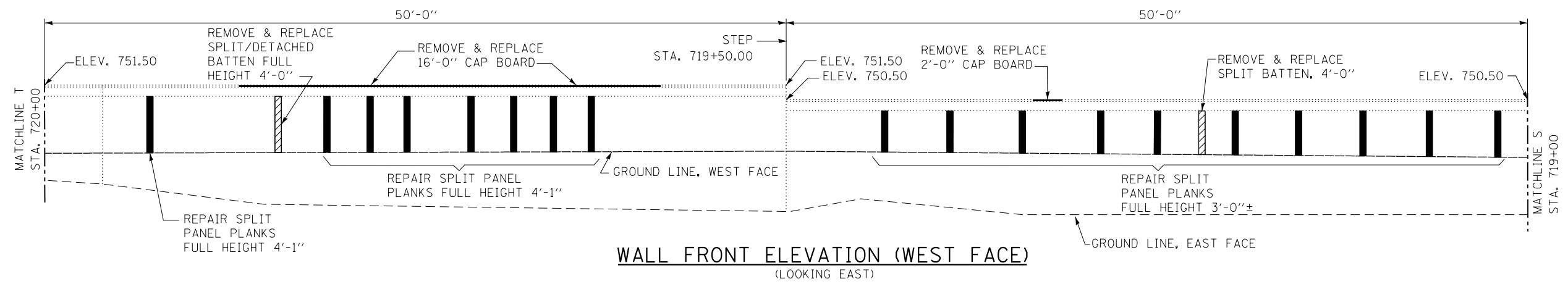


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 715+00 - STA. 719+00

SHT NO. NWK-13
 DRAWING NO. 1399 OF 1517



- NOTE:
1. STATIONING ARE TAKEN ALONG THE FACE OF WALL.
 2. SPLIT PANEL PLANK WITH LESS THAN 1/4" GAP NEED NOT BE REPAIRED, REMOVED OR REPLACED. SPLIT PLANKS WITH GAP EQUAL TO OR GREATER THAN 1/4" SHALL BE REPAIRED PER DETAILS ON SHEET NWK-15.

LEGEND

- INDICATES REMOVAL AND REPLACEMENT OF BATTEN *
- INDICATES REMOVAL AND REPLACEMENT OF CAP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF BOTTOM BOARD OR TOP BOARD *
- INDICATES REMOVAL AND REPLACEMENT OF PANEL PLANK *
- INDICATES PANEL PLANK REPAIR RETROFIT/SPLICE **

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JT131420	PAINTING	SQ. FT.	360
JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	108
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	208

* PAID AS "REMOVE AND REPLACE TREATED TIMBER"

** PAID AS "STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES"

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

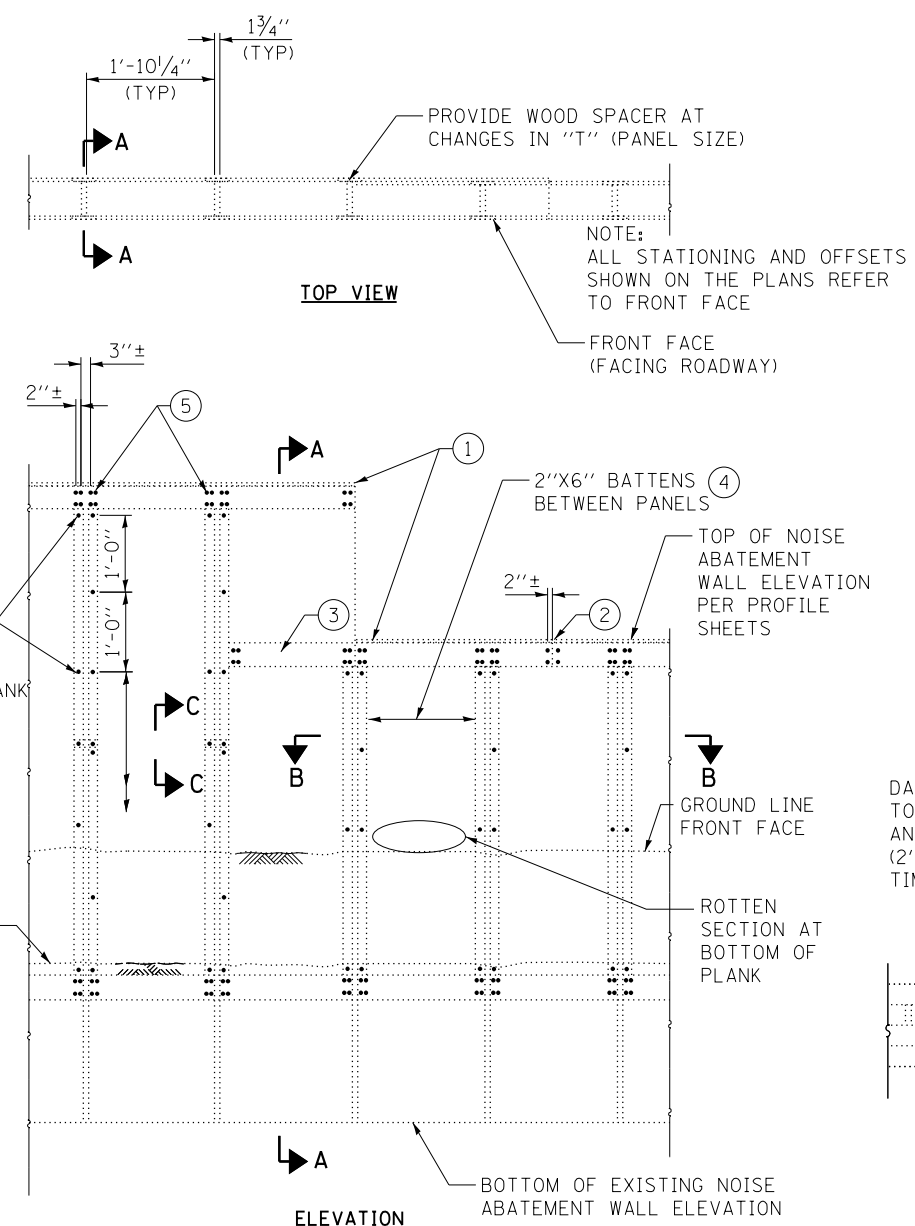


REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 FRONT ELEVATION - STA. 719+00 - STA. 723+60

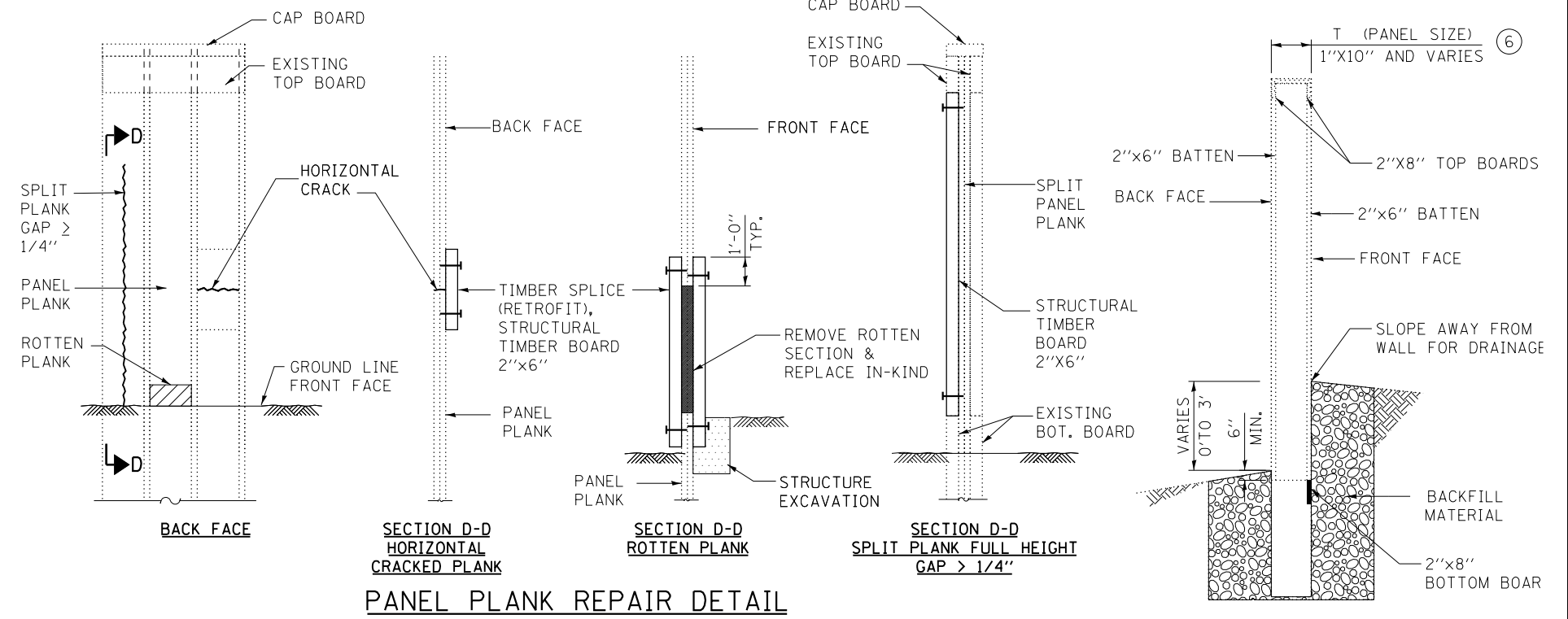
NWK-14 OF NWK-15
 SHT NO. NWK-14
 DRAWING NO. 1400 OF 1517

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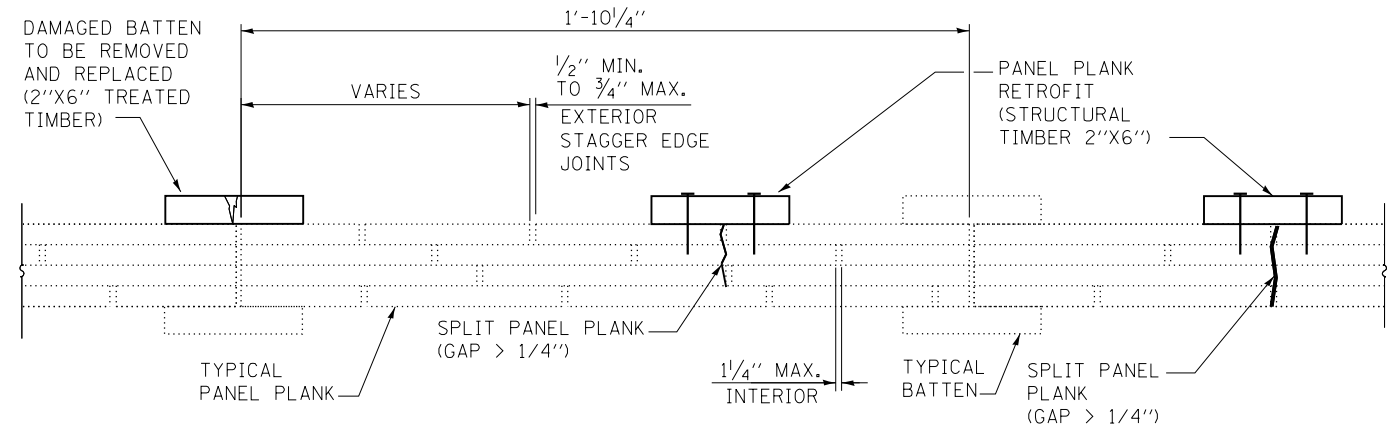


EXISTING WALL DETAILS

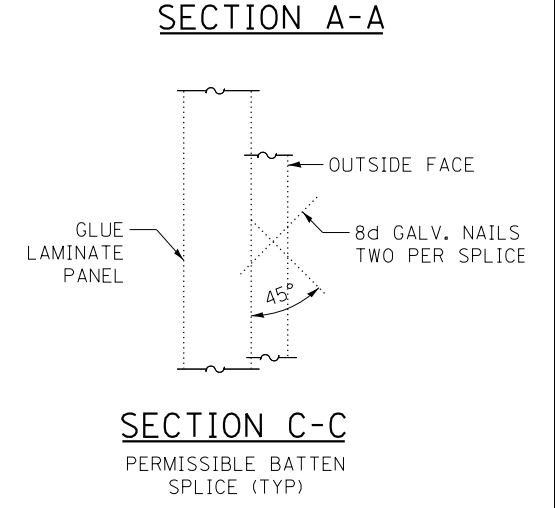
- ① - 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"X8"S WITH FOUR 8d GALVANIZED NAILS PER PANEL. INCIDENTAL TO "REPAIRING EXISTING WOOD NOISE ABATEMENT WALL"
- ② - MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.)
- ③ - OVERLAY 2"X8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ - ON BOTH FACES THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ - EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP). SPACE AS SHOWN.
- ⑥ - PANEL SIZE T VARIES SEE NOISE WALL ABATEMENT WALL ELEVATION.



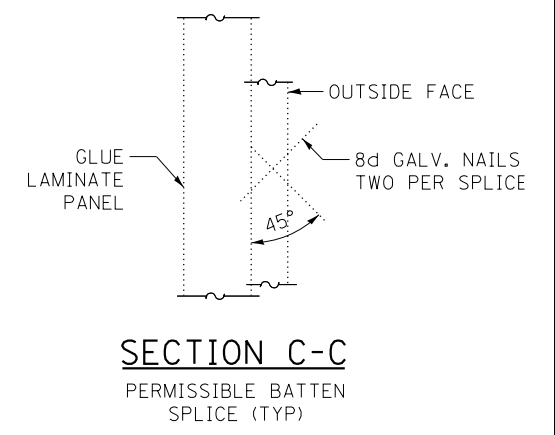
PANEL PLANK REPAIR DETAIL



SECTION B-B



SECTION A-A



SECTION C-C

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114512 - NS19.15N,NB(R)
 TYPICAL REPAIR DETAILS

BENCHMARK:
 CONCRETE MONUMENT WITH BRASS CAP - EL. 723.817 LOCATED IN N.E. 1/4 SEC. 2-38-10 +/- 47' SOUTH
 OF SOUTH EDGE OF EASTBOUND LANE EAST-WEST TOLLWAY +/- 500' WEST OF OVERHEAD POWER LINES

EXISTING STRUCTURE:
 NOISE ABATEMENT WALL NS19.60N,SB(R) DESIGNED IN 1987 UNDER CONTRACT CIP-605. THE WALL IS 884'-0" AND IS COMPOSED
 OF 1"X10" CAP BOARDS, 2"X8" BATTENS, 2"X10" HORIZONTAL BOARDS, AND GLUE LAMINATED PLANKS OF 3 7/16" AND 2 1/16"
 THICKNESS. THE WALL PANELS ARE ANCHORED INTO A TRENCH AND FILLED WITH BACKFILL MATERIAL.

DESIGN SPECIFICATION

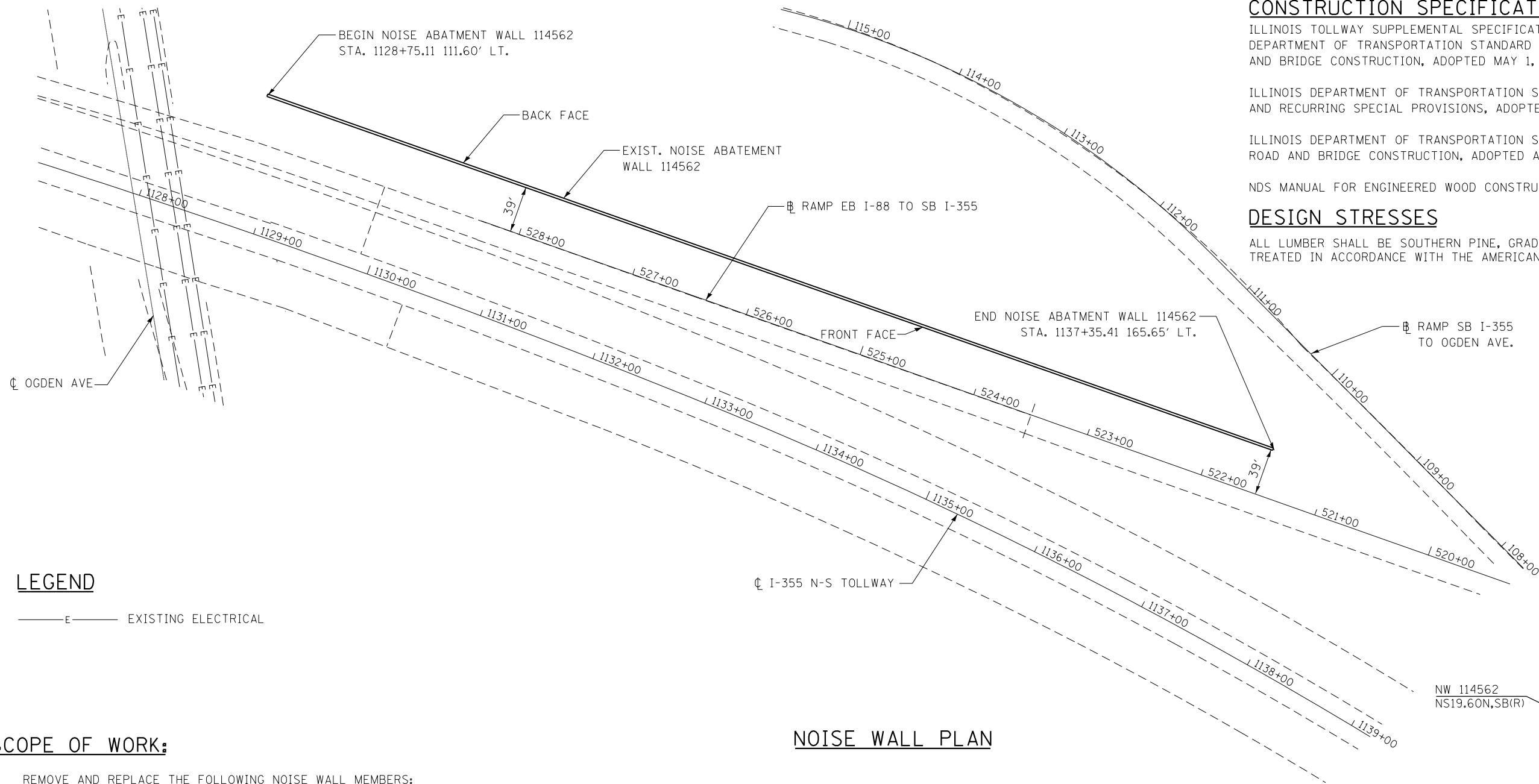
ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.
 ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
 ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDA.
 2002 AASHTO STANDARD SPECIFICATIONS, 17TH EDITION.
 AASHTO STANDARD SPECIFICATION FOR WOOD PRODUCTS, JANUARY 1, 2007.
 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2015 EDITION.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS
 DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS
 AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
 ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2018.
 ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR
 ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016.

DESIGN STRESSES

ALL LUMBER SHALL BE SOUTHERN PINE, GRADE #2 OR BETTER AND PRESSURE
 TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PROTECTION ASSOCIATION.



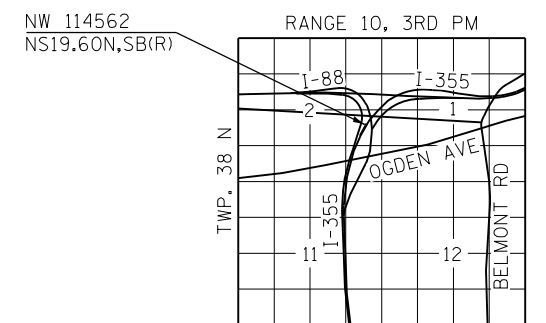
LEGEND

— E — EXISTING ELECTRICAL

SCOPE OF WORK:

- REMOVE AND REPLACE THE FOLLOWING NOISE WALL MEMBERS:
 - DETERIORATED AND ROTTING, LOOSE, DETACHED, WARPING AND SPLITTING CAP AND TOP BOARDS.
 - BROKEN, LOOSE, AND MISSING BATTENS.
- VEGETATION SHALL BE CLEARED FROM THE FRONT AND BACK FACES OF THE ENTIRE LENGTH OF WALL.

NOISE WALL PLAN



LOCATION SKETCH

NWL-01 OF NWL-04

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-16-4255
 NOISE WALL 114562 - NS19.60N,SB(R)
 GENERAL PLAN

SHT NO. NWL-01
 DRAWING NO.
 1402 OF 1517

INDEX OF SHEETS

NWL-01	GENERAL PLAN
NWL-02	GENERAL NOTES, INDEX OF SHEETS, & TOTAL BILL OF MATERIAL
NWL-03	NOISE WALL FRONT & BACK ELEVATION
NWL-04	STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

N.B.	NORTHBOUND
S.B.	SOUTHBOUND
STA.	STATION
ELEV.	ELEVATION
C.I.P.	CAST-IN-PLACE
☉	CENTERLINE
BRG	BEARING
S. ABUT.	SOUTH ABUTMENT
N. ABUT.	NORTH ABUTMENT
TYP.	TYPICAL
MAX.	MAXIMUM
MIN.	MINIMUM
BOT.	BOTTOM
EXIST.	EXISTING
EXP.	EXPANSION
SHLDR	SHOULDER
▬	BASELINE
P.G.L.	PROFILE GRADE LINE
E.F.	EACH FACE
F.F.	FRONT FACE
B.F.	BACK FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
BK.	BACK OF
B/	BOTTOM OF
T/	TOP OF
PROP.	PROPOSED
HP	H-PILE
WF	W-FLANGE
CL.	CLEARANCE
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
L.F.	LINEAR FOOT
CU. FT.	CUBIC FEET
EA	EACH
BIT.	BITUMINOUS
PAV.	PAVEMENT
LT.	LEFT
RT.	RIGHT

GENERAL NOTES

CONSTRUCTION:

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, "STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTIONS OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.
- REPAIRS ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
- WOOD NOISE ABATEMENT WALL SHALL BE THE SAME SPECIES AS THE EXISTING WOOD NOISE ABATEMENT WALL AND BE IN ACCORDANCE WITH THE SPECIAL PROVISION "REMOVE AND REPLACE TREATED TIMBER".

TOTAL BILL OF MATERIAL

SPECIAL PROVISIONS	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORD QUANTITY
*	JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	460**	

* INDICATES SPECIAL PROVISION

** CROSS SECTIONAL AREA OF TIMBERS VARIES. THIS IS NOT A VOLUMETRIC MEASURE IN UNITS OF FOOT BOARD MEASURE (FBM)

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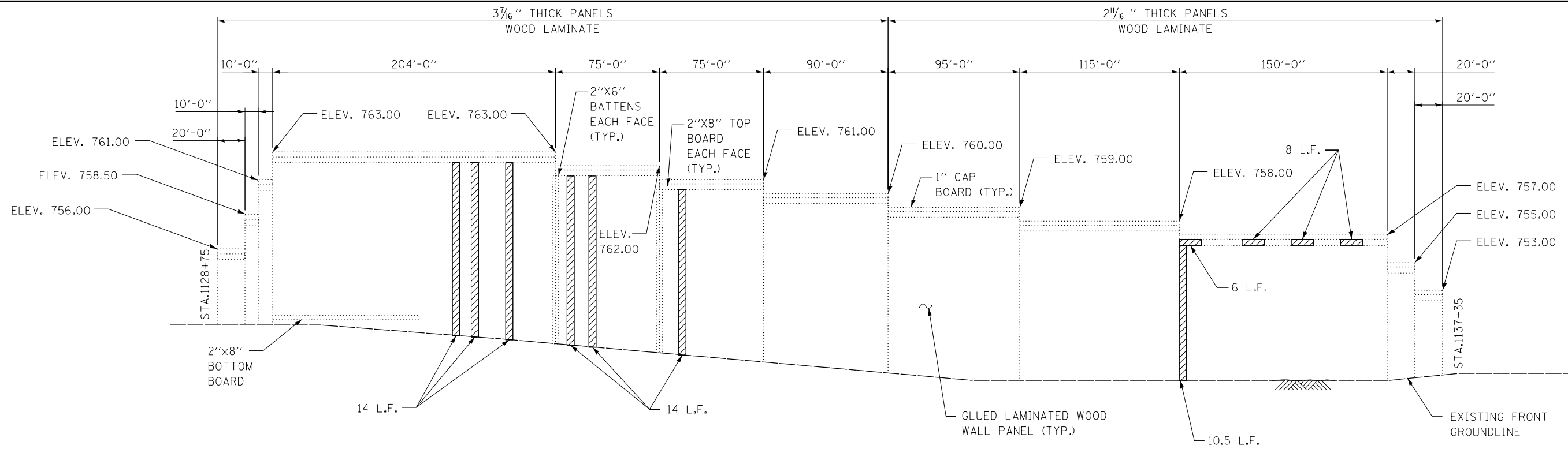
NWL-02 OF NWL-04

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018

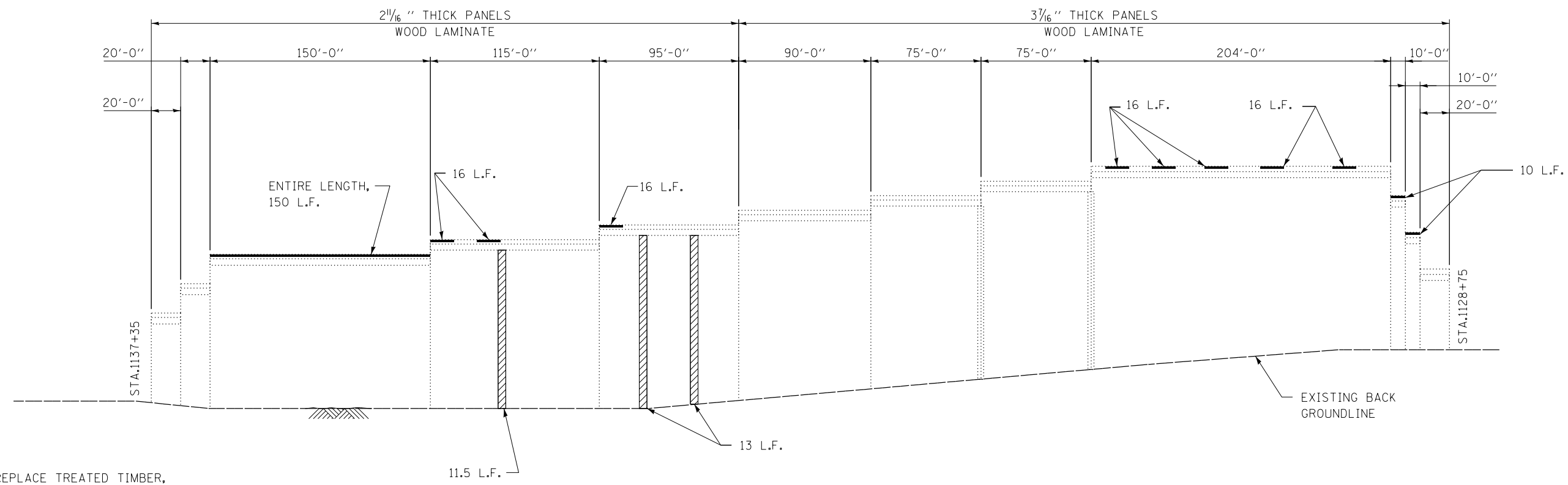


REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. NWL-02
NOISE WALL 114562 - NS19.60N, SB(R)	DRAWING NO. 1403 OF 1517
GEN. NOTES, INDEX OF SHEETS, & T.B.O.M.	



WALL FRONT FACE ELEVATION
(LOOKING WEST)



WALL BACK FACE ELEVATION
(LOOKING EAST)

LEGEND

- REMOVE AND REPLACE TREATED TIMBER, 2"X6" BATTEN
- REMOVE AND REPLACE TREATED TIMBER, 2"X8" TOP/BOTTOM BOARD
- REMOVE AND REPLACE TREATED TIMBER, 1"X10" CAP BOARD

NOTE:
"REMOVE VEGETATION" TO BE APPLIED ALONG THE FRONT AND BACK FACES OF THE WALL.

BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	RECORD QUANTITY
JT900026	REMOVE AND REPLACE TREATED TIMBER	FOOT	460

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

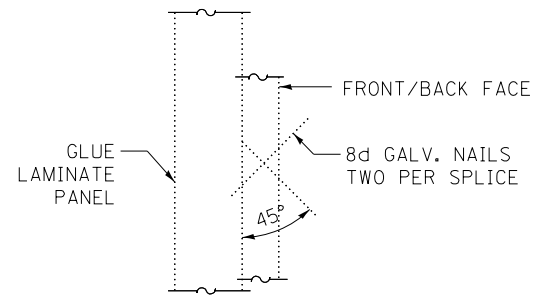
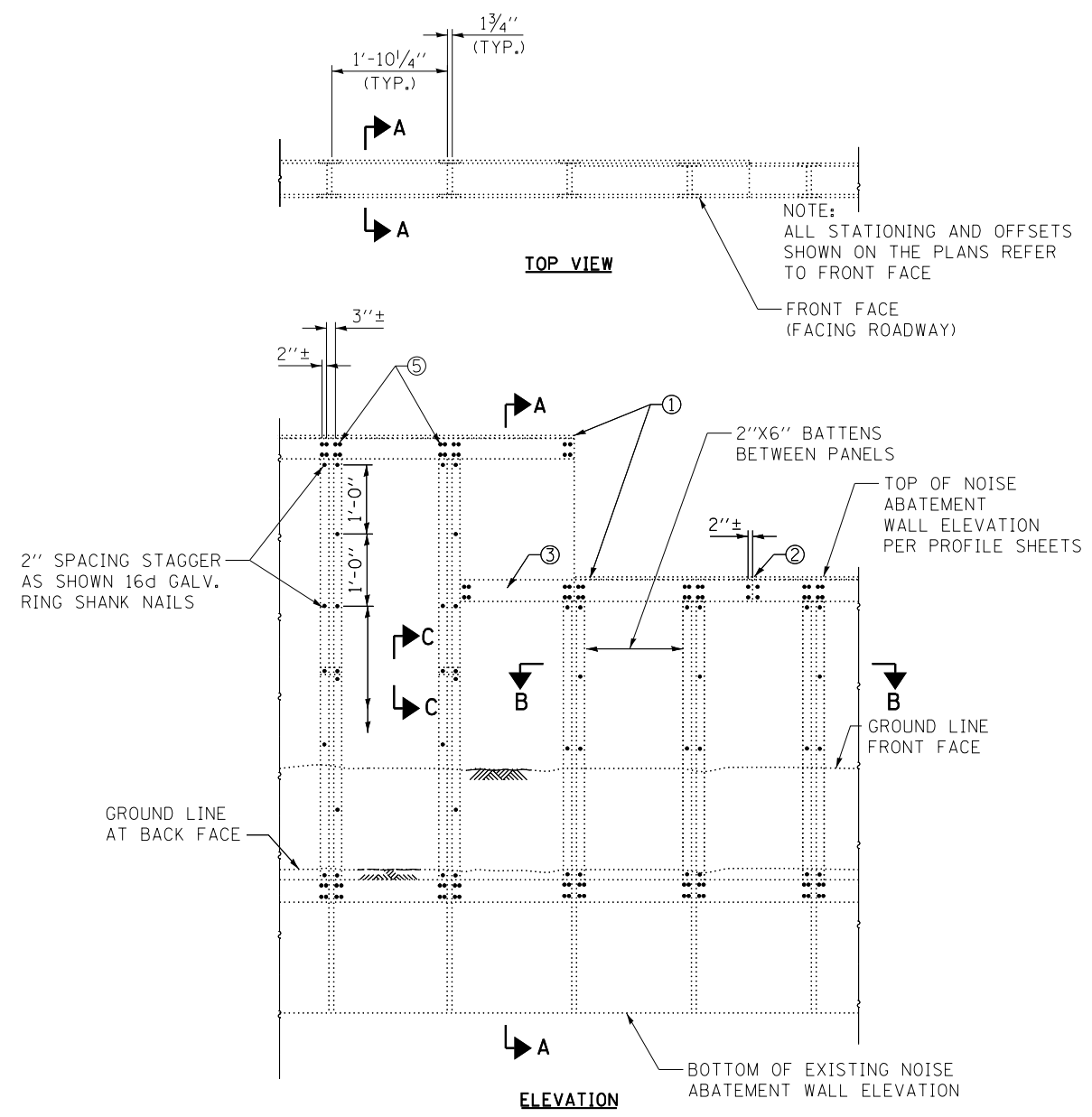


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NO.	DATE

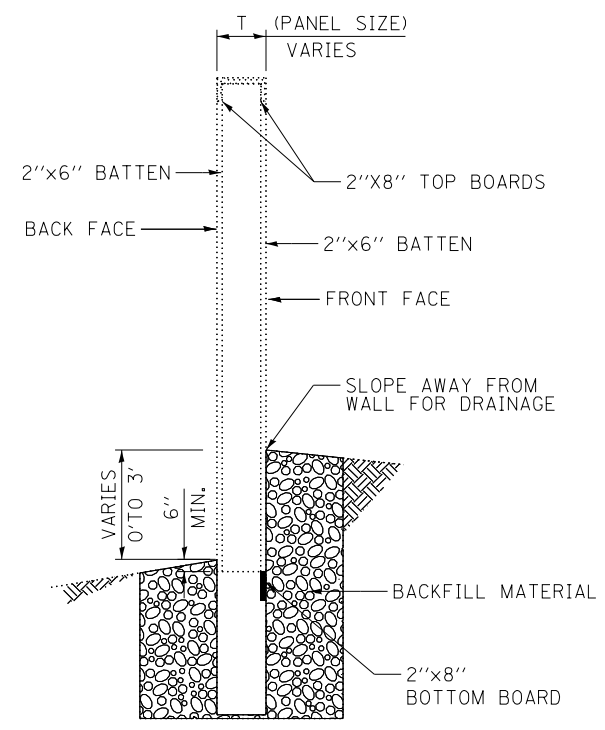
CONTRACT NO. RR-16-4255
NOISE WALL 114562 - NS19.60N,SB(R)
NOISE WALL FRONT & BACK ELEVATION

NWL-03 OF NWL-04
SHT NO. NWL-03
DRAWING NO. 1404 OF 1517

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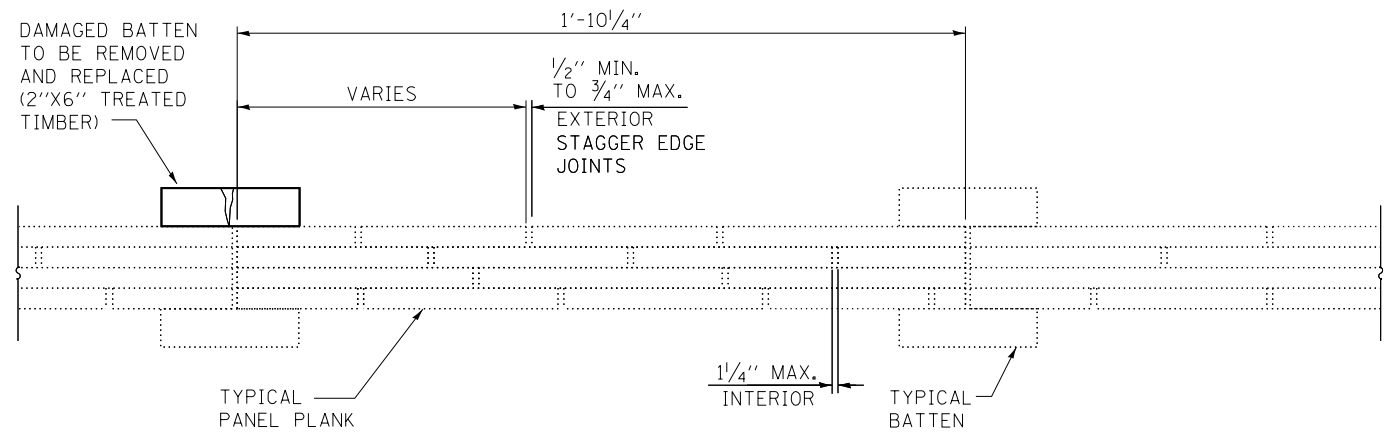
SECTION C-C
PERMISSIBLE BATTEN SPLICE (TYP.)



SECTION A-A

EXISTING WALL DETAILS

- ① - 1" NOM. CAP BOARD TO COVER TOP OF PANEL AND TOP BOARDS. FASTEN TO 2"x8"s WITH FOUR 8d GALVANIZED NAILS PER PANEL. INCIDENTAL TO "REMOVE AND REPLACE TREATED TIMBER"
- ② - MINIMUM DISTANCE BETWEEN OPPOSITE SPLICES IN TOP BOARD IS TO BE 4 FT. AND APPROX. CENTERED ON PANEL. FOUR 16d GALV. RING SHANK NAILS PER SPLICE (TYP.)
- ③ - OVERLAY 2"x8" TOP BOARD WHEN CHANGING WALL HEIGHTS AS SHOWN.
- ④ - ON BOTH FACES THE BATTENS SHALL BE PLACED ON EVERY OPENING BETWEEN PANELS.
- ⑤ - EIGHT 16d GALV. RING SHANK NAILS PER PANEL TOP AND BOTTOM (TYP.) SPACE AS SHOWN.



SECTION B-B

NWL-04 OF NWL-04

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 NOISE WALL 114562 - NS19.60N,SB(R)
 STANDARD REPAIR DETAILS

SHT NO. NWL-04
 DRAWING NO.
 1405 OF 1517

BENCHMARK:
CUT "X" IN NM BOLT OF LIGHT POLE BASE WITH SIGN THAT READS ("7 DAYS TO PAY"). STA. ± 872+79.92' RT. ELEV. 759.98

EXISTING STRUCTURE:
THE RETAINING WALL WAS ORIGINALLY BUILT IN 1997 UNDER CONTRACT CIP 93-700P. THE WALL CONSISTS OF 32 - 36 INCH CONCRETE DRILLED SHAFT POSTS SPACED AT 9'-6" ON CENTERS AND PRECAST CONCRETE PANELS. THE CONCRETE PANELS, 7.5 FT. LONG AND 5 INCH THICK, ARE CONNECTED TO THE POSTS THRU AN 8" GROUDED GROOVE IN THE POST. THE WALL HAS AN 8.5 FT. MAXIMUM EXPOSED HEIGHT AND A MAXIMUM POST LENGTH OF 30 FT. NO TREATMENT AT THE TOP OF THE WALL WAS PROVIDED. PAVED DITCH WAS PROVIDED IN THE BACK OF THE WALL. THE WALL LENGTH AS SHOWN ON EXISTING PLANS IS 75.00 FEET ON THE SOUTH SIDE OF THE CONTROL BUILDING AND 227.00 FEET ON THE NORTH SIDE.

DESIGN SPECIFICATION

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP's)

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JAN. 1, 2018.

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

DESIGN STRESSES

EXISTING CONSTRUCTION

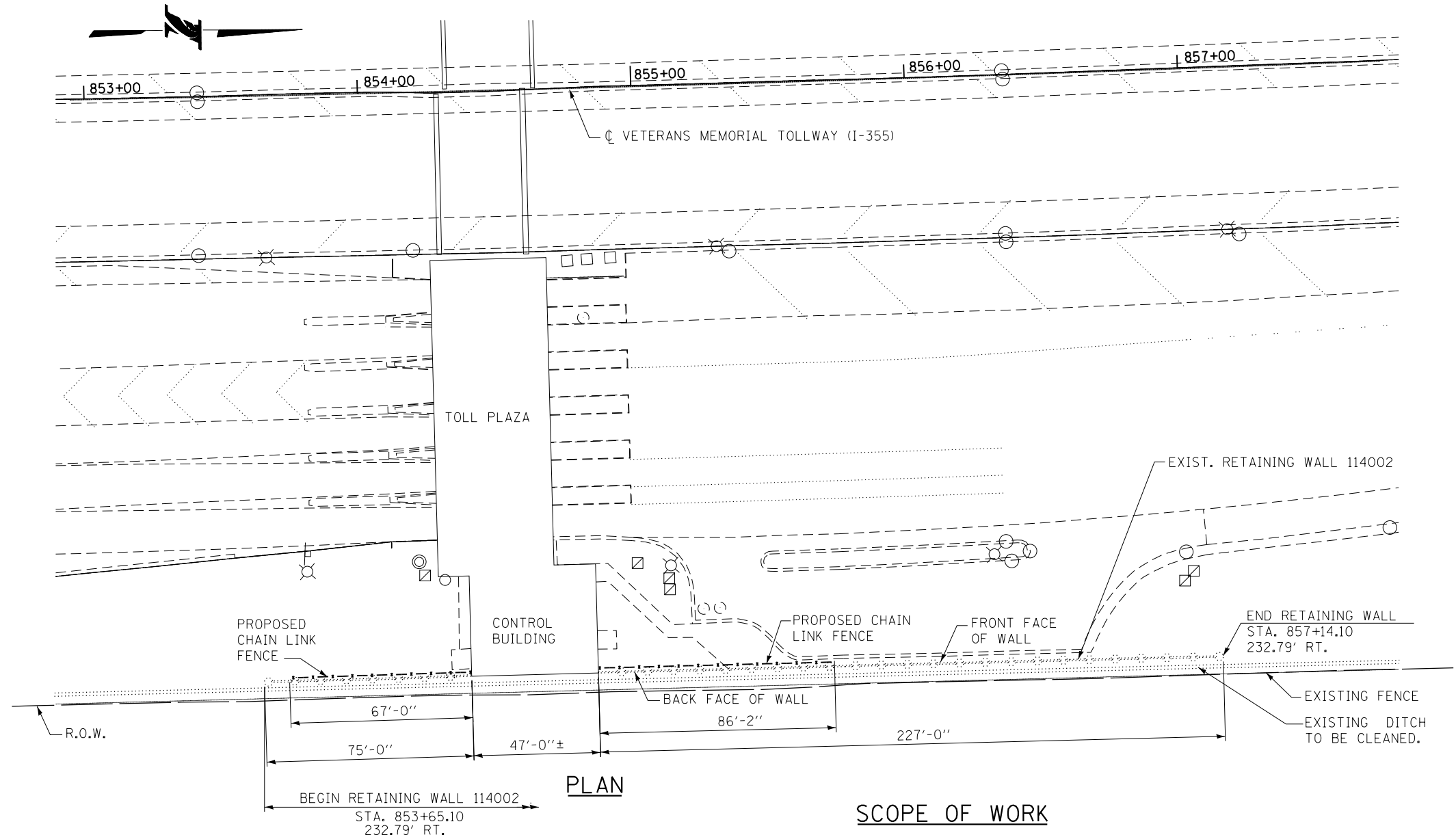
f'c = 3,500 PSI (CAST IN PLACE CONCRETE)
f'c = 4,000 PSI (PRECAST CONCRETE PANELS)
f'y = 60,000 PSI (REINFORCEMENT BARS)

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - RETAINING WALL REPAIR)
f'y = 60,000 PSI (REINFORCEMENT BARS)

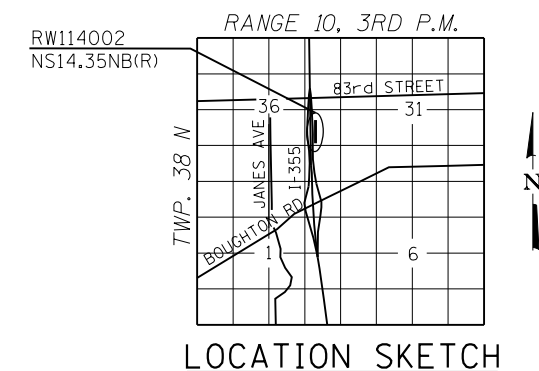
DESIGN LOADING (EXISTING)

LIVE LOAD: 2' SOIL SURCHARGE
SOIL LOAD: 55 PCF EQUIVALENT FLUID PRESSURE



SCOPE OF WORK

1. PROVIDE CHAIN LINK FENCE IN FRONT OF PANELS 2 THRU 17.
2. SEAL ALL CRACKS WITH EFFLORESCENCE AND THOSE LARGER THAN 1/16" IN THE CONCRETE POSTS.
3. REPAIR ALL SPALLS USING "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.).
4. REMOVE VEGETATION WITHIN 2 FT. FROM THE FRONT AND BACK FACES OF THE ENTIRE LENGTH OF WALL TO IMPROVE DRAINAGE.
5. CLEAN THE PAVED DITCH BEHIND THE WALL.
6. REMOVE AND RE-GROUT SPALLED GROUT BETWEEN THE PANEL AND THE POST AT THE 8-INCH GROOVE.



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DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018

Primera
100 S. Wacker Drive, Suite 700 • Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114002 - NS14.35R,NB(R)
GENERAL PLAN

RWA-01 OF RWA-04
SHT NO. RWA-01
DRAWING NO. 1406 OF 1517

INDEX OF SHEETS

- RWA-01 GENERAL PLAN
- RWA-02 GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- RWA-03 RETAINING WALL FRONT & BACK ELEVATIONS
- RWA-04 RETAINING WALL REPAIR DETAILS

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- BK/ BACK OF
- B/ BOTTOM OF
- BOT. BOTTOM
- C.I.P. CAST-IN-PLACE
- CL CENTERLINE
- CU. FT. CUBIC FEET
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- EXP. EXPANSION
- E.F. EACH FACE
- F.F. FRONT FACE
- I.F. INSIDE FACE
- L.F. LINEAR FOOT
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- O.F. OUTSIDE FACE
- P.G.L. PROFILE GRADE LINE
- P.J.F. PREFORMED JOINT FILLER
- PROP. PROPOSED
- S.B. SOUTHBOUND
- S.P. SPECIAL PROVISION
- STA. STATION
- SHLDR SHOULDER
- S.F. SQUARE FOOT
- SQ. FT. SQUARE FOOT
- SQ. YD. SQUARE YARD
- SY SQUARE YARD
- TYP. TYPICAL

GENERAL NOTES

1. PLAN DIMENSIONS, ELEVATIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS, ELEVATIONS AND DETAILS IN THE FIELDS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION NOR EXTENSION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK PERFORMED.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E. 811.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATION OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE".
6. THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
7. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.
8. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GRAY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "CONCRETE REMOVAL"
9. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.
10. REPAIR SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
11. CONCRETE SEALANT SHALL BE APPLIED TO ALL EXPOSED SURFACE OF CONCRETE POST AS SHOWN IN SECTION B-B ON SHEET RWA-04.
12. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR CHAIN LINK FENCE FOR APPROVAL BY THE ENGINEER BEFORE FABRICATION.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORD QUANTITY
	66400105	CHAIN LINK FENCE, 4'	FOOT	154	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	7	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	13	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	524	
*	JT900105	DITCH CLEANING	FOOT	352	

- * INDICATES SPECIAL PROVISION
- ** INDICATES ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION

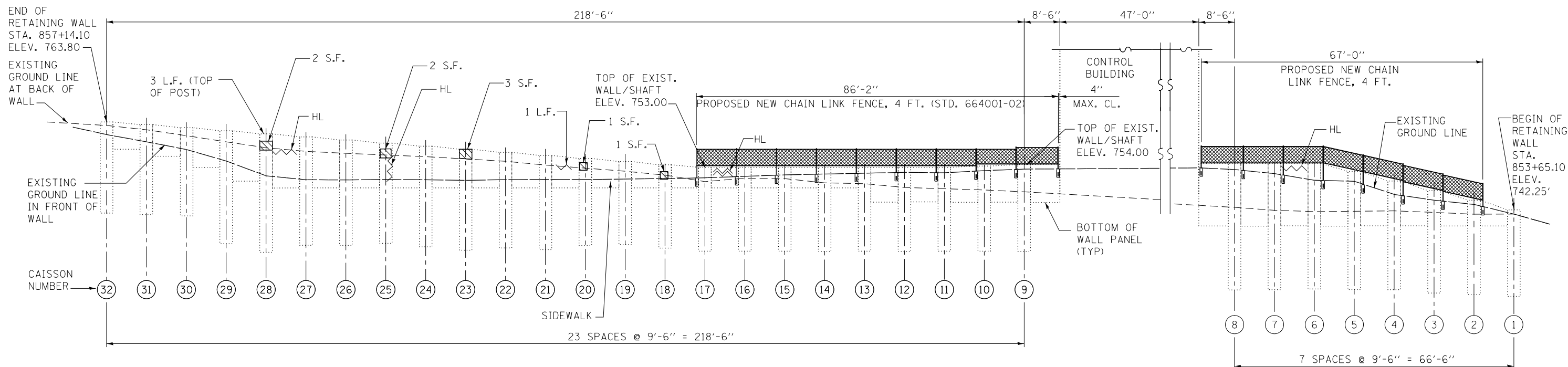
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DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. RWA-02
 RETAINING WALL 114002 - NS14,35R,NB(R) DRAWING NO.
 GENERAL NOTES INDEX OF SHEETS & T.B.O.M. 1407 OF 1517



WALL FRONT ELEVATION
(LOOKING EAST)

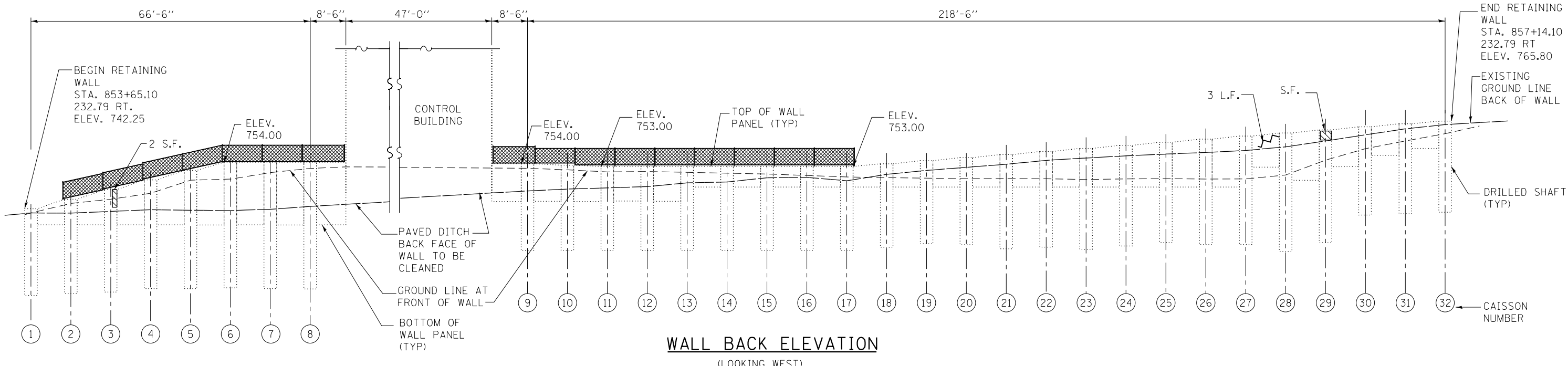
BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	PLAN QUANTITY
66400105	CHAIN LINK FENCE, 4'	FOOT	154
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	7
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JT524010	APPLY CONCRETE SEALANT	SQ. FT.	524
JT900105	DITCH CLEANING	FOOT	352

LEGEND

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. CRACK LARGER THAN 1/16" (LOW PRESSURE EPOXY INJECTION)
- HL HAIRLINE CRACK WITH EFFLORESCENCE (LOW PRESSURE EPOXY INJECTION)

- NOTES:
- "REMOVE VEGETATION" TO BE APPLIED TO THE FRONT AND BACK FACES OF THE WALL.



WALL BACK ELEVATION
(LOOKING WEST)

RWA-03 OF RWA-04

DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018

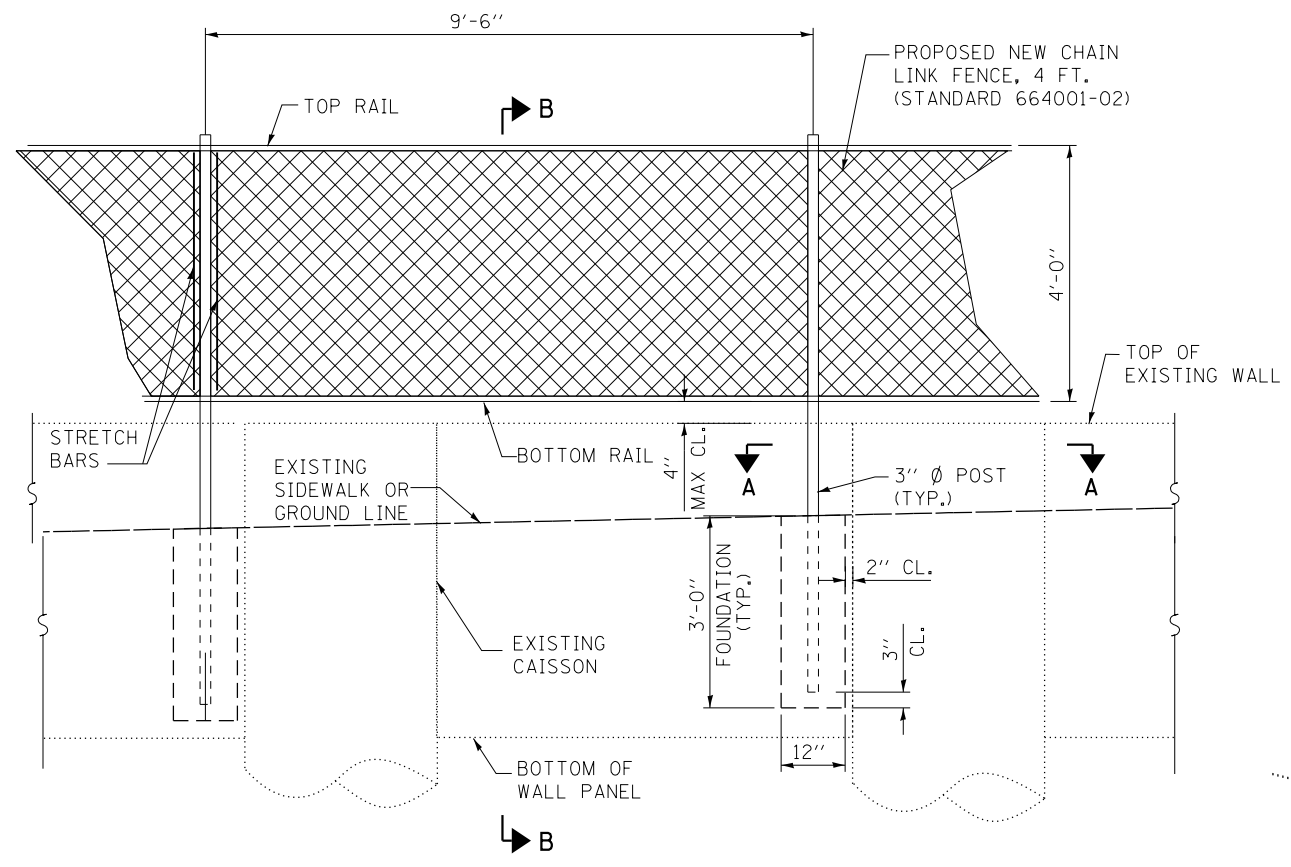


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

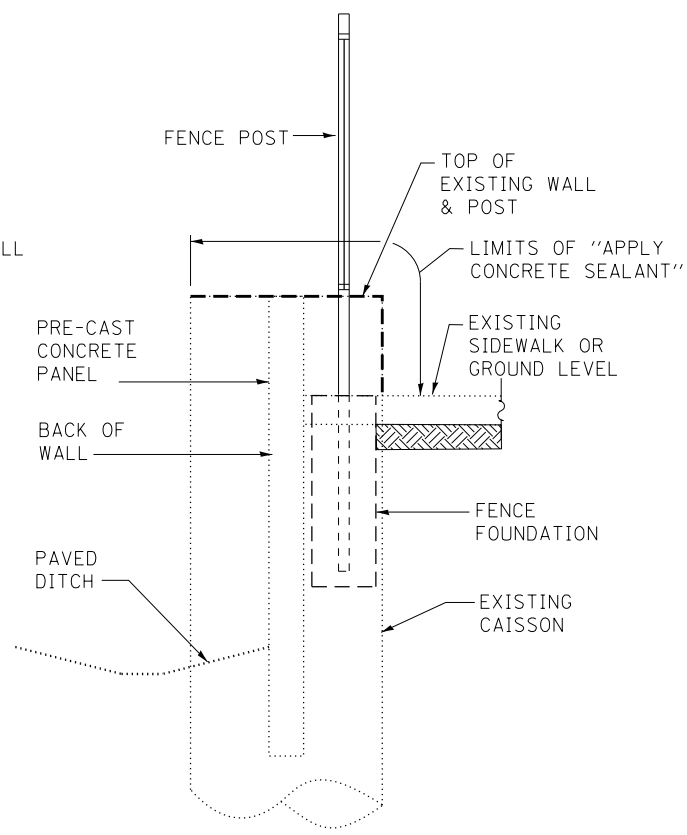
CONTRACT NO. RR-16-4255
RETAINING WALL 114002 - NS14.35R,NB(R)
RETAINING WALL FRONT & BACK ELEVATIONS

SHT NO. RWA-03
DRAWING NO. 1408 OF 1517

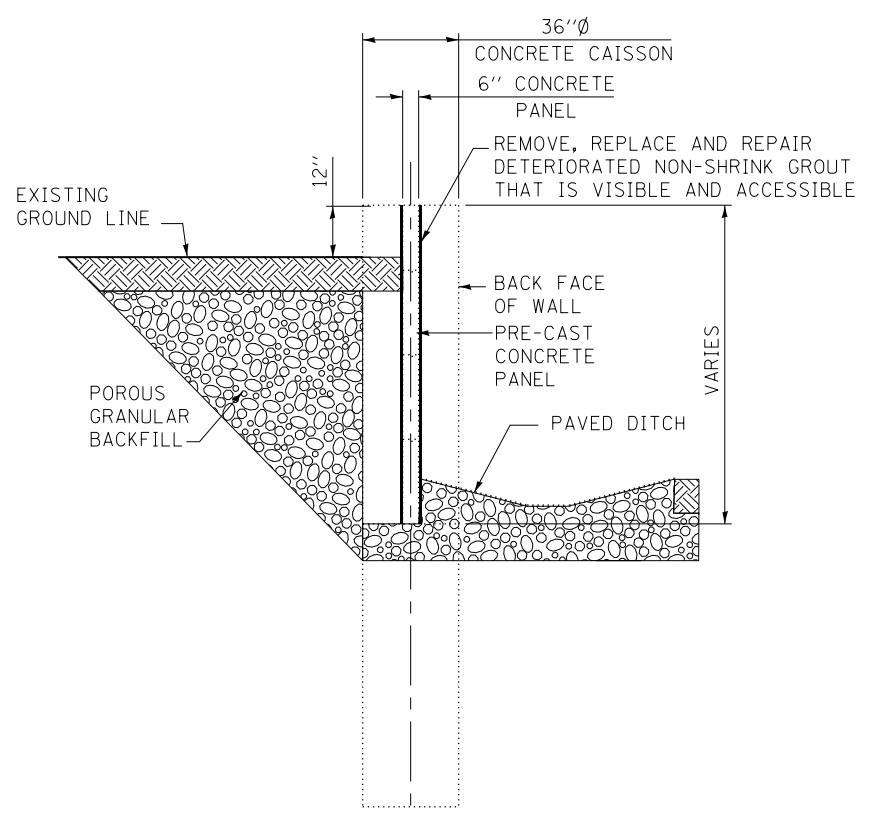


CHAIN LINK FENCE DETAIL

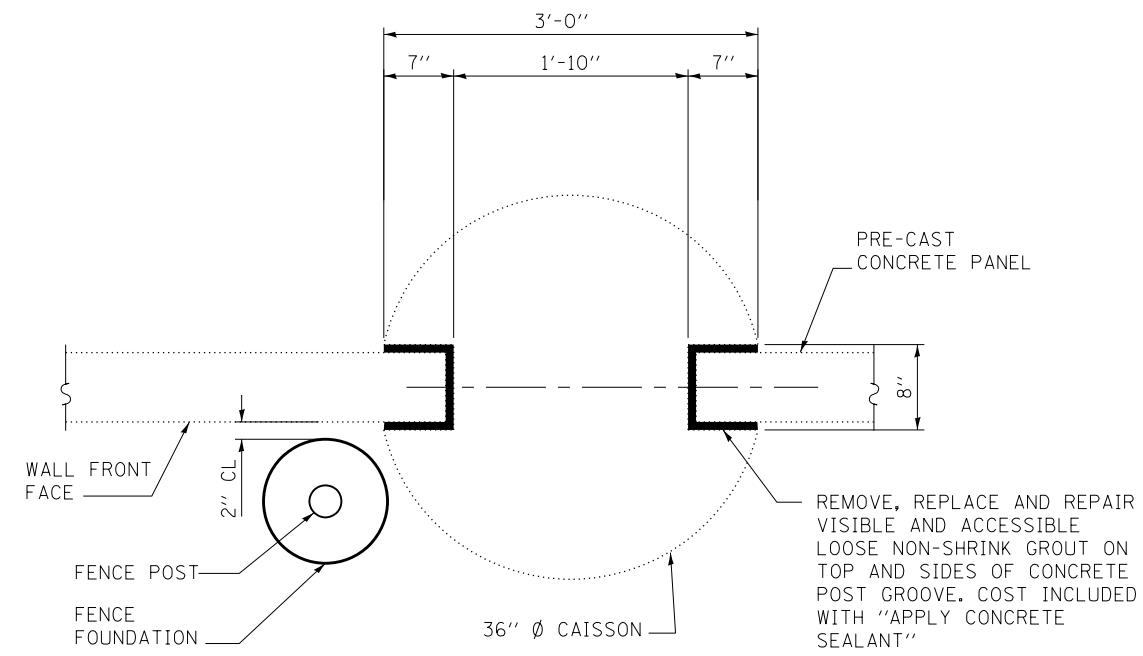
NOTE: CONCRETE SEALANT SHALL BE APPLIED TO ALL EXPOSED SURFACE OF CONCRETE POST.



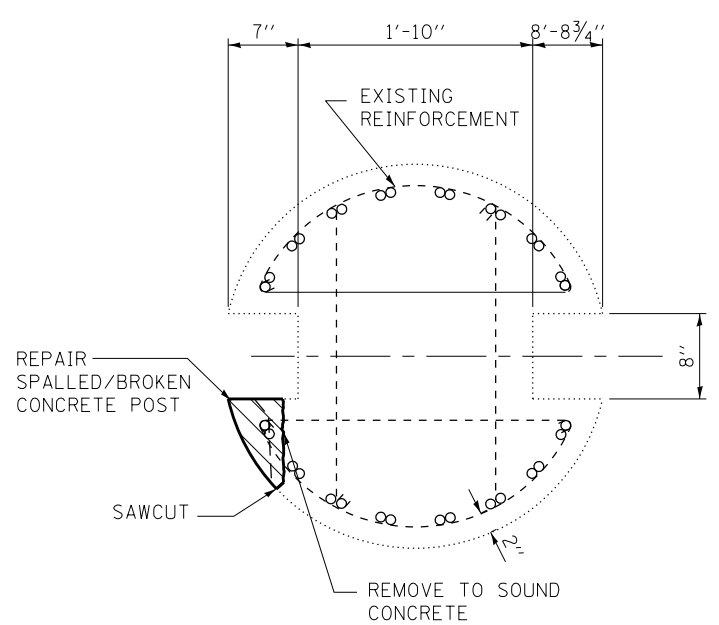
SECTION B-B



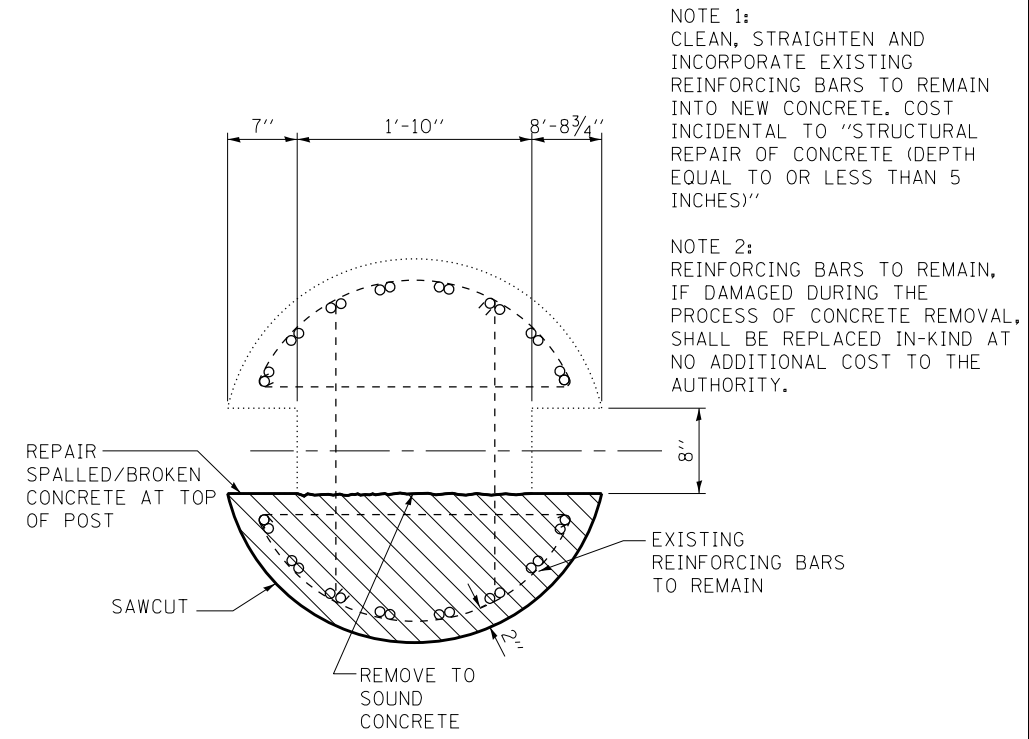
TYPICAL WALL SECTION



SECTION A-A



CAISSON REPAIR AT MID-SECTION



CAISSON REPAIR AT TOP

(TYP. FOR CONCRETE POST WITH BROKEN OR SPALLED TOP)

NOTE 1:
CLEAN, STRAIGHTEN AND INCORPORATE EXISTING REINFORCING BARS TO REMAIN INTO NEW CONCRETE. COST INCIDENTAL TO "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)"

NOTE 2:
REINFORCING BARS TO REMAIN, IF DAMAGED DURING THE PROCESS OF CONCRETE REMOVAL, SHALL BE REPLACED IN-KIND AT NO ADDITIONAL COST TO THE AUTHORITY.

LEGEND

STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Wall\Sh1\4255-sh1-114002-wall-PEL04.dgn
 100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**



REVISIONS	
NO.	DESCRIPTION

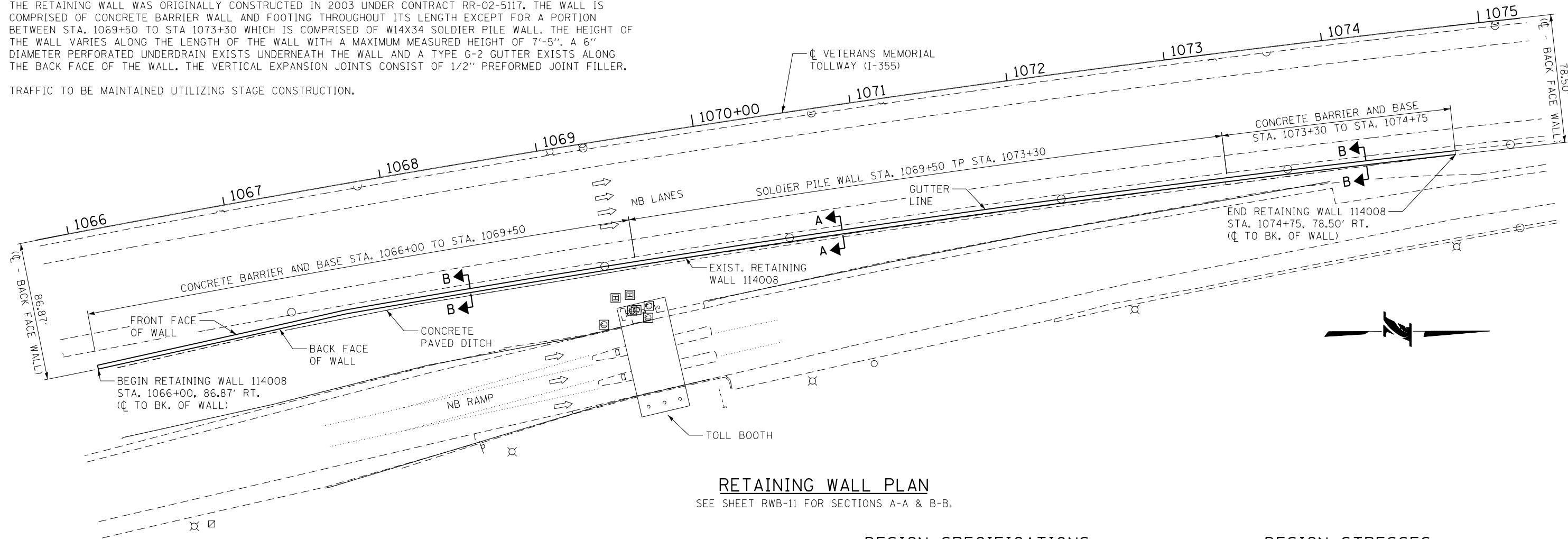
CONTRACT NO. **RR-16-4255**
RETAINING WALL 114002 - NS14,35R,NB(R)
RETAINING WALL REPAIR DETAILS

RWA-04 OF RWA-04
 SHT NO. **RWA-04**
 DRAWING NO. **1409** OF **1517**

BENCH MARK:
CHISELED "SQUARE" IN TOP OF CONCRETE BRIDGE WALL AT SOUTHEAST CORNER OF MAPLE AVENUE BRIDGE OVER I-355.
ELEV. = 755.42'.

EXISTING STRUCTURE:
THE RETAINING WALL WAS ORIGINALLY CONSTRUCTED IN 2003 UNDER CONTRACT RR-02-5117. THE WALL IS COMPRISED OF CONCRETE BARRIER WALL AND FOOTING THROUGHOUT ITS LENGTH EXCEPT FOR A PORTION BETWEEN STA. 1069+50 TO STA 1073+30 WHICH IS COMPRISED OF W14X34 SOLDIER PILE WALL. THE HEIGHT OF THE WALL VARIES ALONG THE LENGTH OF THE WALL WITH A MAXIMUM MEASURED HEIGHT OF 7'-5". A 6" DIAMETER PERFORATED UNDERDRAIN EXISTS UNDERNEATH THE WALL AND A TYPE G-2 GUTTER EXISTS ALONG THE BACK FACE OF THE WALL. THE VERTICAL EXPANSION JOINTS CONSIST OF 1/2" PREFORMED JOINT FILLER.

TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.



RETAINING WALL PLAN
SEE SHEET RWB-11 FOR SECTIONS A-A & B-B.

SCOPE OF WORK

1. REPAIR DELAMINATED/SPALLED CONCRETE WITH STRUCTURAL REPAIR OF CONCRETE.
2. SEAL ALL CRACKS 1/16" OR LARGER WITH LOW PRESSURE EPOXY INJECTION.
3. APPLY CONCRETE SEALANT TO THE TOP, TRAFFIC FACE AND BACK FACE OF THE WALL.

LEGEND

- EXISTING CATCH BASIN LOCATION
- ⊠ EXISTING HANDHOLD
- ⊗ EXISTING LIGHT POLE

DESIGN SPECIFICATIONS

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.
2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.
ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

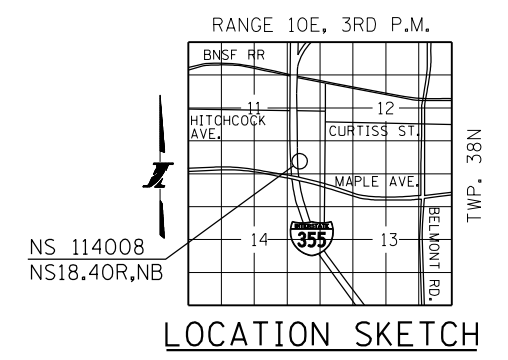
CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).
ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2016.

DESIGN STRESSES

EXISTING CONSTRUCTION
f'c = 4,000 PSI (CLASS SI)
fy = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION
f'c = 3,500 PSI (CLASS SI - CONCRETE REPAIRS)
fy = 60,000 PSI (REINFORCEMENT)



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DRAWN BY	MMZ	DATE	3/11/2018
CHECKED BY	MMH	DATE	3/11/2018



REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-16-4255
RETAINING WALL 114008 - NS18.40R,NB
GENERAL PLAN

SHT NO. RWB-01
DRAWING NO.
1410 OF 1517

INDEX OF SHEETS

- RWB-01 GENERAL PLAN
- RWB-02 GENERAL NOTES & T.B.O.M.
- RWB-03 RETAINING WALL ELEVATION 1
- RWB-04 RETAINING WALL ELEVATION 2
- RWB-05 RETAINING WALL ELEVATION 3
- RWB-06 RETAINING WALL ELEVATION 4
- RWB-07 RETAINING WALL ELEVATION 5
- RWB-08 RETAINING WALL ELEVATION 6
- RWB-09 RETAINING WALL ELEVATION 7
- RWB-10 RETAINING WALL ELEVATION 8
- RWB-11 STANDARD REPAIR DETAILS

ABBREVIATIONS

- N.B. NORTHBOUND
- S.B. SOUTHBOUND
- STA. STATION
- ELEV. ELEVATION
- C.I.P. CAST-IN-PLACE
- CL CENTERLINE
- BRG BEARING
- S. ABUT. SOUTH ABUTMENT
- N. ABUT. NORTH ABUTMENT
- TYP. TYPICAL
- MAX. MAXIMUM
- MIN. MINIMUM
- BOT. BOTTOM
- EXIST. EXISTING
- EXP. EXPANSION
- JT. JOINT
- SHLDR SHOULDER
- BL BASELINE
- P.G.L. PROFILE GRADE LINE
- E.F. EACH FACE
- F.F. FRONT FACE
- B.F. BACK FACE
- I.F. INSIDE FACE
- O.F. OUTSIDE FACE
- P.J.F. PREFORMED JOINT FILLER
- P.J.S. PREFORMED JOINT SEALER
- BK. BACK OF
- B/ BOTTOM OF
- T/ TOP OF
- PROP. PROPOSED
- HP H-PILE
- WF W-FLANGE
- CL. CLEARANCE
- SQ. FT. OR S.F. SQUARE FOOT
- SQ. YD. SQUARE YARD
- L.F. LINEAR FOOT
- CU. FT. CUBIC FEET
- EA EACH
- BIT. BITUMINOUS
- PAV. PAVEMENT

GENERAL NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
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4. NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
7. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)."
8. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
9. CONCRETE SEALER SHALL BE APPLIED TO THE TRAFFIC FACE, TOP AND BACKSIDE OF THE RETAINING WALL. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
10. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	DESCRIPTION	UNIT	PLAN QUANTITY	RECORDED QUANTITY
*	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	413	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)	SQ. FT.	10	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	8,076	

* INDICATES SPECIAL PROVISION

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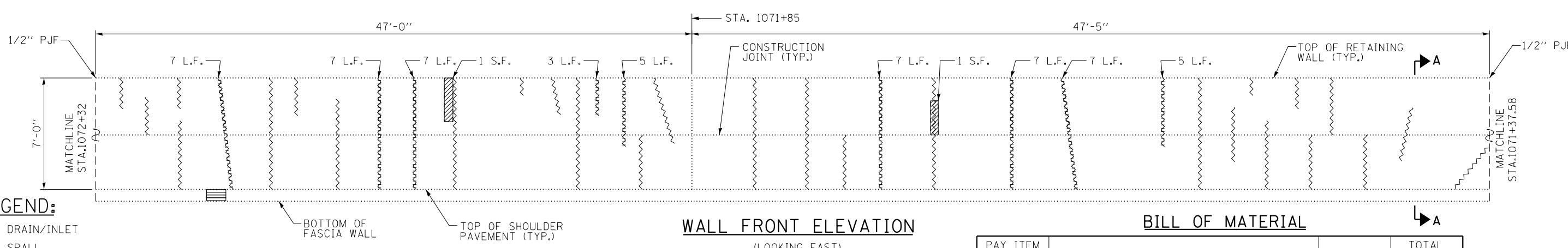
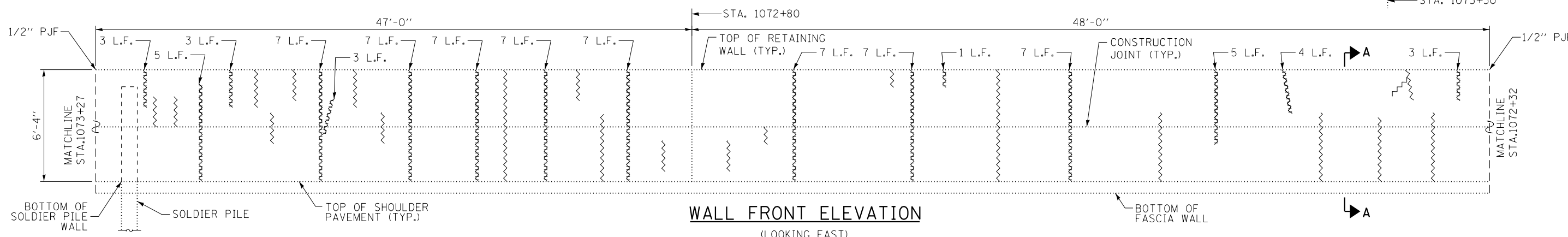
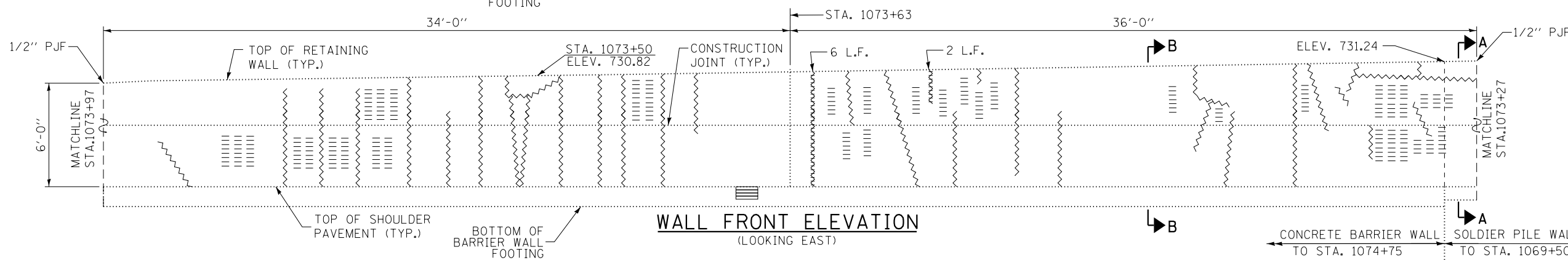
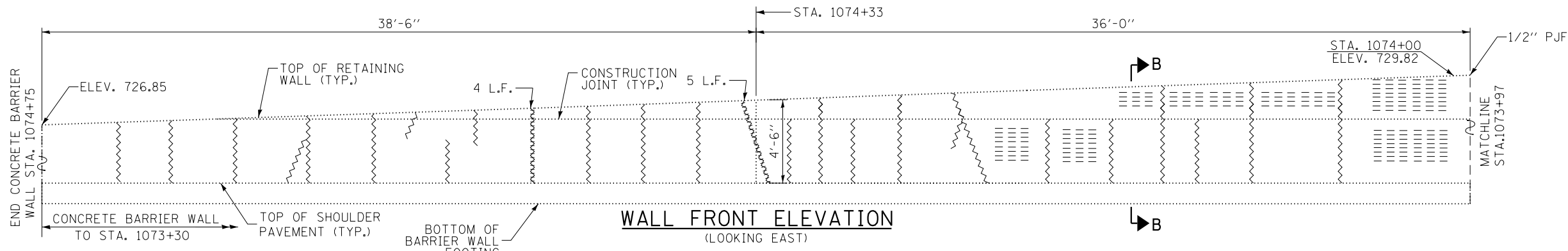
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 CHECKED BY **MMH** DATE **3/11/2018**



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. **RR-16-4255** SHT NO. **RWB-02**
 RETAINING WALL 114008 - NS18.40R,NB DRAWING NO. **1411 OF 1517**
 GENERAL NOTES & T.B.O.M.

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 Plot Date: 3/11/2018 10:52:11 AM
 Plot Scale: 1/8" = 1'-0"
 Plot Size: 36" x 48"



- LEGEND:**
- DRAIN/INLET
 - SPALL
 - L.F. CRACK
 - L.F. CRACK WITH EFFLORESCENCE
 - PJF PREFORMED JOINT FILLER
 - MAP CRACKING (FOR INFORMATION ONLY)
- NOTE: CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	155
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	2
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	2,209

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018

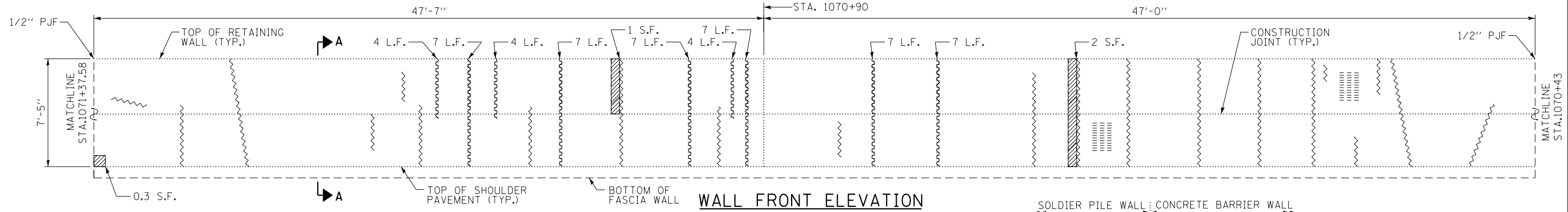


REVISIONS		
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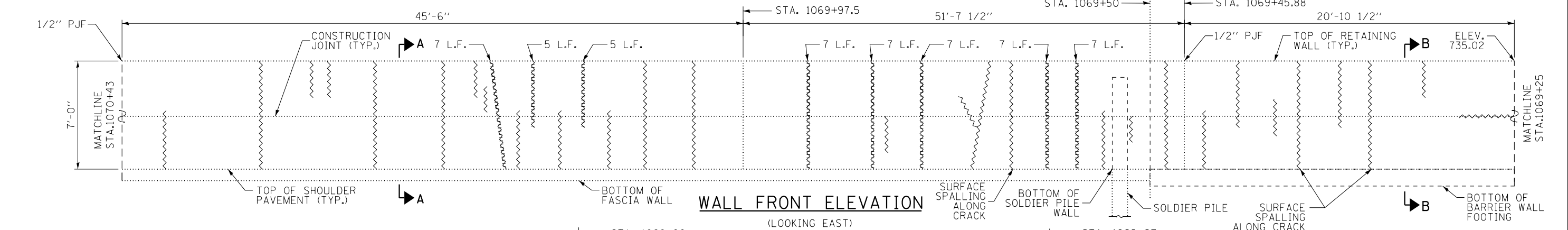
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 RETAINING WALL 114008 - NS18.40R,NB
 RETAINING WALL ELEVATION 1

RWB-03 OF RWB-11
 SHT NO. RWB-03
 DRAWING NO. 1412 OF 1517

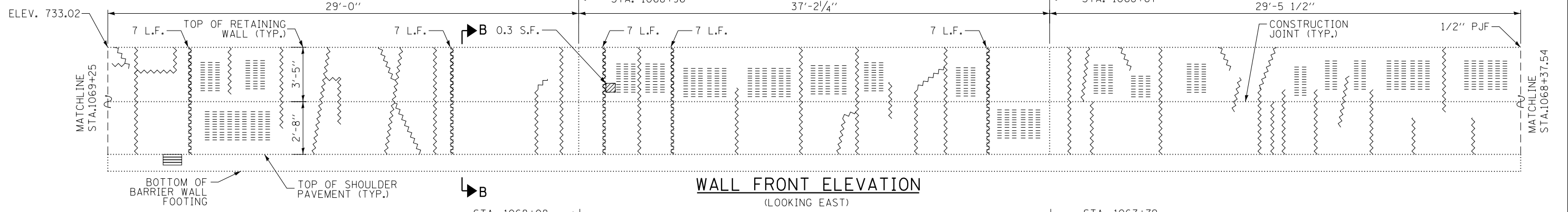
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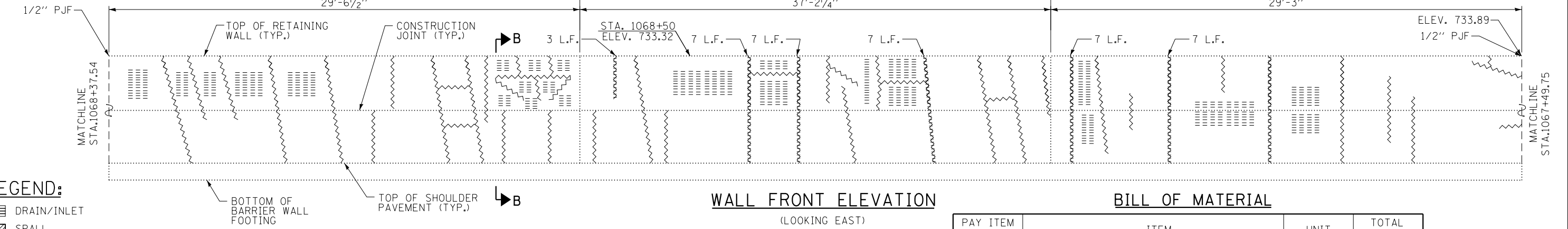
WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	179
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	4
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	2,994

- LEGEND:**
- DRAIN/INLET
 - SPALL
 - L.F. CRACK
 - L.F. CRACK WITH EFFLORESCENCE
 - P.J.F. PREFORMED JOINT FILLER
 - MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE (FOR INFORMATION ONLY)

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018

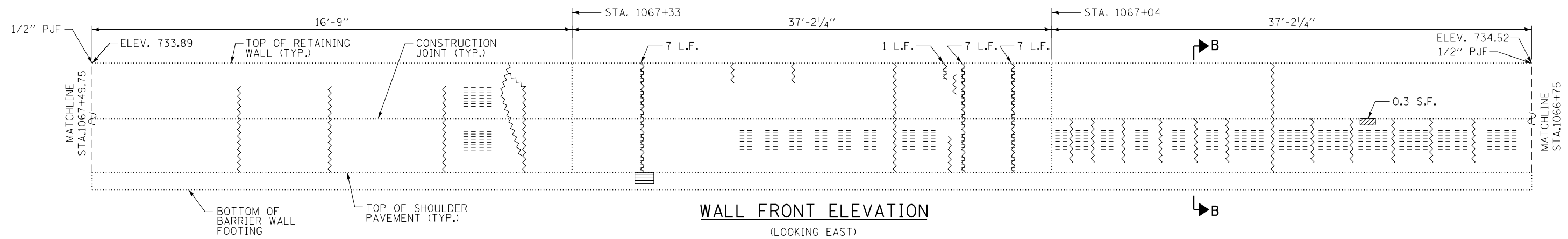


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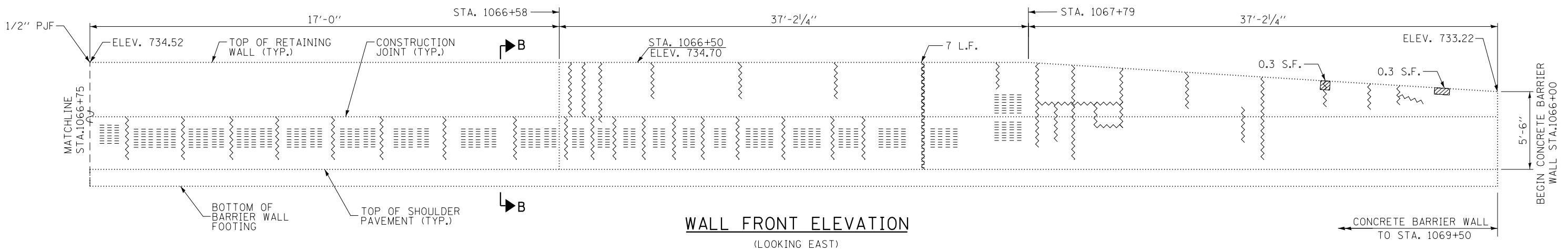
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 RETAINING WALL ELEVATION 2

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 SHT NO. RWB-04
 DRAWING NO. 1413 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings Files\4255\Structural\Walls\Sh1\4255-sh1-14808-wal1-PEL_05.dgn



WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)

- LEGEND:**
- DRAIN/INLET
 - SPALL
 - L.F. CRACK
 - L.F. CRACK WITH EFFLORESCENCE
 - PJF PREFORMED JOINT FILLER
 - MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE
HAIRLINE (HL) UNLESS
NOTED OTHERWISE (FOR
INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	29
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	1
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	1,336

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**

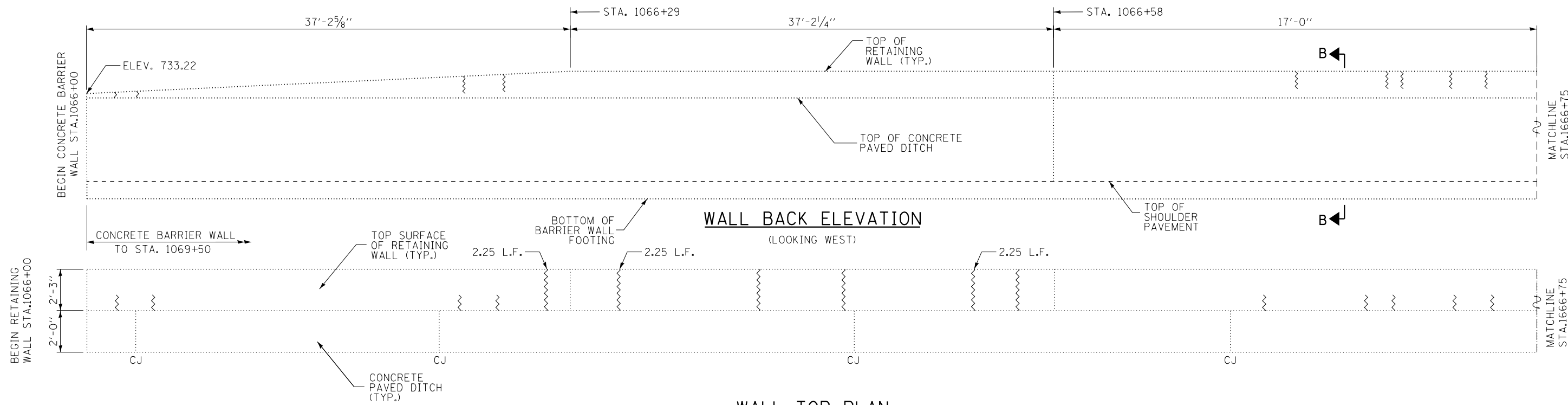


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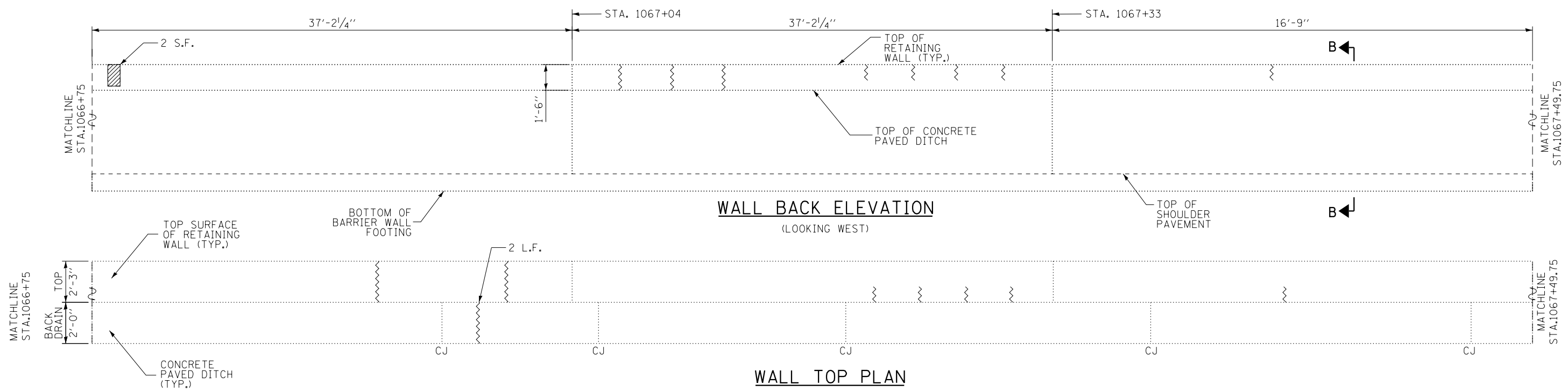
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 RETAINING WALL ELEVATION 3

RWB-05 OF RWB-11
 SHT NO. RWB-05
 DRAWING NO. 1414 OF 1517

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WALL TOP PLAN



WALL TOP PLAN

- LEGEND:**
- DRAIN/INLET
 - SPALL
 - L.F. CRACK
 - L.F. CRACK WITH EFFLORESCENCE
 - CJ CONSTRUCTION JOINT
 - MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	9
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	2
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	457

RWB-06 OF RWB-11

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**

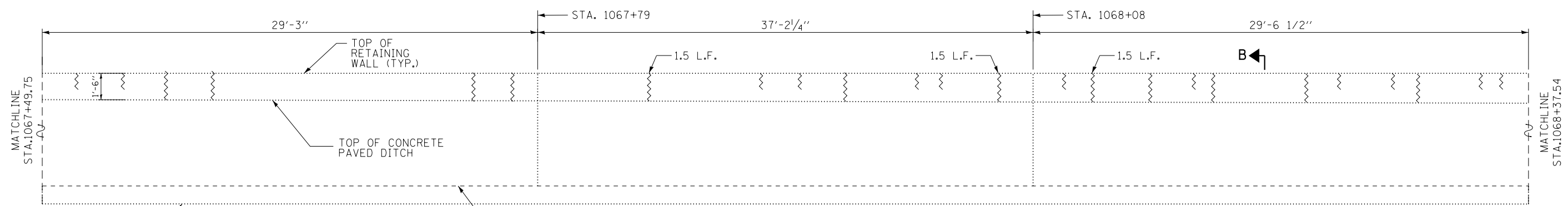


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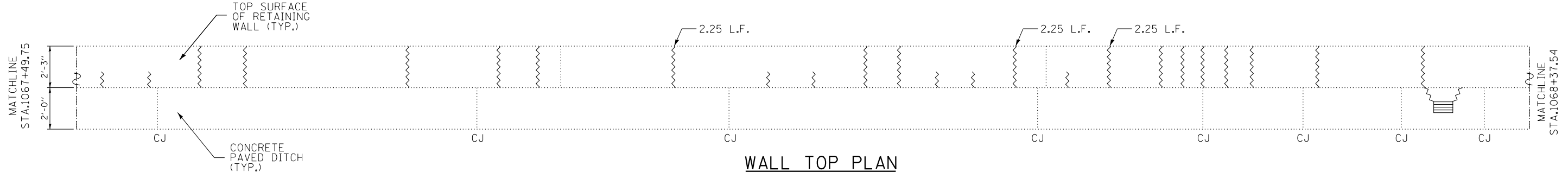
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 RETAINING WALL ELEVATION 4

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 DRAWING NO. 1415 OF 1517

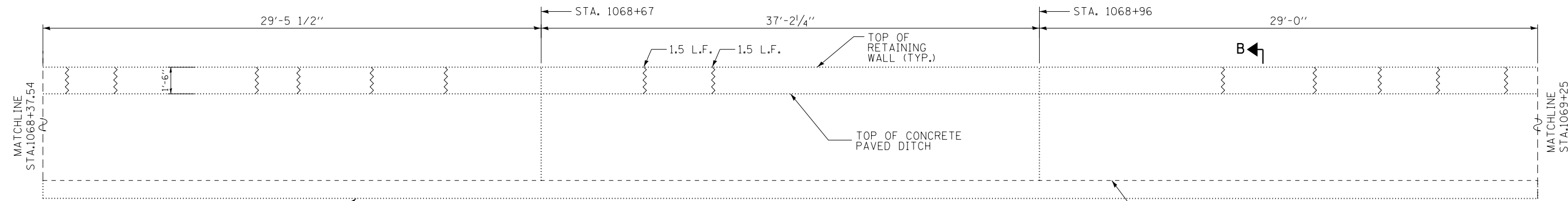
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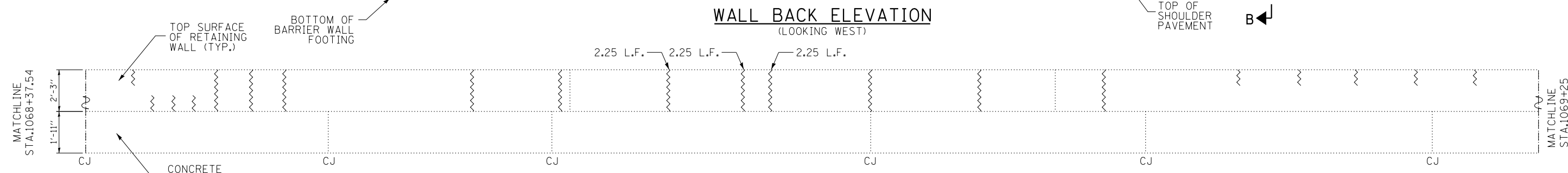
WALL BACK ELEVATION
(LOOKING WEST)



WALL TOP PLAN



WALL BACK ELEVATION
(LOOKING WEST)



WALL TOP PLAN

LEGEND:

- DRAIN/INLET
- SPALL
- L.F. CRACK
- L.F. CRACK WITH EFFLORESCENCE
- CJ CONSTRUCTION JOINT
- MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE
HAIRLINE (HL) UNLESS
NOTED OTHERWISE (FOR
INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	21
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	360

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**

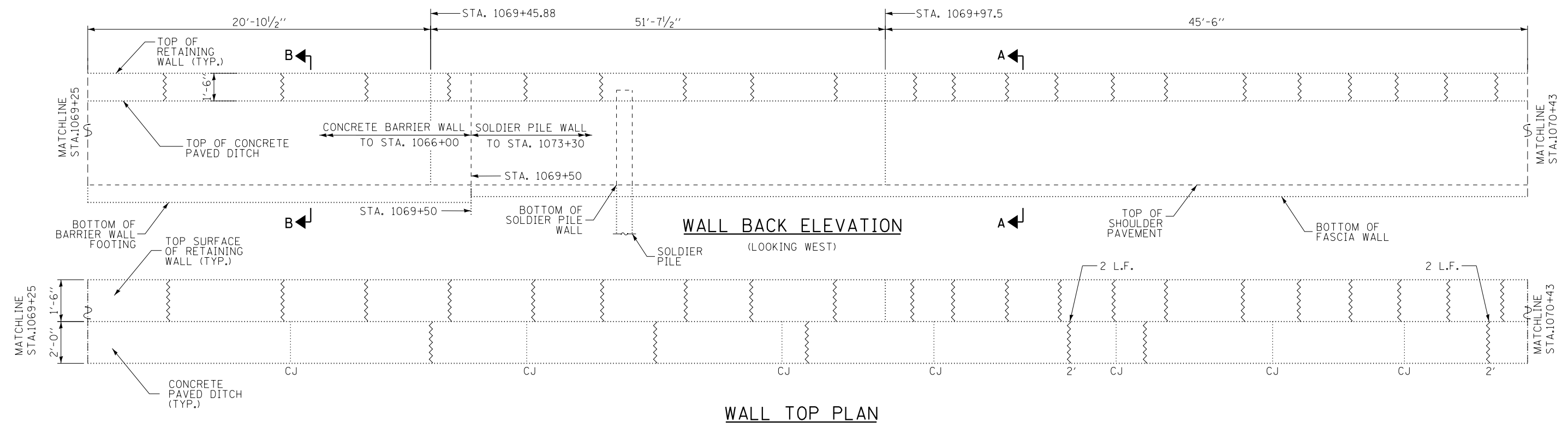


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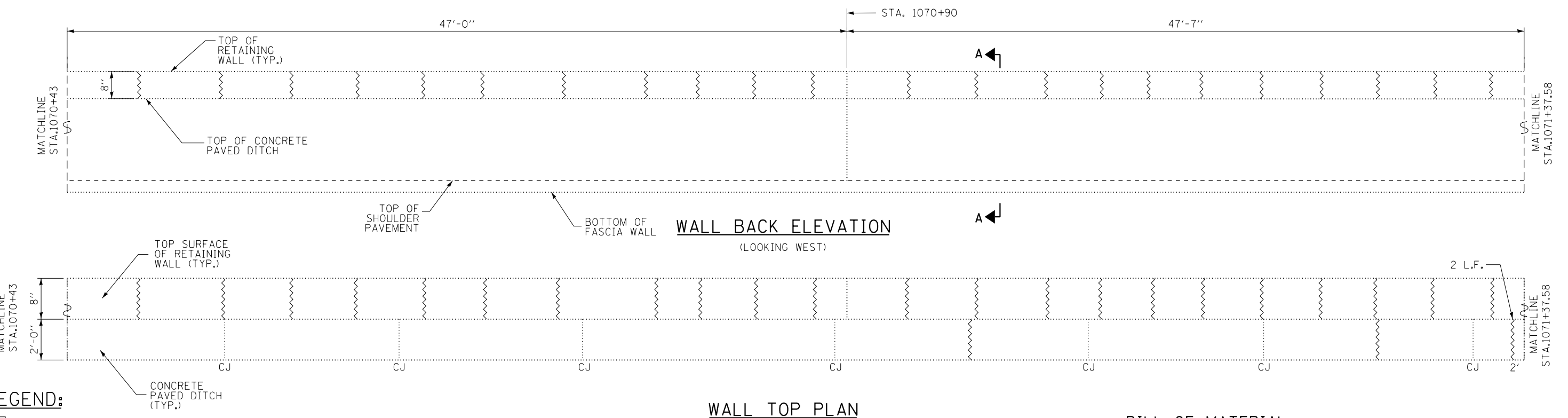
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RETAINING WALL 114008 - NS18.40R,NB
RETAINING WALL ELEVATION 5

RWB-07 OF RWB-11
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 DRAWING NO. **1416**
 OF **1517**

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WALL TOP PLAN



WALL TOP PLAN

- LEGEND:**
- DRAIN/INLET
 - SPALL
 - L.F. CRACK
 - L.F. CRACK WITH EFFLORESCENCE
 - CJ CONSTRUCTION JOINT
 - MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE
HAIRLINE (HL) UNLESS
NOTED OTHERWISE (FOR
INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	6
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	354

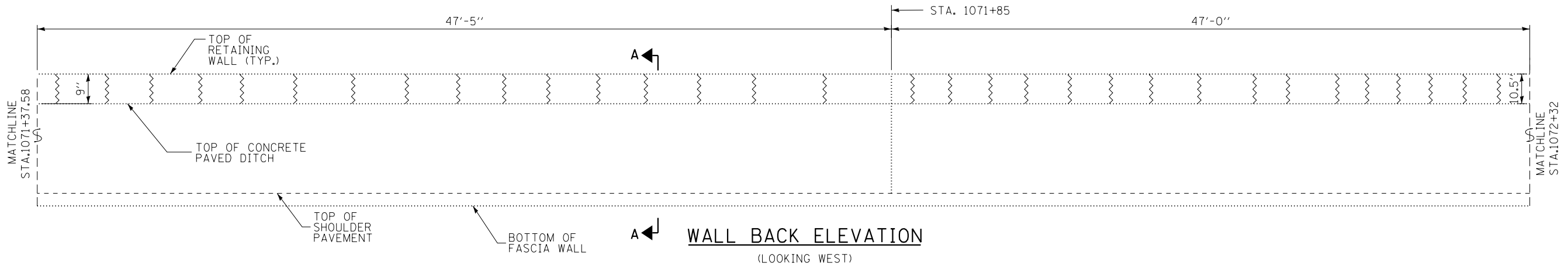
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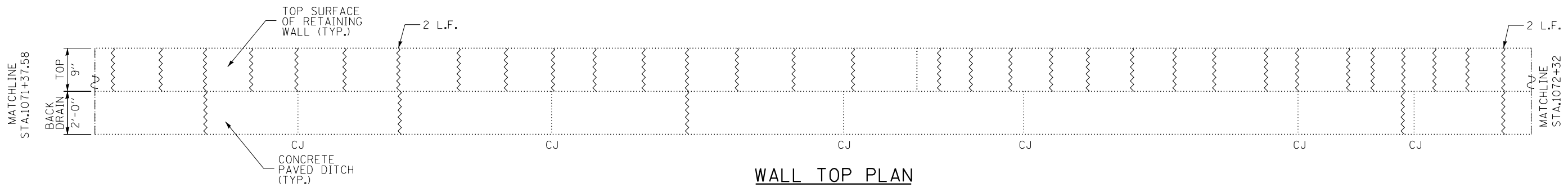
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 RETAINING WALL ELEVATION 6

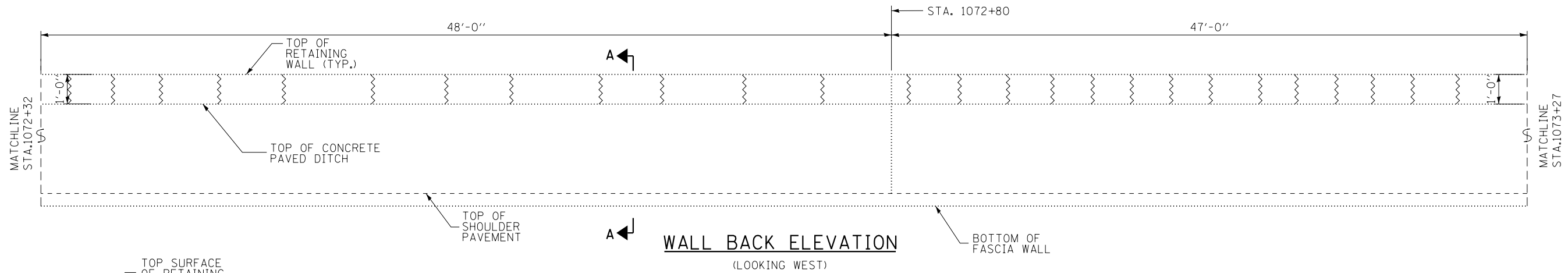
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 SHT NO. RWB-08
 DRAWING NO.
 1417 OF 1517



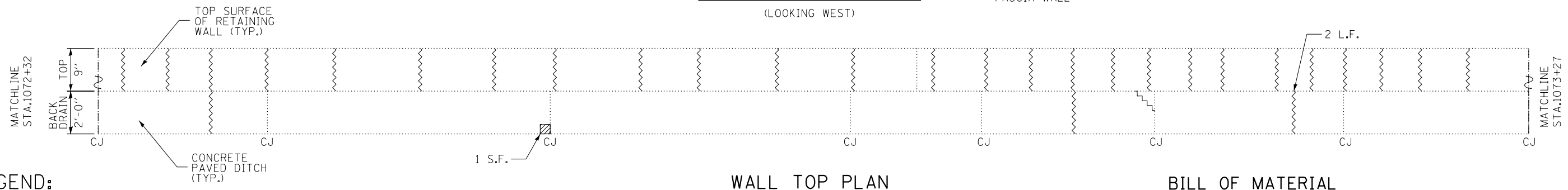
WALL BACK ELEVATION
(LOOKING WEST)



WALL TOP PLAN



WALL BACK ELEVATION
(LOOKING WEST)



WALL TOP PLAN

LEGEND:

- DRAIN/INLET
- SPALL
- L.F. CRACK
- L.F. CRACK WITH EFFLORESCENCE
- CJ CONSTRUCTION JOINT
- MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE
HAIRLINE (HL) UNLESS
NOTED OTHERWISE (FOR
INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	6
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	1
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	142

RWB-09 OF RWB-11

DRAWN BY **MMZ** DATE **3/11/2018**
CHECKED BY **MMH** DATE **3/11/2018**



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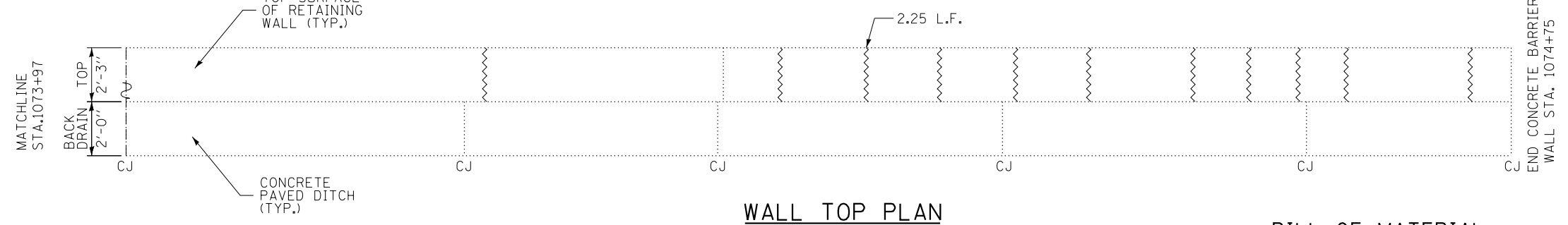
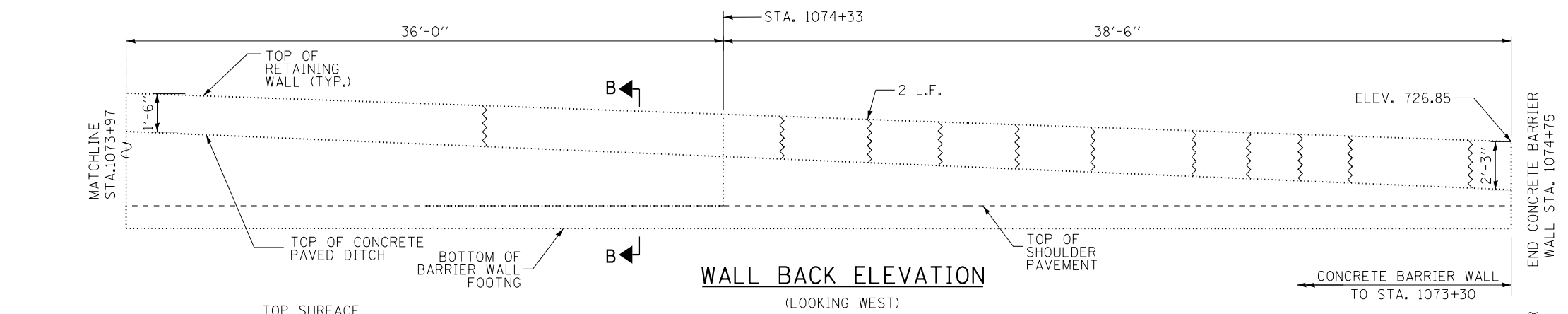
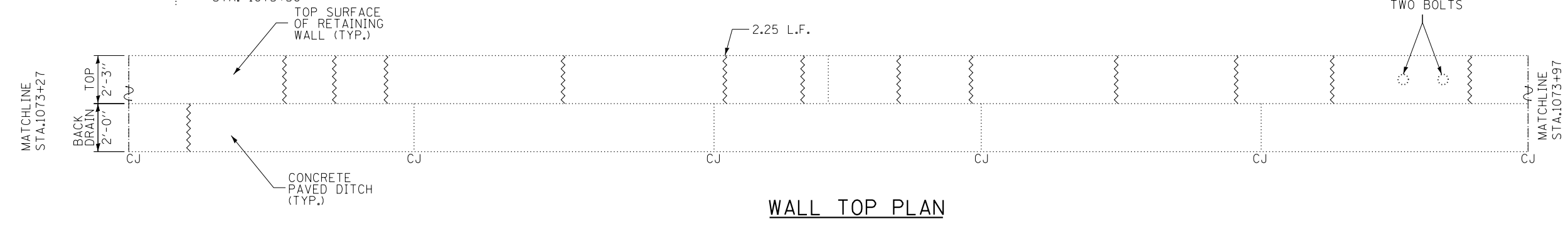
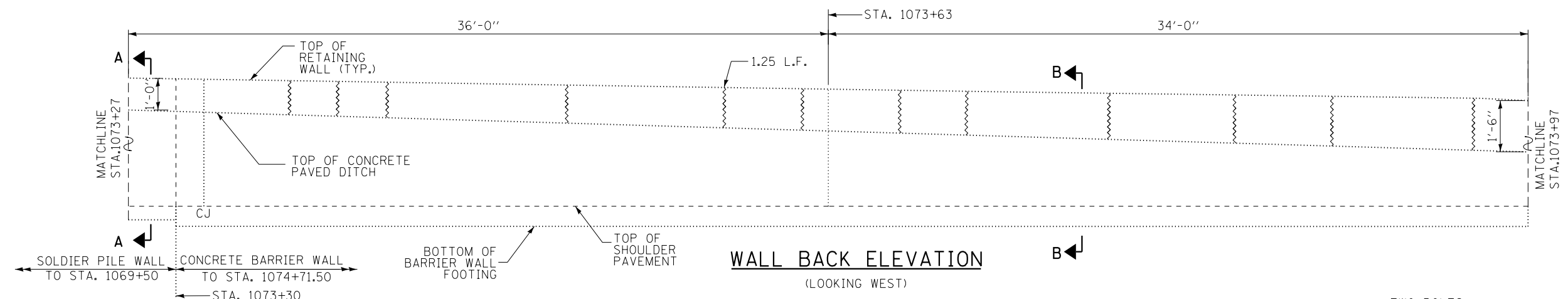
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DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114008 - NS18.40R,NB
RETAINING WALL ELEVATION 7

SHT NO. RWB-09
DRAWING NO.
1418 OF 1517

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LEGEND:

- DRAIN/INLET
- SPALL
- L.F. CRACK
- L.F. CRACK WITH EFFLORESCENCE
- CJ CONSTRUCTION JOINT
- MAP CRACKING (FOR INFORMATION ONLY)

NOTE: CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE (FOR INFORMATION ONLY)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	8
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	228

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**

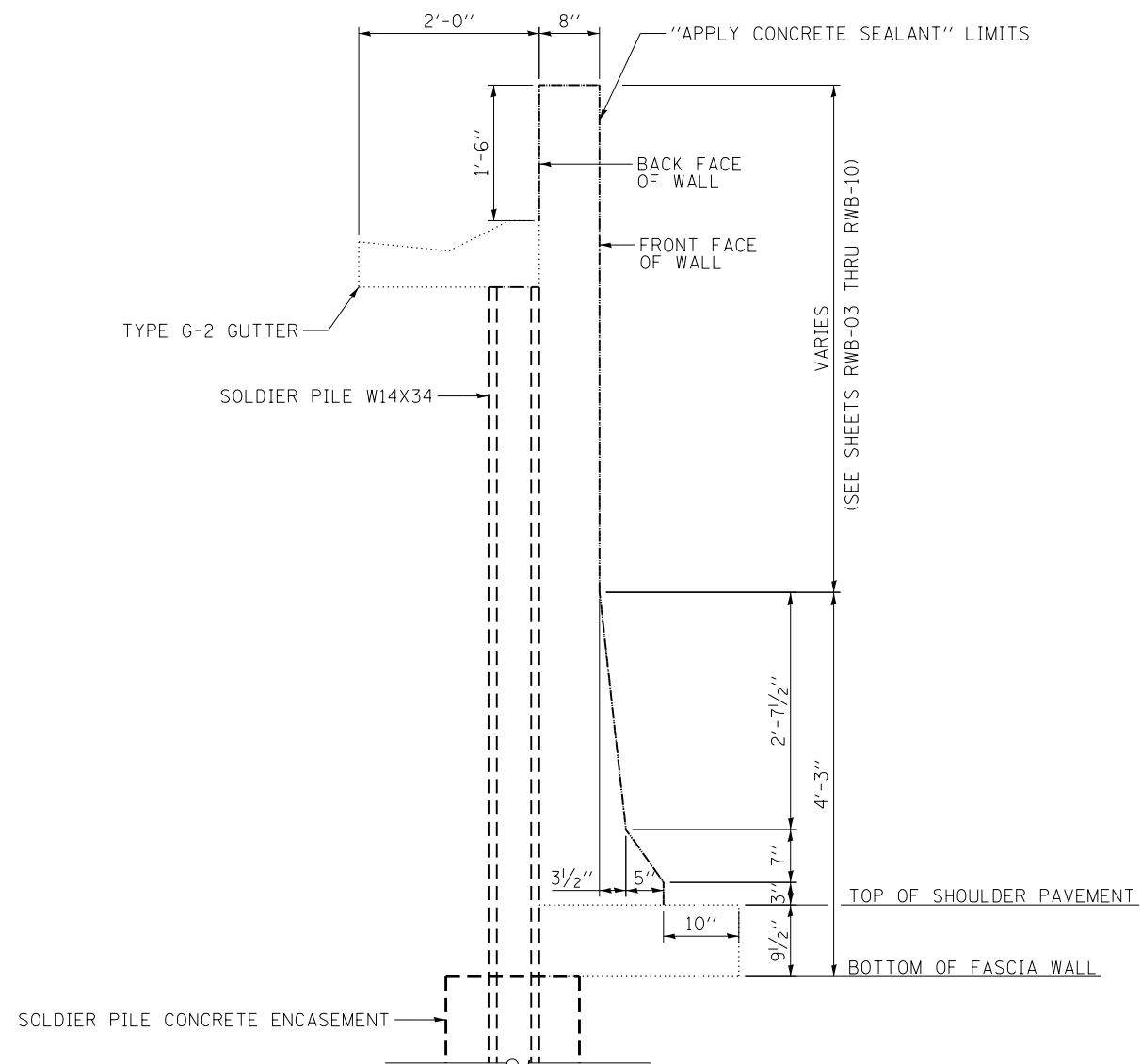


REVISIONS	
NO.	DESCRIPTION

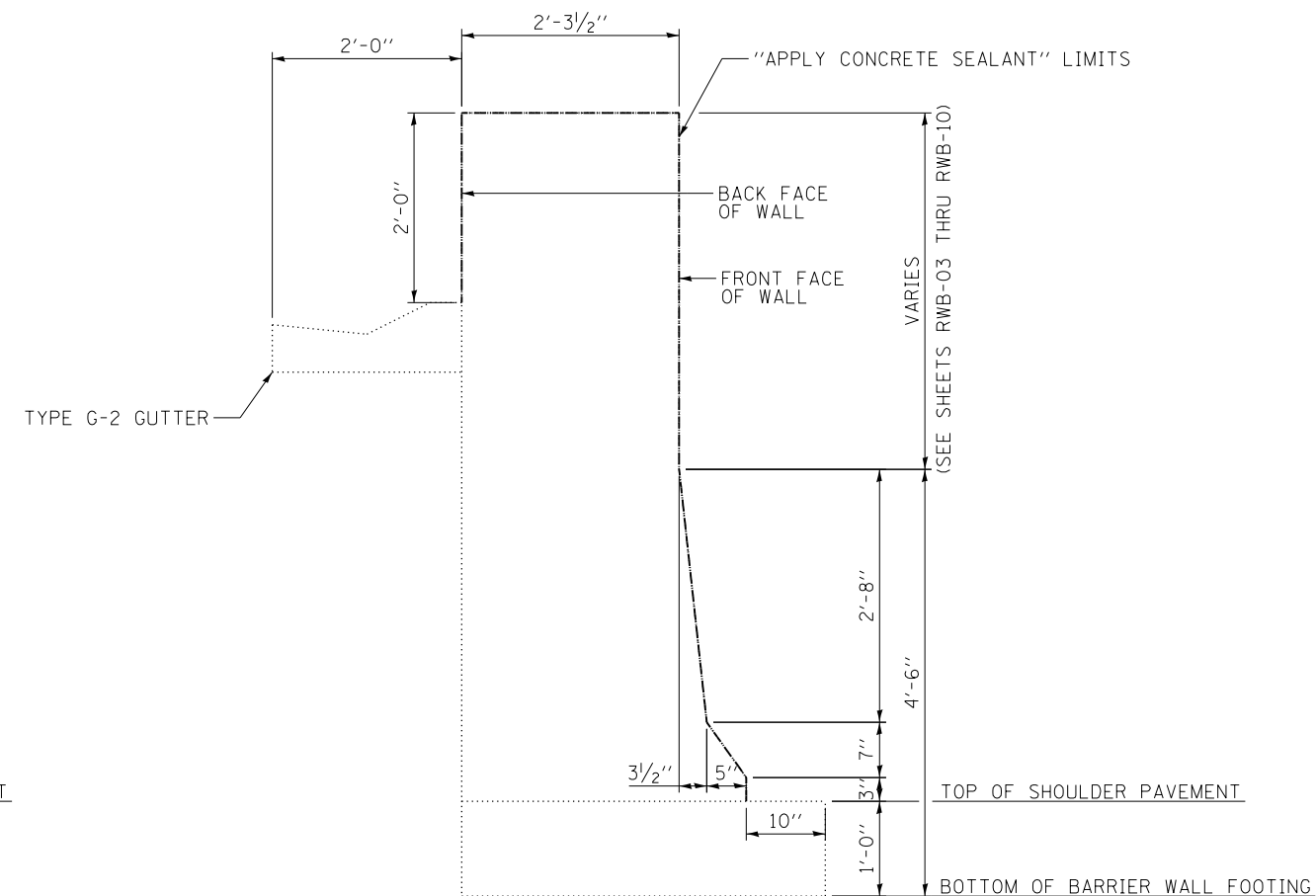
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RETAINING WALL 114008 - NS18.40R,NB
RETAINING WALL ELEVATION 8

RWB-10 OF RWB-11
 SHT NO. **RWB-10**
 DRAWING NO. **1419** OF **1517**

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SECTION A-A
(STA. 1069+50 - STA. 1073+30)



SECTION B-B
(STA. 1066+00 TO STA. 1069+50) & (STA. 1073+30 TO STA. 1074+75)

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114008 - NS18.40R,NB
 STANDARD REPAIR DETAILS

RBW-11 OF RBW-11
 SHT NO. RBW-11
 DRAWING NO.
 1420 OF 1517

BENCHMARK: CUT "□" IN SW CORNER OF E. OVERHEAD SIGN TRUSS FOUNDATION NB I-355 (SIGN READS "OGDEN AVE.") ± STA. 1113+91, 104' RT. ELEV = 729.59

EXISTING STRUCTURE: RETAINING WALL NS19.14R,SB(R) WAS ORIGINALLY CONSTRUCTED IN 1989 UNDER CONTRACT CIP-615. THE RETAINING WALL, WITH A TOTAL LENGTH OF 1797'-6¾", IS A CAST IN PLACE REINFORCED CONCRETE CANTILEVER T TYPE WALL. THAT MAXIMUM EXPOSED HEIGHT OF THE WALL IS 21'-3". THE CONCRETE THICKNESS IS 1'-0" AT MINIMUM. THERE IS A CONCRETE GUTTER AT THE TOP OF THE WALL ON THE BACK FACE.

WORK WILL BE PERFORMED UNDER STAGED CONSTRUCTION.

SCOPE OF WORK

1. DELAMINATED AND SPALLED CONCRETE SHALL BE REPAIRED UTILIZING STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.).
2. FILL ALL OPEN CRACKS WITH LOW PRESSURE EPOXY INJECTION EXCEPT AT CONTRACTION JOINTS.
3. INSTALL 4' CHAIN LINK FENCE BEHIND THE GUTTER AT THE TOP OF WALL.
4. VEGETATION SHALL BE CLEARED FROM THE FRONT FACE OF THE ENTIRE LENGTH OF WALL UTILIZING REMOVE VEGETATION.

DESIGN SPECIFICATIONS

- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.
- AASHTO STANDARD SPECIFICATONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018

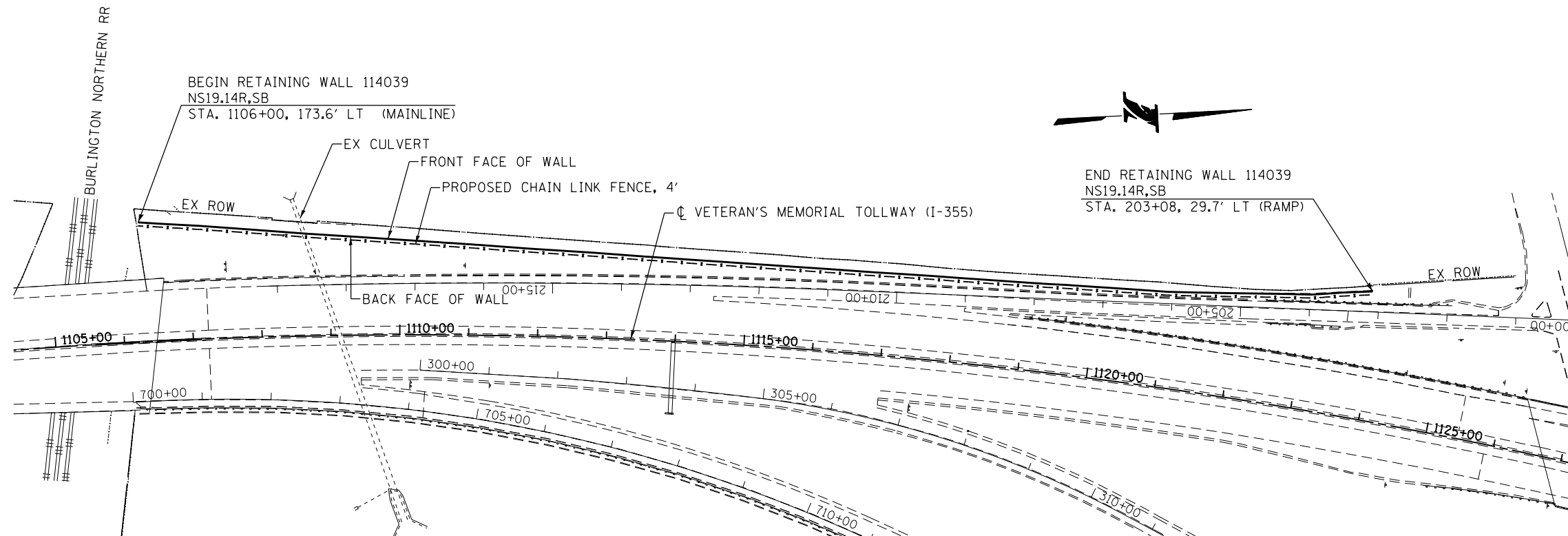
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

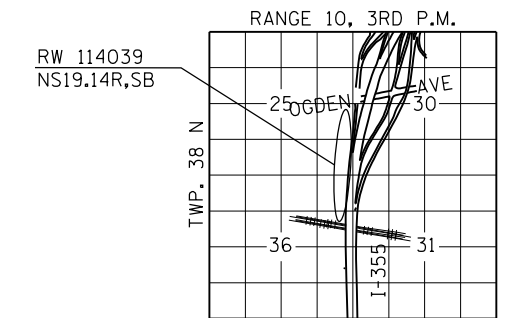
DESIGN STRESSES

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI)
fy = 60,000 PSI



RETAINING WALL PLAN



LOCATION SKETCH

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114039 - NS19.14R,SB
GENERAL PLAN

SHT NO. RWC-01
DRAWING NO. 1421 OF 1517

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 Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255-sta-114039-114039.dgn

INDEX OF SHEETS

RWC-01	GENERAL PLAN
RWC-02	GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
RWC-03	RETAINING WALL ELEVATION

LIST OF ABBREVIATIONS

B.F.	BACK FACE
CL	CENTERLINE
EA	EACH
ELEV.	ELEVATION
EX	EXISTING
F.F.	FRONT FACE
L SUM	LUMP SUM
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
PROP.	PROPOSED
R.O.W.	RIGHT-OF-WAY
S.B.	SOUTHBOUND
SQ. FT.	SQUARE FOOT
STA.	STATION
TYP.	TYPICAL

IDOT HIGHWAY STANDARDS

664001-02	CHAIN LINK FENCE
-----------	------------------

GENERAL NOTES

- THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR ANY QUANTITY ABOVE THOSE LISTED, AND AGREED TO BY THE ENGINEER, IN ACCORDANCE WITH SECTION 109.04 OF THE IDOT STANDARD SPECIFICATIONS.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT AND/OR BENT TO FIT. COST SHALL BE INCIDENTAL TO STRUCTURAL REPAIR OF CONCRETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TOLLWAY AT LEAST 5 DAYS IN ADVANCE OF ANY CONSTRUCTION NEAR TOLLWAY OWNER FACILITIES (ELECTRICAL, COMMUNICATION CABLES, FIBER OPTIC CABLE, TRAFFIC CONTROL, CAMERAS, ETC) USING THE TOLLWAY WEBSITE WWW.ILLINOISVIRTUALTOLLWAY.COM/UTILITYLOCATES. ANY BURIED FACILITY WITHIN 2 FEET OF AN EXCAVATION LOCATION SHALL FIRST BE EXPOSED BY THE CONTRACTOR BY HAND DIGGING. ONCE EXPOSED, THE CONTRACTOR SHALL PROTECT THE FACILITY. IF CONTRACTOR CUTS OR DAMAGES THE TOLLWAY FACILITY, EITHER THROUGH CARELESSNESS OR FAILURE TO FOLLOW THE ABOVE PROCEDURE HE/SHE SHALL BE HELD RESPONSIBLE FOR THE REPAIR OF THE DAMAGE AT HIS/HER EXPENSE, AND TO THE SATISFACTION OF THE TOLLWAY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
- NO CONCRETE CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- REPAIRS SHOWN ARE BASED UPON INSPECTIONS COMPLETED IN 2017 AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

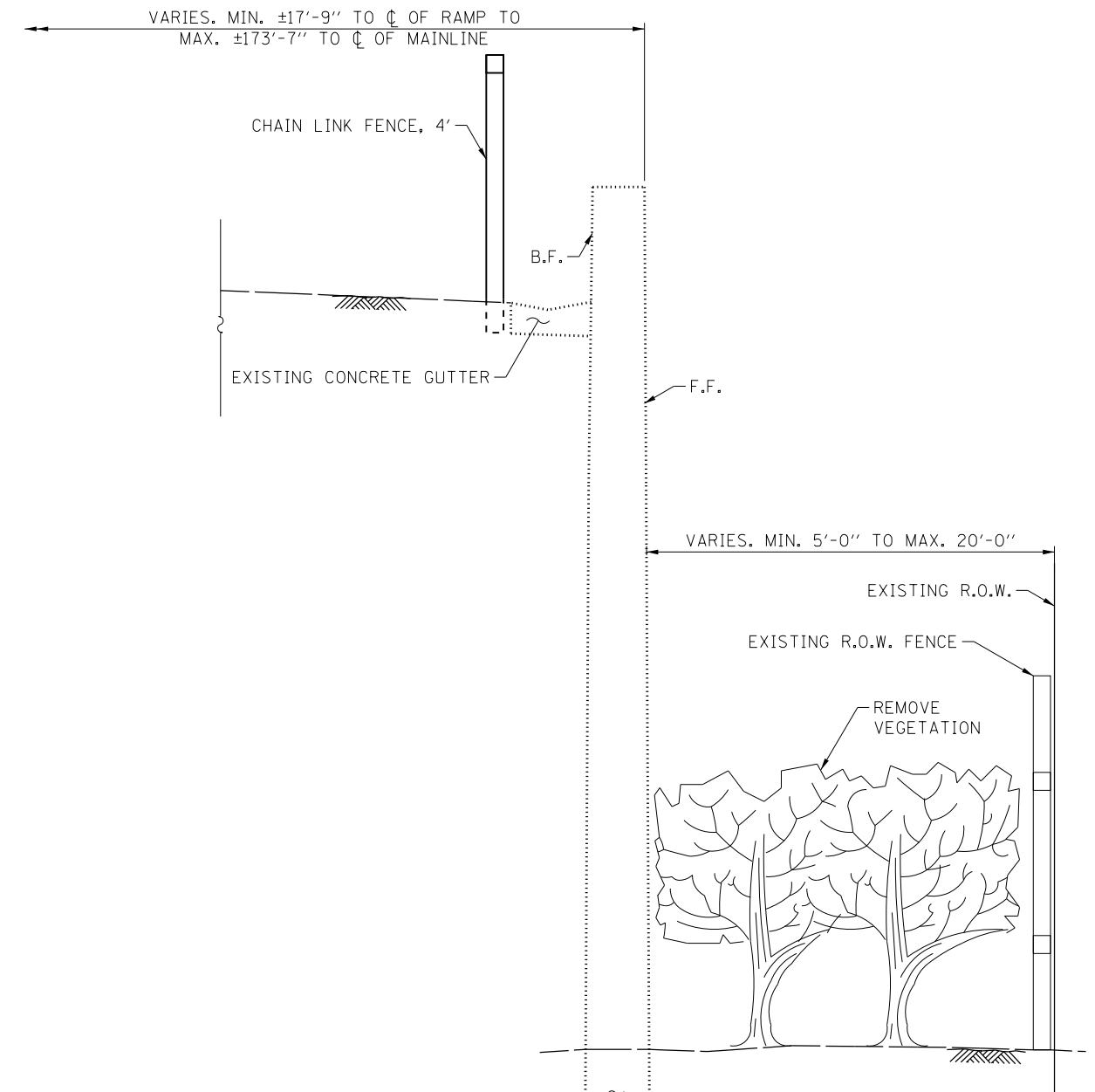
CAST-IN-PLACE CONCRETE GENERAL NOTES:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A $\frac{3}{4}$ " X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORDED QUANTITY
	66400105	CHAIN LINK FENCE, 4'	FOOT	1,810	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	400	
*	JT201005	REMOVE VEGETATION	L SUM	1	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	100	
*	JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ FT	5	

- * INDICATES SPECIAL PROVISION
- ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION



TYPICAL SECTION

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

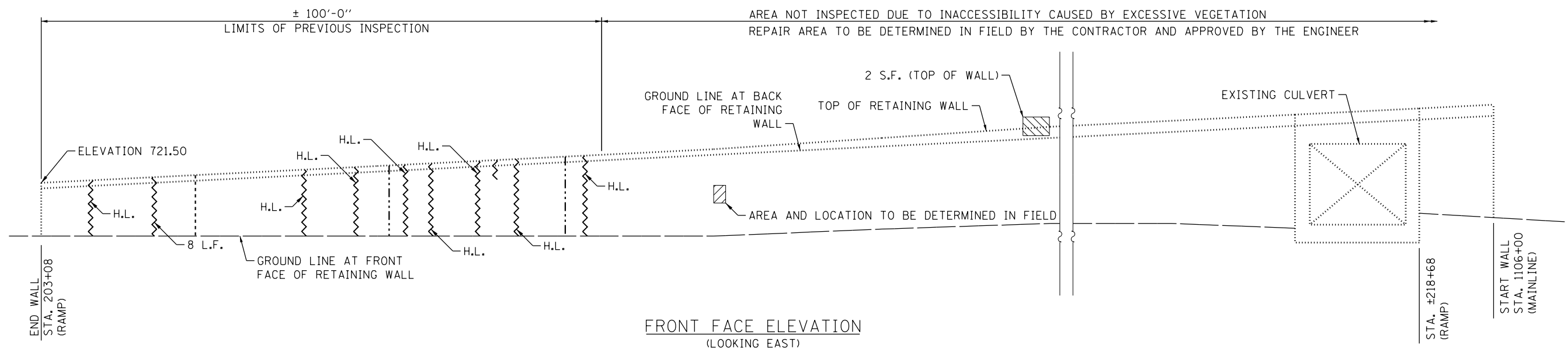
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114039 - NS19.14R,SB
 GENERAL NOTES, INDEX OF SHEET & TOTAL BILL OF MATERIAL

SHT NO. RWC-02
 DRAWING NO.
 1422 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings Files\4255\Structural\Walls\Sht\4255-sht-14839-rwb1-SE-303.dgn



LEGEND

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)
- LOW PRESSURE EPOXY INJECTION
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- EXPANSION JOINT
- CONTRACTION JOINT

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	400
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	100
JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ FT	5

NOTE:
REPAIR QUANTITIES ARE EXTRAPOLATED FROM INSPECTED AREAS AND THE 2015 ISTHA RETAINING WALL REPORT.

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114039 - NS19.14R,SB
RETAINING WALL ELEVATION

SHT NO. RWC-03
DRAWING NO. 1423 OF 1517

BENCHMARK: CUT "□" IN SW CORNER OF E. OVERHEAD SIGN TRUSS FOUNDATION NB I-355 (SIGN READS "OGDEN AVE.") ± STA. 1113+91, 104' RT. ELEV = 729.59

EXISTING STRUCTURE: RETAINING WALL NS19.15R,SB(R) WAS ORIGINALLY CONSTRUCTED IN 2008 UNDER CONTRACT I-07-5476. THE RETAINING WALL, WITH A TOTAL LENGTH OF 1605'-7 1/4", IS COMPOSED OF A PERMANENT STEEL SHEET PILE WALL WITH A CONCRETE FACING. THE TOP OF THE CONCRETE FACE IS A F SHAPED PARAPET THAT SERVES AS A TRAFFIC BARRIER. THE MAXIMUM EXPOSED HEIGHT OF THE WALL IS 11'-10".

WORK WILL BE PERFORMED UNDER STAGED CONSTRUCTION.

SCOPE OF WORK

1. ALL SPALLS ON THE BACK FACE SHALL BE REPAIRED UTILIZING STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.) AND STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)
2. APPLY CONCRETE SEALANT TO THE TOP AND BACK FACE OF THE RETAINING WALL.
3. OPEN CRACKS SHALL BE FILLED WITH LOW PRESSURE EPOXY INJECTION EXCEPT AT CONTRACTION JOINTS

DESIGN SPECIFICATIONS

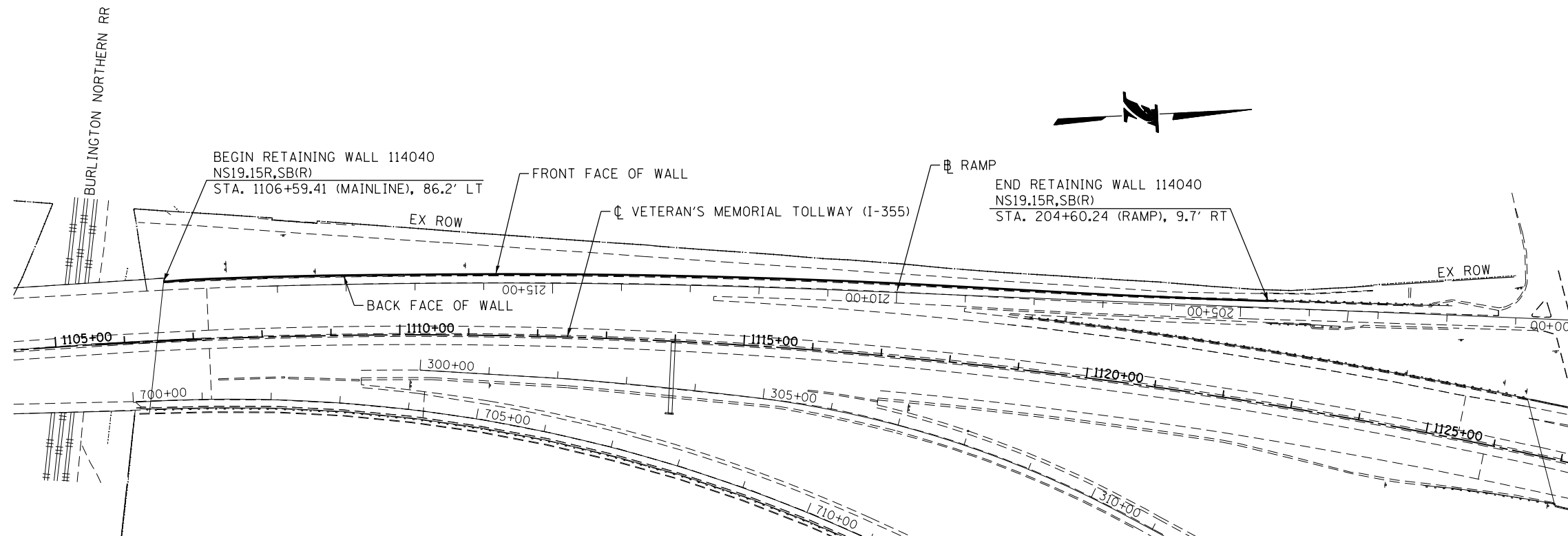
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, MARCH 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.
- AASHTO STANDARD SPECIFICATONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002.

CONSTRUCTION SPECIFICATIONS

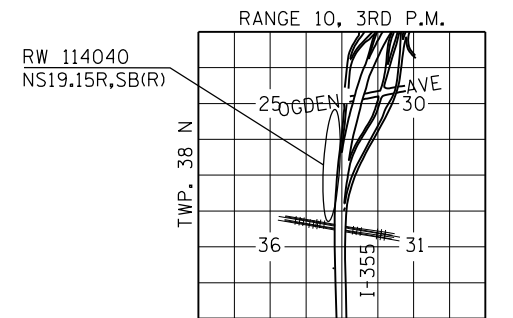
- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION, ISSUED MAY 1, 2017
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016
- ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

DESIGN STRESSES NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI)
fy = 60,000 PSI



RETAINING WALL PLAN



LOCATION SKETCH

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018

SE3
3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
(630) 641-9900

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
RETAINING WALL 114040 - NS19.15R,SB(R)
GENERAL PLAN

SHT NO. RWD-01
DRAWING NO. 1424 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Walls\Sh1\4255-sh1-114040.gpd SE301.dgn

INDEX OF SHEETS

RWD-01 GENERAL PLAN
 RWD-02 GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
 RWD-03 RETAINING WALL ELEVATION

LIST OF ABBREVIATIONS

B.F.	BACK FACE
CL	CENTERLINE
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
F.F.	FRONT FACE
L SUM	LUMP SUM
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
PROP.	PROPOSED
R.O.W.	RIGHT-OF-WAY
S.B.	SOUTHBOUND
SQ. FT.	SQUARE FOOT
STA.	STATION
TYP.	TYPICAL

GENERAL NOTES

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2. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
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7. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE.
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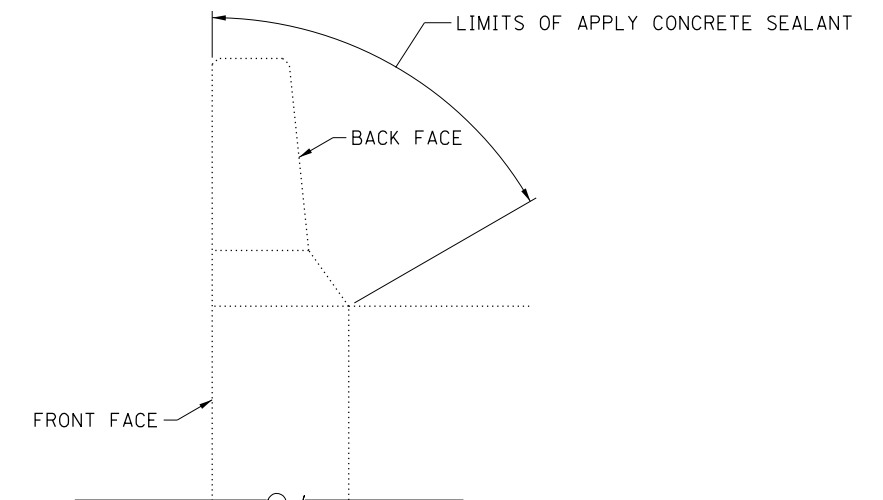
CAST-IN-PLACE CONCRETE GENERAL NOTES:

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORDED QUANTITY
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	4	
.	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	23	
.	JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ FT	1	
.	JT524010	APPLY CONCRETE SEALANT	SQ FT	7,225	

- INDICATES SPECIAL PROVISION
- ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION



TYPICAL SECTION
(LOOKING NORTH)

DRAWN BY SVJ DATE 3/11/2018
 CHECKED BY RRD DATE 3/11/2018

SE3
 3041 WOODCREEK DRIVE, SUITE 211 - DOWNERS GROVE, IL 60515
 (630) 641-9900

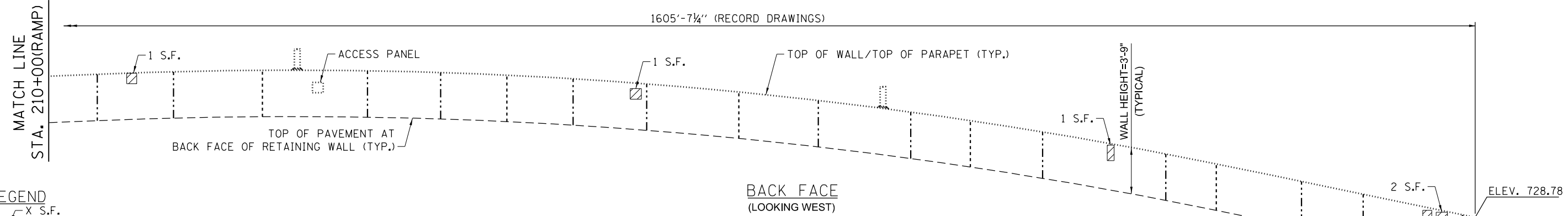
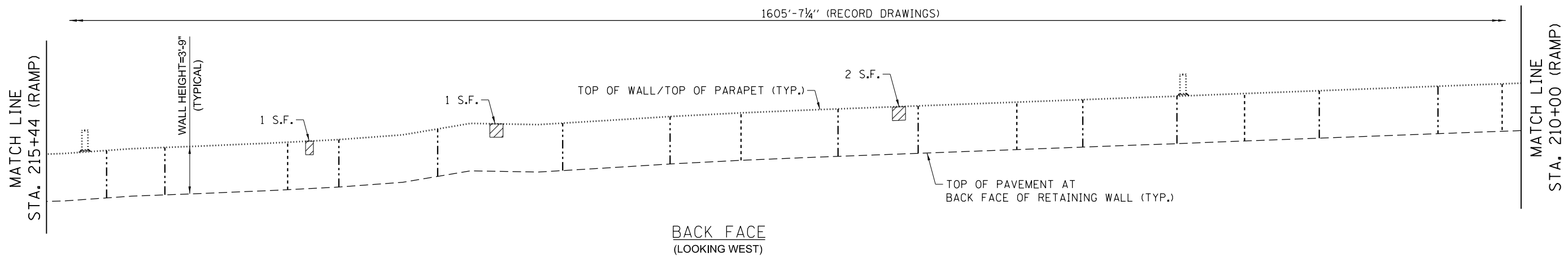
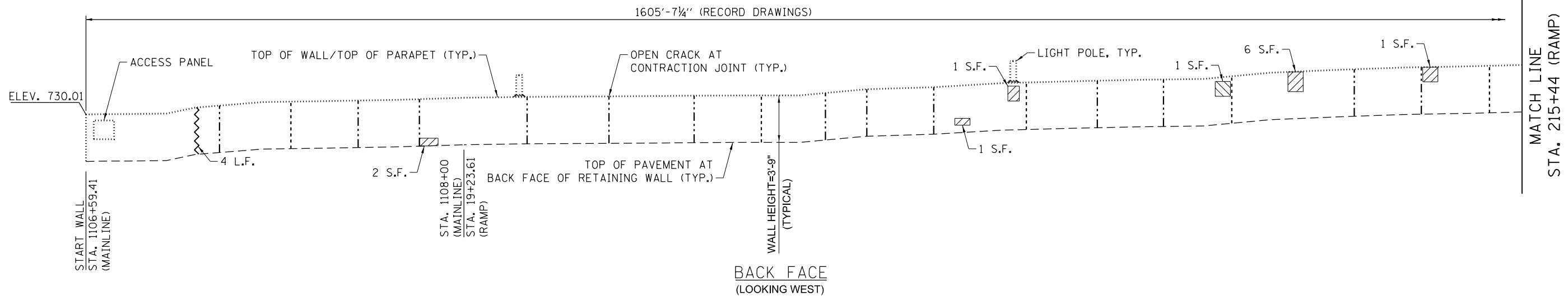
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114040 - NS19.15R,SB(R)
 GENERAL NOTES, INDEX OF SHEET & TOTAL BILL OF MATERIAL

SHT NO. RWD-02
 DRAWING NO.
 1425 OF 1517

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- LEGEND**
- X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
 - X S.F. STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)
 - X L.F. LOW PRESSURE EPOXY INJECTION
 - EXPANSION JOINT
 - - - - - CONTRACTION JOINT

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EXPOXY INJECTION	FOOT	4
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	23
JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ FT	1
JT524010	APPLY CONCRETE SEALANT	SQ FT	7,225

NOTE:
ELEVATIONS ARE FROM RECORD DRAWINGS.
A SURVEY WAS NOT COMPLETED.

DRAWN BY SVJ DATE 3/11/2018
CHECKED BY RRD DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
RETAINING WALL 114040 - NS19.15R,SB(R)
RETAINING WALL ELEVATION

SHT NO. RWD-03
DRAWING NO. 1426 OF 1517

BENCHMARK:
 CONCRETE MONUMENT WITH BRASS CAP - EL. 723.817 LOCATED IN THE N.E. 1/4 SEC. 2-38-10 +/-47' S.
 OF S. EDGE OF E. BOUND LANE EAST-WEST TOLLWAY +/-500 FT. WEST OF OVERHEAD POWER LINES.

EXISTING STRUCTURE:
 RETAINING WALL NS19.80R,SB(R) (WALL F) ORIGINALLY CONSTRUCTED IN 1989 UNDER CONTRACT CIP-615
 AS A PART OF BRIDGE 1451. WITH A TOTAL LENGTH OF 194'-6", IT IS A COMBINATION OF CONCRETE
 RETAINING WALL AND BARRIER WALL, SUPPORTED ON CONVENTIONAL FOOTING. THE RETAINING WALL HAS
 VARIABLE HEIGHT WITH MAXIMUM EXPOSED HEIGHT OF 27'-5". THE VERTICAL EXPANSION JOINTS ARE
 1/2" PREFORMED JOINTS.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN SPECIFICATIONS

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.

ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, MARCH 2016.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AS MODIFIED BY IDOT BRIDGE
 MANUAL, 8TH EDITION.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT
 OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
 CONSTRUCTION, ADOPTED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND
 RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2018.

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD
 & BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS
 (GBSP'S).

DESIGN STRESSES

EXISTING CONSTRUCTION

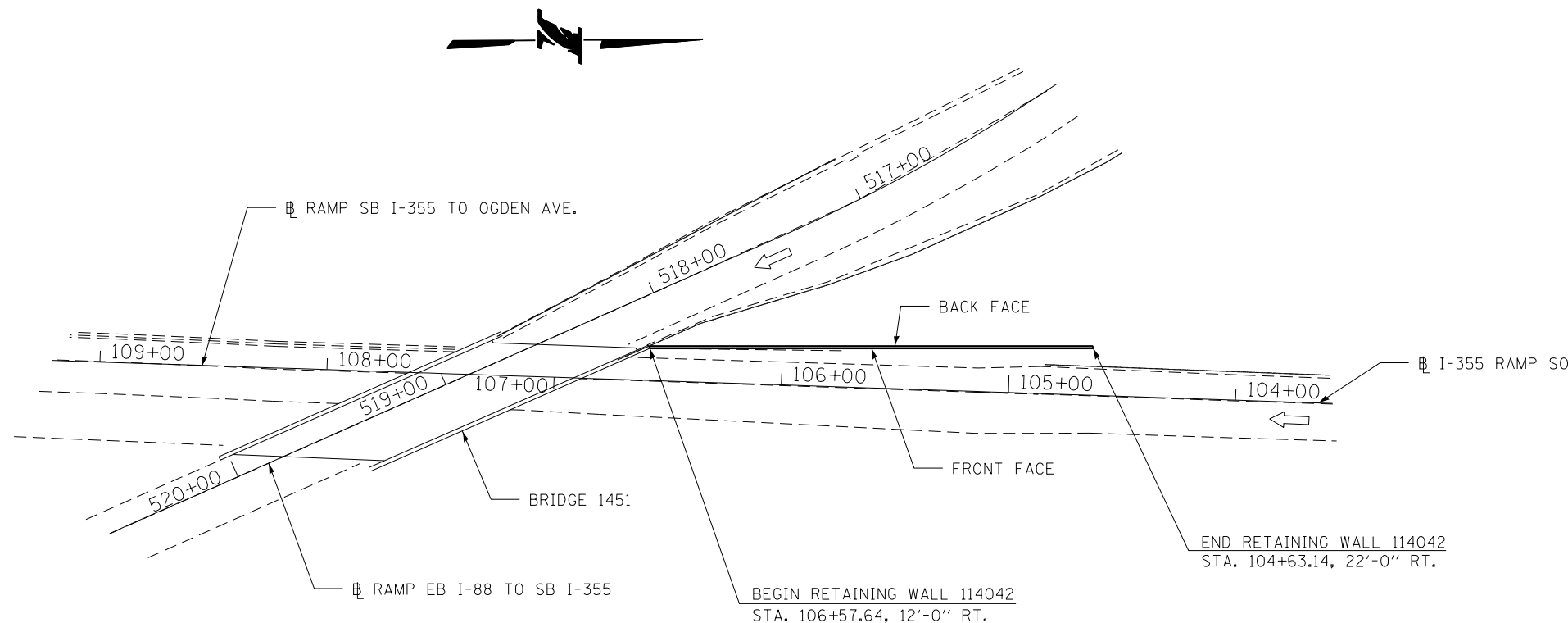
f'_c = 4,000 PSI (CLASS SI)
 f_y = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION

f'_c = 3,500 PSI (CLASS SI - CONCRETE REPAIRS)
 f_y = 60,000 PSI (REINFORCEMENT)

SCOPE OF WORK:

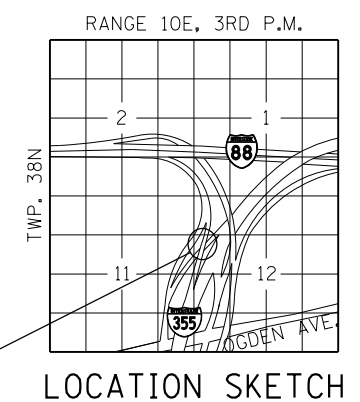
1. REMOVE, CLEAN AND PATCH REPAIR DELAMINATED/SPALLED CONCRETE ON THE
 FRONT AND BACK FACES OF THE WALL.
2. SEAL CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT
 EXHIBIT MOISTURE INTRUSION, I.E. CRACKS WITH EFFLORESCENCE AND/OR
 LEACHING CRACKS, WITH LOW PRESSURE EPOXY INJECTION.
3. APPLY CONCRETE SEALANT TO TOP, FRONT, AND BACK FACES OF EXPOSED
 SURFACES OF BOTH FACES OF THE WALL.



RETAINING WALL PLAN

NOTE:

STATION AND WALL OFFSETS ARE MEASURED FROM THE \square OF
 RAMP SO TO THE FRONT FACE OF THE RETAINING WALL.



LOCATION SKETCH

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114042 - NS19.80R,SB
 GENERAL PLAN

RWE-01 OF RWE-04
 SHT NO. RWE-01
 DRAWING NO.
 1427 OF 1517

INDEX OF SHEETS

- RWE-01 GENERAL PLAN
- RWE-02 GENERAL NOTES, INDEX OF SHEETS, AND TOTAL BILL OF MATERIAL
- RWE-03 RETAINING WALL ELEVATION
- RWE-04 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

N.B.	NORTHBOUND
S.B.	SOUTHBOUND
STA.	STATION
ELEV.	ELEVATION
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
BRG	BEARING
S. ABUT.	SOUTH ABUTMENT
N. ABUT.	NORTH ABUTMENT
TYP.	TYPICAL
MAX.	MAXIMUM
MIN.	MINIMUM
BOT.	BOTTOM
EXIST.	EXISTING
EXP.	EXPANSION
JT.	JOINT
SHLDR	SHOULDER
BL	BASELINE
P.G.L.	PROFILE GRADE LINE
E.F.	EACH FACE
F.F.	FRONT FACE
B.F.	BACK FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
BK.	BACK OF
B/	BOTTOM OF
T/	TOP OF
PROP.	PROPOSED
HP	H-PILE
WF	W-FLANGE
CL.	CLEARANCE
SQ. FT. OR S.F.	SQUARE FOOT
SQ. YD.	SQUARE YARD
L.F.	LINEAR FOOT
CU. FT.	CUBIC FEET
EA	EACH
BIT.	BITUMINOUS
PAV.	PAVEMENT

GENERAL NOTES

CONSTRUCTION:

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
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4. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
7. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)".
8. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
9. CONCRETE SEALANT SHALL BE APPLIED TO THE TRAFFIC FACE AND TOP OF THE RETAINING WALL ACCORDANCE WITH THE SPECIAL PROVISIONS. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
10. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	80	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)	SQ. FT.	3	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	3,826	
*	X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	1	

- * INDICATES SPECIAL PROVISION
- ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

CONSTRUCTION (CONTINUED):

11. A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, "STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTIONS OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.

CAST-IN-PLACE CONCRETE:

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS:

1. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
2. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
3. REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
4. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT-TO-OUT.
5. BARS NOTED THUS, 3X2-#5 INDICATES 3 LINES OF BARS WITH 2 LENGTHS OF BARS PER LINE.
6. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

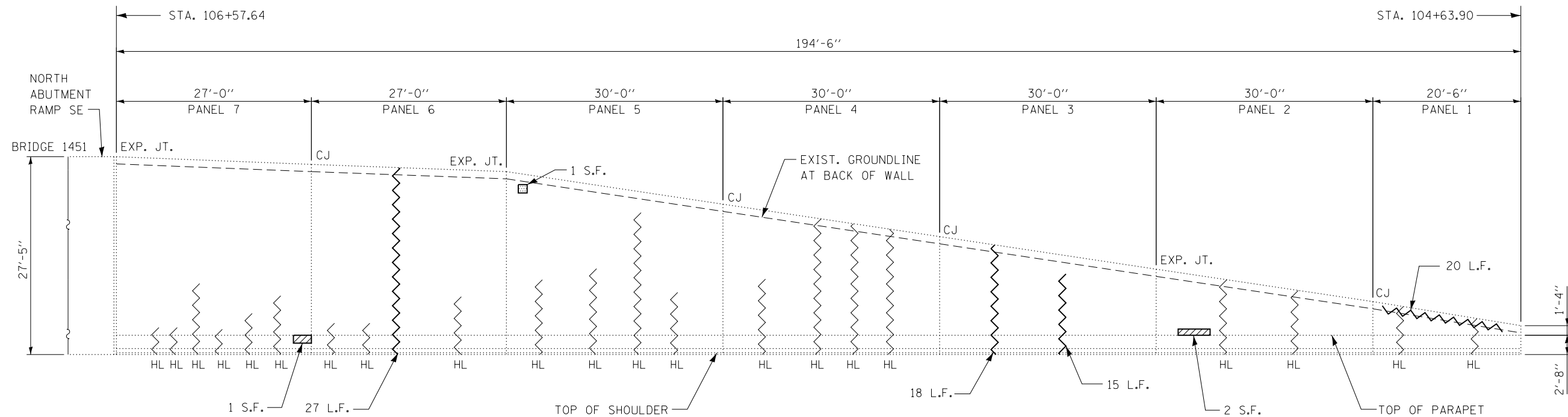
RWE-02 OF RWE-04

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018





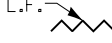


REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. RWE-02
RETAINING WALL 114042 - NS19.80R, SB	DRAWING NO. 1428 OF 1517
GEN. NOTES, INDEX OF SHEETS, & T.B.O.M.	



FRONT WALL ELEVATION
(LOOKING WEST)

LEGEND

-  CLEANING AND PAINTING EXPOSED REBAR
-  STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
-  L.F. LOW PRESSURE EPOXY INJECTION
-  HL HAIRLINE CRACK (FOR INFORMATION ONLY)
-  CJ CONSTRUCTION JOINT

NOTES:

1. SEAL CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION, I.E. CRACKS WITH EFFLORESCENCE AND/OR LEACHING CRACKS, WITH LOW PRESSURE EPOXY INJECTION.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	80
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	3
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	3,826
X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	1

RWE-03 OF RWE-04

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

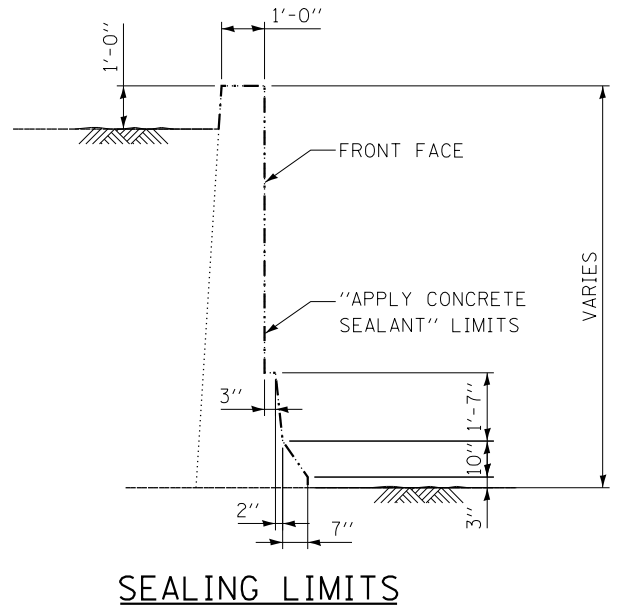


REVISIONS		
NO.	DATE	DESCRIPTION

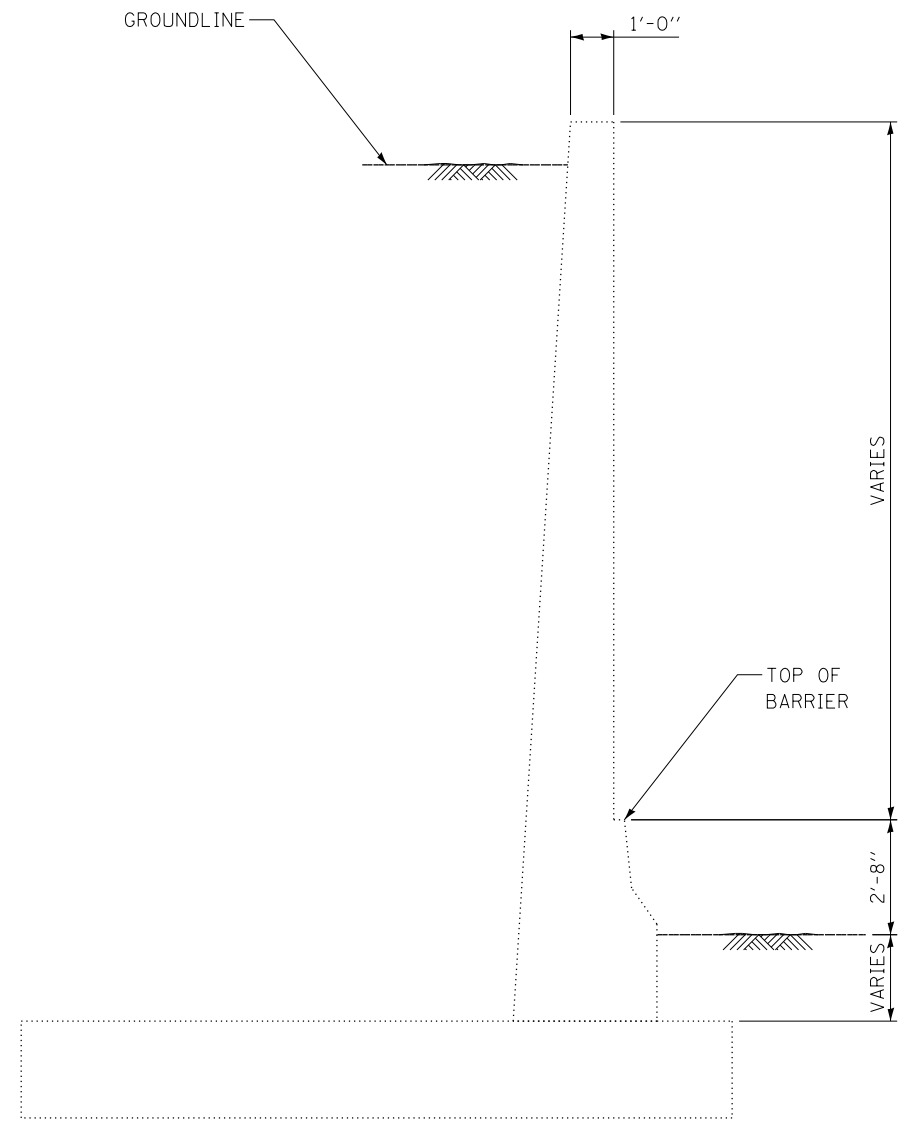
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RETAINING WALL 114042 - NS19.80R,SB
RETAINING WALL ELEVATION

SHT NO. RWE-03
DRAWING NO. 1429 OF 1517

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SEALING LIMITS



TYPICAL SECTION

CONVENTIONAL FOOTING

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

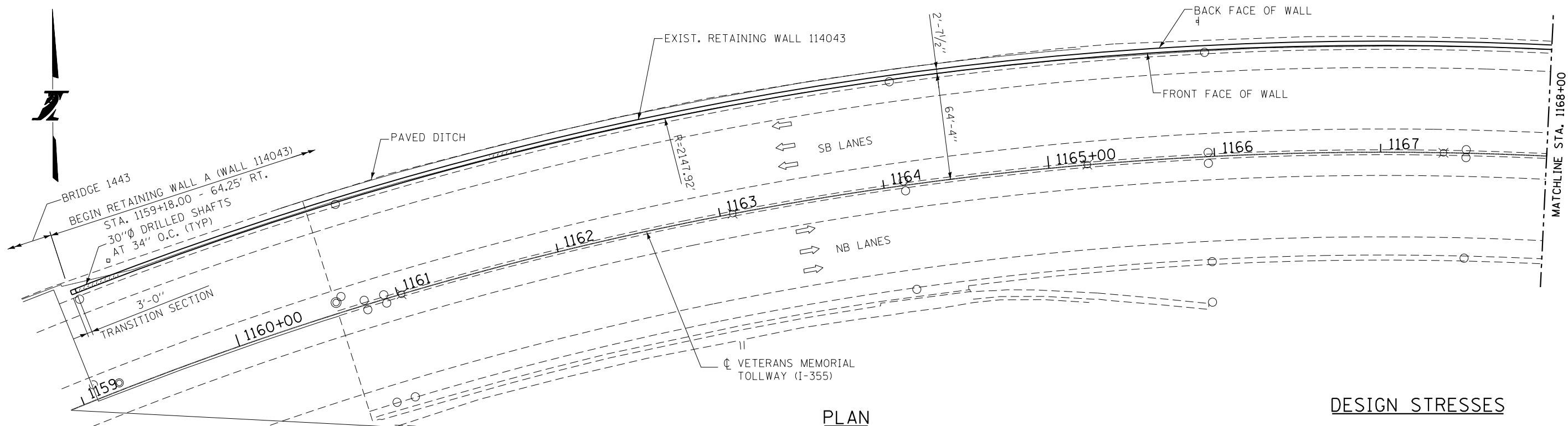
CONTRACT NO. RR-16-4255
 RETAINING WALL 114042 - NS19.80R,SB
 STANDARD REPAIR DETAILS

RWE-04 OF RWE-04
 SHT NO. RWE-04
 DRAWING NO.
 1430 OF 1517

BENCHMARK:
CUT "C" IN TOP OF DOUBLE FACE MEDIAN BARRIER WALL AT NORTH END OF I-88 OVER I-355 TUNNEL ± STA. 1160+60, 0 RT. ELEV. = 747.15

EXISTING STRUCTURE:
THE RETAINING WALL WAS ORIGINALLY CONSTRUCTED IN 1989 UNDER CONTRACT CIP-615. THE WALL INCLUDES 3 FT. AND 5 FT. DEEP CAP BEAM WITH THE DEEPER CAP BEAM ANCHORED IN TO THE GROUND THRU TIEBACKS. IT ALSO INCLUDES W21 STEEL PILES WITH 30-INCH DIAMETER DRILLED SHAFTS FILLED WITH CONCRETE, 6-INCH CONCRETE FACING AND WITH A 4-INCH CLEAR SPACE BETWEEN SHAFTS. THE WALL FACING AND DRILLED SHAFT ARE MECHANICALLY CONNECTED TO EACH OTHER USING 3.5-INCH LONG, 3/4-INCH DIAMETER SHEAR STUDS WELDED TO THE FRONT FLANGES OF THE STEEL COLUMNS AND SPACED AT 18 INCHES IN THE VERTICAL DIRECTION. THE CONCRETE WALL FACING IS REINFORCED WITH #4 REINFORCING STEEL BARS SPACED AT 12 INCHES EACH WAY, LOCATED NEAR THE CENTER OF THE WALL. THE TOTAL LENGTH OF THE WALL (TAKEN FROM THE AS-BUILT PLAN), INCLUDING THE 104'-4" CONVENTIONAL WALL ON SPREAD FOOTING, IS 2314 FT.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.



PLAN

DESIGN STRESSES

EXISTING CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - CONCRETE FACING AND BARRIER)
fy = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - CONCRETE FACING AND BARRIER REPAIRS)
fy = 60,000 PSI (REINFORCEMENT)

DESIGN SPECIFICATIONS

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP's).

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.

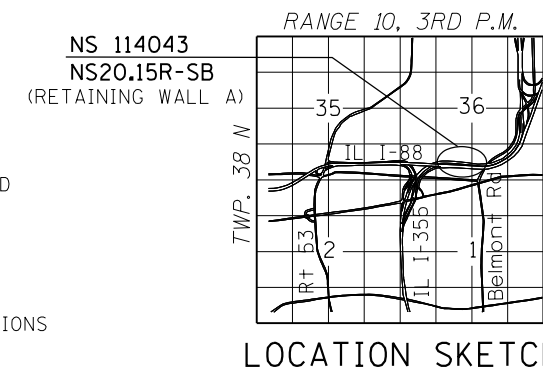
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

CURVE DATA

I-355:
P.I. STA. = 1161+18.64 BK
P.I. STA. = 1159+99.52 AH
Δ = 49°15'17.1"
Dc = 2°45'00"
R = 2,083.59
T = 955.15'
L = 1,791.18
E = 208.49'
S.E. = 0.060 %

SCOPE OF WORK

- CLEAN AND PATCH SPALLED CONCRETE. REMOVE ALL DETERIORATED AND UNSOUND CONCRETE PRIOR TO PATCH WORKS.
- REMOVE DETERIORATED CONCRETE AROUND THE LARGER CRACKS AND PATCH REPAIR.
- APPLY CONCRETE SEALANT TO THE TOP, BACK AND FRONT FACES OF THE CAP BEAM, AND THE WHOLE FRONT FACE OF THE CONCRETE.
- SEAL CRACKS THAT EXHIBIT MOISTURE INTRUSION, AND CRACKS LARGER THAN 1/16" WITH LOW PRESSURE EPOXY INJECTION.
- REPAIR SPALLED/BROKEN CONCRETE BARRIER.



LOCATION SKETCH

RWF-01 OF RWF-09

DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018

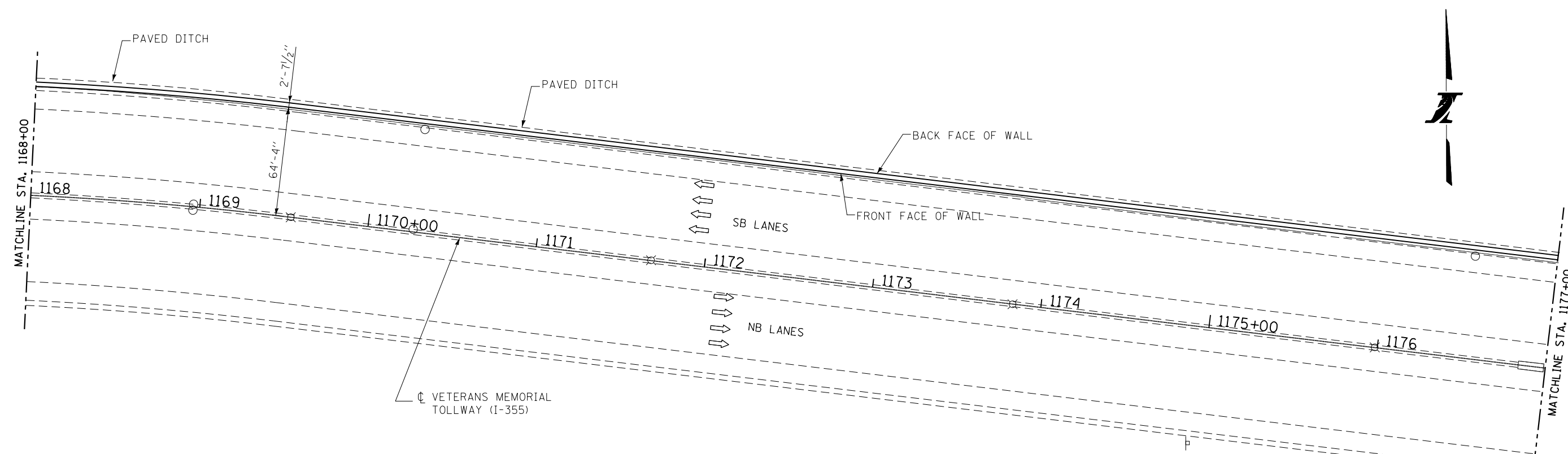


REVISIONS	
NO.	DESCRIPTION

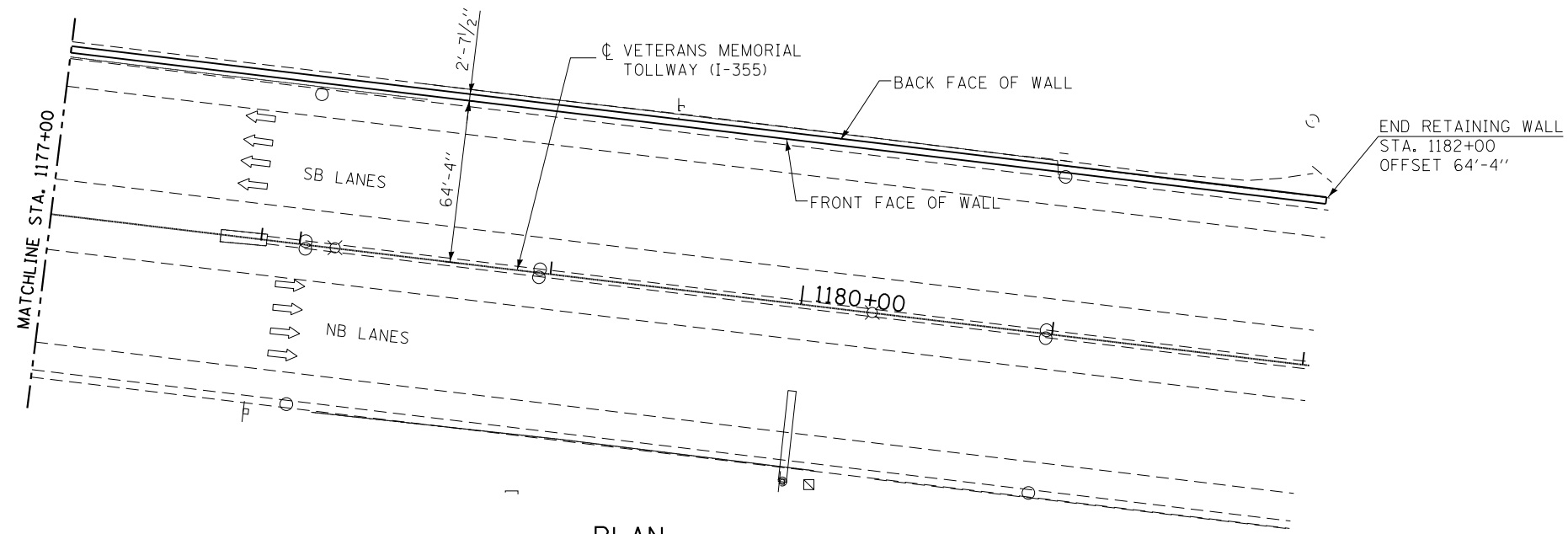
CONTRACT NO. RR-16-4255
RETAINING WALL 114043 - NS20.15R,SB
GENERAL PLAN

SHT NO. RWF-01
DRAWING NO. 1431 OF 1517

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PLAN



PLAN



DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-16-4255
 RETAINING WALL 14043 - NS20.15R,SB
 GENERAL PLAN

RWF-02 OF RWF-09
 SHT NO. RWF-02
 DRAWING NO.
 1432 OF 1517

GENERAL NOTES

CAST-IN-PLACE CONCRETE GENERAL NOTES:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS GENERAL NOTES:

- REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
- COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 811.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GRAY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)".
- CONCRETE SEALANT SHALL BE APPLIED TO THE TOP, BACK AND FRONT SURFACES OF CAP BEAM, AND EXPOSED SURFACES OF THE RETAINING WALL. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTION OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURE, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEM AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATION MADE FROM THE DATA.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	DESCRIPTION	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	50102400	CONCRETE REMOVAL	CU. YD.	0.2	
	50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	0.2	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	2,599	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	236	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	51,522	

* INDICATES SPECIAL PROVISION
 ** INDICATES ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION

LIST OF ABBREVIATIONS

AH	AHEAD
B.F.	BACK FACE
BK.	BACK
BK/	BACK OF
B/	BOTTOM OF
BOT.	BOTTOM
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
CU. FT.	CUBIC FEET
EA	EACH
ELEV.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
E.F.	EACH FACE
F.F.	FRONT FACE
I.F.	INSIDE FACE
L.F.	LINEAR FOOT
MAX.	MAXIMUM
MIN.	MINIMUM
N.B.	NORTHBOUND
O.F.	OUTSIDE FACE
P.G.L.	PROFILE GRADE LINE
P.J.F.	PREFORMED JOINT FILLER
PROP.	PROPOSED
S.B.	SOUTHBOUND
S.P.	SPECIAL PROVISION
STA.	STATION
SHLDR	SHOULDER
S.F.	SQUARE FOOT
SQ. FT.	SQUARE FOOT
SQ. YD.	SQUARE YARD
SY	SQUARE YARD
TYP.	TYPICAL

INDEX OF SHEETS

RWF-01	GENERAL PLAN 1
RWF-02	GENERAL PLAN 2
RWF-03	GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL
RWF-04	RETAINING WALL ELEVATION 1 (LOOKING NORTH - PANEL 1 TO 8)
RWF-05	RETAINING WALL ELEVATION 2 (LOOKING NORTH - PANEL 9 TO 17)
RWF-06	RETAINING WALL ELEVATION 3 (LOOKING NORTH - PANEL 18 TO 25)
RWF-07	RETAINING WALL ELEVATION 4 (LOOKING NORTH - PANEL 26 TO 33)
RWF-08	RETAINING WALL ELEVATION 4 (LOOKING NORTH - PANEL 34 TO 41)
RWF-09	RETAINING WALL ELEVATION 5 (LOOKING NORTH - PANEL 42 TO 46)

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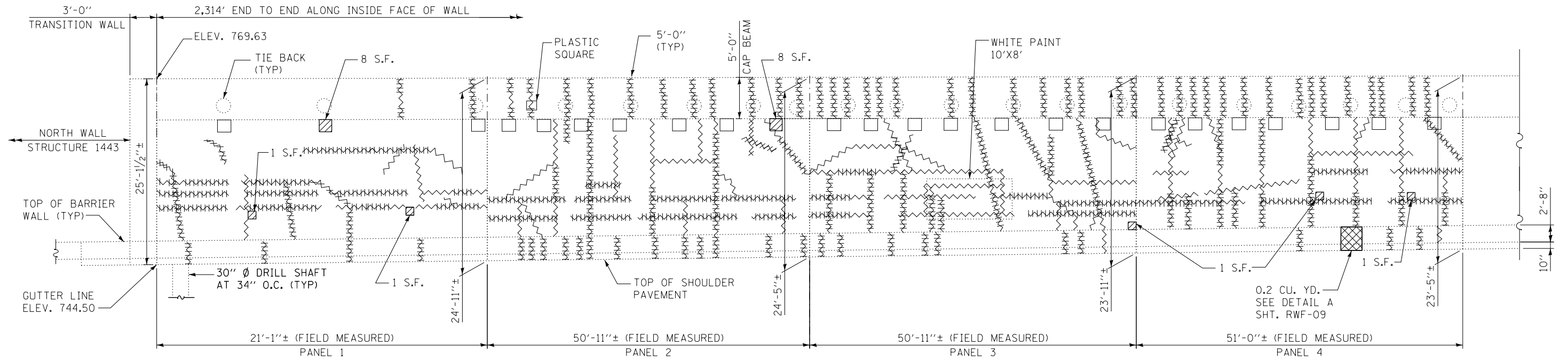
RWF-03 OF RWF-09

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114043 - NS20.15R,SB
 GENERAL NOTES INDEX OF SHEETS & T.B.O.M.
 SHT NO. RWF-03
 DRAWING NO. 1433 OF 1517



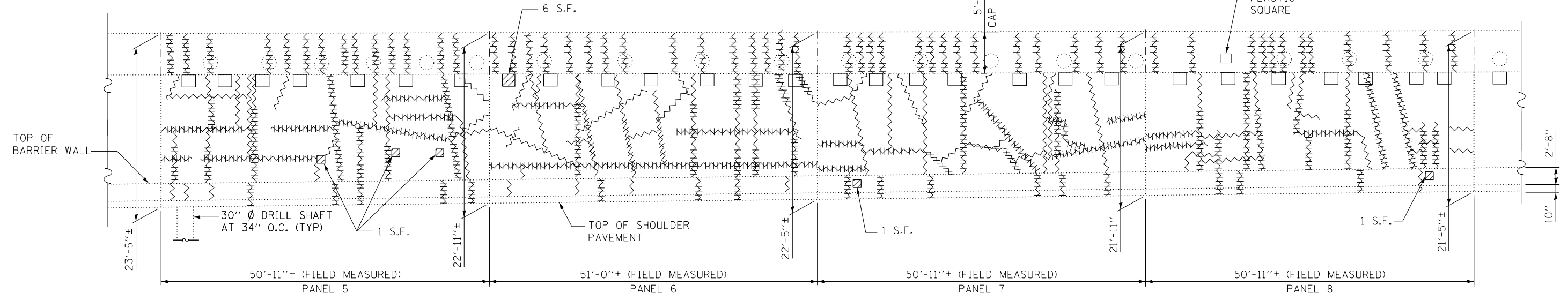
APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 32 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 95 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 79 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 83 L.F.

ELEVATION
(LOOKING NORTH)



APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 113 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 79 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 110 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 100 L.F.

LEGEND

- PREVIOUS PATCH FOR (INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION
- CONCRETE REMOVAL, CONCRETE SUPERSTRUCTURE

NOTE:
1. CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.

ELEVATION
(LOOKING NORTH)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
50102400	CONCRETE REMOVAL	CU. YD.	0.2
50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	0.2
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	691
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	32
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	10,661

RWF-04 OF RWF-09

DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018

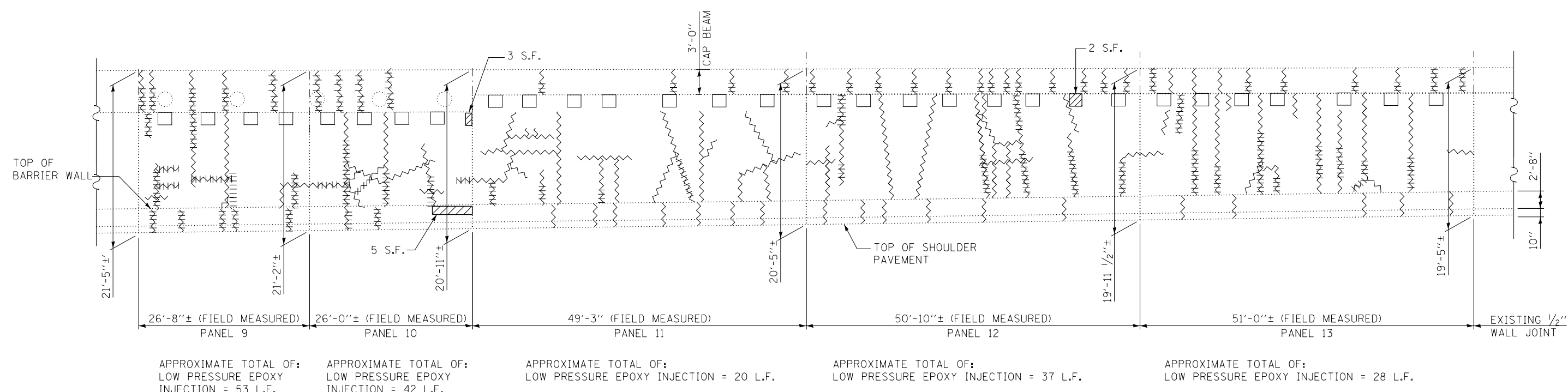


REVISIONS		
NO.	DATE	DESCRIPTION

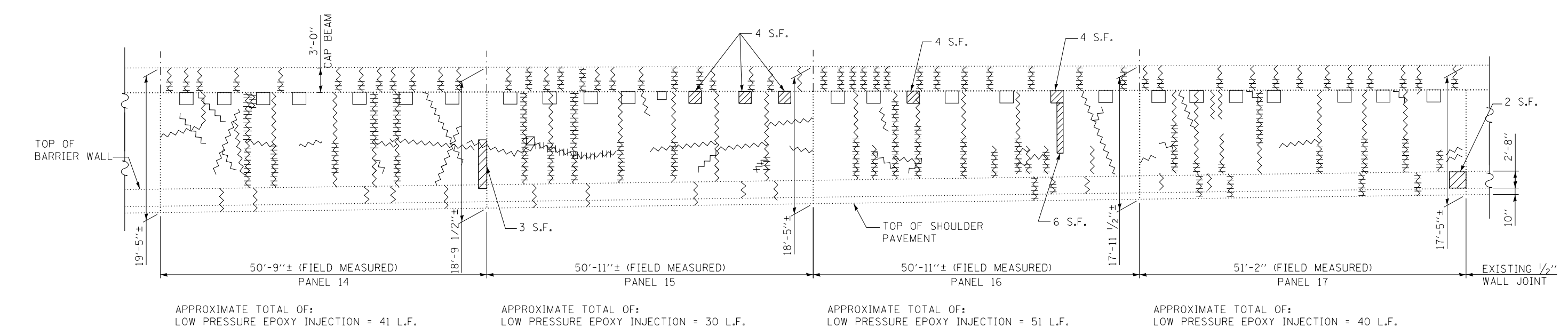
CONTRACT NO. RR-16-4255
RETAINING WALL 114043 - NS20.15R,SB
RETAINING WALL ELEVATION 1

SHT NO. RWF-04
DRAWING NO. 1434 OF 1517

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ELEVATION
(LOOKING NORTH)



ELEVATION
(LOOKING NORTH)

LEGEND

- PREVIOUS PATCH (FOR INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION

NOTE:
1. CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	342
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	41
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	9,932

RWF-05 OF RWF-09

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

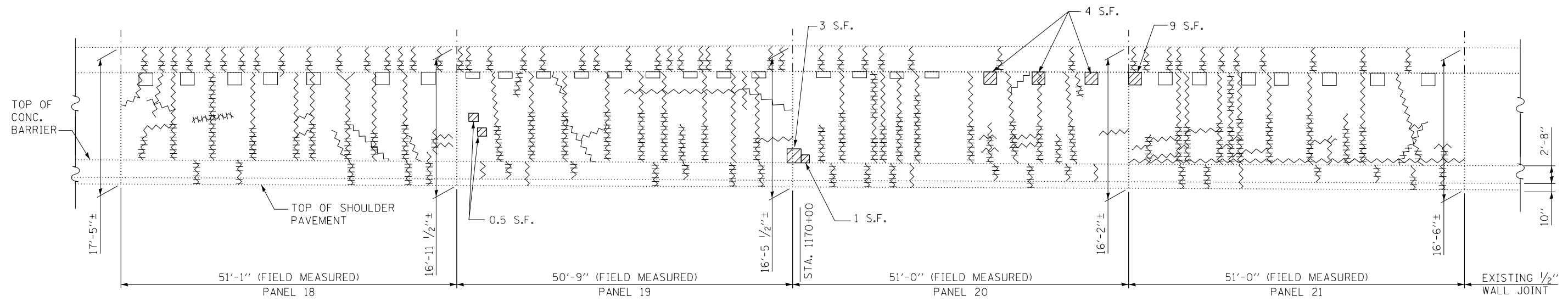


REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114043 - NS20.15R,SB
 RETAINING WALL ELEVATION 2

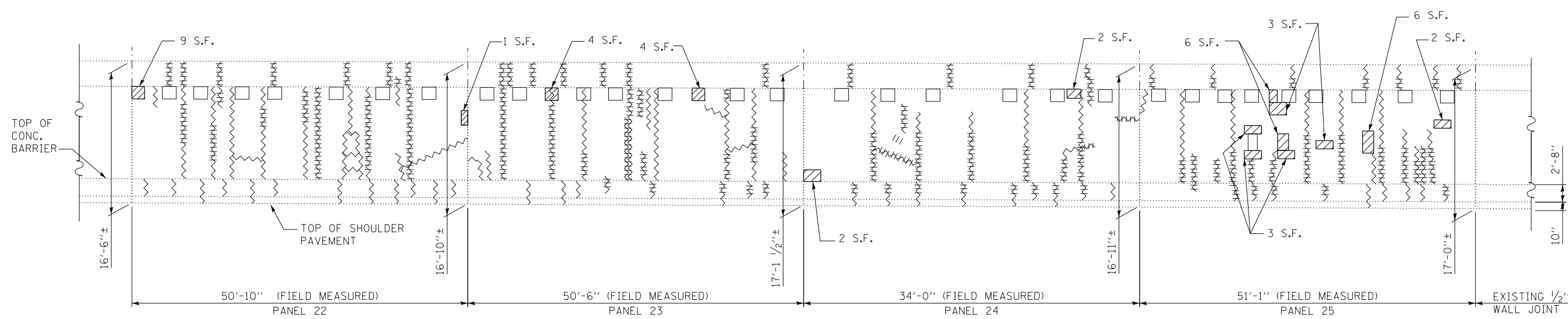
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 DRAWING NO.
 1435 OF 1517

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APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 66 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 48 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 65 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 57 L.F.

ELEVATION
(LOOKING NORTH)



APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 38 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 66 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 57 L.F.
 APPROXIMATE TOTAL OF: LOW PRESSURE EPOXY INJECTION = 51 L.F.

ELEVATION
(LOOKING NORTH)

LEGEND

- PREVIOUS PATCH (FOR INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION

NOTE:
 1. CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	448
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	83
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	8,476

RWF-06 OF RWF-09

DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

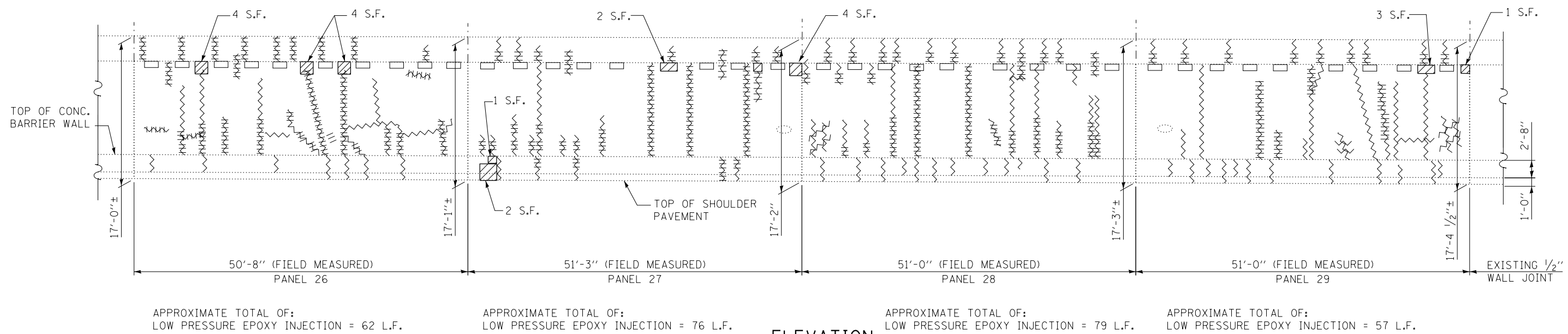


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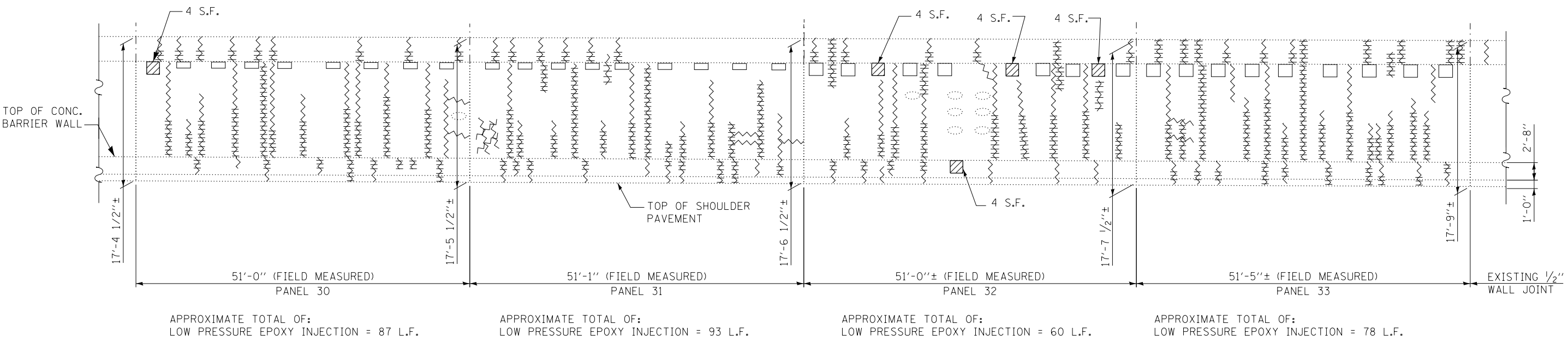
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RETAINING WALL 114043 - NS20.15R,SB
RETAINING WALL ELEVATION 3

SHT NO. **RWF-06**
 DRAWING NO. **1436** OF **1517**

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ELEVATION
(LOOKING NORTH)



ELEVATION
(LOOKING NORTH)

LEGEND

- PREVIOUS PATCH (FOR INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION

NOTE:
1. CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	592
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	45
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	9,098

RWF-07 OF RWF-09

DRAWN BY **MPS** DATE **3/11/2018**
CHECKED BY **JPM/MMH** DATE **3/11/2018**

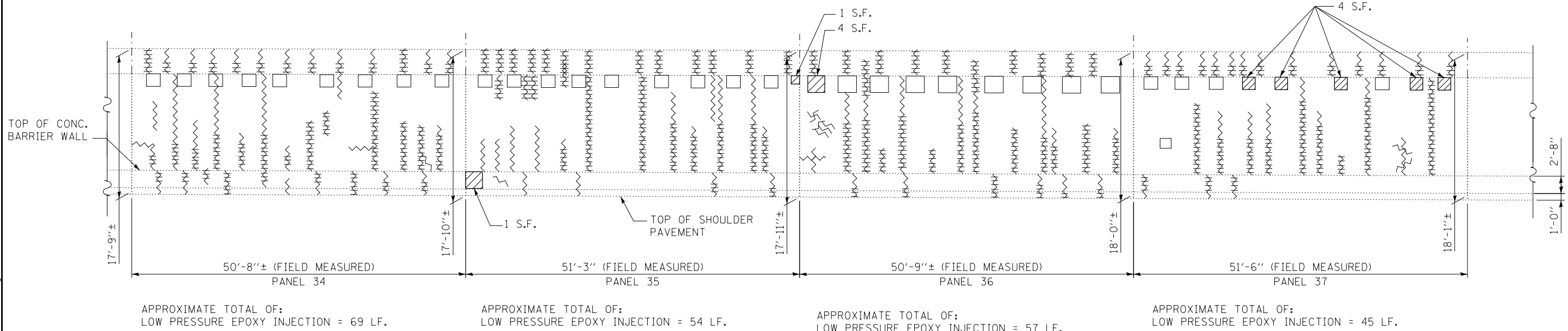


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NO.	DATE

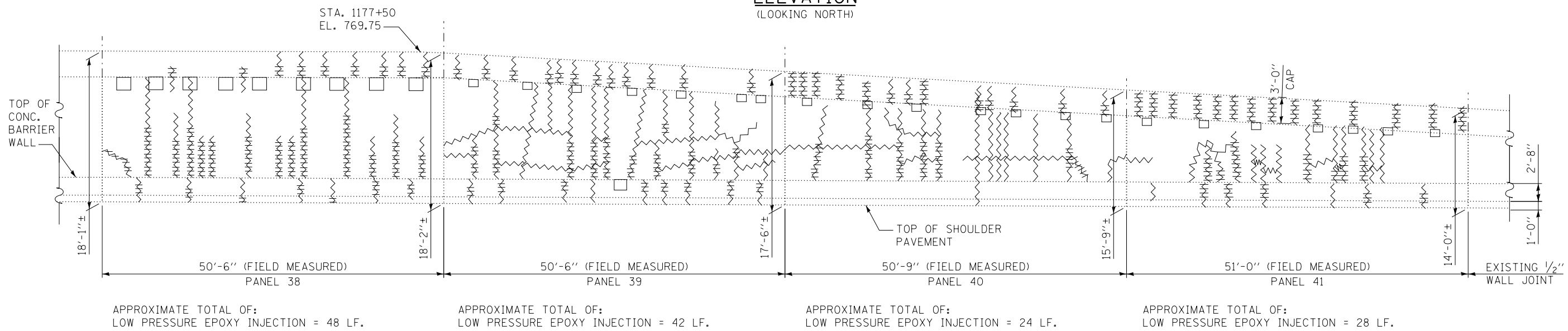
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RETAINING WALL 114043 - NS20.15R,SB
RETAINING WALL ELEVATION 4

SHT NO. **RWF-07**
DRAWING NO. **1437 OF 1517**

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ELEVATION
(LOOKING NORTH)



ELEVATION
(LOOKING NORTH)

LEGEND

- PREVIOUS PATCH (FOR INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION

NOTE:
1. CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	367
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	26
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	9,094

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018

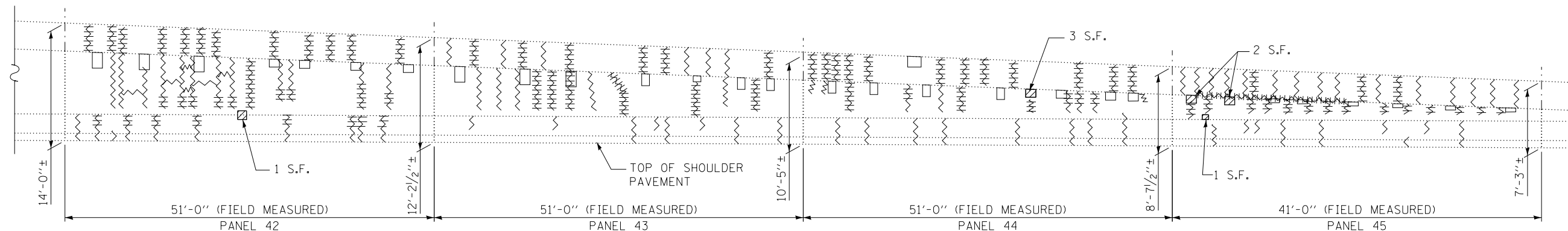


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114043 - NS20.15R,SB
 RETAINING WALL ELEVATION 5

RWF-08 OF RWF-09
 SHT NO. RWF-08
 DRAWING NO. 1438 OF 1517



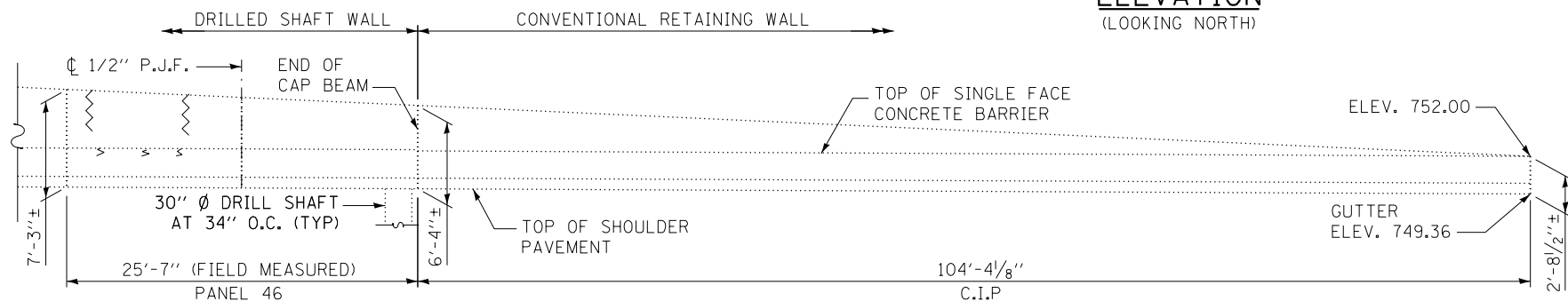
APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 55 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 52 L.F.

APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 11 L.F.

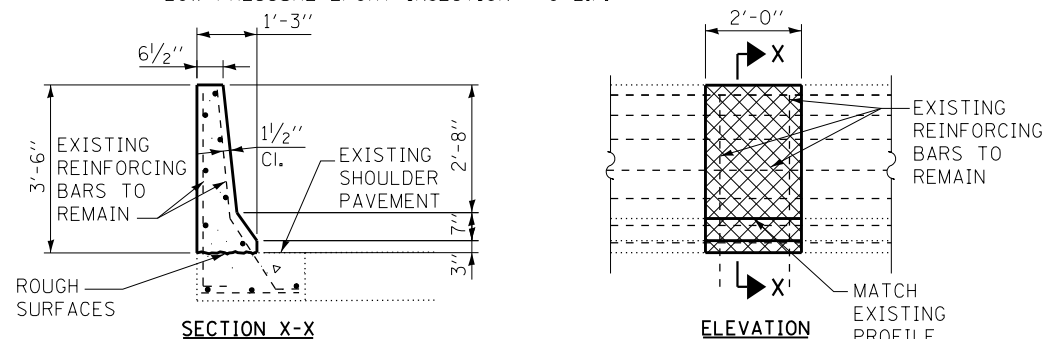
APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 41 L.F.

ELEVATION
(LOOKING NORTH)



APPROXIMATE TOTAL OF:
LOW PRESSURE EPOXY INJECTION = 0 L.F.

ELEVATION
(LOOKING NORTH)



DETAIL A
BARRIER WALL RECONSTRUCTION

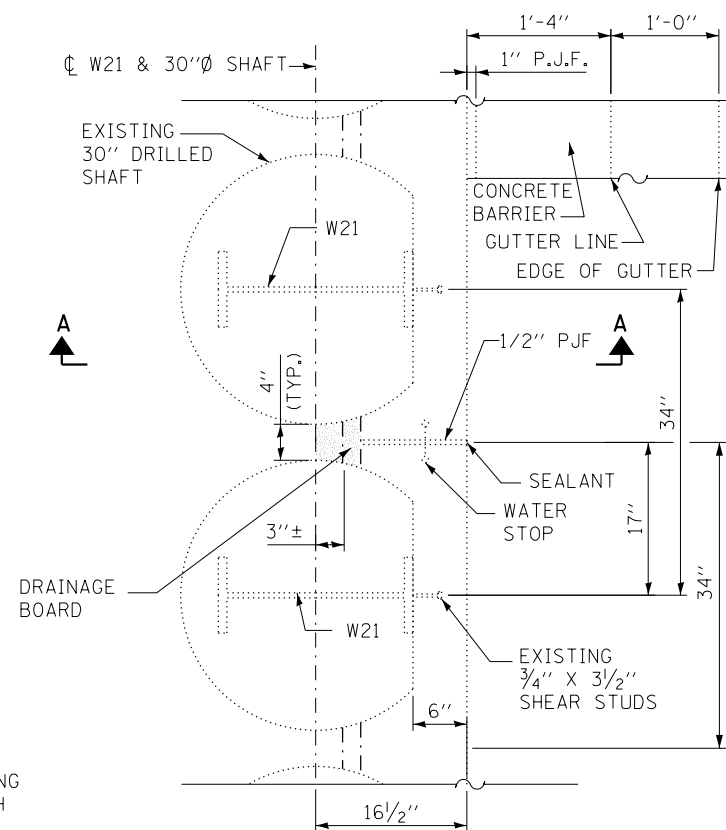
BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	159
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	9
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	4,261

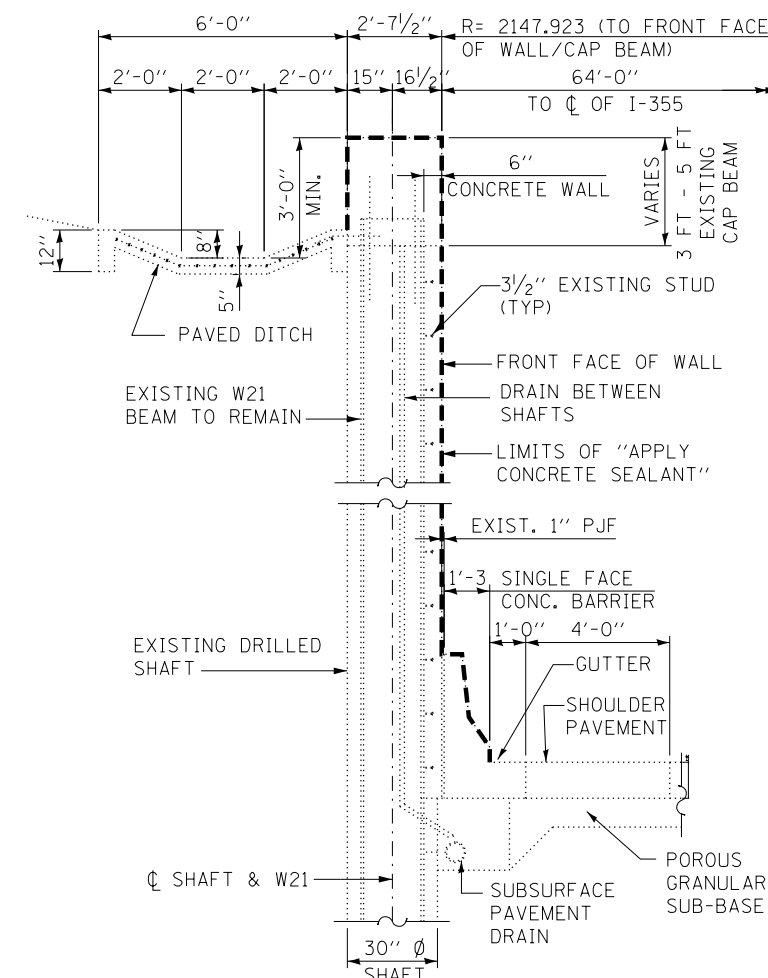
LEGEND

- PREVIOUS PATCH (FOR INFORMATION ONLY)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- CONCRETE REMOVAL, CONCRETE SUPERSTRUCTURE
- CRACK, HAIRLINE TO 1/16" WIDE (FOR INFORMATION ONLY)
- L.F.
- LOW PRESSURE EPOXY INJECTION

- NOTES:**
- CRACK LARGER THAN 1/16" OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE SHALL BE REPAIRED.
 - CLEAN, STRAIGHTEN AND INCORPORATE EXISTING REINFORCING BARS TO REMAIN INTO NEW CONCRETE. COST INCLUDED WITH "CONCRETE REMOVAL" & CONCRETE SUPERSTRUCTURE".
 - REINFORCING BARS TO REMAIN. IF DAMAGED DURING THE PROCESS OF CONCRETE REMOVAL, SHALL BE REPLACED IN-KIND AT NO ADDITIONAL COST TO THE AUTHORITY.



EXISTING WALL - PARTIAL PLAN



SECTION A-A
EXISTING WALL - TYPICAL SECTION

DRAWN BY **MPS** DATE **3/11/2018**
CHECKED BY **JPM/MMH** DATE **3/11/2018**



100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415



2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
RETAINING WALL 114043 - NS20.15R,SB
RETAINING WALL ELEVATION 6

RWF-09 OF RWF-09
SHT NO. **RWF-09**
DRAWING NO. **1439** OF **1517**

BENCH MARK:
 CUT "□" IN TOP OF SINGLE FACE CONCRETE BARRIER WALL, SB I-355 +/-150' N. I-88 OVER I-355 TUNNEL.
 +/- STA. 1160+67, 64' LT. ELEV = 749.42.

EXISTING STRUCTURE:
 THE RETAINING WALL WAS ORIGINALLY BUILT IN 1989 UNDER CONTRACT CIP-615. THE WALL CONSISTS OF W21 STEEL PILES INSIDE 30" Ø DRILLED SHAFTS AT 34" CTS. THE TOP OF THE WALL CONSISTS OF A 3 FOOT AND 5 FOOT DEEP CAP BEAM ANCHORED INTO THE GROUND BY TIE-BACKS. CONCRETE PANELS 6" THICK ARE ATTACHED TO THE FRONT FACE OF THE DRILLED SHAFTS WITH STUD CONNECTIONS. THE LENGTH OF THE WALL SUPPORTED BY DRILLED SHAFTS IS 308'-4⁹/₁₆" AND THE LENGTH OF THE EAST END WALL IS 55'-0" SUPPORTED ON SPREAD FOOTINGS.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN STRESSES

EXISTING CONSTRUCTION

f'c = 4,000 PSI (CLASS SI)
 fy = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - CONCRETE REPAIRS)
 fy = 60,000 PSI (REINFORCEMENT)

SCOPE OF WORK

1. REPAIR DELAMINATED/SPALLED CONCRETE WITH STRUCTURAL REPAIR OF CONCRETE.
2. REPAIR WALL JOINT AND DRAINAGE SYSTEM AT CONNECTION WITH BRIDGE 1443.
3. SEAL ALL CRACKS 1/16" OR LARGER WITH LOW PRESSURE EPOXY INJECTION.
4. APPLY CONCRETE SEALANT TO THE TOP, FRONT FACE AND BACK FACE OF THE WALL.

DESIGN SPECIFICATIONS

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

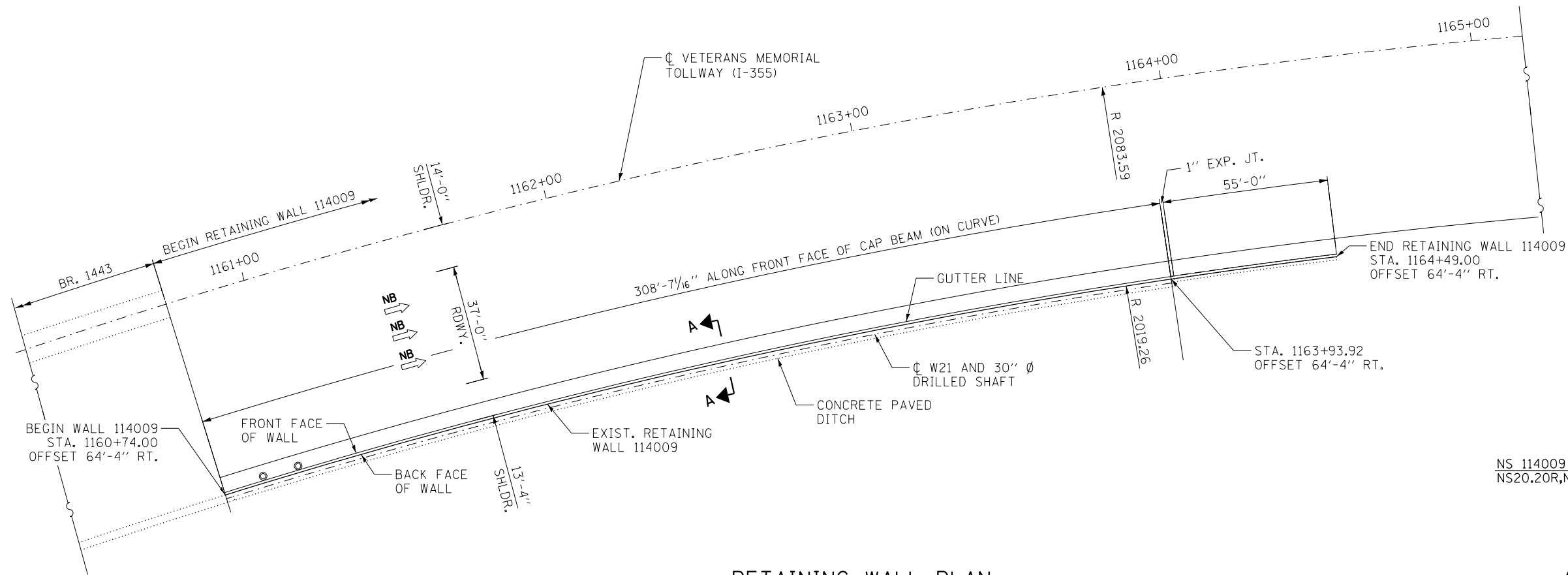
CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.



RETAINING WALL PLAN

SEE SHEET RWF-05 FOR SECTION A-A

LEGEND

○ EXISTING CATCH BASIN

DRAWN BY MMZ DATE 3/11/2018
 CHECKED BY MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114009 - NS20.20R,NB
 GENERAL PLAN

RWG-01 OF RWG-05
 SHT NO. RWG-01
 DRAWING NO. 1440 OF 1517

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INDEX OF SHEETS

RWG-01 GENERAL PLAN
 RWG-02 GENERAL NOTES & T.B.O.M.
 RWG-03 RETAINING WALL ELEVATION 1
 RWG-04 RETAINING WALL ELEVATION 2
 RWG-05 REPAIR DETAILS

ABBREVIATIONS

N.B.	NORTHBOUND
S.B.	SOUTHBOUND
STA.	STATION
ELEV.	ELEVATION
C.I.P.	CAST-IN-PLACE
CL	CENTERLINE
BRG	BEARING
S. ABUT.	SOUTH ABUTMENT
N. ABUT.	NORTH ABUTMENT
TYP.	TYPICAL
MAX.	MAXIMUM
MIN.	MINIMUM
BOT.	BOTTOM
EXIST.	EXISTING
EXP.	EXPANSION
JT.	JOINT
SHLDR	SHOULDER
BL	BASELINE
P.G.L.	PROFILE GRADE LINE
E.F.	EACH FACE
F.F.	FRONT FACE
B.F.	BACK FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
BK.	BACK OF
B/	BOTTOM OF
T/	TOP OF
PROP.	PROPOSED
HP	H-PILE
WF	W-FLANGE
CL.	CLEARANCE
SO. FT. OR S.F.	SQUARE FOOT
SQ. YD.	SQUARE YARD
L.F.	LINEAR FOOT
CU. FT.	CUBIC FEET
EA	EACH
BIT.	BITUMINOUS
PAV.	PAVEMENT

GENERAL NOTES

CAST-IN-PLACE CONCRETE:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS:

- REINFORCEMENT BARS, INCLUDING EPOXY- COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
- COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION:

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 811.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED (WITHOUT HEATING), CUT AND/OR BENT TO FIT, AND EPOXY PAINTED IF GOUGED. COST OF WHICH SHALL BE INCLUDED WITH CONCRETE REMOVAL.
- CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND TRAFFIC FACE OF RETAINING WALL AND PARAPETS. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED WITH THE CONTRACT.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	DESCRIPTION	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	50102400	CONCRETE REMOVAL	CU. YD.	2	
	50300225	CONCRETE STRUCTURE	CU. YD.	2	
	59100100	GEOCOMPOSITE WALL DRAIN	SQ. YD.	8	
*	J1506010	CLEANING AND SEALING JOINTS	FOOT	21	
*	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	610	
*	JT131424	STRUCTURAL TIMBER BOARD 2 INCHES BY 6 INCHES	FOOT	22	
*	JT131425	STRUCTURAL TIMBER BOARD 2 INCHES BY 12 INCHES	FOOT	20	
*	JT210001	POROUS GRANULAR BACKFILL	CU. YD.	2	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)	SQ. FT.	9	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	9,544	

- INDICATES SPECIAL PROVISION

CONSTRUCTION (CONT.):

- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP), WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTIONS STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- REPAIR SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.

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DRAWN BY **MMZ** DATE **3/11/2018**
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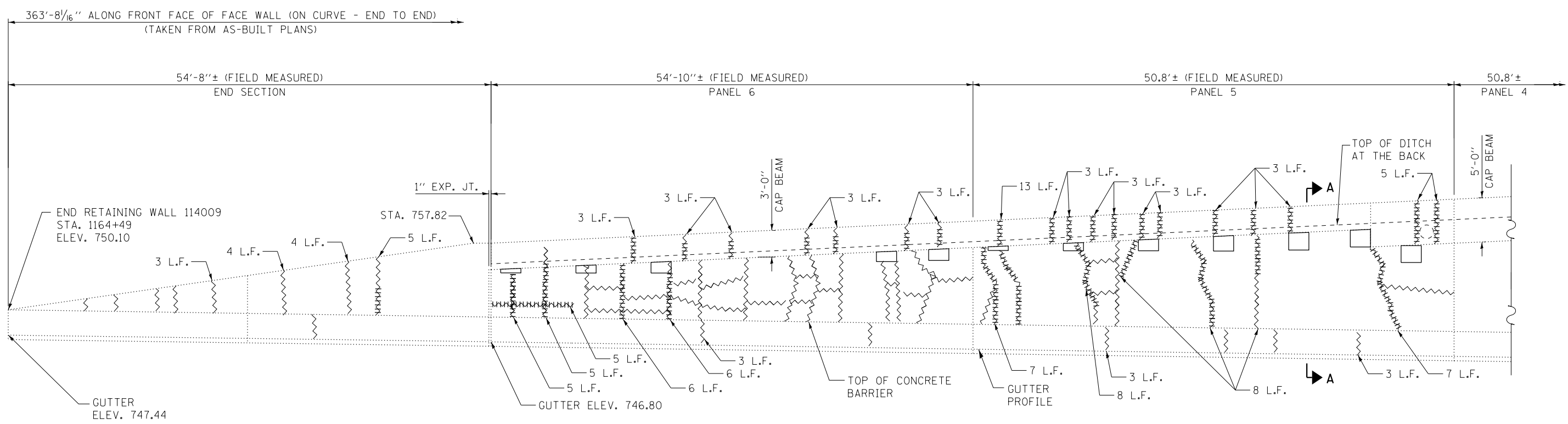


REVISIONS	
NO.	DATE DESCRIPTION

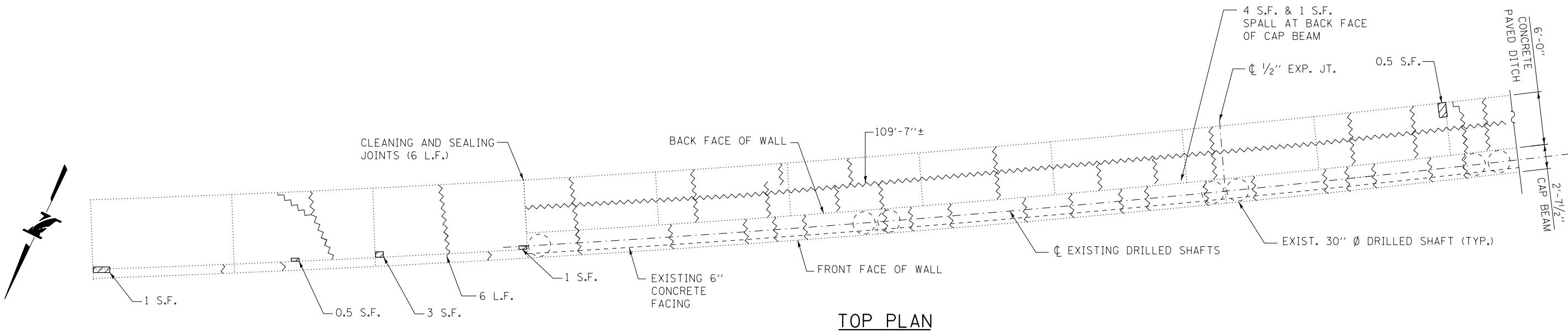
CONTRACT NO. **RR-16-4255**
 RETAINING WALL 114009 - NS20.20R,NB
 GENERAL NOTES & T.B.O.M.

RWG-02 OF RWG-05
 SHT NO. **RWG-02**
 DRAWING NO. **1441 OF 1517**

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NORTH FACE ELEVATION
(LOOKING SOUTH)



TOP PLAN

LEGEND:

- STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. CRACK
- L.F. CRACK WITH EFFLORESCENCE
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- PREVIOUS PATCH (FOR INFORMATION ONLY)

NOTES:

1. CRACKS ARE HAIRLINE UNLESS NOTED OTHERWISE.
2. PAVED SHOULDER REMOVAL AND REPLACEMENT AND PROPOSED 42 INCH CONCRETE BARRIER AND BASE SHOWN ON ROADWAY PLANS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
J1506010	CLEANING AND SEALING JOINTS	FOOT	6
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	279
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	4

DRAWN BY **MMZ** DATE **3/11/2018**
 CHECKED BY **MMH** DATE **3/11/2018**

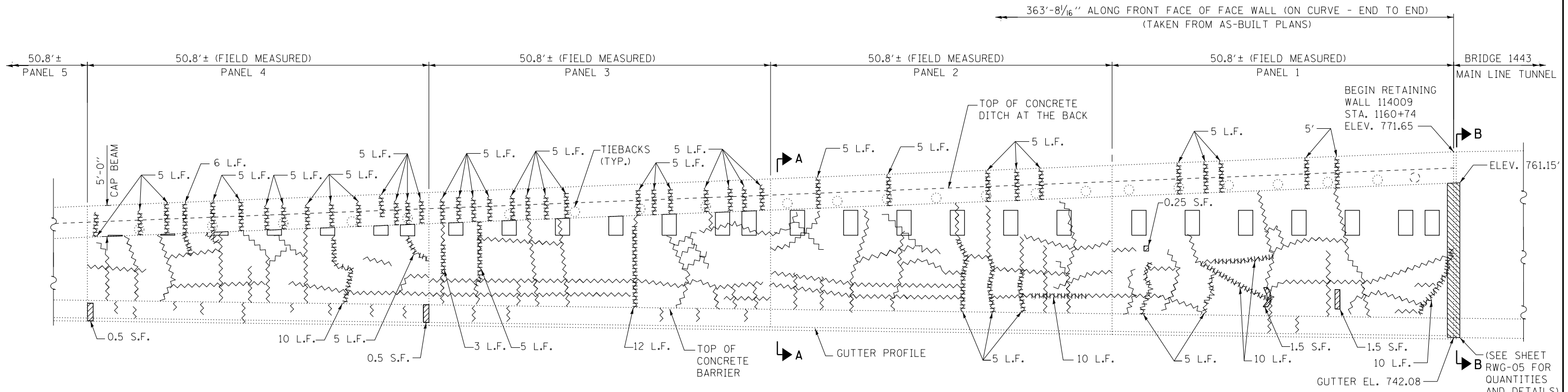


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

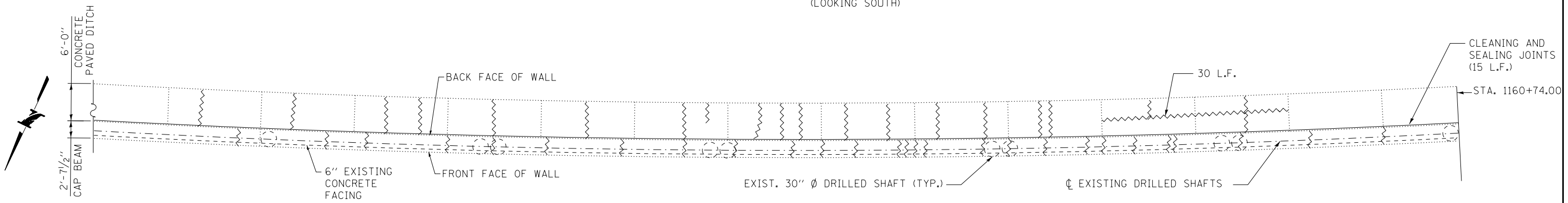
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
 RETAINING WALL 114009 - NS20.20R,NB
 RETAINING WALL ELEVATION 1

RWG-03 OF RWG-05
 SHT NO. **RWG-03**
 DRAWING NO. **1442** OF **1517**



NORTH FACE ELEVATION
(LOOKING SOUTH)



TOP PLAN

LEGEND:

- STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- REPAIR EXISTING WALL JOINT AND DRAINAGE SYSTEM
- L.F. CRACK
- L.F. CRACK WITH EFFLORESCENCE
- HL HAIRLINE CRACK (FOR INFORMATION ONLY)
- PREVIOUS PATCH (FOR INFORMATION ONLY)

NOTES:

1. CRACKS ARE HAIRLINE UNLESS NOTED OTHERWISE.
2. SEE SHEET RWG-05 FOR PROPOSED WALL JOINT AND DRAINAGE REPAIR QUANTITIES, SECTION B-B AND DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
J1506010	CLEANING AND SEALING JOINTS	FOOT	15
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	331
JT503040	STRUCTURE REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	5

DRAWN BY MMZ DATE 3/11/2018
CHECKED BY MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
RETAINING WALL 114009 - NS20.20R,NB
RETAINING WALL ELEVATION 2

RWG-04 OF RWG-05
SHT NO. RWG-04
DRAWING NO. 1443 OF 1517

BENCH MARK:
CUT "□" IN TOP OF SW CORNER OF THE SW WINGWALL OF SB I-355 OVER FINLEY RD. +/- 1237+95, 62' LT. ELEV. 722.22

EXISTING STRUCTURE:
RETAINING WALL NS21.30R, NB ORIGINALLY CONSTRUCTED IN 1988 UNDER CONTRACT CIP-616, WAS BUILT ON A 2,291.83 FT. RADIUS AND WITH A TOTAL LENGTH OF 716.15 FT. IT IS A COMBINATION OF CONCRETE RETAINING WALL AND BARRIER WALL, TYPE F (SPECIAL), SUPPORTED ON SPREAD FOOTING FROM STA. 1219+00.21 TO STA. 1220+75.32, ON 2 ROWS OF 3-FOOT DIAMETER DRILLED SHAFT FROM STA. 1220+75.32 TO STA. 1221+62.87 AND ON 3-ROWS OF 3-FOOT DIAMETER DRILLED SHAFT FROM STA. 1221+67.87 TO STA. 1226+00.65. THE RETAINING WALL HAS VARIABLE HEIGHT WITH MAXIMUM EXPOSED HEIGHT OF 13'-3" PLUS 2'-6" BARRIER WALL EXTENSION. THE DRAINAGE SYSTEM IS AN UNDERDRAIN 8" DIAMETER PERFORATED DRAIN PIPE INSTALLED BEHIND THE WALL UNDERNEATH THE I-355 NORTHBOUND SHOULDER. THE VERTICAL EXPANSION JOINTS CONSIST OF 1/2" PREFORMED JOINT FILLER.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN SPECIFICATION

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, ADOPTED MARCH 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION WITH ALL INTERIMS.

ILLINOIS DEPARTMENT OF TRANSPORTATION ALL BRIDGE DESIGN MEMORANDUMS.

DESIGN STRESSES

EXISTING CONSTRUCTION

$f'_c = 3,500$ PSI (CLASS SI - SUBSTRUCTURES)
 $f'_c = 60,000$ PSI (REINFORCEMENT)

NEW CONSTRUCTION

$f'_c = 3,500$ PSI (CLASS SI - RETAINING WALL REPAIR)
 $f'_y = 60,000$ PSI (REINFORCEMENT)

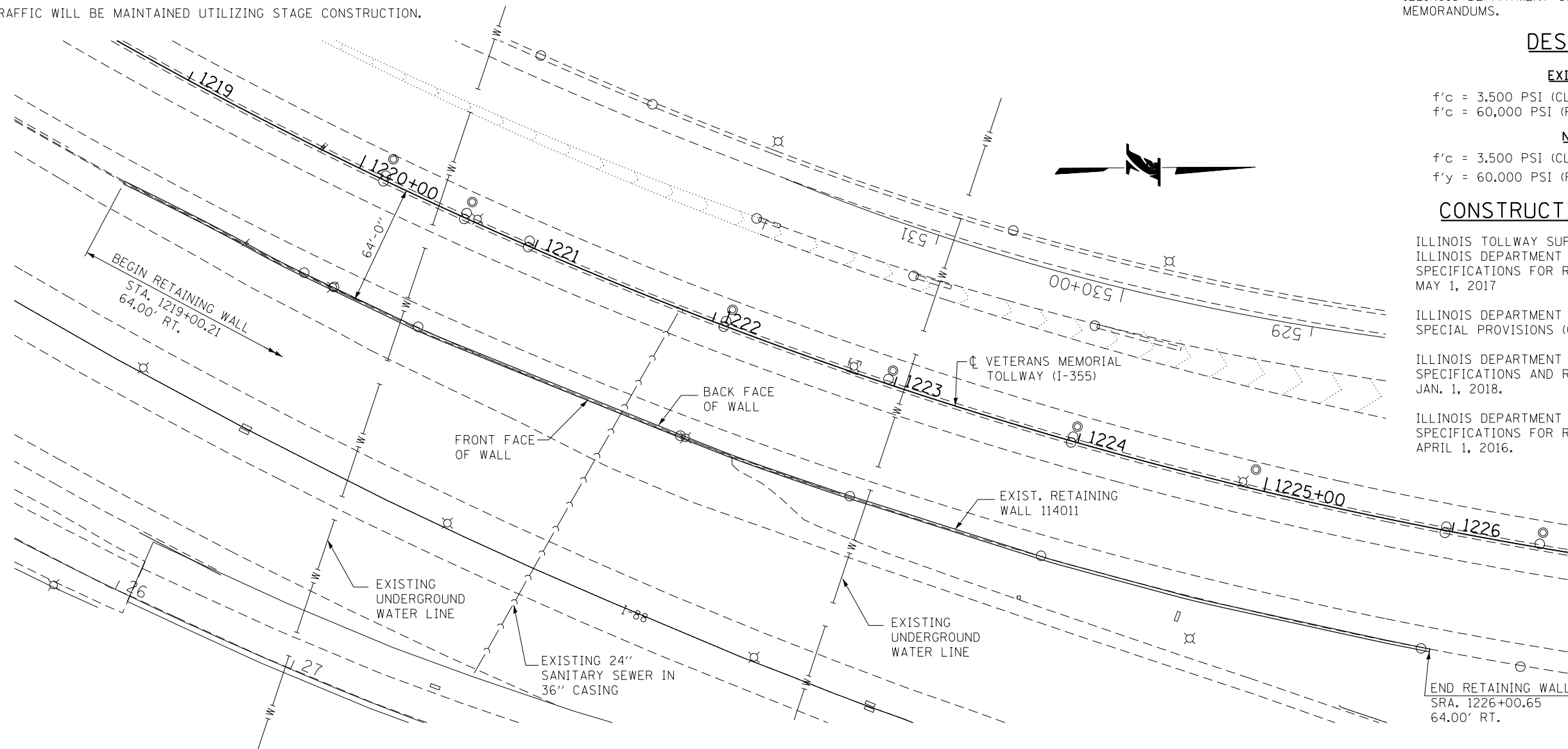
CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED MAY 1, 2017

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP's)

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JAN. 1, 2018.

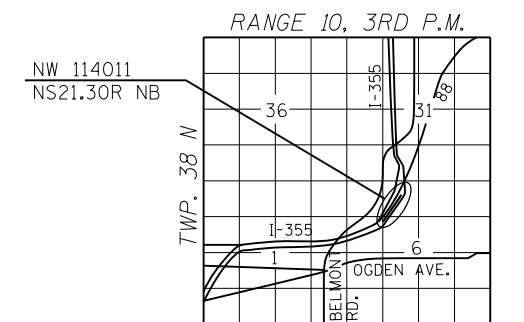
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.



PLAN

SCOPE OF WORK

1. REMOVE, CLEAN AND PATCH REPAIR DELAMINATED/SPALLED CONCRETE ALONG THE FACES OF WALL.
2. REMOVE DETERIORATED AND SPALLED CONCRETE AROUND OR ALONG THE CRACKS/EXPANSION JOINTS AND PATCH REPAIR.
3. APPLY CONCRETE SEALANT TO THE TOP AND BOTH FACES OF THE WALL.
4. SEAL CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION, I.E. CRACKS WITH EFFLORESCENCE AND/OR LEACHING OR LEAKING CRACKS.



LOCATION SKETCH

RWH-01 OF RWH-06

DRAWN BY MPS DATE 3/11/2018
CHECKED BY JPM/MMH DATE 3/11/2018



100 S. Wacker Drive, Suite 700 - Chicago, IL 60606 • P 312/606-0910 • F 312/606-0415



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255	SHT NO. RWH-01
RETAINING WALL 114011 - NS21.30R,NB	DRAWING NO. 1445 OF 1517
GENERAL PLAN	

INDEX OF SHEETS

- RWH-01 GENERAL PLAN
- RWH-02 GENERAL NOTES INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- RWH-03 RETAINING WALL FRONT ELEVATION STA. 1219+00.21 TO STA. 1222+50.73
- RWH-04 RETAINING WALL FRONT ELEVATION STA. 1222+50.73 TO STA. 1226+00.65
- RWH-05 RETAINING WALL BACK ELEVATION STA. 1226+00.65 TO STA. 1219+00.21
- RWH-06 RETAINING WALL REPAIR DETAILS

LIST OF ABBREVIATIONS

- B.F. BACK FACE
- BK/ BACK OF
- B/ BOTTOM OF
- BOT. BOTTOM
- C.I.P. CAST-IN-PLACE
- CL CENTERLINE
- CU. FT. CUBIC FEET
- EA EACH
- ELEV. ELEVATION
- EXIST. EXISTING
- EXP. EXPANSION
- E.F. EACH FACE
- F.F. FRONT FACE
- I.F. INSIDE FACE
- L.F. LINEAR FOOT
- MAX. MAXIMUM
- MIN. MINIMUM
- N.B. NORTHBOUND
- O.F. OUTSIDE FACE
- S.P. SPECIAL PROVISION
- P.G.L. PROFILE GRADE LINE
- P.J.F. PREFORMED JOINT FILLER
- PROP. PROPOSED
- S.B. SOUTHBOUND
- S.P. SPECIAL PROVISION
- STA. STATION
- SHLDR SHOULDER
- S.F. SQUARE FOOT
- SQ. FT. SQUARE FOOT
- SQ. YD. SQUARE YARD
- SY SQUARE YARD
- TYP. TYPICAL

GENERAL NOTES

CAST-IN-PLACE CONCRETE:

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS:

1. REINFORCEMENT BARS, INCLUDING EPOXY- COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
2. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
3. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
4. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
5. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION:

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
2. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
3. NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
4. THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
5. NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 811.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
8. EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED (WITHOUT HEATING), CUT AND/OR BENT TO FIT, AND EPOXY PAINTED IF GOUGED. COST OF WHICH SHALL BE INCLUDED WITH CONCRETE REMOVAL.
9. CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND TRAFFIC FACE OF RETAINING WALL AND PARAPETS. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
10. WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THAT DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS. THE WORK SPECIFIED WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE CONTRACT.

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	PLAN QUANTITY	RECORD QUANTITY
	50102400	CONCRETE REMOVAL	CU. YD.	0.1	-
	50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	0.1	-
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	727	-
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	28	-
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	11,740	-

* INDICATES SPECIAL PROVISION
 ** INDICATES ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION

CONSTRUCTION (CONT.):

11. AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP), WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTIONS STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
12. REPAIR SHOWN ARE BASED UPON INSPECTIONS CARRIED OUT AT THE TIME OF PLAN PREPARATION AND ARE FOR BIDDING PURPOSES ONLY. ACTUAL AREA TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF CONSTRUCTION.

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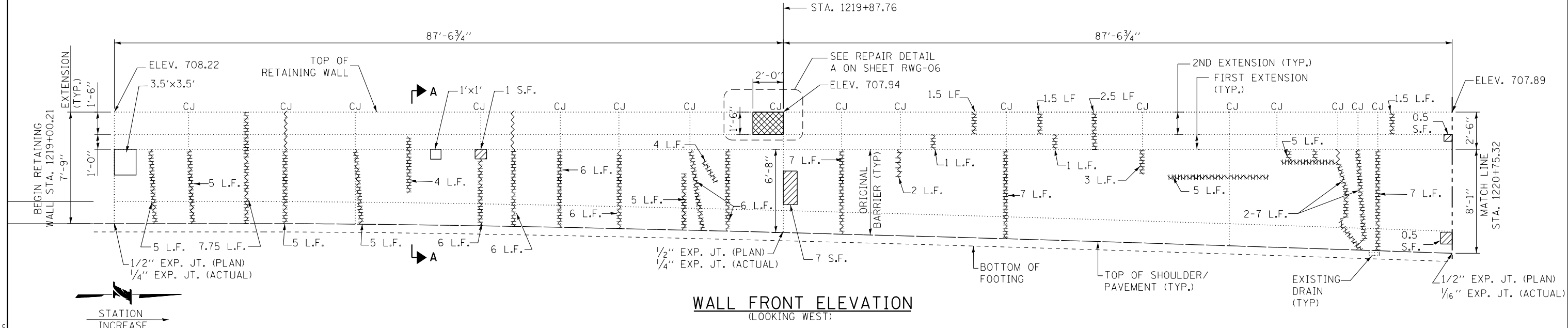
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 CHECKED BY JPM/MMH DATE 3/11/2018



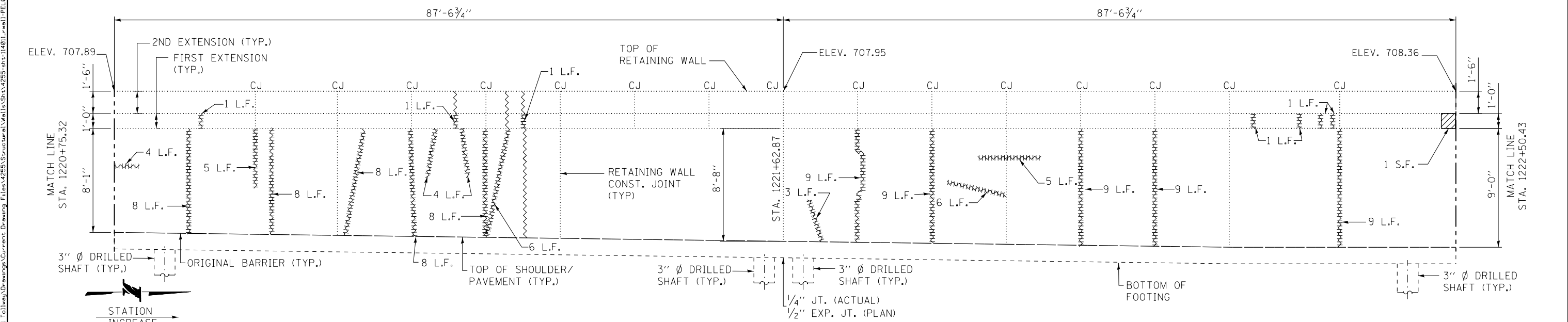
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-16-4255 SHT NO. RWH-02
 RETAINING WALL 114011 - NS21.30R,NB DRAWING NO.
 GENERAL NOTES INDEX OF SHEETS & T.B.O.M. 1446 OF 1517

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawing Files\4255\Structural\Walls\Sta 1219+00.21 to 1222+50.43\11-1-16\11-1-16-03.dgn



WALL FRONT ELEVATION
(LOOKING WEST)



WALL FRONT ELEVATION
(LOOKING WEST)

LEGEND:

- HOLLOW PATCH (FOR INFORMATION ONLY - NOT TO BE REPAIRED)
- CONCRETE REMOVAL
CONCRETE SUPERSTRUCTURE
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)
- L.F.
LOW PRESSURE EPOXY INJECTION
- CRACK WITH EFFLORESCENCE/WATER STAIN,
LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT AT EXTENSION
- CONST. JT. CONSTRUCTION JOINT AT WALL

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
50102400	CONCRETE REMOVAL	CU. YD.	0.1
50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	0.1
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	265
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	10
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	3,817

NOTES:

1. STATIONS WERE TAKEN FROM AS BUILT PLANS
2. CRACK LARGER THAN 1/16", OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE, SHALL BE REPAIRED.
3. "APPLY CONCRETE SEALANT" TO BE APPLIED TO THE ENTIRE FRONT FACE.

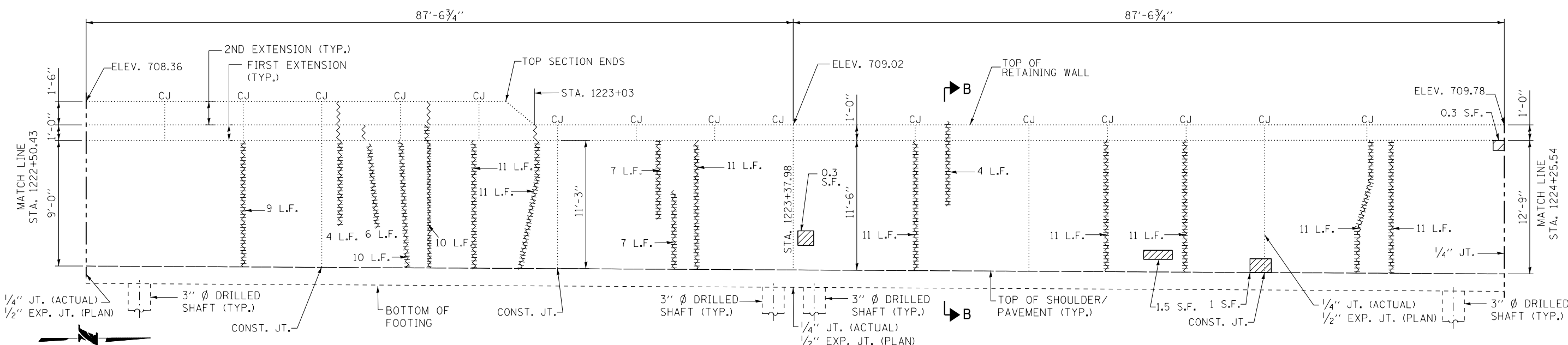
DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**



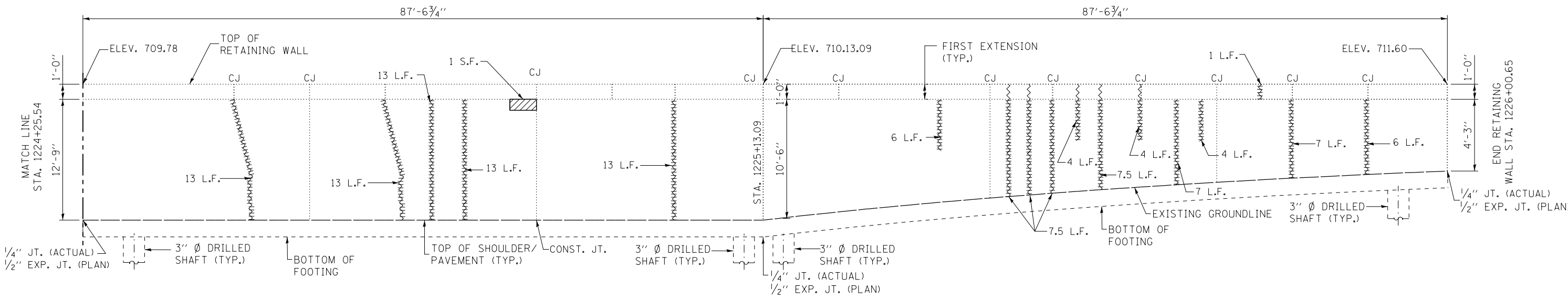
REVISIONS	
NO.	DATE

CONTRACT NO. **RR-16-4255**
RETAINING WALL 114011 - NS21.30R,NB
STA. 1219+00.21 TO STA. 1222+50.73

RWH-03 OF RWH-06
 SHT NO. **RWH-03**
 DRAWING NO. **1447**
 OF **1517**







WALL FRONT ELEVATION
(LOOKING WEST)



WALL FRONT ELEVATION
(LOOKING WEST)

LEGEND:

-  HOLLOW PATCH (FOR INFORMATION ONLY - NOT TO BE REPAIRED)
-  STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)
-  L.F.
-  CRACK WITH EFFLORESCENCE/WATER STAIN, LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT AT EXTENSION
- CONST. JT. CONSTRUCTION JOINT AT WALL

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	279
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	5
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	4,131

NOTES:

1. STATIONS WERE TAKEN FROM AS BUILT PLANS
2. CRACK LARGER THAN 1/16", OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE, SHALL BE REPAIRED.
3. "APPLY CONCRETE SEALANT" TO BE APPLIED TO THE ENTIRE FRONT FACE.

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DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**

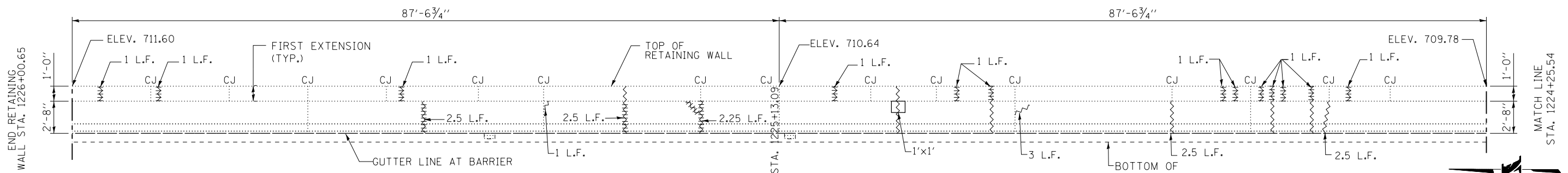


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NO.	DESCRIPTION

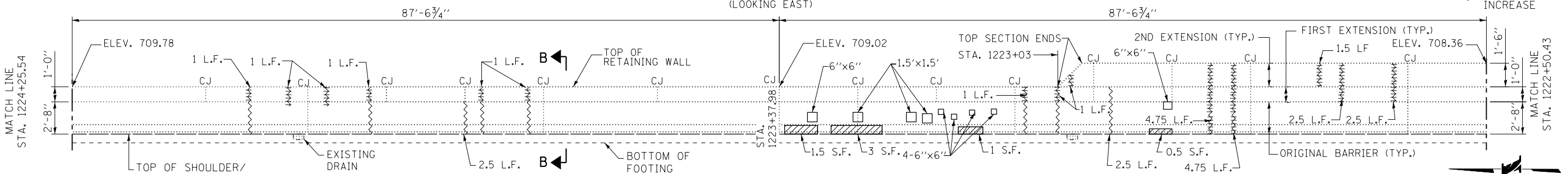
CONTRACT NO. **RR-16-4255**
RETAINING WALL 114011 - NS21.30R,NB
STA. 1222+50.73 TO STA. 1226+00.65

RWH-04 OF RWH-06
 SHT NO. **RWH-04**
 DRAWING NO. **1448**
 OF **1517**

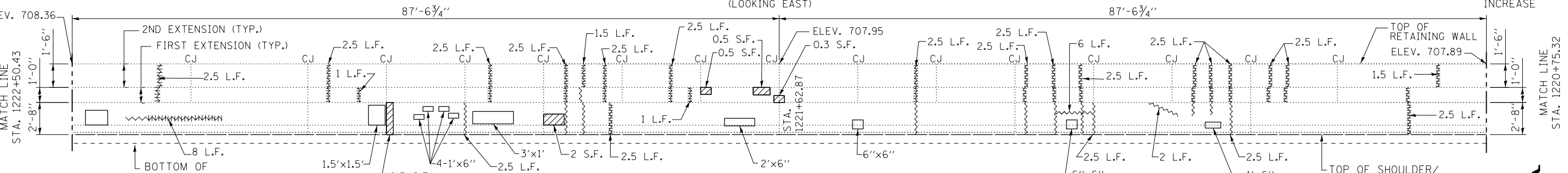
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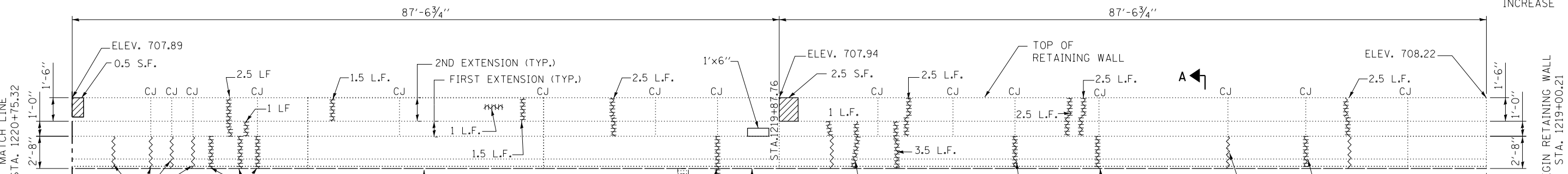
WALL BACK ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING EAST)



WALL BACK ELEVATION
(LOOKING EAST)

- LEGEND:**
- HOLLOW PATCH (FOR INFORMATION ONLY - NOT TO BE REPAIRED)
 - STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)
 - L.F. LOW PRESSURE EPOXY INJECTION
 - CRACK WITH EFFLORESCENCE/WATER STAIN, LOW PRESSURE EPOXY INJECTION
 - CJ CONSTRUCTION JOINT AT EXTENSION
 - CONST. JT. CONSTRUCTION JOINT AT WALL

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	183
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	13
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	3,792

- NOTES:**
- STATIONS WERE TAKEN FROM AS BUILT PLANS
 - CRACK LARGER THAN 1/16", OR LESS THAN 1/16" BUT SHOWING EVIDENCE OF LEAKAGE, SHALL BE REPAIRED.
 - "APPLY CONCRETE SEALANT" TO BE APPLIED TO THE ENTIRE BACK FACE.

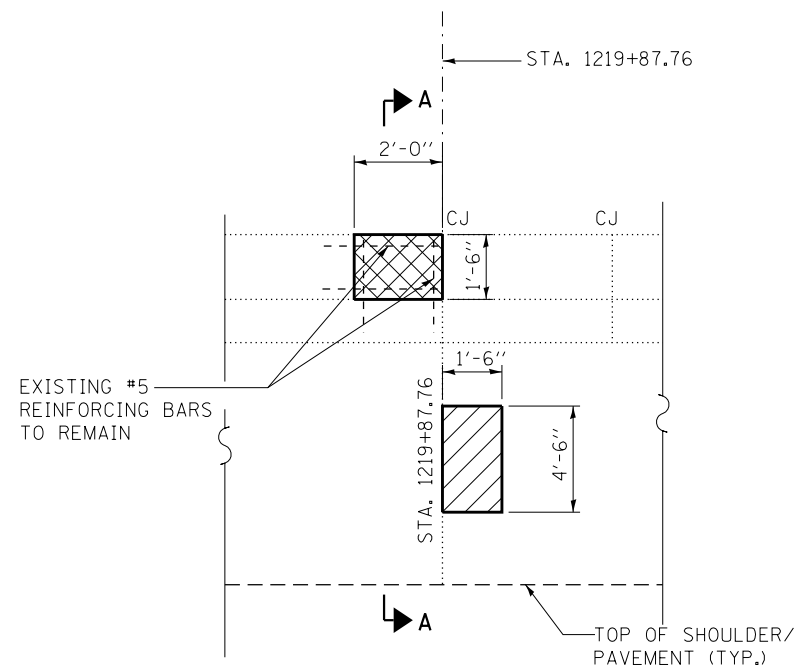
DRAWN BY **MPS** DATE **3/11/2018**
 CHECKED BY **JPM/MMH** DATE **3/11/2018**



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. **RR-16-4255**
 RETAINING WALL 114011 - NS21.30R,NB
 STA. 1226+00.65 TO STA. 1219+00.21

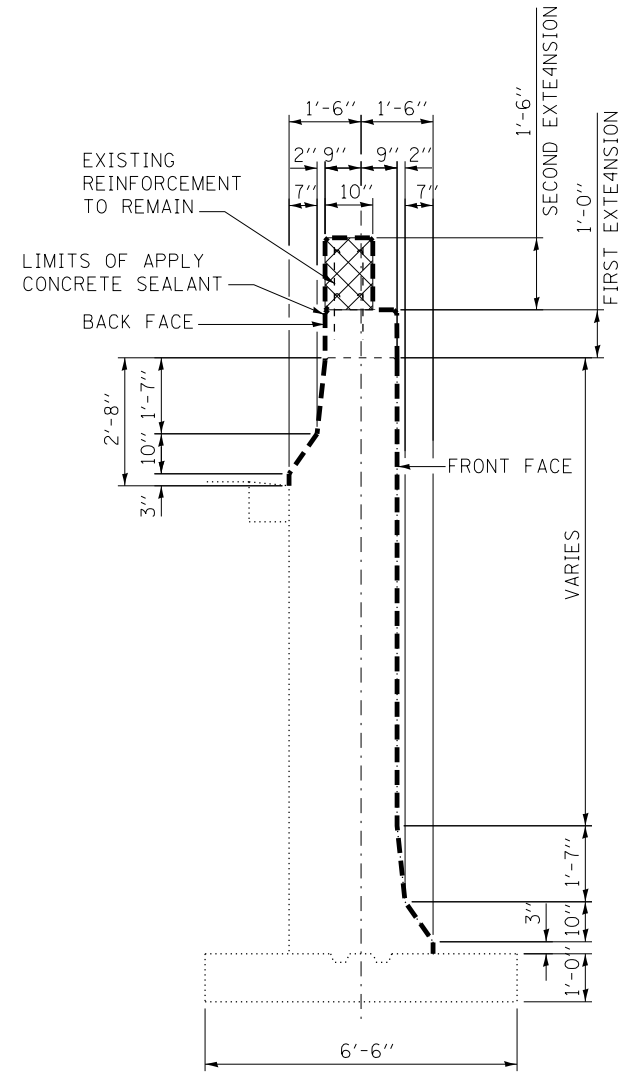
RWH-05 OF RWH-06
 SHT NO. **RWH-05**
 DRAWING NO. **1449** OF **1517**



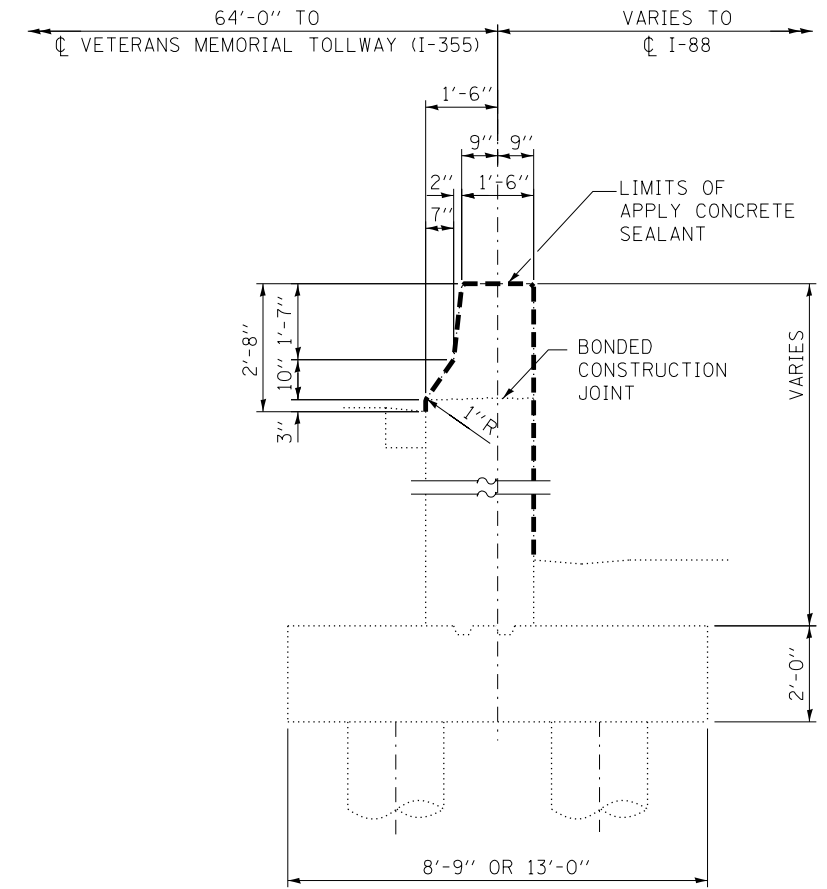
NOTE:

DETAIL A

1. EXISTING REINFORCING BARS TO REMAIN SHALL BE CLEANED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST IS INCLUDED WITH CONCRETE REMOVAL. BARS DAMAGED DURING THE REMOVAL OF CONCRETE SHALL BE REPLACED IN-KIND AT NO COST TO THE AUTHORITY.



SECTION A-A
 STA. 1219+00.21 TO STA. 1220+75.32



SECTION B-B
 STA. 1220+75.32 TO STA. 1226+00.65

LEGEND

- CONCRETE REMOVAL, CONCRETE SUPERSTRUCTURE
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)

DRAWN BY MPS DATE 3/11/2018
 CHECKED BY JPM/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114011 - NS21.30R,NB
 RETAINING WALL REPAIR DETAILS

RWH-06 OF RWH-06
 SHT NO. RWH-06
 DRAWING NO. 1450 OF 1517

BENCHMARK:
 CUT "□" IN TOP OF N. END OF CONC RETAINING WALL BETWEEN NB I-355
 AND EB I-88 RAMP TO NB I-355, +/- STA. 1232+80, 70' FT.
 ELEV. = 719.78.

EXISTING STRUCTURE:
 RETAINING WALL NS21.45R,NB(R) WAS ORIGINALLY CONSTRUCTED IN 1988 UNDER
 CONTRACT CIP-616. THE WALL HAS A TOTAL LENGTH OF 467'-11 1/2", AND A VARIABLE
 HEIGHT, A MAXIMUM HEIGHT OF 26'-6". THE WALL STARTS AT STA. 125+15.86 AND
 ENDS AT STA. 129+83.82. THE WALL RESTS ON 12" Ø CAST-IN-PLACE CONCRETE PILES.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN SPECIFICATIONS

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
 ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, MARCH 2016.
 ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AS MODIFIED BY IDOT
 BRIDGE MANUAL, 8TH EDITION.

CONSTRUCTION SPECIFICATIONS

ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS
 DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND
 BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.

ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2018.

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR
 ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.

ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS
 (GBSP'S).

DESIGN STRESSES

EXISTING CONSTRUCTION

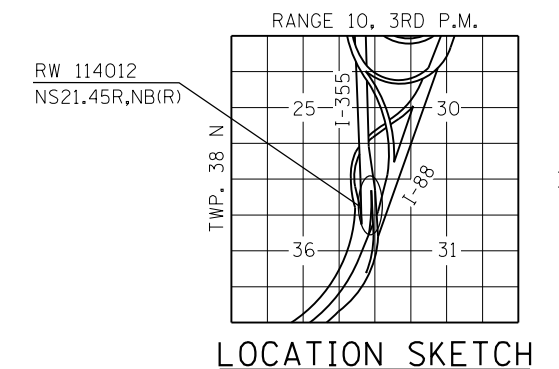
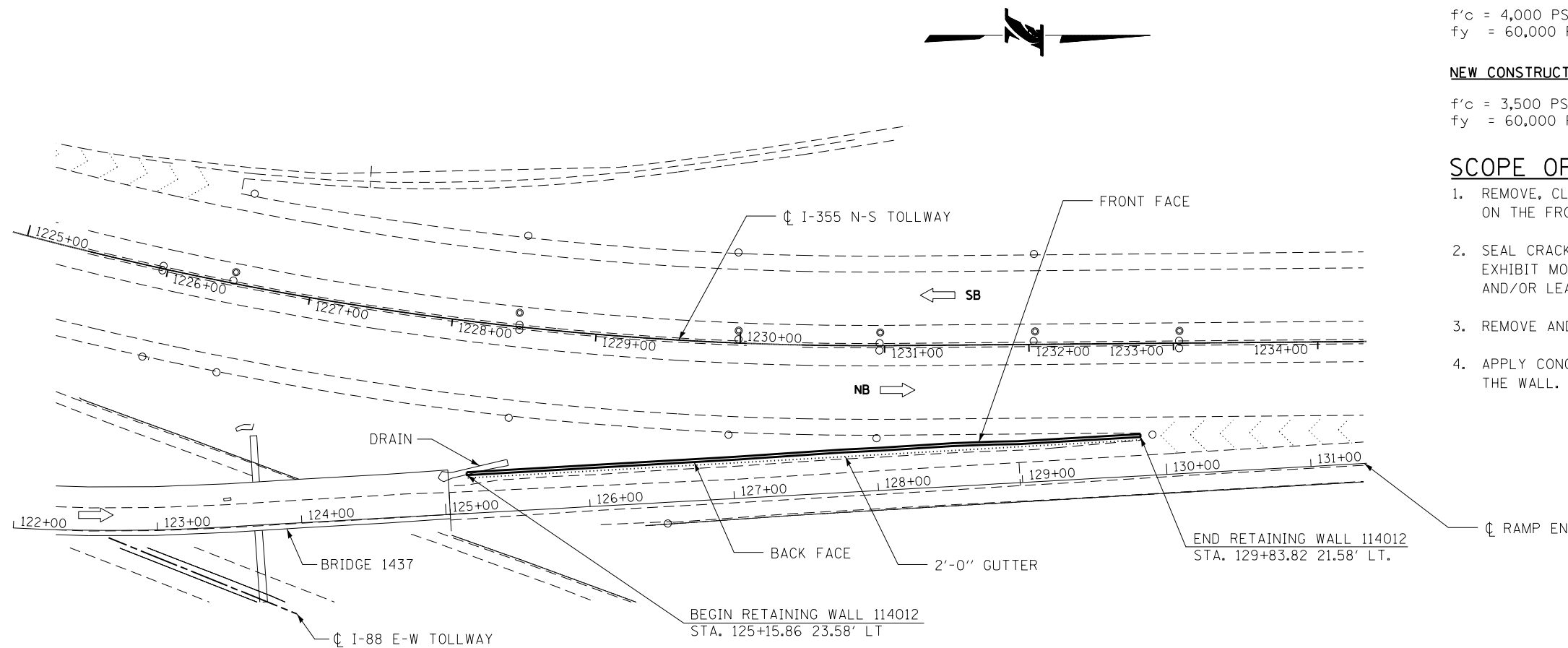
f'_c = 4,000 PSI (CLASS SI)
 f_y = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION

f'_c = 3,500 PSI (CLASS SI)
 f_y = 60,000 PSI (REINFORCEMENT)

SCOPE OF WORK:

1. REMOVE, CLEAN AND PATCH REPAIR DELAMINATED/SPALLED CONCRETE ON THE FRONT AND BACK FACES OF THE WALL.
2. SEAL CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION, I.E. CRACKS WITH EFFLORESCENCE AND/OR LEACHING CRACKS, WITH LOW PRESSURE EPOXY INJECTION
3. REMOVE AND REPLACE SPALLED SECTIONS OF THE GUTTER.
4. APPLY CONCRETE SEALANT TO THE TOP, FRONT, AND BACK FACES OF THE WALL.



LEGEND

- MANHOLE
- CATCH BASIN
- ⊗ LIGHTPOLE

RETAINING WALL PLAN

NOTE:

STATION AND WALL OFFSETS ARE MEASURED FROM THE C OF RAMP EN TO THE BACK FACE OF THE RETAINING WALL.

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255	RWI-01 OF RWI-07
RETAINING WALL 114012 - NS21.45R,NB(R)	DRAWING NO. 1451 OF 1517
GENERAL PLAN	

INDEX OF SHEETS

RWI-01 GENERAL PLAN
 RWI-02 GENERAL NOTES, INDEX OF SHEETS, AND TOTAL BILL OF MATERIAL
 RWI-03 RETAINING WALL ELEVATION 1
 RWI-04 RETAINING WALL ELEVATION 2
 RWI-05 RETAINING WALL ELEVATION 3
 RWI-06 RETAINING WALL ELEVATION 4
 RWI-07 STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

N.B. NORTHBOUND
 S.B. SOUTHBOUND
 STA. STATION
 ELEV. ELEVATION
 C.I.P. CAST-IN-PLACE
 C. CENTERLINE
 BRG BEARING
 S. ABUT. SOUTH ABUTMENT
 N. ABUT. NORTH ABUTMENT
 TYP. TYPICAL
 MAX. MAXIMUM
 MIN. MINIMUM
 BOT. BOTTOM
 EXIST. EXISTING
 EXP. EXPANSION
 SHLDR SHOULDER
 B. BASELINE
 P.G.L. PROFILE GRADE LINE
 E.F. EACH FACE
 F.F. FRONT FACE
 B.F. BACK FACE
 I.F. INSIDE FACE
 O.F. OUTSIDE FACE
 P.J.F. PREFORMED JOINT FILLER
 P.J.S. PREFORMED JOINT SEALER
 BK. BACK OF
 B/ BOTTOM OF
 T/ TOP OF
 PROP. PROPOSED
 HP H-PILE
 WF W-FLANGE
 CL. CLEARANCE
 SQ. FT. OR S.F. SQUARE FOOT
 SQ. YD. SQUARE YARD
 L.F. LINEAR FOOT
 CU. FT. CUBIC FEET
 EA EACH
 BIT. BITUMINOUS
 PAV. PAVEMENT

GENERAL NOTES

CAST-IN-PLACE CONCRETE:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCEMENT BARS:

- REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT-TO-OUT.
- BARS NOTED THUS, 3X2-*5 INDICATES 3 LINES OF BARS WITH 2 LENGTHS OF BARS PER LINE.
- COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION:

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)".

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	ITEM	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	44000400	GUTTER REMOVAL	FOOT	98	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	40	
*	J1606010	GUTTER, TYPE G-2	FOOT	98	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	777	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)	SQ. FT.	54	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	5,869	
*	JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	1,798	
*	X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	1	

* INDICATES SPECIAL PROVISION
 ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

CONSTRUCTION (CONT.):

- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- CONCRETE SEALANT SHALL BE APPLIED TO THE TOP, FRONT, AND BACK FACE OF THE RETAINING WALL.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, "STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTIONS OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.

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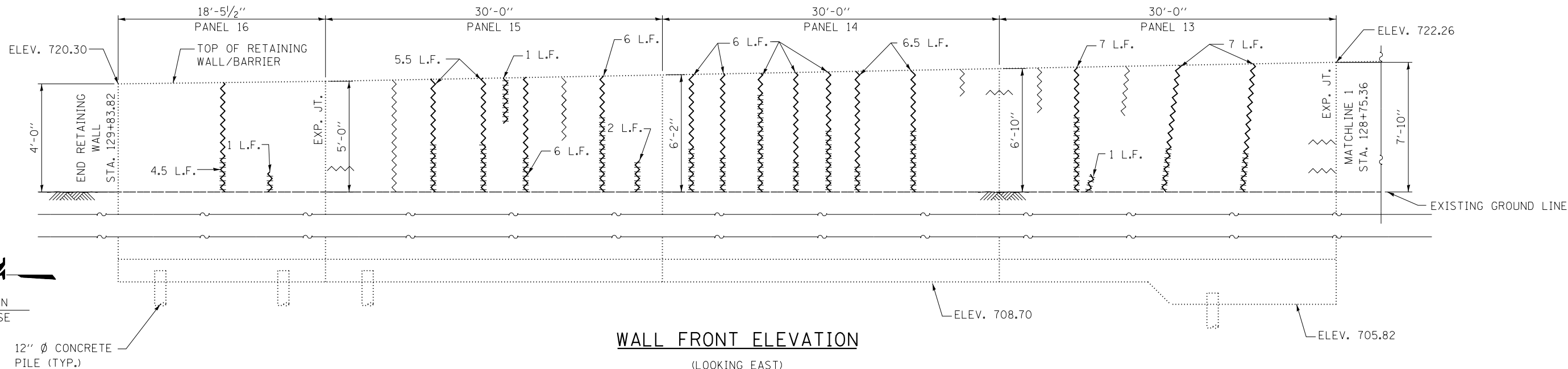
DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



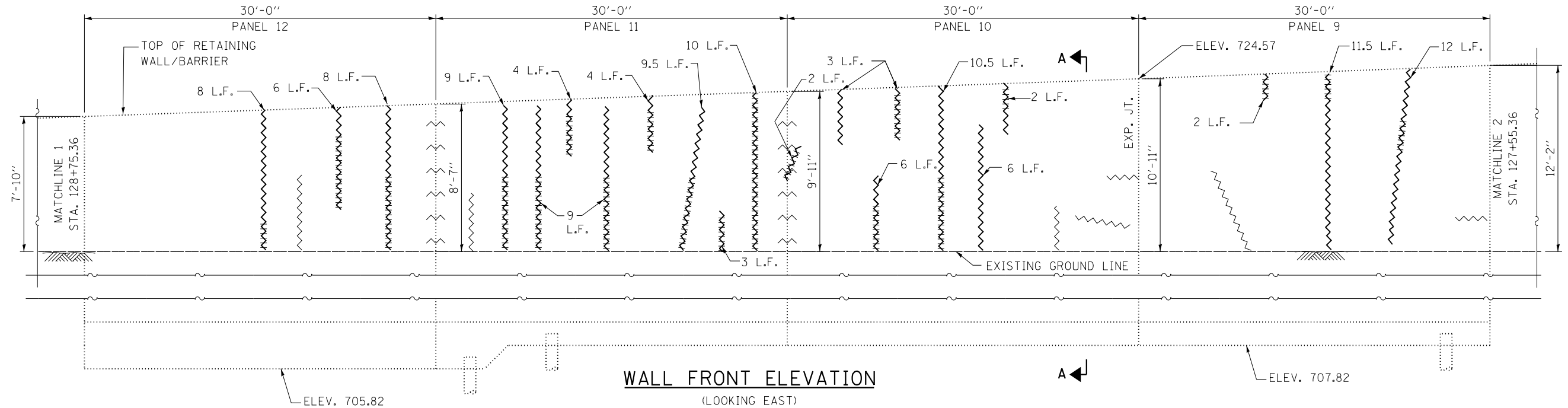
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NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 RETAINING WALL 114012 - NS21.45R,NB(R)
 GEN. NOTES, INDEX OF SHEETS, & T.B.O.M.
 SHT NO. RWI-02
 DRAWING NO. 1452 OF 1517

RWI-02 OF RWI-07



WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)



12" Ø CONCRETE PILE (TYP.)

LEGEND:

- L.F. LOW PRESSURE EPOXY INJECTION
- HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:
CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	234
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	1,849

RWI-03 OF RWI-07

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

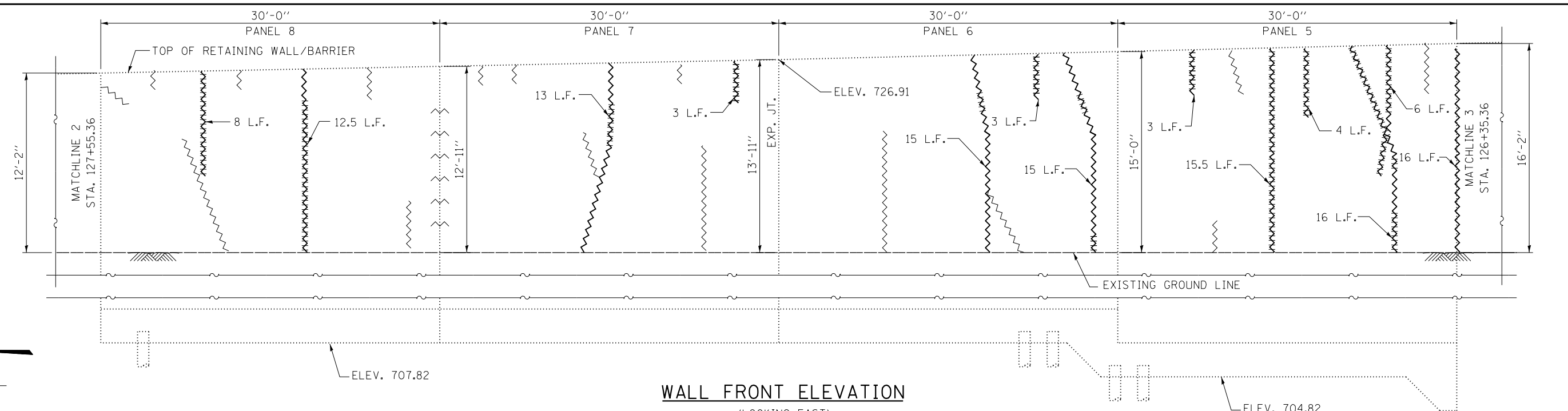


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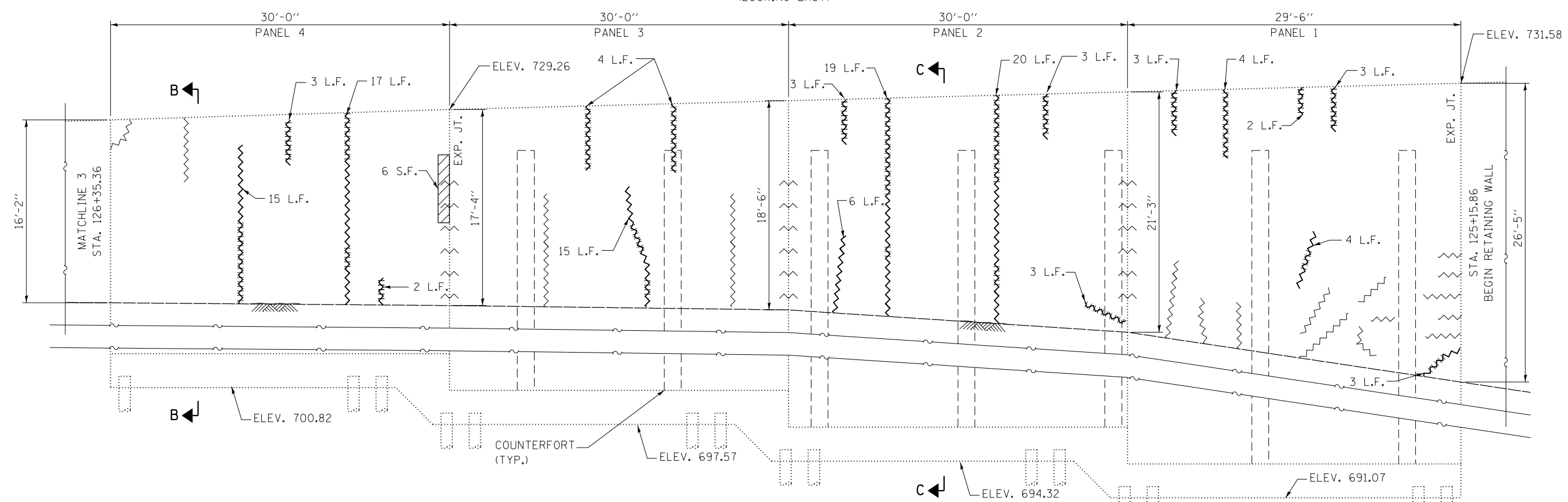
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RETAINING WALL 114012 - NS21.45R,NB(R)
RETAINING WALL ELEVATION 1

SHT NO. RWI-03
DRAWING NO. 1453 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Walls\Sh1\4255-sh1-14012-wall-PEL04.dgn



WALL FRONT ELEVATION
(LOOKING EAST)



WALL FRONT ELEVATION
(LOOKING EAST)

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	263
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	6
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	4,020

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- L.F. LEAKING CRACK, LOW PRESSURE EPOXY INJECTION
- HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:
CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

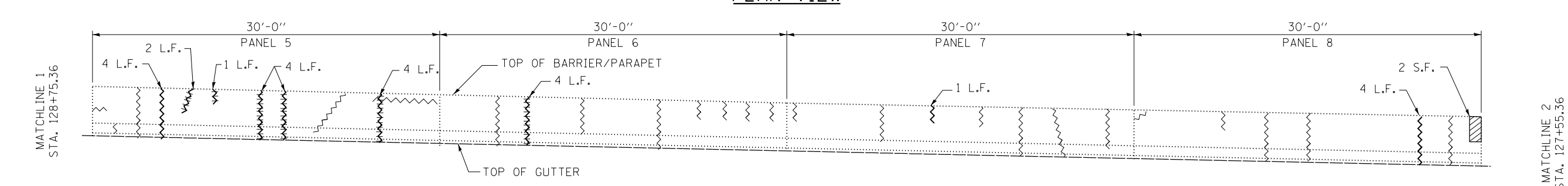
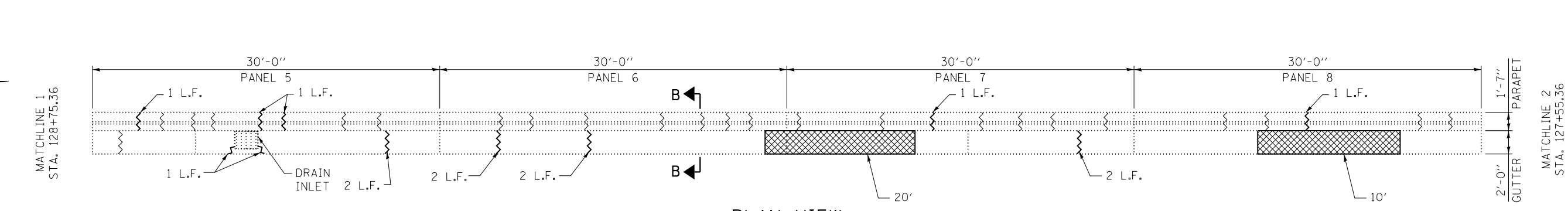
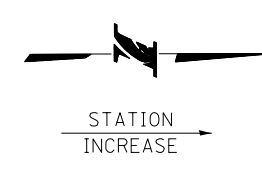
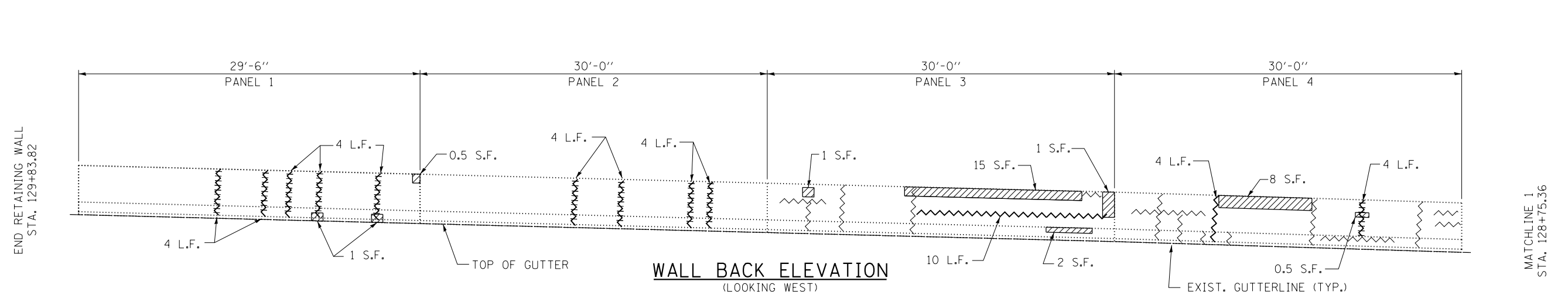
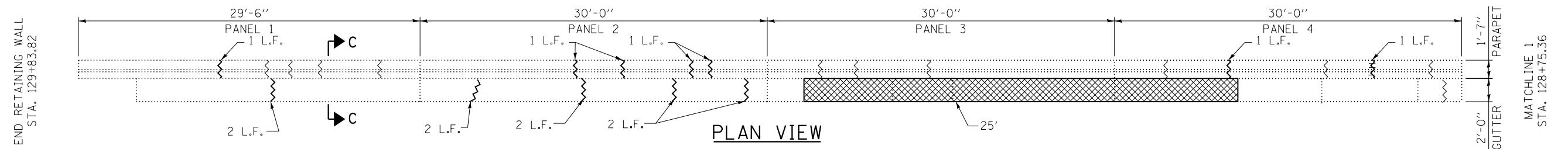


REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114012 - NS21.45R,NB(R)
RETAINING WALL ELEVATION 2

RWI-04 OF RWI-07
SHT NO. RWI-04
DRAWING NO. 1454 OF 1517

Projects\2016\20161616_Veterans Memorial Tollway\Drawings\Current Drawings Files\4255\Structural\Walls\Sh114255-sh1-14012-wall-PEL05.dgn



LEGEND:

- GUTTER REMOVAL, GUTTER, TYPE G-2
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- L.F. LEAKING CRACK, LOW PRESSURE EPOXY INJECTION
- HAIRLINE CRACK (FOR INFORMATION ONLY)

- NOTE:**
1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
 2. "BRIDGE DECK CONCRETE SEALER" TO BE APPLIED TO THE TOP AND SIDE FACES OF THE BARRIER.
 3. SEE SHEET RWI-07 FOR DOWEL, OTHER REPAIR DETAILS, AND SECTIONS B-B & C-C.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	55
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	13
J1606010	GUTTER, TYPE G-2	FOOT	55
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	114
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	32
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	920

RWI-05 OF RWI-07

DRAWN BY PAB DATE 3/11/2018
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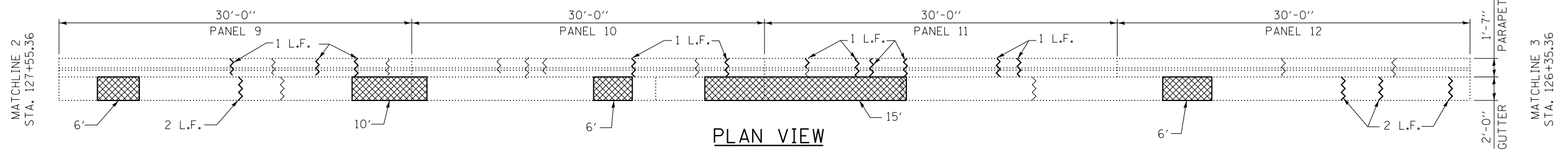


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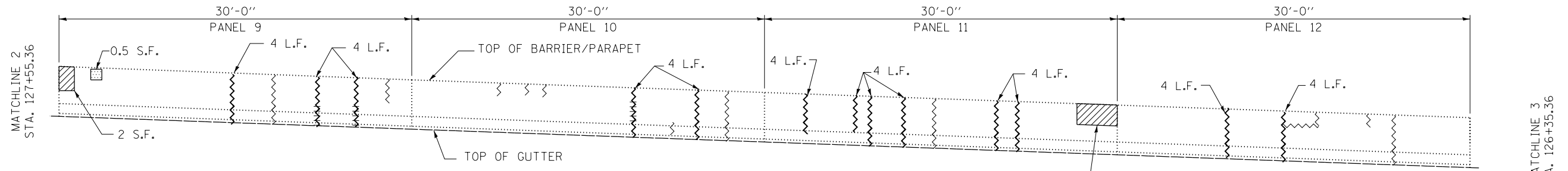
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 RETAINING WALL ELEVATION 3

SHT NO. RWI-05
 DRAWING NO. 1455 OF 1517

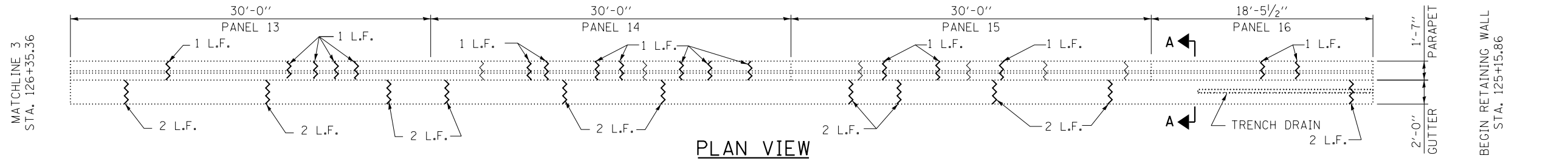
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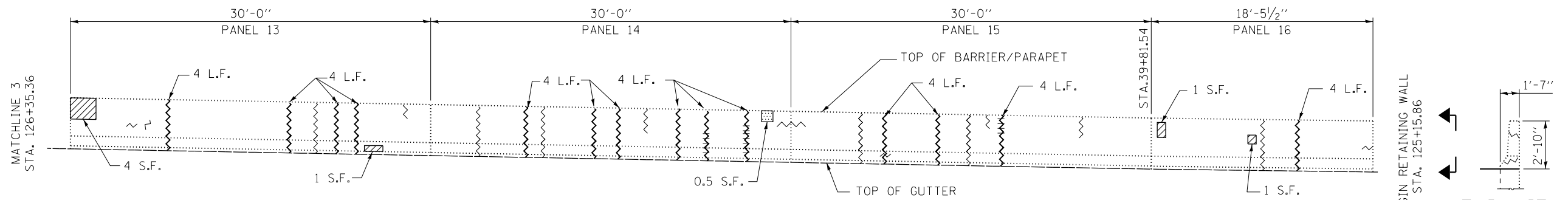
PLAN VIEW



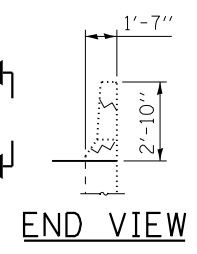
WALL BACK ELEVATION
(LOOKING WEST)



PLAN VIEW



WALL BACK ELEVATION
(LOOKING WEST)



END VIEW

LEGEND:

- CLEANING AND PAINTING EXPOSED REBAR
- GUTTER REMOVAL, GUTTER, TYPE G-2
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- L.F. LOW PRESSURE EPOXY INJECTION
- HAIRLINE CRACK (FOR INFORMATION ONLY)

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. "BRIDGE DECK CONCRETE SEALER" TO BE APPLIED TO THE TOP AND SIDE FACES OF THE BARRIER.
3. SEE SHEET RWJ-07 FOR DOWEL, OTHER REPAIR DETAILS, AND SECTION A-A.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	43
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	21
J1606010	GUTTER, TYPE G-2	FOOT	43
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	166
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	16
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	878
X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	1

RWI-06 OF RWI-07

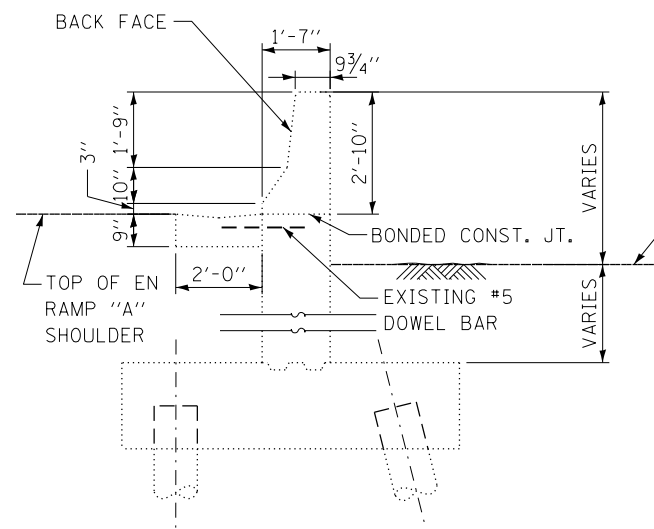
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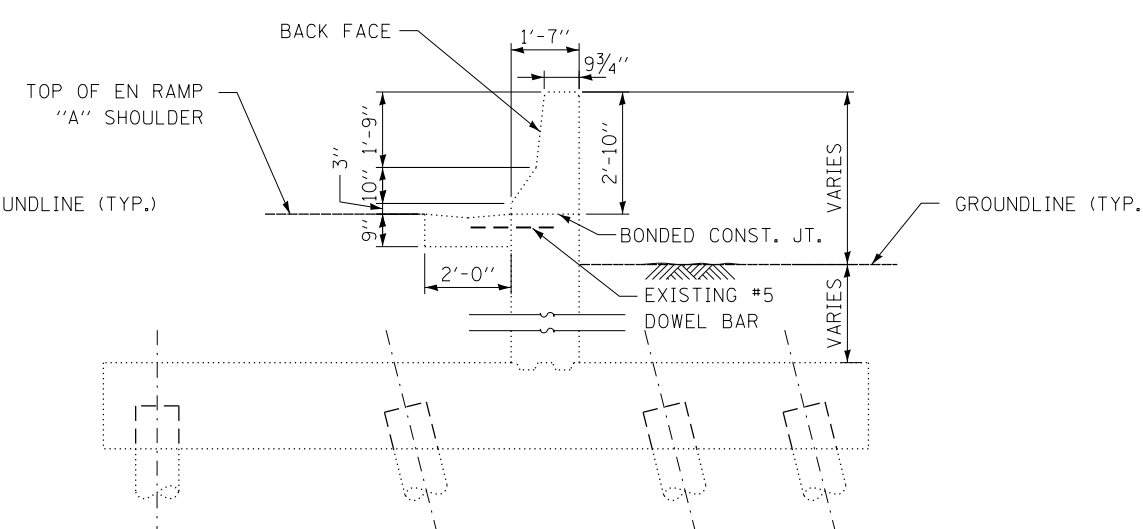
CONTRACT NO. RR-16-4255
 RETAINING WALL 114012 - NS21.45R,NB(R)
 RETAINING WALL ELEVATION 4

SHT NO. RWI-06
 DRAWING NO. 1456 OF 1517



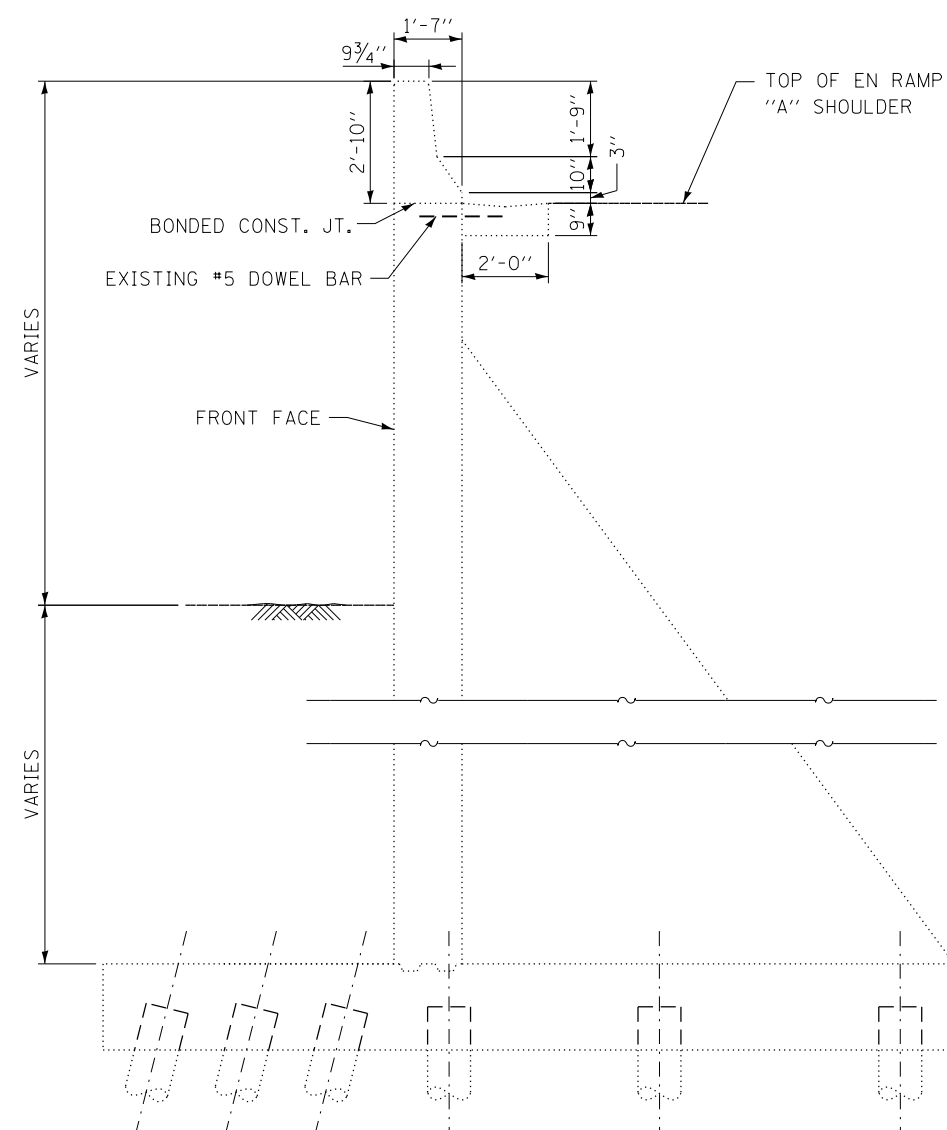
SECTION A-A

STA. 129+83.82 TO STA. 126+65.36



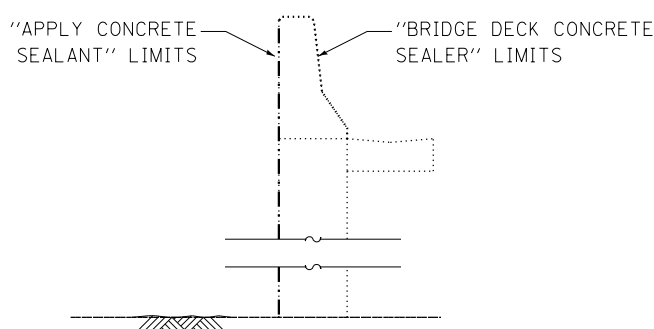
SECTION B-B

STA. 126+65.36 TO STA. 126+05.36



SECTION C-C

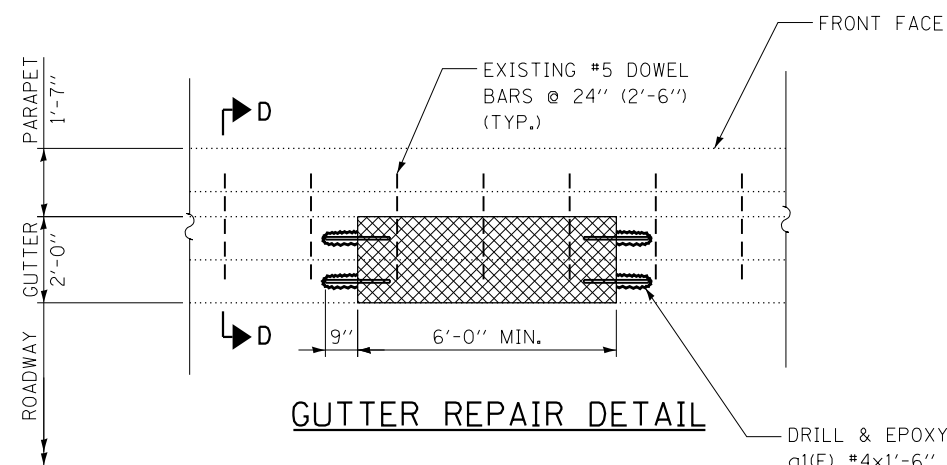
STA. 126+05.36 TO STA. 125+15.86



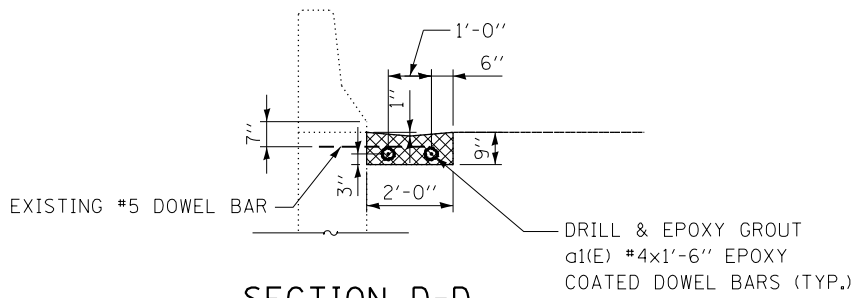
SEALING LIMITS FOR WALL

NOTES:

1. EXISTING REINFORCEMENT IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION.
2. FOR PAY ITEM QUANTITIES AND LOCATIONS, SEE SHEET RWI-05 & RWI-06.



GUTTER REPAIR DETAIL



SECTION D-D

LEGEND

GUTTER REMOVAL, GUTTER, TYPE G-2

BAR SCHEDULE

BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	32	#4	1'-6"	—

Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Walls\Sh1\4255-sh1-14012_rdw.dwg
 Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Walls\Sh1\4255-sh1-14012_rdw.dwg
 Projects\2016\20161616 - Veterans Memorial Tollway\Drawings\Current Drawings\Files\4255\Structural\Walls\Sh1\4255-sh1-14012_rdw.dwg

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114012 - NS21.45R,NB(R)
 STANDARD REPAIR DETAILS

RWI-07 OF RWI-07
 SHT NO. RWI-07
 DRAWING NO.
 1457 OF 1517

BENCHMARK:
 CUT "□" IN TOP OF CONC. CURB AND GUTTER LOCATED AT THE NB I-355 ENTRANCE TO ISTHA MAINTENANCE YARD, BENEATH SB I-355 RAMP BRIDGE TO EB & WB I-88, STA. 1251+34, 102' RT. ELEV. 733.71.

EXISTING STRUCTURE:
 RETAINING WALL NS22.00R,SB(R) ORIGINALLY CONSTRUCTED IN 1988 UNDER CONTRACT CIP-616. WITH A TOTAL LENGTH OF 957.5 FT, IT IS A COMBINATION OF CONCRETE RETAINING WALL AND BARRIER WALL, TYPE F (SPECIAL), SUPPORTED ON COUNTERFORT FOOTING FROM STA. 1256+12.60 TO STA. 1259+72.45, ON DRILLED PIERS FROM STA. 1259+72.45 TO STA. 1264+79.49 AND ON CONVENTIONAL FOOTING FROM STA. 1264+79.49 TO STA. 1265+69.49. THE RETAINING WALL HAS VARIABLE HEIGHT WITH MAXIMUM EXPOSED HEIGHT OF 28'-6". THE VERTICAL EXPANSION JOINTS ARE 1/2" PREFORMED JOINTS.

TRAFFIC WILL BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

DESIGN STRESSES

EXISTING CONSTRUCTION

f'c = 4,000 PSI (CLASS SI)
 fy = 60,000 PSI (REINFORCEMENT)

NEW CONSTRUCTION

f'c = 3,500 PSI (CLASS SI - CONCRETE REPAIRS)
 fy = 60,000 PSI (REINFORCEMENT)

SCOPE OF WORK:

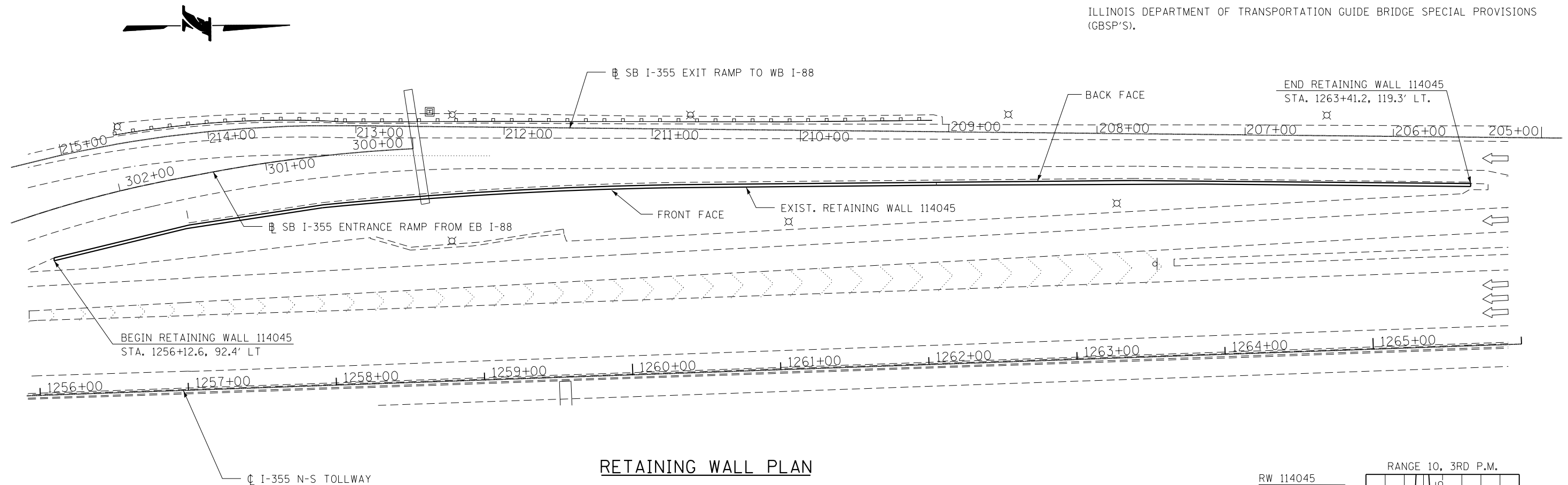
1. REMOVE, CLEAN AND PATCH REPAIR DELAMINATED/SPALLED CONCRETE ON THE FRONT AND BACK FACES OF THE WALL.
2. SEAL CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION, I.E. CRACKS WITH EFFLORESCENCE AND/OR LEACHING CRACKS, WITH LOW PRESSURE EPOXY INJECTION
3. REMOVE AND REPLACE SPALLED SECTIONS OF THE GUTTER.
4. APPLY CONCRETE SEALANT TO TOP, FRONT, AND BACK FACES OF THE WALL.

DESIGN SPECIFICATIONS

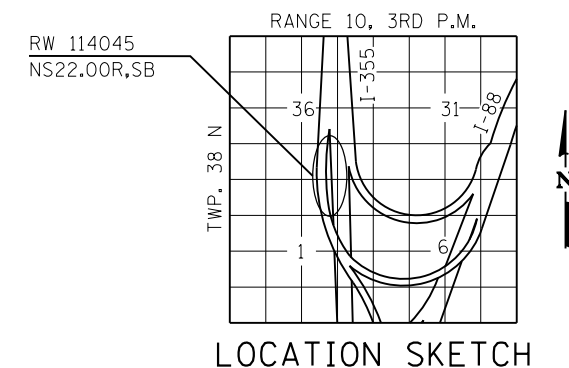
- ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2017.
- ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER'S MANUAL, MARCH 2016.
- ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY, 2012.
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AS MODIFIED BY IDOT BRIDGE MANUAL, 8TH EDITION.

CONSTRUCTION SPECIFICATIONS

- ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED MAY 1, 2017.
- ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2018.
- ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016.
- ILLINOIS DEPARTMENT OF TRANSPORTATION GUIDE BRIDGE SPECIAL PROVISIONS (GBSP'S).



RETAINING WALL PLAN



LOCATION SKETCH

LEGEND

- MANHOLE
- CATCH BASIN
- ⊗ LIGHTPOLE

NOTE:

STATION AND WALL OFFSETS ARE MEASURED FROM THE □ OF I-355 TO THE FRONT FACE OF THE RETAINING WALL.

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114045 - NS22.00R,SB
 GENERAL PLAN

RWJ-01 OF RWJ-09
 SHT NO. RWJ-01
 DRAWING NO. 1458 OF 1517

INDEX OF SHEETS

RWJ-01	GENERAL PLAN
RWJ-02	GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
RWJ-03	RETAINING WALL ELEVATION 1
RWJ-04	RETAINING WALL ELEVATION 2
RWJ-05	RETAINING WALL ELEVATION 3
RWJ-06	RETAINING WALL ELEVATION 4
RWJ-07	RETAINING WALL ELEVATION 5
RWJ-08	RETAINING WALL ELEVATION 6
RWJ-09	STANDARD REPAIR DETAILS

LIST OF ABBREVIATIONS

N.B.	NORTHBOUND
S.B.	SOUTHBOUND
STA.	STATION
ELEV.	ELEVATION
C.I.P	CAST-IN-PLACE
CL	CENTERLINE
BRG	BEARING
S. ABUT.	SOUTH ABUTMENT
N. ABUT.	NORTH ABUTMENT
TYP.	TYPICAL
MAX.	MAXIMUM
MIN.	MINIMUM
BOT.	BOTTOM
EXIST.	EXISTING
EXP.	EXPANSION
SHLDR	SHOULDER
BL	BASELINE
P.G.L.	PROFILE GRADE LINE
E.F.	EACH FACE
F.F.	FRONT FACE
B.F.	BACK FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
P.J.F.	PREFORMED JOINT FILLER
P.J.S.	PREFORMED JOINT SEALER
BK.	BACK OF
B/	BOTTOM OF
T/	TOP OF
PROP.	PROPOSED
HP	H-PILE
WF	W-FLANGE
CL.	CLEARANCE
SQ. FT. OR S.F.	SQUARE FOOT
SQ. YD.	SQUARE YARD
L.F.	LINEAR FOOT
CU. FT.	CUBIC FEET
EA	EACH
BIT.	BITUMINOUS
PAV.	PAVEMENT

GENERAL NOTES

CAST-IN-PLACE CONCRETE:

- ALL EXPOSED CONCRETE EDGES SHALL HAVE A $\frac{3}{4}$ " X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCING BARS:

- REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT-TO-OUT.
- BARS NOTED THUS, 3X2-#5 INDICATES 3 LINES OF BARS WITH 2 LENGTHS OF BARS PER LINE.
- COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION:

- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.
- CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
- THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
- NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.
- EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)" OR "STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)"

TOTAL BILL OF MATERIAL

S.P.	PAY ITEM NO.	DESCRIPTION	UNIT	PLAN QUANTITY	RECORDED QUANTITY
	44000400	GUTTER REMOVAL	FOOT	175	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	70	
*	J1606010	GUTTER, TYPE G-2	FOOT	175	
**	JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	1,291	
*	JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL OR LESS THAN 5 IN.)	SQ. FT.	85	
*	JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ. FT.	5	
*	JT524010	APPLY CONCRETE SEALANT	SQ. FT.	14,965	
*	JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	3,681	
*	X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	3	

- * INDICATES SPECIAL PROVISION
- ** INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATION

CONSTRUCTION (CONT.):

- WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.
- CONCRETE SEALANT SHALL BE APPLIED TO THE TOP, FRONT, AND BACK FACES OF THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- AN EXISTING STRUCTURE INFORMATION PACKAGE (ESIP) WILL BE PROVIDED BY THE ILLINOIS TOLLWAY TO THE CONTRACTOR UPON REQUEST. THIS PACKAGE WILL TYPICALLY INCLUDE EXISTING OR "AS BUILT" PLANS, AND THE LATEST NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) INSPECTION REPORT. THE AVAILABILITY OF STRUCTURAL INFORMATION FROM THE ILLINOIS TOLLWAY IS SOLELY FOR THE CONVENIENCE AND INFORMATION OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR OF THE DUTY TO MAKE, AND THE RISK OF MAKING, EXAMINATIONS AND INVESTIGATIONS AS REQUIRED TO ASSESS CONDITIONS AFFECTING THE WORK. ANY DATA FURNISHED IN THE ESIP IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A PART OF THE CONTRACT. THE ILLINOIS TOLLWAY MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE INFORMATION CONVEYED OR AS TO ANY INTERPRETATIONS MADE FROM THE DATA.
- A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF ILLINOIS, SHALL PREPARE AND SUBMIT STRUCTURE ASSESSMENT REPORTS (SARS) FOR THE PROPOSED WORK ASSOCIATED WITH REMOVING, MODIFYING OR RECONSTRUCTING EXISTING STRUCTURES OR PORTIONS THEREOF. UNLESS NOTED OTHERWISE, A SAR SHALL BE REQUIRED WHEN THE CONTRACTOR'S MEANS AND METHODS APPLY LOADS TO THE STRUCTURE OR CHANGE ITS STRUCTURAL BEHAVIOR. A SAR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING THE WORK, IN ACCORDANCE WITH THE LATEST IDOT GUIDE BRIDGE SPECIAL PROVISION, "STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS" PRIOR TO BEGINNING THE WORK COVERED BY THAT SAR. SEPARATE PORTIONS OF THE WORK MAY BE COVERED BY SEPARATE SARS WHICH MAY BE SUBMITTED AT DIFFERENT TIMES OR AS DICTATED BY THE CONTRACTOR'S SCHEDULE.

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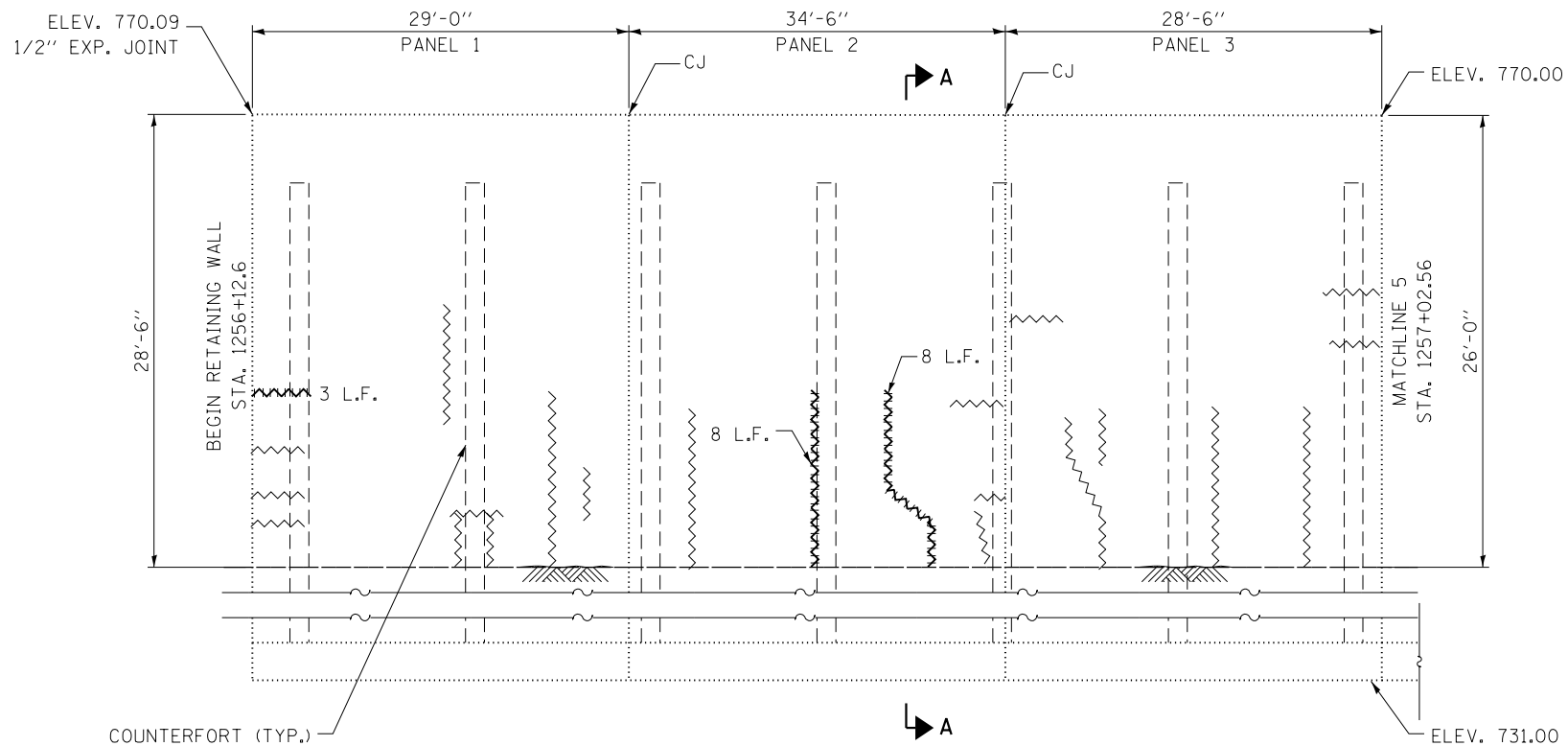
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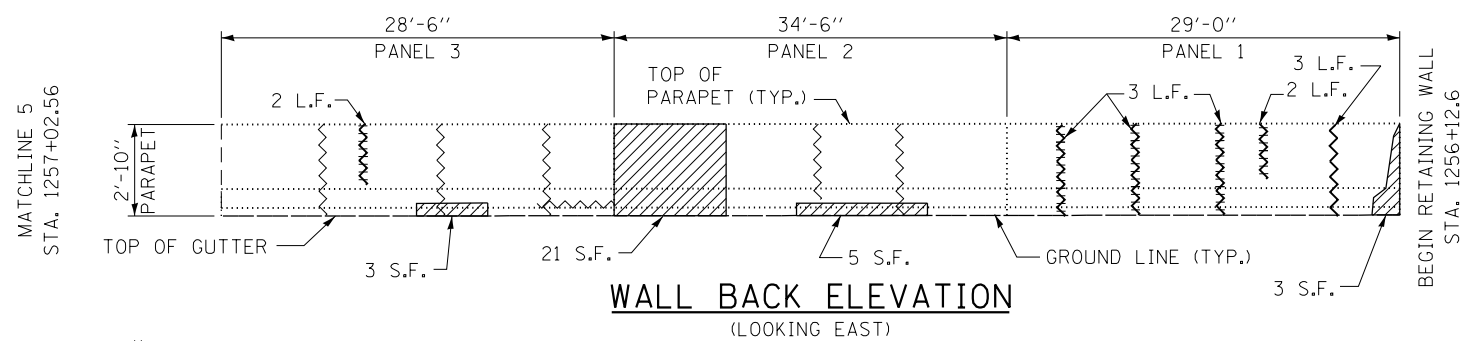
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NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255	SHT NO. RWJ-02
RETAINING WALL 114045 - NS22.00R, SB	DRAWING NO. 1459 OF 1517
GEN. NOTES, INDEX OF SHEETS, & T.B.O.M.	

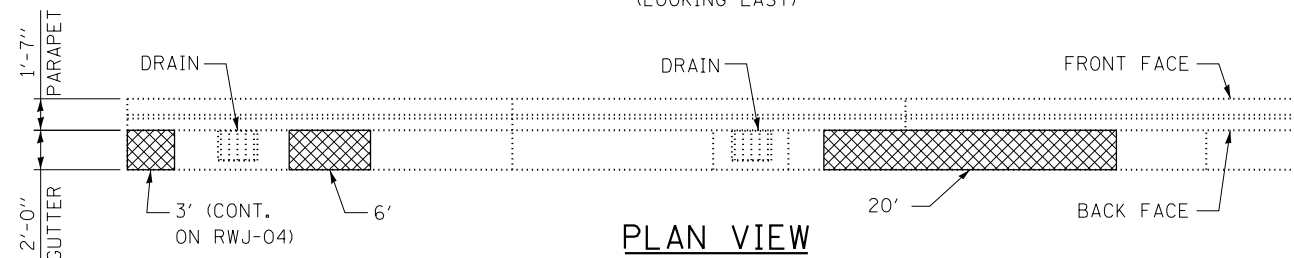
RWJ-02 OF RWJ-09



WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- GUTTER REMOVAL, GUTTER, TYPE G-2
- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTES:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. REINFORCEMENT BARS FROM GUTTER TO REMAIN AND USED IN NEW GUTTER CONSTRUCTION.
4. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	29
50800205	REINFORCEMENT BARS, EPOXY COATED	EACH	11
JI606010	GUTTER, TYPE G-2	FOOT	29
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	35
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	32
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	2,507
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	354

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018



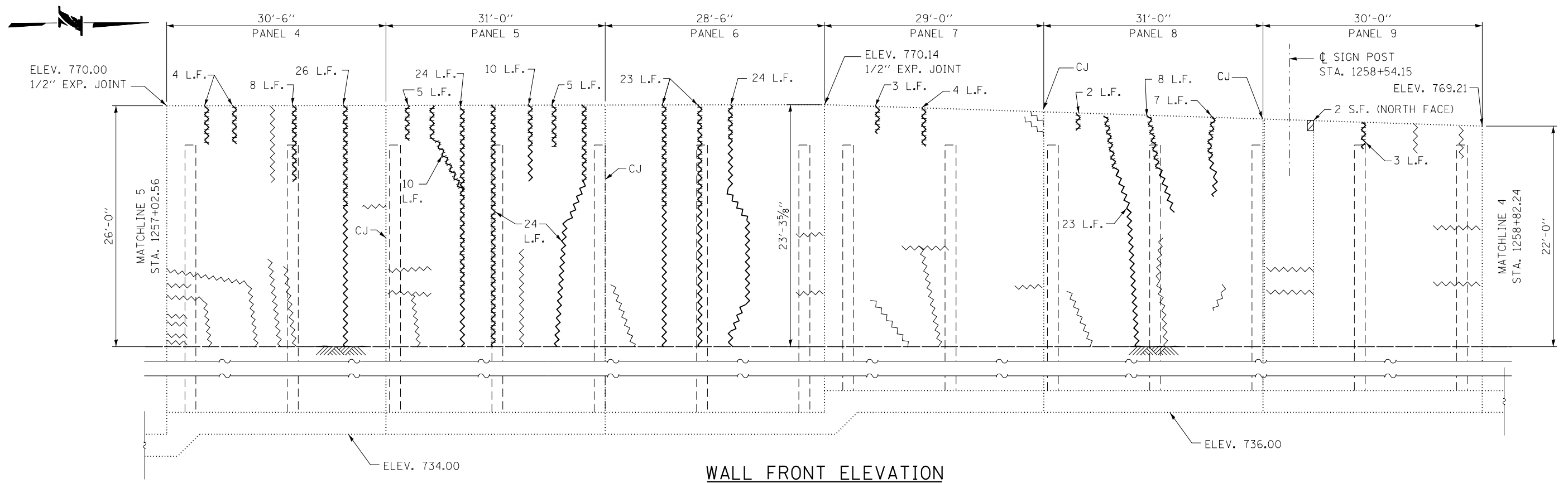
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NO.	DATE

CONTRACT NO. RR-16-4255
RETAINING WALL 114045 - NS22.00R,SB
WALL ELEVATION 1

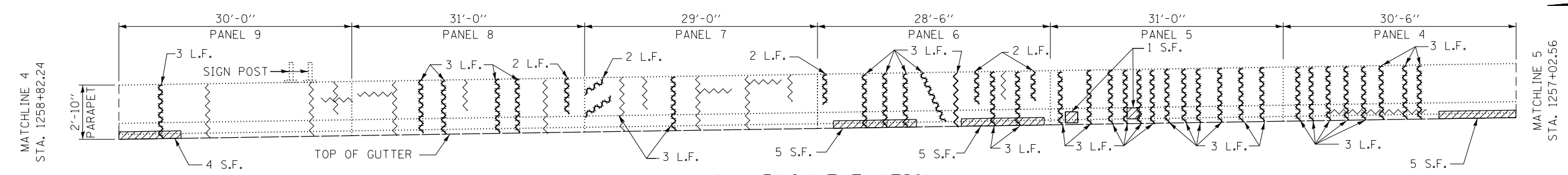
RWJ-03 OF RWJ-09

SHT NO. RWJ-02
DRAWING NO. 1460 OF 1517

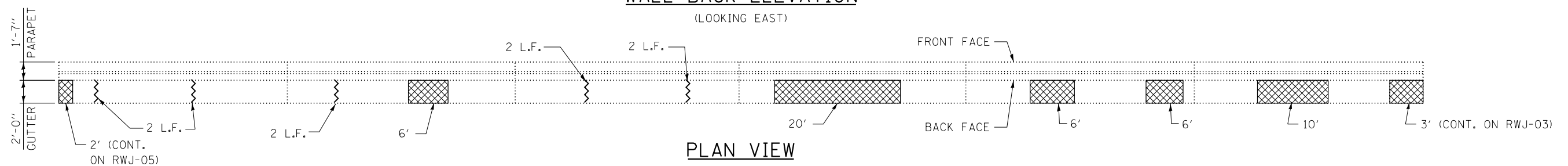
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WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- GUTTER REMOVAL, GUTTER, TYPE G-2
- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. REINFORCEMENT BARS FROM GUTTER TO REMAIN AND USED IN NEW GUTTER CONSTRUCTION.
4. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	53
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	25
J1606010	GUTTER, TYPE G-2	FOOT	53
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	386
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	23
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	4,320
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	692

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018



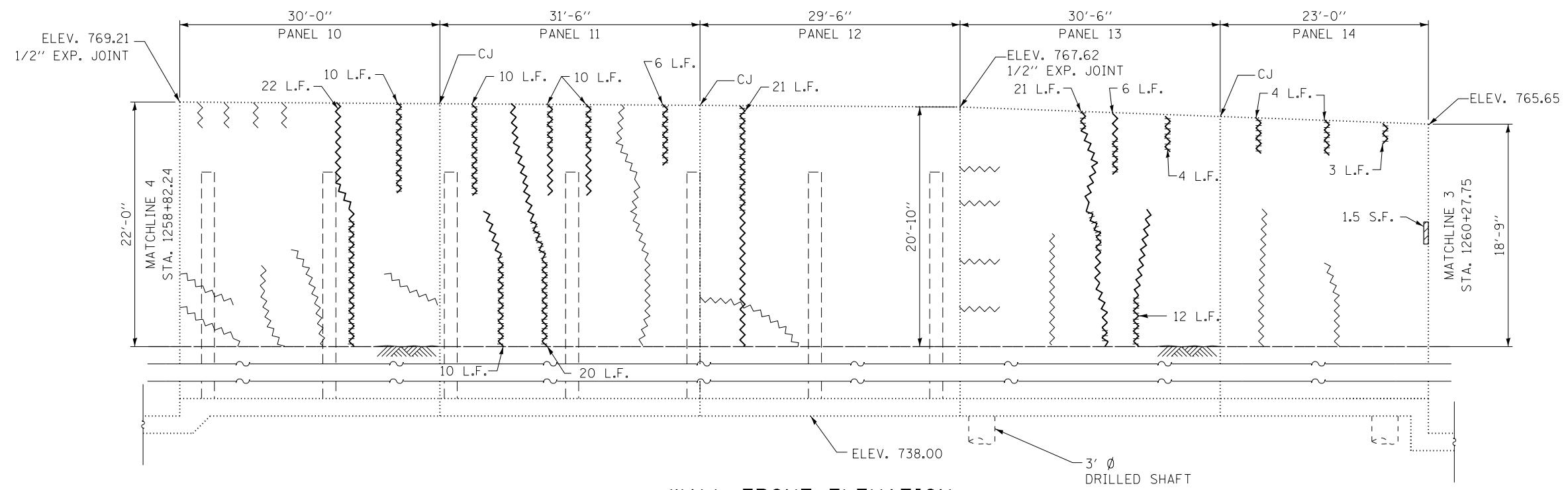
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 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

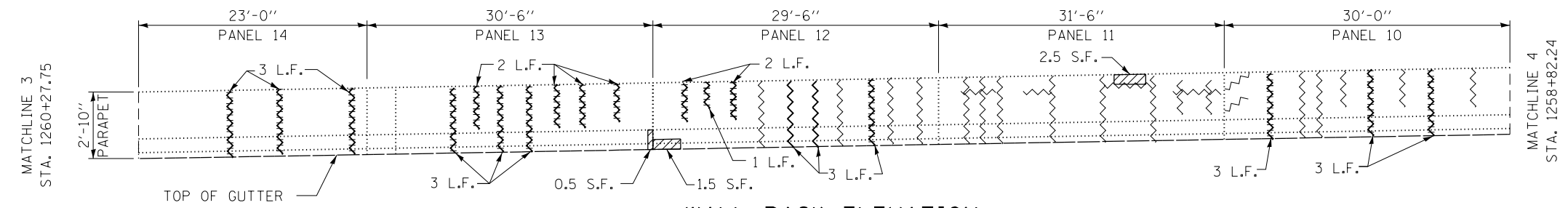
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 RETAINING WALL 114045 - NS22.00R,SB
 WALL ELEVATION 2

RWJ-04 OF RWJ-09
 SHT NO. RWJ-04
 DRAWING NO. 1461 OF 1517

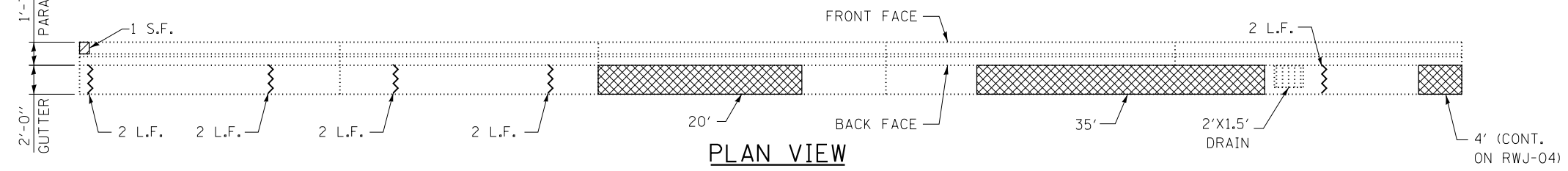
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WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW

LEGEND:

- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- GUTTER REMOVAL, GUTTER, TYPE G-2
- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. REINFORCEMENT BARS FROM GUTTER TO REMAIN AND USED IN NEW GUTTER CONSTRUCTION.
4. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	59
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	11
J1606010	GUTTER, TYPE G-2	FOOT	59
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	232
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	7
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	2,945
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	555

RWJ-05 OF RWJ-09

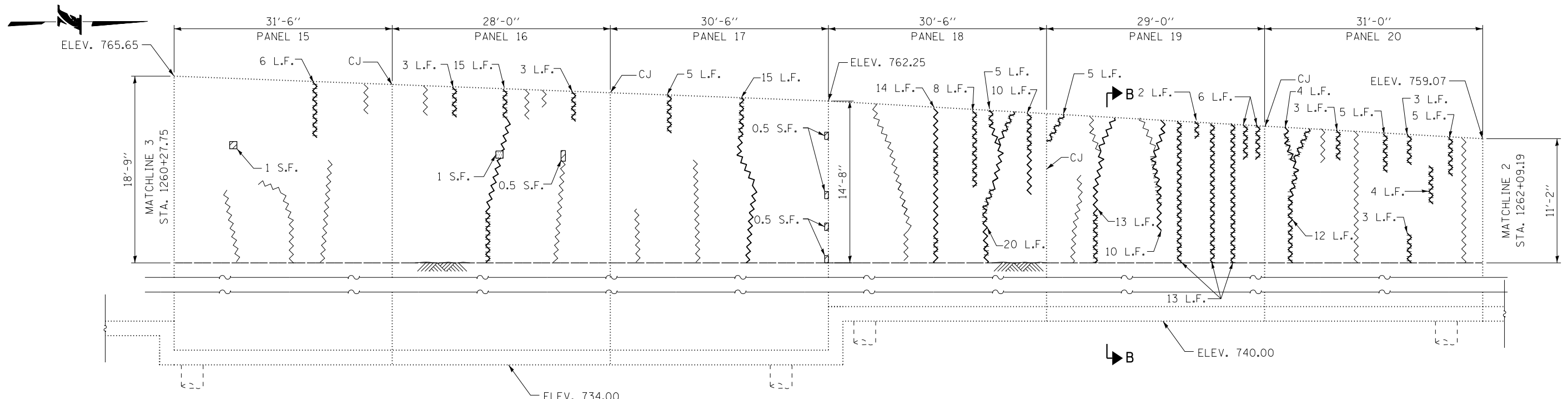
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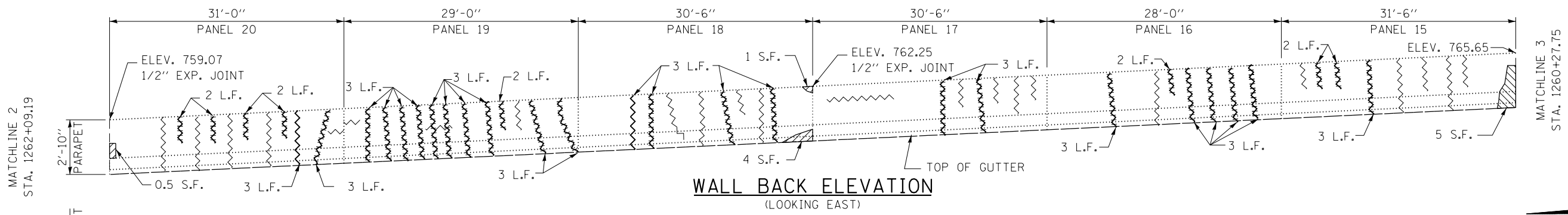
REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 RETAINING WALL 114045 - NS22.00R,SB
 WALL ELEVATION 3

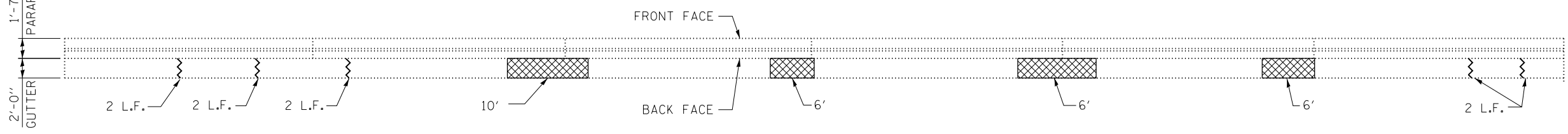
SHT NO. RWJ-05
 DRAWING NO. 1462 OF 1517



WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW

LEGEND:

- CLEANING AND PAINTING EXPOSED REBAR
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)
- GUTTER REMOVAL, GUTTER, TYPE G-2
- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSTION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. REINFORCEMENT BARS FROM GUTTER TO REMAIN AND USED IN NEW GUTTER CONSTRUCTION.
4. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	28
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	17
J1606010	GUTTER, TYPE G-2	FOOT	28
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	322
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	9
JT503041	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN.)	SQ. FT.	5
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	2,700
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	694
X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	1

RWJ-06 OF RWJ-09

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

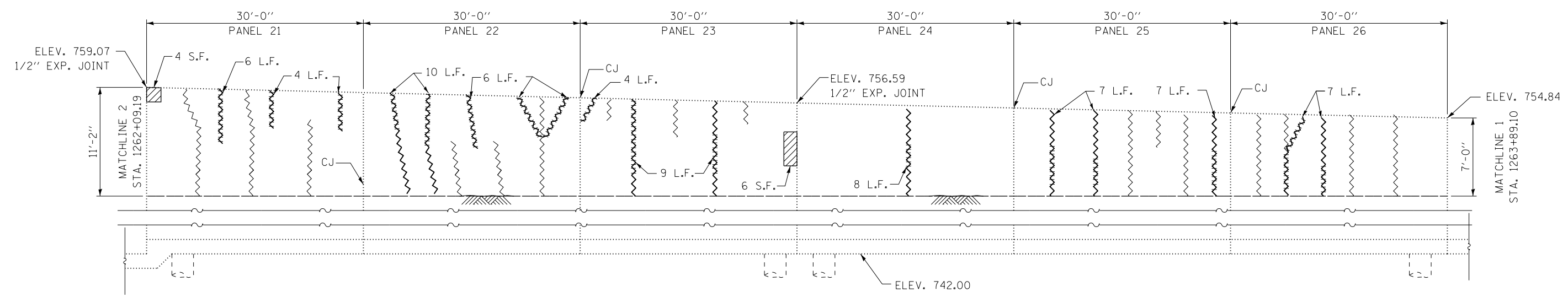


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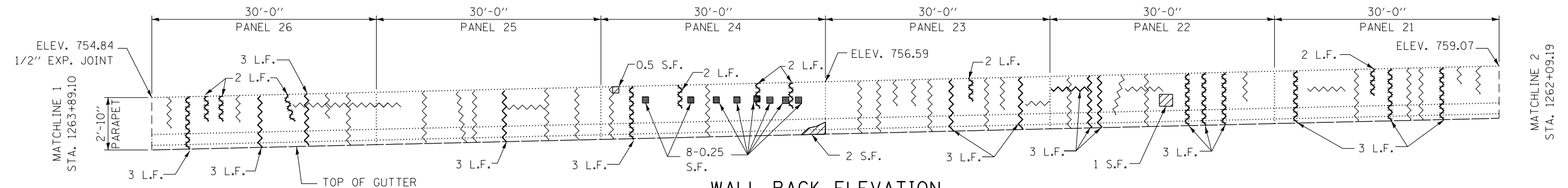
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RETAINING WALL 114045 - NS22.00R,SB
WALL ELEVATION 4

SHT NO. RWJ-06
DRAWING NO. 1463 OF 1517

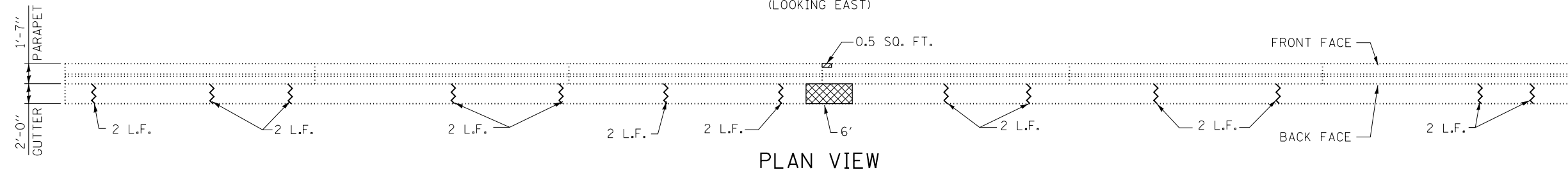
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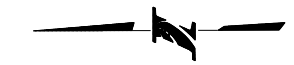
WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW



LEGEND:

- CLEANING AND PAINTING EXPOSED REBAR
- STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)
- GUTTER REMOVAL, GUTTER, TYPE G-2
- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. REINFORCEMENT BARS FROM GUTTER TO REMAIN AND USED IN NEW GUTTER CONSTRUCTION.
4. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
44000400	GUTTER REMOVAL	FOOT	6
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5
J1606010	GUTTER, TYPE G-2	FOOT	6
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	207
JT503040	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ. FT.	14
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	1,635
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	692
X0323818	CLEANING AND PAINTING EXPOSED REBAR	SQ. FT.	2

RWJ-07 OF RWJ-09

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

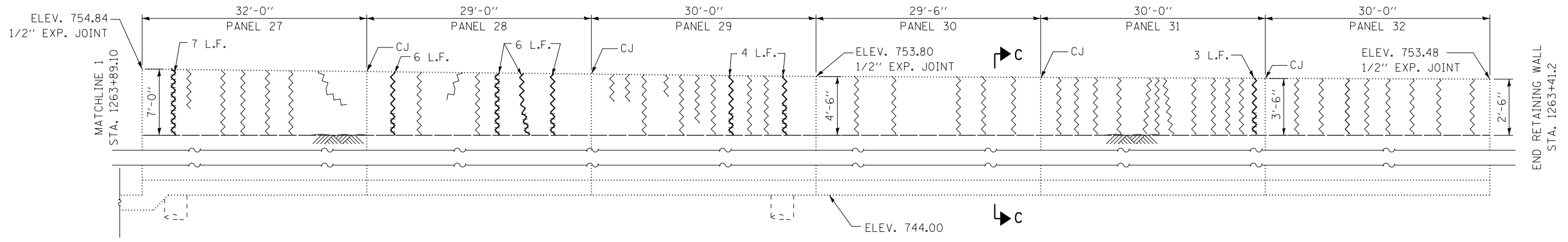


REVISIONS	
NO.	DATE

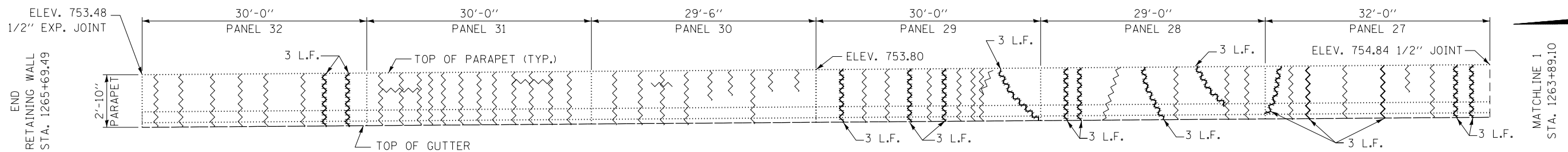
CONTRACT NO. RR-16-4255
RETAINING WALL 114045 - NS22.00R,SB
WALL ELEVATION 5

SHT NO. RWJ-07
DRAWING NO. 1464 OF 1517

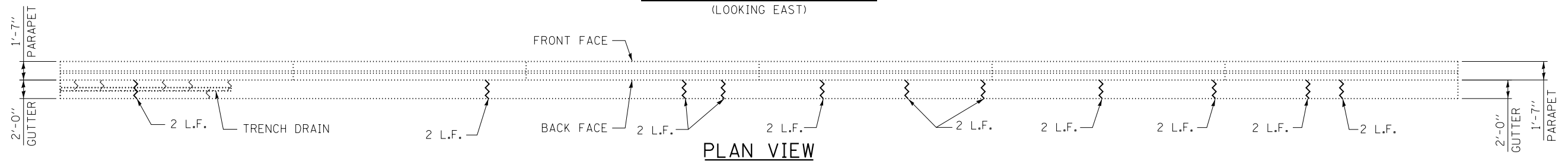
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WALL FRONT ELEVATION
(LOOKING WEST)



WALL BACK ELEVATION
(LOOKING EAST)



PLAN VIEW

LEGEND:

- L.F. LOW PRESSURE EPOXY INJECTION (CRACK WITH EFFLORESCENCE)
- HAIRLINE CRACK (FOR INFORMATION ONLY)
- L.F. LOW PRESSURE EPOXY INJECTION
- CJ CONSTRUCTION JOINT

NOTE:

1. CRACKS ARE HAIRLINE (HL) UNLESS NOTED OTHERWISE.
2. CRACKS LARGER THAN 1/16" WIDE AND ANY SIZE OF CRACKS THAT EXHIBIT MOISTURE INTRUSION SHOULD BE REPAIRED WITH LOW PRESSURE EPOXY INJECTION.
3. SEE SHEET RWJ-09 FOR WALL AND GUTTER DETAILS.

BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
JS121200	LOW PRESSURE EPOXY INJECTION	FOOT	109
JT524010	APPLY CONCRETE SEALANT	SQ. FT.	858
JT524015	BRIDGE DECK CONCRETE SEALER	SQ. FT.	694

DRAWN BY PAB DATE 3/11/2018
 CHECKED BY MMZ/MMH DATE 3/11/2018

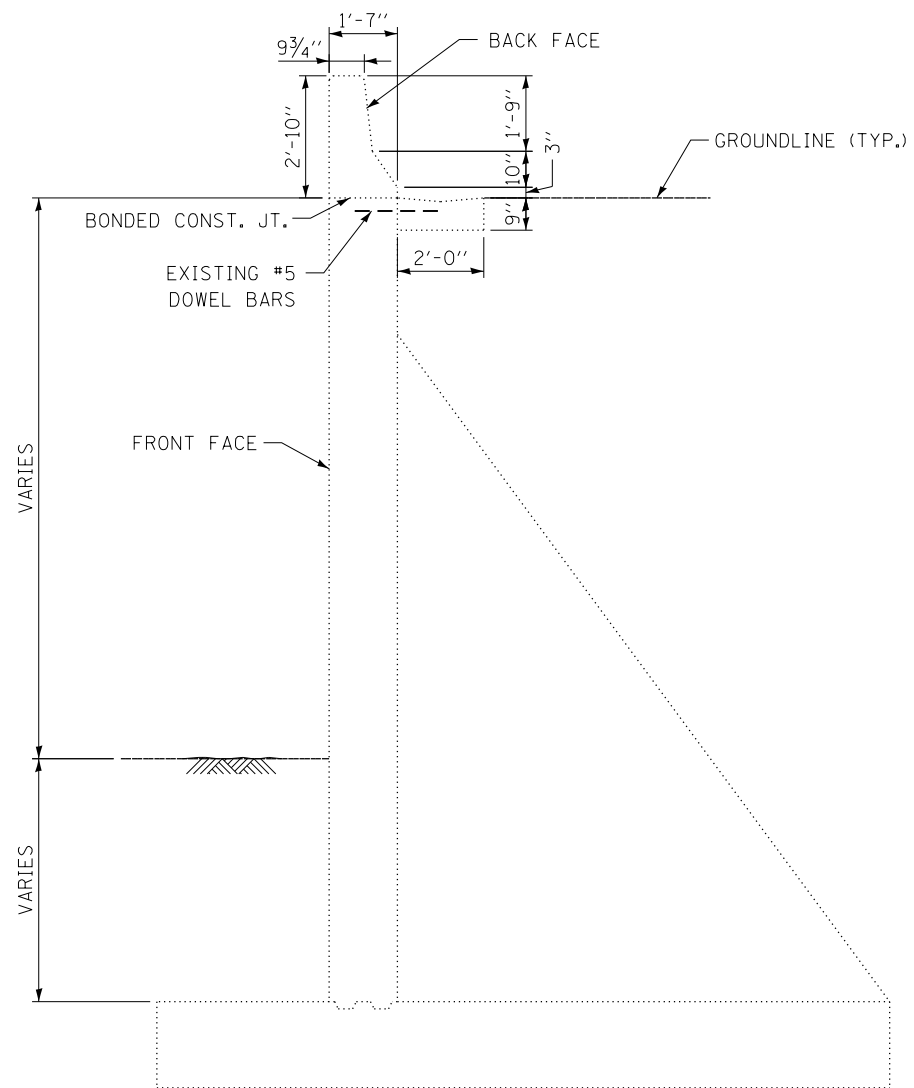


REVISIONS	
NO.	DATE

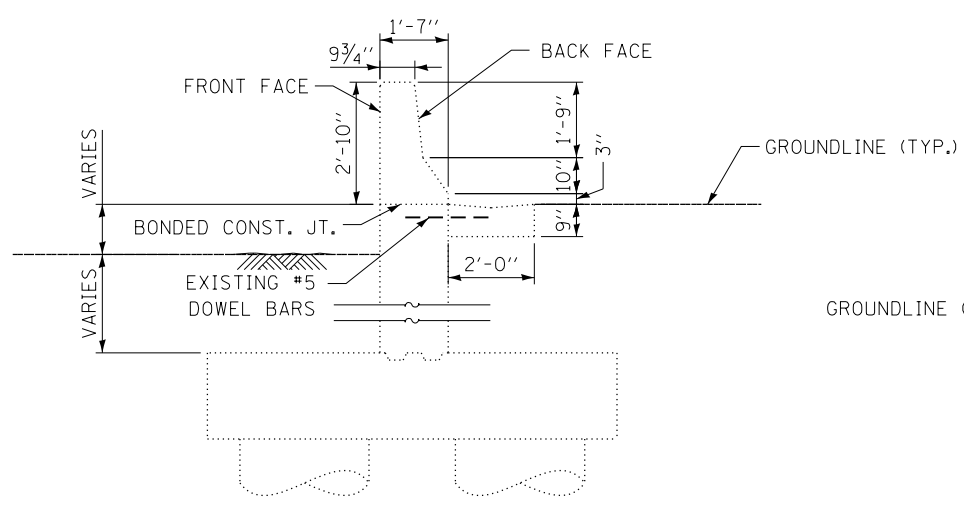
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 RETAINING WALL 114045 - NS22.00R,SB
 WALL ELEVATION 6

RWJ-08 OF RWJ-09
 SHT NO. RWJ-08
 DRAWING NO. 1465 OF 1517

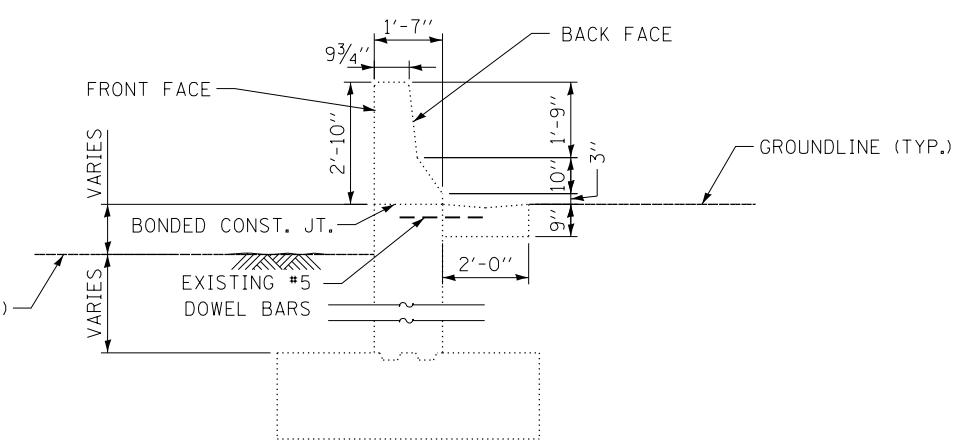
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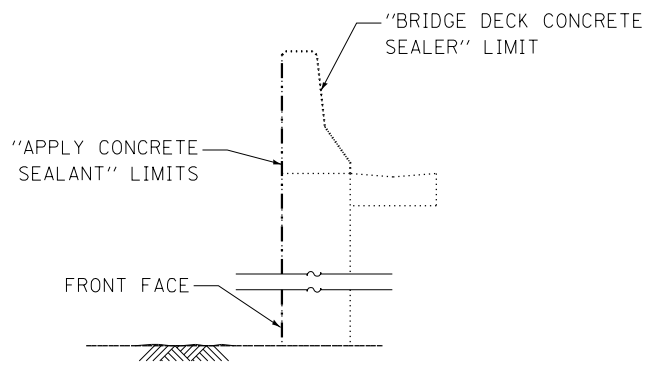
SECTION A-A
COUNTERFORT FOOTING
STA. 1256+12.60 TO 1259+72.58



SECTION B-B
ON DRILLED PIERS
STA. 1259+72.45 TO 1264+79.49



SECTION C-C
CONVENTIONAL FOOTING
STA. 1246+79.49 TO 1265+69.49



PARAPET SEALING DETAILS

NOTES:

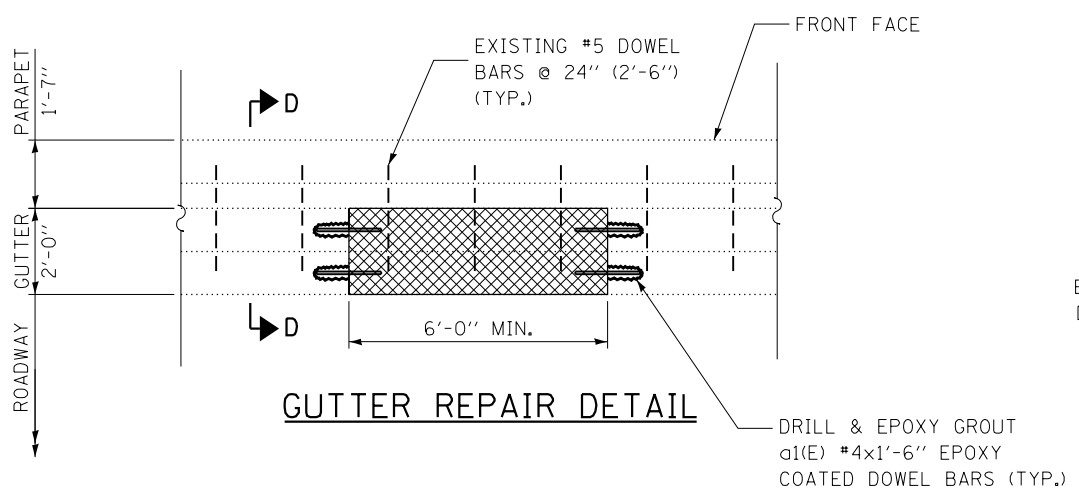
- EXISTING REINFORCEMENT IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION.
- FOR PAY ITEM QUANTITIES AND LOCATIONS, SEE SHEETS RWJ-03 THROUGH RWJ-08.

BAR SCHEDULE

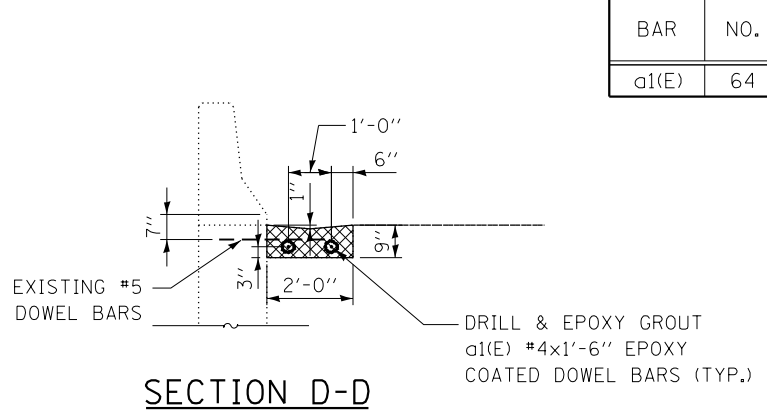
BAR	NO.	SIZE	LENGTH	SHAPE
a1(E)	64	#4	1'-6"	—

LEGEND

GUTTER REMOVAL, GUTTER, TYPE G-2



GUTTER REPAIR DETAIL



SECTION D-D

DRAWN BY PAB DATE 3/11/2018
CHECKED BY MMZ/MMH DATE 3/11/2018

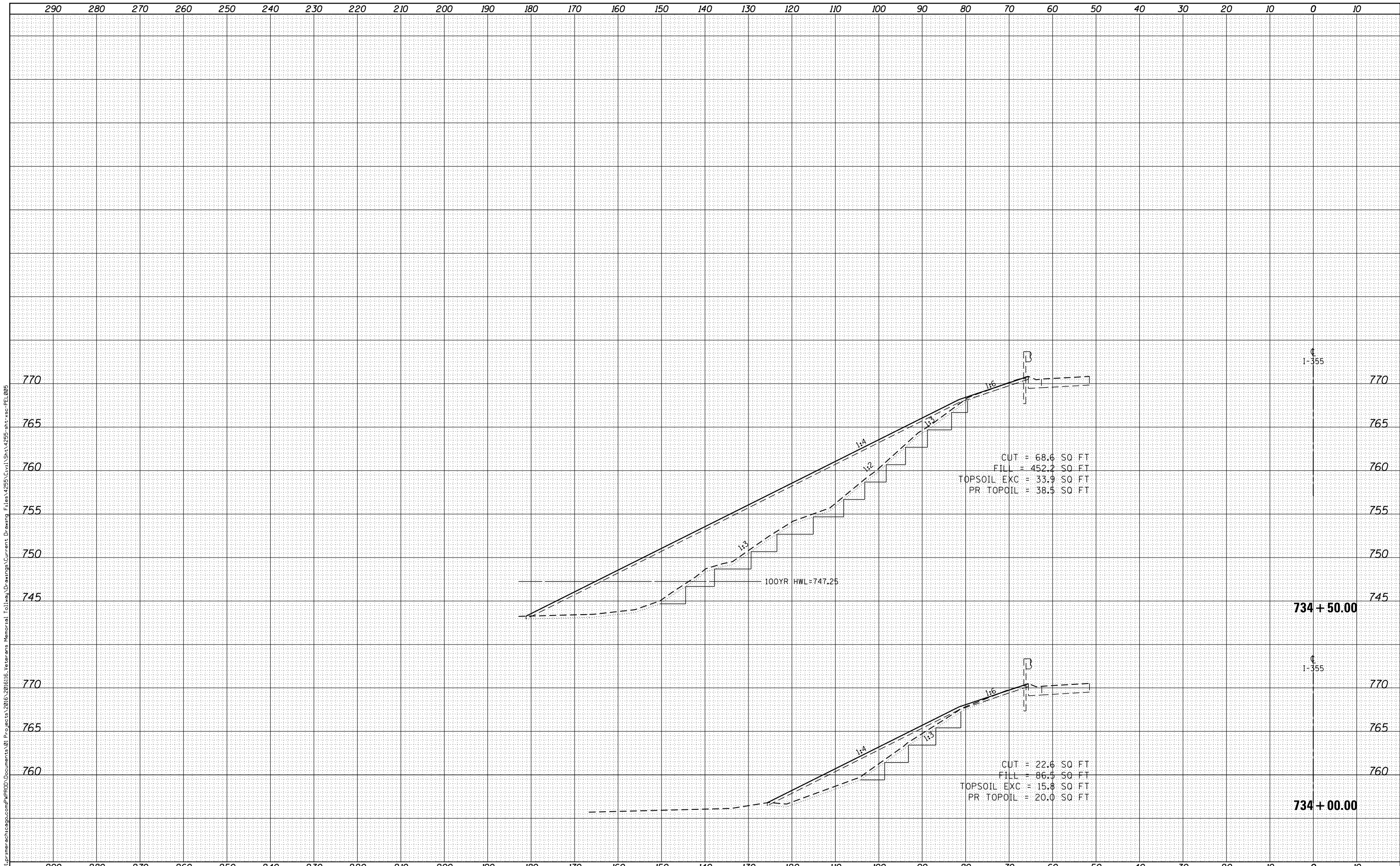


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-16-4255
RETAINING WALL 114045 - NS22.00R,SB
WALL REPAIR DETAILS

RWJ-09 OF RWJ-09
SHT NO. RWJ-09
DRAWING NO. 1466 OF 1517



DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018

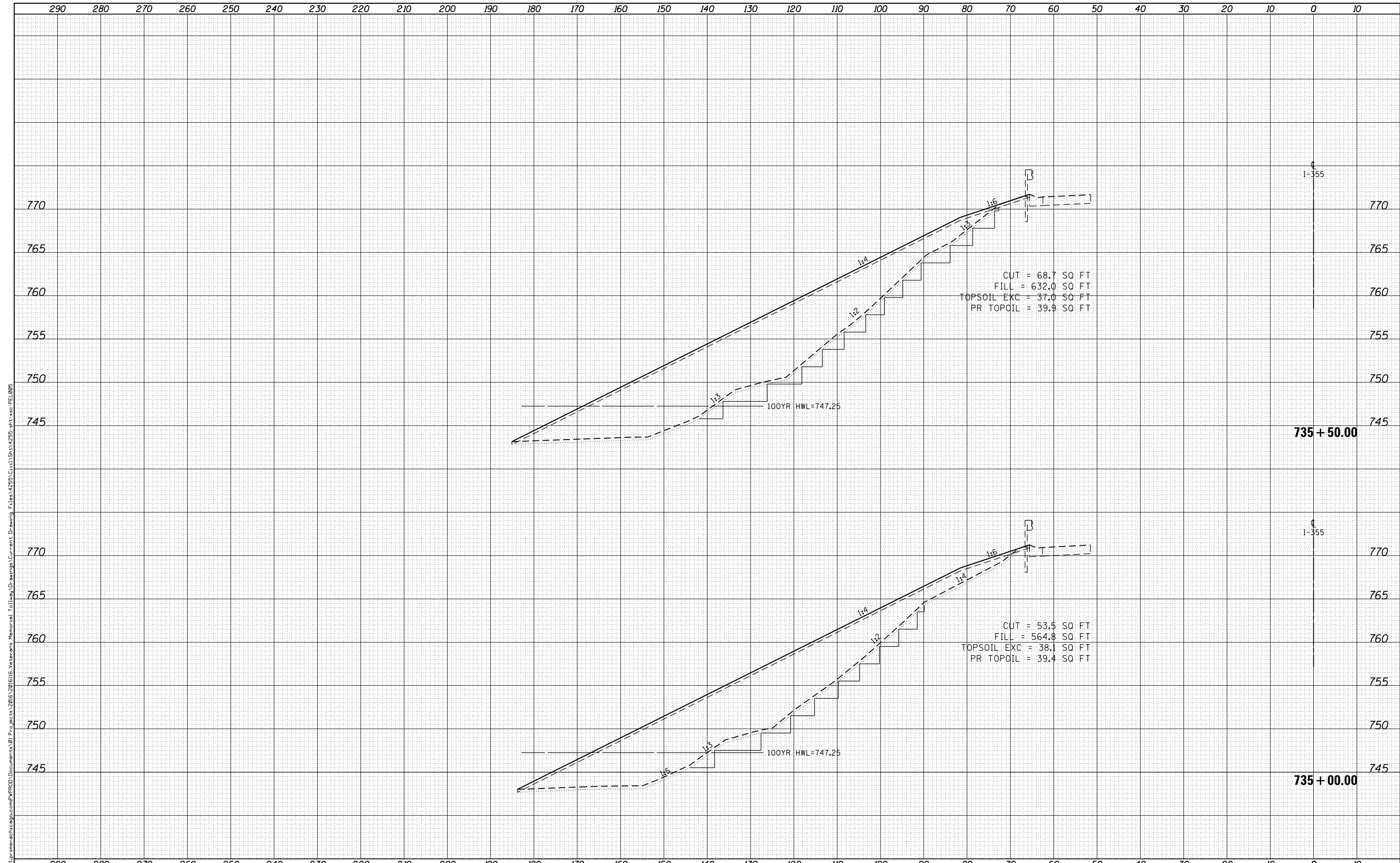


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-01
 DRAWING NO.
 1467 OF 1517

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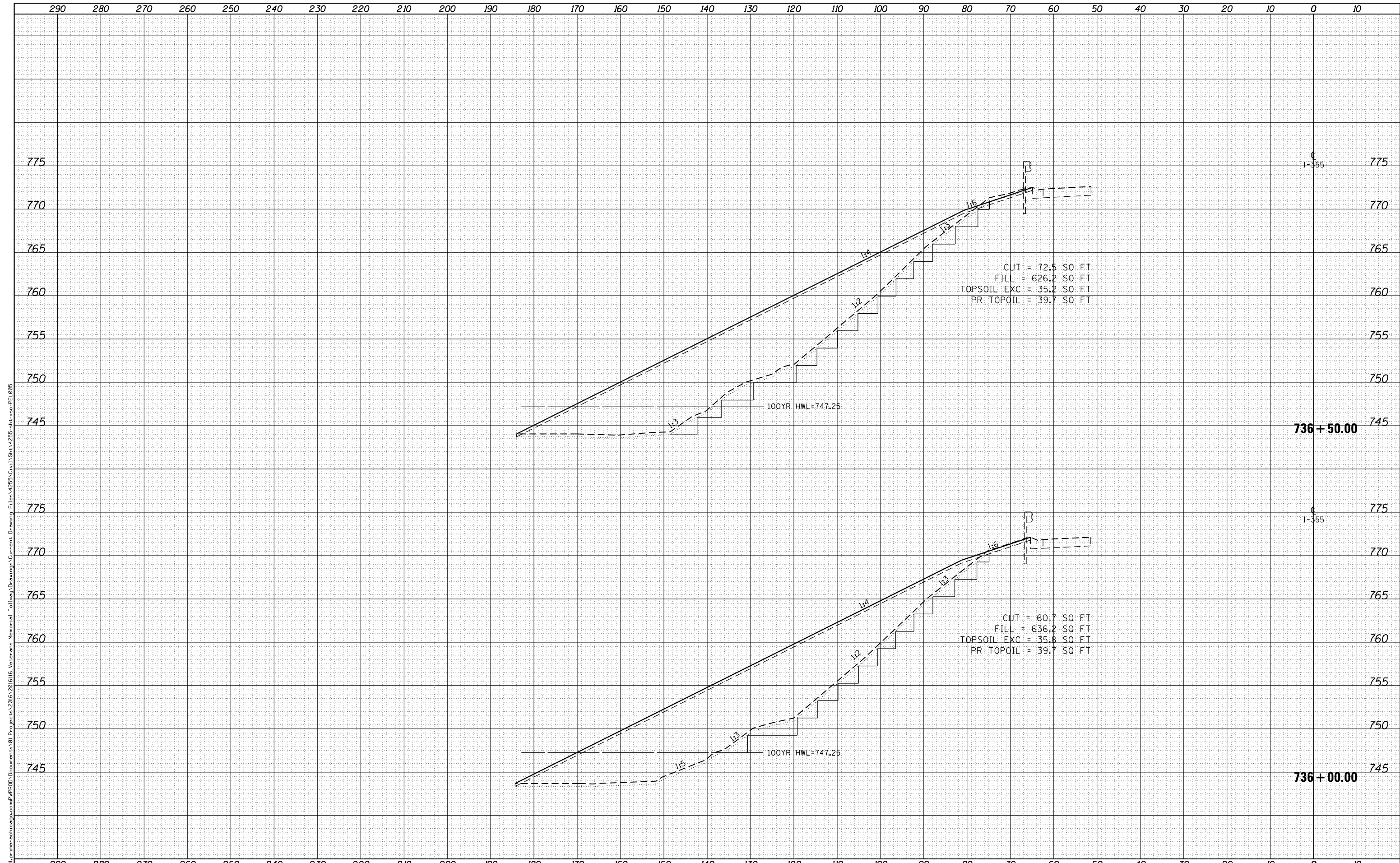
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-02
 DRAWING NO.
 1468 OF 1517



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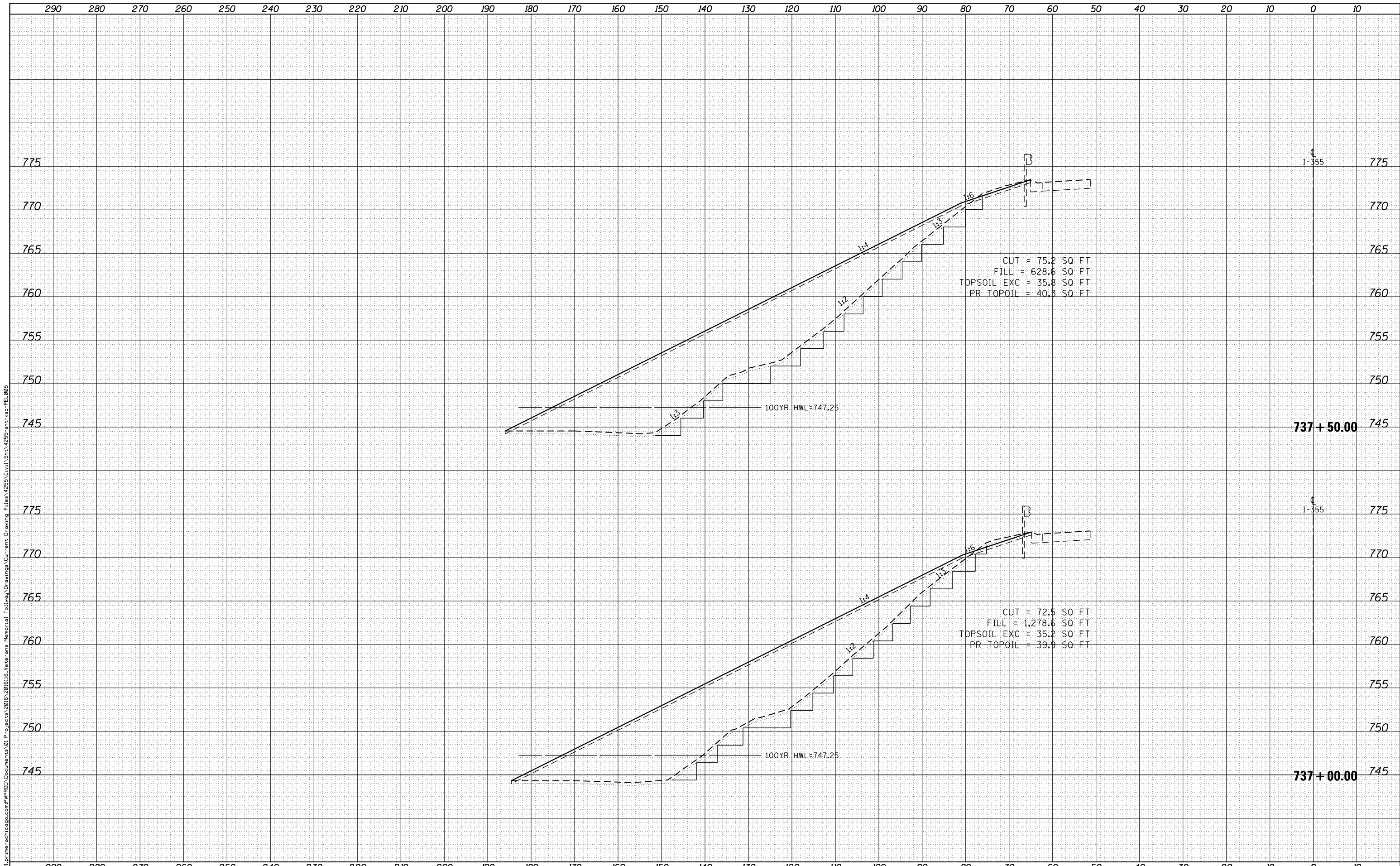
DRAWN BY CBP DATE 3/11/2018
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-03
 DRAWING NO.
 1469 OF 1517



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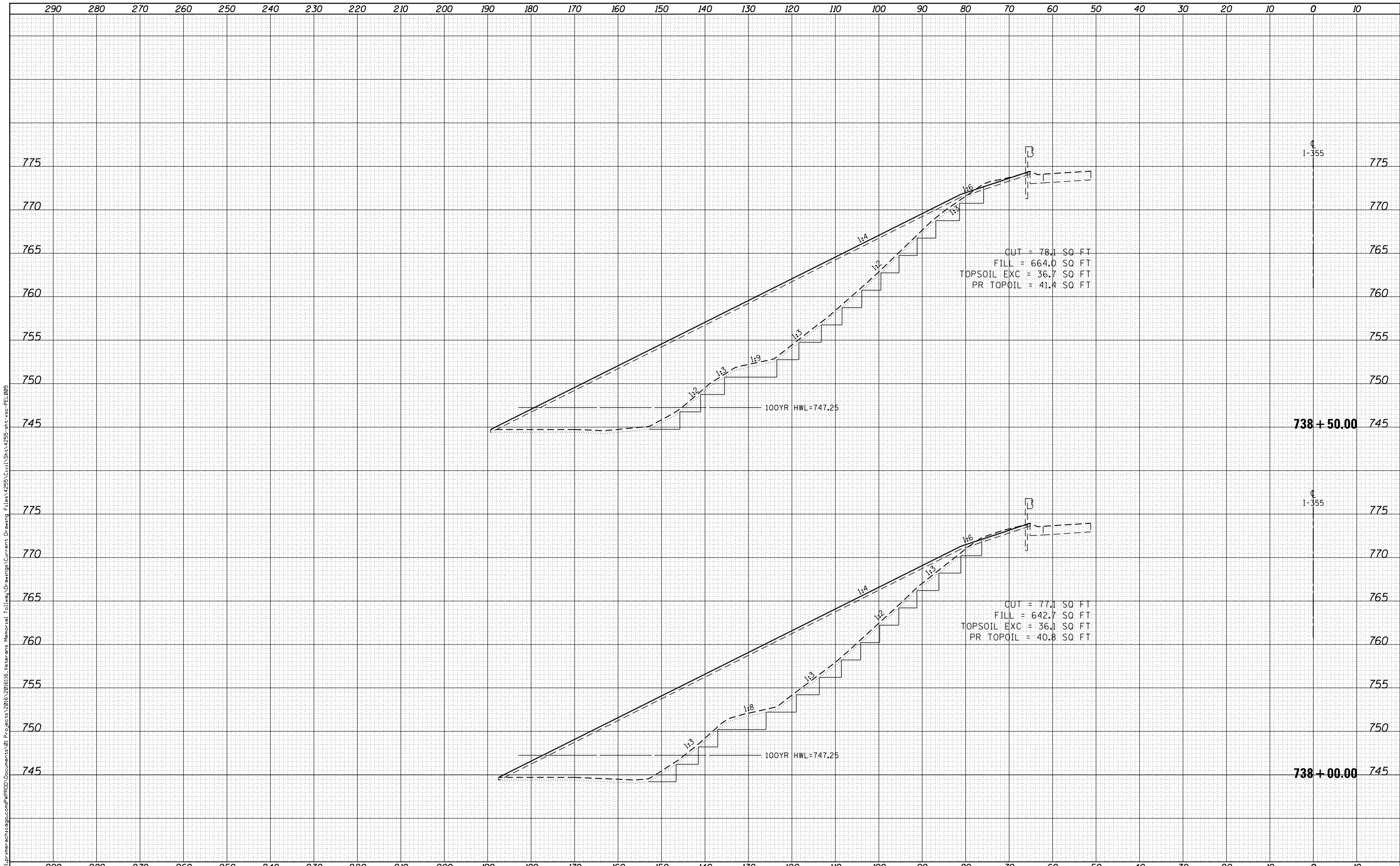
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-04
 DRAWING NO.
 1470 OF 1517



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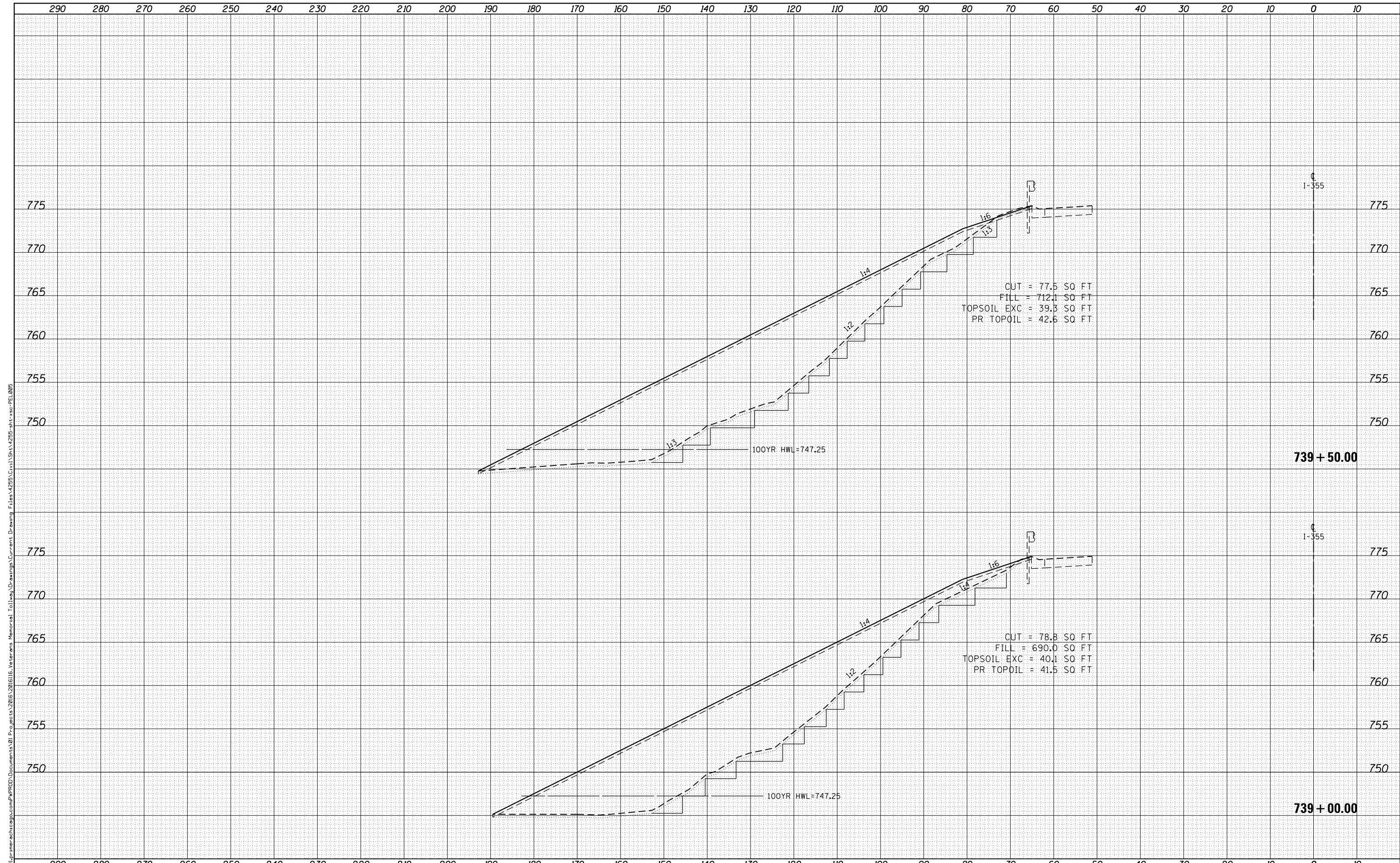
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-05
 DRAWING NO.
 1471 OF 1517



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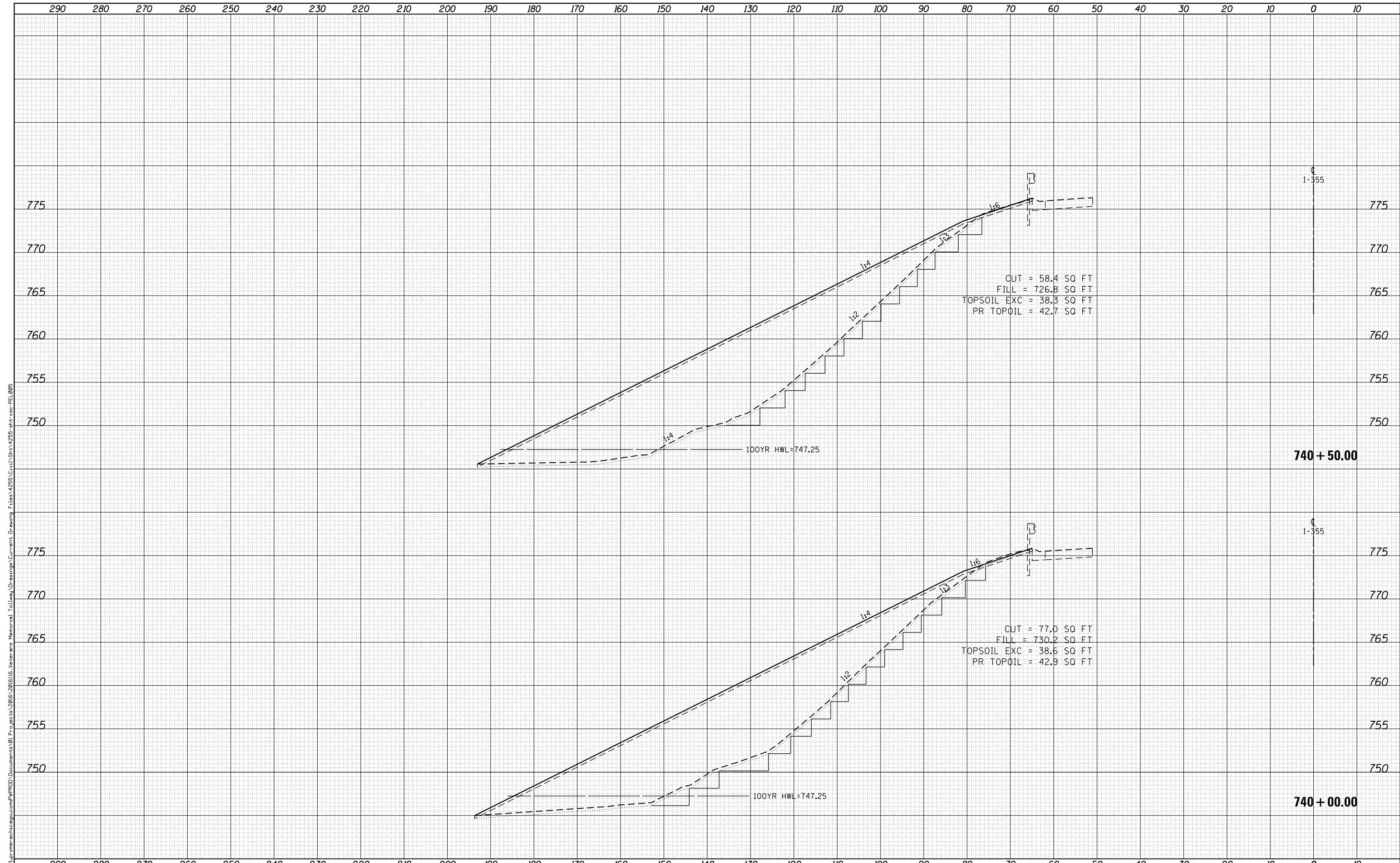
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-06
 DRAWING NO.
 1472 OF 1517



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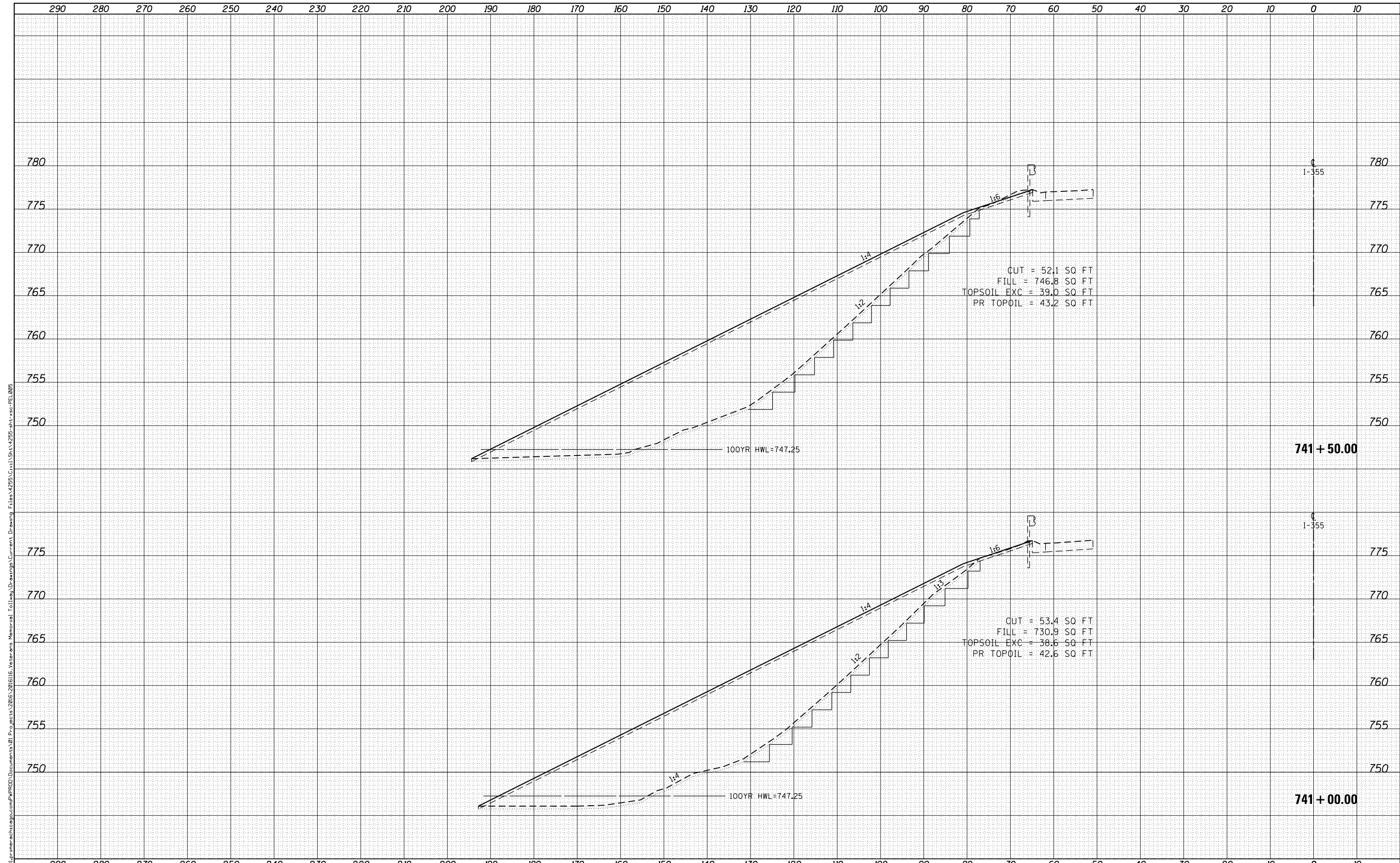
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-07
 DRAWING NO.
 1473 OF 1517



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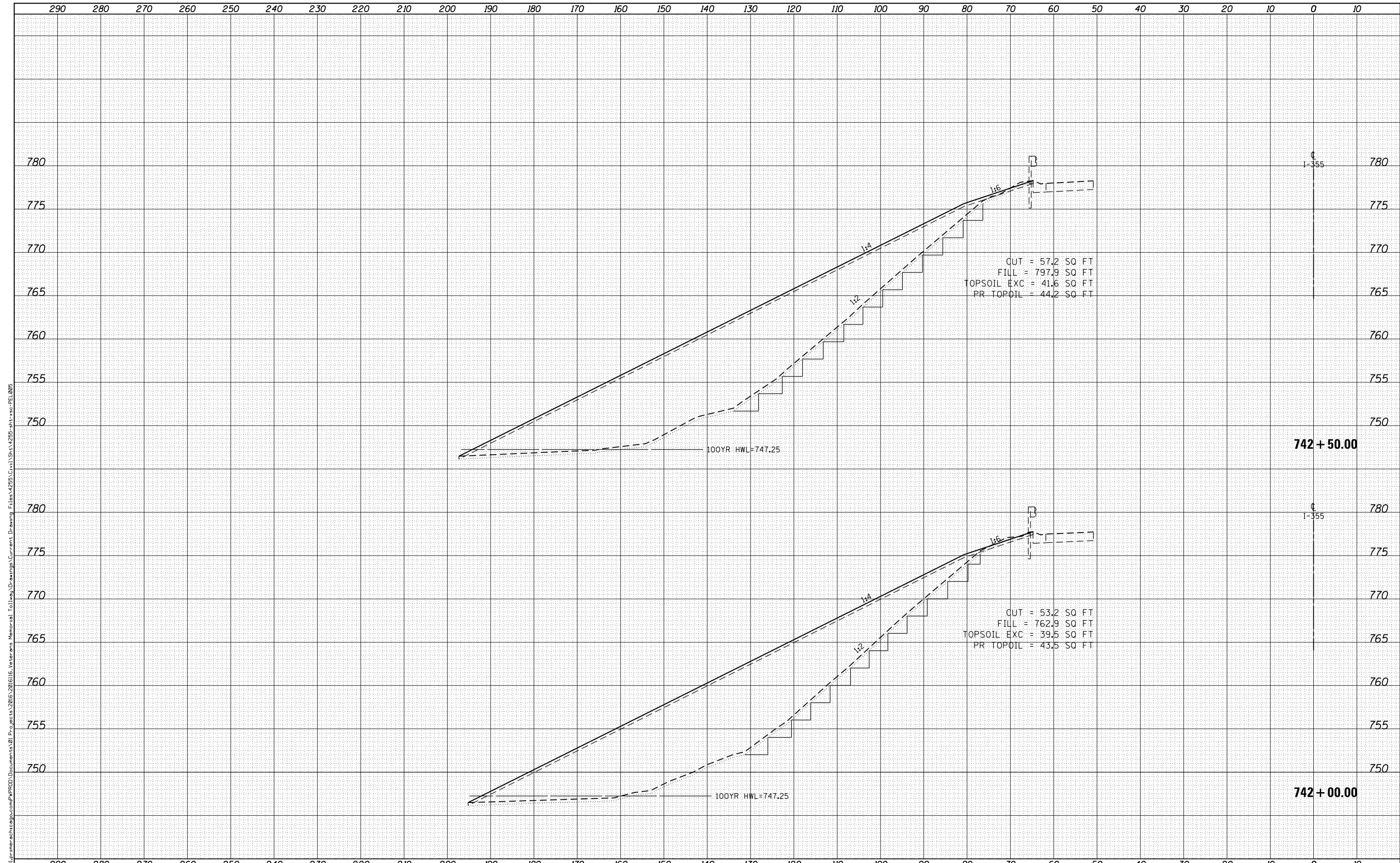
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 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-08
 DRAWING NO.
 1474 OF 1517



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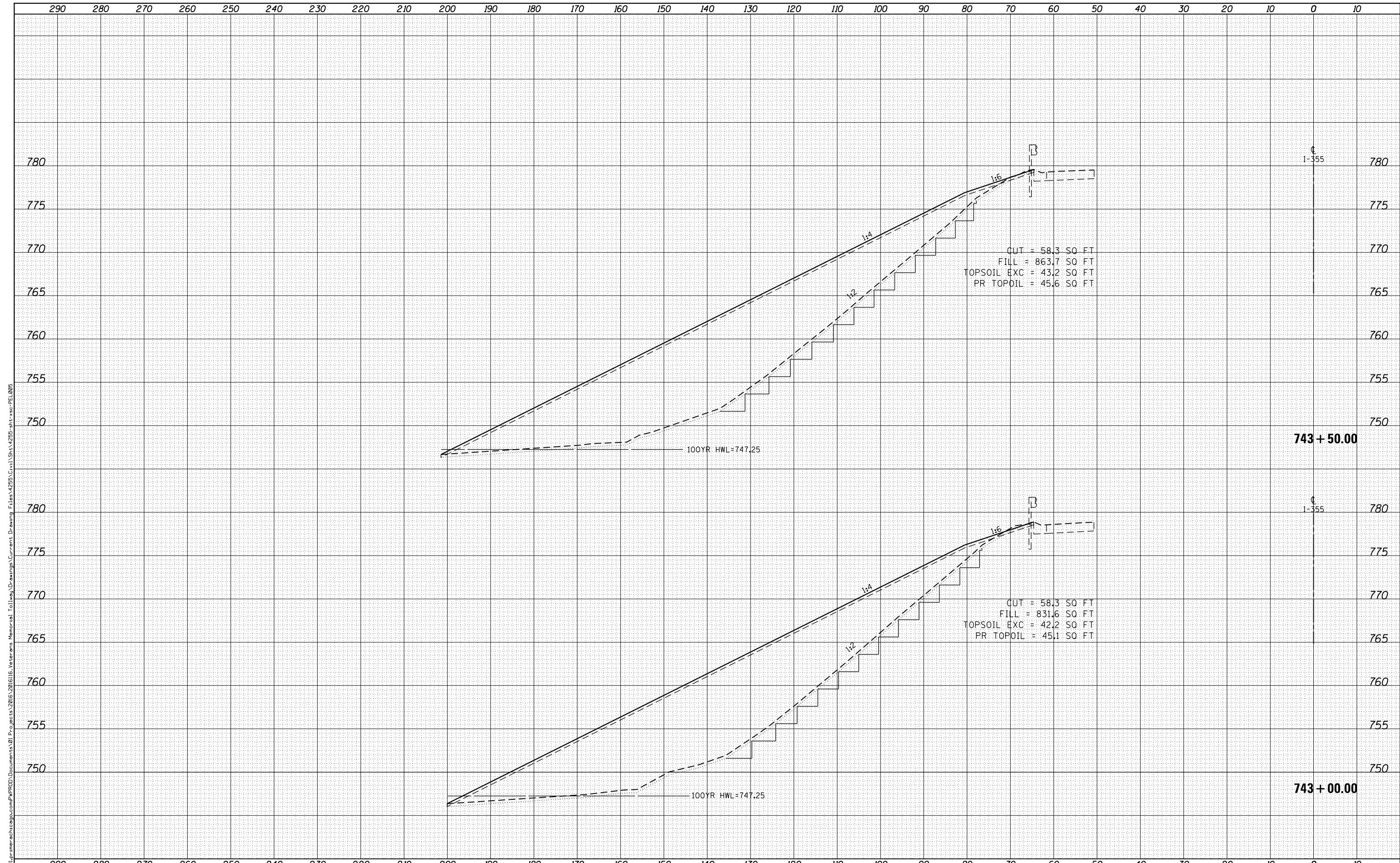
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-09
 DRAWING NO.
 1475 OF 1517



CUT = 58.3 SQ FT
 FILL = 863.7 SQ FT
 TOPSOIL EXC = 43.2 SQ FT
 PR TOPOIL = 45.6 SQ FT

CUT = 58.3 SQ FT
 FILL = 831.6 SQ FT
 TOPSOIL EXC = 42.2 SQ FT
 PR TOPOIL = 45.1 SQ FT

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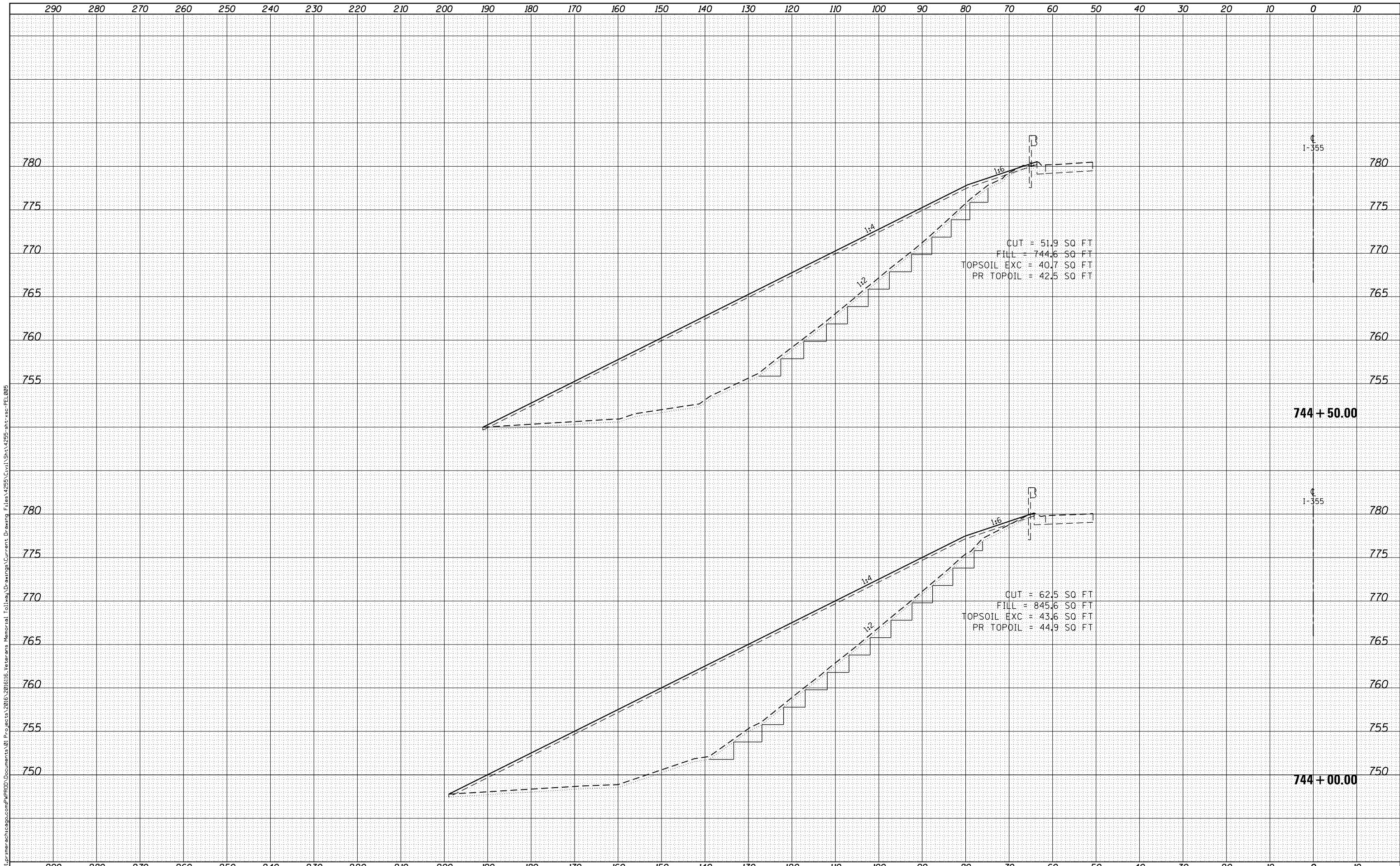
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-10
 DRAWING NO.
 1476 OF 1517



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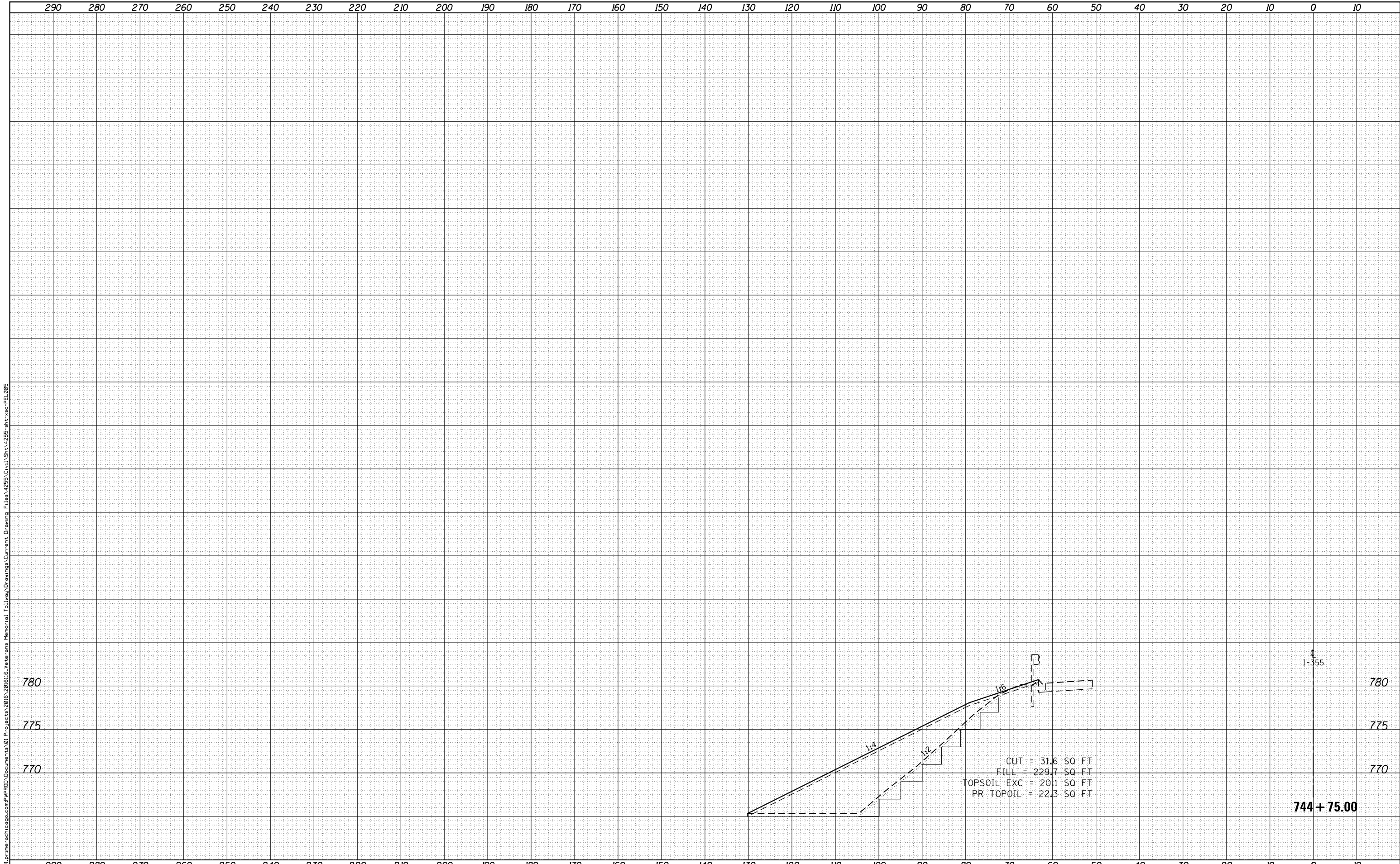
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-11
 DRAWING NO.
 1477 OF 1517



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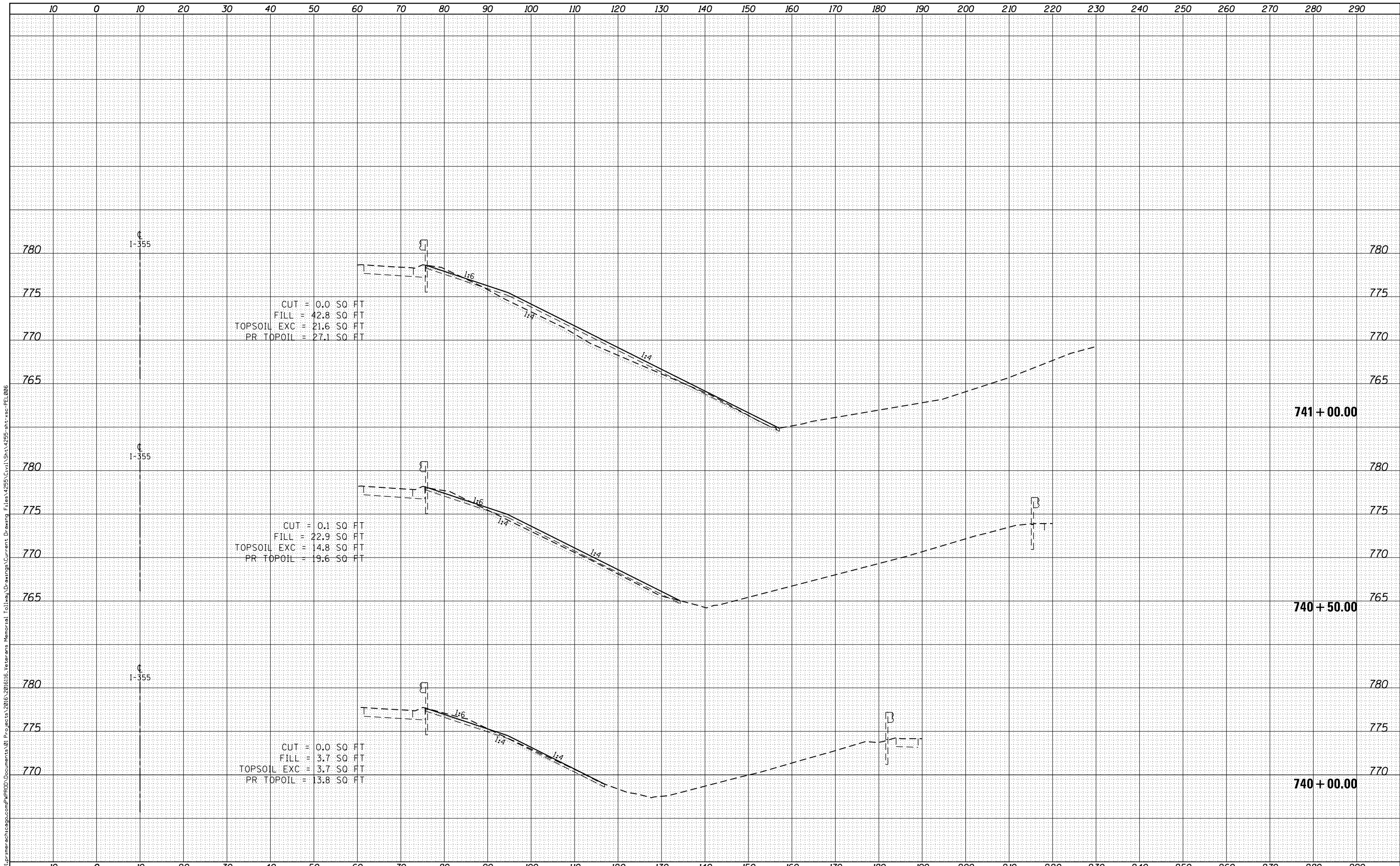
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REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-12
 DRAWING NO.
 1478 OF 1517



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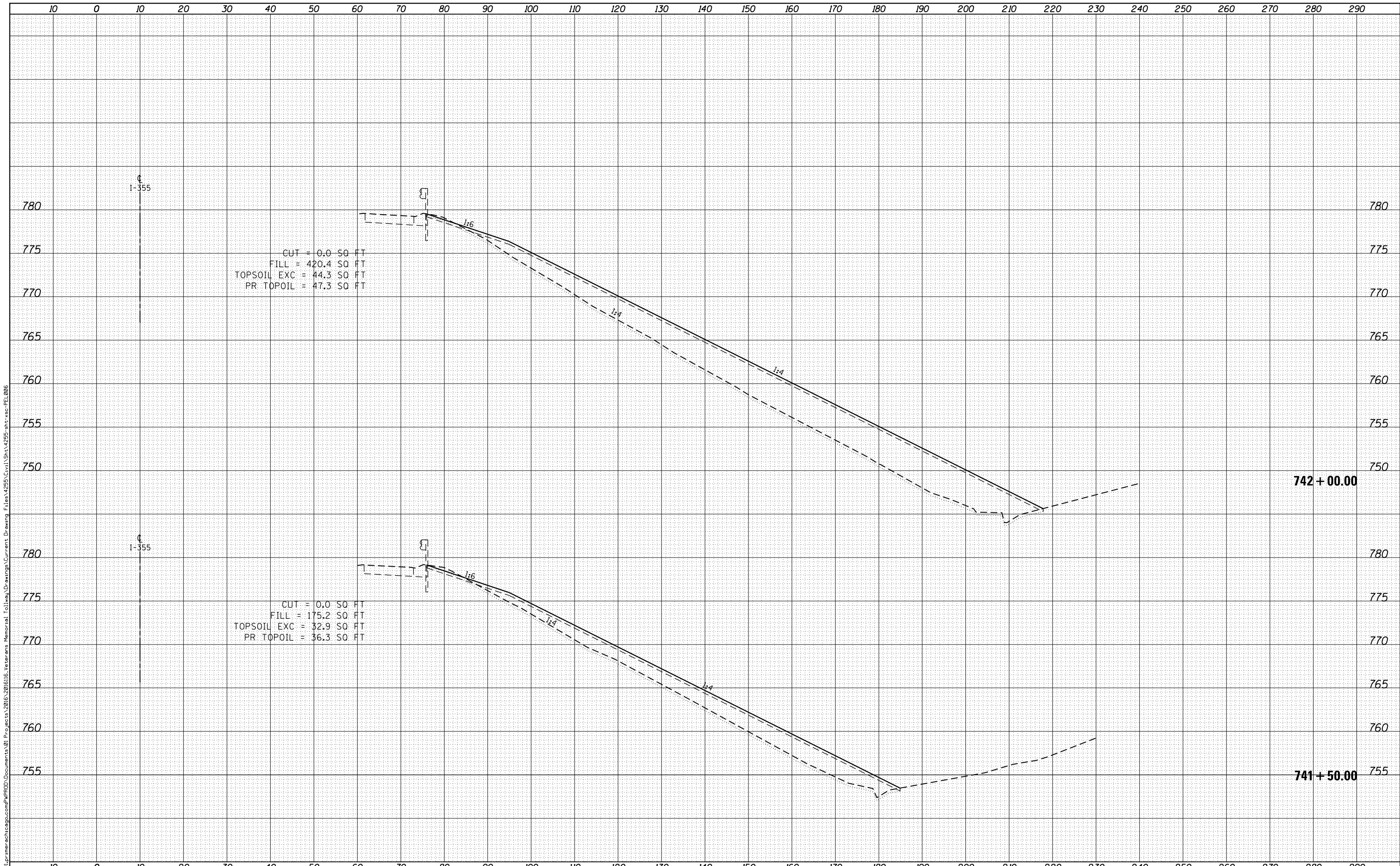
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 NB

XS-13
 DRAWING NO.
 1479 OF 1517



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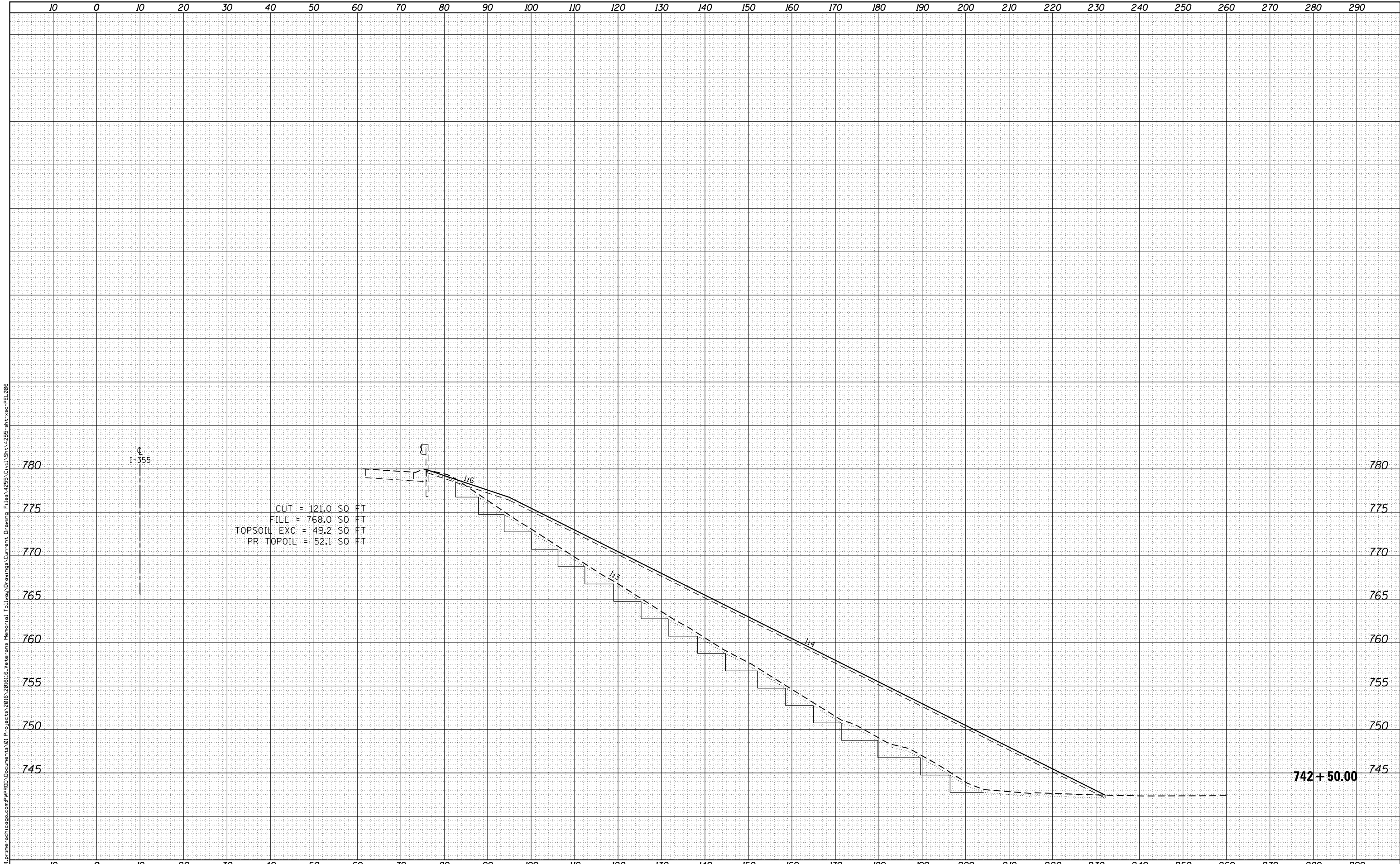
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 CHECKED BY MMJ DATE 3/11/2018



REVISIONS	
NO.	DATE

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-14
 DRAWING NO.
 1480 OF 1517



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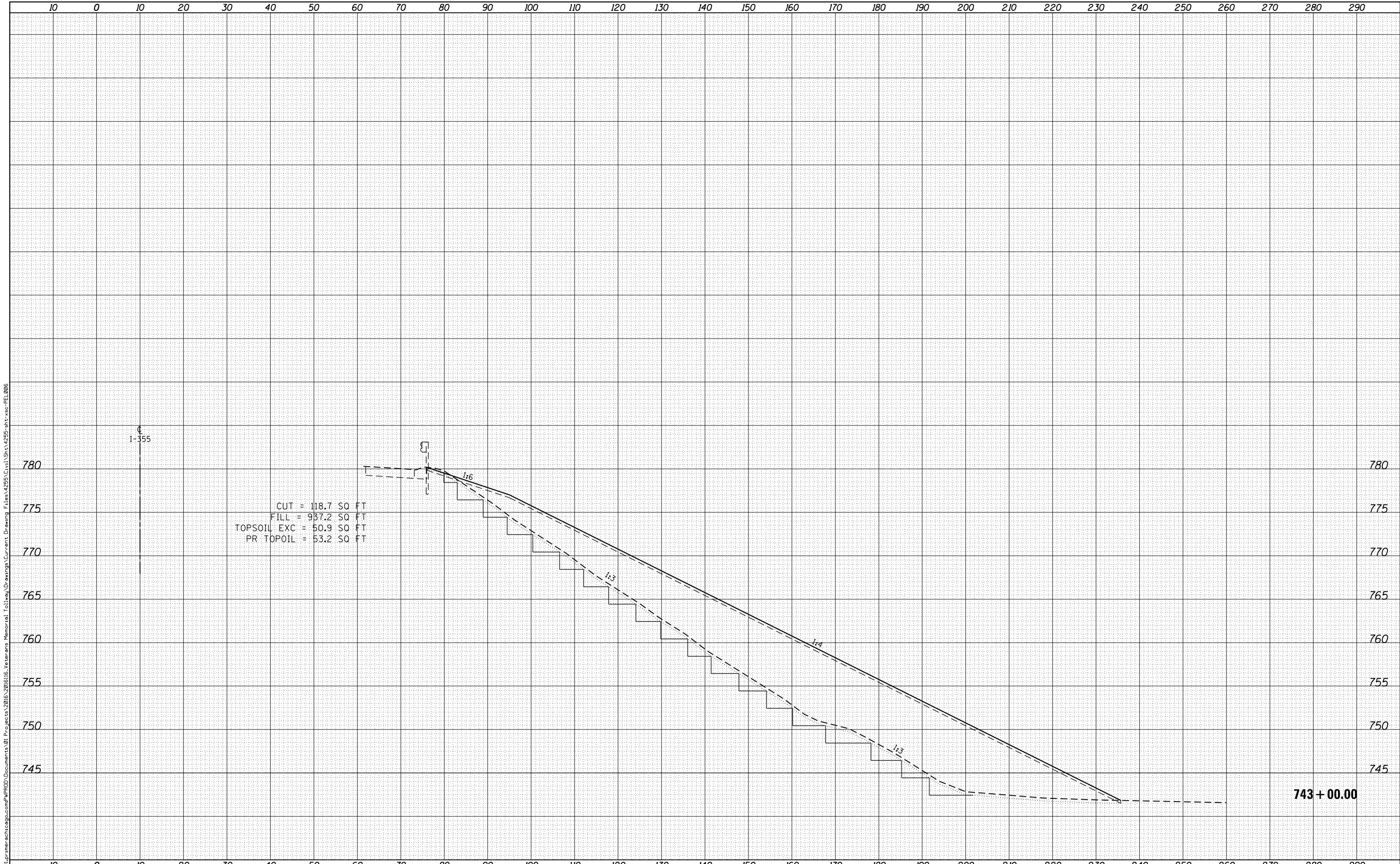
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-15
 DRAWING NO.
 1481 OF 1517



CUT = 118.7 SQ FT
 FILL = 937.2 SQ FT
 TOPSOIL EXC = 50.9 SQ FT
 PR TOPOIL = 53.2 SQ FT

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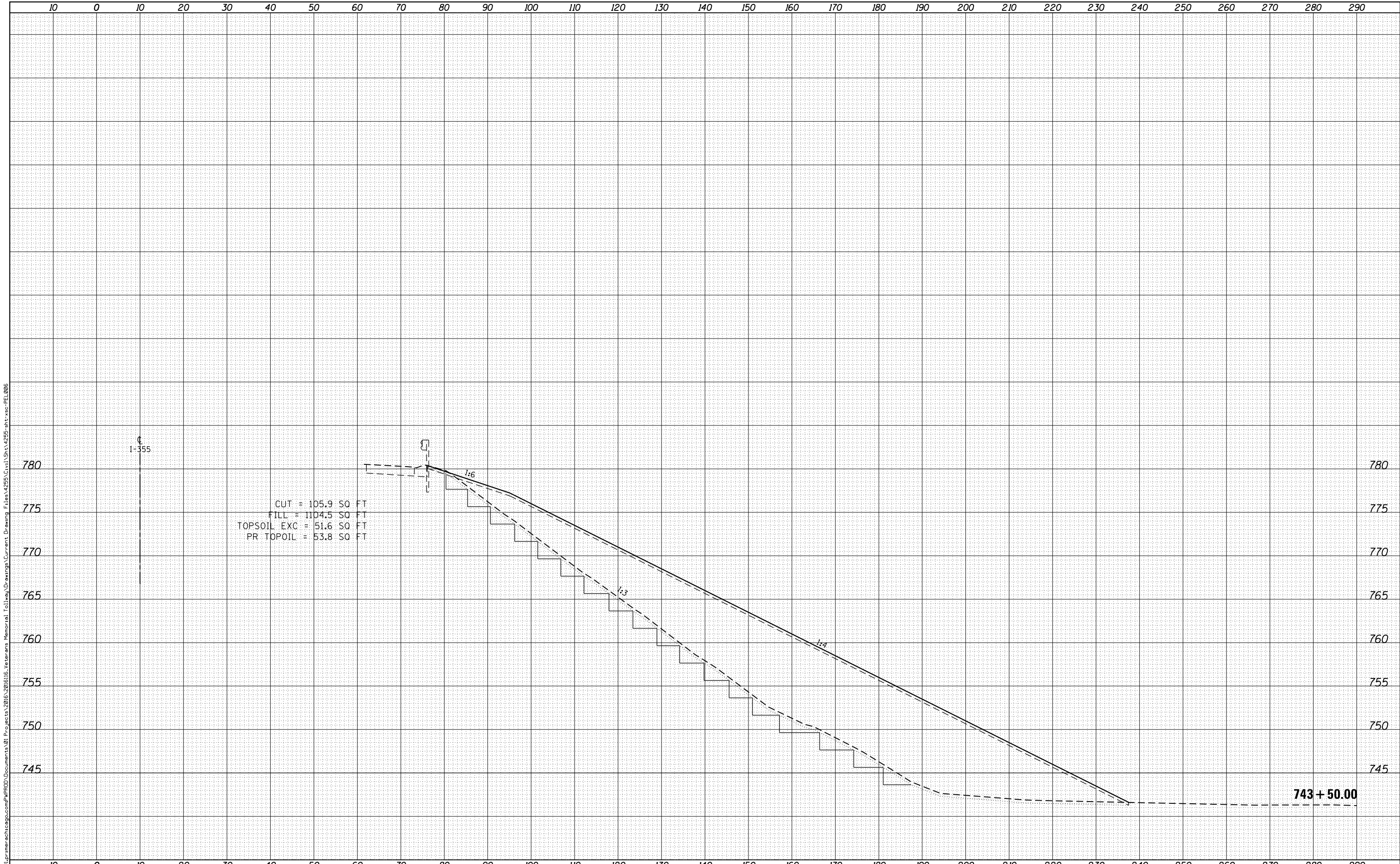
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-16
 DRAWING NO.
 1482 OF 1517



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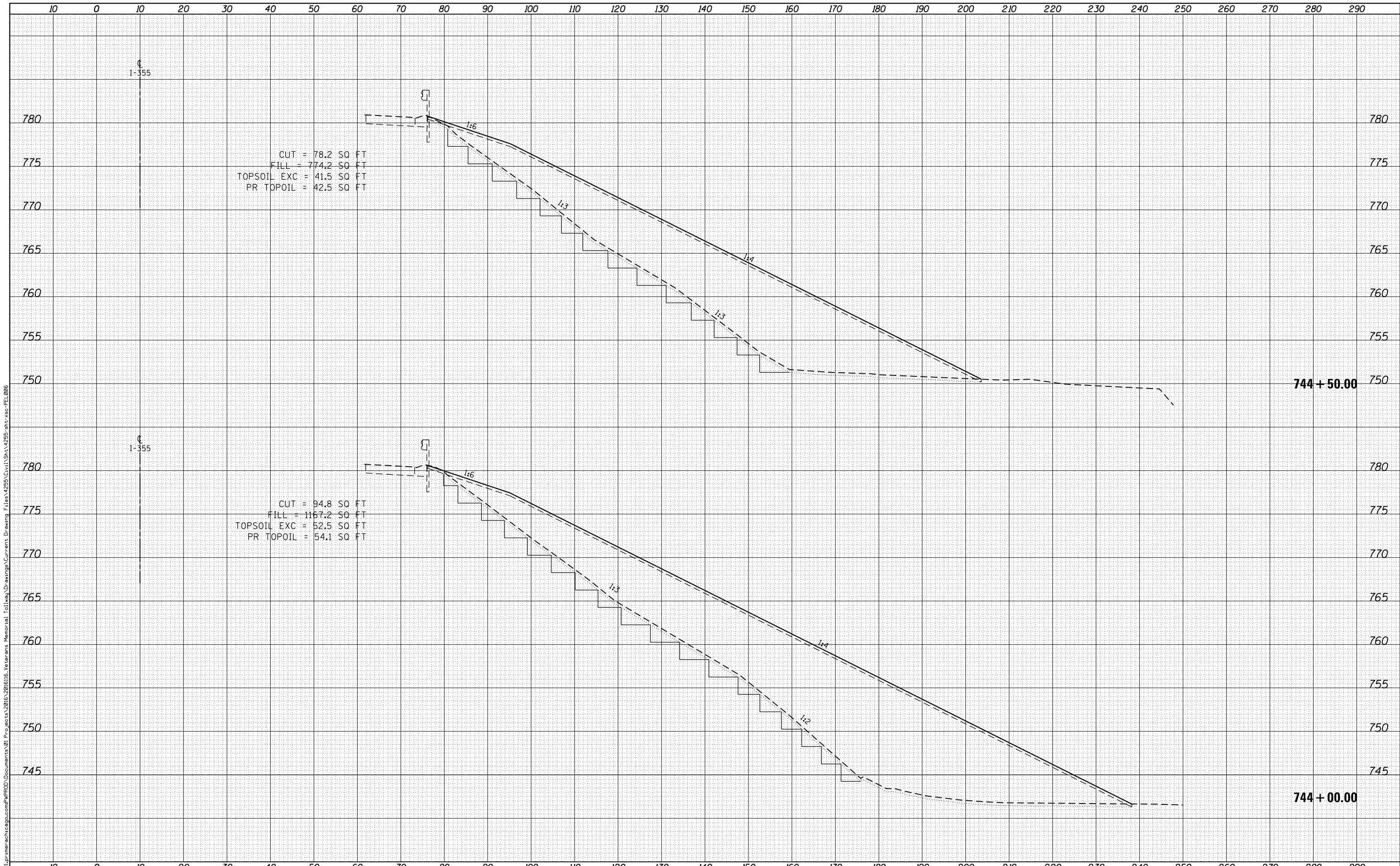
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-17
 DRAWING NO.
 1483 OF 1517



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DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-18
 DRAWING NO.
 1484 OF 1517



CUT = 68.9 SQ FT
 FILL = 756.3 SQ FT
 TOPSOIL EXC = 40.4 SQ FT
 PR TOPSOIL = 41.3 SQ FT

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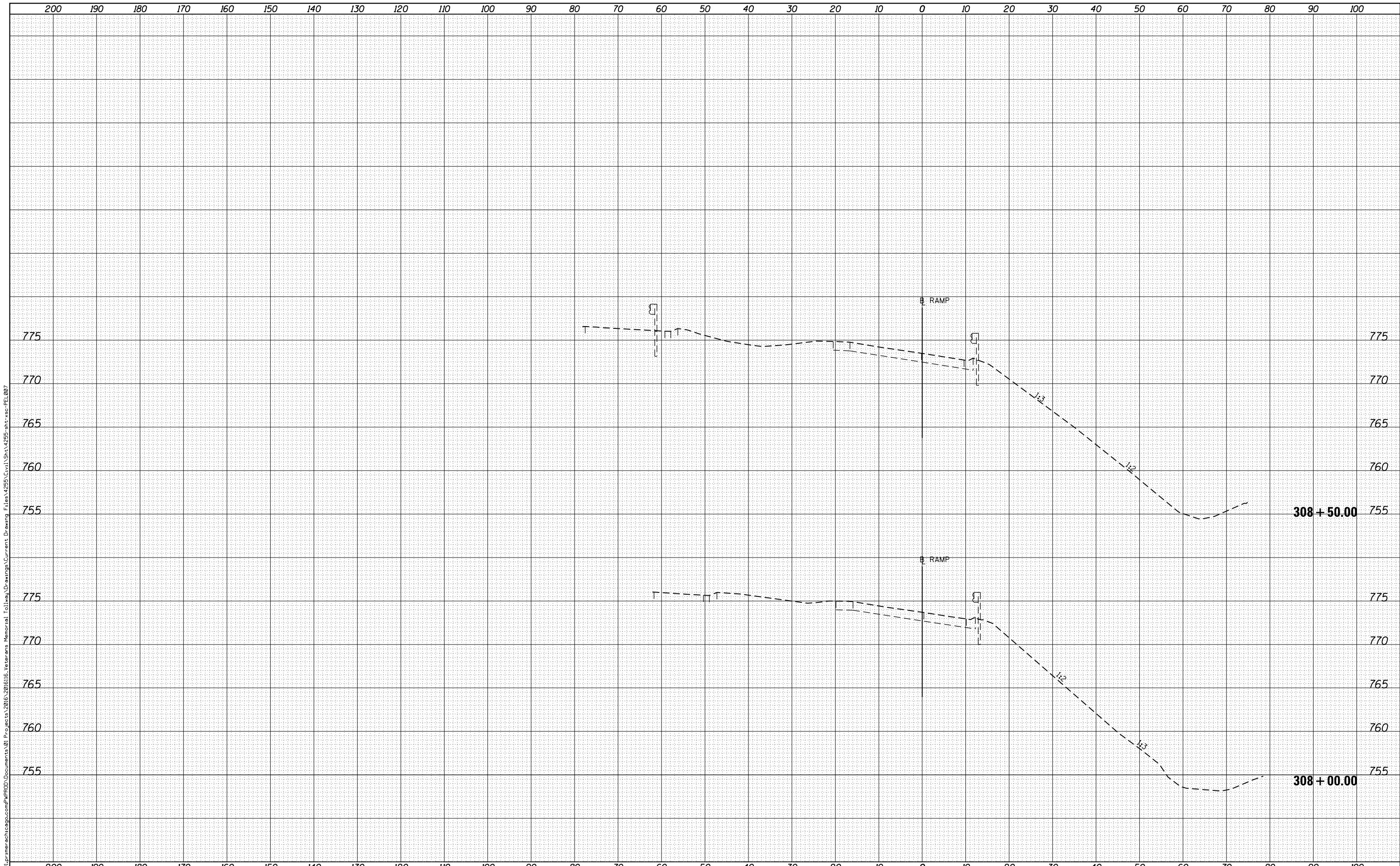
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 CHECKED BY MMJ DATE 3/11/2018



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 I-355 SB

XS-19
 DRAWING NO.
 1485 OF 1517



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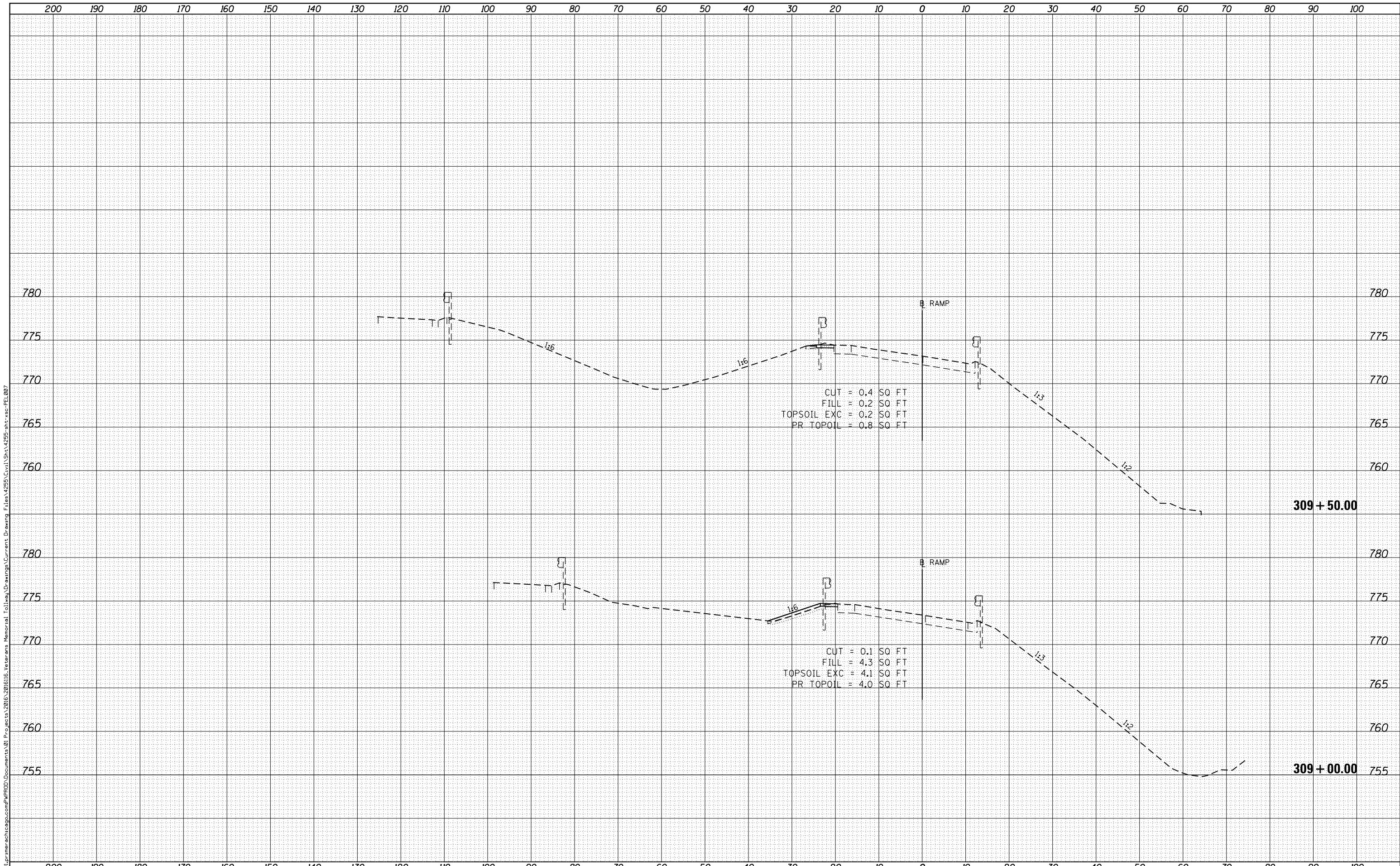
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 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 NB EXIT RAMP TO I-55

XS-20
 DRAWING NO.
 1486 OF 1517



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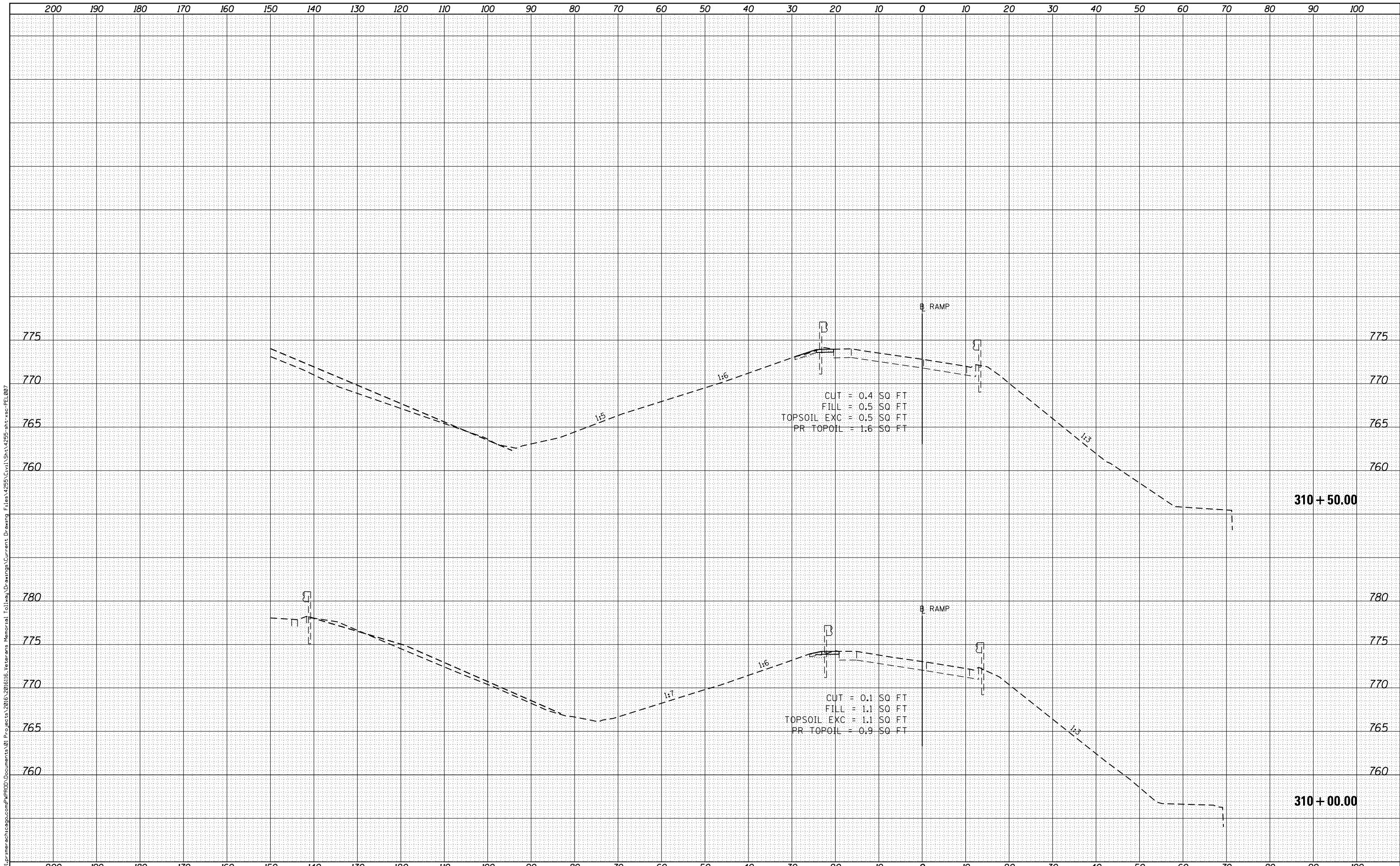
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 NB EXIT RAMP TO I-55

XS-21
 DRAWING NO.
 1487 OF 1517



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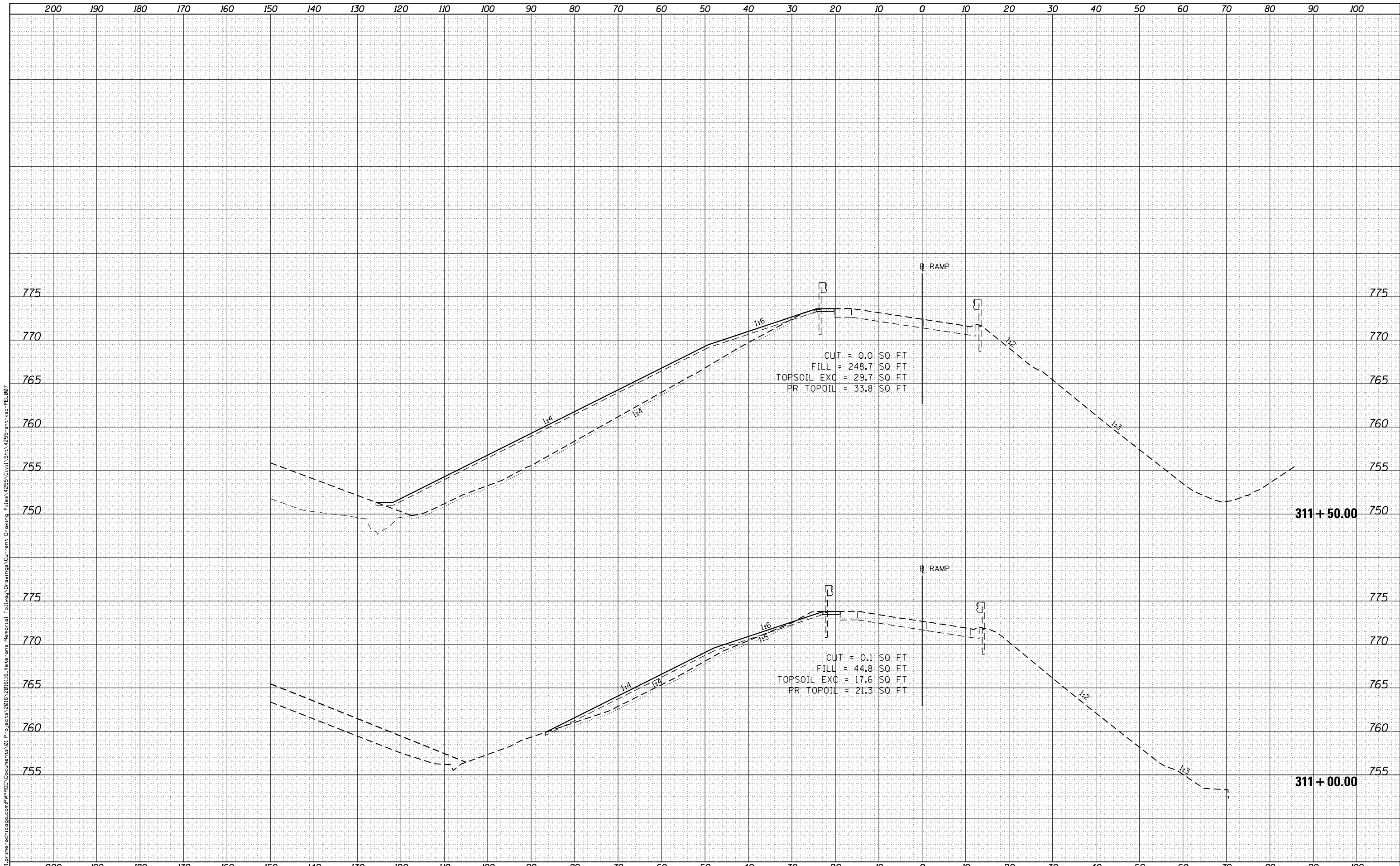
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 NB EXIT RAMP TO I-55

XS-22
 DRAWING NO.
 1488 OF 1517



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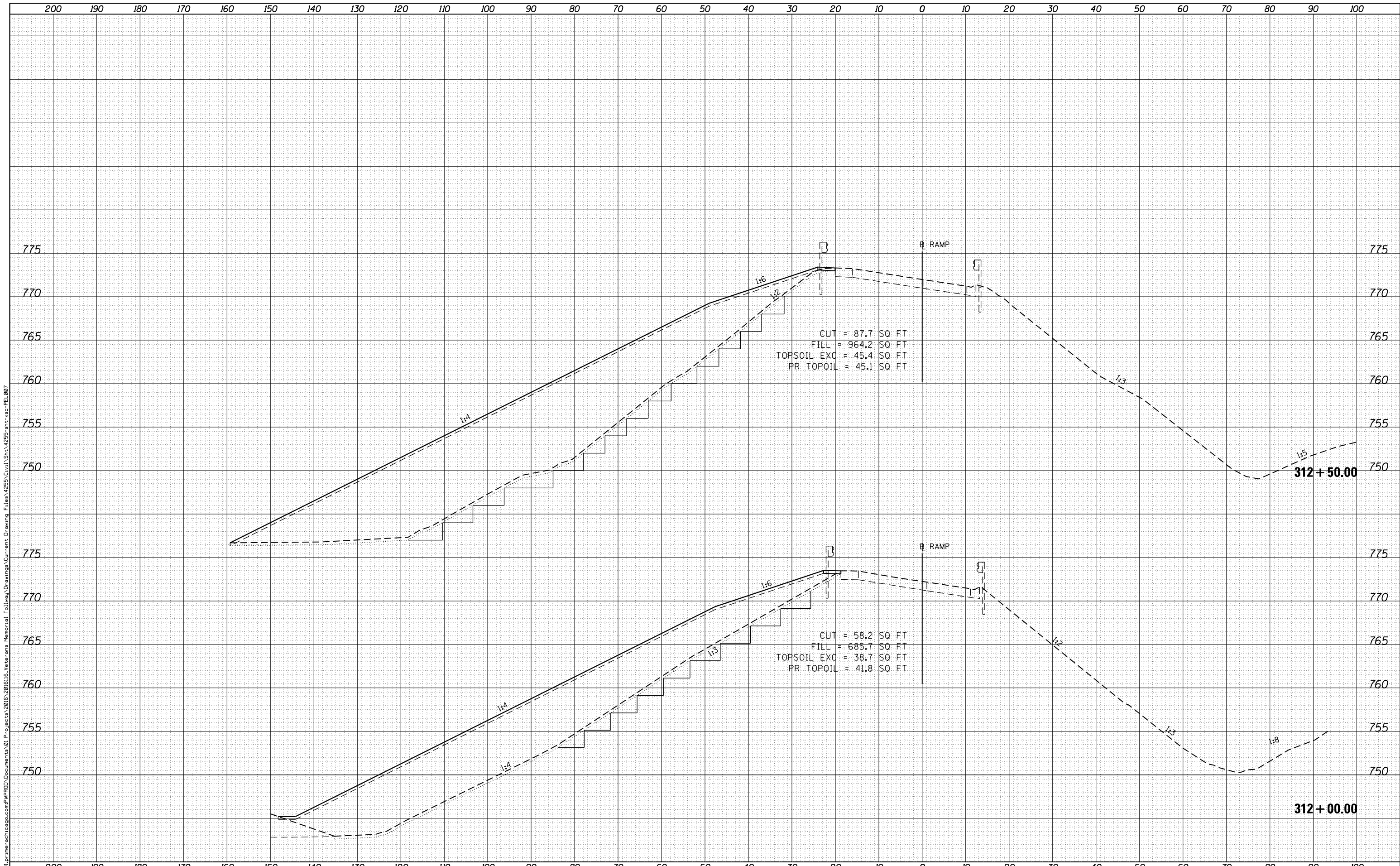
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 NB EXIT RAMP TO I-55

XS-23
 DRAWING NO.
 1489 OF 1517



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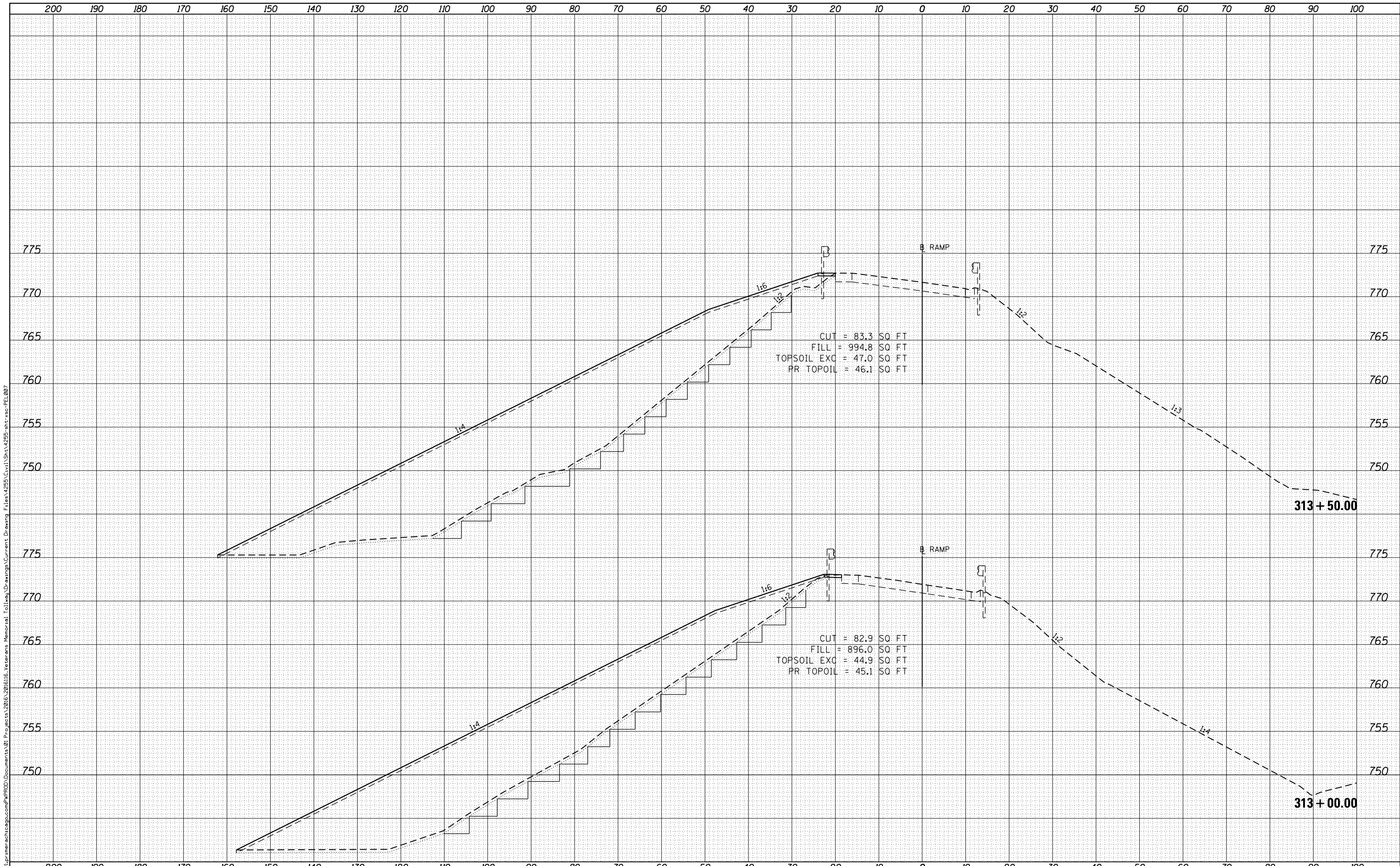
DRAWN BY CBP DATE 3/11/2018
 CHECKED BY MMJ DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

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 NB EXIT RAMP TO I-55

XS-24
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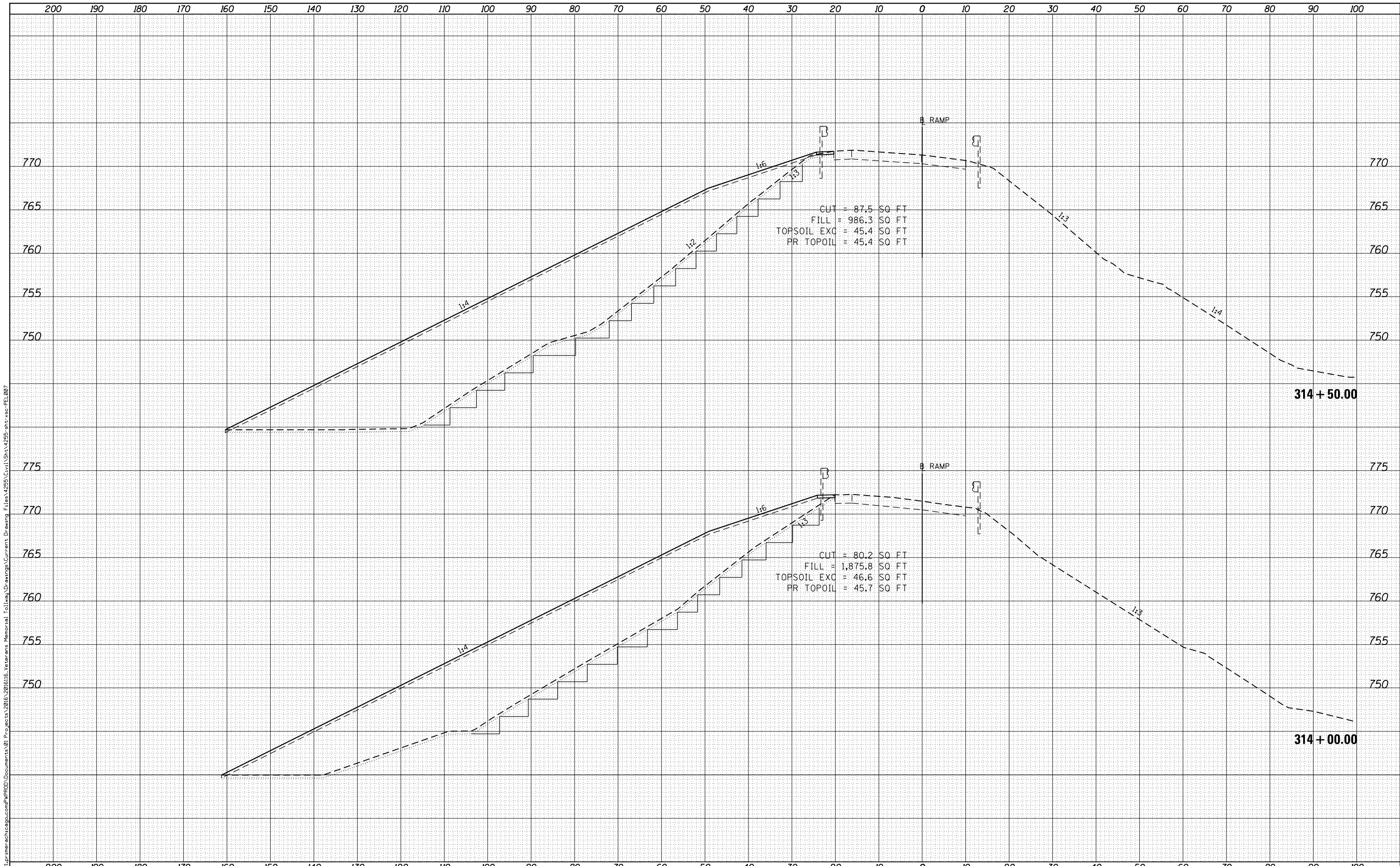
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 DRAWING NO.
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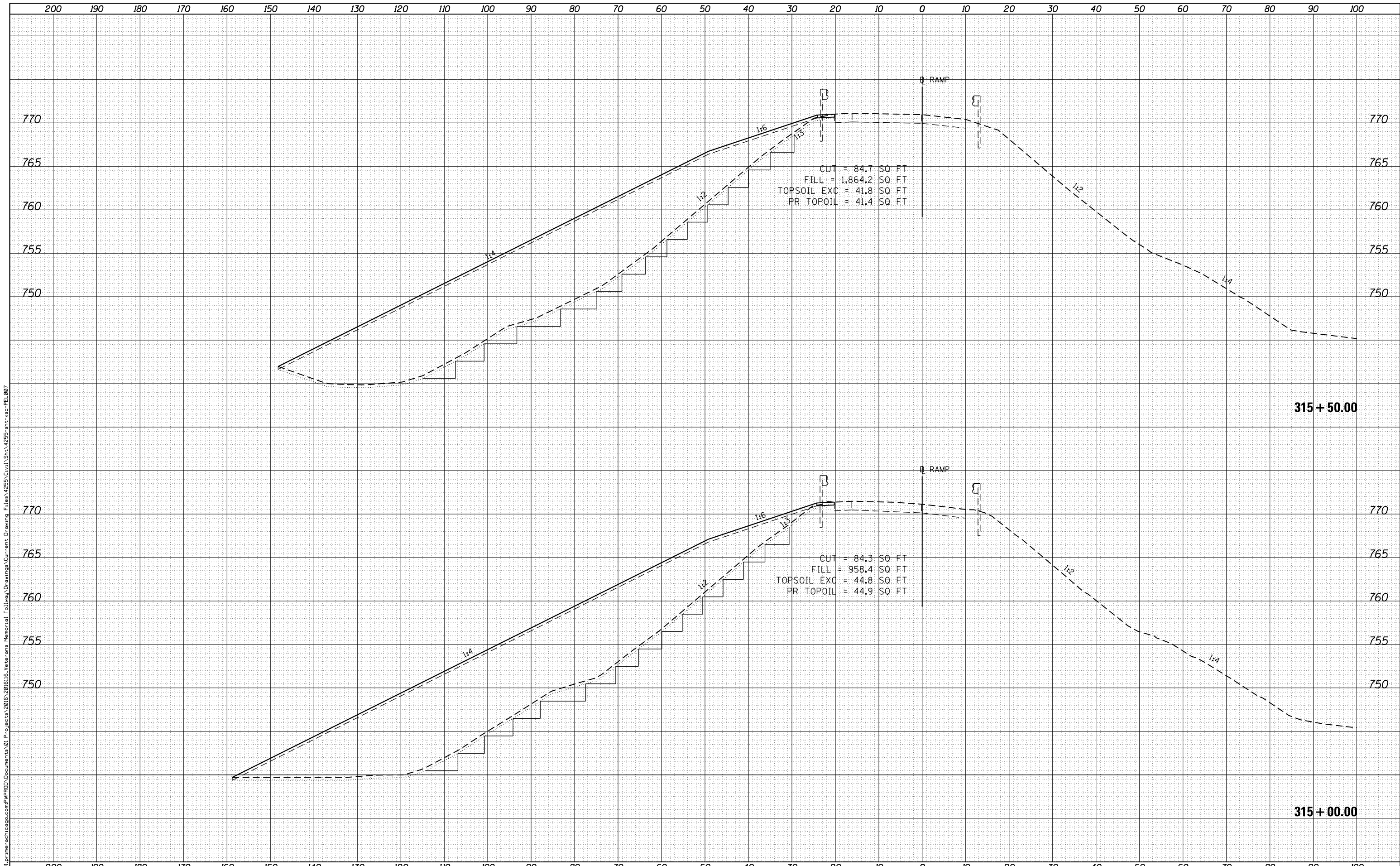
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 NB EXIT RAMP TO I-55

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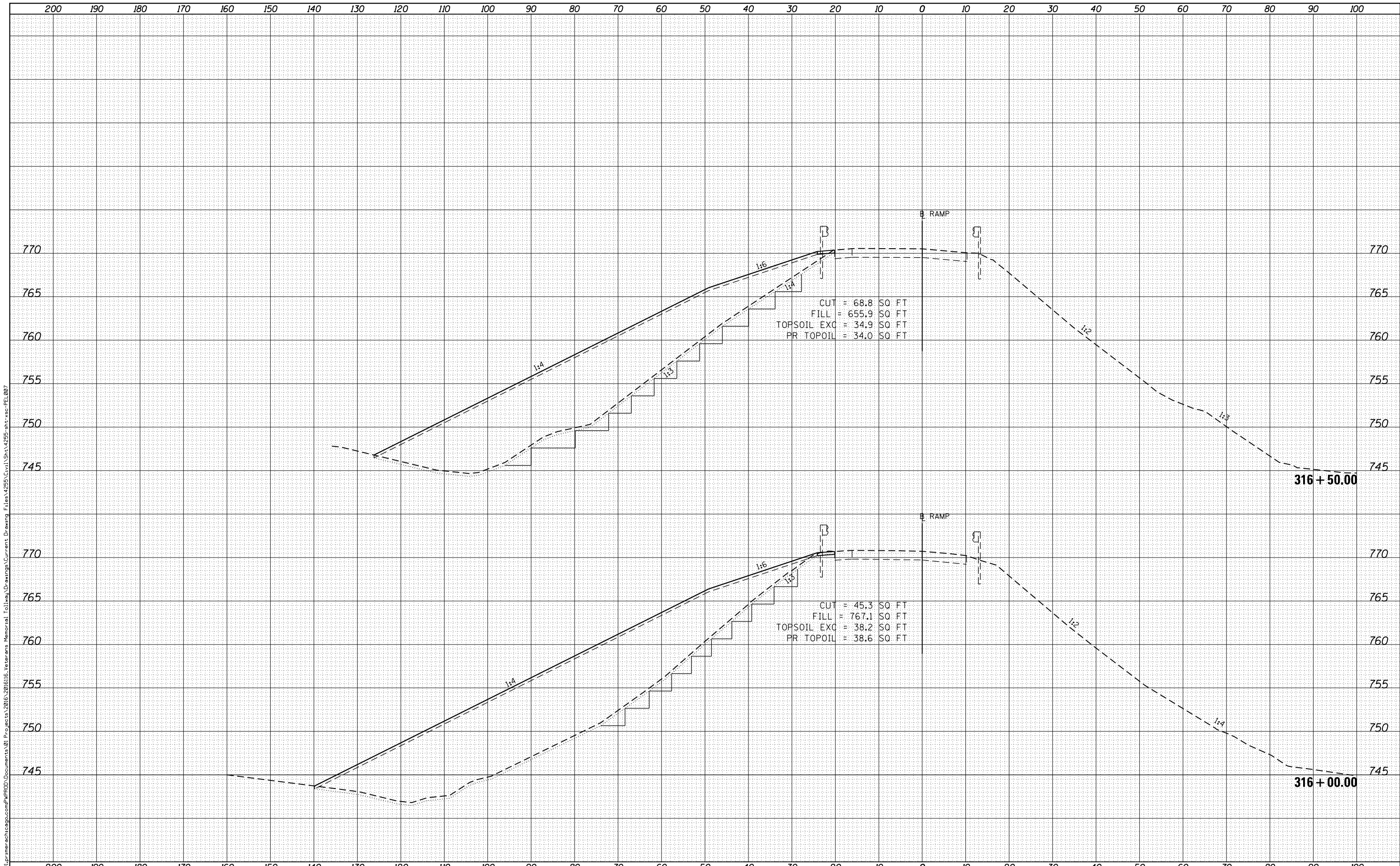
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NO.	DATE	DESCRIPTION

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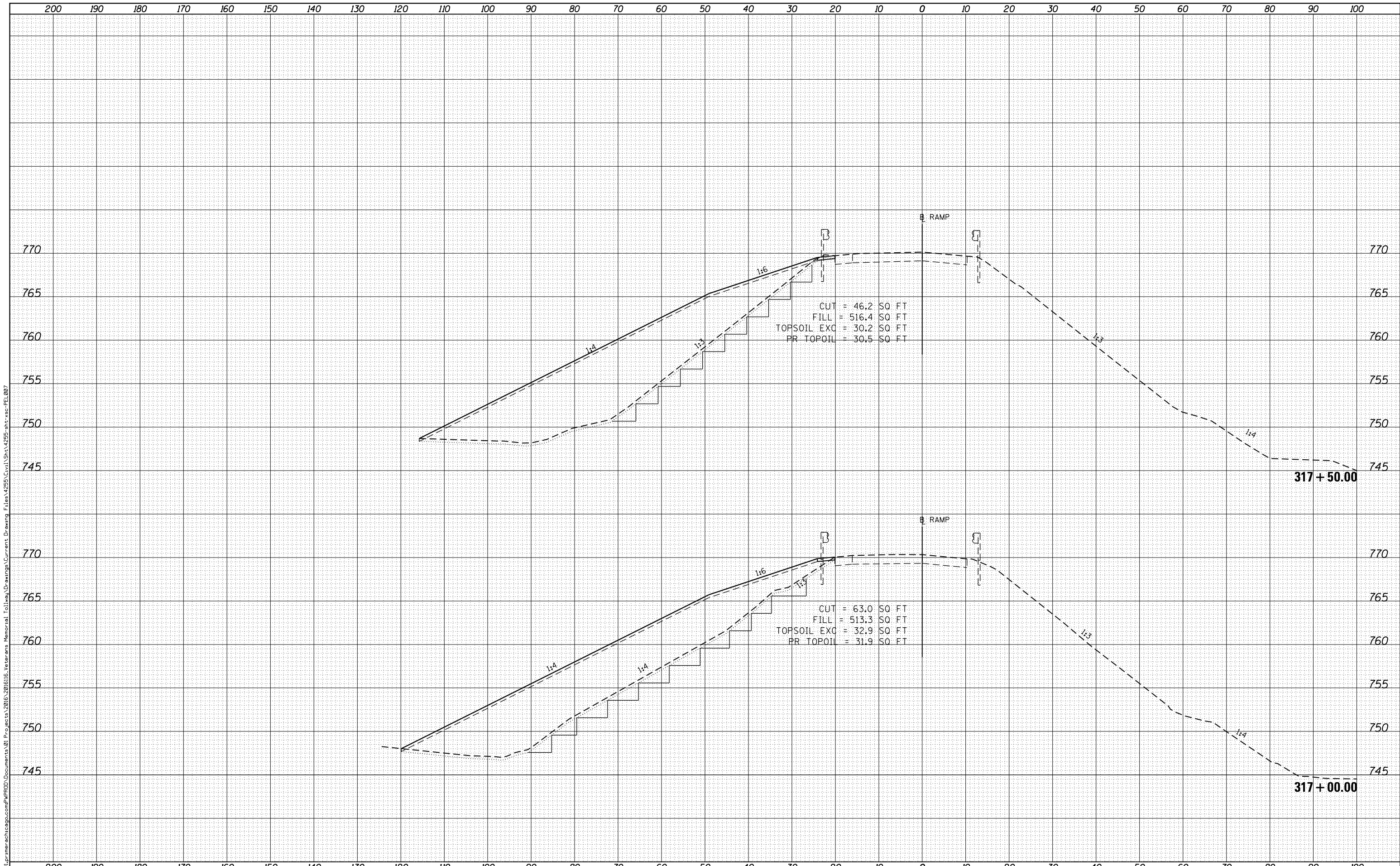
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XS-28
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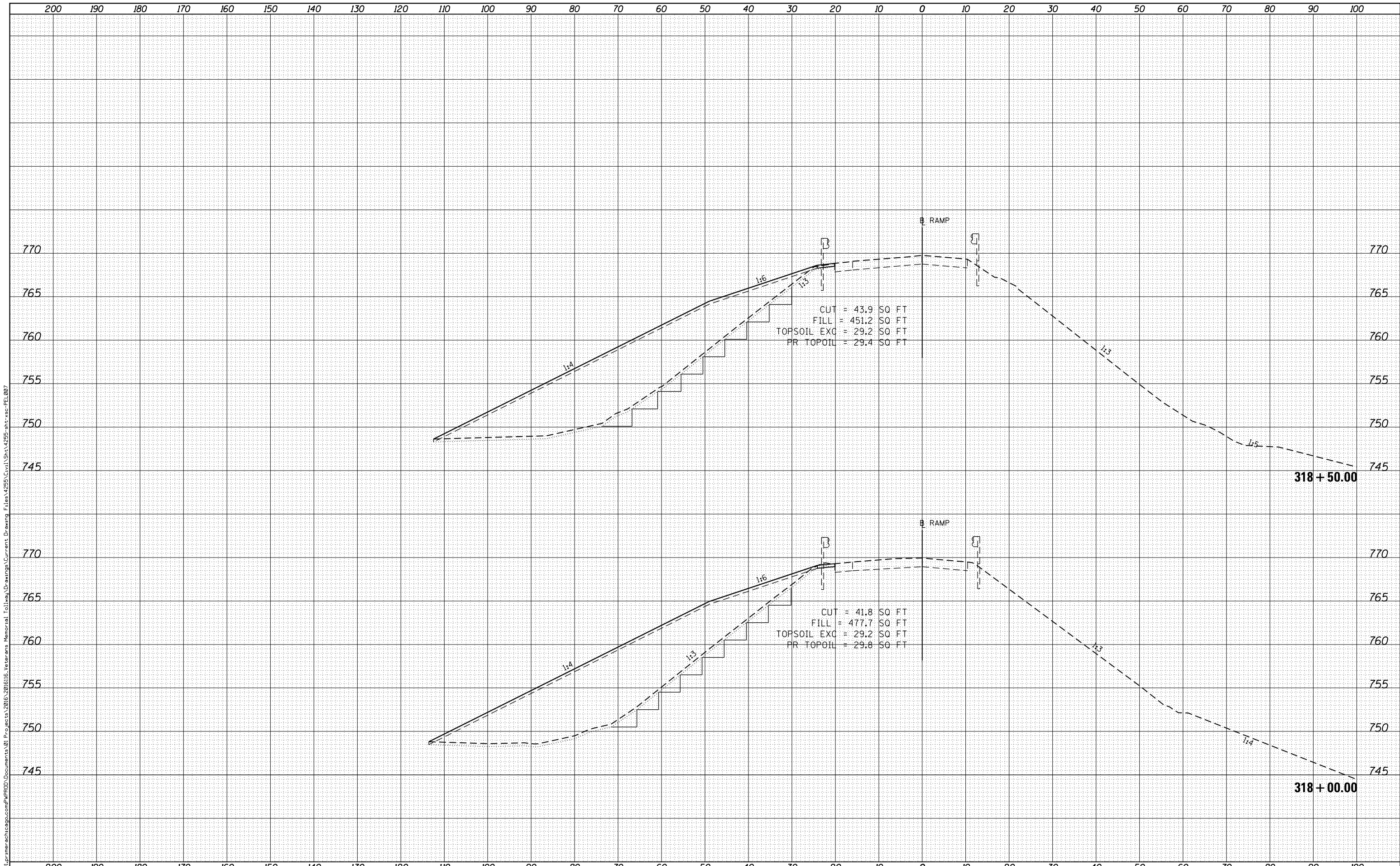
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XS-29
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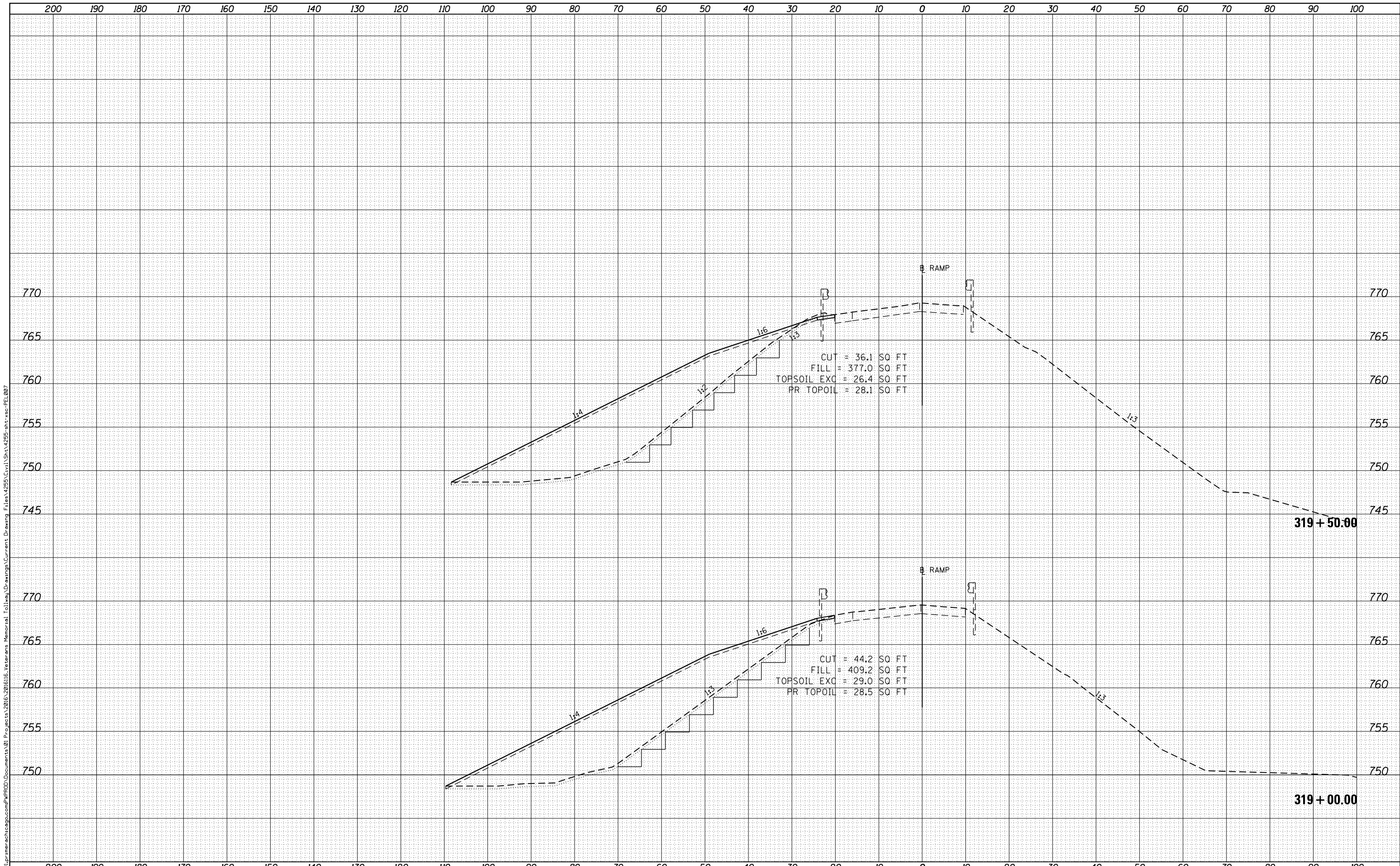
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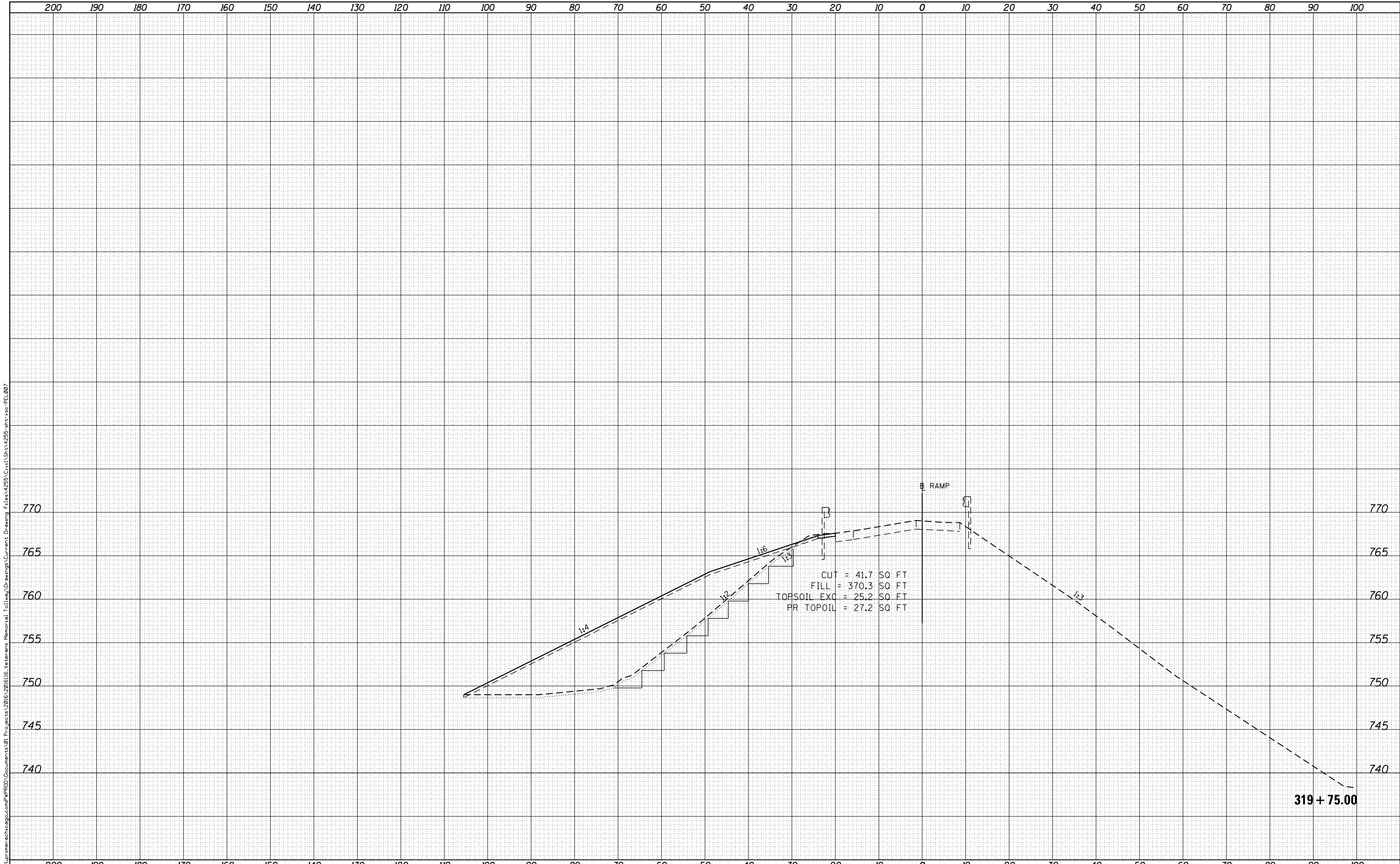
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NO.	DATE	DESCRIPTION

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 NB EXIT RAMP TO I-55

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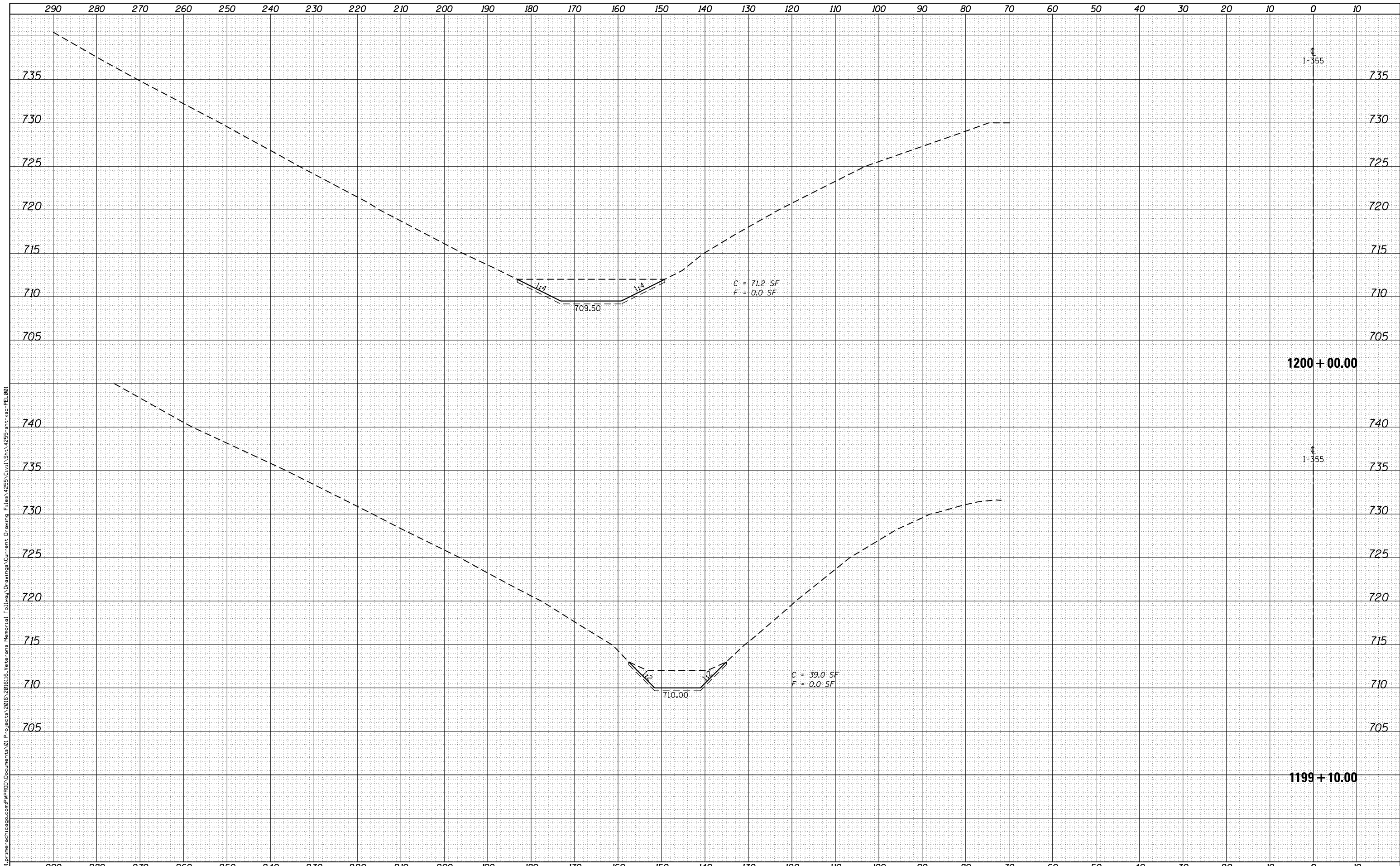
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REVISIONS	
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 NB EXIT RAMP TO I-55

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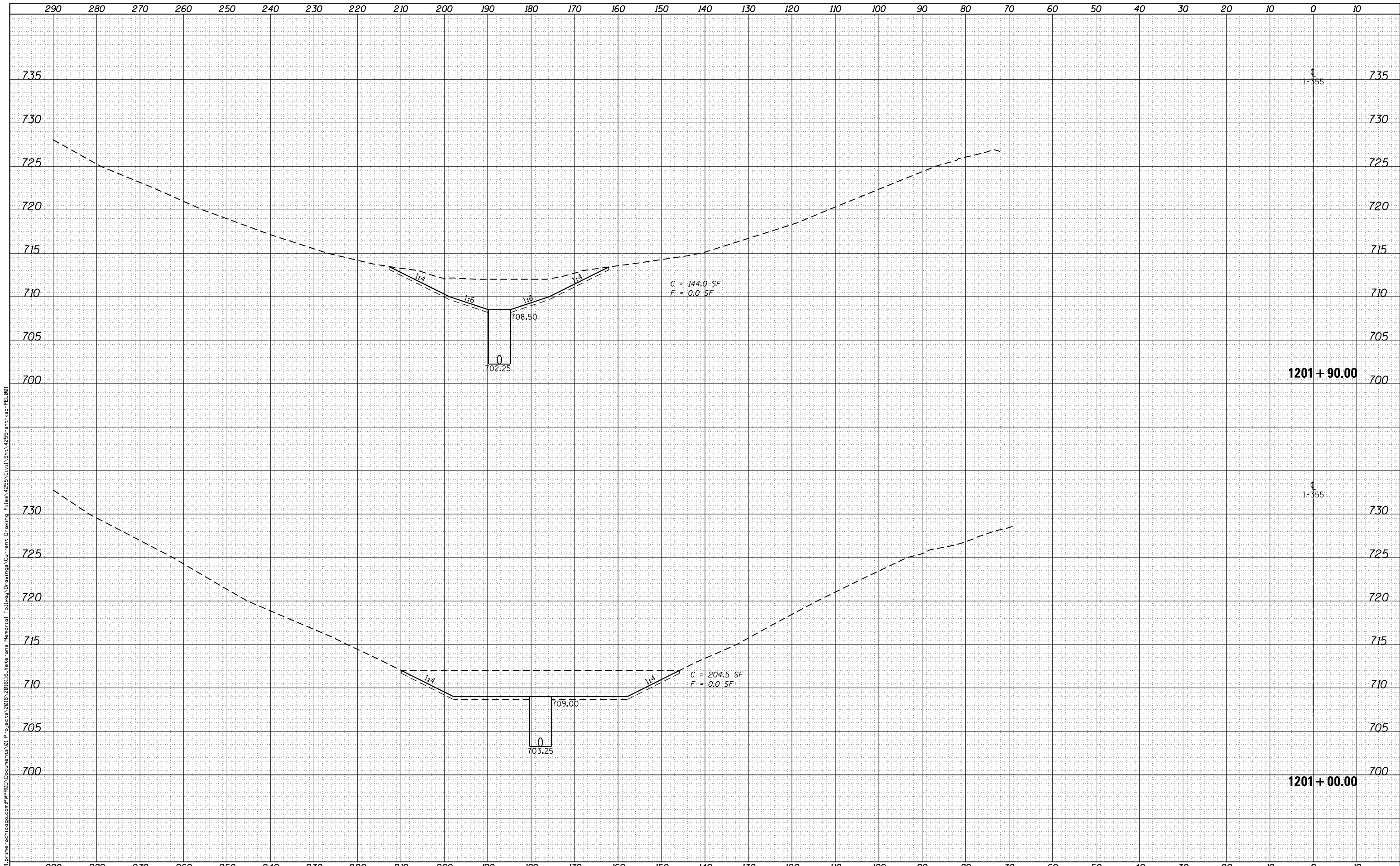
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 CHECKED BY DCC DATE 3/11/2018



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 POND 1

XS-33
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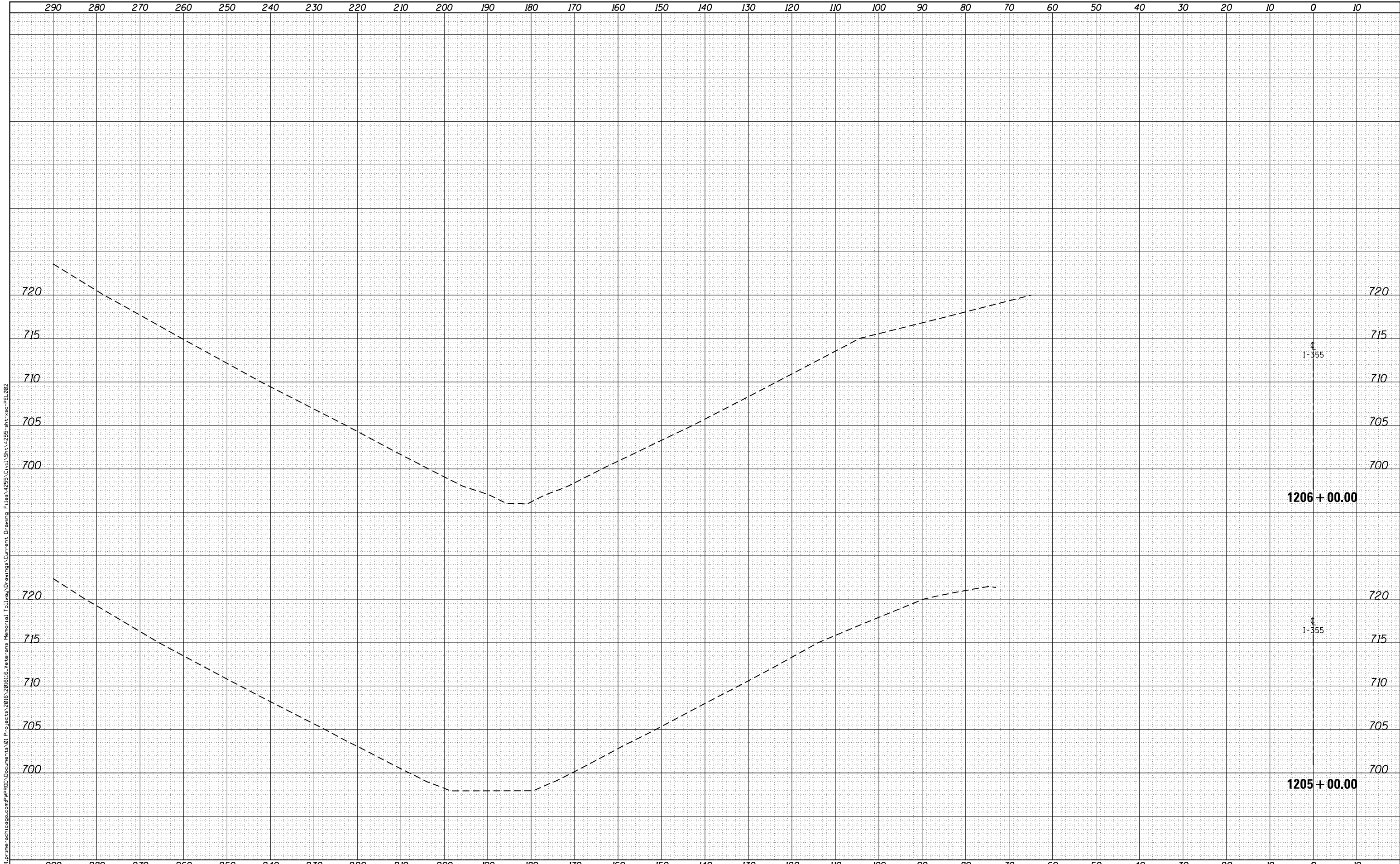


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
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CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 POND 1

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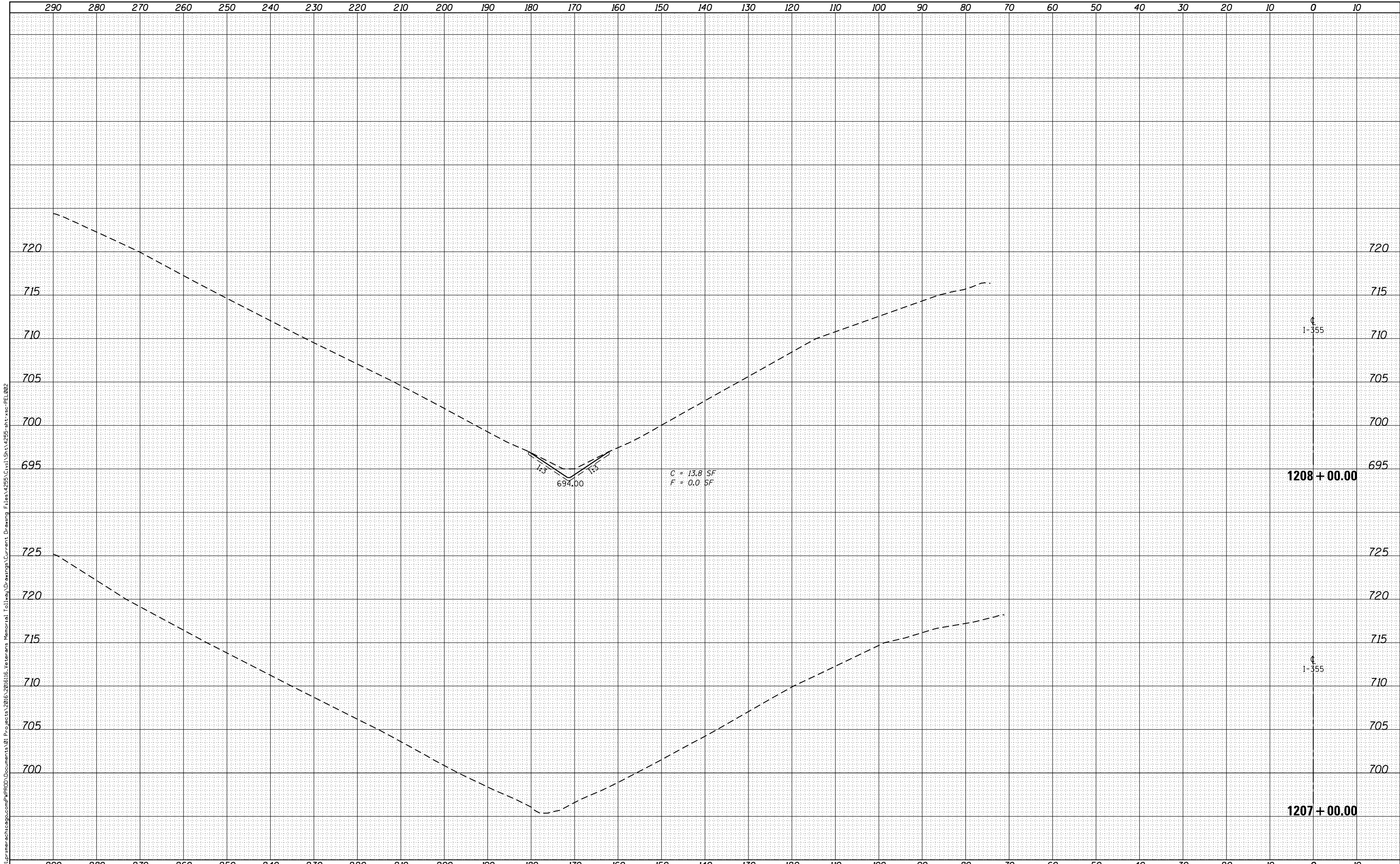
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
 CROSS SECTIONS
 POND 2

XS-35
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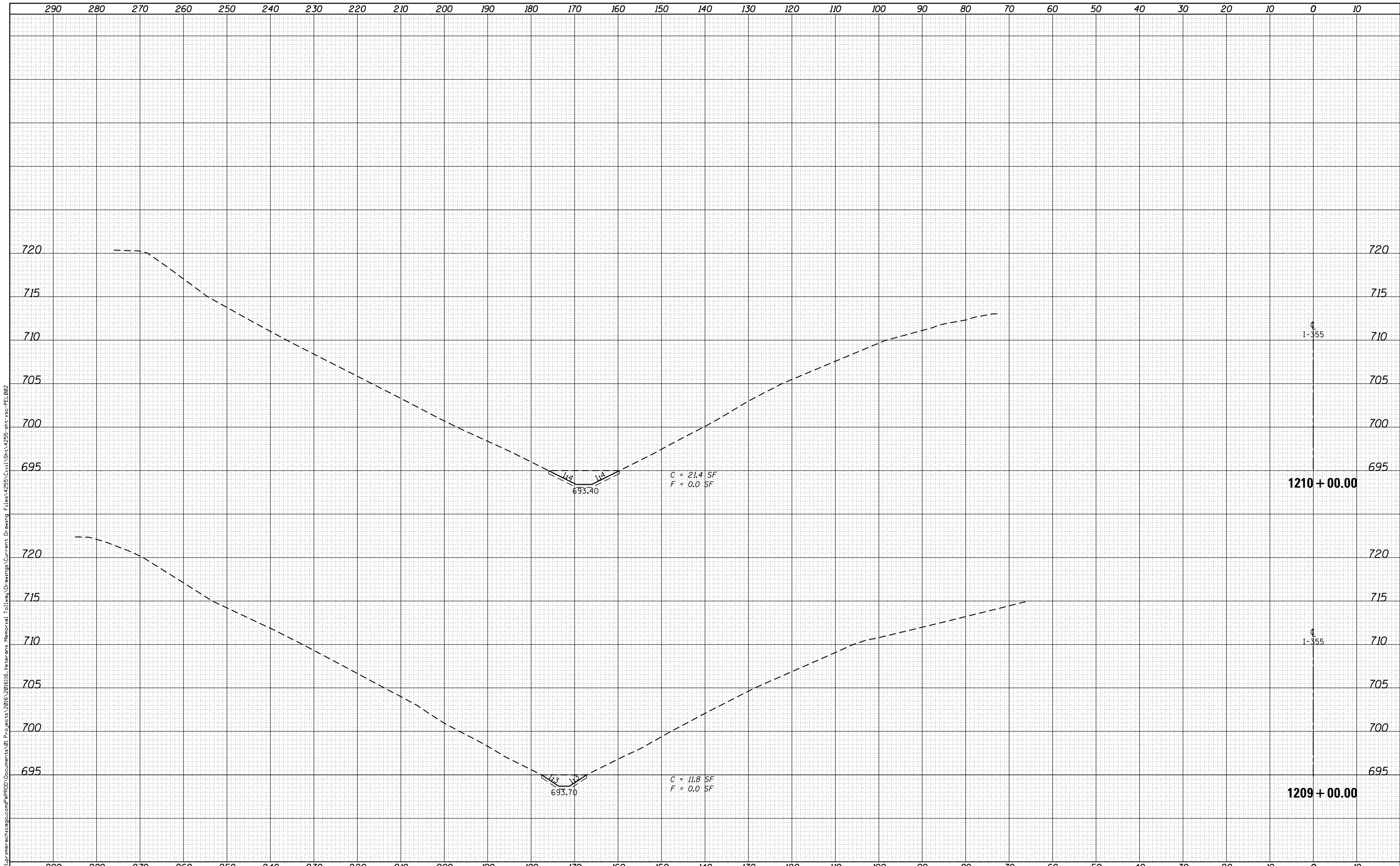
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REVISIONS	
NO.	DESCRIPTION

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 POND 2

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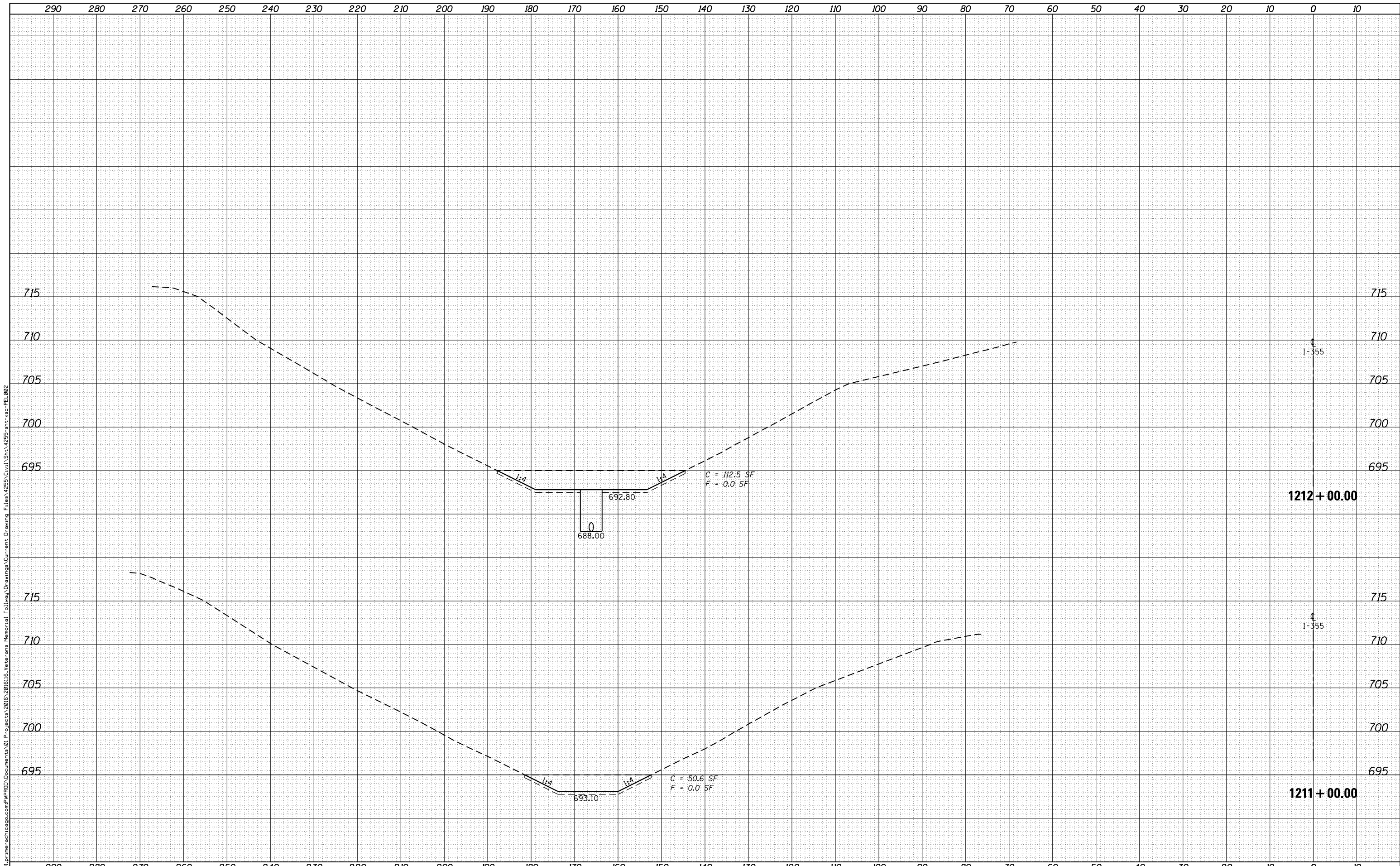
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 POND 2

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 DRAWING NO.
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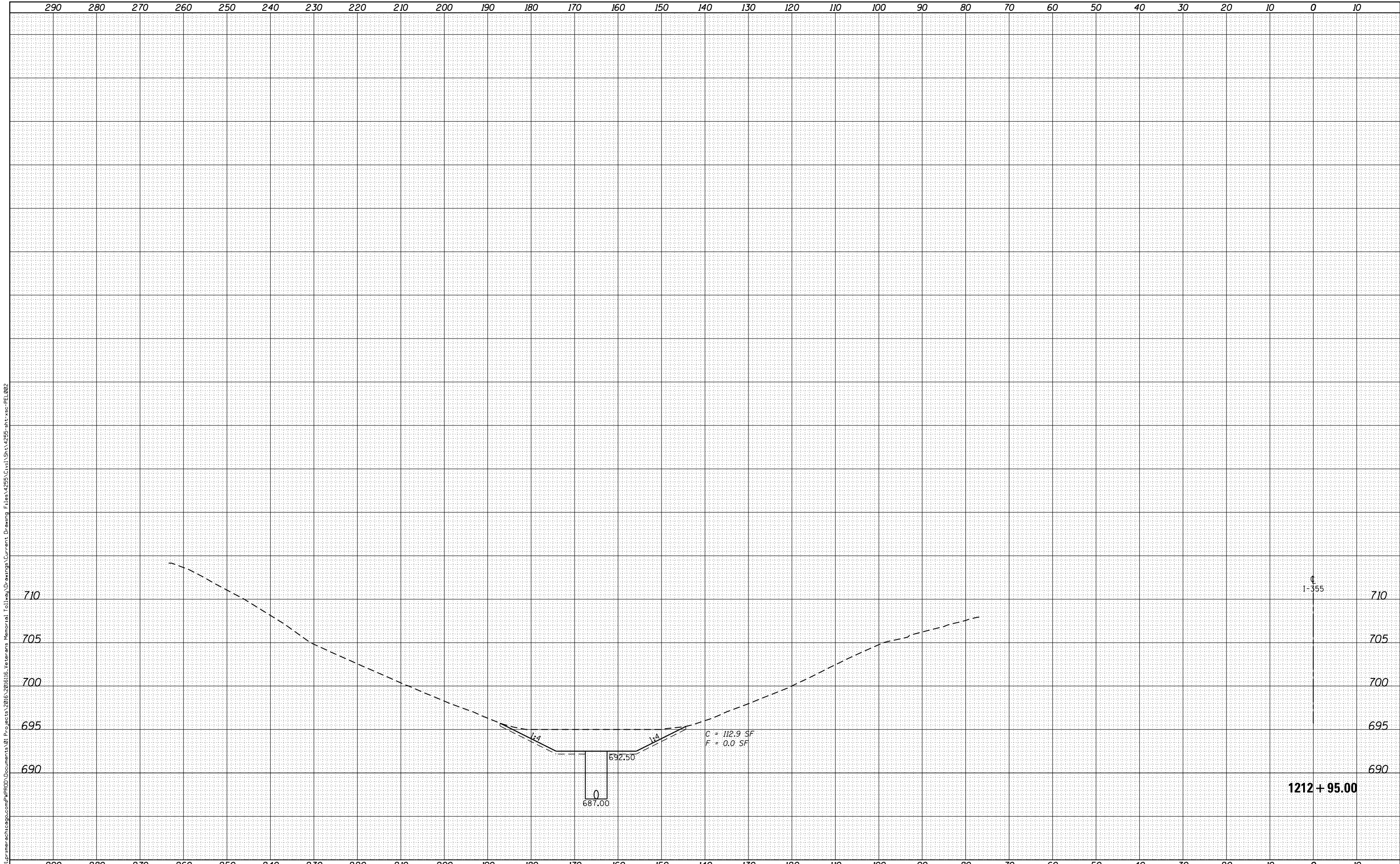
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NO.	DESCRIPTION

CONTRACT NO. RR-16-4255
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 XS-38
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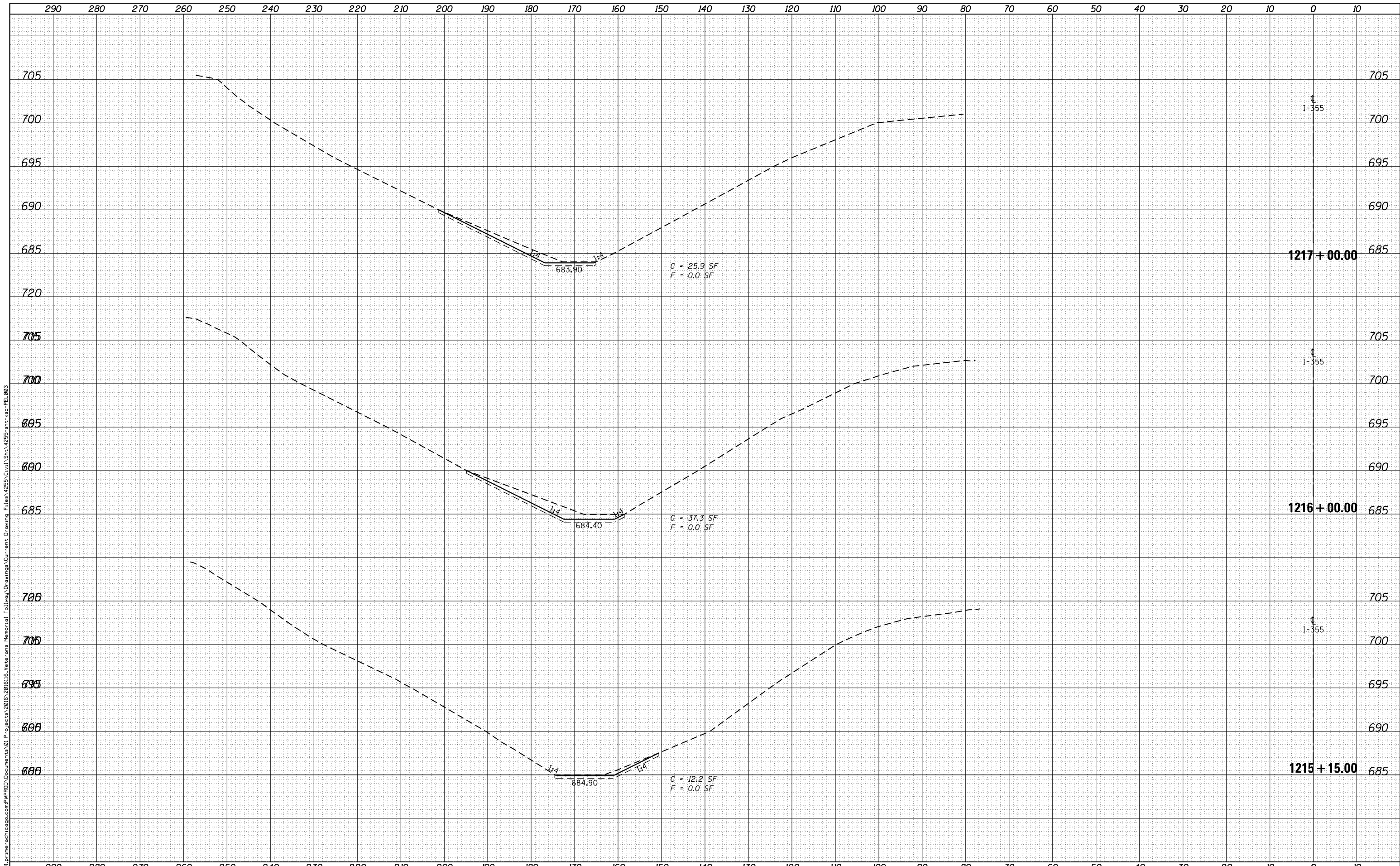
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XS-39
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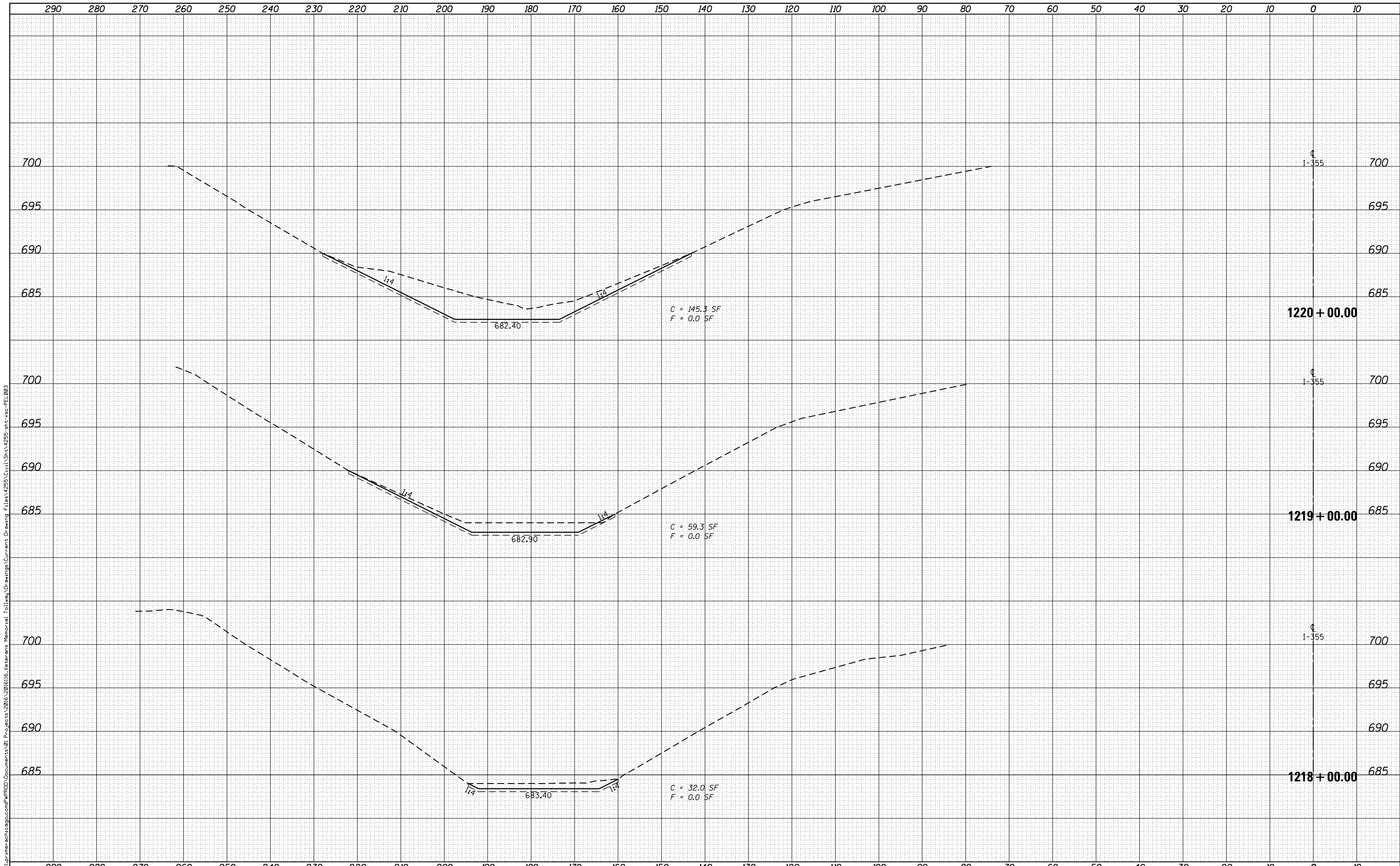
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 POND 3

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 DRAWING NO.
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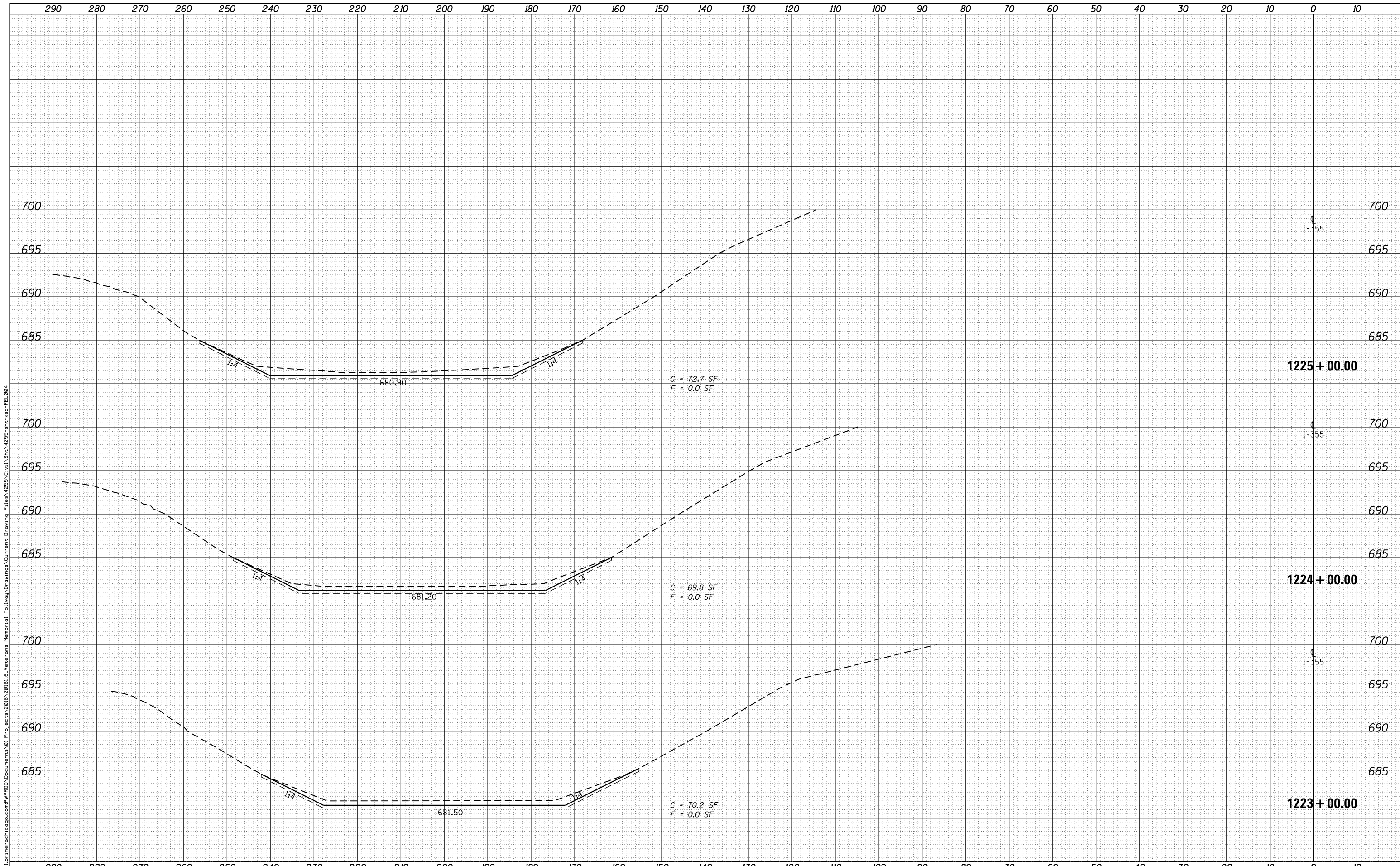
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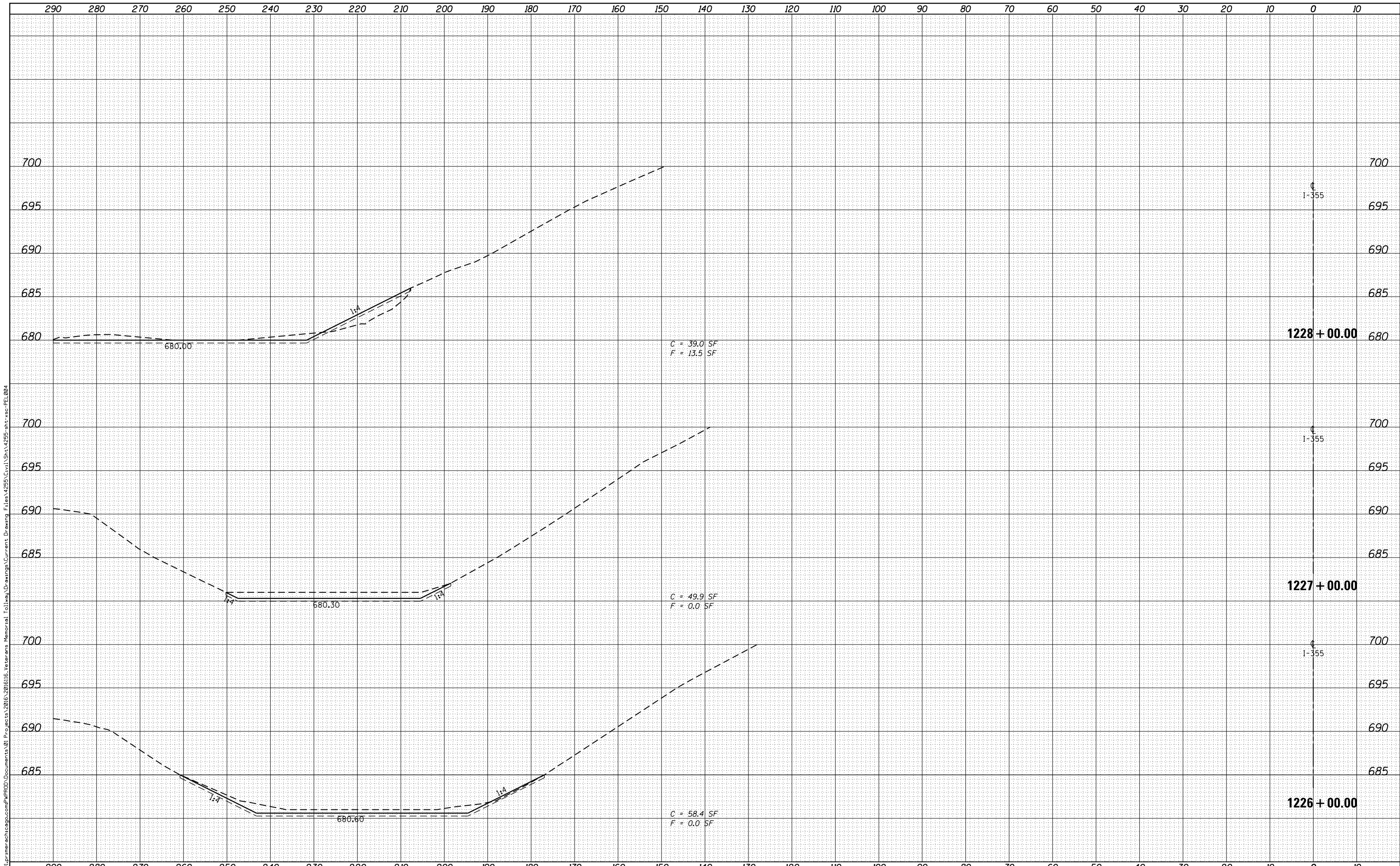
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 POND 4

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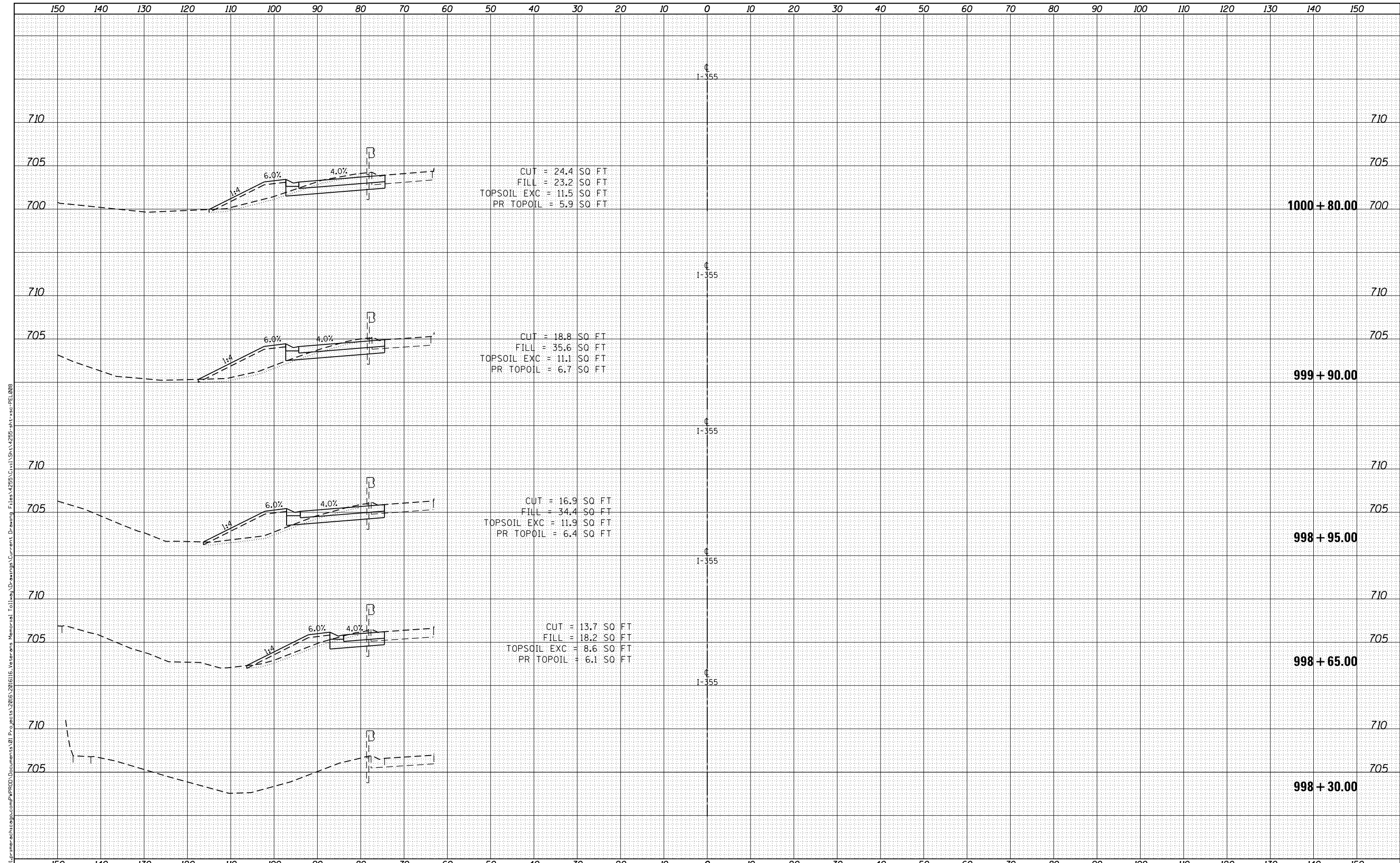
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CONTRACT NO. RR-16-4255
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 POND 4

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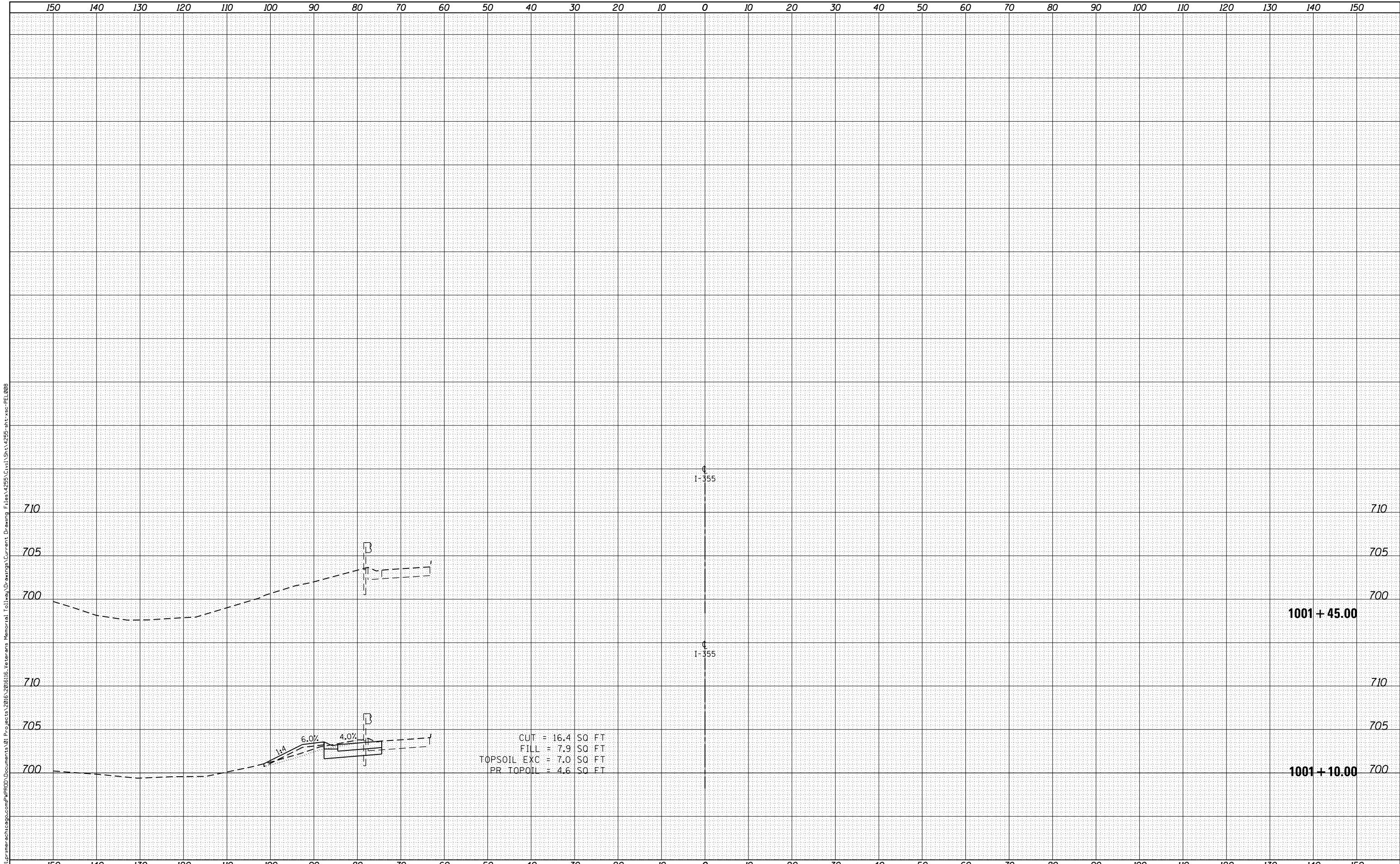
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NO.	DESCRIPTION

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 SB I-355

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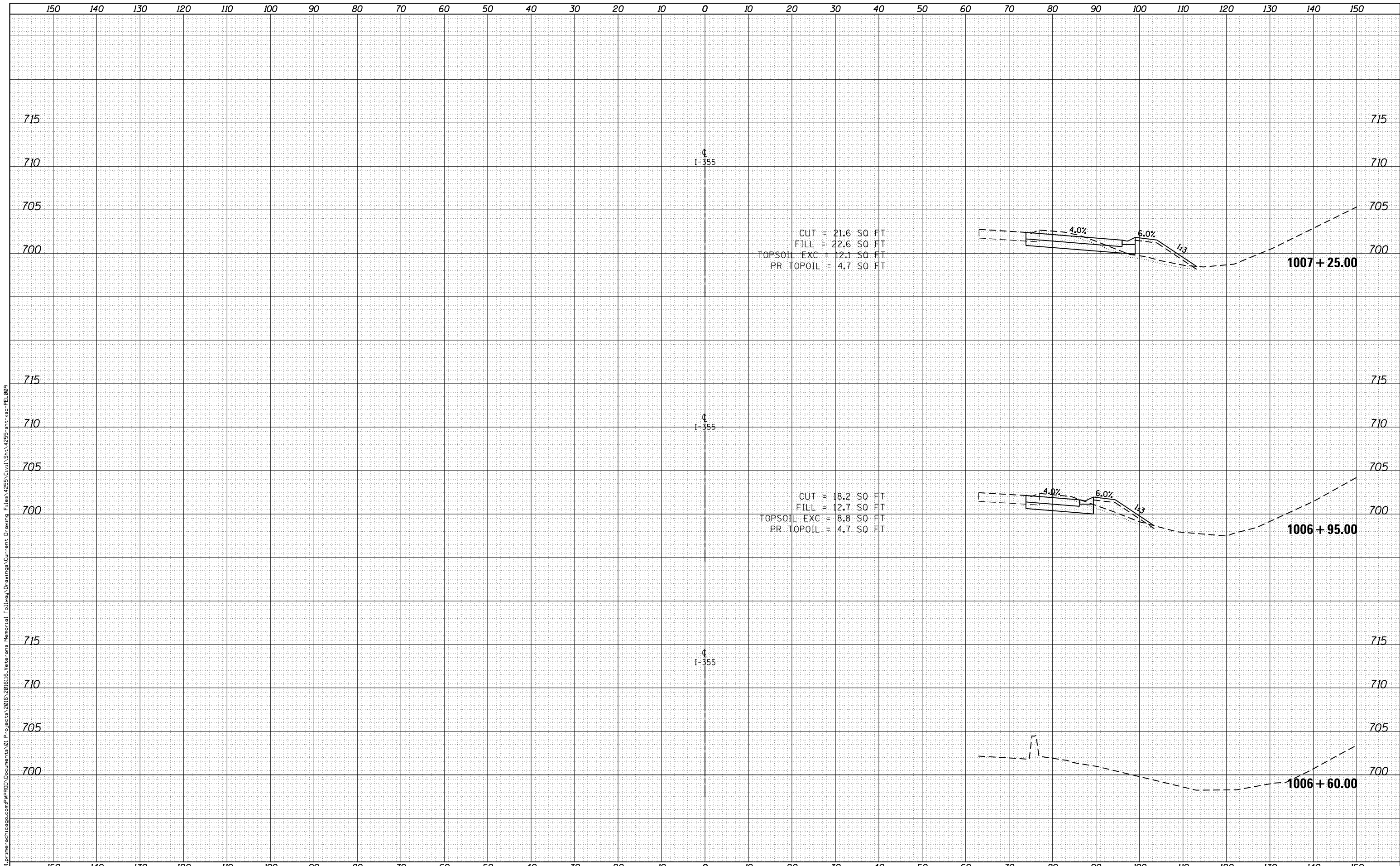
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 SB I-355

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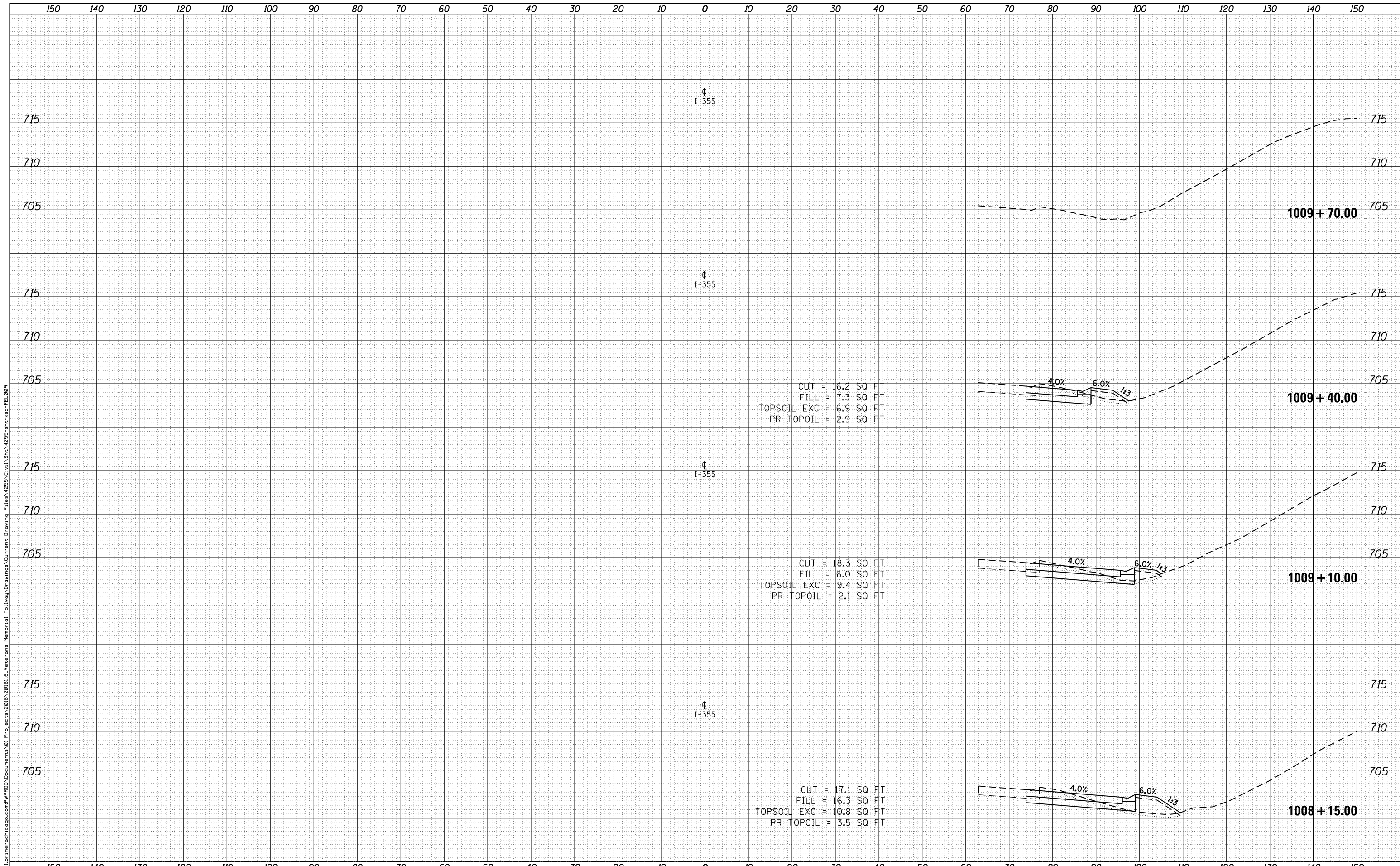
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 NB I-355

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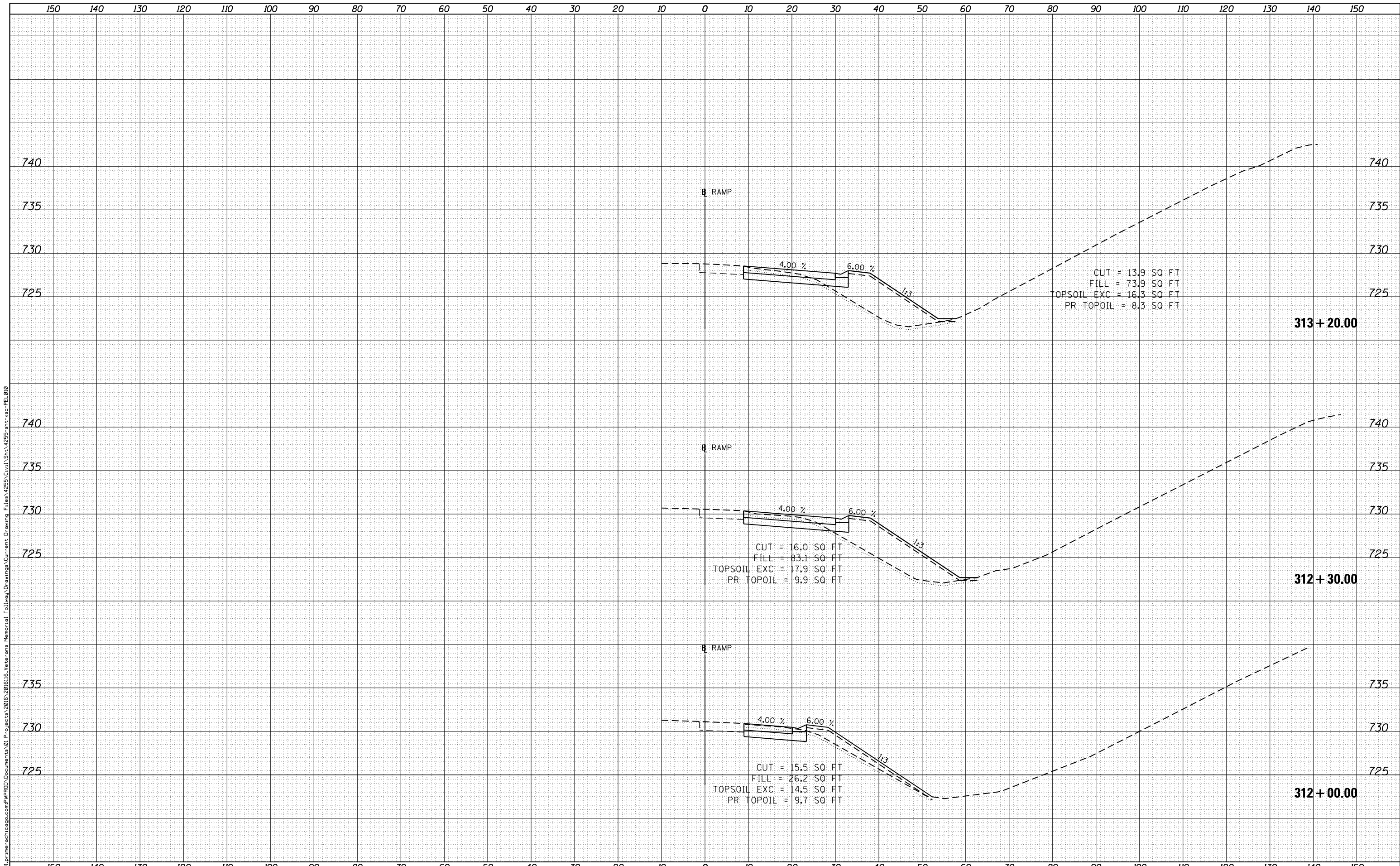
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NB I-355

XS-47
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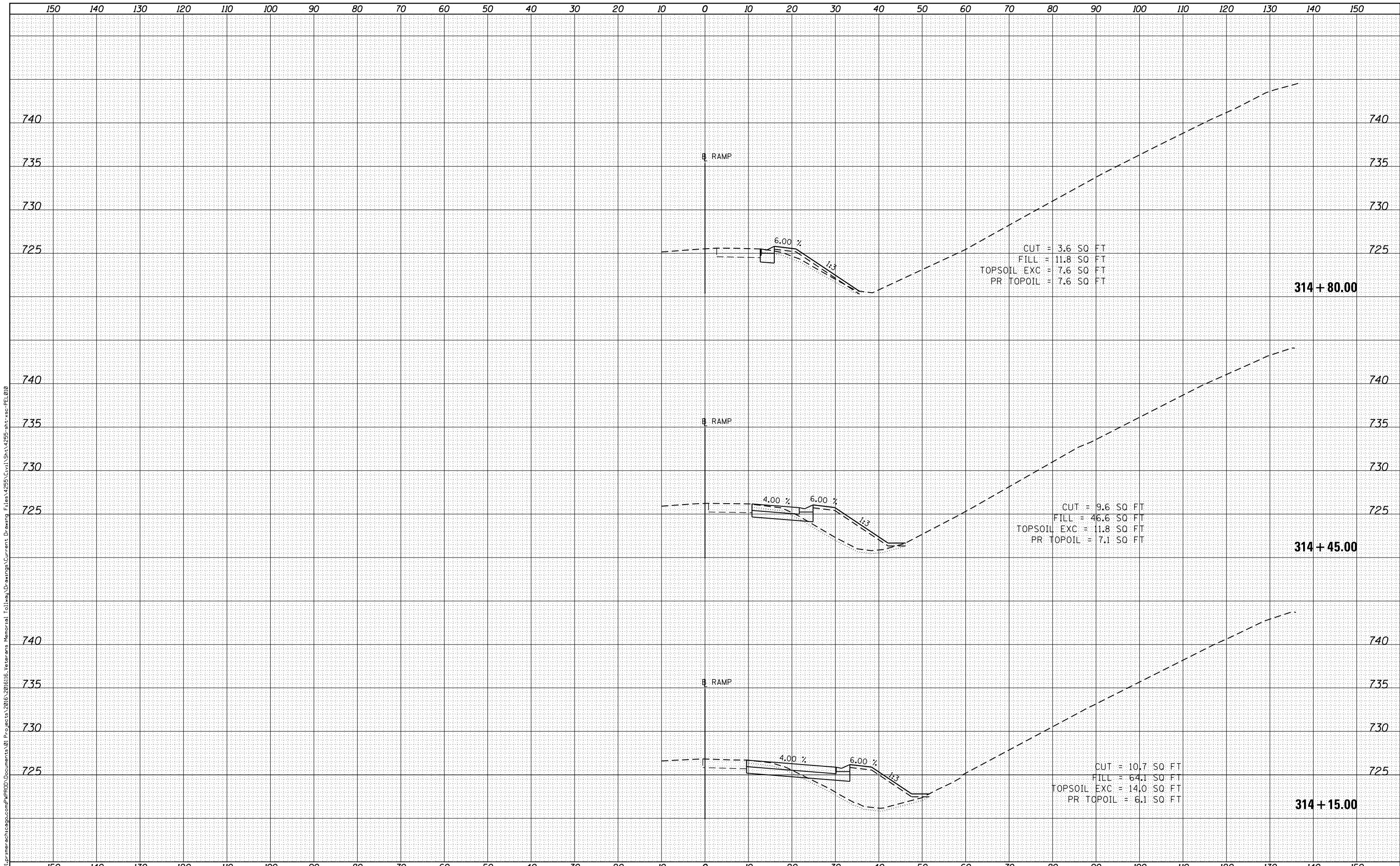
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 NB EXIT RAMP TO OGDEN AVE

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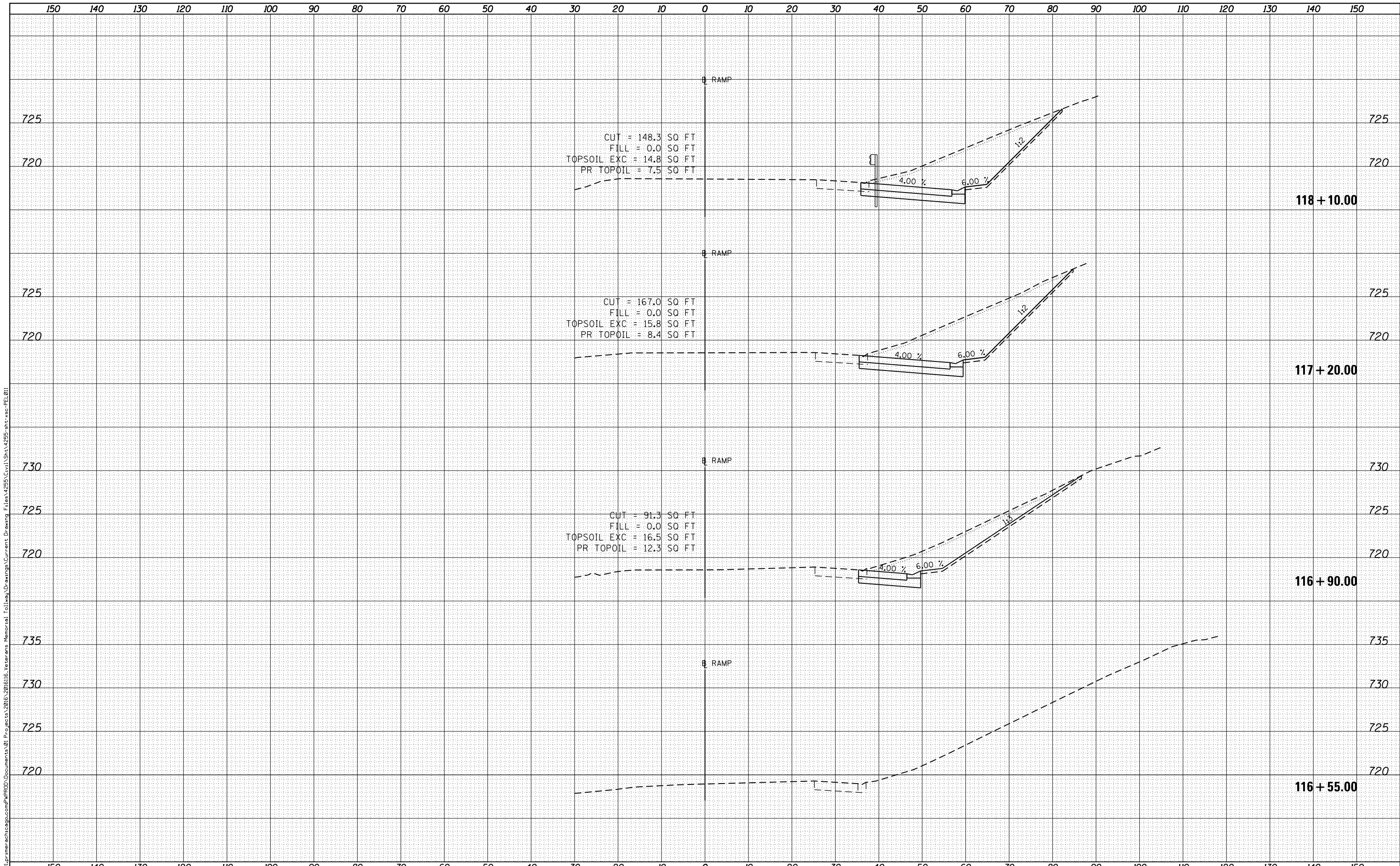
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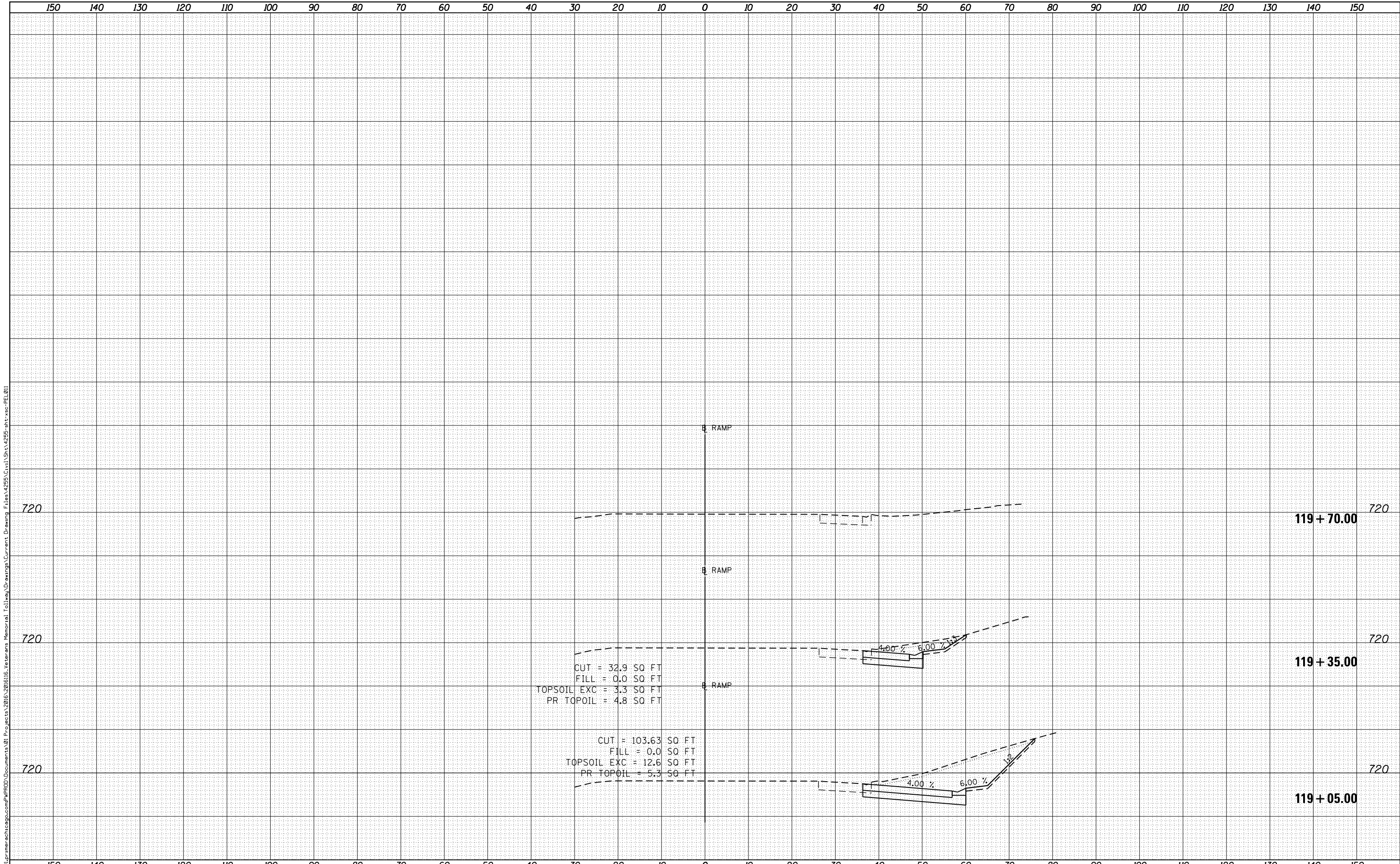
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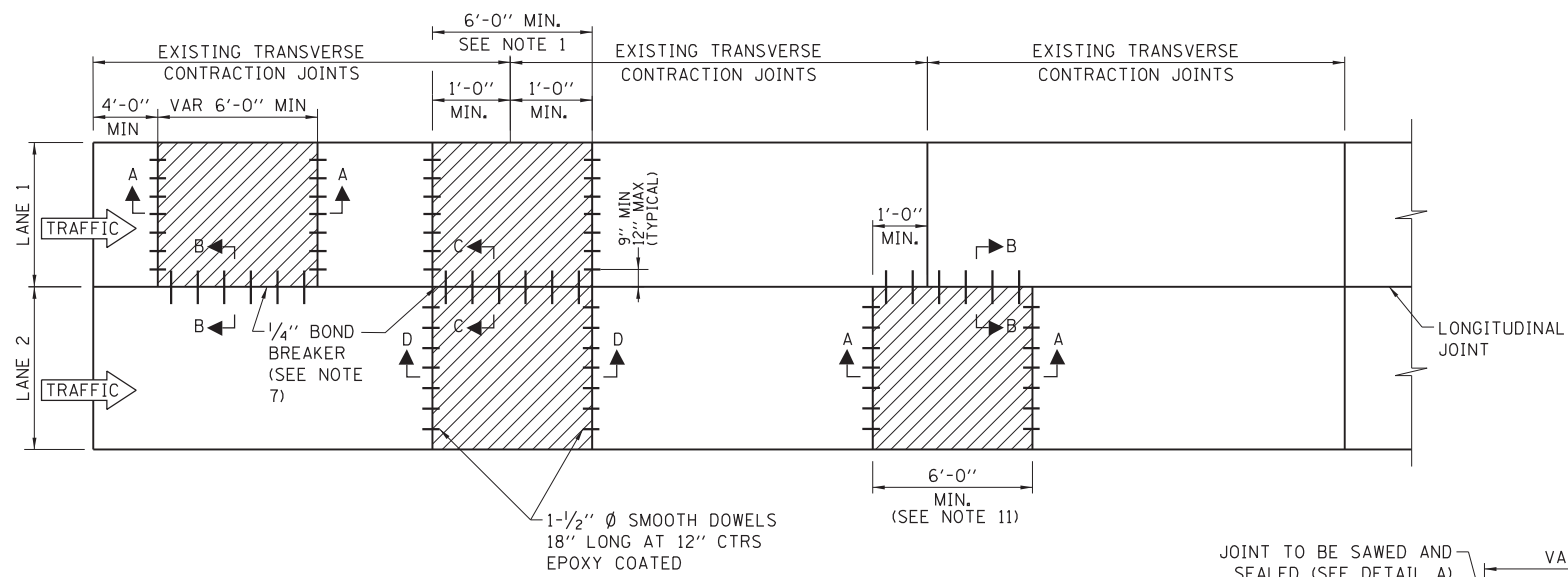
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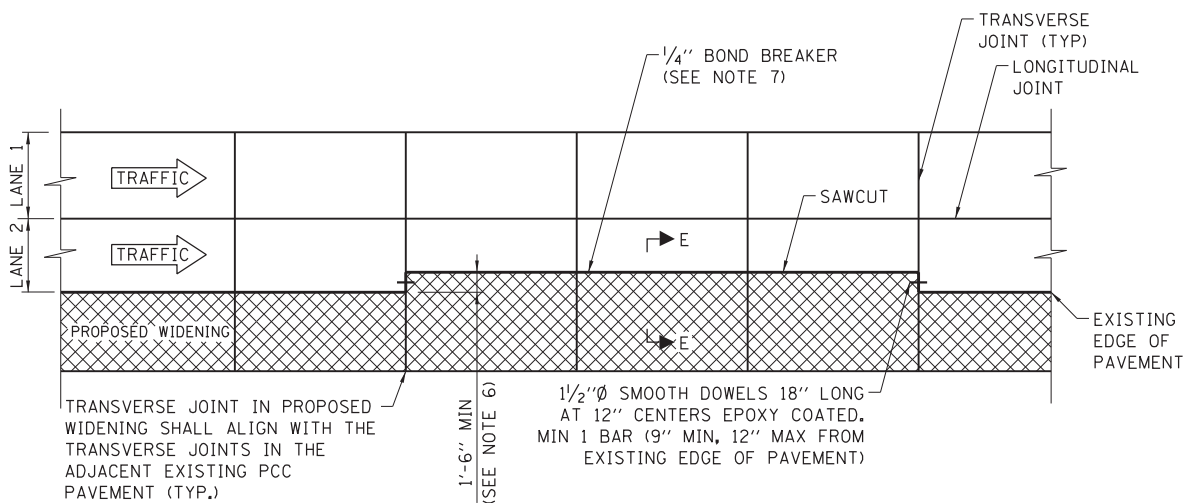
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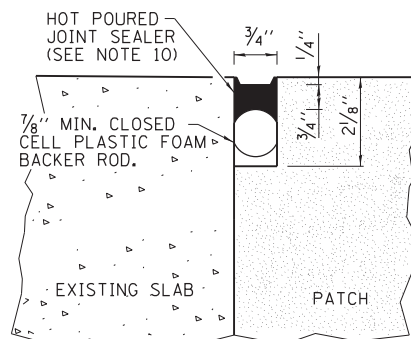
XS-51
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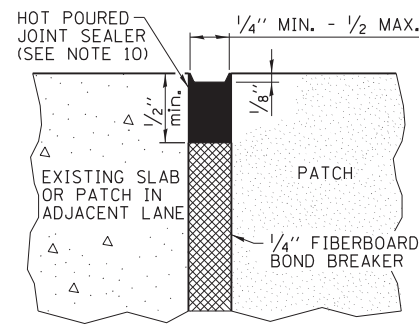
PROPOSED CONCRETE PAVEMENT FULL DEPTH REPAIR TYPICAL ROADWAY PLAN (PAID AS CLASS B PATCH)



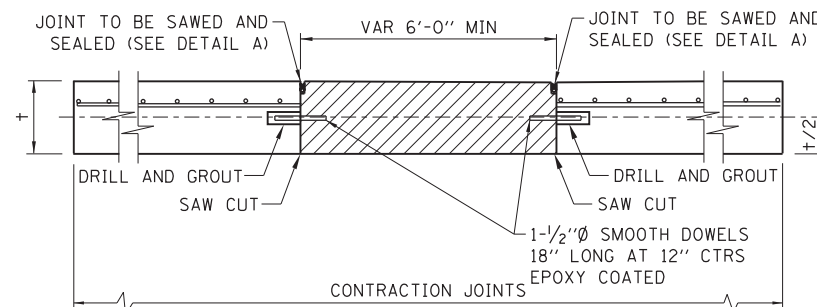
REPLACEMENT OF DETERIORATED PAVEMENT EDGES ADJACENT TO PROPOSED WIDENING (PAID AS PART OF WIDENING)



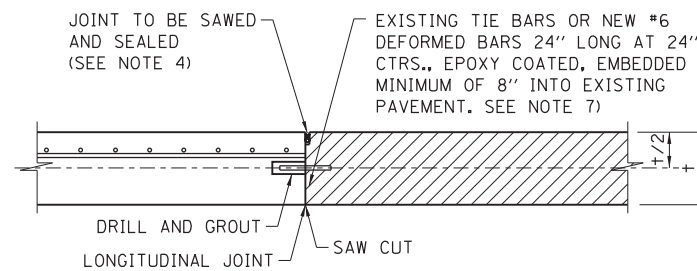
DETAIL A (TRANSVERSE JOINT)



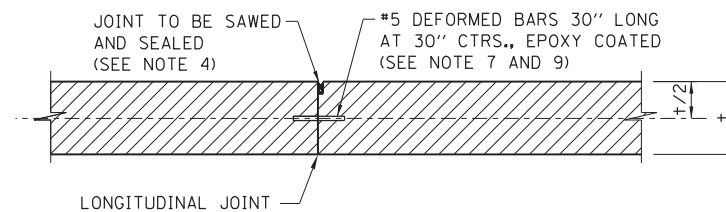
DETAIL B (LONGITUDINAL JOINT) (FOR PATCHES 20' OR LESS IN LENGTH)



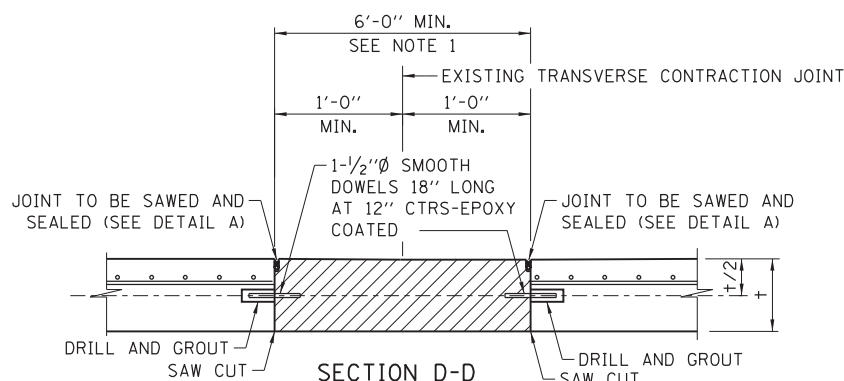
REPAIR - FULL DEPTH, ONE LANE



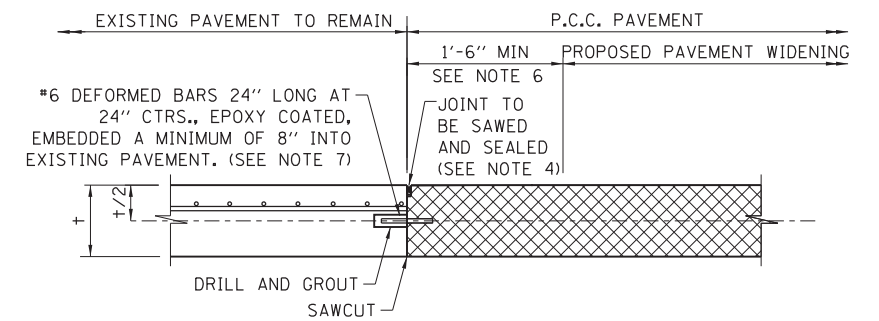
REPAIR ALONG LONGITUDINAL JOINT



REPAIR THROUGH LONGITUDINAL JOINT



REPAIR AT CONTRACTION JOINT



REPLACEMENT OF DETERIORATED PAVEMENT EDGES ADJACENT TO PROPOSED WIDENING

GENERAL NOTES:

1. THE MINIMUM OVERALL DIMENSIONS OF REPAIRS SHALL BE SIX (6) FEET BY THE LANE WIDTH EXCEPT FOR REPLACEMENT OF DETERIORATED PAVEMENT EDGES ADJACENT TO PROPOSED WIDENING (SEE SECTION E-E). REPAIRS TERMINATING AT TRANSVERSE CONTRACTION JOINTS SHALL BE EXTENDED ONE FOOT ACROSS THE JOINT. WHEN A REPAIR EXTENDS WITHIN FOUR FEET OF AN EXISTING TRANSVERSE CONTRACTION JOINT THE REPAIR SHALL BE EXTENDED ONE FOOT BEYOND THE JOINT.
2. WHENEVER A REPAIR IS CONSTRUCTED IN TWO OR MORE SEGMENTS BECAUSE OF MAINTENANCE OF TRAFFIC STAGING REQUIREMENTS, EACH SEGMENT SHALL BE CONSIDERED A SEPARATE PATCH WITH SIX (6) FEET MINIMUM DIMENSION.
3. UNLESS OTHERWISE NOTED, DRILLED AND GROUTED DOWELS AND TIE BARS SHALL BE EMBEDDED 1/2 THEIR LENGTH INTO THE EXISTING CONCRETE USING CHEMICAL ADHESIVE AS SPECIFIED.
4. ONLY LONGITUDINAL JOINTS IN THE REPAIR AREA IN PAVEMENT NOT TO BE RESURFACED SHALL BE SAWCUT AND SEALED PER IDOT HIGHWAY STANDARD 420001 (PAVEMENT JOINTS) WHEN PATCH LENGTH IS GREATER THAN 20' AND PER DETAIL B WHEN PATCH LENGTH IS 20' OR LESS.
5. FOR REPAIR OF ASPHALT OVERLAY AND P.C.C. PAVEMENT SHALL BE SAW CUT FULL DEPTH. PATCH SHALL MEET EXISTING CROSS SECTION MATERIALS.
6. AT LOCATIONS OF PROPOSED PAVEMENT WIDENING, EDGE DETERIORATION REQUIRING FULL DEPTH REPAIR SHALL BE REPAIRED BY REMOVAL AND REPLACEMENT OF A MINIMUM OF 1'-6" WIDE STRIP. THE NEW PAVEMENT SHALL BE CONSTRUCTED MONOLITHICALLY WITH THE PAVEMENT WIDENING. ANY SAW CUTTING AND REMOVAL WILL BE CONSIDERED EXTRA WORK, WITH PAYMENT PER ARTICLE 109.04 OF THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS, UNLESS OTHERWISE PROVIDED IN THE CONTRACT.
7. WHEN PATCH LENGTH OR EDGE REPAIR LENGTH IS 20' OR LESS, TIE BARS CAN BE OMITTED. IF TIE BARS ARE OMITTED, THEN BOND BREAKER SHALL BE USED. WHEN PATCH LENGTH IS MORE THAN 20', TIE BARS SHALL BE USED.
8. TYPICAL ROADWAY PLAN FOR FULL DEPTH REPAIR IS APPLICABLE TO ALL PAVEMENTS, LANE WIDTHS AND NUMBER OF EXISTING LANES.
9. THE TIE BAR FOR THE LONGITUDINAL SAWED JOINT SHALL BE 15" FROM THE TRANSVERSE CONTRACTION JOINT.
10. OMIT SEALING OF ALL JOINTS IN THE REPAIR AREA OF PAVEMENT TO BE RESURFACED.
11. THE MAXIMUM LENGTH BETWEEN TRANSVERSE CONTRACTION JOINTS IN ANY PATCH SHALL BE 15'.

LEGEND

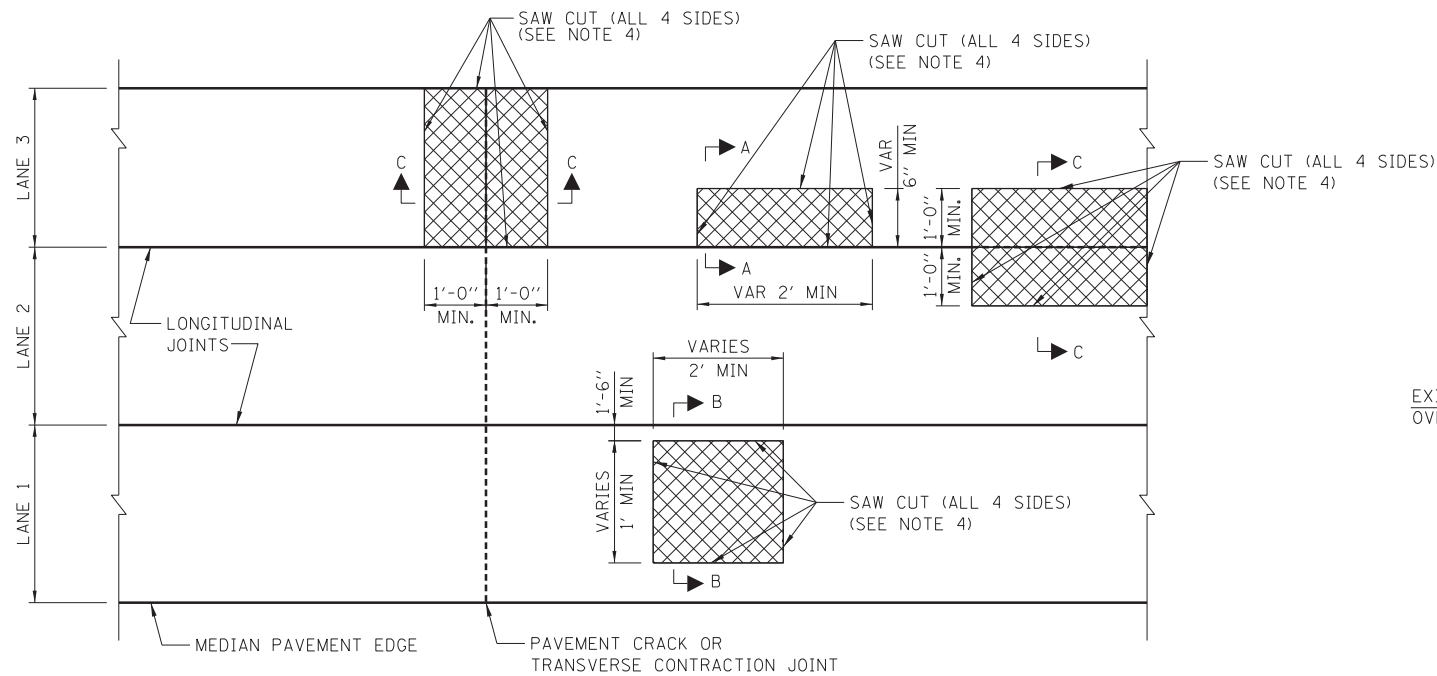
- EXISTING WELDED WIRE FABRIC (10' PAVEMENT ONLY)
- EXISTING PAVEMENT
- PROPOSED CONCRETE PAVEMENT REPAIR - FULL DEPTH
- PROPOSED CONCRETE PAVEMENT WIDENING
- = CONCRETE PAVEMENT THICKNESS

DATE	REVISIONS
3-11-2015	REVISED REPAIR NOTE CONTRACTION JOINT AND ADDED A NOTE.
3-31-2016	REVISED MIN. DIMENSION FROM TRANS JOINT & REVISED NOTES.
3-31-2017	ADD PAVEMENT THICKNESS TO SECTION C-C

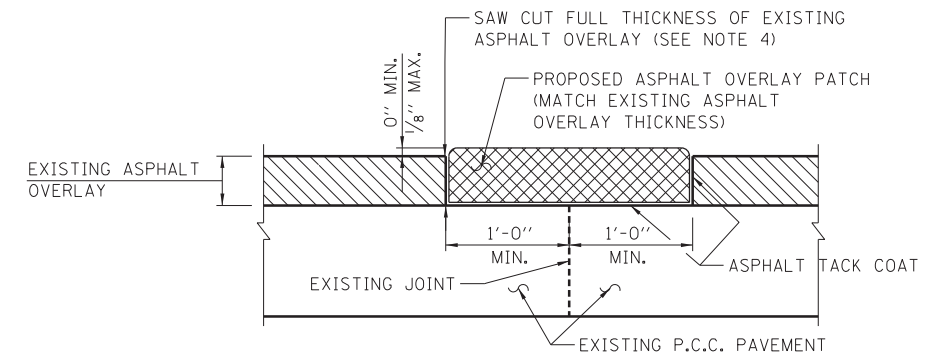
CONCRETE PAVEMENT REPAIR FULL DEPTH

STANDARD A1-05

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 5-1-2009



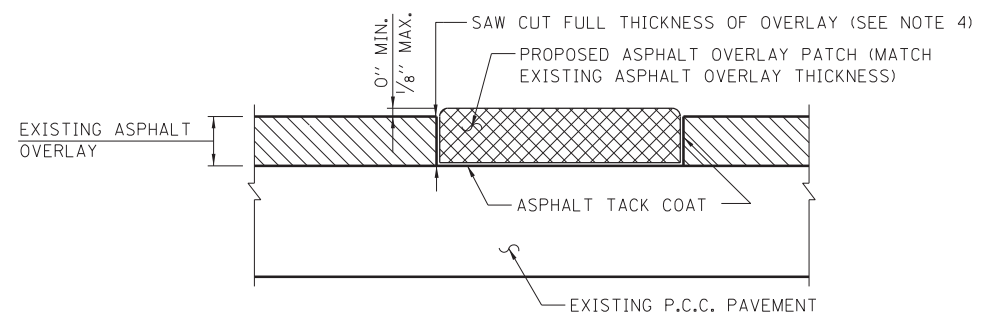
PROPOSED ASPHALT OVERLAY REPAIR
TYPICAL ROADWAY PLAN



SECTION C-C

NOTES: TYPICAL ASPHALT OVERLAY REPAIR

1. MINIMUM DIMENSIONS SHALL BE AS SHOWN IN TYPICAL ROADWAY PLAN.
2. PROPOSED ASPHALT OVERLAY PATCH MATERIAL SHALL BE IN ACCORDANCE WITH ILLINOIS TOLLWAY SPECIAL PROVISION "ASPHALT PATCHING OF MAINLINE OVERLAYS".



SECTION A-A & B-B
ASPHALT OVERLAY REPAIR

NOTES: TYPICAL ASPHALT OVERLAY REPAIR

1. LOCATION OF ALL OVERLAY REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.
2. MINIMUM DIMENSIONS SHALL BE AS SHOWN IN TYPICAL ROADWAY PLAN.
3. ALL ASPHALT OVERLAY SHALL BE REMOVED TO THE TOP OF THE P.C.C. PAVEMENT.
4. SAWCUT MAY BE ELIMINATED IF MILLING EQUIPMENT IS USED AND VERTICAL AND STRAIGHT SIDES ARE OBTAINED.
5. PROPOSED ASPHALT OVERLAY PATCH MATERIAL SHALL BE IN ACCORDANCE WITH ILLINOIS TOLLWAY SPECIAL PROVISION "ASPHALT PATCHING OF MAINLINE OVERLAYS".

LEGEND

- EXISTING OR PROPOSED ASPHALT OVERLAY
- PROPOSED PAVEMENT REPAIR

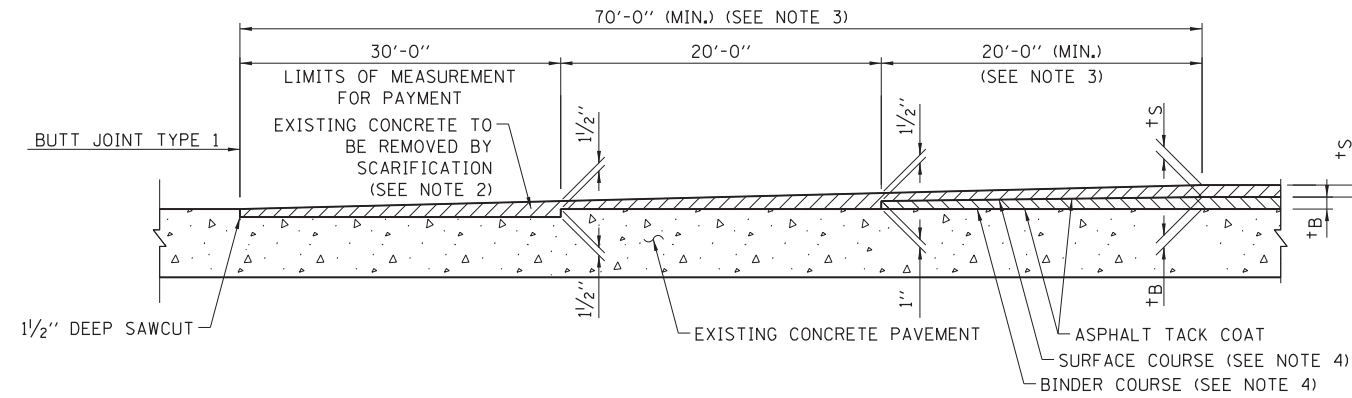


DATE	REVISIONS
1-01-2011	REMOVED PARTIAL DEPTH PC CONCRETE REPAIR, ADDED SAW CUT TO CRACK REPAIR.
3-11-2015	REMOVED PARTIAL DEPTH PAVEMENT REPAIR.
3-31-2016	REVISED PRIME COAT TO TACK COAT, ADDED SECTION C-C AND PATCHES ACROSS JOINTS.
3-31-2017	REVISED SPECIAL PROVISION REFERENCE

ASPHALT OVERLAY REPAIR

STANDARD A2-05

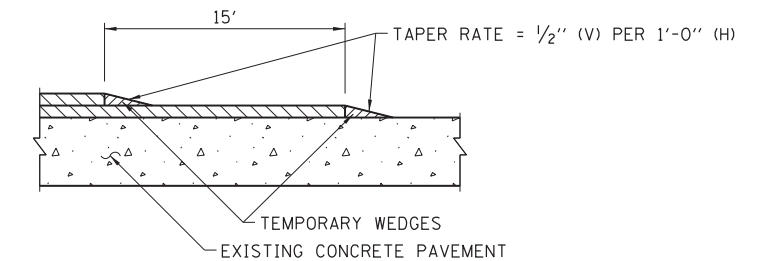
APPROVED: *Paul Kovacs*
CHIEF ENGINEER DATE 5-1-2009



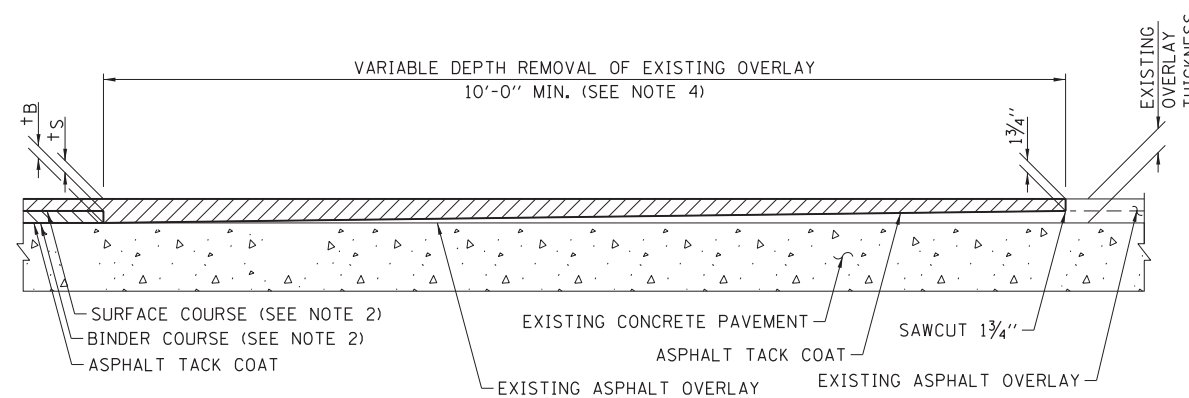
DETAIL OF BUTT JOINT, TYPE 1

NOTES FOR BUTT JOINT, TYPE 1

1. THE ABOVE WORK WILL BE PERFORMED AT THE ENDS OF ALL ASPHALT RESURFACING.
2. ONLY APPROVED SCARIFYING OR MILLING EQUIPMENT SHALL BE USED TO SCARIFY THE CONCRETE PAVEMENT.
3. REGARDLESS OF TYPE OF SURFACE MIX USED, NUMBER OR THICKNESS OF COURSES OR LAYERS, THE OVERLAY THICKNESS TRANSITION LENGTH SHALL BE BASED ON 1" IN 20' AND THE MINIMUM SURFACE LAYER THICKNESS SHALL BE 1/2".
4. REFER TO THE CONTRACT DOCUMENTS FOR THE REQUIRED BINDER AND SURFACE COURSE MATERIALS. "t_s" IS THE THICKNESS OF THE SURFACE COURSE SPECIFIED IN THE CONTRACT. "t_B" IS THE THICKNESS OF THE BINDER COURSE SPECIFIED IN THE CONTACT.



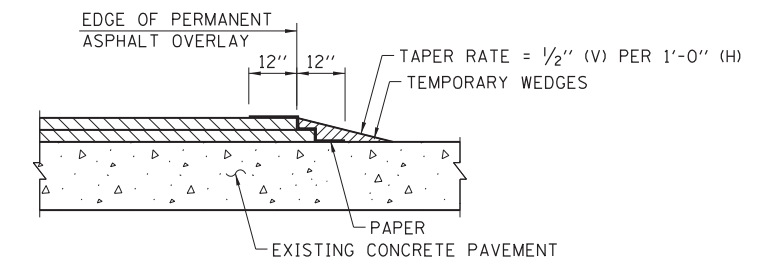
TEMPORARY ASPHALT WEDGE - TRANSVERSE



**DETAIL OF BUTT JOINT, TYPE 2
AT EXISTING OVERLAY AREAS**

NOTES FOR BUTT JOINT, TYPE 2

1. THE ABOVE WORK WILL BE PERFORMED AT THE ENDS OF ALL ASPHALT RESURFACING WHERE BUTT JOINTS EXIST.
2. REFER TO THE CONTRACT DOCUMENTS FOR THE REQUIRED BINDER AND SURFACE COURSE MATERIALS. "t_s" IS THE THICKNESS OF THE SURFACE COURSE SPECIFIED IN THE CONTRACT. "t_B" IS THE THICKNESS OF THE BINDER COURSE SPECIFIED IN THE CONTACT.
3. SAWCUT MAY BE ELIMINATED IF MILLING EQUIPMENT IS USED AND VERTICAL AND STRAIGHT SIDES ARE OBTAINED.
4. REGARDLESS OF TYPE OF SURFACE MIX USED, NUMBER OR THICKNESS OF COURSES OR LAYERS, THE OVERLAY THICKNESS TRANSITION LENGTH SHALL BE BASED ON 1" IN 20' AND THE MINIMUM SURFACE LAYER THICKNESS SHALL BE 1 3/4".



TEMPORARY ASPHALT WEDGE - LONGITUDINAL

NOTES FOR TEMPORARY ASPHALT WEDGE - LONGITUDINAL

1. UPON REMOVAL OF THE WEDGES, THE SURFACE COURSE SHALL BE SAWCUT PARALLEL TO THE JOINT TO PROVIDE A TRUE VERTICAL SURFACE.
2. REFER TO THE CONTRACT DOCUMENTS FOR THE REQUIRED BINDER AND SURFACE COURSE MATERIALS.

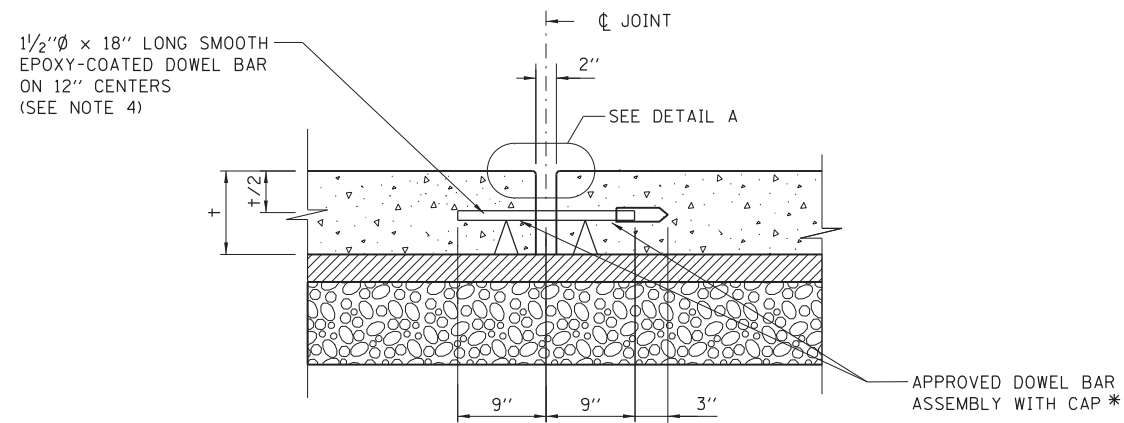
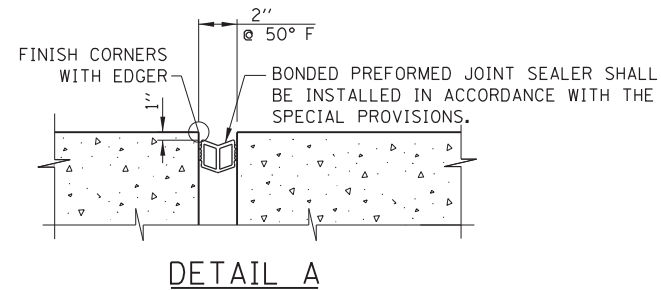
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

DATE	REVISIONS
3-11-2015	REVISED TEXT AND NOTES
3-31-2016	REVISED PRIME COAT TO TACK COAT AND REVISED NOTES.
3-31-2017	REMOVED PAY ITEM DESIGNATION FROM NOTES REVISED MIN t _s THICKNESS
	UPDATED BUTT JOINT TYPE 2

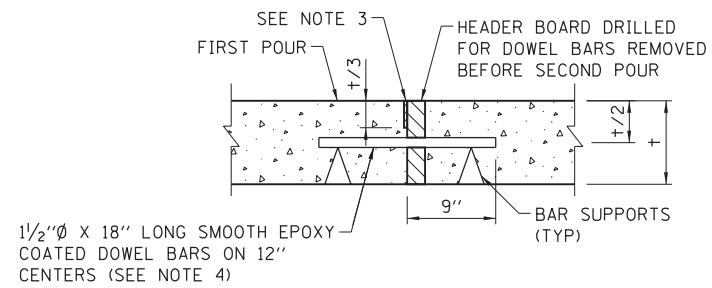
Illinois Tollway

**BUTT JOINTS AND
TEMPORARY ASPHALT WEDGE**

STANDARD A4-04



**TRANSVERSE EXPANSION JOINT
(JOINTED PLAIN CONCRETE PAVEMENT)**



**TRANSVERSE CONSTRUCTION JOINT
(JOINTED PLAIN CONCRETE PAVEMENT)**

* EXPANSION CAPS SHALL BE INSTALLED ON THE EXPOSED END OF EACH DOWEL BAR ONCE THE HEADER HAS BEEN REMOVED.

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.
2. † = PAVEMENT THICKNESS
3. A 3/8" SAW CUT SHALL BE PROVIDED FOR PAVEMENT CRACK CONTROL.
4. FOR 13" PAVEMENT USE THE FOLLOWING DOWELS:
 1-1/2"Ø X 18" LONG SMOOTH EPOXY COATED DOWEL BARS ON 9" CENTERS
 OR
 1-3/4"Ø X 18" LONG SMOOTH EPOXY COATED DOWEL BARS ON 12" CENTERS

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 5-1-2009

DATE	REVISIONS
5-01-2017	MODIFIED JOINT DETAIL, REVISED NOTES
3-31-2016	REVISED 13" PAVEMENT NOTE FOR DOWEL BARS
3-31-2017	ADDED TRANSVERSE EXPANSION JOINT



PAVEMENT JOINTS

STANDARD A7-03

FABRICATION GENERAL NOTES

MATERIALS:

1. EPOXY COATED DOWEL BARS USED SHALL COMPLY WITH ASTM A615 GRADE 60.
2. ALL EMBEDDED LIFTING HARDWARE USED SHALL BE GALVANIZED.
 - A. FOR LIFTING INSERTS, INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION INCLUDING MINIMUM EDGE DISTANCE AND SPACING REQUIREMENTS. UNLESS THE CONTRACTOR AND FABRICATOR WILL BE USING A LIFTING BEAM OR ROLLING SHEAVE TO ENSURE THAT EACH OF THE FOUR INSERTS WILL SHARE THE LOAD EQUALLY, TWO OF THE FOUR INSERTS MUST BE CAPABLE OF CARRYING THE TOTAL LOAD WITH A 4:1 SAFETY FACTOR WHILE ADJUSTING FOR THE ANGLE OF THE CABLES AND THE STRENGTH OF THE CONCRETE OVER TIME. THE INSERT SHOULD BE RECESSED A MINIMUM OF 1/2" UNLESS THE SLAB IS TO BE OVERLAID IMMEDIATELY AFTER PLACEMENT. THE INSERT SHALL LEAVE A MAXIMUM OF ONE 1/4" DIAMETER THREADED HOLE TO BE GROUTED AFTER SLAB INSTALLATION. IF THE INSERT IS INSTALLED WITH A FULL SLAB PENETRATION, THE LIFTING INSERT CAN BE USED AS A BEDDING GROUT PORT AT THE CONTRACTOR'S DISCRETION.
 - B. FOR LIFTING PLATES, INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND HAVE A STANDARD 5:1 SAFETY FACTOR FOR LIFTING HARDWARE. UNLESS A LIFTING BEAM IS USED TO SPACE THE FOUR PICK POINTS DIRECTLY ABOVE THE INSERTS, THE LIFTING HARDWARE MUST BE RATED FOR USE WITH CABLES AT AN ANGLE AND TWO OF THE FOUR DEVICES MUST BE CAPABLE OF LIFTING THE FULL LOAD AS WITH THE INSERTS REFERENCED IN THE PREVIOUS NOTE.
3. REINFORCEMENT USED SHALL BE EPOXY COATED, IN ACCORDANCE WITH ASTM A706 GRADE 60 AND IN COMPLIANCE WITH ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
4. CONCRETE COVER OVER REINFORCEMENT TO BE MAINTAINED USING WIRE OR THERMOPLASTIC CHAIRS OR SPACERS OR AN APPROVED EQUIVALENT.
5. CONCRETE USED SHALL MEET THE FOLLOWING REQUIREMENTS:
 - A. CONCRETE USED SHALL BE CLASS PC (f'c = 4,500 PSI @ 28 DAYS) IN ACCORDANCE WITH SECTION 1020 OF THE STANDARD SPECIFICATIONS.
 - B. MINIMUM STRIPPING STRENGTH OF CONCRETE SHALL BE 3,000 PSI.
 - C. CONCRETE MIX DESIGN TO BE SUBMITTED AND APPROVED PRIOR TO FABRICATION.
 - D. CURING OF CONCRETE SLABS TO BE IN ACCORDANCE WITH THE SPECIFIED METHODS OF SECTION 1020 OF THE STANDARD SPECIFICATIONS. THE CURING PROCEDURE TO BE USED SHALL BE SUBMITTED AND APPROVED PRIOR TO FABRICATION.

SLAB DESIGN:

6. FOR STANDARD SLABS:
 - A. USE SLAB DIMENSIONS SHOWN ON THE ILLINOIS TOLLWAY STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, WIDTH, AND LENGTH. ACTUAL WIDTH TO BE MODIFIED WITH ON-SITE SAW CUTS TO FIT THE OPENING.
 - B. USE ONE LAYER OF REINFORCEMENT WITH A MINIMUM STEEL AREA RATIO OF 0.2%.
 - C. SIZE ANY PREFORMED SLOTS THAT ARE DESIGNED FOR CONSECUTIVE STANDARD SLABS CONSISTENT WITH THE THICKNESS OF THE SLAB SUCH THAT THE BOTTOM OF THE OPENING IS AT LEAST 2 1/2" (±1/4") WIDE AND AT LEAST 1/2" OF GROUT COVER IS PROVIDED UNDER THE DOWEL.
 - D. FOR STANDARD SLABS WITH WIDE OPEN SLOTS AND/OR EMBEDDED DOWEL BARS, IT SHALL BE THE CONTRACTOR'S OPTION TO EITHER PRE-INSTALL/EMBED THE DOWEL BARS INTO THE SLABS AT THE PRECAST PLANT AND PARTIALLY RETROFIT THE EMBEDDED DOWELS INTO ADJACENT PAVEMENT SLABS IN THE FIELD, OR TO FULLY RETROFIT THE DOWEL BARS INTO BOTH THE INSTALLED PRECAST SLAB AND ANY ADJACENT SLAB IN THE FIELD DURING PLACEMENT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND THE GENERAL NOTES FOR INSTALLATION. THE LOCATIONS AND SPACING OF THE DOWEL BARS IN THE STANDARD SLABS SHALL BE SHOWN ON THE ILLINOIS TOLLWAY STANDARD DRAWINGS AND WITHIN THE SPECIFIED TOLERANCES FOR ALIGNMENT. FOR DOWEL BAR RETROFITTING WITH STANDARD SLAB INSTALLATION, A STANDARD TEMPLATE SHALL BE USED TO LOCATE THE CUTS AND POSITION THE DOWEL SLOTS CONSISTENTLY.
 - E. FOR STANDARD ISOLATED SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE CENTERPOINT BETWEEN THE WHEEL PATH SLOTS SHALL BE MARKED.
7. FOR CUSTOM SLABS:
 - A. USE SLAB DIMENSIONS SHOWN ON THE ILLINOIS TOLLWAY STANDARD DRAWINGS FOR DESIGN SLAB THICKNESS, LENGTHS AND WIDTHS OF EACH CUSTOM SLAB SHALL BE ACCURATE DIMENSIONS BASED ON FIELD SURVEY DATA COLLECTED BY THE CONTRACTOR TO DEVELOP WORKING DRAWINGS FOR THE SLAB. MINIMUM AND MAXIMUM DIMENSIONS FOR LENGTHS AND WIDTHS ARE NOTED ON THE ILLINOIS TOLLWAY STANDARD DRAWINGS.

- B. ANY CUSTOM SLABS > 6 FT IN LENGTH THAT WILL BE OPENED TO TRAFFIC BEFORE ANY HARDWARE AND UNDERSLAB GROUTING OR FILLING OCCURS SHALL REQUIRE TWO (2) LAYERS OF STEEL REINFORCEMENT AS NOTED ON SHEET 5.
 - C. FOR ANY CUSTOM SLAB FABRICATED TO REPLACE EXISTING WARPED PAVEMENT AT AN ISOLATED LOCATION, THE CUSTOM SLAB SHALL BE FABRICATED ON A SINGLE PLANE. THE SLAB THICKNESS OR BEDDING MATERIAL SHALL BE ADJUSTED TO ALLOW FOR THE ELEVATION OF ALL FOUR (4) CORNERS OF THE CUSTOM SLAB TO BE FLUSH OR HIGHER THAN THE EXISTING OR ADJOINING PAVEMENT WHEN INSTALLED. THE SURFACE OF ALL CUSTOM SLABS REPLACING WARPED PAVEMENT SHALL RECEIVE A COMPLETE PROFILE DIAMOND GRIND AFTER INSTALLATION AND GROUTING TO PROVIDE A SMOOTH SURFACE AND LEAVE ALL EDGES FLUSH WITH THE ADJOINING PAVEMENTS. THE PROFILE GRINDING OPERATION FOR CUSTOM SLABS REPLACING ANY WARPED PAVEMENTS, ON CURVED RAMPS OR SUPERELEVATED MAINLINE SECTIONS, SHALL BE IN ACCORDANCE WITH CONTRACT SPECIAL PROVISIONS FOR PROFILE DIAMOND GRINDING AND PAID FOR SEPARATELY. FOR CONSECUTIVELY PLACED CUSTOM SLABS FABRICATED TO REPLACE EXISTING WARPED PAVEMENT, FULL SURVEYS FOR X, Y, AND Z DIMENSIONS SHALL BE TAKEN BY THE CONTRACTOR BEFORE FABRICATION IN ORDER TO MATCH EXISTING GRADES AT ALL CORNERS DURING INSTALLATION.
 - D. FOR ALL CUSTOM SLABS WITH WIDE OPEN SLOTS, THE DOWEL BARS SHALL BE FULLY RETROFITTED INTO ADJACENT PAVEMENT SLABS DURING FIELD INSTALLATION OF THE PRECAST SLAB IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND GENERAL NOTES FOR INSTALLATION.
 - E. FOR ALL CUSTOMS SLABS WITH NARROW ELONGATED PREFORMED DOWEL SLOTS, THE DOWEL BARS SHALL BE SLID INTO PREDRILLED HOLES IN THE ADAJECENT PAVEMENT SLABS DURING FIELD INSTALLATION OF THE PRECAST SLAB IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND GENERAL NOTES FOR INSTALLATION.
8. ALL FABRICATED SLABS:
- A. THE MAXIMUM ALLOWABLE JOINT WIDTH CAN NO BE LESS THAN THE TOTAL OF THE ALLOWABLE SLAB FABRICATION TOLERANCES.
 - B. BEDDING GROUT PORT HOLES SHALL BE LOCATED ON TRANSVERSE LINES ACROSS THE SLAB THAT ARE PARALLEL WITH EXISTING TRANSVERSE JOINTS. EACH PORT HOLE SHALL BE EVENLY DISTRIBUTED ON EACH LINE. THE DISTANCE BETWEEN BEDDING GROUT PORT HOLES SHALL NO EXCEED 4'-0", WITH THE PORT HOLES AT THE END OF THE TRANSVERSE LINES TO BE NO LESS THAN 1'-8" AND NO MORE THAN 3'-0" OFF A LONGITUDINAL JOINT. THE TRANSVERSE LINES FOR PORT HOLES SHALL BE NO MORE THAN 4'-0" APART, AND NO LESS THAN 1'-8" AND NO MORE THAN 2'-6" OFF OF A TRANSVERSE JOINT.
 - C. RECESS LIFTING DEVICES 1" MINIMUM BELOW THE SURFACE OF THE SLAB TO ALLOW FOR A MINIMUM GROUT COVER OF 1" ON SLABS THAT WILL NOT BE OVERLAID.

11. INCLUDE A 1 INCH CHAMFER ALONG ALL BOTTOM EDGES OF SLABS AND A STONED EDGE TO ALL TOP EDGES OF THE SLAB.
12. THE EXPOSED SURFACES OF ALL PREFORMED SLOTS FOR DOWEL BARS SHALL BE SANDBLASTED.
13. ACCURATELY SCREED TOP OF SLAB TO MEET SURFACE AND THICKNESS TOLERANCES.
14. APPLY EITHER AN ASTRO TURF DRAG FINISH TO TOP OF SLAB IN ACCORDANCE WITH ARTICLE 420.09(e)(2) OF THE STANDARD SPECIFICATIONS, OR A TINED FINISH IN ACCORDANCE WITH ARTICLE 420.09(e)(1) OF THE STANDARD SPECIFICATIONS AS INDICATED IN THE SLAB DESIGN SCHEDULE ON CONTRACT DRAWINGS.
15. AFTER REMOVAL OF FORMS AND ANY BLOCKOUTS, NO SPALLS OF THE FINISHED SURFACE WILL BE ALLOWED.

FABRICATION:

9. PREPARE WORKING DRAWINGS THAT SHALL INCLUDE THE FOLLOWING INFORMATION:
 - A. SLAB LAYOUT DRAWING FOR TYPICAL STANDARD SLABS AND FOR EACH CUSTOM SLAB TO BE FABRICATED, WITH ACCURATE DIMENSIONS CITED.
 - B. REINFORCEMENT SIZES, SPACING, NUMBER OF MATS, AND METHOD OF MAINTAINING CONCRETE COVER.
 - C. SIZES AND LOCATIONS FOR EMBEDDED DOWELS, OF DOWEL BARS TO BE RETROFITTED AFTER PLACEMENT OF THE SLAB, AND OF PREFORMED SLOTS AT THE FEMALE END OF STANDARD SLABS FOR CONSECUTIVE PLACEMENT.
 - D. SIZE AND LOCATION OF GROUT PORTS, LIFTING ANCHORS, AND GROUT SEAL GASKETS.
 - E. COMPRESSIVE STRENGTH AND AIR CONTENT OF CONCRETE.
 - F. CONCRETE CURING METHOD TO BE USED.
 - G. MARKING LEGEND FOR EACH SLAB TO INDICATE PRECAST MANUFACTURER, AND DATE OF PRODUCTION; AND FOR EACH CUSTOM SLAB TO INCLUDE CONTRACT NUMBER AND MARK NUMBER OF THE SLAB.
 - H. WEIGHT OF EACH SLAB.
 - I. THE SIZE AND LOCATION OF ANY EMBEDDED HARDWARE (TREADLE FRAMES, CONDUITS, ETC.) REQUIRED FOR CUSTOM PLAZA SLABS.
10. PERFORM A PRE-POUR INSPECTION OF THE FORMS TO CONFIRM THAT THEY ARE ASSEMBLED IN ACCORDANCE WITH THE FOLLOWING TOLERANCES:

LENGTH AND WIDTH:	±1/8"
DIAGONALS:	±3/16"
DOWEL VARIANCE FROM LEVEL, SQUARENESS TO EDGE OF SLAB, AND LOCATION:	±1/8"
EDGE SQUARENESS:	1/8" IN 10"

(IN RELATION TO TOP AND BOTTOM SURFACES).

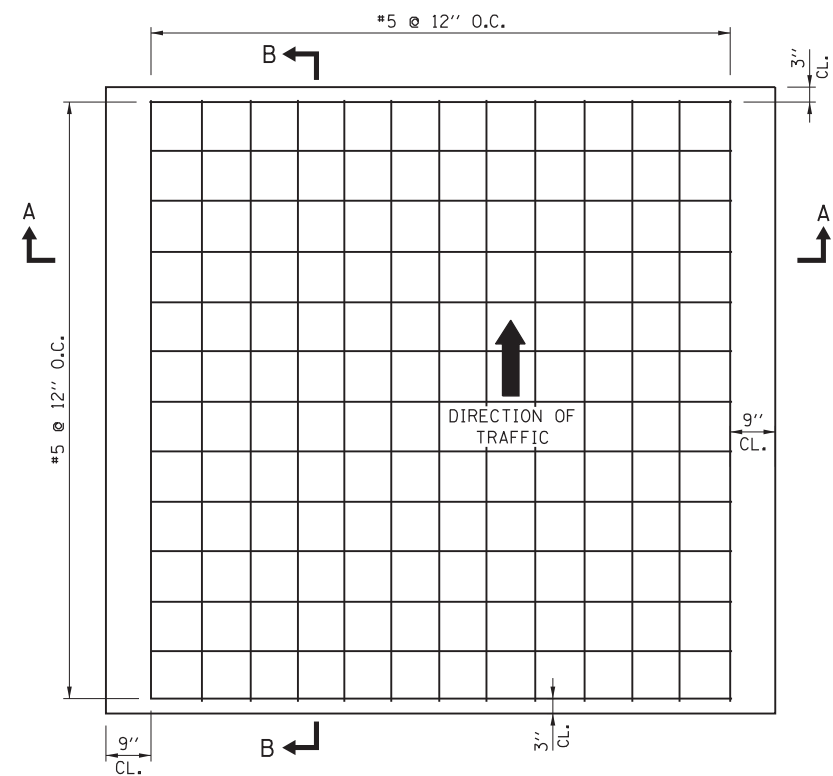


DATE	REVISIONS
02-07-12	SEE A18-01 FOR REVISIONS PER THIS DATE
11-01-12	REVISED NOTES
3-31-2016	REVISED NOTES; UPDATED
	CALLOUTS

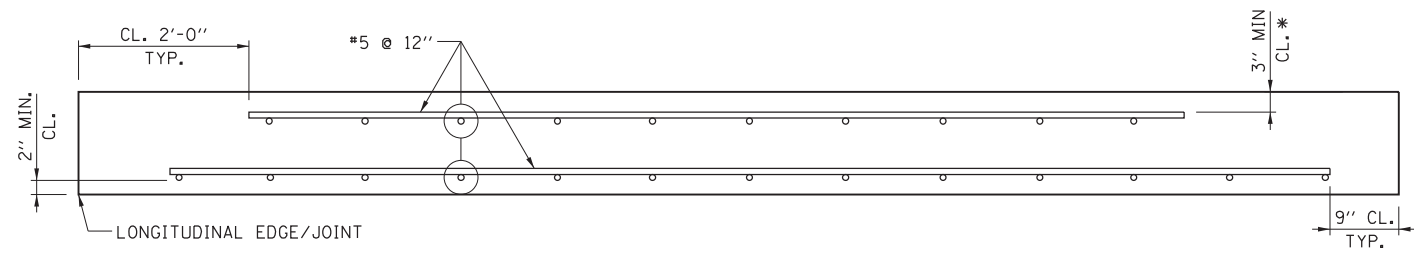
PRECAST PAVEMENT SLABS

STANDARD A18-03

APPROVED CHIEF ENGINEER DATE 5-1-2009

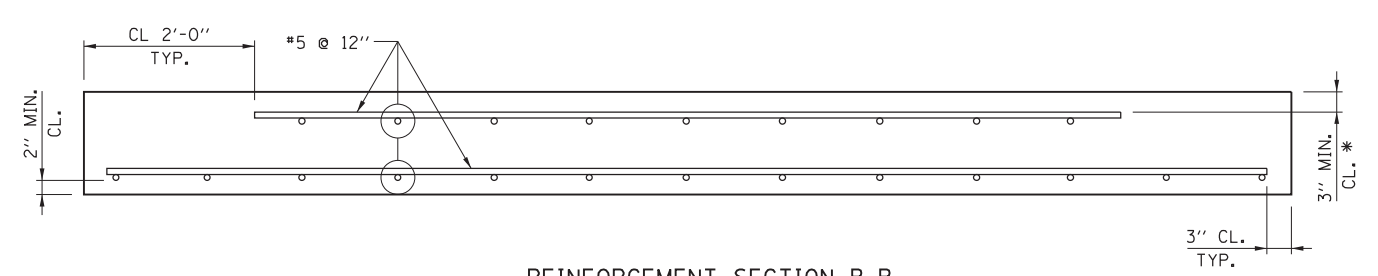


TYPICAL REINFORCEMENT DETAIL FOR STANDARD SLABS



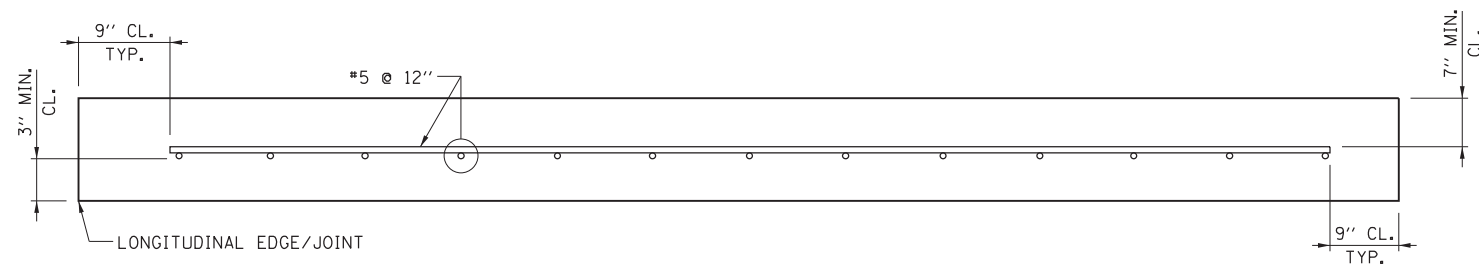
REINFORCEMENT SECTION A-A

TWO MATS OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC BEFORE GROUTING IS COMPLETED
 ALL BARS ARE TRIMMED TO FIT #5 BAR
 SAW CUTS OFF LONGITUDINAL EDGES SHALL BE NO MORE THAN 6" OFF THE EDGES



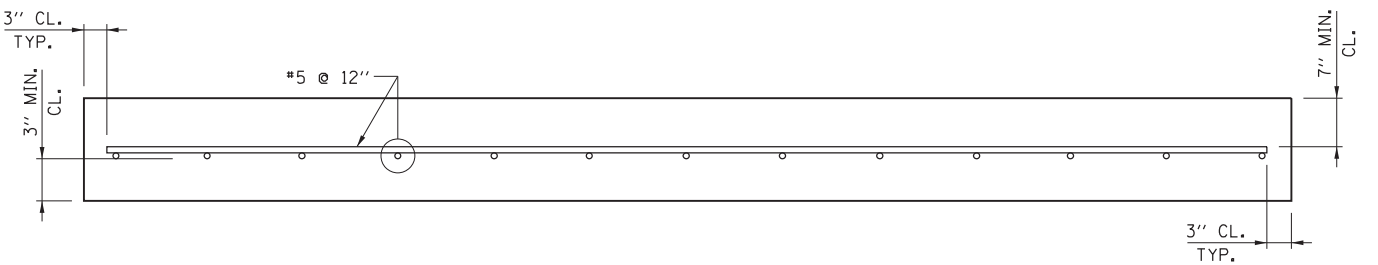
REINFORCEMENT SECTION B-B

TWO MATS OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC BEFORE GROUTING IS COMPLETED
 ALL BARS ARE TRIMMED TO FIT #5 BAR



REINFORCEMENT SECTION A-A

ONE MAT OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL STANDARD SLABS AND FOR ANY CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC ONLY AFTER GROUTING IS COMPLETED.
 ALL BARS ARE TRIMMED TO FIT #5 BAR
 SAW CUTS OFF LONGITUDINAL EDGES SHALL BE NO MORE THAN 6" OFF THE EDGES



REINFORCEMENT SECTION B-B

ONE MAT OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL STANDARD SLABS AND FOR ANY CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC ONLY AFTER GROUTING IS COMPLETED.
 ALL BARS ARE TRIMMED TO FIT #5 BAR

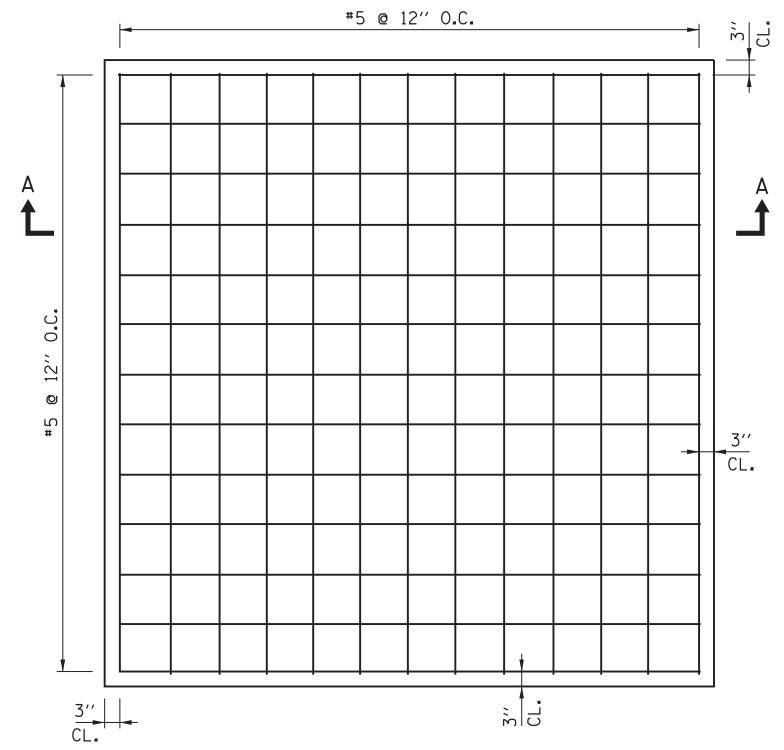
NOTE:
 * MIN. CLEARANCE FOR TOP REINFORCEMENT SHALL BE ADJUSTED FOR PLAZA SLAB TO FIT TREADLE FRAMES OR INSERTED HARDWARE.



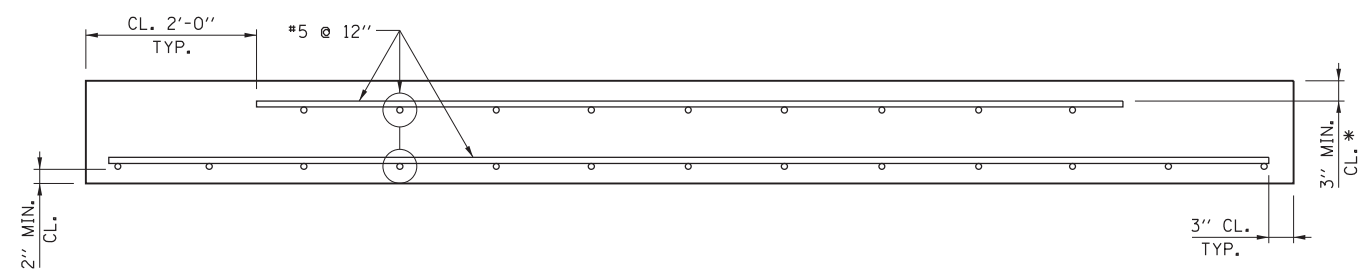
PRECAST PAVEMENT SLABS

STANDARD A18-03

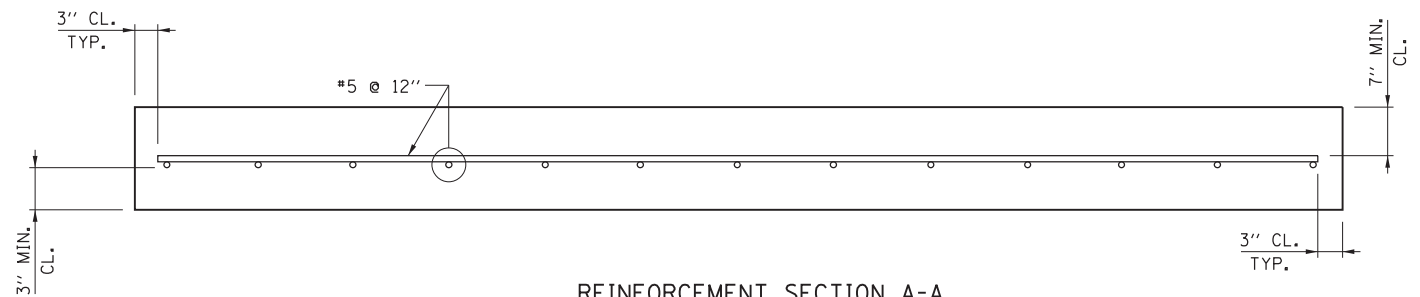
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



TYPICAL REINFORCEMENT DETAIL FOR CUSTOM SLABS



REINFORCEMENT SECTION A-A
 TWO MATS OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC BEFORE GROUTING IS COMPLETED
 ALL BARS ARE TRIMMED TO FIT #5 BAR




REINFORCEMENT SECTION A-A
 ONE MAT OF REINFORCEMENT SHALL BE FOR APPLICATION TO ALL STANDARD SLABS AND FOR ANY CUSTOM SLABS GREATER THAN 6 FT. LONGITUDINAL LENGTH TO BE OPENED TO TRAFFIC ONLY AFTER GROUTING IS COMPLETED.
 ALL BARS ARE TRIMMED TO FIT #5 BAR

NOTE:
 FOR ALL CUSTOM SLABS OF TRAPEZOID SHAPES, REINFORCEMENT SHALL BE LAID OUT IN A PERPENDICULAR GRID PATTERN, NOT SKEWED.
 * MIN. CLEARANCE FOR TOP REINFORCEMENT SHALL BE ADJUSTED FOR PLAZA SLAB TO FIT TREADLE FRAMES OR INSERTED HARDWARE.

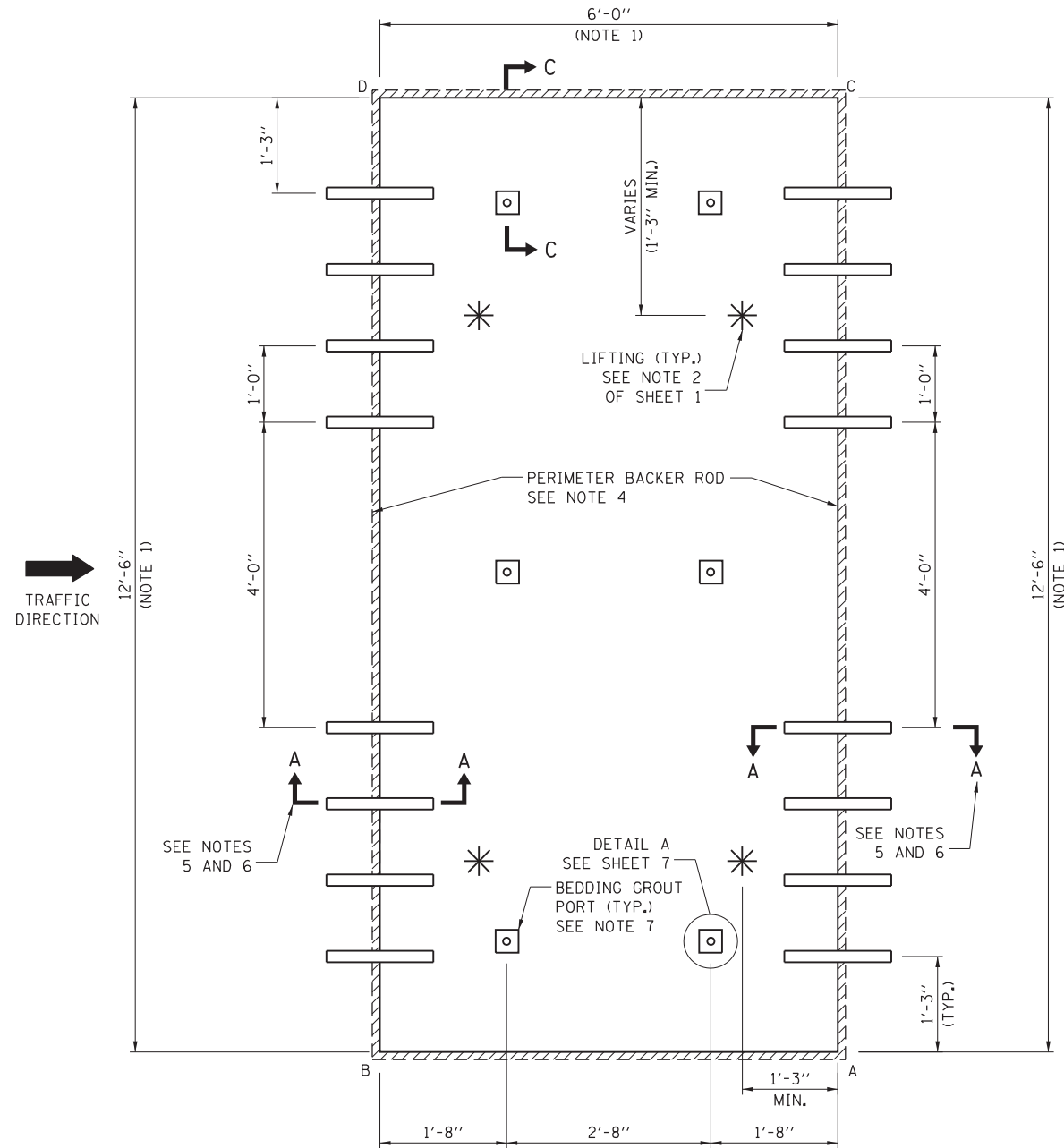
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 APPROVED CHIEF ENGINEER DATE 5-1-2009

SHEET 3 OF 19

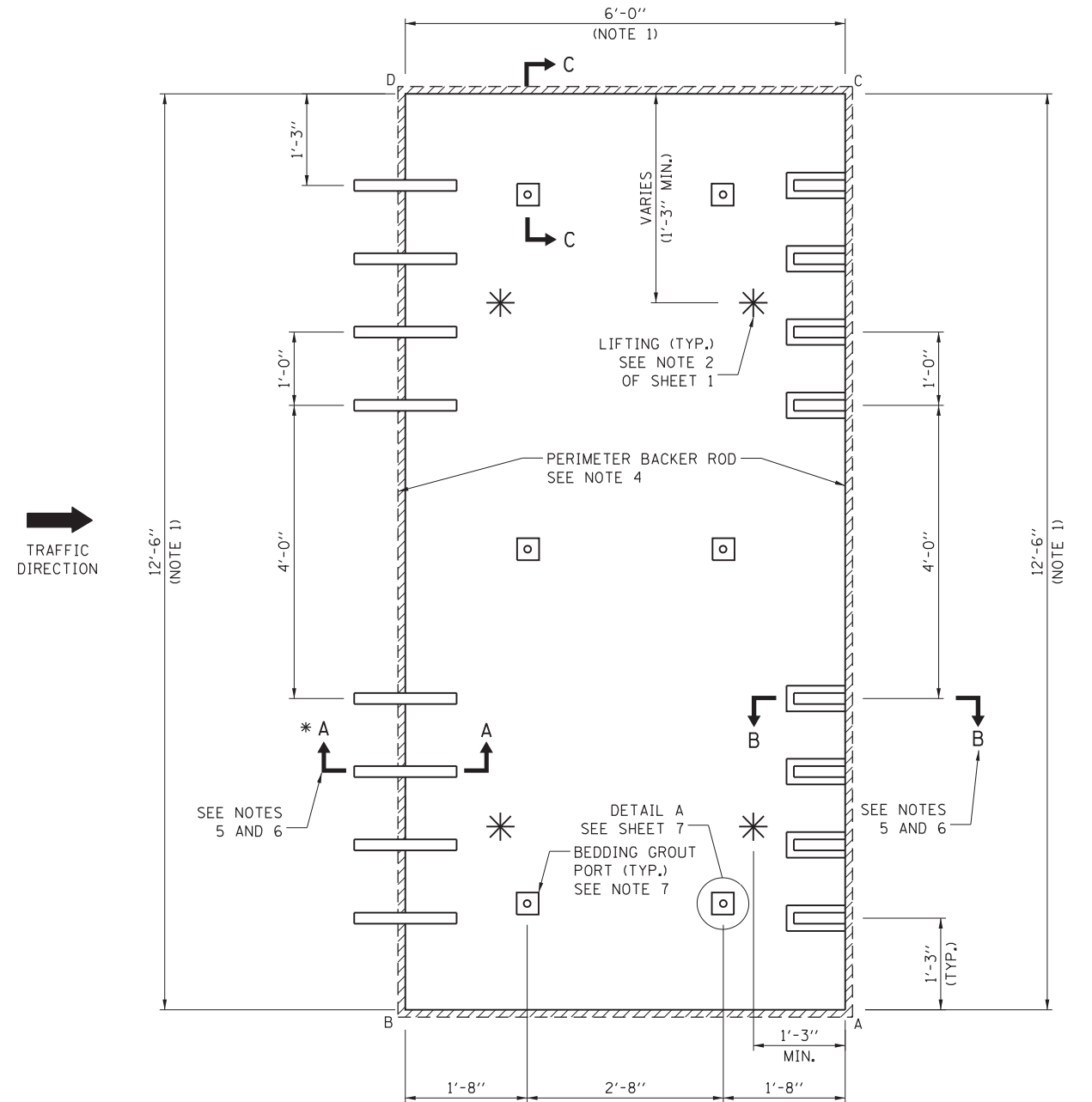


PRECAST PAVEMENT SLABS

STANDARD A18-03



STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT
WITH EMBEDDED DOWELS FOR PRECAST WIDE MOUTH
SLOTS IN ADJACENT PAVEMENT



STANDARD 12'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

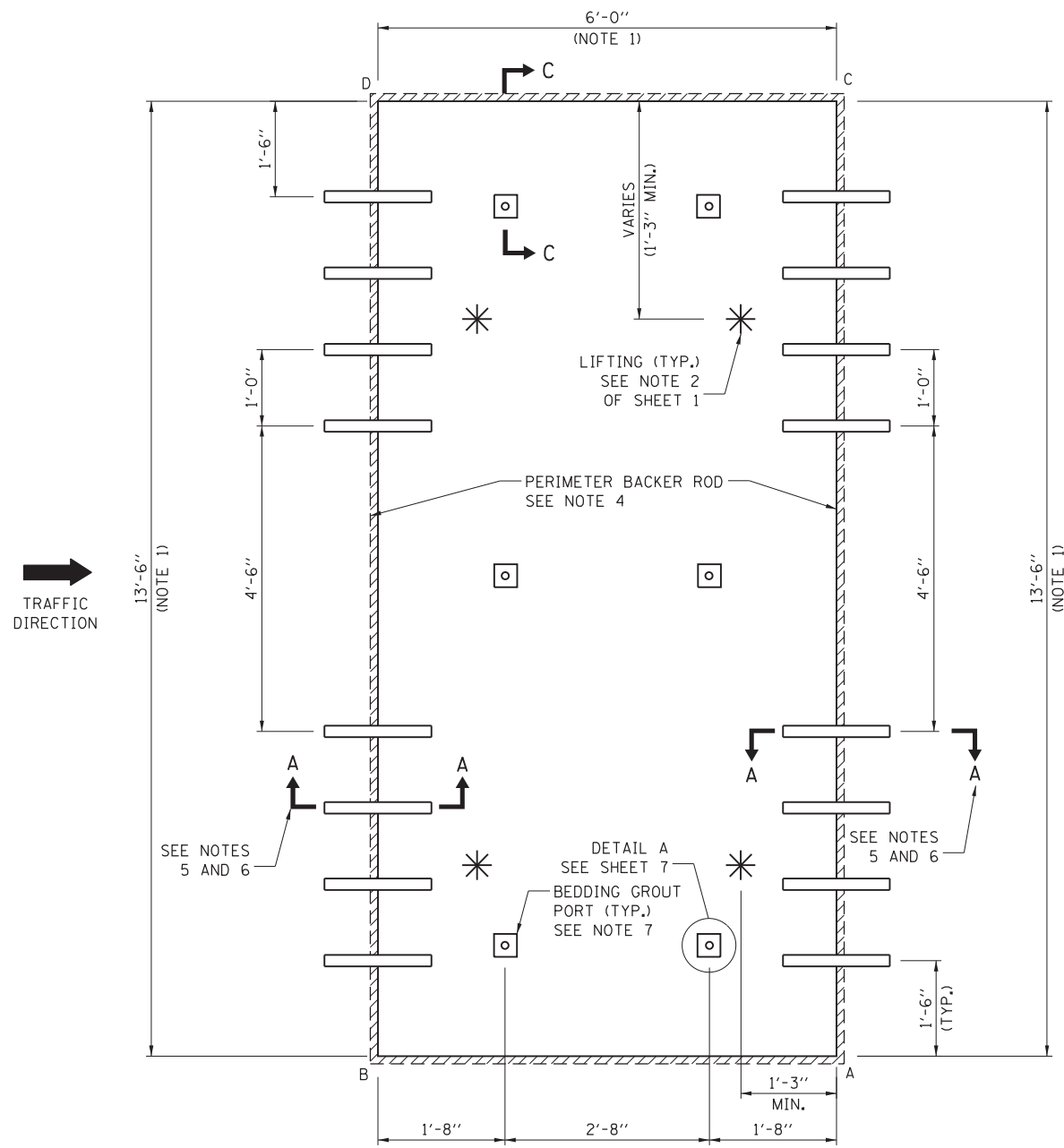
* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION B-B OF SHEET 4 MAY BE USED IN PLACE OF EMBEDDED DOWELS OR OF FIELD RETROFITTED DOWEL BARS WITH SAWCUT SLOTS. ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.

NOTES:

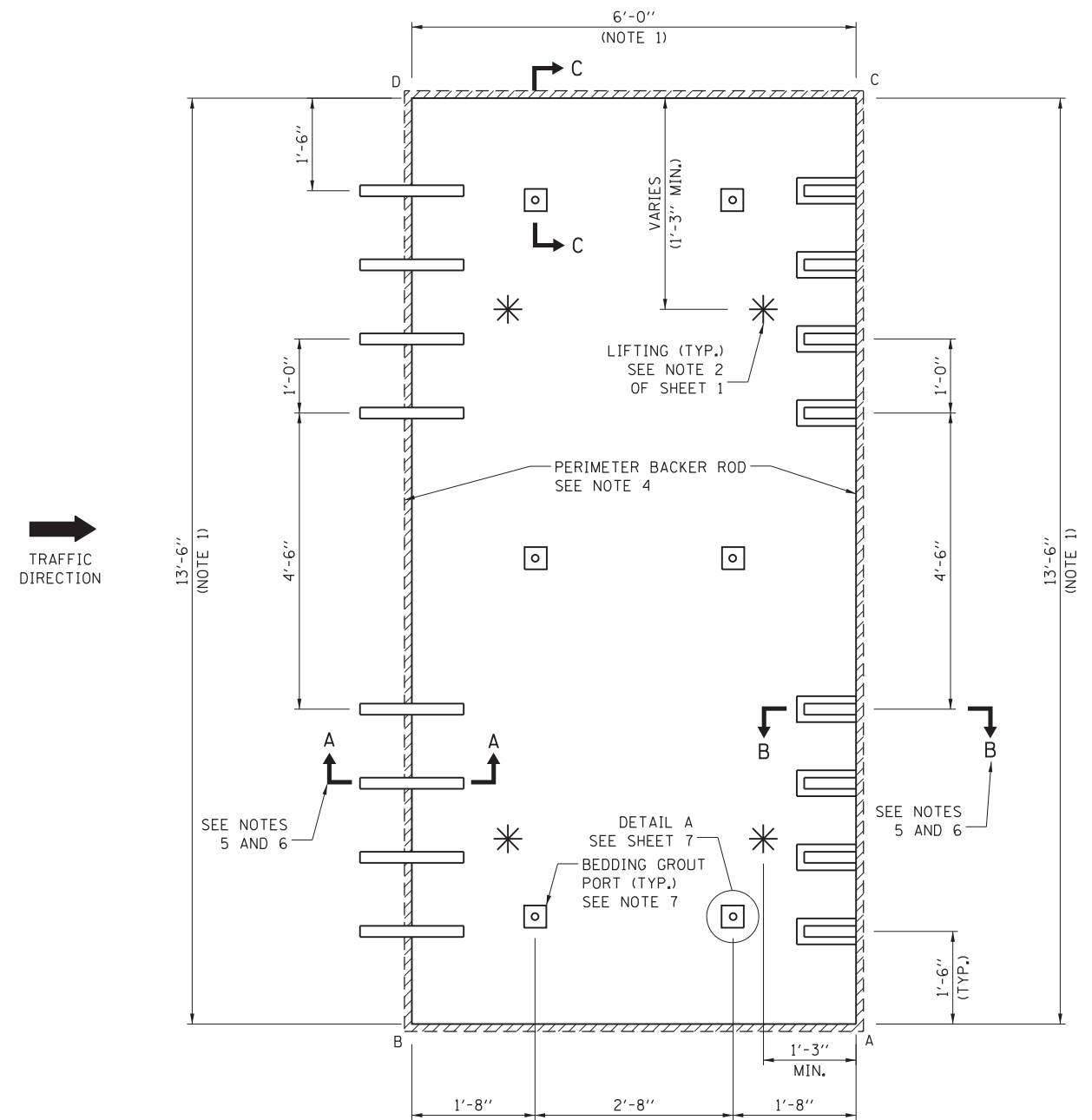
1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS $\pm 1/8"$.
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 11'-6" IN WIDTH, THE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. SLAB THICKNESS SHALL BE $11\frac{1}{2}" \pm 1/8"$.
4. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.
5. SEE SHEET 7 FOR SECTION DETAILS.
6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH "DETAIL C" OF SHEET 13. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE SAW CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NONSKewed) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING BEDDING GROUT PORTS.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009





STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH EMBEDDED DOWELS FOR PRECUT WIDE MOUTH SLOTS IN ADJACENT PAVEMENT.



STANDARD 13'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION B-B OF SHEET 4 MAY BE USED IN PLACE OF EMBEDDED DOWELS OR OF FIELD RETROFITTED DOWEL BARS WITH SAWCUT SLOTS. ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.

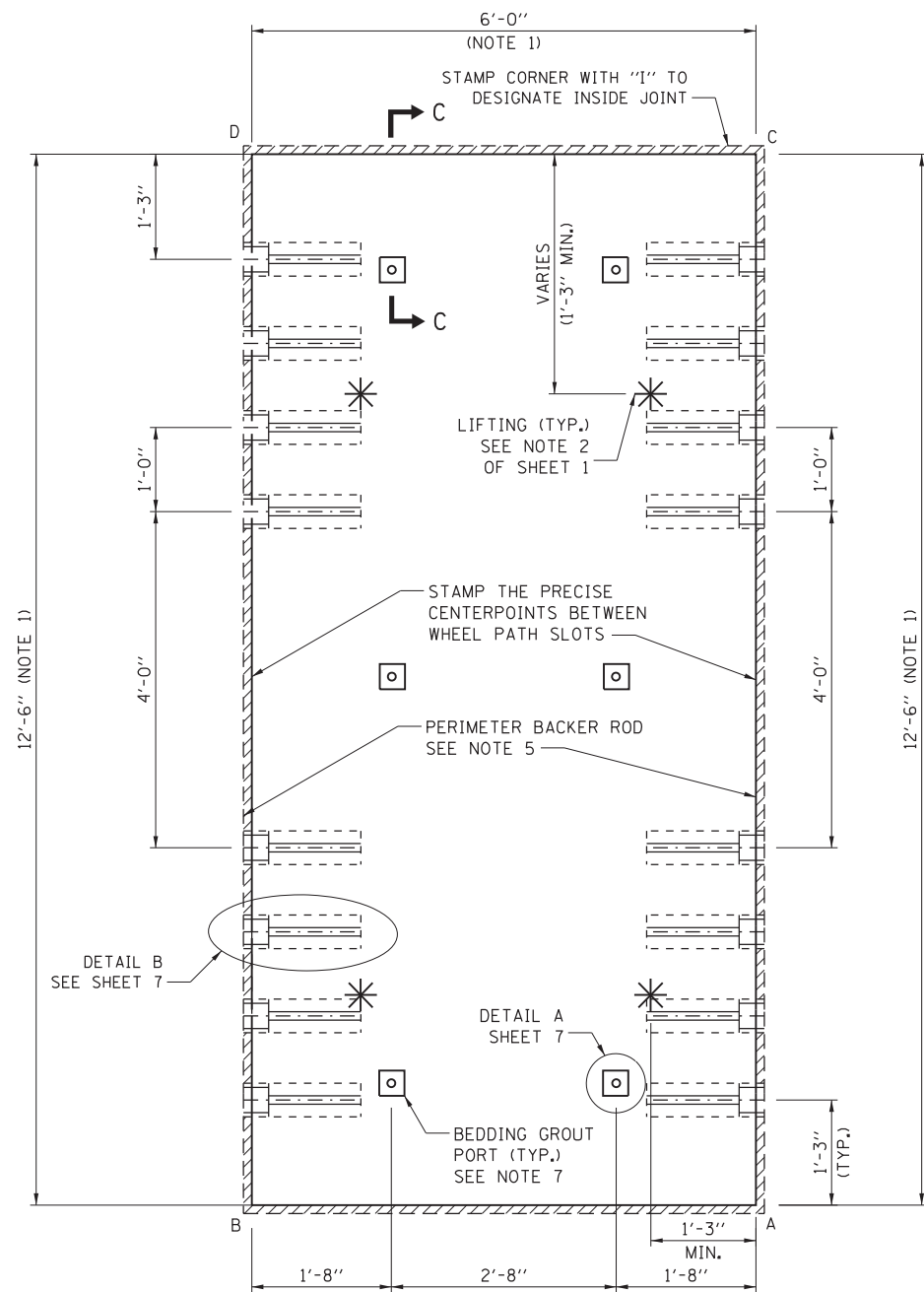
NOTES:

1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS $\pm 1/8"$.
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 13'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. SLAB THICKNESS SHALL BE $11\frac{1}{2}" \pm 1/8"$.
4. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.
5. SEE SHEET 7 FOR SECTION DETAILS.
6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH "DETAIL C" OF SHEET 13. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE SAW CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NSKEWED) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING BEDDING GROUT PORTS.

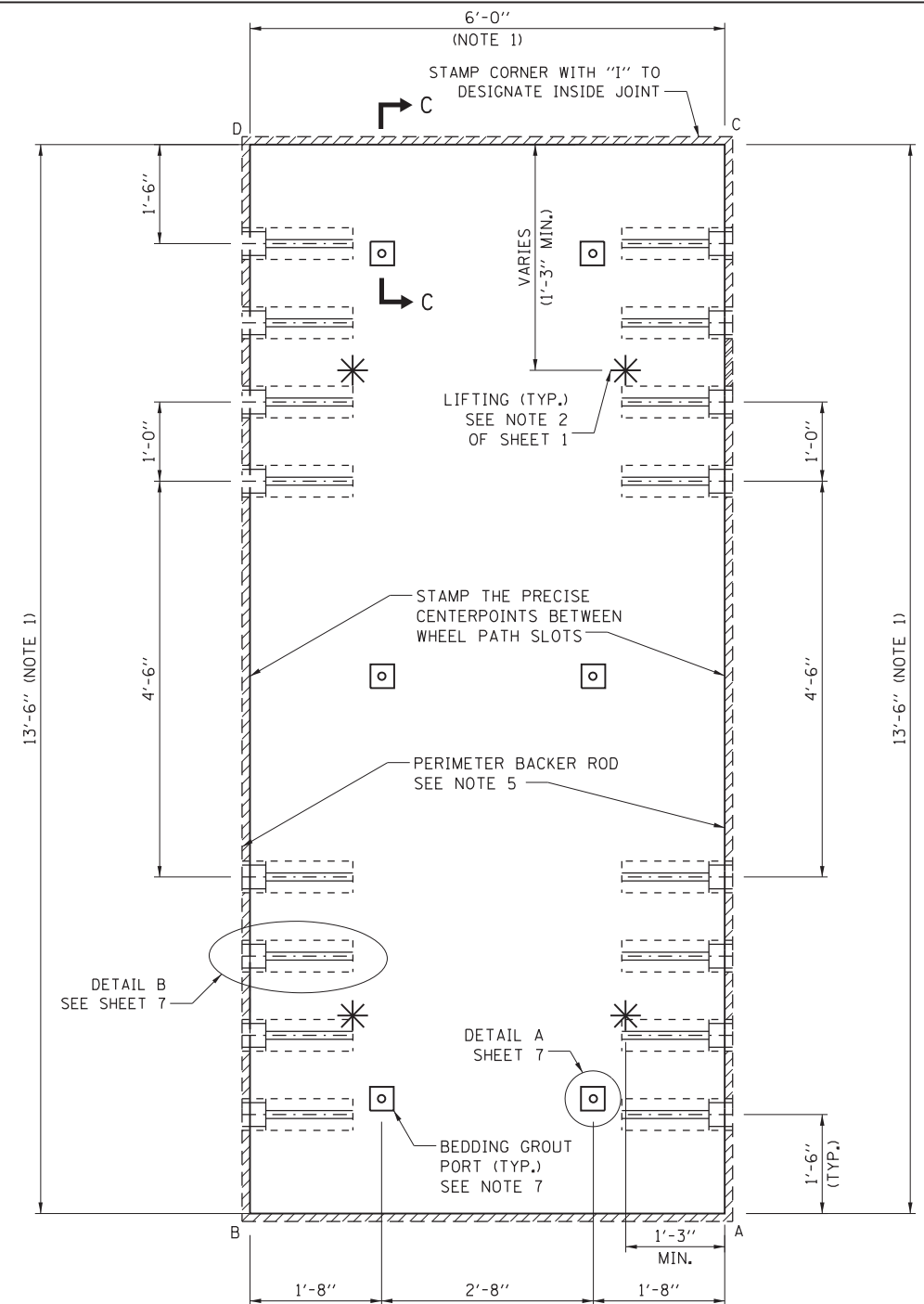
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



TRAFFIC DIRECTION



TRAFFIC DIRECTION



STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

NOTES:

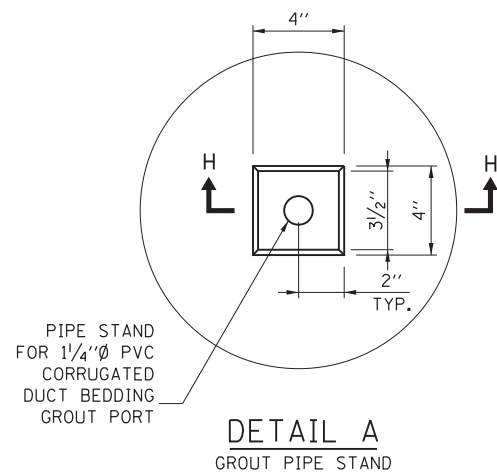
1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS $\pm 1/8"$.
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 11'-6" IN WIDTH, THE 12'-6" WIDE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 13'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE 13'-6" WIDE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
4. SLAB THICKNESS SHALL BE $11\frac{1}{2}" \pm 1/8"$.
5. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.
6. SEE SHEET 7 FOR SECTION DETAILS.
7. SEE NOTE 8 ON SHEET 1 FOR LOCATING BEDDING GROUT PORTS.



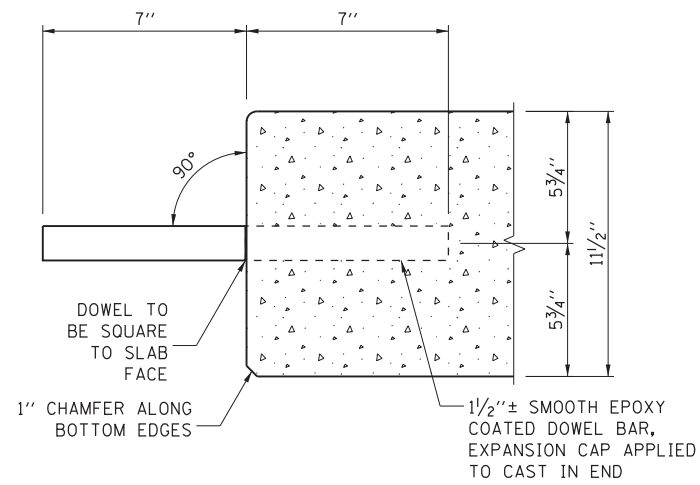
PRECAST PAVEMENT SLABS

STANDARD A18-03

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

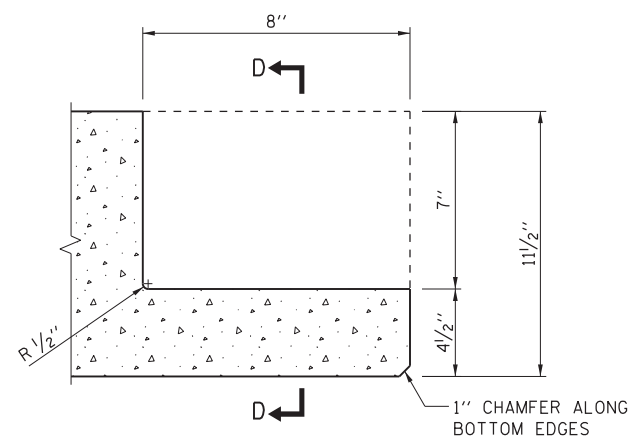


DETAIL A
GROUT PIPE STAND



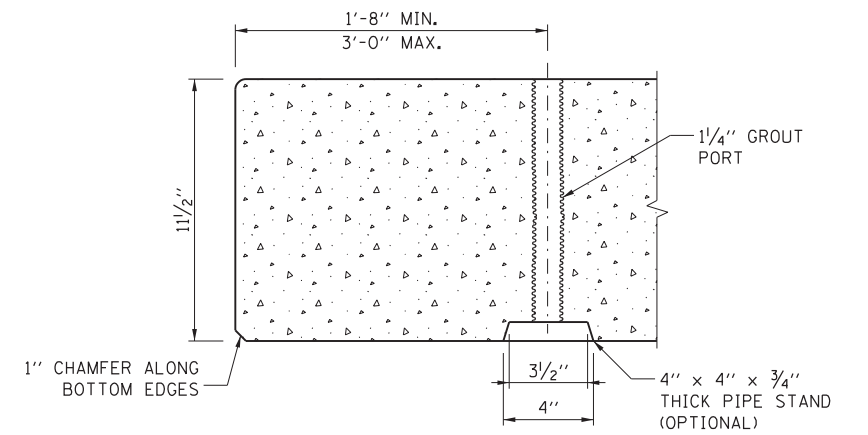
SECTION A-A

TRANSVERSE JOINT DOWEL BAR (EMBEDDED INTO STANDARD PRECAST PAVEMENT SLAB FOR BOTH ISOLATED AND CONSECUTIVE PLACEMENT TYP.)



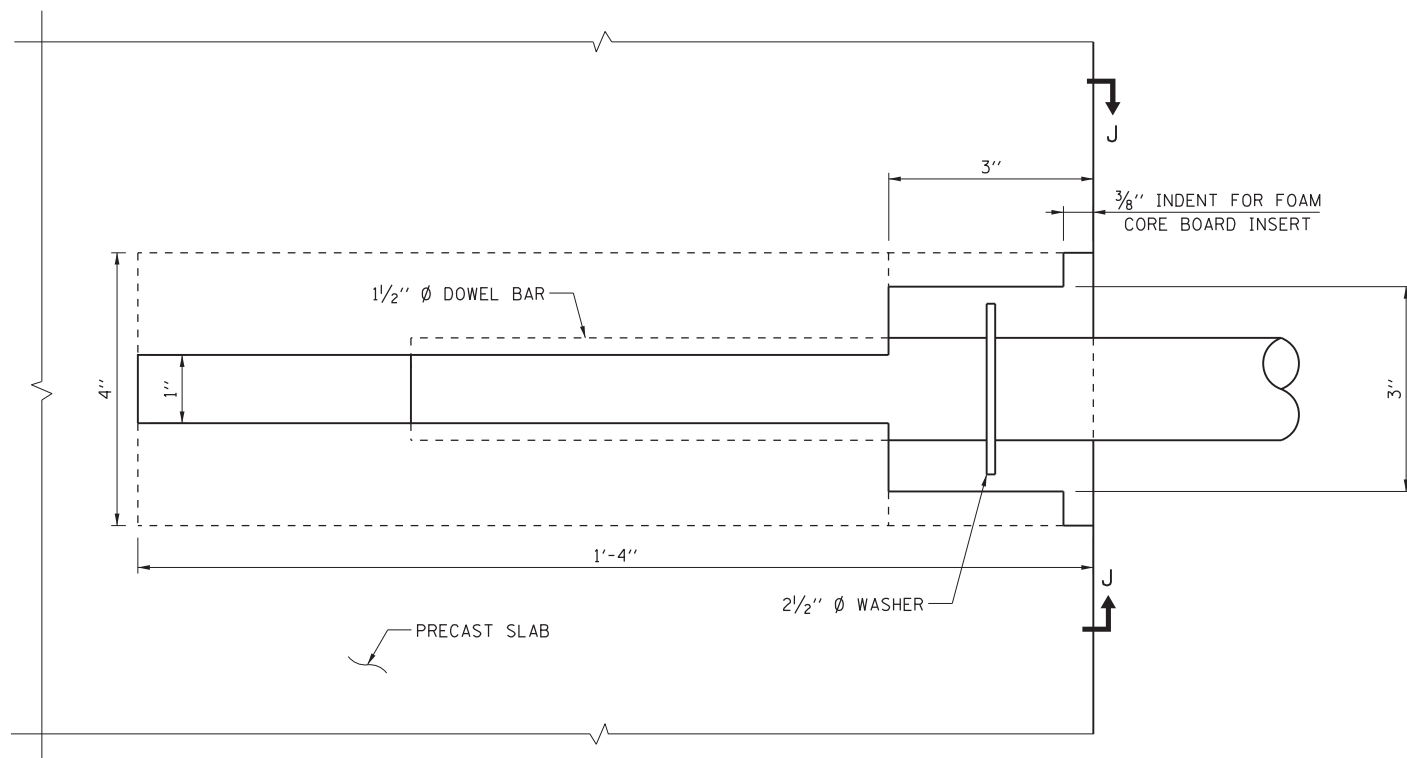
SECTION B-B

TRANSVERSE WIDE MOUTH OPEN SLOT DETAIL FOR CONSECUTIVE STANDARD SLABS



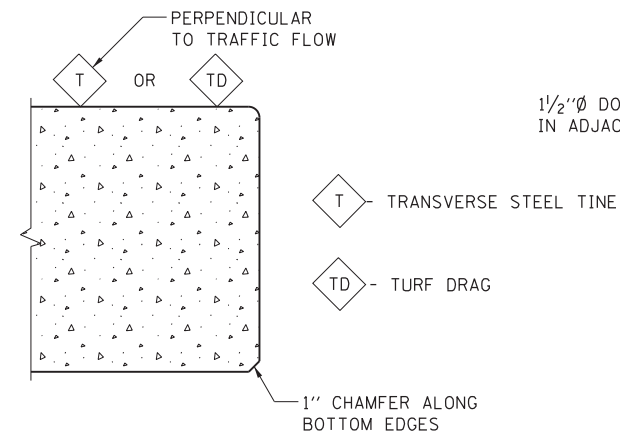
SECTION C-C

GROUT CHANNEL & PORT LOCATION

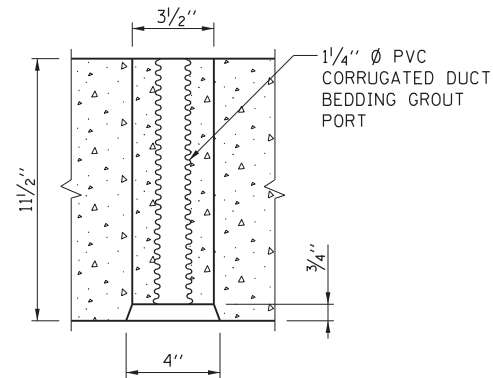


DETAIL B

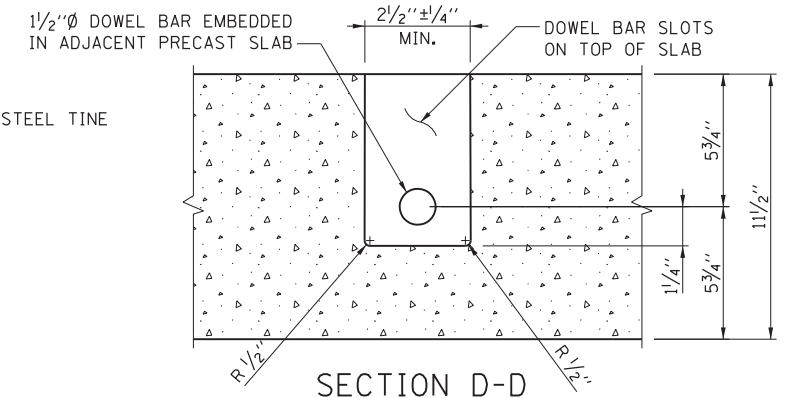
TRANSVERSE NARROW MOUTH SLOT DETAIL FOR ISOLATED SLABS



FINISH SCHEDULE

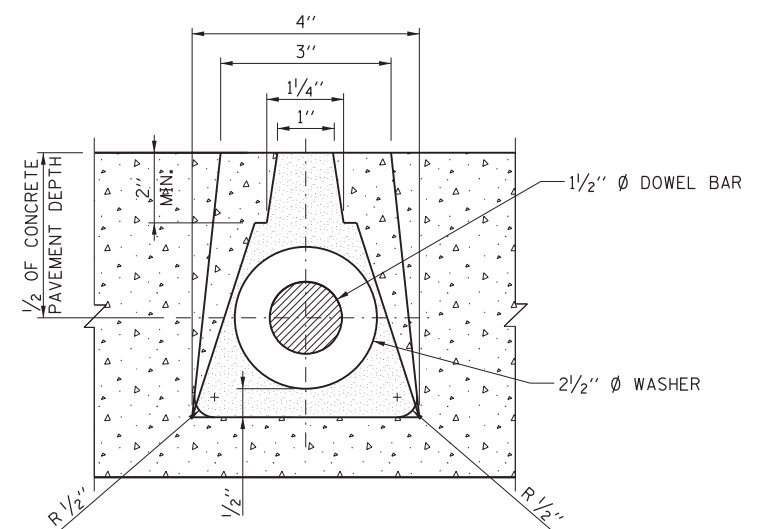


SECTION H-H
PIPE STAND ELEVATION



SECTION D-D

DOWEL BAR SECTION FOR WIDE MOUTH OPEN SLOTS



SECTION J-J
3" TAPER TO 4"x16"
LONG DOWEL SLOT

FABRICATION DETAILS

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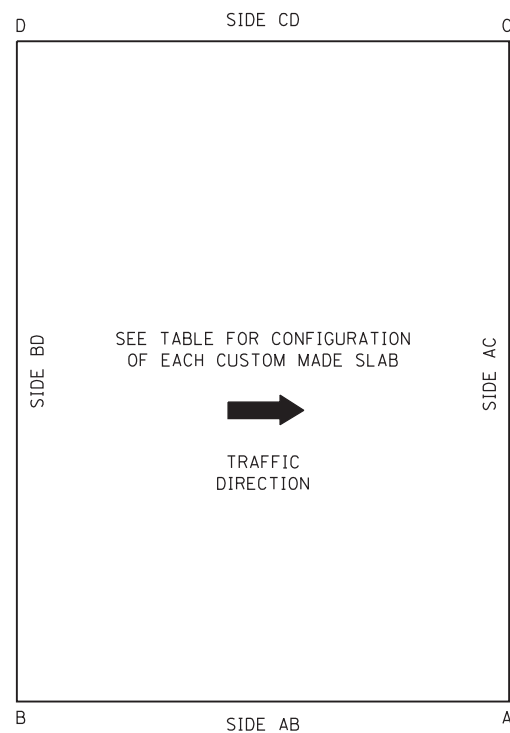
FOR NON-STANDARD SLABS, UPON COMPLETION BY THE CONTRACTOR A SLAB LAYOUT WILL BE ADDED WITH SLAB DIMENSIONS TO INCLUDE BUT NOT BE LIMITED TO THE TABLE SHOWN BELOW.

EXAMPLE	CORRIDOR	STATION NUMBER	MAINLINE LANE NO.	RAMP ID.	RAMP LANE NO.	PLAZA NO.	PLAZA LANE NO.	MARK NO.	LANE TYP.	VARIABLES (FT.)				AB* SIDE	BD* SIDE	CD* SIDE	AC* SIDE	AREA (SQ.FT.)	VOLUME (CU. FT.)	WEIGHT (TONS)	DIAGONALS (FT.)	
										AB (FT.)	AC (FT.)	BD (FT.)	CD (FT.)								AD	BC

MAINLINE LANE NO.: LANE NO 1 IS ADJACENT TO MEDIAN SHOULDER.
 RAMP LANE NO.: LANE NO 1 IS ADJACENT TO THE BUILDING
 PLAZA LANE NO.: LANE NO 1 IS ADJACENT TO THE BUILDING
 MARK NO.: EACH PANEL SHALL BE INDIVIDUALLY MARKED FOR CORRECT PLACEMENT.
 LANE TYP.: "OUT" IN THIS COLUMN INDICATES OUTSIDE LANE.
 "MID" IN THIS COLUMN INDICATES MIDDLE LANE.
 "IN" IN THIS COLUMN INDICATES INSIDE LANE
 "PLAZA" IN THIS COLUMN INDICATES PLAZA LANE.

LEGEND

DB= DOWEL BAR EMBEDDED
 DS= DOWEL SLOT
 ST= SLOT OR HOLE FOR STITCHED TIE BAR
 RD= FIELD RETROFITTED DOWEL BARS

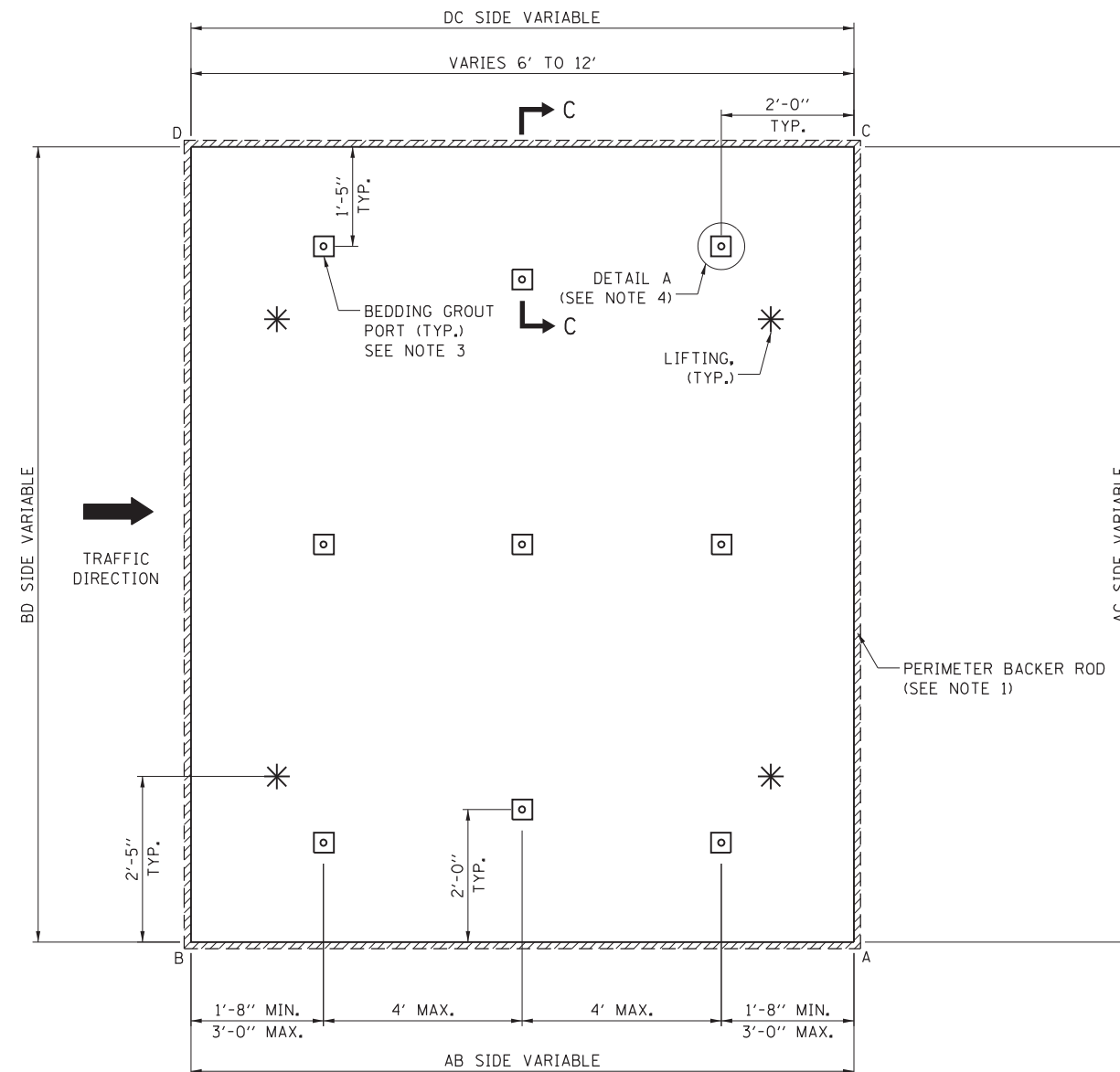


LAYOUT FOR CUSTOM SLABS

LAYOUT KEY

NOTES:

1. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH A FLOWABLE FILL.
2. EITHER SINGLE DIAMOND BLADED SAWS OR DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE THE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NON-SKEWED) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
3. SEE NOTE 8 ON SHEET 1 FOR LOCATING BEDDING GROUT PORTS.
4. SEE SHEET 7 FOR SECTION DETAILS.



LAYOUT DETAIL FOR CUSTOM SLABS 6'-12' IN LENGTH (VARIED WIDTH**)

**FOR TRAPEZOID SLABS MINIMUM WIDTH IS 2 FT. WITH MAXIMUM WIDTH OF 16 FT.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



INSTALLATION GENERAL NOTES

ALIGNMENT:

1. WHEN THE TRANSVERSE JOINTS OF ANY PRECAST SLAB CAN NOT BE ALIGNED WITH TRANSVERSE JOINTS IN ADJACENT LANES, A MINIMUM 2'-0" OFFSET BETWEEN JOINTS SHALL BE PROVIDED.
2. THE LONGITUDINAL JOINT OF ANY ISOLATED OR CONSECUTIVE STANDARD PRECAST SLAB MUST BE ALIGNED TO BE PARALLEL WITH EXISTING LONGITUDINAL JOINTS. NO LONGITUDINAL OFFSETS SHALL BE ALLOWED. THE WIDTH OF ANY OF THE STANDARD PRECAST SLABS SHALL BE SAW CUT ON-SITE TO BE ALIGNED WITH THE EXISTING LONGITUDINAL JOINTS IN ADJACENT LANES OF EXISTING CONCRETE PAVEMENTS. THE WIDTH OF THE PRECAST SLAB SHALL BE NO MORE THAN 1/2 INCH LESS THAN THE WIDTH OF THE EXISTING SLAB BEING REPLACED. IF A STANDARD SLAB DOES NOT COMPLY WITH TOLERANCES FOR MAXIMUM AND MINIMUM WIDTHS FOR A DESIGNATED LOCATION, THEN A CUSTOM SLAB SHALL BE REQUIRED TO BE PRODUCED AND PLACED.
3. THE TRANSVERSE JOINT OF ANY PRECAST SLAB SHALL BE NO LESS THAN 4'-0" DISTANCE FROM AN EXISTING TRANSVERSE JOINT THAT REMAINS, OR NO LESS THAN 2'-0" DISTANCE PAST ANY EXISTING TRANSVERSE JOINT THAT IS REMOVED AND REPLACED WITH A PRECAST SLAB.
4. PRIOR TO THE PLACEMENT OF AN ISOLATED STANDARD PRECAST SLAB IN A MIDDLE LANE, THE WIDTH BETWEEN EXISTING LONGITUDINAL CONCRETE PAVEMENT JOINTS SHALL BE MEASURED BY THE CONTRACTOR UNDER MAINTENANCE OF TRAFFIC PROVIDED BY THE CONTRACTOR. ONLY APPROXIMATE WIDTHS SHALL BE MEASURED BY AND PROVIDED BY THE DESIGNER FOR BIDDING PURPOSES. THE CONTRACTOR'S WIDTH MEASUREMENTS SHALL BE USED TO DETERMINE THE NEED FOR ANY ON-SITE SAWCUTS OF THE LONGITUDINAL EDGES TO FIT THE OPENING AND TO ALIGN THE SAW CUT EDGE(S) WITH ANY EXISTING LONGITUDINAL JOINTS. THE LONGITUDINAL EDGES OF ANY STANDARD SLAB SHALL NOT BE SAW CUT MORE THAN 6 INCHES OFF THE ORIGINAL EDGE. NO NEW LONGITUDINAL JOINT SHALL BE ALLOWED INSIDE THE EXISTING JOINT BY MORE THAN 3/8 INCH. IF THESE TOLERANCES CAN NOT BE MET, THEN A CUSTOM SLAB SHALL BE REQUIRED. FOR ISOLATED STANDARD SLABS PLACED IN THE OUTSIDE OR INSIDE LANES, THE NEW CONCRETE LONGITUDINAL JOINT SHALL MATCH THE EXISTING JOINT. THE STANDARD PRECAST SLAB MAY EXTEND INTO THE EXISTING BITUMINUS SHOULDERS NO MORE THAN 6 INCHES TO ALLOW FOR PROPER ALIGNMENT OF THE CONCRETE JOINTS. THE ONLY ALTERNATIVE TO ON-SITE SAW CUTTING OF ISOLATED STANDARD SIZES PRE-FABRICATED SLABS IS TO DESIGN AND FABRICATE EACH SLAB, TAKING WIDTH MEASUREMENTS AT THE BEGINNING OF A PROJECT AND THEN FABRICATING THE SLAB TO FIT THE SPECIFIC OPENING DIMENSIONS.
5. FOR STANDARD SLAB PLACEMENTS, A TEMPLATE SUPPLIED BY THE PRECAST FABRICATOR SHALL BE USED TO LOCATE THE PERIMETER SAW CUTS FOR THE SLAB. THE TEMPLATE MAY BE USED TO MARK LONGITUDINAL EDGE SAW CUT LOCATIONS ON A PRECAST SLAB TO FIT THE SAME PATCH OPENING THAT THE TEMPLATE WAS USED FOR TO LOCATE A PERIMETER SAW CUT. IF THE SLAB DOWEL BAR IS RETROFITTED OR FABRICATED FOR INSERTED DOWELS, THE TEMPLATE MAY ALSO BE USED FOR THE EMBEDDED /SLOTTED DOWEL BAR LOCATIONS TO BE RETROFITTED OR INSERTED INTO EXISTING PAVEMENT.

LOAD TRANSFER:

6. ACROSS STANDARD SLABS
 - A. THE EMBEDDED DOWEL BARS OF ISOLATED STANDARD PRECAST SLABS SHALL BE RETROFITTED INTO EXISTING CONCRETE PAVEMENT IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
 - B. THE EMBEDDED DOWEL BARS OF CONSECUTIVE STANDARD SLABS SHALL BE:
 - (i) RETROFITTED INTO THE EXISTING CONCRETE PAVEMENT AT THE LOCATION OF THE FIRST SLAB PLACEMENT IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
 - (ii) RETROFITTED INTO THE PREFORMED SLOTS OF ADJACENT PRECAST SLABS IN ACCORDANCE WITH DETAIL E (SEE SHEET 15).
 - (iii) EITHER FULLY RETROFITTED INTO THE PREFORMED SLOT OF THE LAST INSTALLED CONSECUTIVE PRECAST SLAB AND THE ADJACENT CONCRETE PAVEMENT IN ACCORDANCE WITH DETAIL F (SEE SHEET 16), OR PARTIALLY RETROFIT AN EMBEDDED DOWEL BAR OF A STANDARD ISOLATED SLAB INTO ADJACENT PAVEMENT AS THE LAST INSTALLED CONSECUTIVE PRECAST SLAB IN ACCORDANCE WITH DETAIL D (SEE SHEET 14).
 - C. FOR PRECAST STANDARD SLABS WITHOUT EMBEDDED DOWEL BARS AND WITHOUT NARROW MOUTH PREFORMED SLOTS FOR DOWEL INSERTIONS, THE DOWEL BARS SHALL BE FULLY RETROFITTED ACROSS ALL TRANSVERSE JOINTS IN THE FIELD IN ACCORDANCE WITH DETAIL C (SEE SHEET 13). THE LOCATIONS AND SPACING OF ALL FIELD RETROFITTED DOWEL BARS SHALL COMPLY WITH THE SPECIFIED TOLERANCES AS SHOWN ON SHEETS 4 AND 5.
 - D. FOR PRECAST STANDARD SLABS WITH LONG AND NARROW MOUTH PREFORMED SLOTS AS SHOWN ON SHEET 6, THE LOCATIONS FOR PREDRILLED HOLES FOR DOWEL BAR INSERTIONS SHALL BE ALIGNED WITH THE PREFORMED SLOTS IN THE SPECIFIC PANEL BEING PLACED. ONLY GANG DRILLS WILL BE USED TO DRILL THE HOLES. THE HOLES SHALL BE PARALLEL TO THE GRADE AND CENTERLINE OF THE PAVEMENT WITH A TOLERANCE OF 1/8 INCH IN 12 INCHES. THE DRILLING OPERATION SHALL NOT CRACK OR SPALL THE PAVEMENT. BEFORE SLAB PLACEMENT, THE DOWEL BARS SHALL BE PLACED WITHIN THE ELONGATED SLOTS AND THE PREDRILLED HOLES THOROUGHLY CLEANED OF DRILLING DEBRIS. AFTER SLAB PLACEMENT, THE DOWEL BARS WILL BE SLID INTO THE PREDRILLED HOLES AND EPOXIED IN ACCORDANCE WITH ARTICLE 442.06(d)(2) OF THE STANDARD SPECIFICATIONS WITH RETENTION DISKS OR WASHERS PLACED AGAINST THE FACE OF THE SLAB. SEE DETAIL G OF SHEET 17. IMMEDIATELY PRIOR TO FILLING THE PREFORMED SLOT WITH BACKFILL GROUT, THE EXPOSED ENDS OF THE DOWEL BARS SHALL BE CLEANED AND LIGHTLY OILED IN SUCH A MANNER AS TO NOT CONTAMINATE THE SURFACE OF ANY CLEANED SLOT AND THE FOAM CORE BOARD SHALL BE INSERTED AT THE FACE OF THE ADJACENT SLAB.

7. ACROSS CUSTOM MADE SLABS
 - A. THE DOWEL BARS OF CUSTOM DESIGNED PRECAST SLABS PLACED CONSECUTIVELY, PLACED ON WARPED GRADES, OR PLACED ON RAMPS SHALL BE FULLY RETROFITTED ACROSS THE JOINT IN THE FIELD IN ACCORDANCE WITH DETAIL C (SEE SHEET 13). FOR ALL SUCH CUSTOM SLABS, THE DOWELS BETWEEN ANY EXISTING CONCRETE PAVEMENT AND ANY ADJACENT PRECAST SLABS, AND BETWEEN CONSECUTIVELY PLACED CUSTOM PRECAST SLABS SHALL BE 1'-0" ON CENTER ACROSS THE ENTIRE JOINT.
 - B. THE DOWEL BARS OF CUSTOM DESIGNED ISOLATED PRECAST SLABS PLACED ON TANGENT MAINLINE PAVEMENT FOR MID SLAB CRACK REPAIR OR FOR JOINT REPLACEMENT CAN BE EITHER RETROFITTED ACROSS THE JOINT IN ACCORDANCE WITH DETAIL C (SEE SHEET 13), OR FULLY INSERTED INTO THE ADJACENT PAVEMENT IN ACCORDANCE WITH DETAIL G (SEE SHEET 17). THE LOCATIONS AND SPACING OF ALL FIELD RETROFITTED OR FIELD INSERTED DOWEL BARS SHALL COMPLY WITH THE SPECIFIED TOLERANCES AS SHOWN ON SHEETS 4 AND 5. FIELD INSERTION OF DOWEL BARS SHALL BE IN ACCORDANCE WITH NOTE 6(D) ABOVE.
 - C. NO END DOWEL BARS SHALL BE RETROFITTED OR INSERTED WITHIN 8" OR NO MORE THAN 1'-7" FROM THE CORNER OF THE PRECAST SLAB OR ADJOINING CONCRETE PAVEMENT SLAB THAT EXISTS.

LONGITUDINAL TIE BAR STITCHING:

8. THE LOCATIONS OF LONGITUDINAL TIE BARS SHALL BE DETERMINED BASED ON THE CRITERIA THAT LONGITUDINAL TIES SHALL BE REQUIRED FOR ANY CLASS B FULL DEPTH REPAIR AND PRECAST REPAIR GREATER THAN 20 FT IN LENGTH OR WITH ANY PRECAST REPAIR THAT REQUIRES MORE THAN 3 CONSECUTIVE PRECAST SLABS.
9. THE SPACING BETWEEN TIE BARS SHALL BE NO LESS THAN 24 INCHES. TIE BAR INSERTIONS SHALL BE NO LESS THAN 24 INCHES FROM ANY EXISTING TRANSVERSE JOINT OR FROM THE LOAD TRANSFER JOINTS OF ANY PLACED PRECAST SLAB OR CAST-IN-PLACE CONCRETE PATCH IN EITHER LANE ADJACENT TO THE LONGITUDINAL JOINT. THE PROCEDURE AND LOCATIONS FOR TIE BAR STITCHING SHALL BE IN ACCORDANCE WITH DETAIL H (SEE SHEET 19).

MATERIALS:

10. FOR GRADE SUPPORTED PRECAST SLABS, THE BEDDING AND UNDERSEALING MATERIAL FOR LEVELING AND SUPPORT SHALL CONSIST OF:
 - A. LEVELING SAND SHALL BE 100% CRUSHED FINE AGGREGATE OF AN FA-6, FA-20, OR FA-21 GRADATION AS SPECIFIED IN SECTION 1003 OF THE STANDARD SPECIFICATIONS. THE FINE AGGREGATE SHALL BE REASONABLY FREE FROM AN EXCESS OF SOFT AND UNSOUND PARTICLES AND OTHER OBJECTIONABLE MATTER. THE TYPICAL THICKNESS OF THE LEVELING SAND LAYER SHALL BE APPROXIMATELY 1/4 INCH WITH A MAXIMUM THICKNESS OF 1 INCH.
 - B. FOR GRADE SUPPORTED SLABS, UNDERSEALING GROUT SHALL BE USED AFTER SLAB INSTALLATION TO FILL ALL VOIDS BENEATH THE PRECAST PANELS. THE MIXTURE USED FOR UNDERSEALING GROUT SHALL CONSIST OF PORTLAND CEMENT, FLY ASH, GROUND GRANULATED BLAST FURNACE SLAG (OPTIONAL), A SUPERPLASTICIZER, AND WATER ALL IN ACCORDANCE WITH DIVISION 1000 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN FOR UNDERSEALING GROUT TO THE ENGINEER FOR ILLINOIS TOLLWAY APPROVAL PRIOR TO PLACEMENT. THE UNDERSEALING GROUT PRODUCED SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - (i) THE UNDERSEALING GROUT SHALL REMAIN FLUID AND NOT EXHIBIT A RESISTANCE TO FLOW FOR A MINIMUM OF ONE HOUR. THE GROUT MIXTURE SHALL HAVE A FLOW RATE OF 15 TO 25 SECONDS AS MEASURED BY ASTM C 939 TO ENSURE FLUIDITY.
 - (ii) THE UNDERSEALING GROUT SHALL ACHIEVE AN INITIAL SET IN LESS THAN 4 HOURS AND A COMPRESSIVE STRENGTH AS MEASURED BY ASTM C 942 OF 300 PSI BEFORE OPENING THE SLAB TO TRAFFIC AND A COMPRESSIVE STRENGTH OF 500 PSI IN 12 HOURS.
11. FOR PRECAST SLABS SUPPORTED AND LEVELED BY FLOWABLE FILL PLACED BEFORE SLAB INSTALLATION, THE FLOWABLE FILL SHALL CONSIST OF PORTLAND CEMENT, FLY ASH, COARSE AND/OR FINE AGGREGATES, WATER, AND AIR ENTRAINING ADMIXTURE (OPTIONAL). THE CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN FOR FLOWABLE FILL TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT. THE FLOWABLE FILL PRODUCED SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - i) PORTLAND CEMENT SHALL BE TYPE 1 CEMENT IN ACCORDANCE WITH SECTION 1001 OF THE STANDARD SPECIFICATIONS.
 - ii) FLY ASH SHALL BE IN ACCORDANCE WITH SECTION 1010 OF THE STANDARD SPECIFICATIONS.
 - iii) FINE AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 1003 OF THE STANDARD SPECIFICATIONS.
 - iv) COARSE AGGREGATE, IF USED, SHALL BE IN ACCORDANCE WITH SECTION 1004 OF THE STANDARD SPECIFICATIONS WITH A MAXIMUM AGGREGATE SIZE OF 12.5 MM.
 - v) IF AN AIR ENTRAINMENT ADMIXTURE IS USED, THE AIR CONTENT OF THE FLOWABLE FILL SHALL NOT EXCEED 35% OF THE FLOWABLE FILL VOLUME.
 - vi) THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL MIXTURE SHALL NOT BE LESS THAN 50 PSI AT 3 DAYS, NOR LESS THAN 75 PSI OR GREATER THAN 150 PSI AT 28 DAYS.
 - vii) THE FINAL SET TIME SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C403 ON A TRIAL BATCH SPECIMEN.
 - viii) THE MAXIMUM THICKNESS OF THE LEVELING FILL SHALL BE 1 INCH.

12. FOR PRECAST SLABS SUPPORTED AND LEVELED BY HIGH-DENSITY FOAM PLACED AFTER SLAB INSTALLATION, THE HIGH-DENSITY FOAM SHALL BE EXPANDING POLYURETHANE FOAM HAVING A WATER INSOLUBLE DILUENT AND SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - i) DENSITY (LBS./CU. FT)-AIR RISE 6.0 MIN.
TENSILE STRENGTH (PSI) ASTM D 1623 100 MIN.
ELONGATION (%) 5.1
COMPRESSIVE STRENGTH (PSI) ASTM D 1621 (AT YIELD 100 MIN.
VOLUME CHANGE (% OF ORIGINAL) 0
THE MANUFACTURER SHALL PROVIDE DOCUMENTATION THAT THE LOT(S) OF FOAM MEETS THE SPECIFIED PROPERTIES. MANUFACTURER'S CERTIFICATION SHALL LIST LOT NUMBER(S) AND DOCUMENTATION OF COMPLIANCE WITH THE SPECIFICATION.
 - ii) THE MAXIMUM THICKNESS OF THE HIGH DENSITY FOAM SHALL BE 1 INCH.
13. HARDWARE GROUT/ADHESIVES
 - A. FOR DOWEL BAR RETROFITS OR INSERTIONS, FOR THE FILLING OF ANY GROUT PORT HOLES USED FOR HIGH DENSITY FOAM INJECTIONS, FOR THE FILLING OF DOWEL SLOTS AND FOR THE FILLING OF RECESSED LIFTING DEVICES, THE BACKFILL MATERIAL SHALL BE:
 - 1) FIVE STAR HIGHWAY PATCH AS MANUFACTURED BY FIVE STAR PRODUCTS INC. FAIRFIELD, CONNECTICUT.
 - 2) HIGHWAY DB RETROFIT MORTAR AS MANUFACTURED BY DAYTON SUPERIOR, MIAMISBURG, OHIO.
 - 3) AN ILLINOIS TOLLWAY APPROVED EQUIVALENT THAT HAS BEEN TESTED AS A RAPID SET CONCRETE PATCHING MATERIAL PER THE AASHTO NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTEPP), WHICH CONFORMS TO ASTM C 928. THE GROUT MATERIAL IS REQUIRED TO PROVIDE A COMPRESSIVE STRENGTH OF 4,000 PSI IN 24 HOURS (OPENING TO TRAFFIC AFTER 3,000 PSI) PER ASTM C 39, EXHIBITS EXPANSION OF LESS THAN 0.10 PERCENT PER ASTM C 531, AND HAS A CALCULATED DURABILITY FACTOR OF 90.0 PERCENT MINIMUM AT THE END OF 300 FREEZE-THAW CYCLES PER ASTM C 666. THE PROPOSED MATERIAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ANY PLACEMENT.
 - B. FOR TIE BAR STITCHING AN APPROVED CHEMICAL ADHESIVE IN ACCORDANCE WITH ARTICLE 1027.01 OF THE STANDARD SPECIFICATIONS SHALL BE USED AS THE ANCHORING MATERIAL FOR STITCHED TIE BARS.
 - C. FOR DOWEL BAR INSERTIONS, AN APPROVED CHEMICAL ADHESIVE OR EPOXY IN ACCORDANCE WITH ARTICLE 1027.01 OF THE STANDARD SPECIFICATIONS SHALL BE USED WITH PLACEMENT IN ACCORDANCE WITH ARTICLE 442.06 (d)(2) OF THE STANDARD SPECIFICATIONS WITH RETENTION DISCS OR WASHERS PLACED AGAINST THE FACE OF THE SLAB.

14. EPOXY COATED DOWEL BARS SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 1006.06 (b) OF THE STANDARD SPECIFICATIONS. ANY ADDITIONAL MATERIAL REQUIRED FOR DOWEL BAR RETROFITTING SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIAL PROVISION FOR "DOWEL BAR RETROFIT".
15. EPOXY COATED TIE BARS FOR STITCHING SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
16. THE BACKER ROD USED AS A SEAL RESERVOIR GASKET AROUND THE PERIMETER OF A SLAB, NEAR THE TOP OF THE JOINTS, SHALL BE A CLOSED-CELL, PLASTIC FOAM ROD COMPATIBLE WITH THE SEALANT AND THE ELEVATED TEMPERATURES OF FINAL JOINT SEALANT APPLICATION. A CLOSED CELL PLASTIC FOAM BACKER ROD OF 3/8" DIAMETER SHALL BE PINNED OR NAILED TO THE FINISHED BASE AROUND THE PERIMETER OF EACH OPENING BEFORE THE PANELS ARE SET.

EQUIPMENT:

17. FOR BASE PREPARATION, A MECHANICALLY-CONTROLLED SCREEDING DEVICE OR STRAIGHTEDGE DEVICE CAPABLE OF GRADING FULLY COMPACTED FINE AGGREGATE USED AS THE LEVELING SAND TO A TOLERANCE OF 1/8 INCH PER 6 FT. LENGTHS OF PLACEMENT.
18. CHIPPING HAMMERS SHALL BE HAND HELD AND HAVE A MAXIMUM WEIGHT OF 30 LBS. PRIOR TO ANY HANDLE MODIFICATION WHERE APPLICABLE.
19. WITH ANY FIELD RETROFITTING OF DOWEL BARS, A TEMPLATE SHALL BE ROUTINELY USED FOR ALL STANDARD SLABS IN ORDER TO LOCATE AND ALIGN THE SAWCUTS CONSISTENTLY. EITHER SINGLE DIAMOND BLADED SAWS OR DIAMOND BLADED GANG SAWS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANSVERSE (NON-SKEWED) JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE FOLLOWING TOLERANCES:
 - ± 1/2" OF THE MIDDLE OF THE CONCRETE SLAB DEPTH.
 - ± 1/2" OF BEING CENTERED OVER THE TRANSVERSE JOINT
 - ± 1/4" FROM PARALLEL TO THE CENTERLINE OVER 12 INCHES OF THE BAR
 - ± 1/4" FROM PARALLEL TO THE ROADWAY SURFACE OVER 12 INCHES OF THE BARSAWCUTS SAWED ACROSS SKEWED JOINTS SHOULD ALLOW EQUAL LENGTH OF THE DOWEL BAR TO BE PLACED ACROSS THE TRANSVERSE JOINT. THE ALIGNMENT OF SAWCUTS MUST BE PARALLEL TO THE ROADWAY CENTERLINE, REGARDLESS OF TRANSVERSE JOINT SKEW.



INSTALLATION GENERAL NOTES

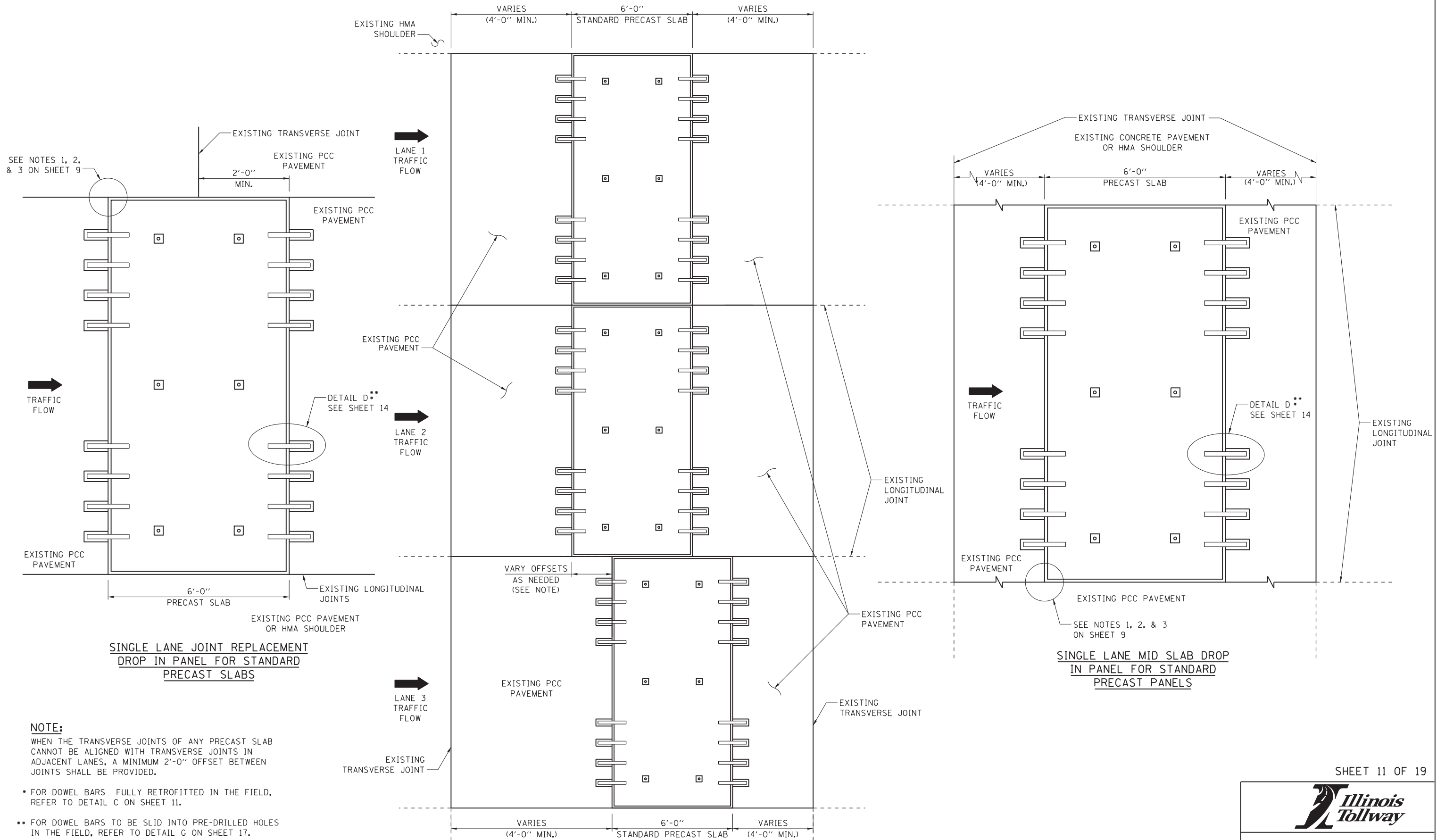
20. WITH ANY FIELD INSERTIONS OF DOWEL BARS INTO PREDRILLED HOLES, THE DRILLING MACHINE SHALL BE IN ACCORDANCE WITH ARTICLE 442.03(g) OF THE STANDARD SPECIFICATIONS. HAND HELD DRILLING TOOLS WILL NOT BE ALLOWED.
21. THE COMPRESSOR FOR AIR BLASTING SHALL HAVE A MINIMUM CAPACITY OF 120 CFM. THE COMPRESSED AIR SHALL BE FREE FROM OIL AND OTHER CONTAMINANTS.
22. CONSOLIDATION EQUIPMENT USED TO CONSOLIDATE THE CONCRETE REPAIR MATERIAL IN THE RETROFITTED DOWEL BAR SLOTS SHALL BE INTERNAL VIBRATORS WITH A MAXIMUM DIAMETER OF 1 INCH AND SHALL HAVE A RESILIENT COVERING THAT WILL NOT DAMAGE THE EPOXY COATED REINFORCEMENT DURING USE. ANY VIBRATORS OR RODS USED FOR CONSOLIDATION OF THE REPAIR MATERIAL FOR NARROW MOUTH SLOTS SHALL HAVE A DIAMETER OF LESS THAN 1 INCH.
23. BATCHING EQUIPMENT FOR FLOWABLE FILL SHALL HAVE DEVICES DESIGNED TO MEASURE THE SPECIFIED QUANTITIES OF EACH COMPONENT MATERIAL, AND MIXING SHALL BE OF SUFFICIENT DURATION TO INSURE UNIFORM CONSISTENCY OF THE MIXTURE. NO WATER WILL BE ADDED TO THE FLOWABLE FILL MIXTURE AFTER BATCHING. WATER CONTENT SHALL BE MAINTAINED SUCH THAT COMPRESSIVE STRENGTHS ARE ACHIEVED AND A UNIFORM, FLOWABLE MIXTURE IS DEVELOPED THAT IS ESSENTIALLY SELF-LEVELING WHEN PLACED.
24. EQUIPMENT FOR HIGH-DENSITY FOAM INJECTION SHALL INCLUDE A TRUCK MOUNTED PUMPING UNIT CAPABLE OF INJECTING THE POLYURETHANE BETWEEN THE CONCRETE AND THE SLAB SUBBASE. THE PUMP SHALL BE CAPABLE OF CONTROLLING THE RATE OF RISE OF THE PAVEMENT SLAB. A LEVELING UNIT SHALL BE PROVIDED TO ENSURE THE SLABS ARE RAISED TO AN EVEN PLANE, WITH VERTICAL ELEVATION DIFFERENCE ACROSS ANY CORNER NOT TO EXCEED 1/4 INCH.
25. EQUIPMENT FOR MIXING AND PUMPING ANY GROUT/ADHESIVE MATERIALS FOR BEDDING THE SLABS, RETROFITTING DOWEL BARS, OR CROSS STITCHING TIE BARS SHALL BE IN ACCORDANCE WITH THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND THE SPECIFICATIONS.

REMOVAL/INSTALLATION:

26. PERIMETER SAWCUTTING OF THE REMOVAL AREA AND SAWCUTTING OF THE DOWEL BAR SLOTS SHALL NOT BE CARRIED OUT MORE THAN (1) WEEK IN ADVANCE OF THE EXPECTED DATE OF REPAIR. THE CONTRACTOR SHALL USE A TEMPLATE TO PRECISELY DELINEATE THE LIMITS OF THE AREAS TO BE REPAIRED AS DEFINED ON THE CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS. WITHIN A TOLERANCE OF 1/2 INCH, REPAIRS SHALL BE NO LESS THAN THE FULL WIDTH OF A LANE AND THE FULL DEPTH OF CONCRETE.
27. REMOVAL OF EXISTING PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 440 OF THE STANDARD SPECIFICATIONS EXCEPT AS FOLLOWS:
 - A. THE OUTER LIMITS OF THE REPAIR AREA WILL BE SAWCUT FULL DEPTH AND SHALL NOT EXTEND (OVERCUT) BY MORE THAN 10 INCHES INTO THE ADJACENT CONCRETE THAT IS TO REMAIN IN PLACE. OVERCUTS SHALL BE FILLED WITH A PRODUCT ACCEPTABLE TO THE ILLINOIS TOLLWAY. THE OUTER LIMITS FOR REPAIR SHALL BE MARKED OUT BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY SAWCUTTING.
 - B. REMOVAL OF CONCRETE WITHIN THE PERIMETER SAWCUTS SHALL BE BY THE LIFTOUT METHOD, AND CONCRETE BETWEEN SAWCUTS FOR DOWEL BAR RETROFITS SHALL BE REMOVED USING JACKHAMMER AND HAND TOOLS. THE CONTRACTOR SHALL ENSURE THAT REMOVALS ARE CARRIED OUT WITHOUT DAMAGING THE ADJACENT CONCRETE PAVEMENT OR ASPHALT SHOULDER OR DISTURBING THE UNDERLYING BASE. HEAVY BREAKING EQUIPMENT SUCH AS HOE RAMS SHALL NOT BE USED IN THE REMOVAL OPERATION. THE CONCRETE PAVEMENT SHALL NOT BE BROKEN IN PLACE.
 - C. IF DURING THE REMOVAL PROCESS THE ADJACENT CONCRETE IN THE SAME LANE OR IN AN ADJACENT LANE THAT CAN ONLY BE REPAIRED DURING NIGHT TIME LANE CLOSURES, IS DAMAGED OR CRACKED DUE TO THE CONTRACTOR'S REMOVAL PROCEDURE, THE DAMAGED AREA SHALL BE CUT BACK FULL DEPTH TO SOUND CONCRETE AND REPLACED WITH PRECAST SLABS AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY. IF CONCRETE IN THE ADJOINING LANE IS DAMAGED DURING THE REMOVAL PROCESS AND WEEKEND REPAIRS ARE POSSIBLE, THE DAMAGED CONCRETE SHALL BE REPAIRED IN ACCORDANCE SECTION 442 OF THE STANDARD SPECIFICATIONS AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY. ASPHALT SHOULDER DAMAGED DURING THE REMOVAL PROCESS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY. THE CONTRACTOR SHALL PROVIDE A PROPOSAL FOR REPAIRS TO THE ILLINOIS TOLLWAY FOR APPROVAL.
 - D. DISPOSAL OF EXCAVATED MATERIALS FROM THE REMOVAL OF CONCRETE AND FROM ANY BASE COURSE RESTORATION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
 - E. ALL SLURRY FROM SAW CUTTING OPERATIONS SHALL BE THOROUGHLY SCRAPED AND REMOVED FROM THE PAVEMENT SURFACE BEFORE THE PAVEMENT IS OPENED TO TRAFFIC. DISPOSAL OF SLURRY SHALL BE IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
28. IF THE ENGINEER DETERMINES THAT THE EXISTING GRANULAR SUBBASE IS UNSUITABLE FOR THE INTENDED PURPOSE, THE CONTRACTOR SHALL REMOVE THE UNSUITABLE MATERIAL IN THE PAVEMENT REMOVAL AREAS TO THE DEPTH SPECIFIED BY THE ENGINEER AND NO LESS THAN 2 INCHES. THE MATERIAL REMOVED SHALL BE REPLACED WITH AN EQUAL THICKNESS OF NEW MATERIAL PLACED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ILLINOIS TOLLWAY SPECIAL PROVISION FOR "AGGREGATE FOR BASE COURSE RESTORATION, SPECIAL".
29. LEVELING MATERIAL PLACED BEFORE SLAB INSTALLATION SHALL BE EITHER A FLOWABLE FILL OR A FINE AGGREGATE MEETING THE REQUIREMENTS OF THIS CONTRACT DOCUMENT. FLOWABLE FILL SHALL BE USED AS A LEVELING MATERIAL ONLY ON TANGENT PAVEMENT SECTIONS. GRADE CONTROL SHALL BE ESTABLISHED FOR ALL LEVELING MATERIAL USING STRINGLINES, LASER GUIDANCE, OR OTHER APPROVED METHODS. THE TEMPERATURE OF THE FLOWABLE FILL MIXTURE AS MANUFACTURED AND DELIVERED SHALL BE AT LEAST 50° F. NONFLOWABLE FILL WILL BE ALLOWED IF THE ANTICIPATED AIR TEMPERATURE WILL BE 36° F OR LESS WITHIN 24 HOURS OF SLAB PLACEMENT. THE FLOWABLE FILL MUST OBTAIN FINAL SET BEFORE THE PAVEMENT MAY BE OPENED TO TRAFFIC.
30. WHEN FLOWABLE FILL IS USED AS THE LEVELING MATERIAL WITH SLAB INSTALLATION, A PERIMETER BACKER ROD WILL NOT BE REQUIRED AROUND THE PERIMETER OF THE SLAB.
31. LEVELING MATERIAL PLACED IMMEDIATELY AFTER SLAB INSTALLATION SHALL ONLY BE A HIGH-DENSITY POLYURETHANE FOAM MEETING THE REQUIREMENTS OF THIS CONTRACT DOCUMENT. PLACEMENT OF POLYURETHANE FOAM SHALL FILL ALL VOIDS BENEATH THE PRECAST PANELS THAT MAY BE PRESENT AFTER PLACING THE PANELS OVER THE PREPARED SUBBASE AND LEVELING AGGREGATE. PLACEMENT OF THE POLYURETHANE SHALL UTILIZE THE UNDERSLAB GROUT PORT HOLES AS SHOWN ON THE PLANS. THE PORT HOLES ARE TO BE FILLED WITH THE DOWEL BAR BACKFILLING MATERIAL.
32. FOLLOWING PROPER REMOVAL OF EXISTING PAVEMENTS AND ACCEPTABLE BASE PREPARATION/LEVELING, THE CONTRACTOR SHALL HAVE ALL EQUIPMENT REQUIRED FOR PANEL INSTALLATION ON-SITE PRIOR TO BEGINNING PANEL INSTALLATION. LIFTING AND TRANSPORTING EQUIPMENT SHALL NOT DAMAGE THE PREPARED SUBBASE/LEVELING MATERIALS PRIOR TO OR DURING PANEL INSTALLATION. PRIOR TO SLAB INSTALLATION, ALL VERTICAL SURFACES OF SURROUNDING PAVEMENT SHALL BE COATED WITH A BOND BREAKER SUCH AS FORM OIL OR A CURING COMPOUND.
33. PANELS SHALL BE INSTALLED ONE AT A TIME, AND SHALL BE INSTALLED IN SUCH A MANNER THAT THE SUBBASE/LEVELING MATERIAL OR ANY REMAINING PAVEMENT IS NOT DAMAGED DURING INSTALLATION. DURING PLACEMENT OF THE SLABS, USE TIE OFF ROPES TO AVOID CHIPPING OR SPALLING EDGES OF THE PRECAST UNITS. USE WOOD SHIMS OR WEDGES TO GUIDE THE SLAB INTO THE CORRECT POSITION. THE USE OF STEEL PRY BARS THAT CHIP EDGES SHOULD BE AVOIDED.
34. IMMEDIATELY AFTER THE SLAB HAS BEEN SET AND LEVELED, SURVEY THE VERTICAL ELEVATION ACROSS ALL CORNERS TO VERIFY THAT THE VERTICAL DIFFERENCE BETWEEN ADJACENT SLABS ACROSS ANY CORNER DOES NOT EXCEED 1/4 INCH. IF THE DIFFERENCE EXCEEDS 1/4 INCH, THEN THE SLAB SHALL BE REMOVED AND RESET OR THE SURFACE SHALL RECEIVE A CORRECTIVE DIAMOND GRIND AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY AFTER ANY REQUIRED BEDDING GROUT OR LEVELING MATERIAL HAS BEEN PLACED UNLESS COMPLETE PROFILE DIAMOND GRINDING OF THE ENTIRE PAVEMENT IS INCLUDED IN THE CONTRACT.
35. NO CUSTOM SLAB GREATER THAN 6 FT. IN LONGITUDINAL LENGTH SHALL BE SET AND OPENED TO TRAFFIC BEFORE GROUTING IS COMPLETE UNLESS THE SLAB WAS FABRICATED WITH TWO MATS OF STEEL REINFORCEMENT IN ACCORDANCE WITH THE DESIGN REQUIREMENTS SHOWN ON SHEETS 2 AND 3. IF THE SET PRECAST SLAB IS OPENED TO TRAFFIC BEFORE THE SLAB IS DOWEL RETROFITTED, TIE BAR STITCHED, OR UNDERSLAB GROUTED, PLACE INCOMPRESSIBLE SHIMS APPROVED BY THE ENGINEER DURING INSTALLATION IN EACH TRANSVERSE AND LONGITUDINAL JOINT TO CORRECT AND MAINTAIN HORIZONTAL ALIGNMENT OF THE SLABS. THE TOTAL THICKNESS OF SHIMS USED IN ANY JOINT SHALL BE NO MORE THAN 3/8 INCH. BACKFILL MATERIAL MUST BE PLACED WITHIN THREE DAYS OF EACH SLAB'S PLACEMENT. BEFORE OPENING A NON-GROUTED SLAB TO TRAFFIC, BACKFILL THE ASPHALT SHOULDERS TO MAINTAIN HORIZONTAL ALIGNMENT. ANY WIDE MOUTH DOWEL SLOTS LEFT OPEN BEFORE THE SLAB IS OPENED TO TRAFFIC SHALL BE TEMPORARILY FILLED WITH A COMPRESSION SEAL APPROVED BY THE ENGINEER TO WITHIN 1 INCH OF THE PAVEMENT SURFACE. ANY NARROW MOUTH DOWEL SLOTS MAY BE LEFT OPEN AFTER THE SLAB IS OPENED TO TRAFFIC.
36. PRIOR TO DOWEL BAR PLACEMENT, THE TRANSVERSE JOINT SHALL BE CAULKED WITH A SILICONE SEALANT AT THE BOTTOM AND SIDES OF THE SLOT. THE CAULKING FILLER SHOULD NOT BE PLACED ANY FARTHER THAN 1/2 INCH OUTSIDE EITHER SIDE OF THE JOINT, AND APPLIED SUFFICIENTLY TO PREVENT ANY PATCHING MATERIAL FROM ENTERING THE JOINT AT THE BOTTOM OR SIDES OF THE SLOT. EXCESSIVE SEALANT AROUND THE SLOT DOES NOT ALLOW THE CONCRETE PATCHING MATERIAL TO BOND TO THE SIDES OF THE SLOT. BEFORE PLACEMENT, THE DOWEL BARS SHOULD BE LIGHTLY COATED WITH PARTING COMPOUND AND FULLY RETROFITTED DOWEL BARS PLACED ON A CHAIR THAT WILL PROVIDE A MINIMUM 1/2 INCH CLEARANCE BETWEEN THE BOTTOM OF THE DOWEL AND THE BOTTOM OF THE SLOT. FOR ANY DOWEL BARS INSERTED INTO PREDRILLED EPOXIED HOLES, AN APPARATUS CAPABLE OF MAINTAINING VERTICAL ALIGNMENT OF THE DOWEL AND TO PROVIDE A MINIMUM 1/2 INCH CLEARANCE BETWEEN THE BOTTOM OF THE DOWEL AND THE BOTTOM OF THE SLOT SHALL BE PROVIDED BY THE CONTRACTOR. A 3/8 INCH THICK FOAM INSERT SHOULD BE PLACED AT THE MIDDLE OF THE DOWEL TO MAINTAIN THE TRANSVERSE JOINT. THE FOAM INSERT SHOULD FIT TIGHTLY AROUND THE DOWEL, THE BOTTOM, AND THE EDGES OF THE SLOT, AND BE UP TO THE SURFACE OF THE EXISTING CONCRETE SURFACE. THE FOAM INSERT SHOULD BE CAPABLE OF REMAINING IN A VERTICAL POSITION AND HELD TIGHTLY TO ALL EDGES DURING PLACEMENT OF THE PATCH. IF FOR ANY REASON THE FOAM INSERT SHIFT DURING PLACEMENT OF THE CONCRETE PATCHING MATERIAL, THE WORK SHALL BE REJECTED AND REDONE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
37. PLACEMENT OF HARDWARE GROUT/ADHESIVES
 - A. DOWEL BARS - THE PLACEMENT OF ANY APPROVED BACKFILL MATERIAL FOR DOWEL BAR RETROFITTING OR FOR DOWEL BAR INSERTIONS SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIAL PROVISION FOR "DOWEL BAR RETROFIT". THE PAVEMENT WILL NOT BE OPENED TO TRAFFIC UNTIL THE BACKFILL MATERIAL AROUND THE PAVEMENT HARDWARE OBTAINS 3,000 PSI COMPRESSIVE STRENGTH. ALL CONCRETE SURFACES WITHIN THE SLOT SHALL BE SOLID, FREE FROM LOOSE OR UNSOUND FRAGMENTS. BEFORE GROUTING, SANDBLAST ALL EXPOSED SURFACES IN THE DOWEL BAR SLOT FOLLOWED BY AIR BLASTING TO REMOVE ANY DUST, RESIDUE OR DEBRIS LEFT IN THE SLOT. UPON COMPLETION OF THE RETROFITTING WORK, THE GROUT OR CONCRETE PATCH MATERIAL SHALL FILL ALL SLOTS TO THE SURFACE OF THE EXISTING PAVEMENTS. ANY SLOTS INSUFFICIENTLY FILLED BELOW EXISTING PAVEMENT SURFACES SHALL BE REDONE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
 - B. TIE BARS - A FOAM BOARD GASKET SHALL BE INSERTED INTO THE LONGITUDINAL JOINT AT THE STITCHING LOCATION AND THE TIEBAR HOLE PREDRILLED THROUGH THE GASKET. AFTER PREDRILLED HOLES ARE AIR BLASTED, PRESSURE INJECT THE APPROVED ADHESIVE INTO THE PREDRILLED HOLES, LEAVING SOME VOLUME FOR THE BAR TO OCCUPY THE HOLE. INSERT THE TIEBAR INTO THE HOLE, LEAVING ABOUT 1 INCH FROM THE TOP OF THE TIE BAR TO THE PAVEMENT SURFACE. REMOVE EXCESS ADHESIVE AND FINISH FLUSH WITH THE PAVEMENT SURFACE.
 - C. FILL LIFTING INSERT HOLES AND GROUT PORTS WITH THE APPROVED GROUT USED FOR DOWEL BAR RETROFITTING.
38. PLACEMENT OF UNDERSEALING GROUT SHALL FILL ALL VOIDS BENEATH THE PRECAST PANELS AND GROUT PORT HOLES THAT MAY BE PRESENT AFTER PLACING THE PANELS OVER THE PREPARED SUBBASE AND LEVELING AGGREGATE. PLACEMENT OF THE UNDERSEALING GROUT SHALL UTILIZE THE UNDERSLAB GROUT PORT HOLES AS SHOWN ON THE PLANS. PLACEMENT OF UNDERSEALING GROUT SHALL NOT OCCUR UNTIL AFTER ALL HARDWARE DEVICES ARE PLACED AND GROUTED. IF UNDERSEALING GROUT FILLS ANY LONGITUDINAL JOINT TO WITHIN 9" OF THE SLAB SURFACE, A 9" SAW CUT OF THE JOINT SHALL BE REQUIRED DURING INSTALLATION. IF UNDERSEALING GROUT FILLS ANY TRANSVERSE JOINT TO WITHIN 9" OF THE SLAB SURFACE, THEN A 9" SAW CUT OF THE JOINT SHALL BE REQUIRED FOLLOWED BY REMOVAL AND FULL RETROFITTING OF ALL SEVERED DOWEL BARS ACROSS THE JOINT.
39. AFTER INSTALLATION AND GROUTING IS COMPLETED ALL LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE SEALED IN ACCORDANCE WITH ARTICLE 420.12 OF THE STANDARD SPECIFICATIONS. REFER TO ILLINOIS TOLLWAY STANDARD DRAWING A1, DETAIL A.



INSTALLATION OF ISOLATED STANDARD PRECAST SLABS



**SINGLE LANE JOINT REPLACEMENT
DROP IN PANEL FOR STANDARD
PRECAST SLABS**

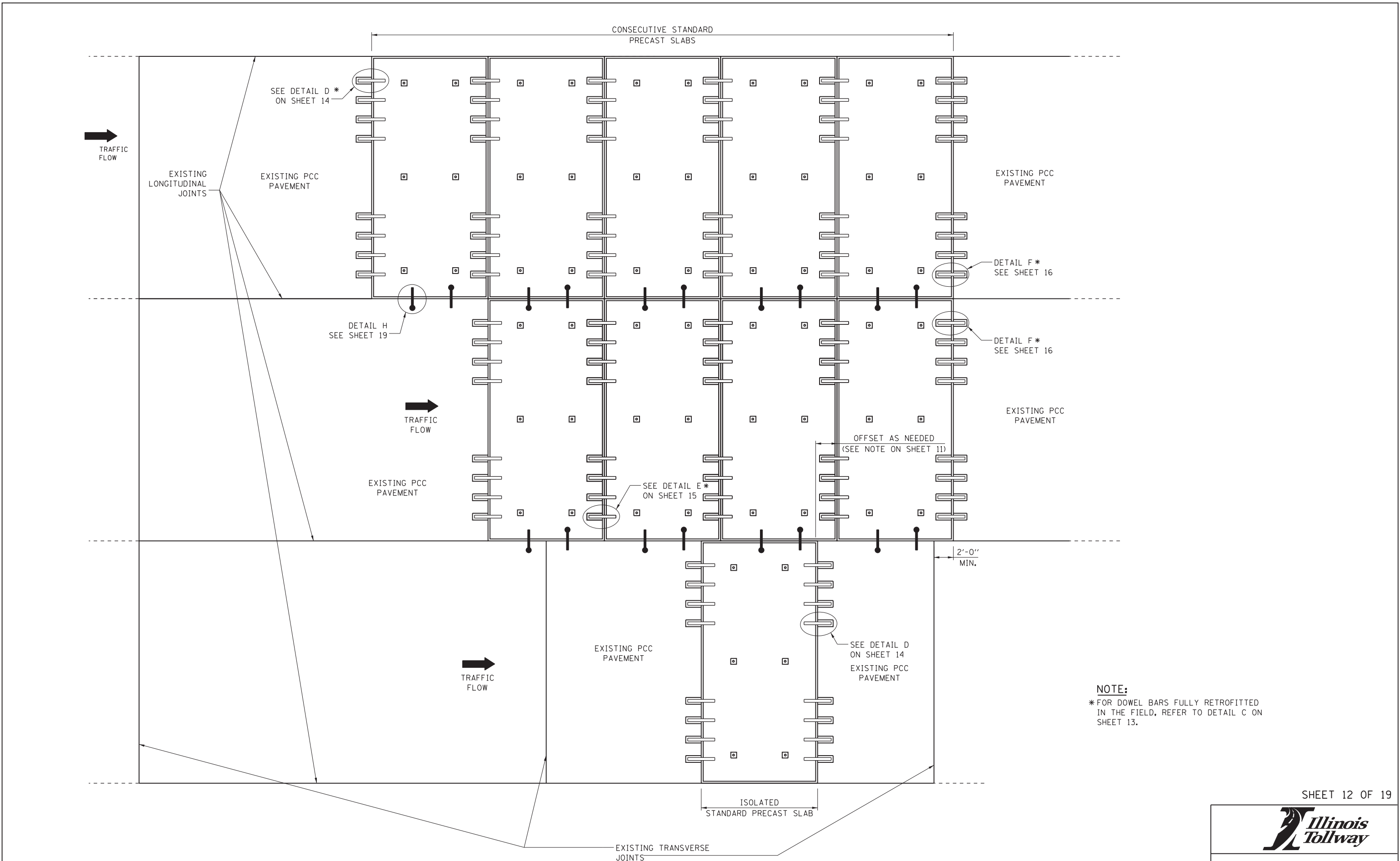
**SINGLE LANE MID SLAB DROP
IN PANEL FOR STANDARD
PRECAST PANELS**

**MULTIPLE LANE MID SLAB DROP IN PANEL
FOR STANDARD PRECAST PANELS**

NOTE:
WHEN THE TRANSVERSE JOINTS OF ANY PRECAST SLAB CANNOT BE ALIGNED WITH TRANSVERSE JOINTS IN ADJACENT LANES, A MINIMUM 2'-0" OFFSET BETWEEN JOINTS SHALL BE PROVIDED.

- FOR DOWEL BARS FULLY RETROFITTED IN THE FIELD, REFER TO DETAIL C ON SHEET 11.
- FOR DOWEL BARS TO BE SLID INTO PRE-DRILLED HOLES IN THE FIELD, REFER TO DETAIL G ON SHEET 17.

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 5-1-2009

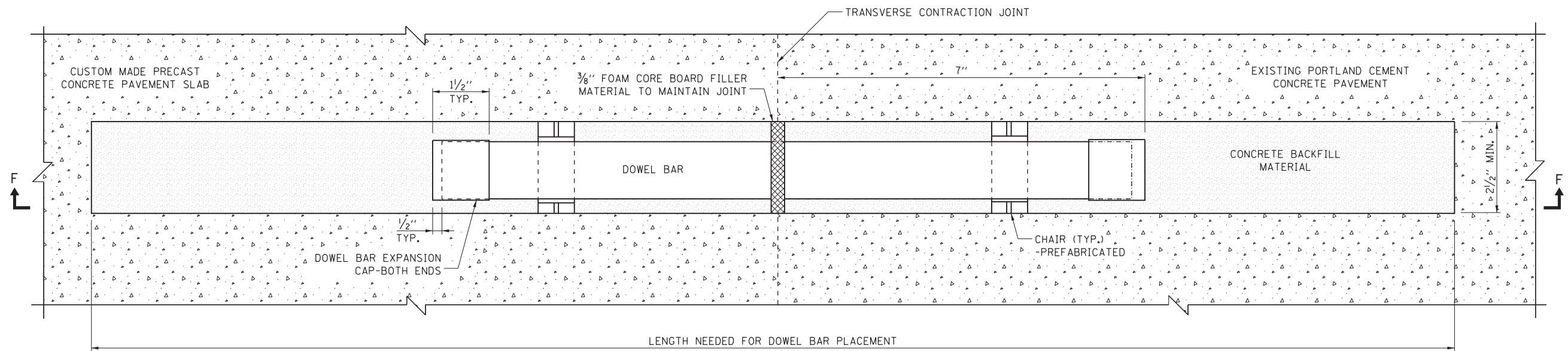


PRECAST PAVEMENT SLABS

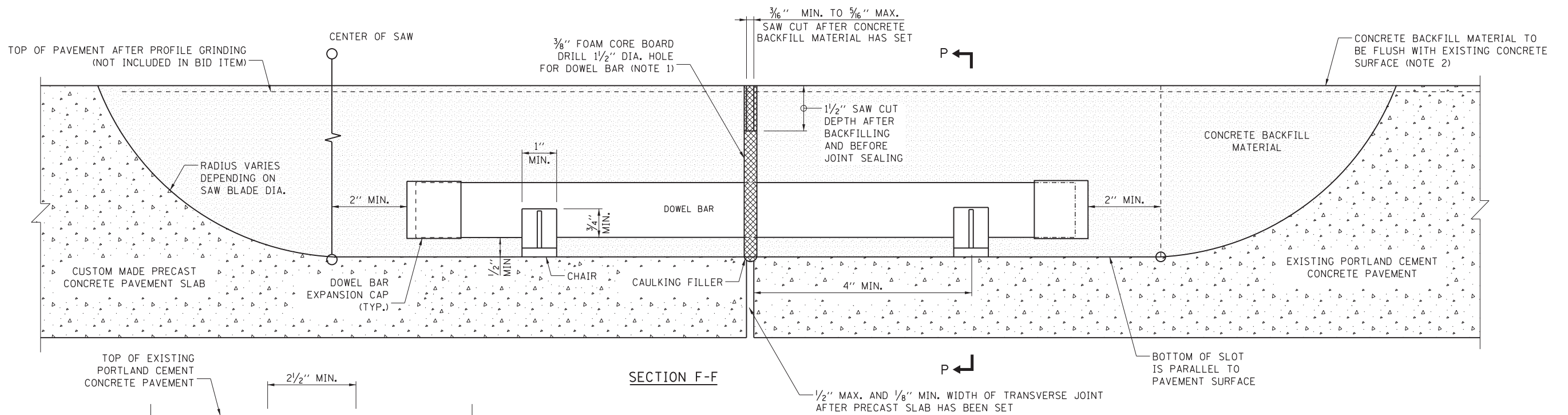
STANDARD A18-03

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 5-1-2009

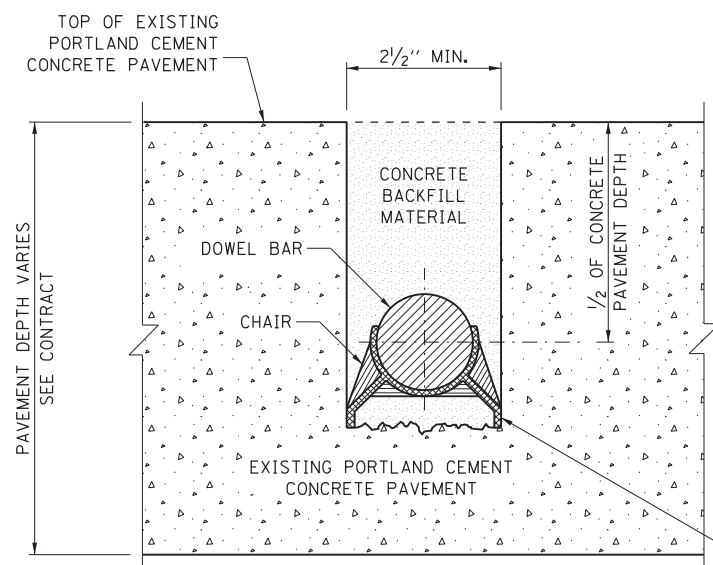
INSTALLATION OF CONSECUTIVE STANDARD PRECAST SLABS



PLAN VIEW

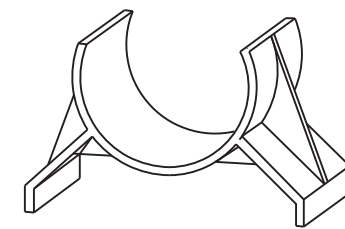


SECTION F-F



SECTION P-P

DETAIL C - WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR ALL CUSTOM MADE PRECAST PANELS AND OPTIONAL FOR STANDARD SLABS

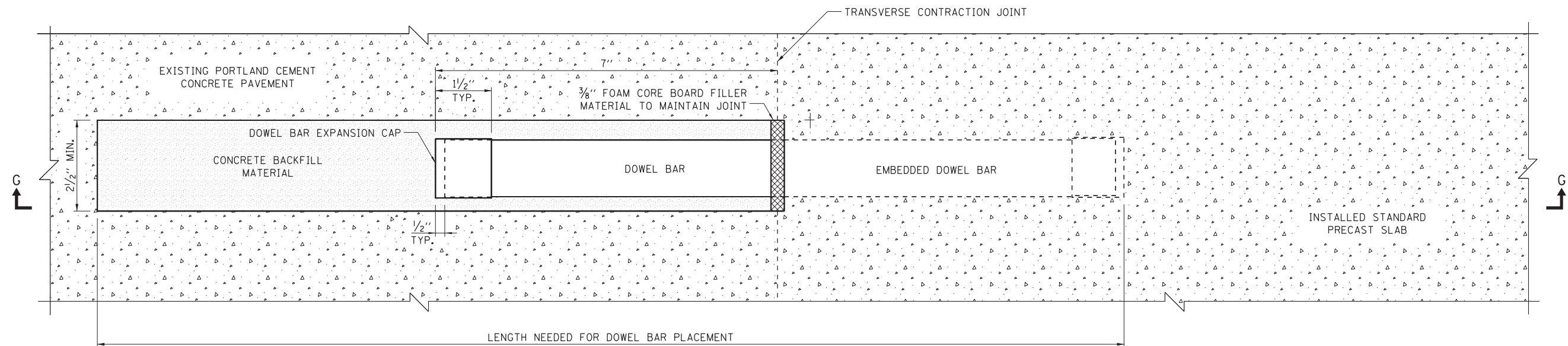


CHAIR DETAIL

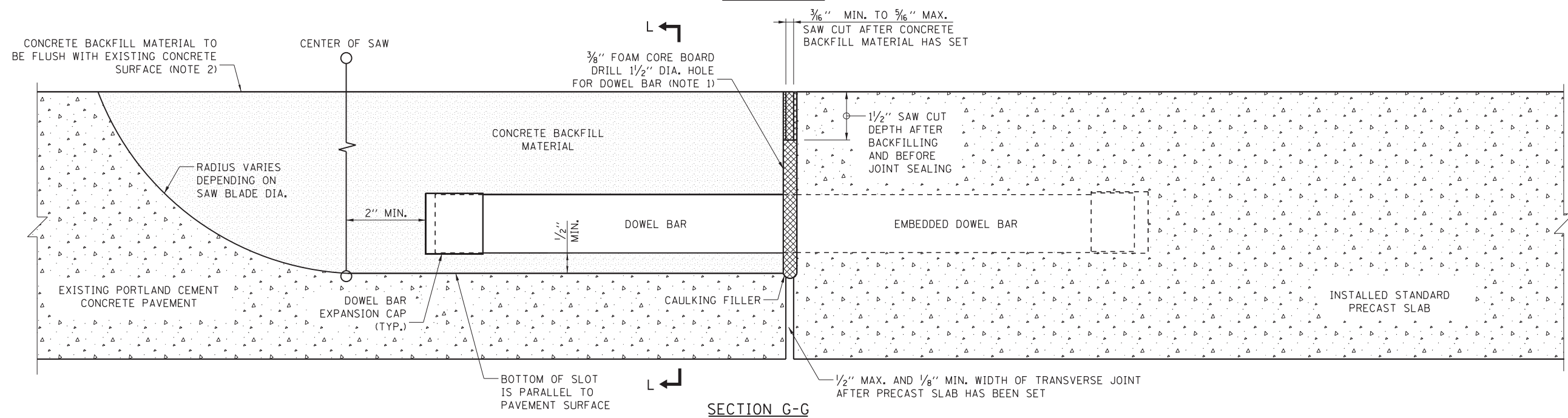
NOTES:

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

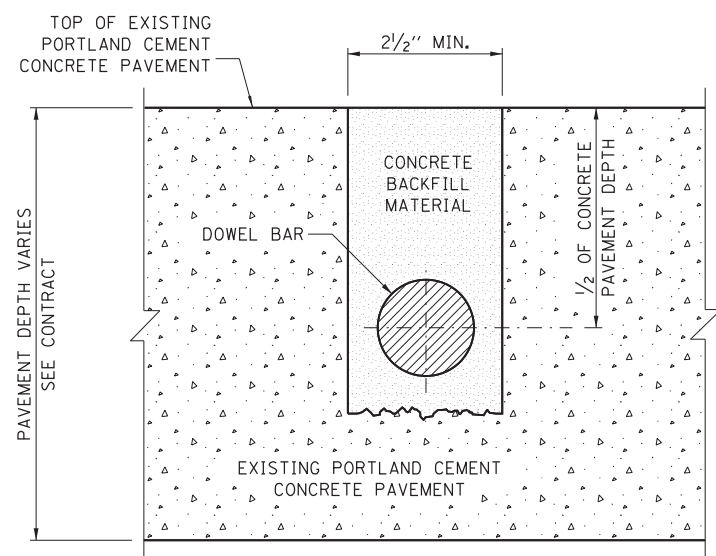




PLAN VIEW



SECTION G-G



SECTION L-L

DETAIL D - WIDE MOUTH DOWEL BAR PLACEMENT

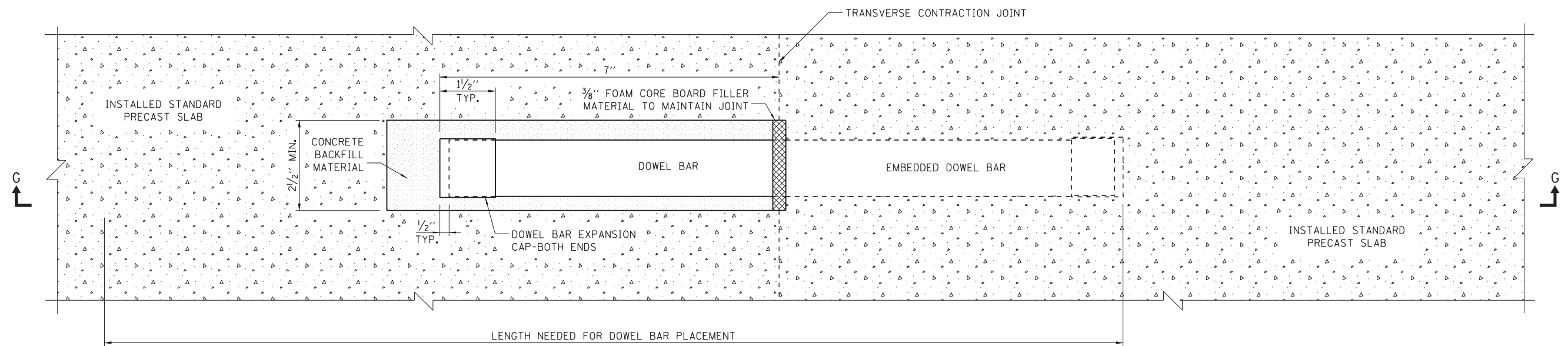
DETAIL FOR STANDARD PRECAST PANELS

(FOR APPLICATION WITH ALL ISOLATED STANDARD SLABS AND WITH INITIAL PLACEMENT OF CONSECUTIVE STANDARD SLABS)

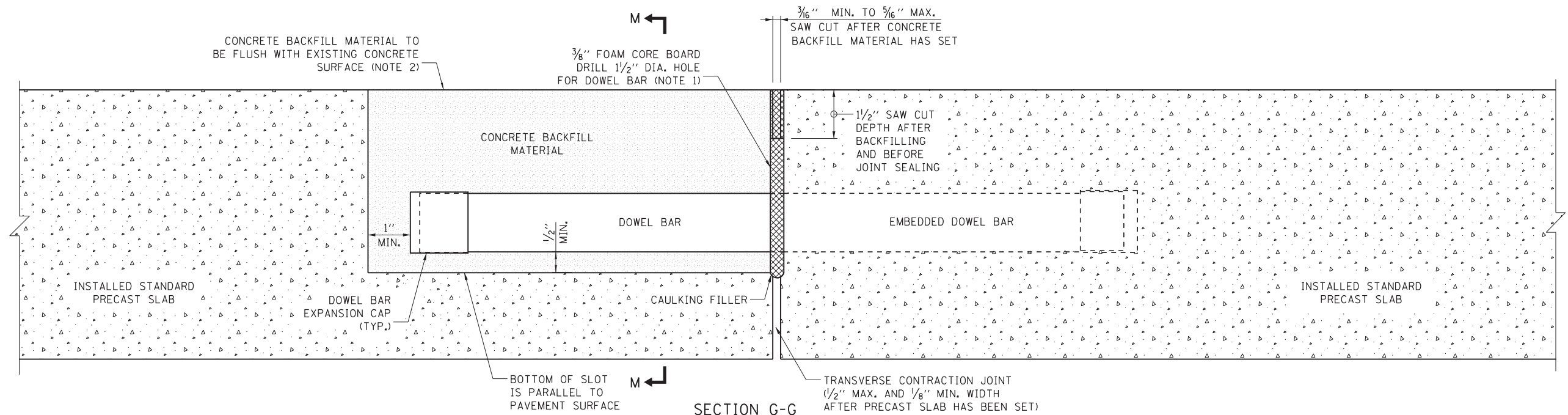
NOTES:

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

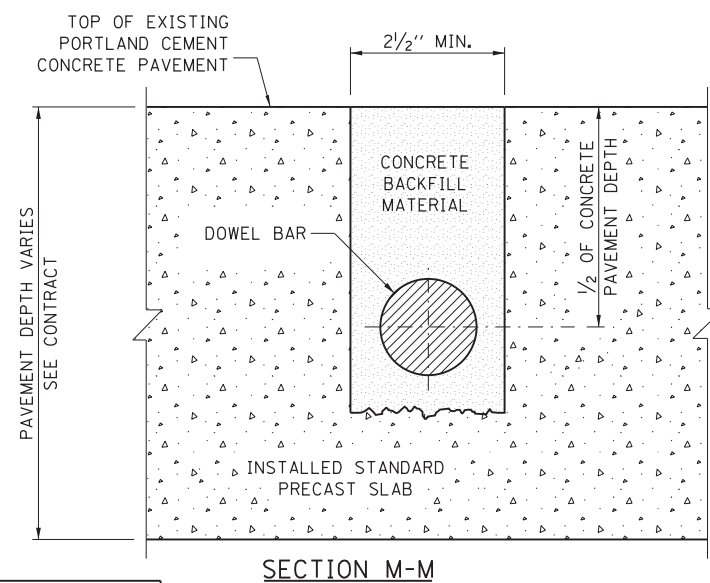




PLAN VIEW



SECTION G-G



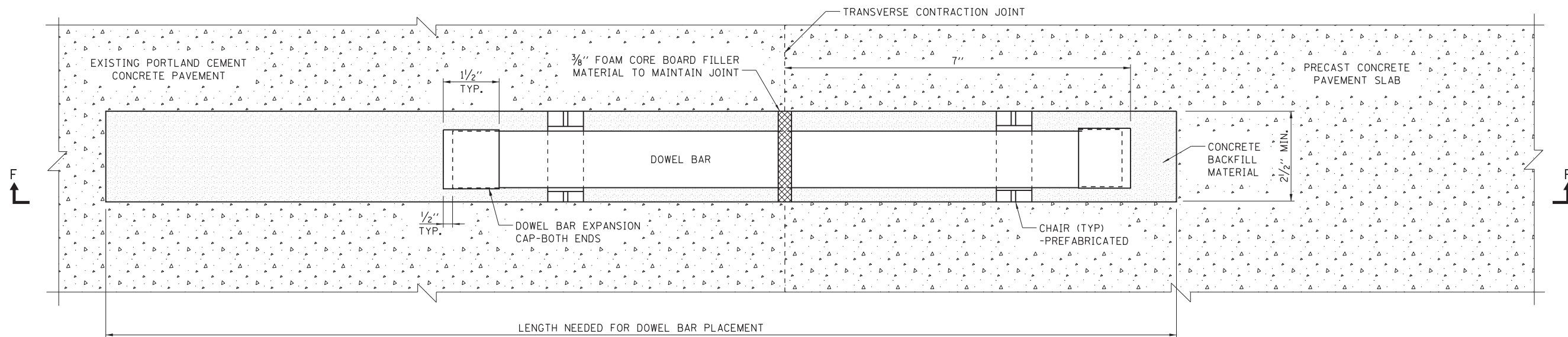
SECTION M-M

DETAIL E - WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR CONSECUTIVE STANDARD PRECAST PANELS

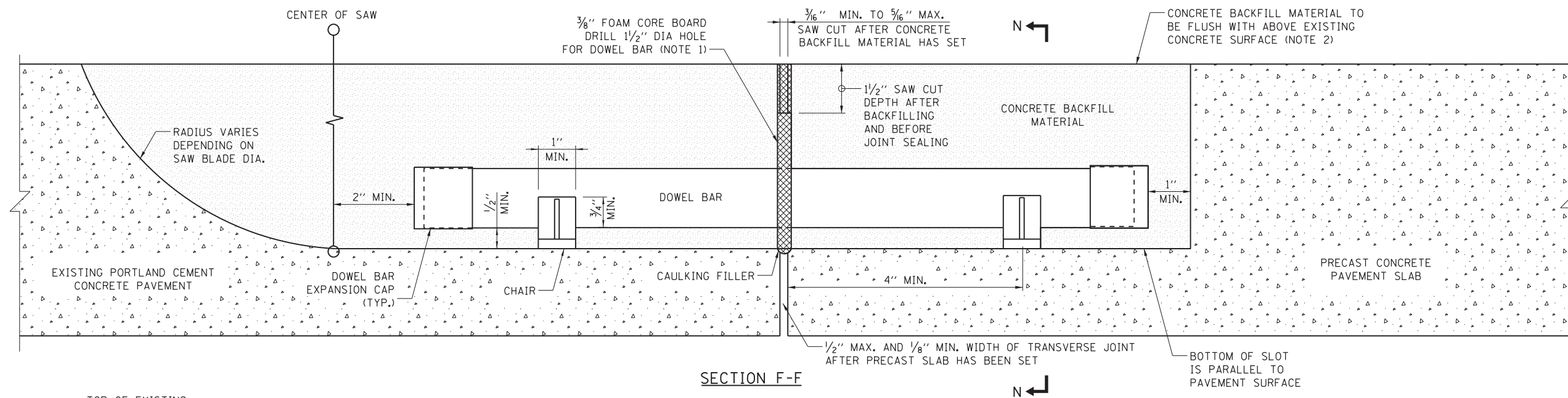
NOTES:

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

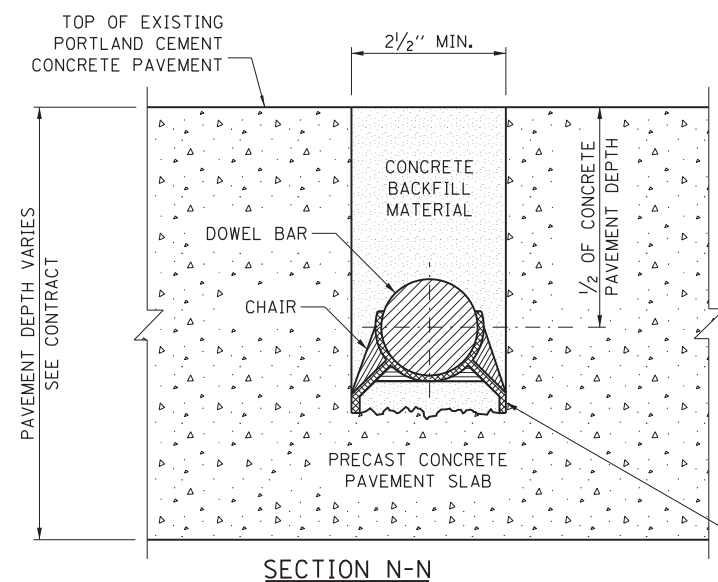




PLAN VIEW

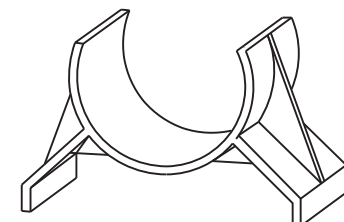


SECTION F-F



SECTION N-N

DETAIL F - WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR THE LAST TRANSFER JOINT OF CONSECUTIVELY PLACED STANDARD PRECAST PANELS

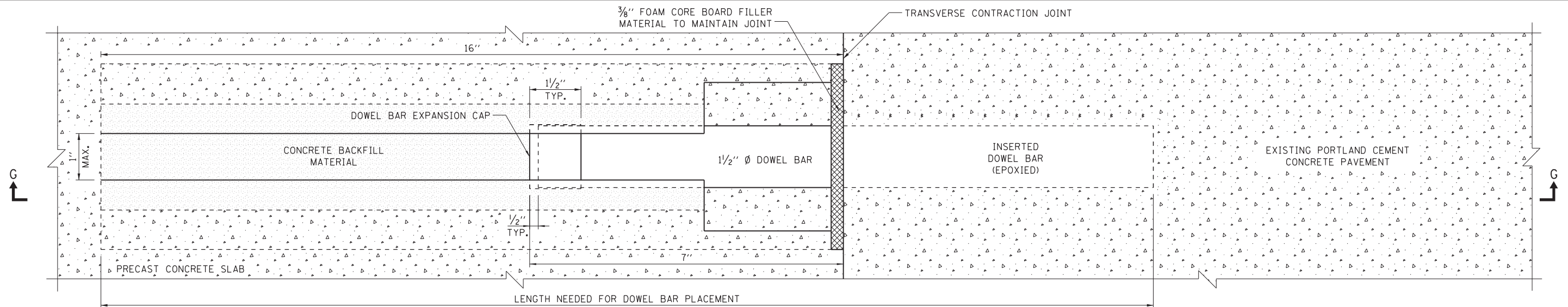


CHAIR DETAIL

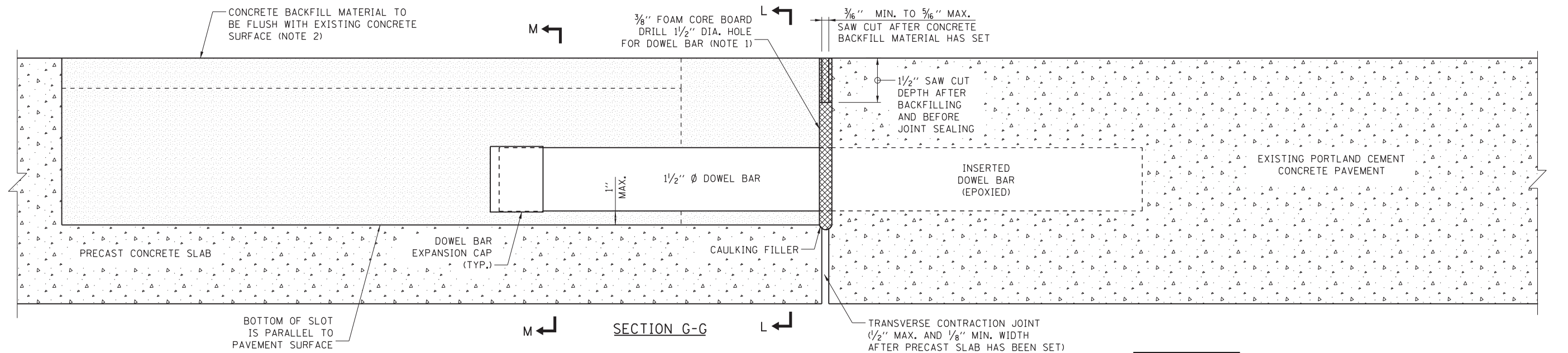
NOTES:

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.





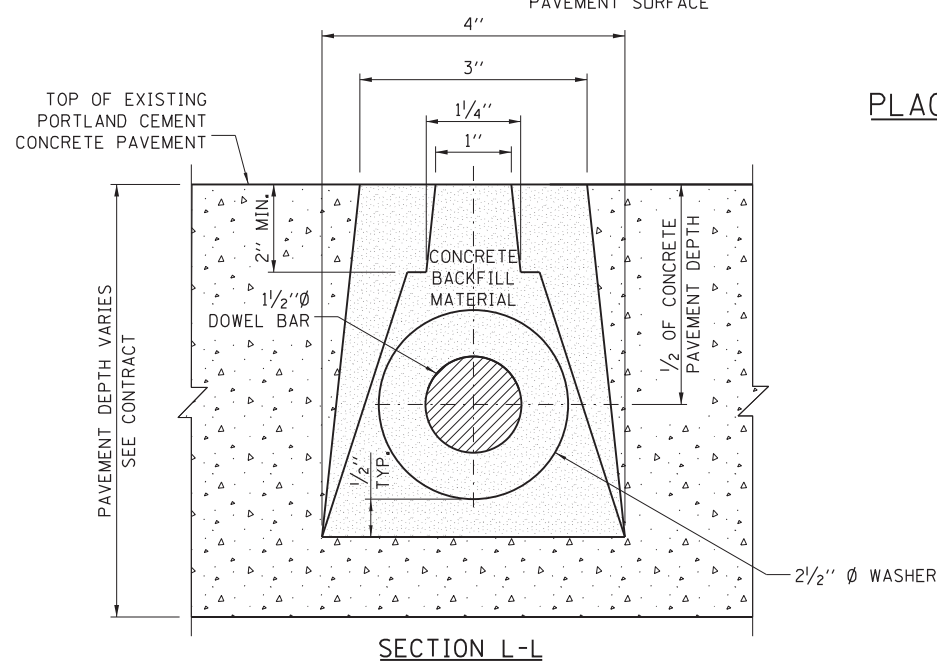
PLAN VIEW



SECTION G-G

**DETAIL G - NARROW MOUTH DOWEL BAR
PLACEMENT DETAIL FOR ISOLATED PRECAST PANELS**

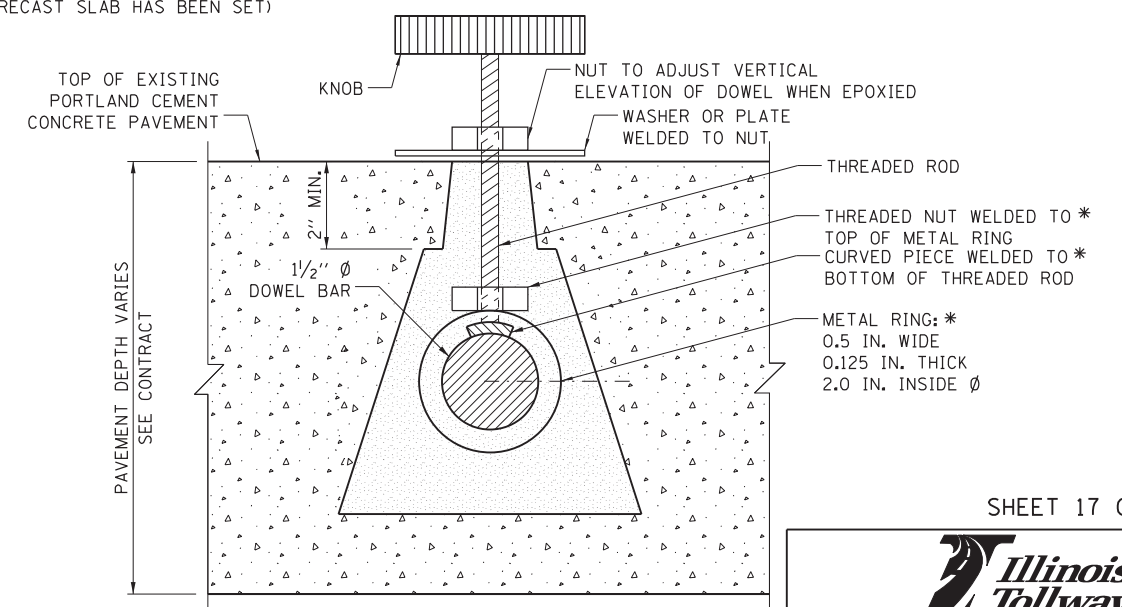
(FOR OPTIONAL APPLICATION WITH ALL ISOLATED
SLABS IN PLACE OF FULL RETROFITS)



SECTION L-L

NOTES:

1. PLACE FOAM CORE BOARDS TO THE TOP OF PATCH.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.



SECTION M-M
CLAMP DETAIL FOR SLIDING DOWEL BAR SLOTS

*METAL RING MAY BE REPLACED WITH A STRONG MAGNET WELDED TO THE THREADED ROD. AT LEAST ONE CLAMP WILL BE NEEDED FOR EACH INSERTED DOWEL BAR TO MAINTAIN ALIGNMENT.

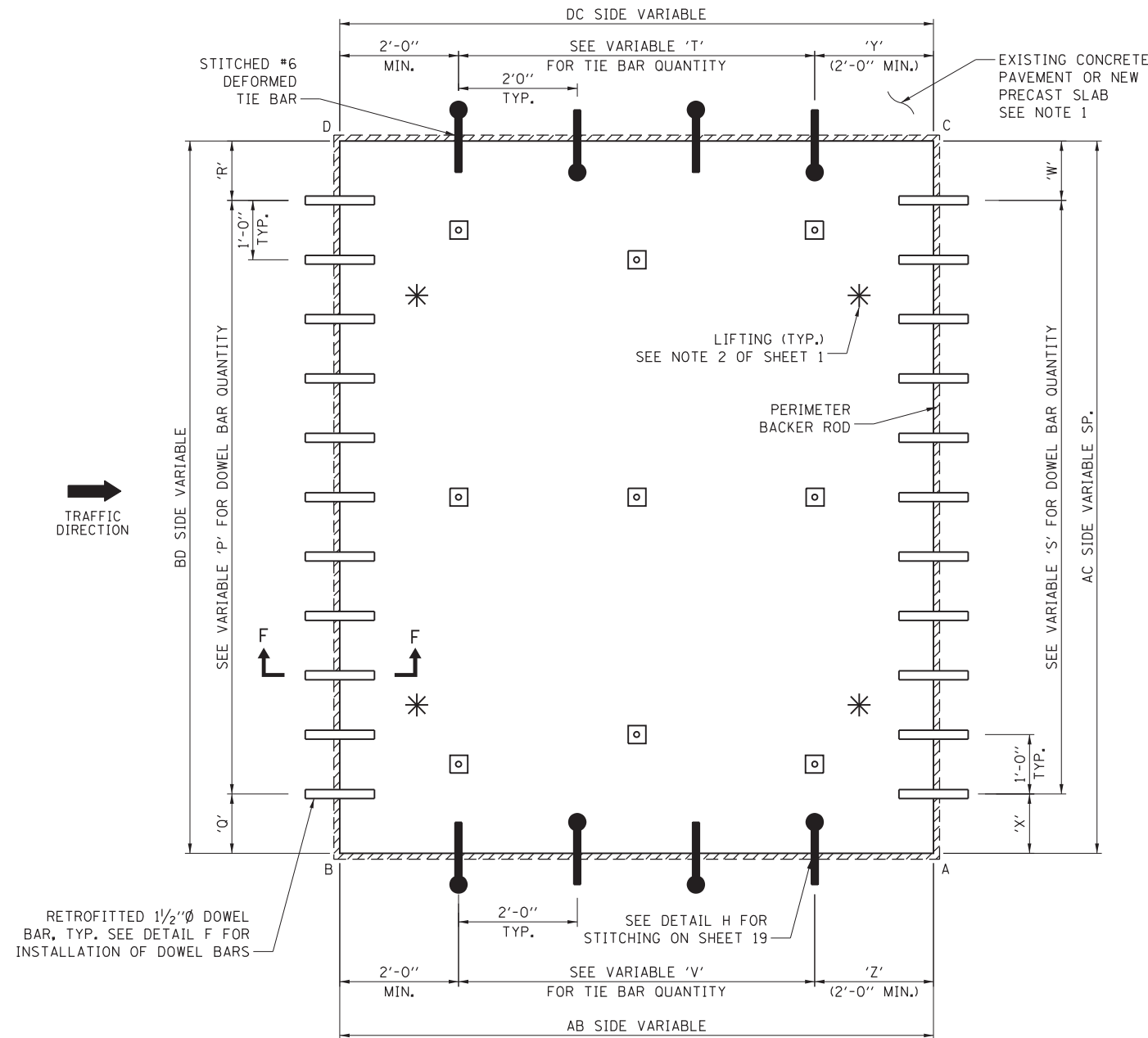
FOR NON-STANDARD SLABS, UPON COMPLETION BY THE CONTRACTOR A SLAB LAYOUT WILL BE ADDED
WITH SLAB DIMENSIONS TO INCLUDE BUT NOT BE LIMITED TO THE TABLE SHOWN BELOW.

EXAMPLE	CORRIDOR	STATION NUMBER	MAINLINE LANE NO.	RAMP ID.	RAMP LANE NO.	PLAZA LANE NO.	PLAZA LANE NO.	MARK NO.	LANE TYP.	VARIABLES										AB* SIDE	BD* SIDE	CD* SIDE	AC* SIDE	AREA (SQ.FT.)	VOLUME (CU. FT.)	WEIGHT (TONS)	DIAGONALS (FT.)					
										AB (FT.)	AC (FT.)	BD (FT.)	CD (FT.)	P (NO.)	Q (FT.)	R (FT.)	S (NO.)	T (NO.)	V (NO.)								W (FT.)	X (FT.)	Y (FT.)	Z (FT.)	AD	BC

MAINLINE LANE NO.: LANE NO. 1 IS ADJACENT TO MEDIAN SHOULDER.
 RAMP LANE NO.: LANE NO. 1 IS ADJACENT TO THE BUILDING
 PLAZA LANE NO.: LANE NO. 1 IS ADJACENT TO THE BUILDING
 MARK NO.: EACH PANEL SHALL BE INDIVIDUALLY MARKED FOR CORRECT PLACEMENT.
 LANE TYP.: "OUT" IN THIS COLUMN INDICATES OUTSIDE LANE.
 "MID" IN THIS COLUMN INDICATES MIDDLE LANE.
 "IN" IN THIS COLUMN INDICATES INSIDE LANE.
 "PLAZA" IN THIS COLUMN INDICATES PLAZA LANE.

*** LEGEND**

DB= DOWEL BAR EMBEDDED
 DS= DOWEL SLOT
 ST= SLOT OR HOLE FOR STITCHED TIE BAR
 RD= FIELD RETROFITTED DOWEL BARS



NOTES:

- NO STITCHING OF DEFORMED TIE BARS IS REQUIRED WHEN PRECAST SLAB IS PLACED ADJACENT TO HMA SHOULDER OR PLAZA ISLAND.
- TIE BAR STITCHING SHALL BE REQUIRED WHEN THE REPAIR AREA LENGTH EXCEEDS 20 FT. OR WHEN MORE THAN 3 PRECAST SLABS ARE PLACED IN SEQUENCE.
- SHOP DRAWINGS SHALL BE REQUIRED FOR ALL CUSTOM PLAZA SLABS.

SHEET 18 OF 19

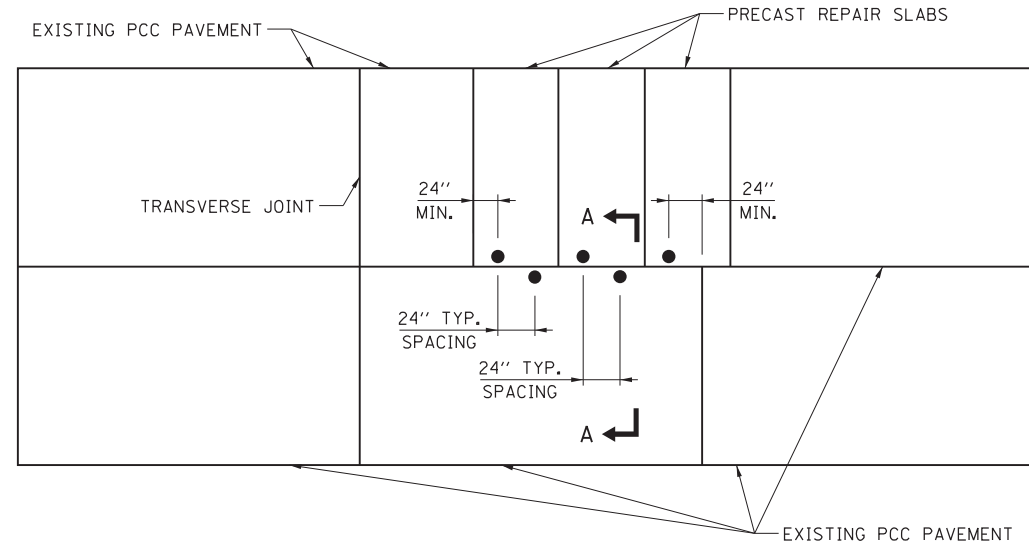


PRECAST PAVEMENT SLABS

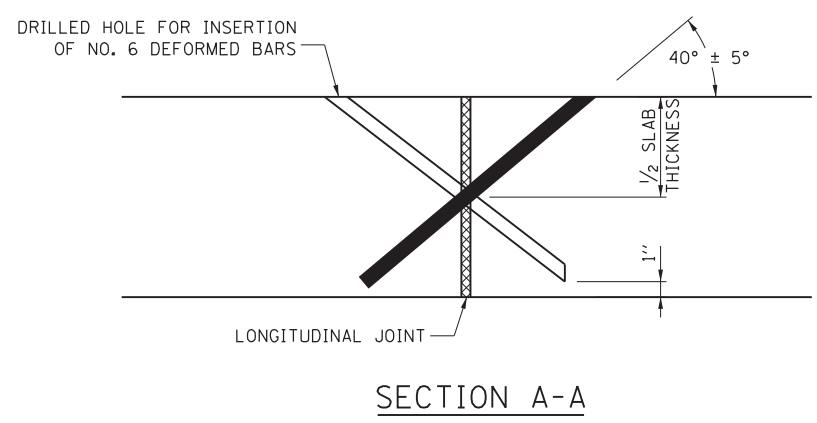
STANDARD A18-03

INSTALLATION DETAIL FOR CUSTOM SLABS

APPROVED *Paul Kovacs* DATE 5-1-2009
 CHIEF ENGINEER



**DETAIL H - LONGITUDINAL TIE BAR
STITCHING FOR PRECAST PANELS**



NOTES FOR TIE BAR STITCHING:

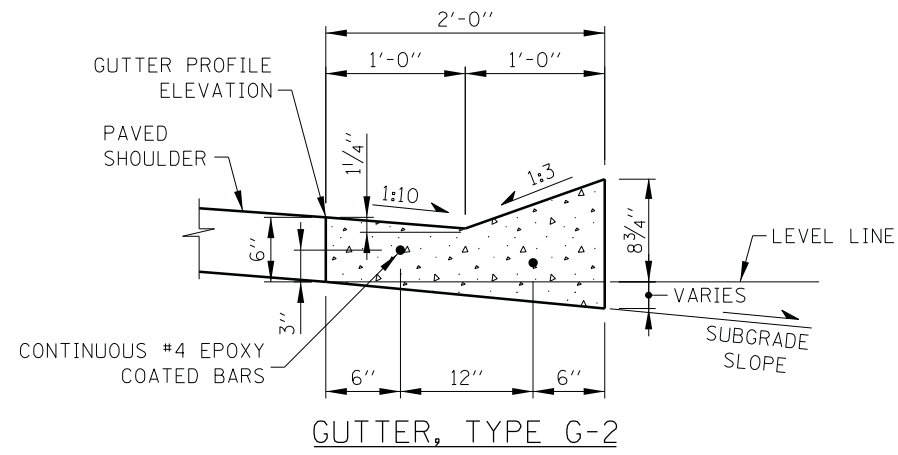
1. DRILL HOLES THAT ARE ORIENTED AT $40^\circ \pm 5^\circ$ ANGLE TO THE PAVEMENT SURFACE SO THAT THEY INTERSECT THE LONGITUDINAL CRACK OR JOINT AT ABOUT MID-DEPTH. (IT IS IMPORTANT TO START DRILLING THE HOLE AT A CONSISTENT DISTANCE FROM THE JOINT, IN ORDER TO CONSISTENTLY CROSS AT THE MID-DEPTH OF THE SLAB.)
2. HOLE CENTERLINES ARE PERPENDICULAR TO THE JOINT (IN PLAN VIEW) AT EACH LOCATION BEING DRILLED.
3. SELECT A DRILL THAT MINIMIZES DAMAGE TO THE CONCRETE SURFACE, SUCH AS A HYDRAULIC POWERED DRILL. SELECT A DRILL DIAMETER NO MORE THAN 0.375 IN. LARGER THAN THE TIE BAR DIAMETER. CHOOSE A GANG-MOUNTED DRILL IF A HIGHER PRODUCTIVITY IS NEEDED.
4. DRILL HOLES WITH NO LESS THAN A 24 INCH BAR SPACING. ADJACENT HOLES ARE DRILLED IN OPPOSITE DIRECTIONS ACROSS THE JOINT. THE HOLES AND INSERTED TIE BAR SHALL BE NO LESS THAN 24 INCHES FROM ANY EXISTING TRANSVERSE JOINT OR ANY PRECAST OR REPAIR TRANSFER JOINT.
5. HOLE BOTTOMS ARE NO MORE THAN 1 INCH FROM THE SLAB BOTTOM.
6. AIR BLOW THE HOLES TO REMOVE DUST AND DEBRIS AFTER DRILLING.
7. INJECT ADHESIVE INTO THE HOLE, LEAVING SOME VOLUME FOR THE BAR TO OCCUPY THE HOLE. (POURING THE ADHESIVE IS ACCEPTABLE FOR SMALL QUANTITIES.)
8. INSERT THE NO. 6 EPOXY COATED DEFORMED TIE BAR INTO THE HOLE, LEAVING ABOUT 1 IN. FROM THE TOP OF BAR TO THE PAVEMENT SURFACE. DEFORMED TIE BARS SHALL BE EPOXY COATED.
9. REMOVE EXCESS ADHESIVE AND FINISH FLUSH WITH THE PAVEMENT SURFACE.



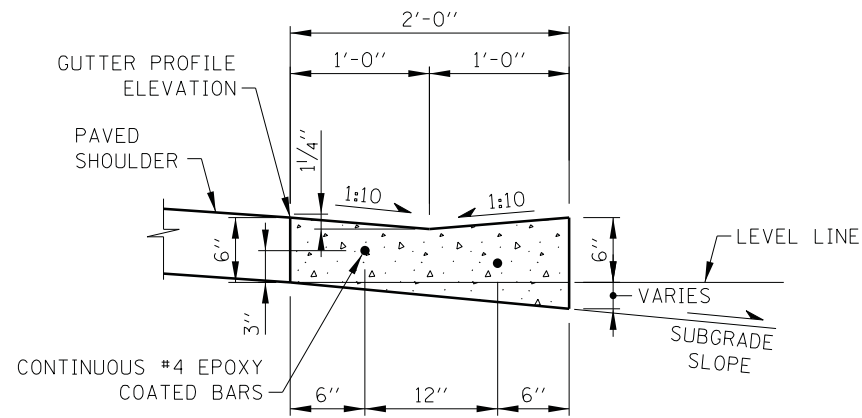
PRECAST PAVEMENT SLABS

STANDARD A18-03

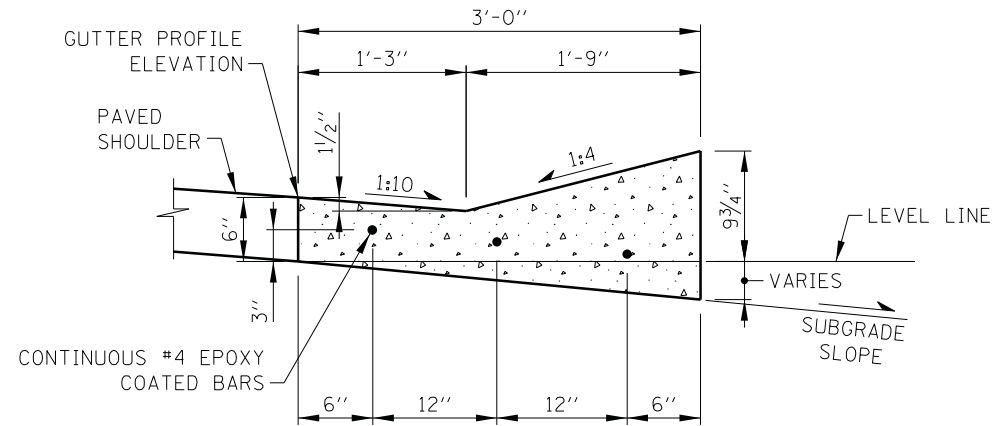
Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 5-1-2009



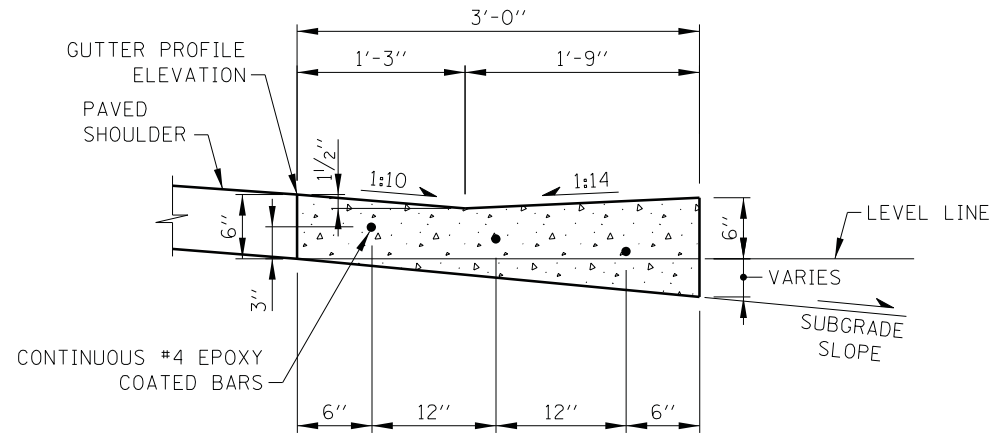
GUTTER, TYPE G-2



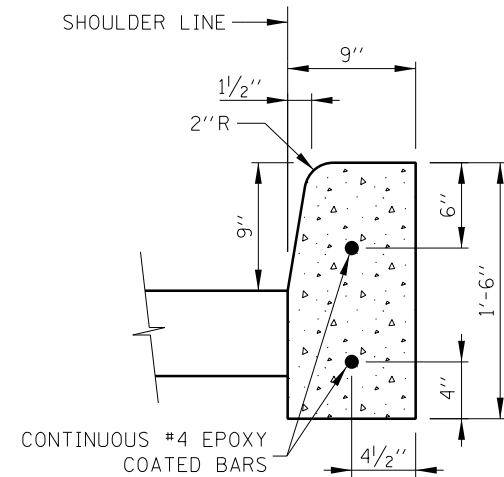
GUTTER, TYPE G-2, MODIFIED



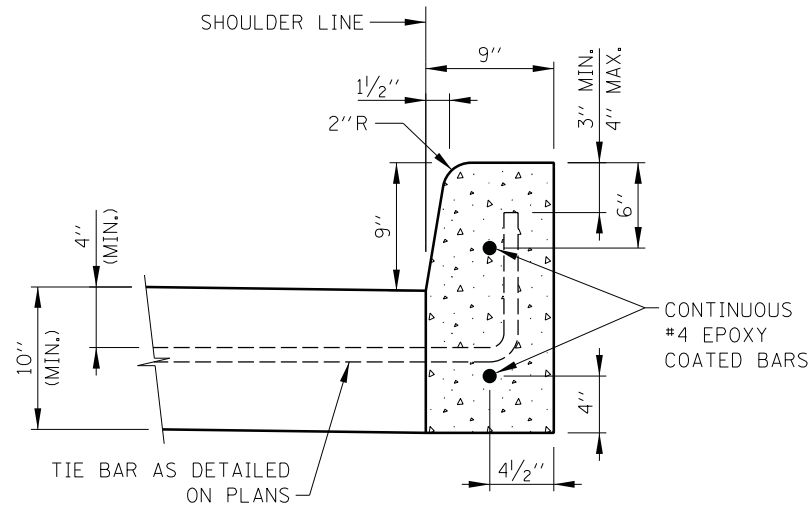
GUTTER, TYPE G-3



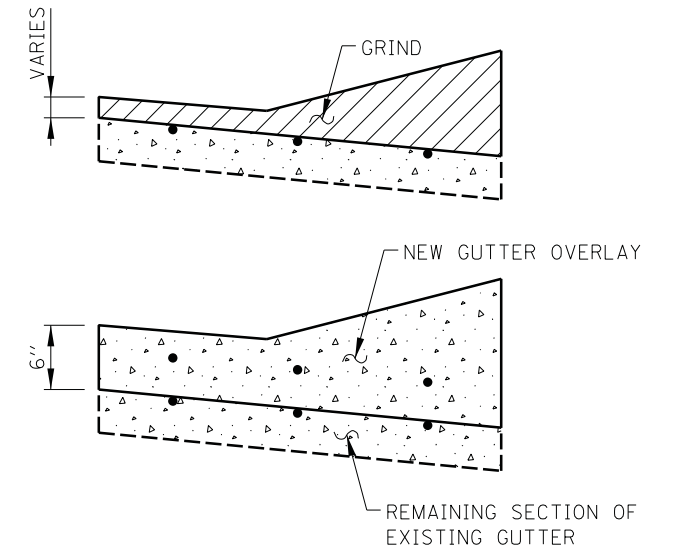
GUTTER, TYPE G-3, MODIFIED



ADJACENT TO FLEXIBLE PAVEMENT



ADJACENT TO PCC PAVEMENT



CONCRETE GUTTER OVERLAY

CONCRETE CURB, TYPE C
(RAMP TOLL PLAZAS ONLY)

NOTES:

- FOR CONCRETE CURB, TYPE C TRANSITIONS, THE LEADING ENDS OF CURB IN THE DIRECTION OF TRAFFIC SHALL BEGIN FLUSH WITH ADJACENT PAVEMENT OR SHOULDER SURFACE AND TRANSITION TO FULL HEIGHT AT THE RATE OF ONE INCH VERTICAL TO ONE FOOT HORIZONTAL.
- | GUTTER TRANSITION DETAILS | STANDARD DRAWING |
|--|------------------|
| TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL) | B-28 |
| TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL) | B-29 |
| TRAFFIC BARRIER TERMINAL TYPE T10 | B-2 |
| TRAFFIC BARRIER TERMINAL TYPE T6 | B-3 |
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 - REINFORCEMENT STEEL SHALL BE ACCURATELY PLACED AND FIRMLY HELD IN THE POSITION SPECIFIED USING EPOXY COATED STEEL CHAIRS. CHAIR SPACING SHALL NOT EXCEED 4'-0".
 - GUTTER REINFORCEMENT SHALL BE PLACED 3" ABOVE BOTTOM OF GUTTER FOLLOWING THE SUBGRADE SLOPE.
 - OTHER GUTTER AND CURB TRANSITION DETAILS WILL BE SHOWN ON THE PLANS.
 - CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 1'-1".
 - FOR CONCRETE GUTTER OVERLAYS, CRACK CONTROL JOINTS SHALL BE PLACED AT LOCATIONS OF UNDERLYING JOINTS AND WORKING CRACKS.
 - GUTTER CRACK CONTROL JOINTS TO ALIGN IN PROLONGATION WITH PCC SHOULDER JOINTS WHERE EXISTING.
 - EXPANSION JOINTS SHALL BE CONSTRUCTED IN GUTTER AT MAXIMUM JOINT SPACING OF 60'-0", SEE EXPANSION JOINT DETAIL ON SHEET 2 OF THIS STANDARD.

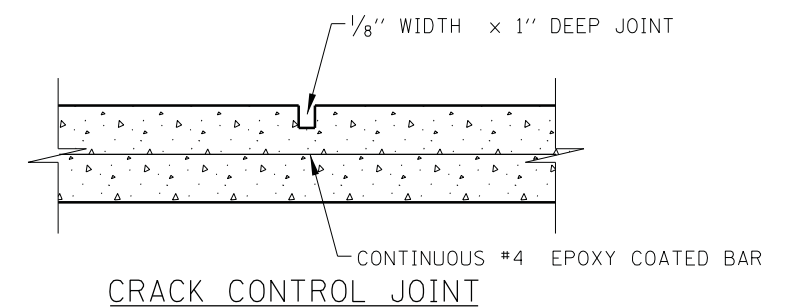
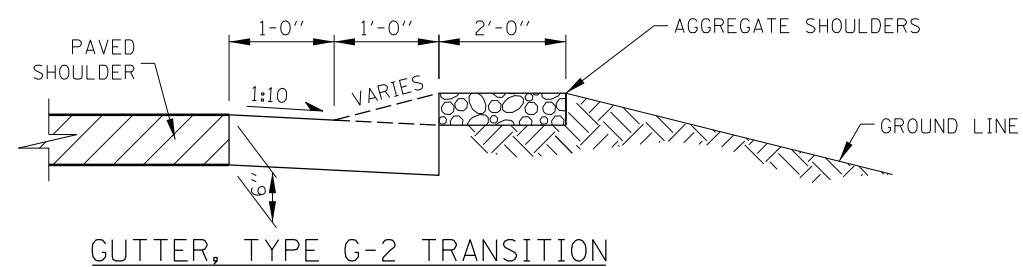
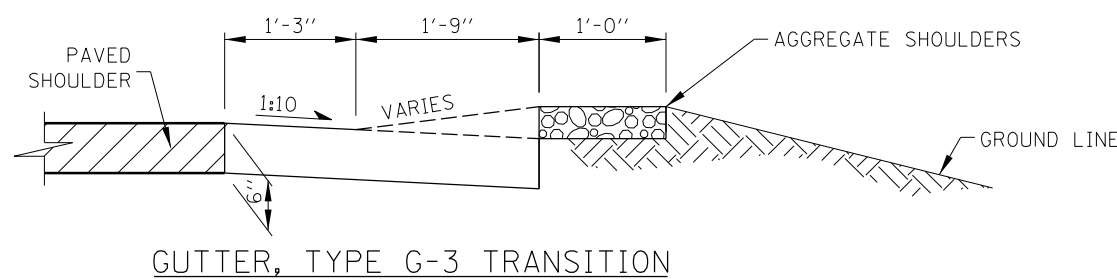
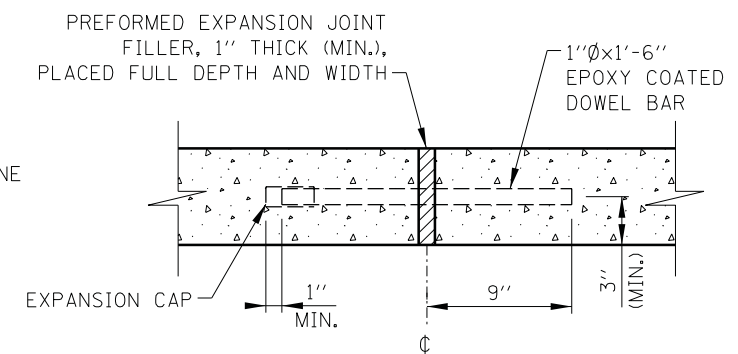
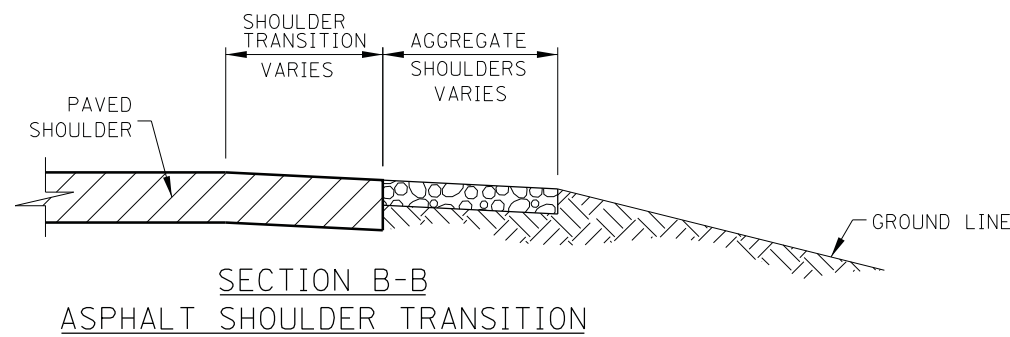
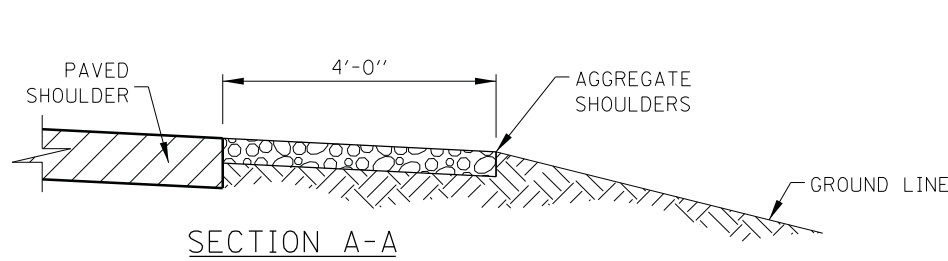
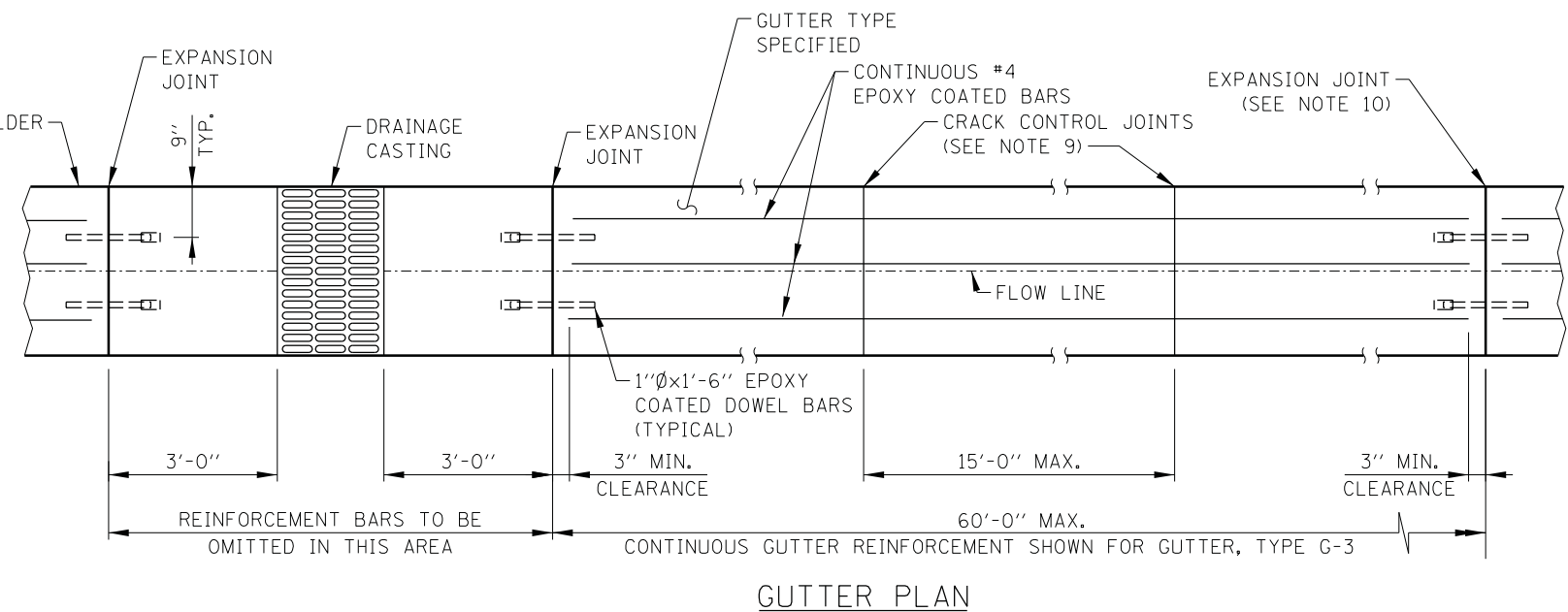
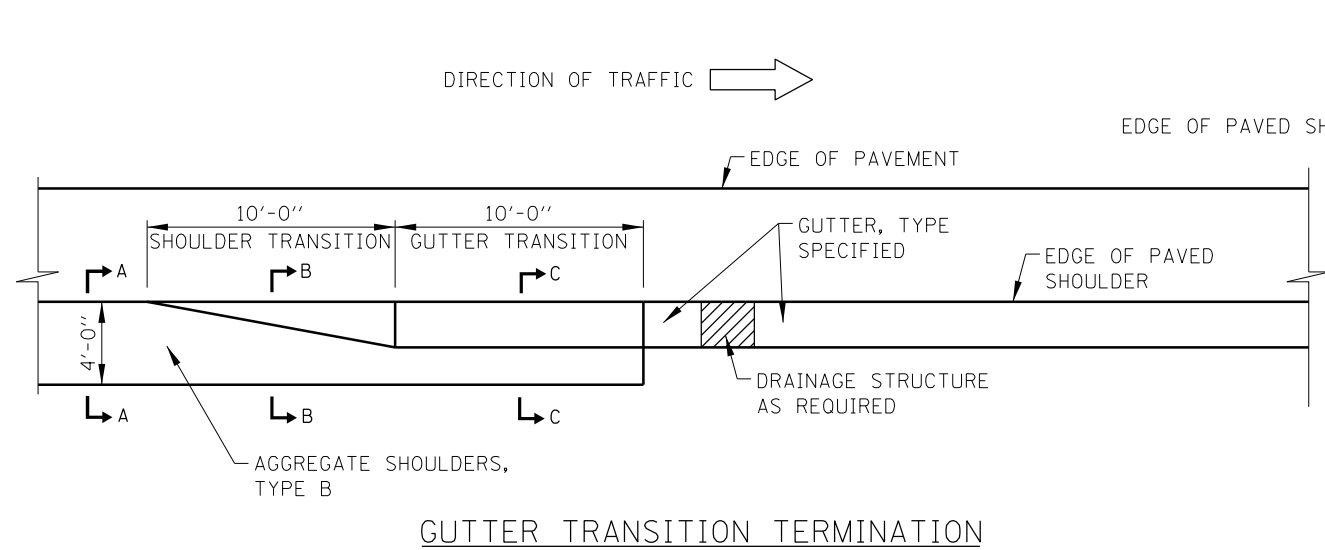
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



DATE	REVISIONS
2-07-12	REVISED NOTES
11-01-12	ADDED CONCRETE GUTTER OVERLAY, MODIFIED GUTTER CONTROL JOINT SPACING
3-11-2015	REVISED DETAIL DESCRIPTIONS
3-31-2016	REVISED NOTE

GUTTER AND CURB DETAILS

STANDARD B1-07



EXPANSION-CRACK CONTROL JOINTS
GUTTER, TYPE SPECIFIED

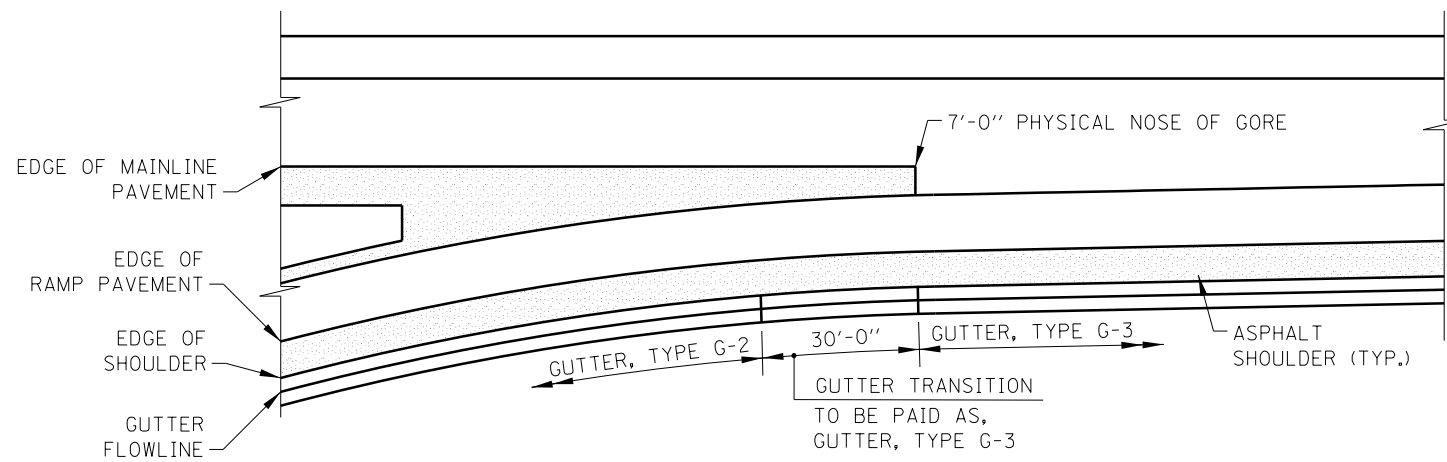
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



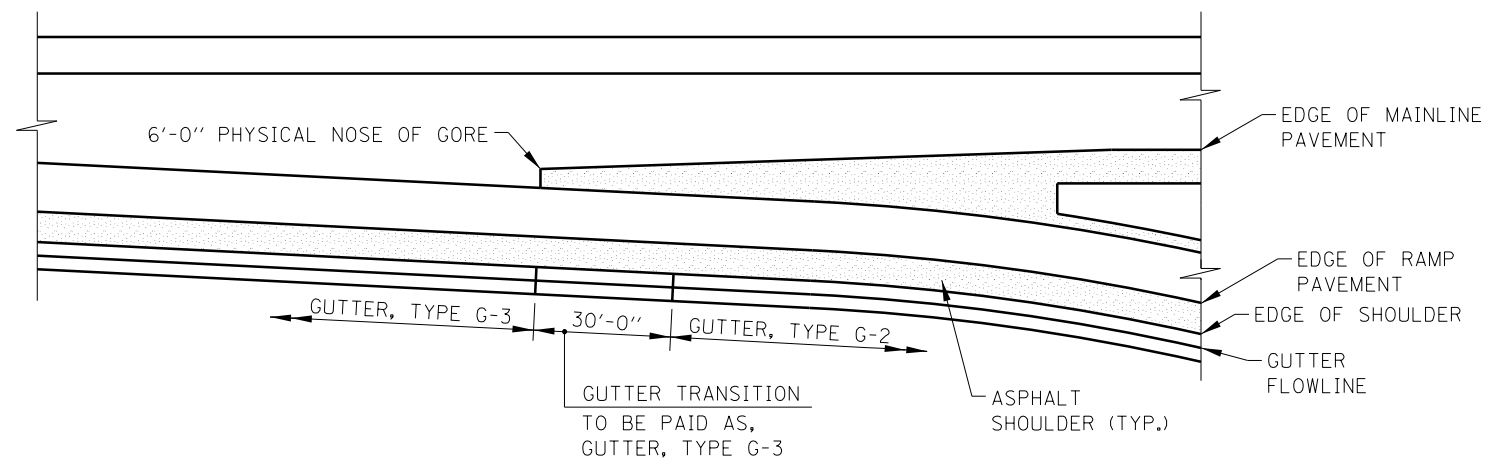
GUTTER AND CURB
DETAILS

STANDARD B1-07

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



GUTTER TRANSITION AT ENTRANCE RAMP TERMINALS



GUTTER TRANSITION AT EXIT RAMP TERMINALS

GUTTER TRANSITION NOTES:

1. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN TRANSITION SECTION AND WINGWALL.
2. SEE STANDARD B3 FOR GUTTER TRANSITIONS AT BRIDGE APPROACH.
3. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
4. REINFORCEMENT BARS SHALL BE ACCURATELY PLACED AND FIRMLY HELD AT THE POSITION USING EPOXY COATED CHAIRS. CHAIR SPACING SHALL NOT EXCEED 4'-0".
5. GUTTER REINFORCEMENT BARS SHALL BE PLACED 3" ABOVE BOTTOM OF GUTTER FOLLOWING SUBGRADE SLOPE.
6. CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 1'-1".

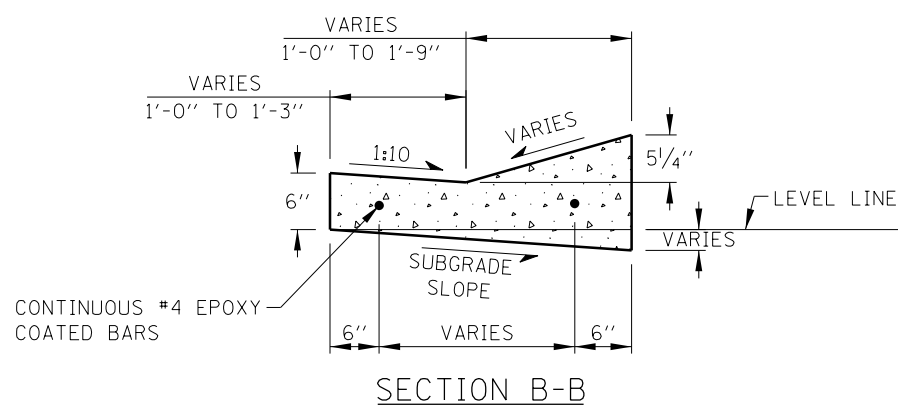
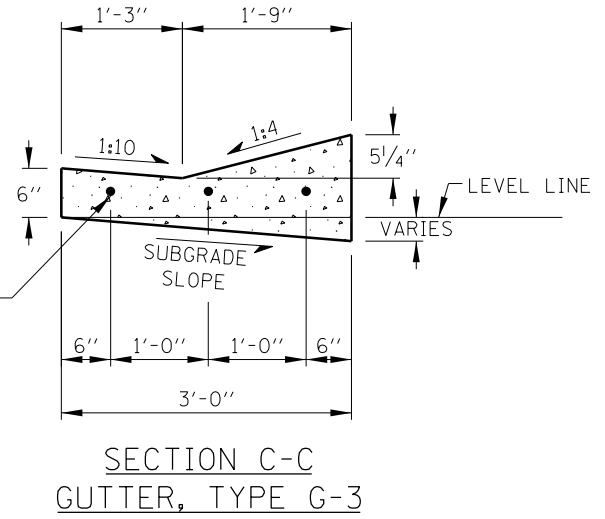
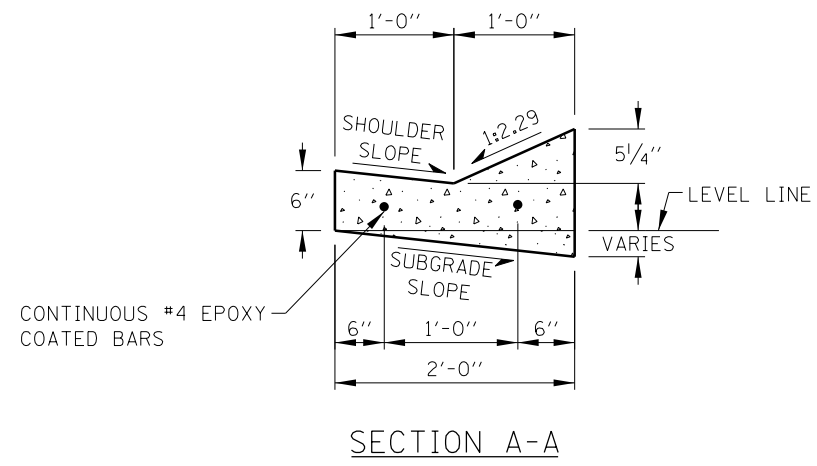
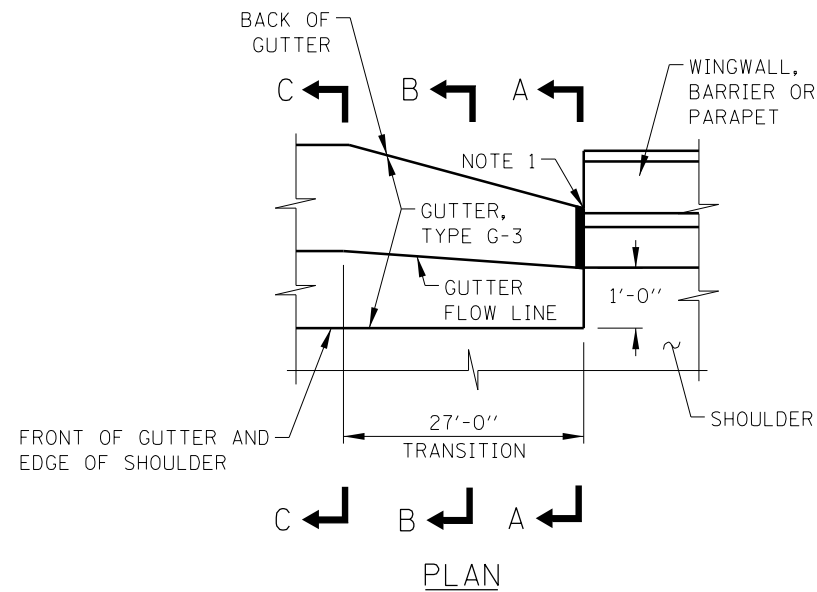
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
6-01-2009	REVISED NOTES, MODIFIED G2/G3 GUTTER TRANSITIONS
9-01-2009	ADDED GUTTER TRANSITION TERMINAL DETAIL
3-01-2010	RELOCATED GUTTER TRANSITION DETAIL TO STANDARD B28, REVISED NOTES
	REVISED TYPE G-3, G-2 GUTTER AT BRIDGE APPROACH.
2-07-2012	REVISED NOTES.
3-11-2015	REVISED DETAIL DESCRIPTIONS AND NOTES.
3-31-2016	REVISED G-2 GUTTER SHAPE

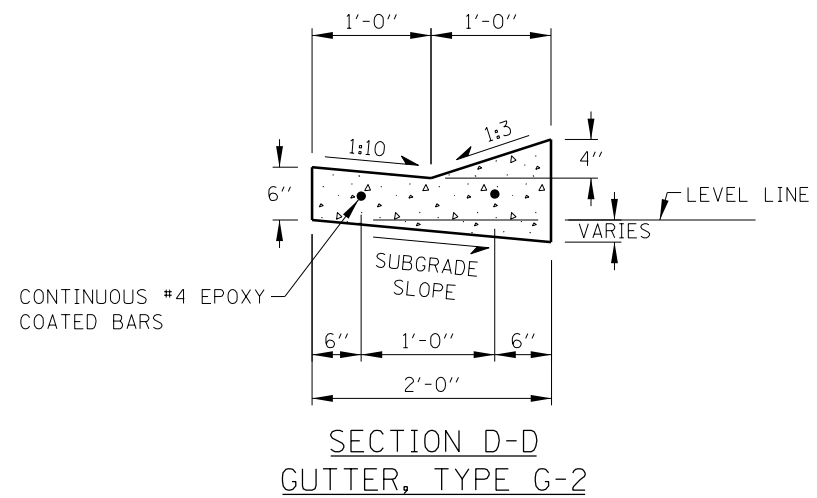
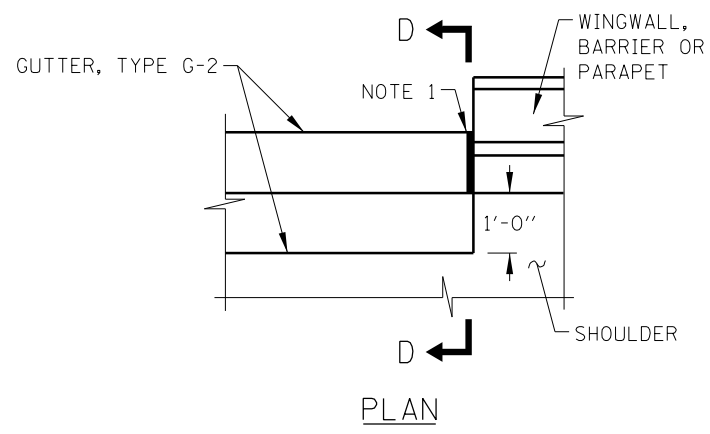


TYPE G-2 AND G-3
GUTTER TRANSITIONS

STANDARD B2-06



GUTTER, TYPE G-3 TRANSITION AT BRIDGE DEPARTURE



GUTTER, TYPE G-2 AT BRIDGE DEPARTURE

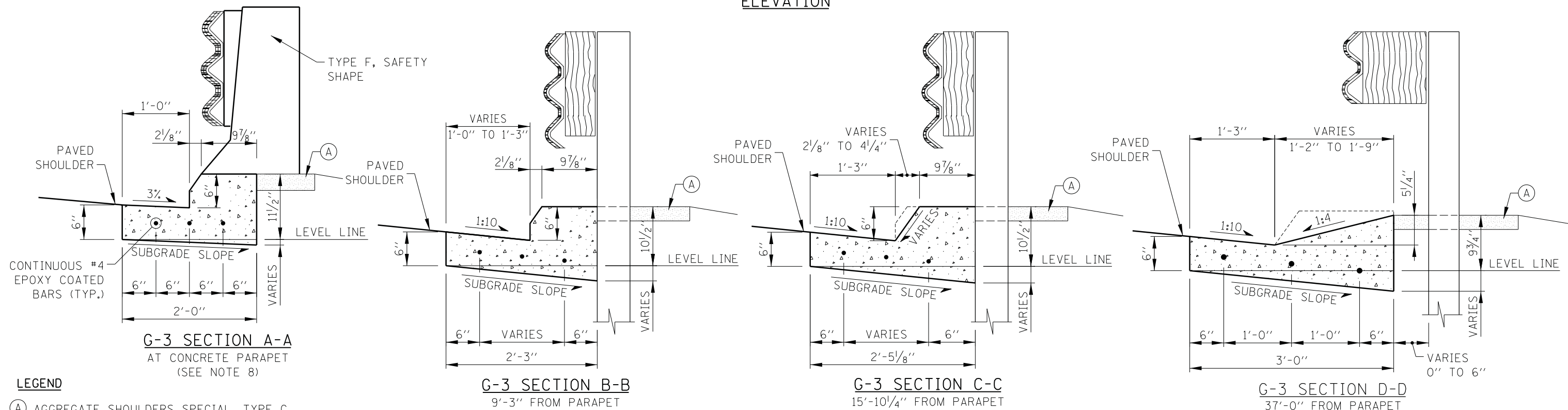
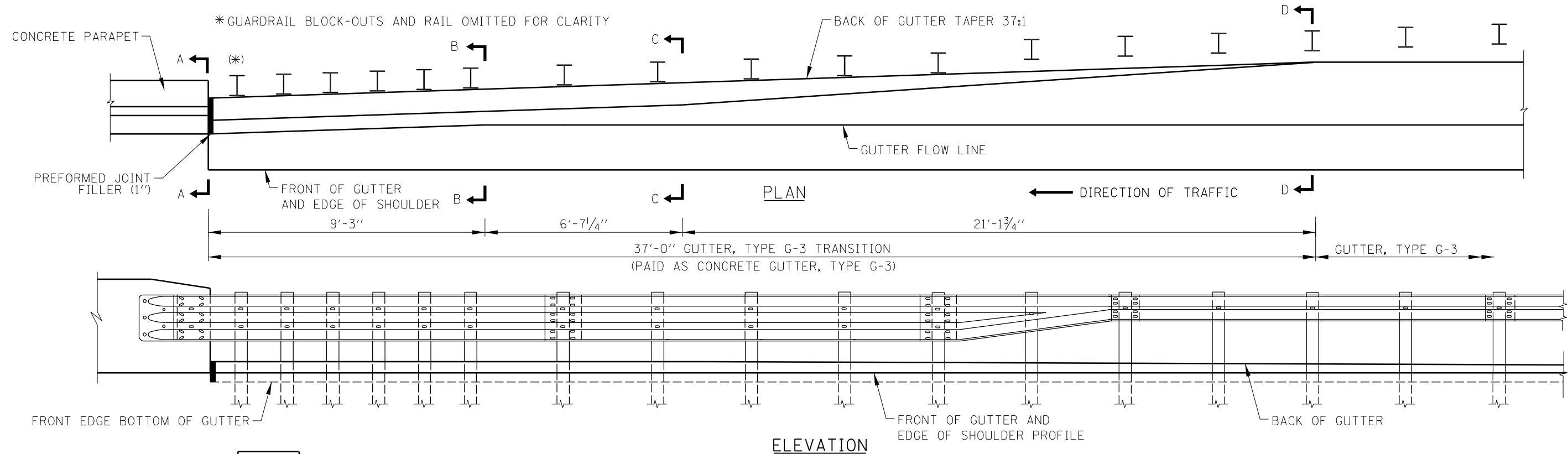
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



TYPE G-2 AND G-3
GUTTER TRANSITIONS

STANDARD B2-06

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



LEGEND
 (A) AGGREGATE SHOULDERS SPECIAL, TYPE C

- GUTTER TRANSITION NOTES:**
1. SLOPE TO MATCH ADJACENT SHOULDER SLOPE.
 2. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN TRANSITION SECTION AND WINGWALL OR BARRIER WALL.
 3. INSTALLATION ON CURVED WINGWALLS SIMILAR.
 4. FOR DETAILS OF SEE ILLINOIS TOLLWAY STANDARD C9 (TRAFFIC BARRIER TERMINAL, TYPE T6).
 5. GUTTER TRANSITIONS SHALL BE CONSTRUCTED TO FIT THE STANDARD LOCATION OF THE TRAFFIC BARRIER TERMINAL, TYPE T6.
 6. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 7. GUTTER SECTION SHOWN AT BARRIER WALL TO MATCH VERTICAL PROFILE OF TYPE F SAFETY SHAPE. MODIFY GUTTER FACE TO MATCH OTHER PARAPET PROFILES.
 8. CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 1'-1".

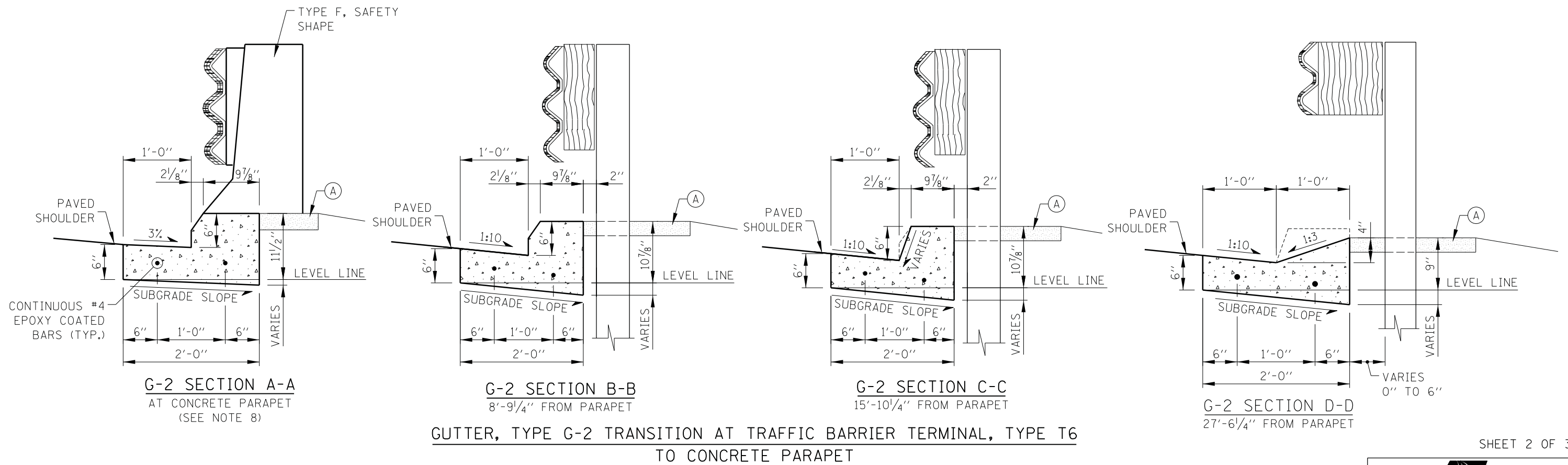
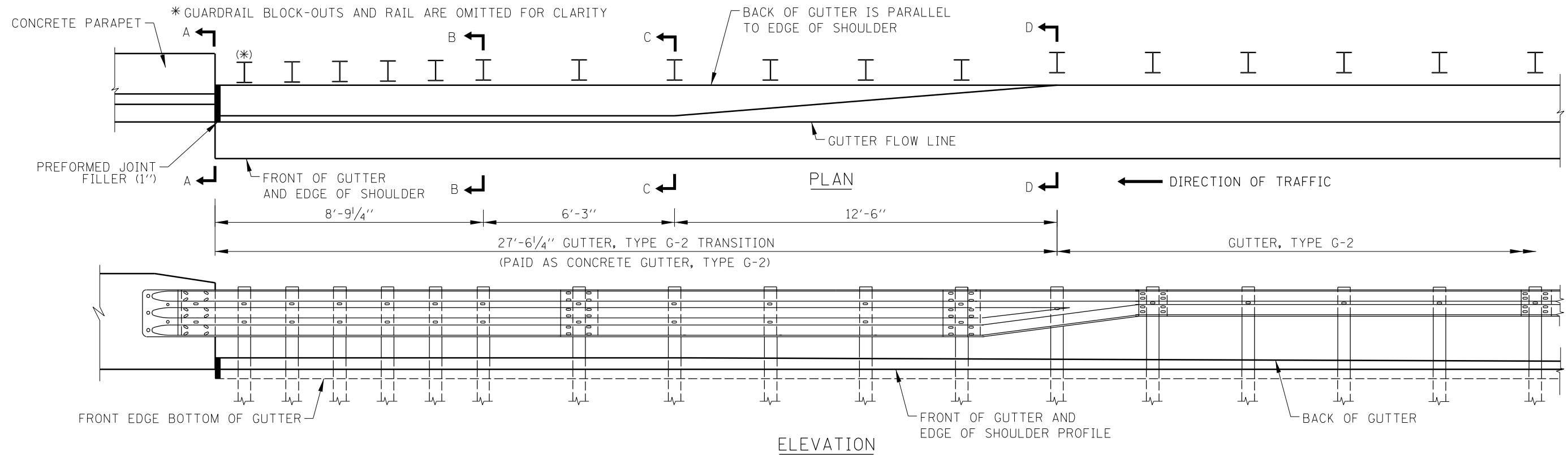
GUTTER, TYPE G-3 TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6 TO CONCRETE PARAPET

Paul Kovacs
 APPROVED... CHIEF ENGINEER... DATE 2-7-2012

DATE	REVISIONS
3-01-2010	REVISED G-2/G-3 GUTTER TRANSITION DETAILS, REVISED NOTES.
1-01-2011	REVISED NOTE 8.
2-07-2012	REVISED GUTTER.
3-11-2015	GUTTER TRANSITION FOR CONCRETE BARRIER, SINGLE-FACE.
3-31-2016	REVISED G-2 GUTTER SHAPE

SHEET 1 OF 3

TYPE G-2/G-3 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6
 STANDARD B3-06



LEGEND
 (A) AGGREGATE SHOULDERS SPECIAL, TYPE C

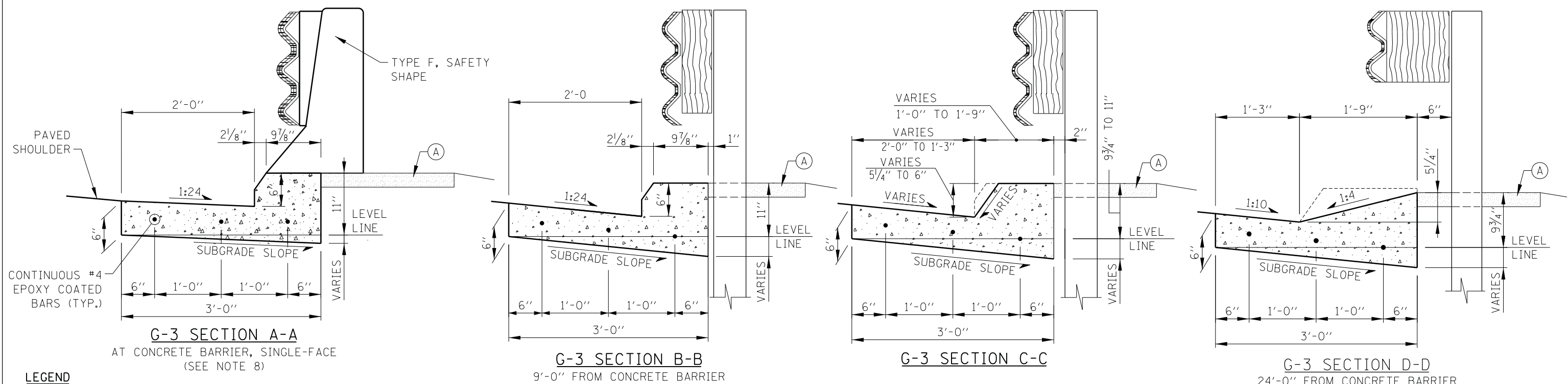
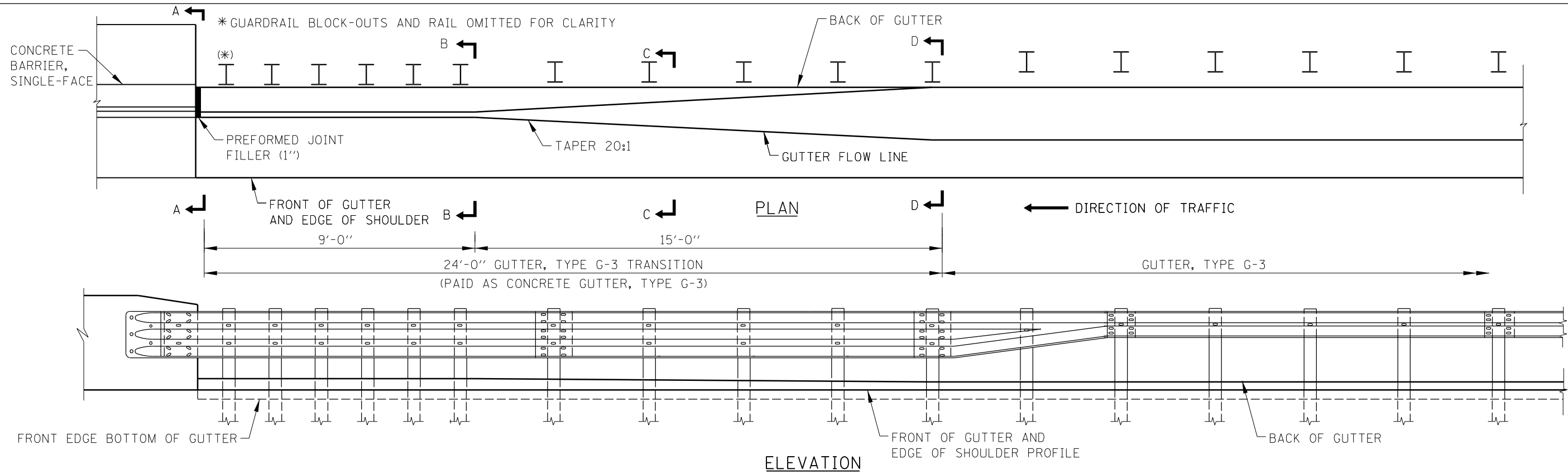
NOTE:
 SEE SHEET 1 OF THIS SERIES FOR
 GUTTER TRANSITION NOTES.



TYPE G-2/G-3 GUTTER
 TRANSITION AT TRAFFIC
 BARRIER TERMINAL,
 TYPE T6

STANDARD B3-06

Paul Kovacs
 APPROVED... CHIEF ENGINEER... DATE 2-7-2012



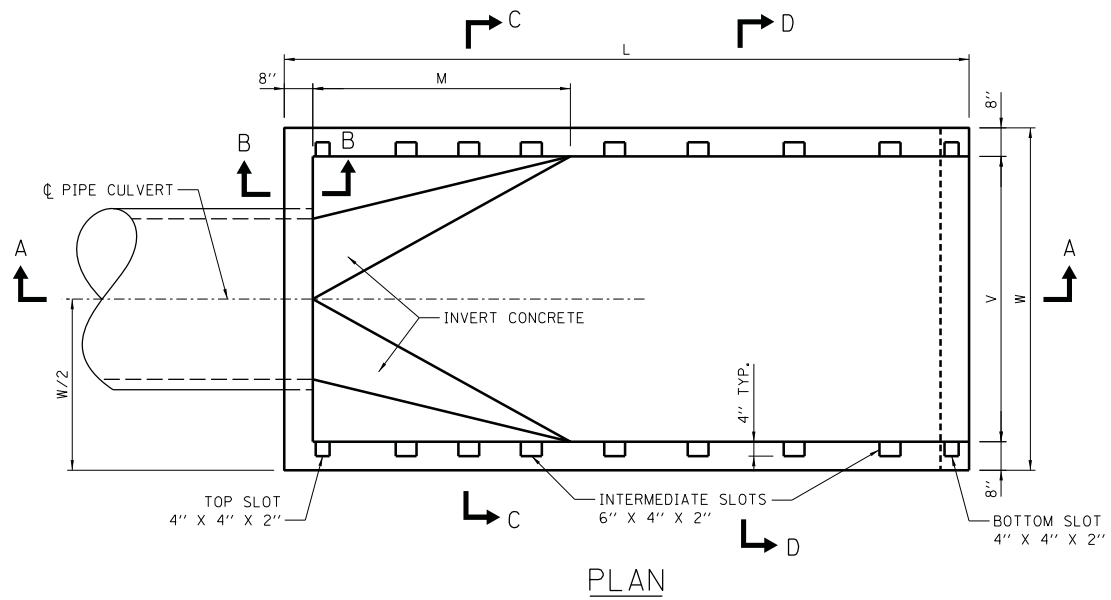
LEGEND
 (A) AGGREGATE SHOULDERS SPECIAL, TYPE C

GUTTER, TYPE G-3 TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6, TO CONCRETE BARRIER, SINGLE-FACE

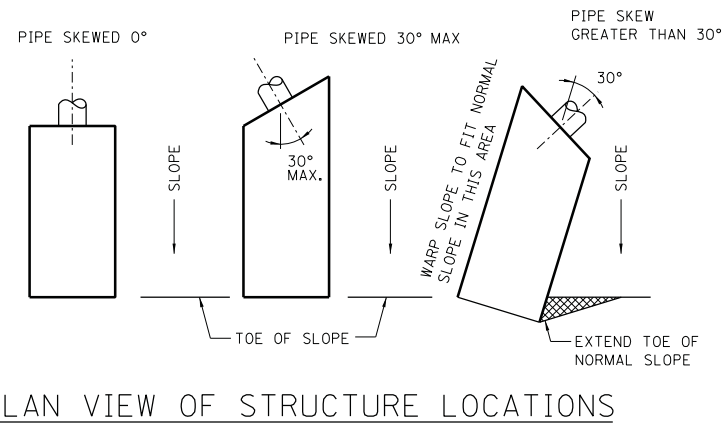
NOTE:
 SEE SHEET 1 OF THIS SERIES FOR GUTTER TRANSITION NOTES.

TYPE G-2/G-3 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6
 STANDARD B3-06

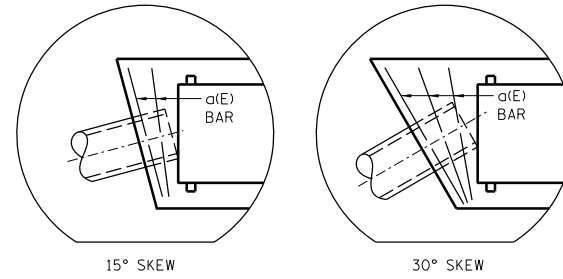
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



PLAN



PLAN VIEW OF STRUCTURE LOCATIONS

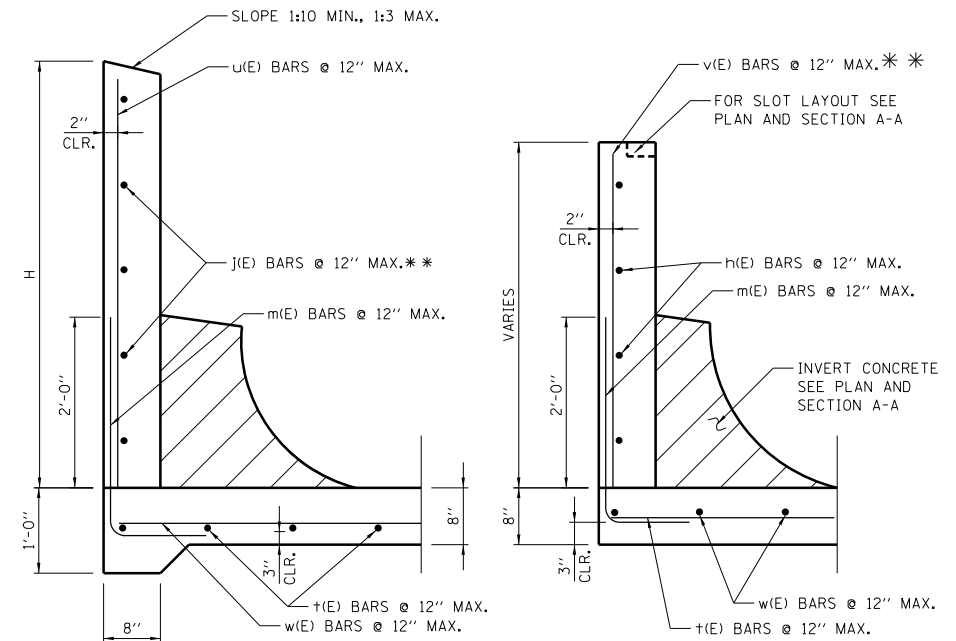


FLARED BAR DETAILS

NOTES:

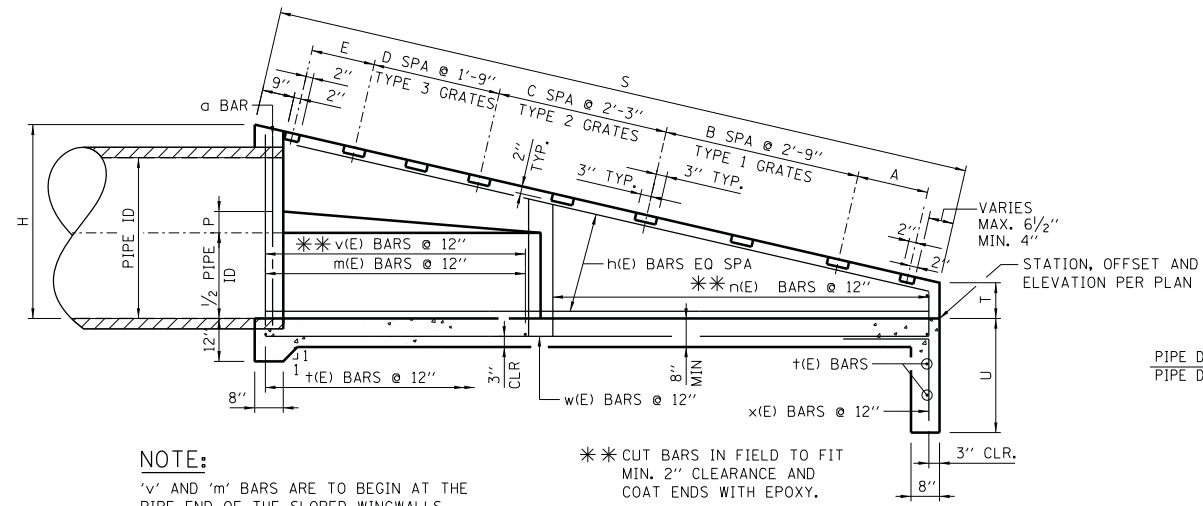
ADDITIONAL "a" BARS SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR. THE ADDITIONAL BARS ARE NOT INCLUDED IN THE LISTED QUANTITIES, BUT WILL BE PAID FOR AS REINFORCEMENT BARS (EPOXY COATED).

1 ADDITIONAL BAR REQUIRED FOR EACH 15° SKEW OR FRACTION THEREOF.



SECTION B-B

SECTION C-C

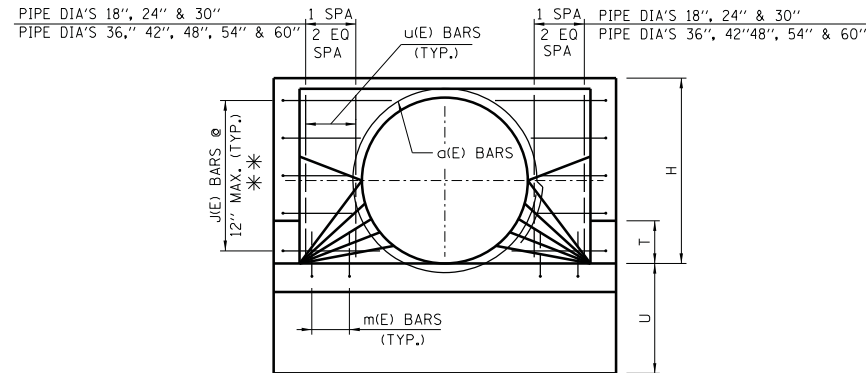


SECTION A-A

NOTE:

"v" AND "m" BARS ARE TO BEGIN AT THE PIPE END OF THE SLOPED WINGWALLS.

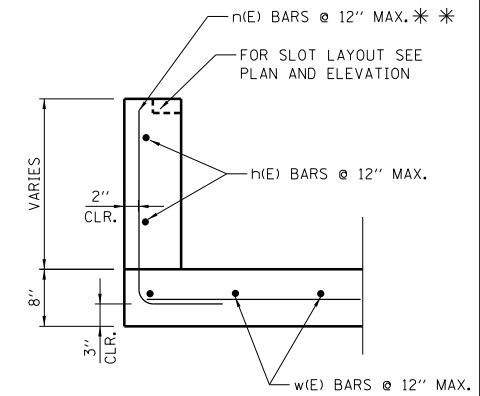
** CUT BARS IN FIELD TO FIT MIN. 2" CLEARANCE AND COAT ENDS WITH EPOXY.



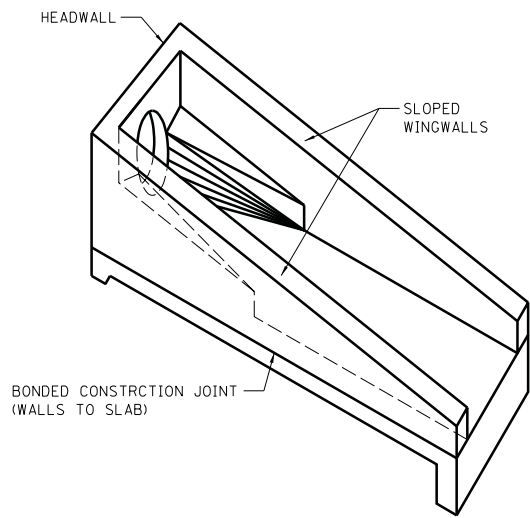
FRONT ELEVATION

NOTES:

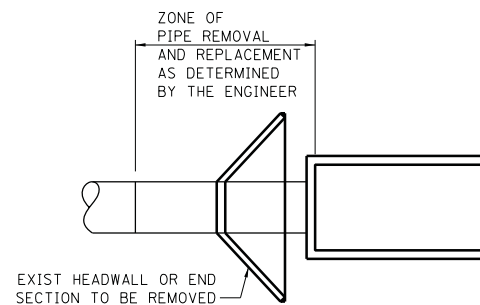
1. HEADWALL TYPE III SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
2. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
3. ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED (E).
4. BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
5. ALL EXPOSED EDGES SHALL HAVE A 3/4" - 45° CHAMFER. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW THE FINISHED GROUND LINE.
6. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
7. CARE SHALL BE EXERCISED IN REMOVING ANY LENGTH OF EXISTING PIPE SO THE REMAINING PIPE IS UNDAMAGED AND FULLY FUNCTIONING.
8. FOR DIMENSIONS AND QUANTITIES FOR ONE HEADWALL, SEE SHEET 2 IN THIS SERIES.
9. FOR STEEL GRATING DETAILS, SEE SHEET 3 IN THIS SERIES.
10. FOR ALTERNATE PRECAST CONCRETE DETAILS AND NOTES, SEE SHEET 4 IN THIS SERIES.
11. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).



SECTION D-D



ISOMETRIC VIEW



INSTALLATION DETAIL



HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES
STANDARD B6-06

DATE	REVISIONS
3-31-2014	REVISED QUANTITIES-CONC REINF STEEL
3-11-2015	REVISED QUANTITIES, CONCRETE REINFORCEMENT STEEL AND PRECAST CONCRETE DETAILS
3-31-2016	ADDED NOTE TO OMIT RESTRAINT ANGLE AND THE PLATE FOR MULTI-END SECTIONS
	REVISED GRATE LAYOUT

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:3 SLOPE

PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. BARS LB.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	11'-0"	3'-3"	4"	11'-7"	2"	2'-8"	6'-0"	7'-4"	2'-2"	1'-8"	0	2	1	3.8	347
42"	4'-5"	12'-9"	3'-10"	6"	13'-5"	2"	3'-2"	6'-6"	7'-10"	2'-2"	1'-8"	0	2	2	4.6	444
48"	5'-0"	14'-6"	4'-4"	6"	15'-3"	2"	3'-2"	7'-0"	8'-4"	1'-8"	1'-8"	0	0	6	5.5	502
54"	5'-6"	16'-0"	4'-10"	8"	16'-10"	2"	3'-6"	7'-6"	8'-10"	2'-2"	1'-8"	0	2	4	6.4	613
60"	6'-0"	17'-6"	5'-3"	8"	18'-5"	2"	3'-6"	8'-0"	9'-4"	2'-8"	1'-8"	2	0	4	7.3	668

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:4 SLOPE

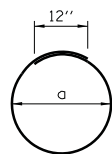
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. BARS LB.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	14'-8"	4'-5"	4"	15'-2"	2"	2'-8"	6'-0"	7'-4"	2'-8"	2'-8"	3	0	0	4.7	415
42"	4'-5"	17'-0"	5'-1"	6"	17'-6"	2"	3'-2"	6'-6"	7'-10"	2'-8"	2'-2"	0	5	0	5.8	546
48"	5'-0"	19'-4"	5'-10"	6"	19'-11"	2"	3'-2"	7'-0"	8'-4"	2'-8"	2'-2"	0	6	0	6.9	625
54"	5'-6"	21'-4"	6'-5"	8"	22'-0"	2"	3'-6"	7'-6"	8'-10"	2'-8"	2'-2"	0	7	0	8.0	788
60"	6'-0"	23'-4"	7'-0"	8"	24'-1"	2"	3'-6"	8'-0"	9'-4"	1'-8"	1'-8"	0	0	11	9.1	837

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:6 SLOPE

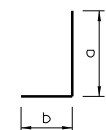
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. BARS LB.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	22'-0"	6'-8"	4"	22'-4"	2"	2'-8"	6'-0"	7'-4"	1'-8"	1'-8"	0	0	10	7.5	573
42"	4'-5"	25'-6"	7'-8"	6"	25'-10"	2"	3'-2"	6'-6"	7'-10"	1'-8"	1'-8"	0	0	12	9.5	746
48"	5'-0"	29'-0"	8'-9"	6"	29'-5"	2"	3'-2"	7'-0"	8'-4"	1'-8"	1'-8"	0	0	14	11.7	863
54"	5'-6"	32'-0"	9'-8"	8"	32'-5"	2"	3'-6"	7'-6"	8'-10"	2'-2"	1'-8"	0	5	9	13.9	1047
60"	6'-0"	35'-0"	10'-6"	8"	35'-6"	2"	3'-6"	8'-0"	9'-4"	2'-2"	1'-8"	0	1	16	16.3	1177

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:10 SLOPE

PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. BARS LB.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
18"	2'-3"	20'-10"	6'-3"	2"	20'-11 1/2"	2"	2'-8"	3'-0"	4'-4"	2'-8"	2'-2"	2	4	0	4.1	368
24"	2'-9"	25'-10"	7'-9"	3"	25'-11 1/2"	2"	2'-8"	4'-0"	5'-4"	1'-8"	1'-8"	0	0	12	6.1	490
30"	3'-4"	31'-8"	9'-6"	4"	31'-10"	2"	2'-8"	5'-0"	6'-4"	2'-8"	2'-2"	6	4	0	8.8	705
36"	3'-10"	36'-8"	11'-0"	4"	36'-10 1/2"	2"	2'-8"	6'-0"	7'-4"	2'-8"	2'-2"	7	5	0	11.9	944
42"	4'-5"	42'-6"	12'-9"	6"	42'-8 1/2"	2"	3'-2"	6'-6"	7'-10"	2'-8"	2'-8"	13	0	0	15.2	1178
48"	5'-0"	48'-4"	14'-6"	6"	48'-7"	2"	3'-2"	7'-0"	8'-4"	2'-2"	2'-2"	0	19	0	18.8	1457
54"	5'-6"	53'-4"	16'-0"	8"	53'-7 1/2"	2"	3'-6"	7'-6"	8'-10"	2'-8"	2'-8"	17	0	0	22.4	1687
60"	6'-0"	58'-4"	17'-6"	8"	58'-7 1/2"	2"	3'-6"	8'-0"	9'-4"	2'-8"	2'-2"	19	0	0	26.2	1964



TYPE 1



TYPE 2

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:10 SLOPE

PIPE DIA	NO 4 REINFORCEMENT BARS					
	MARK(E)	TYPE	NO REQ'D	LENGTH	a	b
18"	a18	1	1	8'-7"	2'-5"	-
	n18	2	32	2'-7"	1'-10"	9"
	m18	2	18	3'-2"	2'-5"	9"
	j18	2	6	4'-0"	2'-0"	2'-0"
	h18	STR.	6	20'-8"	-	-
	x18	2	5	4'-3"	2'-3"	2'-0"
	t18	STR.	23	4'-0"	-	-
	u18	STR.	4	2'-1"	-	-
	v18	STR.	14	2'-1"	-	-
	w18	STR.	5	20'-6"	-	-
	24"	a24	1	1	10'-5"	3'-0"
n24		2	38	2'-11"	2'-2"	9"
m24		2	20	3'-2"	2'-5"	9"
j24		2	6	4'-0"	2'-0"	2'-0"
h24		STR.	6	25'-8"	-	-
x24		2	6	4'-3"	2'-3"	2'-0"
t24		STR.	28	5'-0"	-	-
u24		STR.	4	2'-7"	-	-
v24		STR.	16	2'-7"	-	-
w24		STR.	6	25'-6"	-	-
30"		a30	1	1	12'-3"	3'-7"
	n30	2	46	3'-4"	2'-7"	9"
	m30	2	24	3'-2"	2'-5"	9"
	j30	2	8	4'-0"	2'-0"	2'-0"
	h30	STR.	8	31'-6"	-	-
	x30	2	7	4'-3"	2'-3"	2'-0"
	t30	STR.	34	6'-0"	-	-
	u30	STR.	4	3'-2"	-	-
	v30	STR.	20	3'-2"	-	-
	w30	STR.	7	31'-4"	-	-
	36"	a36	1	1	13'-10"	4'-1"
n36		2	52	3'-8"	2'-11"	9"
m36		2	30	3'-2"	2'-5"	9"
j36		2	10	4'-0"	2'-0"	2'-0"
h36		STR.	10	36'-6"	-	-
x36		2	8	4'-3"	2'-3"	2'-0"
t36		STR.	39	7'-0"	-	-
u36		STR.	6	3'-8"	-	-
v36		STR.	24	3'-8"	-	-
w36		STR.	8	36'-4"	-	-
42"		a42	1	1	15'-11"	4'-9"
	n42	2	62	3'-8"	2'-11"	9"
	m42	2	34	3'-2"	2'-5"	9"
	j42	2	10	4'-0"	2'-0"	2'-0"
	h42	STR.	20	22'-2"	-	-
	x42	2	9	4'-7"	2'-7"	2'-0"
	t42	STR.	46	7'-6"	-	-
	u42	STR.	6	4'-3"	-	-
	v42	STR.	28	4'-3"	-	-
	w42	STR.	18	22'-1"	-	-
	48"	a48	1	1	17'-9"	5'-4"
n48		2	70	4'-6"	3'-9"	9"
m48		2	36	3'-2"	2'-5"	9"
j48		2	12	4'-0"	2'-0"	2'-0"
h48		STR.	24	25'-2"	-	-
x48		2	9	4'-7"	2'-7"	2'-0"
t48		STR.	52	8'-0"	-	-
u48		STR.	6	4'-10"	-	-
v48		STR.	30	4'-10"	-	-
w48		STR.	18	25'-0"	-	-
54"		a54	1	1	19'-7"	5'-11"
	n54	2	76	4'-10"	4'-1"	9"
	m54	2	40	3'-2"	2'-5"	9"
	j54	2	12	4'-0"	2'-0"	2'-0"
	h54	STR.	24	27'-8"	-	-
	x54	2	10	5'-1"	3'-1"	2'-0"
	t54	STR.	57	8'-6"	-	-
	u54	STR.	6	5'-4"	-	-
	v54	STR.	34	5'-4"	-	-
	w54	STR.	20	27'-6"	-	-
	60"	a60	1	1	21'-2"	6'-5"
n60		2	82	5'-3"	4'-6"	9"
m60		2	42	3'-2"	2'-5"	9"
j60		2	14	4'-0"	2'-0"	2'-0"
h60		STR.	28	30'-2"	-	-
x60		2	10	5'-1"	3'-1"	2'-0"
t60		STR.	62	9'-0"	-	-
u60		STR.	6	5'-10"	-	-
v60		STR.	36	5'-10"	-	-
w60		STR.	20	30'-0"	-	-

Paul Kovacs
APPROVED... CHIEF ENGINEER... DATE 5-1-2009

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:6 SLOPE

PIPE DIA	NO 4 REINFORCEMENT BARS					
	MARK(E)	TYPE	NO REQ'D	LENGTH	a	b
36"	a36	1	1	13'-10"	4'-1"	-
	n36	2	32	3'-8"	2'-11"	9"
	m36	2	20	3'-2"	2'-5"	9"
	j36	2	8	4'-0"	2'-0"	2'-0"
	h36	STR.	8	22'-0"	-	-
	x36	2	8	4'-3"	2'-0"	2'-0"
	t36	STR.	25	7'-0"	-	-
	u36	STR.	6	3'-7"	-	-
	v36	STR.	14	3'-7"	-	-
	w36	STR.	8	21'-8"	-	-
	42"	a42	1	1	15'-11"	4'-9"
n42		2	38	4'-2"	3'-5"	9"
m42		2	22	3'-2"	2'-5"	9"
j42		2	10	4'-0"	2'-0"	2'-0"
h42		STR.	10	25'-6"	-	-
x42		2	9	4'-7"	2'-7"	2'-0"
t42		STR.	29	7'-6"	-	-
u42		STR.	6	4'-2"	-	-
v42		STR.	16	4'-2"	-	-
w42		STR.	9	25'-6"	-	-
48"		a48	1	1	17'-9"	5'-4"
	n48	2	42	4'-6"	3'-9"	9"
	m48	2	24	3'-2"	2'-5"	9"
	j48	2	10	4'-0"	2'-0"	2'-0"
	h48	STR.	10	29'-1"	-	-
	x48	2	9	4'-7"	2'-7"	2'-0"
	t48	STR.	33	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	STR.	18	4'-9"	-	-
	w48	STR.	9	28'-8"	-	-
	54"	a54	1	1	19'-7"	5'-11"
n54		2	46	4'-10"	4'-1"	9"
m54		2	26	3'-2"	2'-5"	9"
j54		2	12	4'-0"	2'-0"	2'-0"
h54		STR.	12	32'-1"	-	-
x54		2	10	5'-1"	3'-1"	2'-0"
t54		STR.	36	8'-6"	-	-
u54		STR.	6	5'-3"	-	-
v54		STR.	20	5'-3"	-	-
w54		STR.	10	31'-8"	-	-
60"		a60	1	1	21'-2"	6'-5"
	n60	2	50	5'-3"	4'-6"	9"
	m60	2	28	3'-2"	2'-5"	9"
	j60	2	12	4'-0"	2'-0"	2'-0"
	h60	STR.	12	35'-2"	-	-
	x60	2	10	5'-1"	3'-1"	2'-0"
	t60	STR.	40	9'-0"	-	-
	u60	STR.	6	5'-9"	-	-
	v60	STR.	22	5'-9"	-	-
	w60	STR.	10	34'-8"	-	-

* CUT BARS IN FIELD TO FIT MIN. 2" CLEARANCE
** PROVIDE 2'-0" MIN. LAP

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:4 SLOPE

PIPE DIA	NO 4 REINFORCEMENT BARS					
	MARK(E)	TYPE	NO REQ'D	LENGTH	a	b
36"	a36	1	1	13'-10"	4'-1"	-
	n36	2	22	3'-8"	2'-11"	9"
	m36	2	16	3'-2"	2'-5"	9"
	j36	2	8	4'-0"	2'-0"	2'-0"
	h36	STR.	8	14'-10"	-	-
	x36	2	8	4'-3"	2'-3"	2'-0"
	t36	STR.	17	7'-0"	-	-
	u36	STR.	6	3'-7"	-	-
	v36	STR.	10	3'-7"	-	-
	w36	STR.	8	14'-4"	-	-
	42"	a42	1	1	15'-11"	4'-9"
n42		2	26	4'-2"	3'-5"	9"
m42		2	18	3'-2"	2'-5"	9"
j42		2	10	4'-0"		

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:3 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	0	1	2	6'-7"	11	2'-4 1/2"	112	493
	3	2	2	6'-7"	11	1'-10 1/2"	102	
	2	3	2	6'-7"	11	1'-4 1/2"	93	
42"	0	1	2	7'-1"	12	2'-4 1/2"	121	633
	3	2	2	7'-1"	12	1'-10 1/2"	110	
	3	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	863
	0	2	2	7'-7"	13	1'-10 1/2"	119	
	8	3	2	7'-7"	13	1'-4 1/2"	108	
54"	0	1	2	8'-1"	14	2'-4 1/2"	139	958
	3	2	2	8'-1"	14	1'-10 1/2"	127	
	5	3	2	8'-1"	14	1'-4 1/2"	115	
60"	3	1	2	8'-7"	15	2'-4 1/2"	148	1058
	0	2	2	8'-7"	15	1'-10 1/2"	135	
	5	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:4 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	5	1	2	6'-7"	11	2'-4 1/2"	112	558
	0	2	2	6'-7"	11	1'-10 1/2"	102	
	0	3	2	6'-7"	11	1'-4 1/2"	93	
42"	1	1	2	7'-1"	12	2'-4 1/2"	121	784
	6	2	2	7'-1"	12	1'-10 1/2"	110	
	0	3	2	7'-1"	12	1'-4 1/2"	100	
48"	1	1	2	7'-7"	13	2'-4 1/2"	130	962
	7	2	2	7'-7"	13	1'-10 1/2"	119	
	0	3	2	7'-7"	13	1'-4 1/2"	108	
54"	1	1	2	8'-1"	14	2'-4 1/2"	139	1157
	8	2	2	8'-1"	14	1'-10 1/2"	127	
	0	3	2	8'-1"	14	1'-4 1/2"	115	
60"	0	1	2	8'-7"	15	2'-4 1/2"	148	1595
	0	2	2	8'-7"	15	1'-10 1/2"	135	
	13	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:10 SLOPE

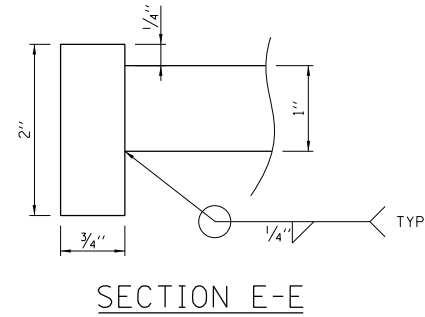
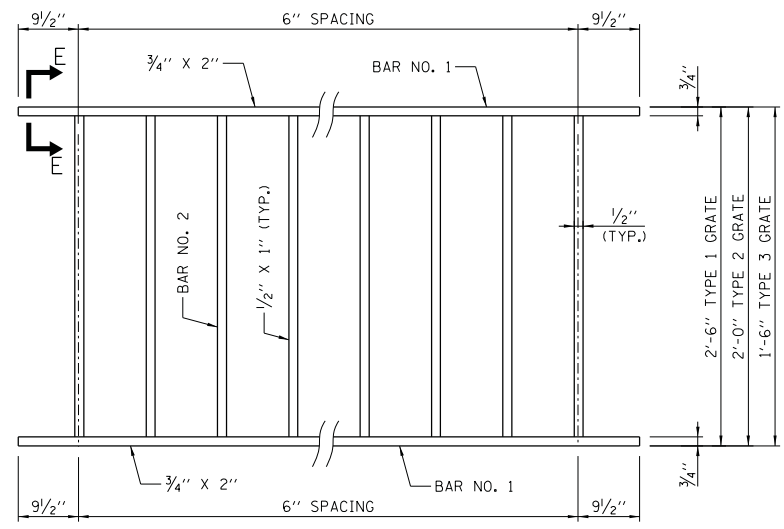
INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
18"	3	1	2	3'-7"	5	2'-4 1/2"	57	433
	5	2	2	3'-7"	5	1'-10 1/2"	52	
	0	3	2	3'-7"	5	1'-4 1/2"	48	
24"	0	1	2	4'-7"	7	2'-4 1/2"	75	884
	0	2	2	4'-7"	7	1'-10 1/2"	69	
	14	3	2	4'-7"	7	1'-4 1/2"	63	
30"	7	1	2	5'-7"	9	2'-4 1/2"	93	1082
	5	2	2	5'-7"	9	1'-10 1/2"	86	
	0	3	2	5'-7"	9	1'-4 1/2"	78	
36"	8	1	2	6'-7"	11	2'-4 1/2"	112	1507
	6	2	2	6'-7"	11	1'-10 1/2"	102	
	0	3	2	6'-7"	11	1'-4 1/2"	93	
42"	15	1	2	7'-1"	12	2'-4 1/2"	121	1812
	0	2	2	7'-1"	12	1'-10 1/2"	110	
	0	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	2497
	21	2	2	7'-7"	13	1'-10 1/2"	119	
	0	3	2	7'-7"	13	1'-10 1/2"	108	
54"	19	1	2	8'-1"	14	2'-4 1/2"	139	2643
	0	2	2	8'-1"	14	1'-10 1/2"	127	
	0	3	2	8'-1"	14	1'-4 1/2"	115	
60"	20	1	2	8'-7"	15	2'-4 1/2"	148	3100
	1	2	2	8'-7"	15	1'-10 1/2"	135	
	0	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:6 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	0	1	2	6'-7"	11	2'-4 1/2"	112	1115
	0	2	2	6'-7"	11	1'-10 1/2"	102	
	12	3	2	6'-7"	11	1'-4 1/2"	93	
42"	0	1	2	7'-1"	12	2'-4 1/2"	121	1405
	0	2	2	7'-1"	12	1'-10 1/2"	110	
	14	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	1725
	0	2	2	7'-7"	13	1'-10 1/2"	119	
	16	3	2	7'-7"	13	1'-4 1/2"	108	
54"	0	1	2	8'-1"	14	2'-4 1/2"	139	1916
	6	2	2	8'-1"	14	1'-10 1/2"	127	
	10	3	2	8'-1"	14	1'-4 1/2"	115	
60"	0	1	2	8'-7"	15	2'-4 1/2"	148	2357
	2	2	2	8'-7"	15	1'-10 1/2"	135	
	17	3	2	8'-7"	15	1'-4 1/2"	123	

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36 OR 50.
2. GALVANIZING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. FOR PLACEMENT OF GRATES, SEE SHEET 1 IN THIS SERIES.
4. ALL TABLE DIMENSIONS AND QUANTITIES ARE FOR SINGLE HEADWALL, TYPE III.
5. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).



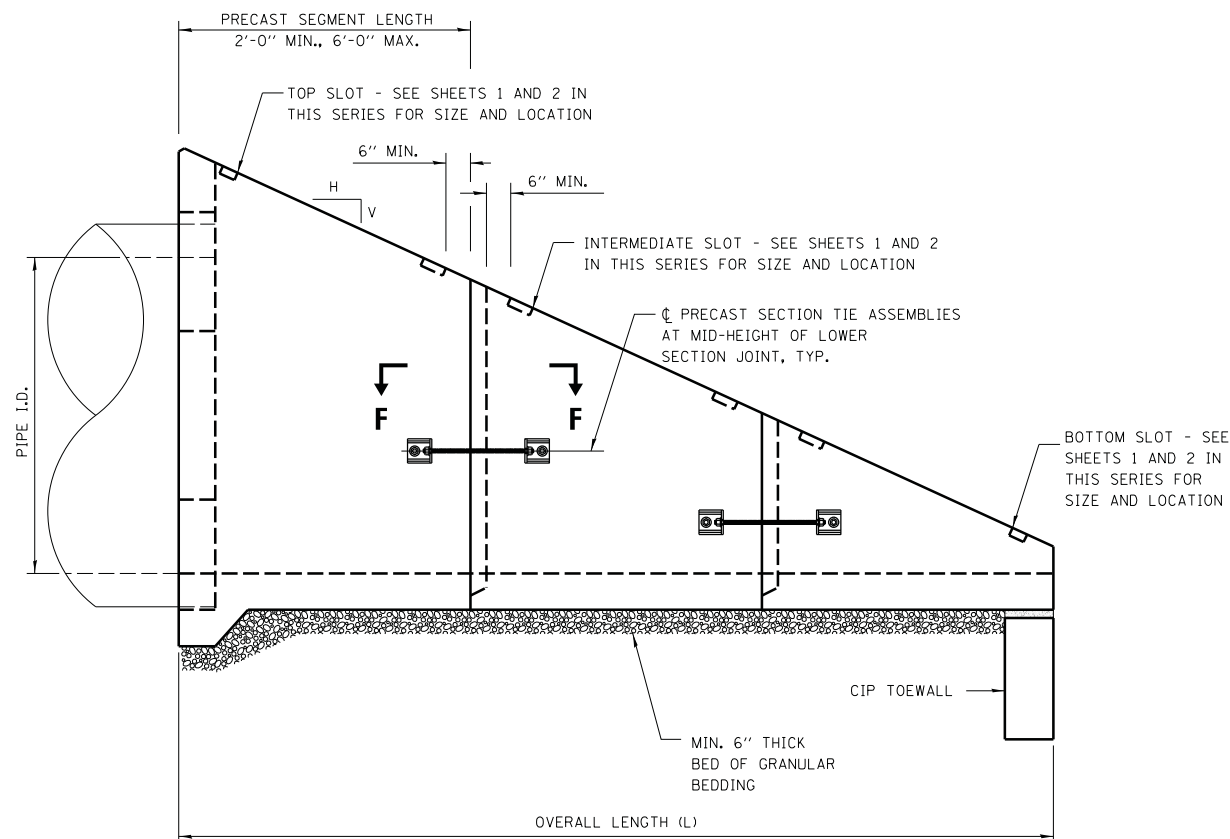
TYPICAL GRATE

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

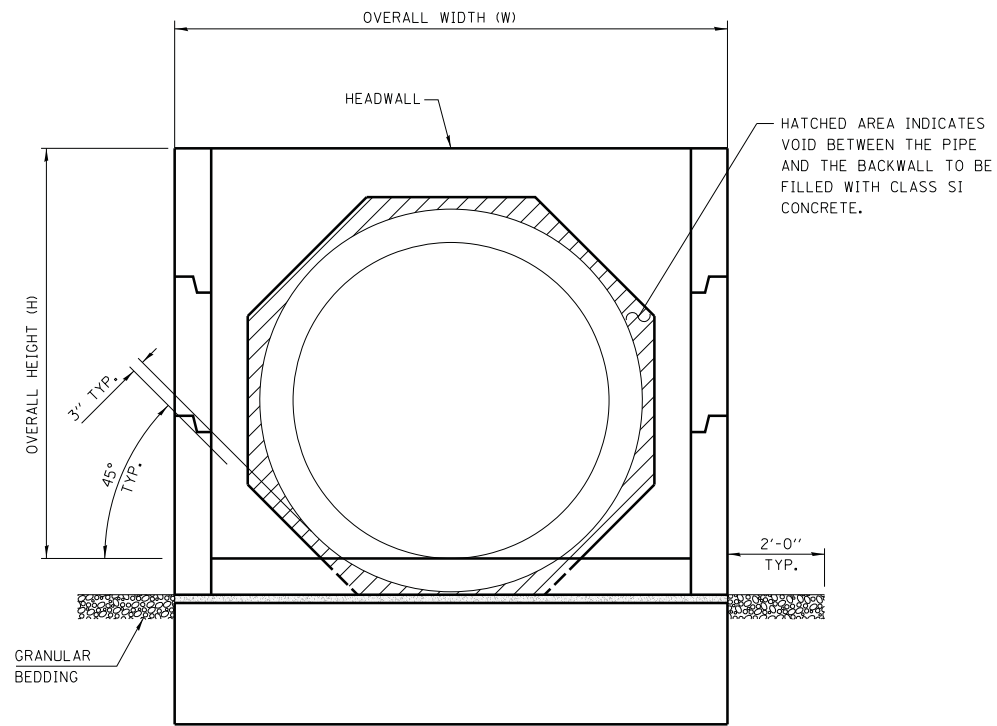
Illinois Tollway

HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES

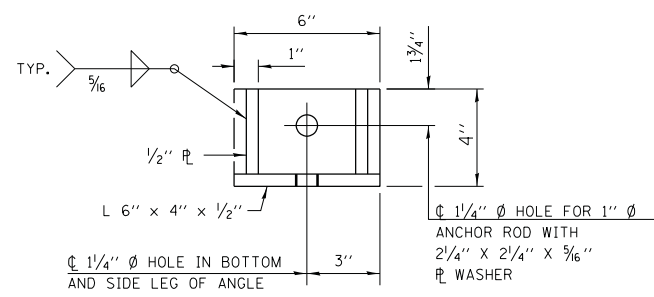
STANDARD B6-06



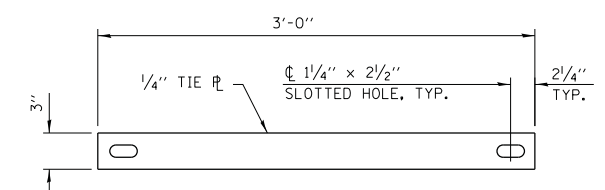
ELEVATION



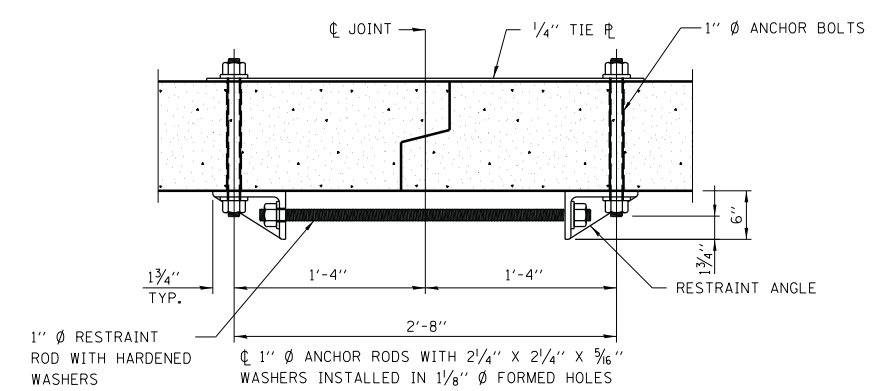
END VIEW



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

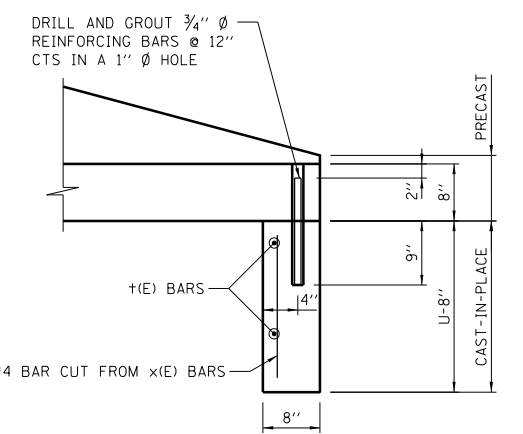


SECTION F-F

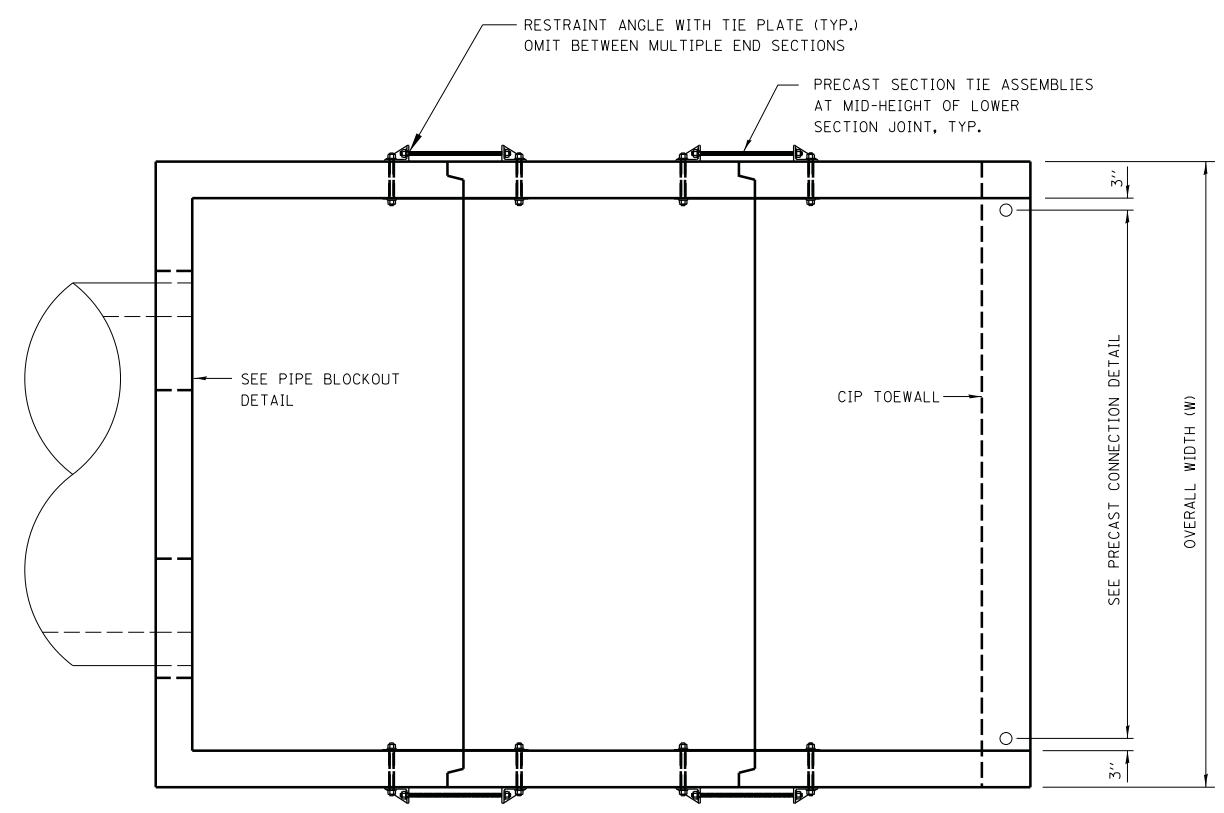
(SHOWING PRECAST SECTION TIE DETAILS)

GENERAL NOTES:

1. THE NUMBER OF SEGMENTS SHOWN IN ELEVATION IS FOR EXAMPLE ONLY. THE LENGTH AND NUMBER OF PRECAST SECTIONS REQUIRED TO CONSTRUCT THE END SECTION SHALL BE DETERMINED BY THE CONTRACTOR.
2. CONTRACTOR SHALL RETAIN THE SERVICES OF AN ILLINOIS LICENSED STRUCTURAL ENGINEER TO PROPORTION, DESIGN AND DETAIL PRECAST SECTIONS FOR INSTALLATION AND FOR SERVICE. SEE CAST-IN-PLACE DIMENSIONS AND REINFORCING DETAILS FOR MINIMUM REQUIREMENTS. INCREASE MEMBER SIZES AND REINFORCING AS NECESSARY TO SATISFY HANDLING AND INSTALLATION STRESSES IN PRECAST SECTIONS.
3. CLASS "SI" CONCRETE SHALL BE USED THROUGHOUT.
4. REINFORCEMENT BARS (GRADE 60) SHALL BE EPOXY COATED. SEE CAST-IN-PLACE DETAILS FOR BENDING DIAGRAMS. SEE NOTES ON SHEET 1 IN THIS SERIES FOR REINFORCING COVER REQUIREMENTS.
5. ALL EXPOSED EDGES SHALL BE CHAMFERED. SEE NOTES ON SHEET 1 IN THIS SERIES.
6. SEE ROADWAY PLANS FOR SLOPE (V:H) AND PIPE INSIDE DIAMETER.
7. HOLES IN THE WALLS FOR THE PRECAST TIE ASSEMBLY MAY BE DRILLED USING CORE BITS IN LIEU OF FORMED HOLES. AVOID DAMAGE TO REINFORCING FROM DRILLING HOLES.
8. FOR STEEL GRATING DETAILS, SEE SHEET 3 IN THIS SERIES.
9. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
10. TIE ASSEMBLIES, CONSISTING OF ANCHOR RODS, TIE PLATES, RESTRAINT ANGLES, RESTRAINT RODS AND ALL NUTS AND WASHERS SHALL CONFORM WITH AASHTO M270 GR36, OR GR50 AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION.



PRECAST CONNECTION DETAIL



PLAN

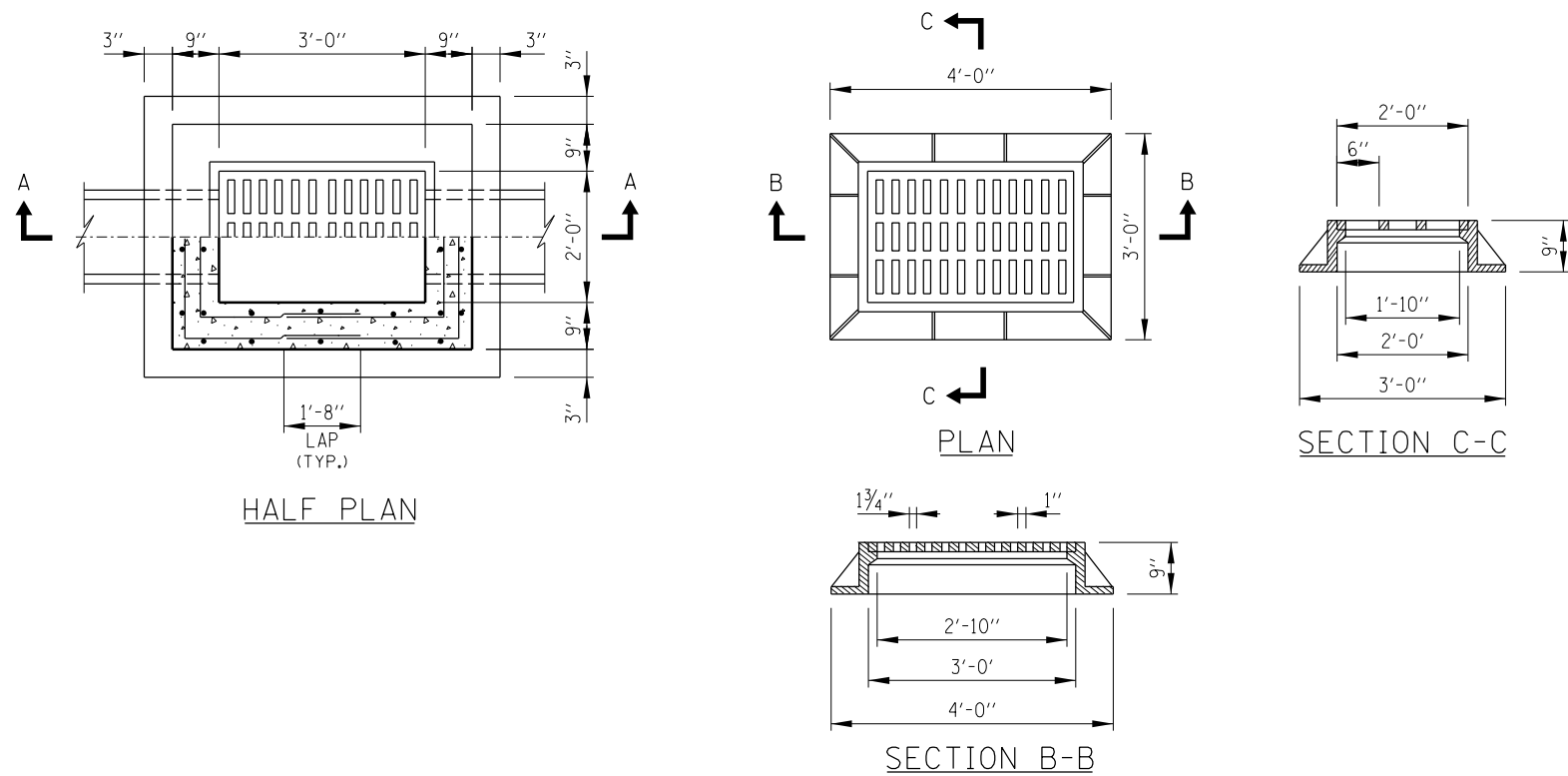


HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES

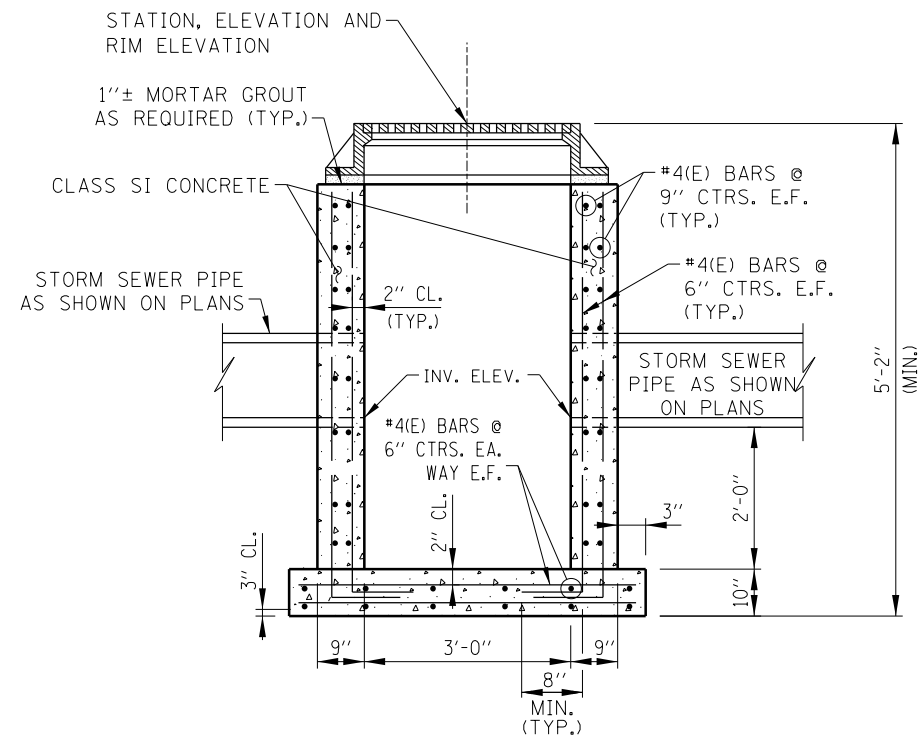
STANDARD B6-06

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

HEADWALL TYPE III ALTERNATE PRECAST CONCRETE DETAILS

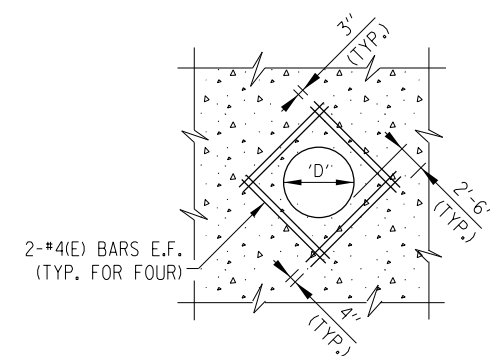


FRAME AND GRATE DETAIL



SECTION A-A

CATCH BASIN TYPE B




TYPICAL REINFORCEMENT AROUND STORM SEWER PIPE

NOTES:

1. FOR MATERIALS AND CONSTRUCTION REQUIREMENTS OF THE CATCH BASIN, REFER TO THE STANDARD SPECIFICATIONS.
2. FRAME AND GRATE FOR CATCH BASIN TYPE B SHALL BE NEENAH FOUNDRY COMPANY TYPE R-3455C, EAST JORDAN IRON WORKS V5360-1 OR APPROVED EQUAL.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

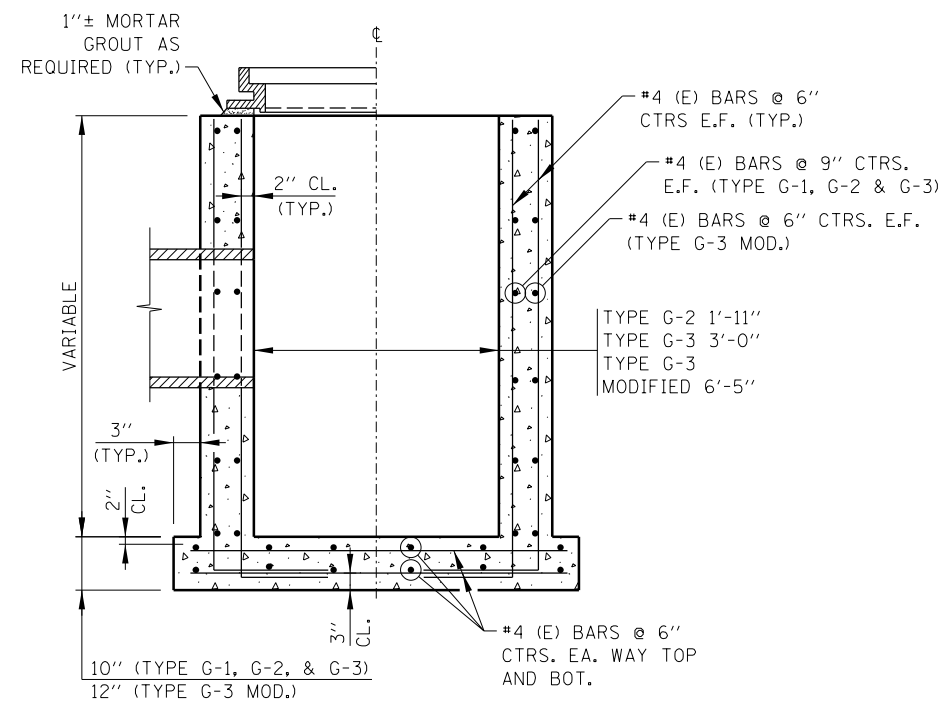
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
02-07-12	REVISED REINFORCEMENT BARS
03-31-14	REVISED SLOPE DRAIN ALSO FRAME AND GRATE CASTINGS
3-11-2015	SLOPE DRAIN CHANGE TO BASE SHEET.

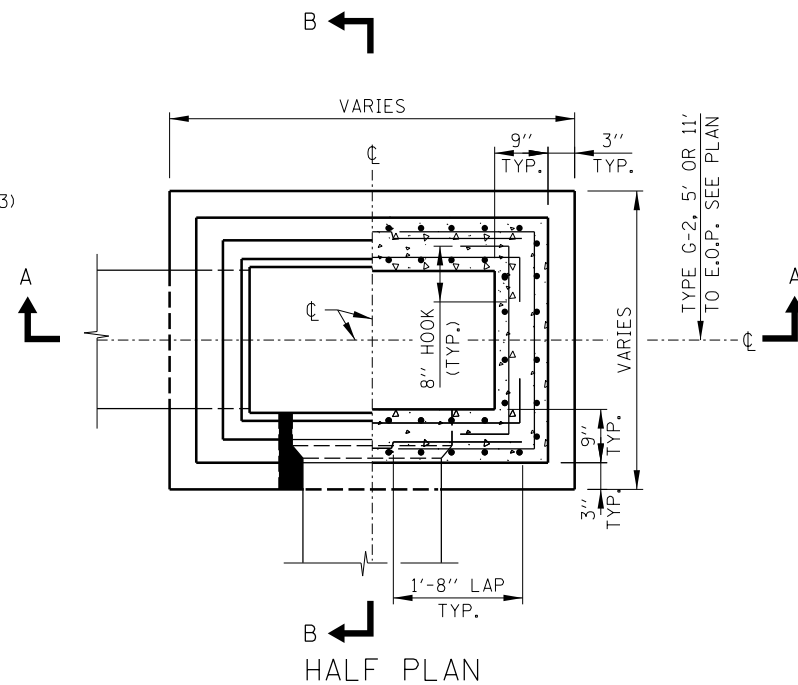


CATCH BASIN, TYPE B

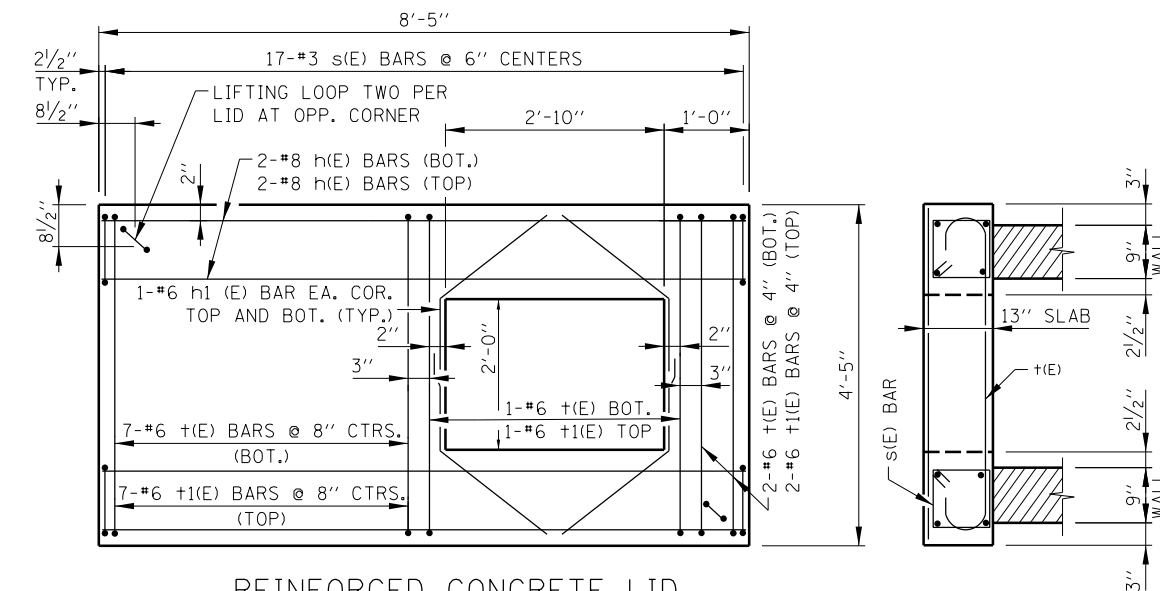
STANDARD B7-03



SECTION A-A



HALF PLAN

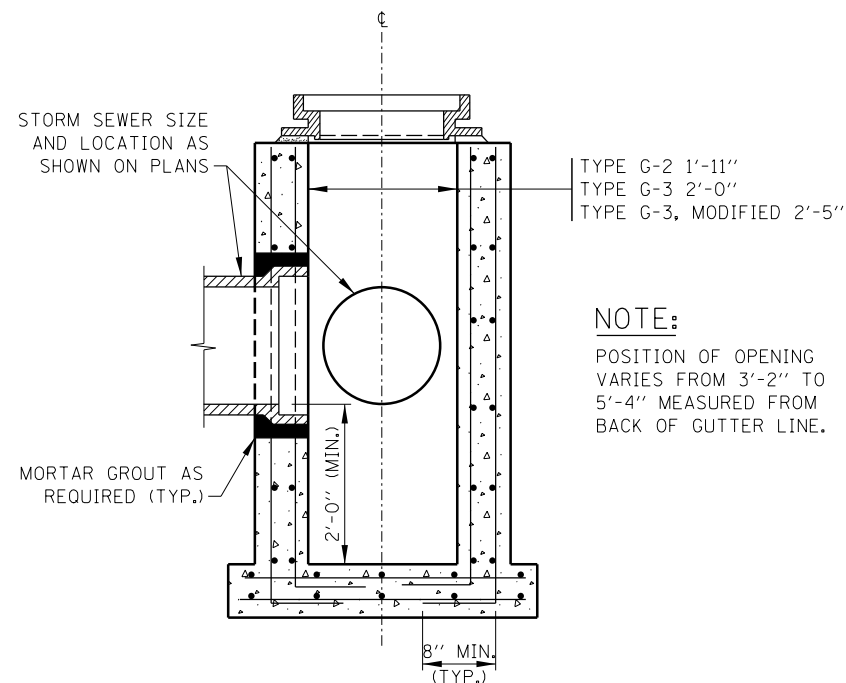


REINFORCED CONCRETE LID

CATCH BASIN, TYPE G-3, MODIFIED

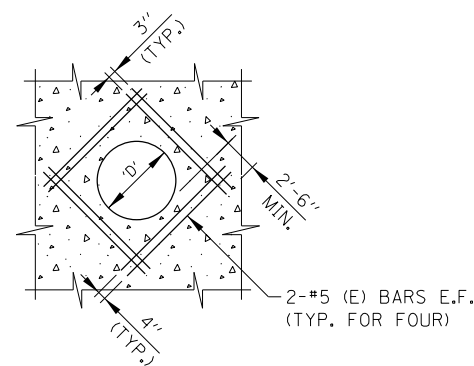
NOTES:

1. PRECAST CONCRETE UNITS WILL BE ACCEPTABLE PROVIDED THEY MEET ALL THE REQUIREMENTS AS SHOWN ON THIS DRAWING. BASE EXTENSION OF 3" NOT REQUIRED FOR PRECAST UNITS. FABRICATION DRAWINGS SHOWING PIPE OPENINGS, REINFORCEMENT AND OTHER PERTINENT DIMENSIONS WILL BE REQUIRED FOR EACH UNIT, FOR APPROVAL BY THE ENGINEER PRIOR TO FABRICATION.
2. CATCH BASIN, TYPE G-2 SHALL BE USED ALONG RAMPS WHERE GUTTER TYPE G-2 IS PROVIDED.
3. CATCH BASIN, TYPE G-3 SHALL BE USED WHERE GUTTER TYPE G-3 IS PROVIDED.
4. CATCH BASIN, TYPE G-3 MODIFIED SHALL BE USED IN PAVEMENT SECTIONS AND ON THE LOW SIDE OF SUPERELEVATED PAVEMENT.
5. CATCH BASIN, TYPE G-3 MODIFIED SHALL BE PROVIDED WITH A REINFORCED CONCRETE SLAB TOP AS DETAILED ON THIS DRAWING.
6. TYPE G-2 FRAME AND GRATE SHALL BE NEENAH R-3508-A2, EAST JORDAN IRON WORKS 7300 OR APPROVED EQUAL.
7. TYPE G-3 FRAME AND GRATE SHALL BE NEENAH INLET FOR ROLL TYPE CURB R-3501-U OR EAST JORDAN IRON WORKS 7545 OR APPROVED EQUAL.
8. TYPE G-3, MODIFIED FRAME AND GRATE SHALL BE NEENAH INLET FOR ROLL TYPE CURB SPECIAL R-3501-U1, EAST JORDAN IRON WORKS 7546 OR APPROVED EQUAL.
9. TYPE G-2, MODIFIED FRAME AND GRATE FOR ROLL TYPE CURB R-3508-B2 OR APPROVED EQUAL.
10. MORTAR OR SEALER SHALL BE USED WHEN A PRECAST REINFORCED CONCRETE LID IS USED.
11. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
12. E.O.P. = EDGE OF PAVEMENT.
13. ALL CONCRETE SHALL BE CLASS SI CONCRETE.

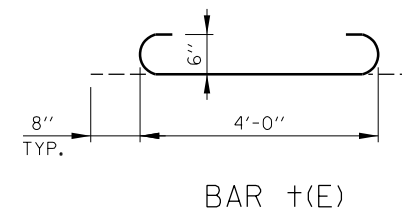
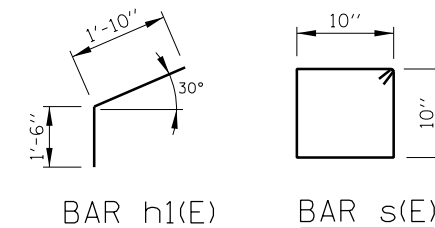


SECTION B-B

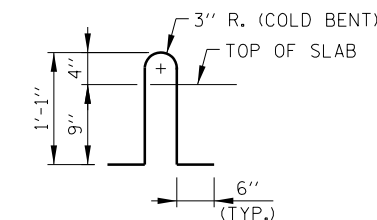
CATCH BASIN TYPE "G" SERIES



TYPICAL REINFORCEMENT AROUND STORM SEWER PIPE



LIFTING LOOP TO BE 1/2" Ø x 270 KSI STRANDS TO BE BURNED AFTER PRECAST CONCRETE LID IS SET IN PLACE.



LIFTING LOOP DETAIL

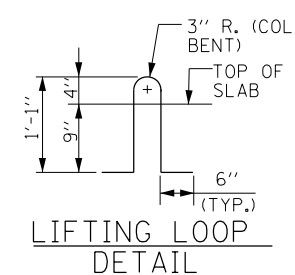
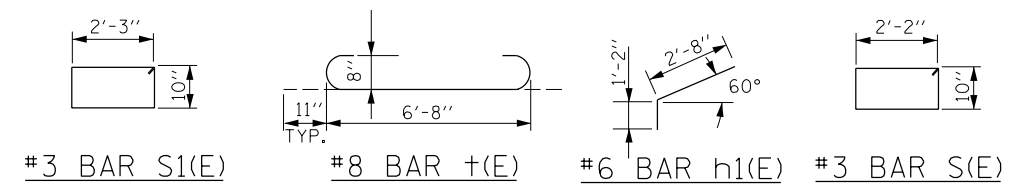
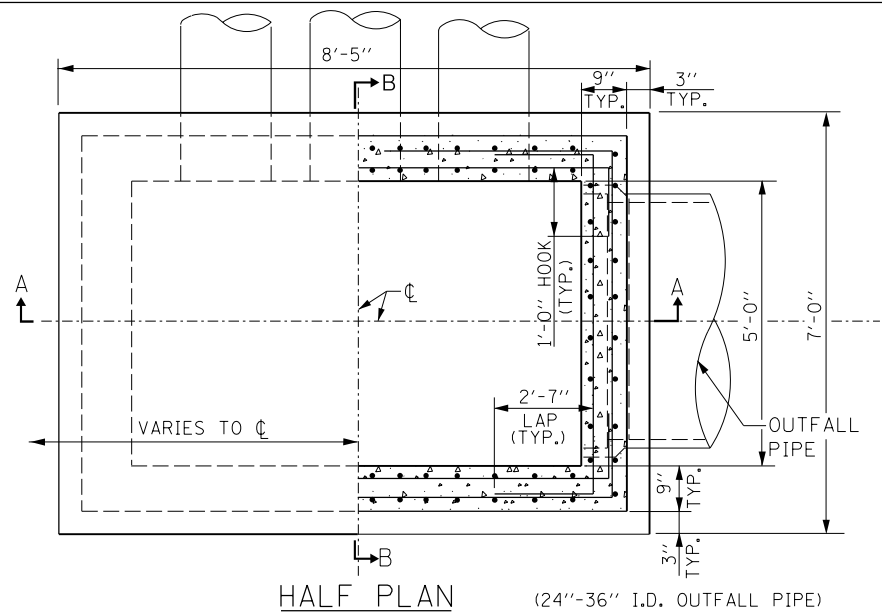
DATE	REVISIONS
6-01-2009	DELETE REINF. CONC. LID TYPE S FRAME & GRATE
2-07-2012	REVISED REINFORCEMENT BARS
11-01-2012	ADDED TYPE G-2, MODIFIED FRAME AND GRATE
	MODIFIED PIPE BELL DETAIL
3-31-2014	ADDED FRAME AND GRATE CASTINGS
3-11-2015	REVISED NOTES AND ADDED CATCH BASIN TYPE G-4 AND TYPE G-5

SHEET 1 OF 4

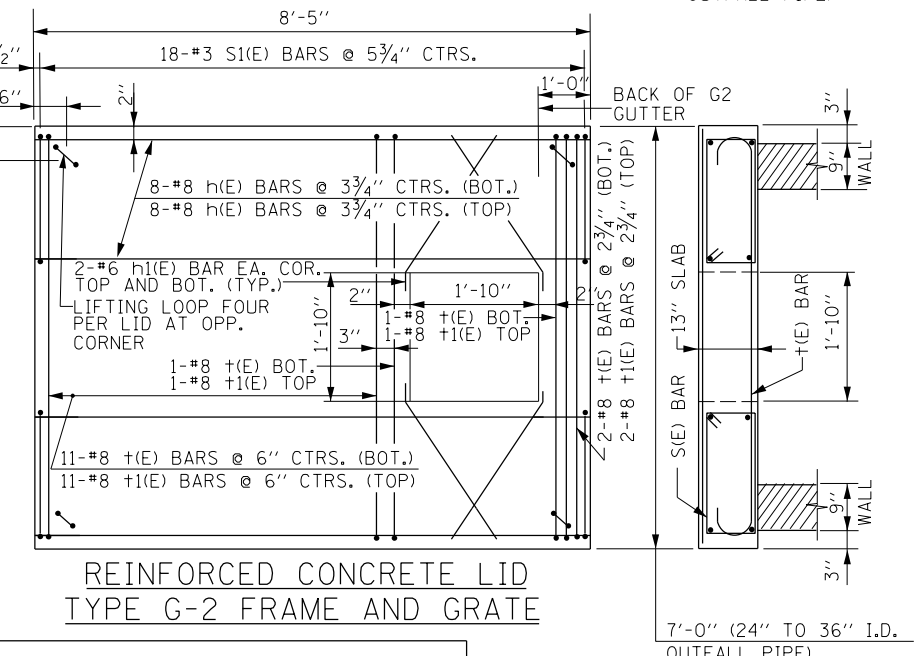
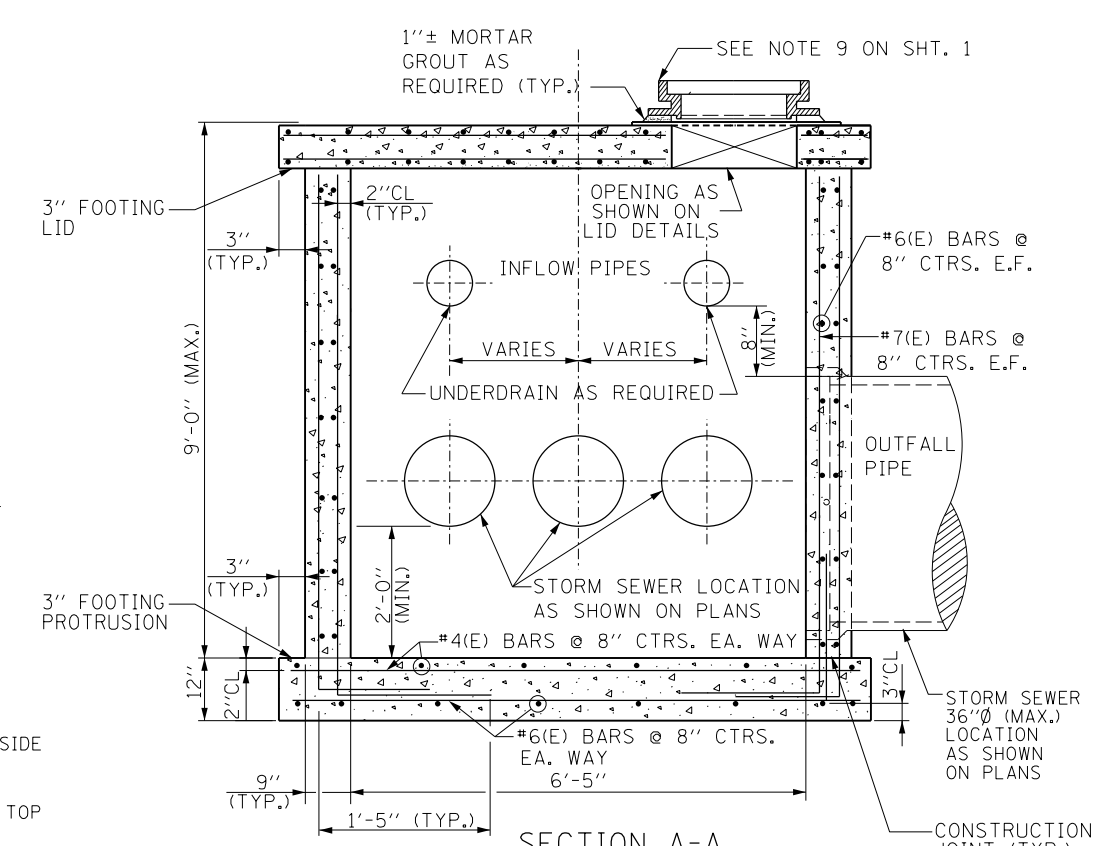
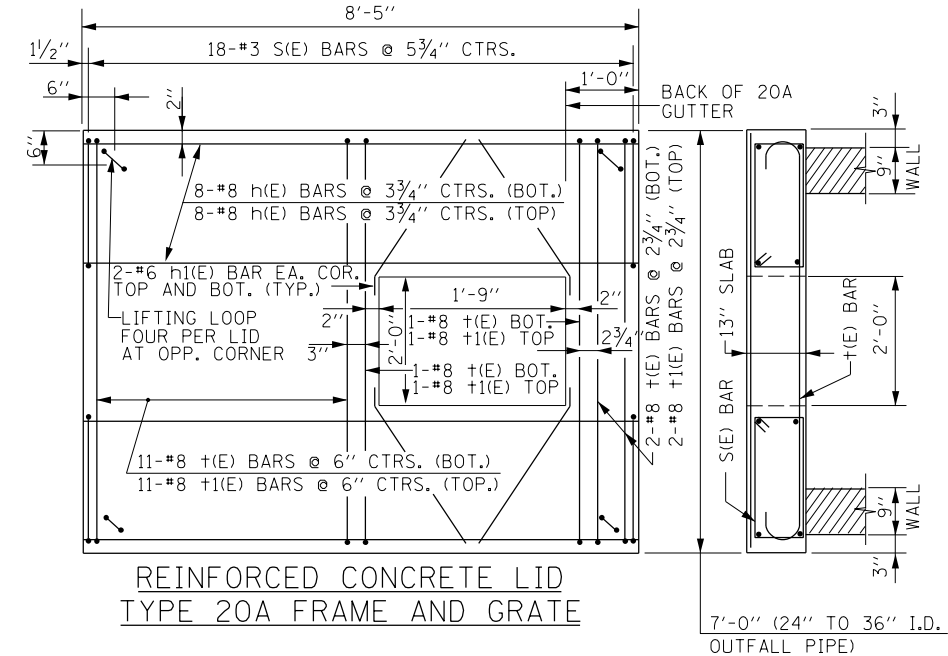
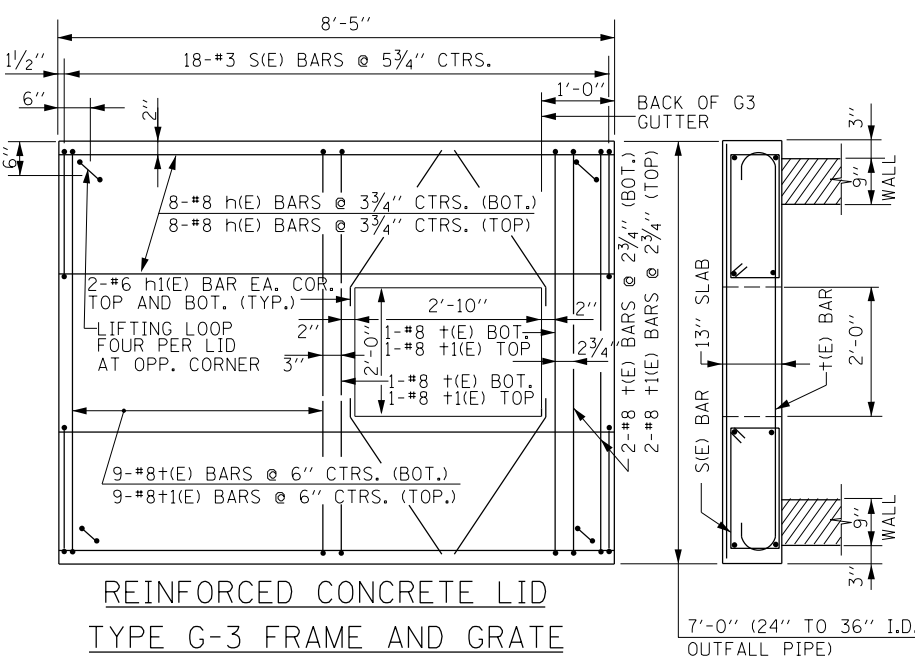
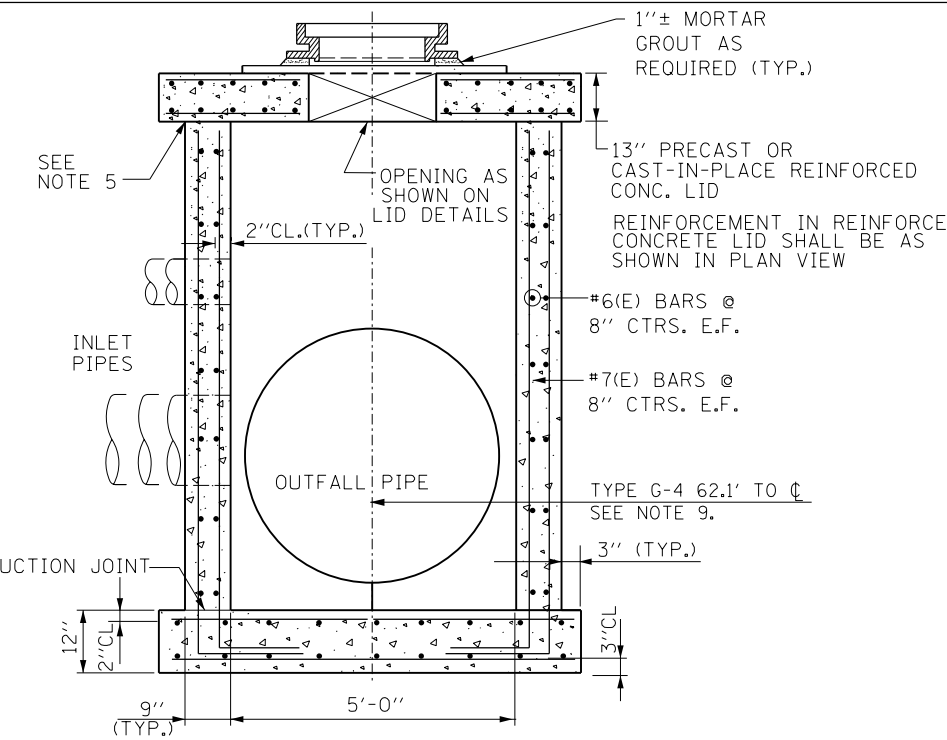
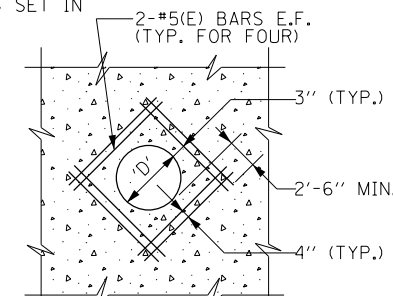
CATCH BASINS TYPE G AND TYPE G MODIFIED, FRAMES AND GRATES

STANDARD B8-05

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009



LIFTING LOOP TO BE 1/2"Øx270ksi STRANDS TO BE BURNED AFTER PRECAST CONCRETE LID IS SET IN PLACE.

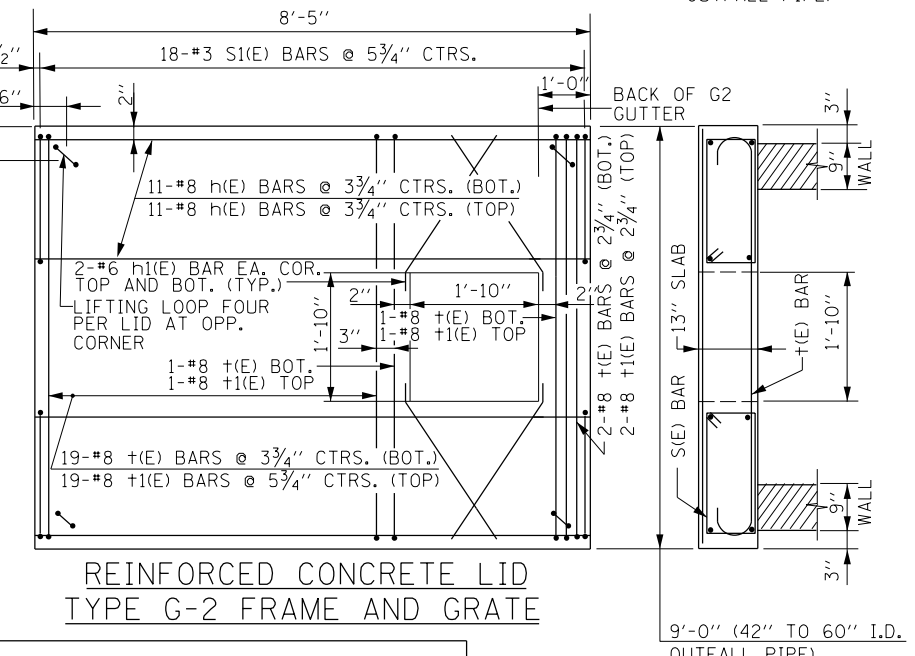
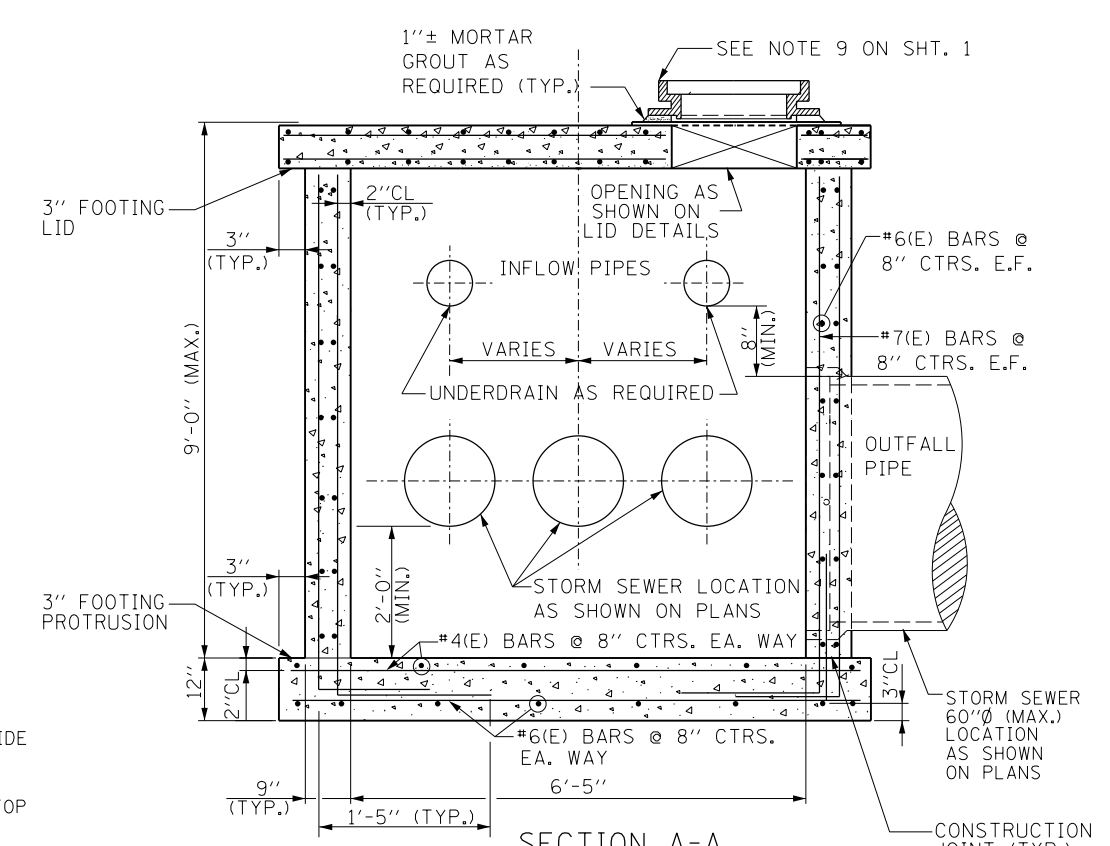
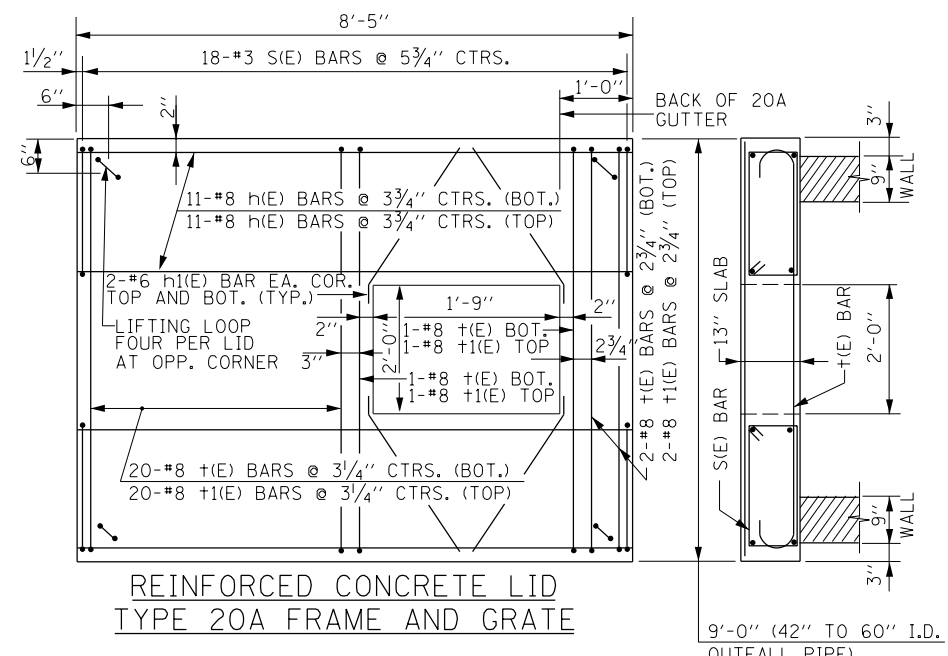
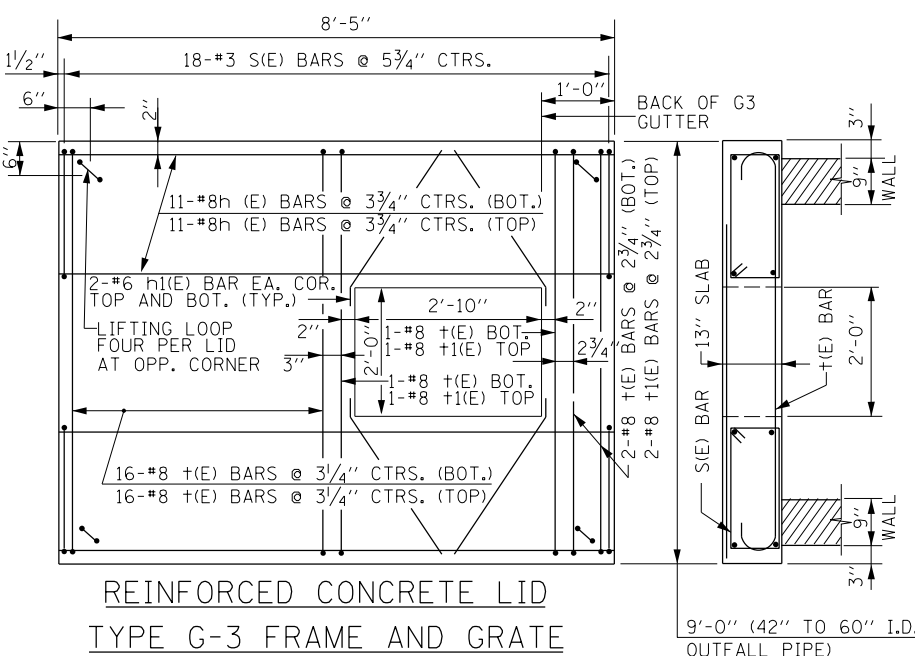
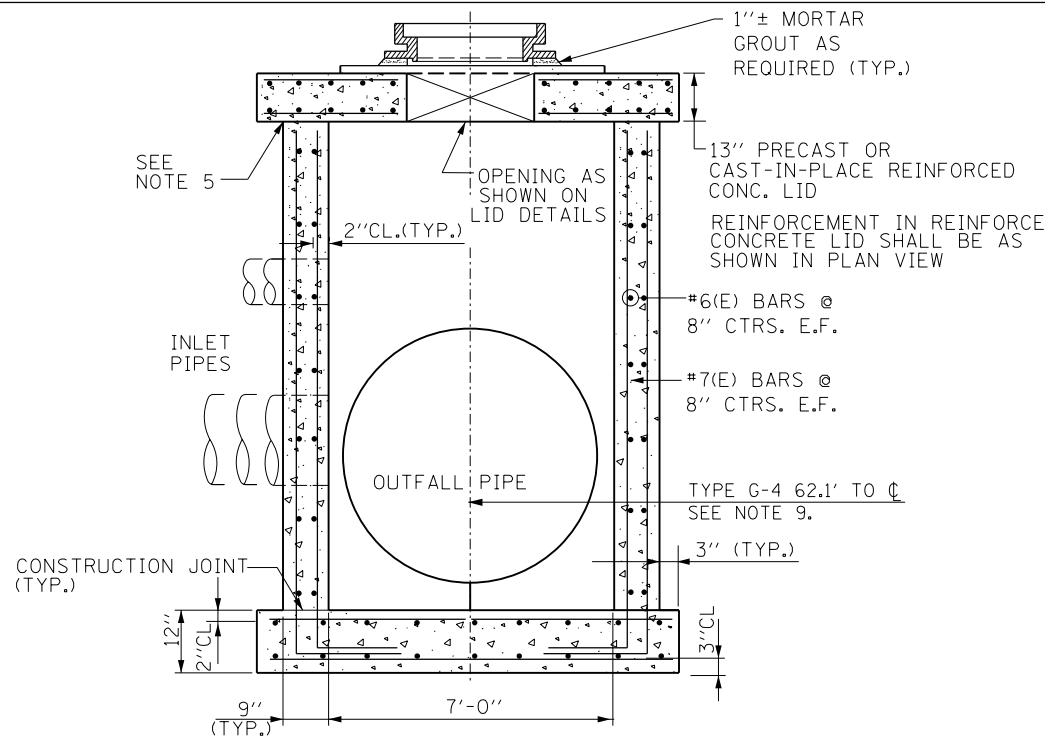
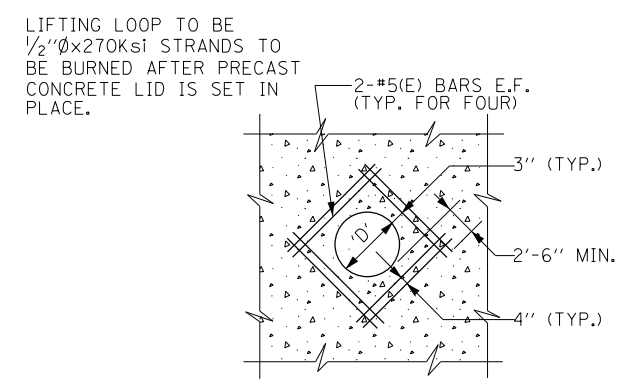
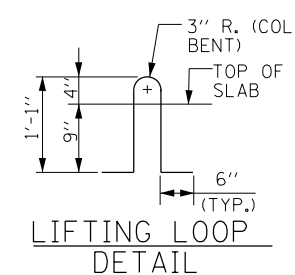
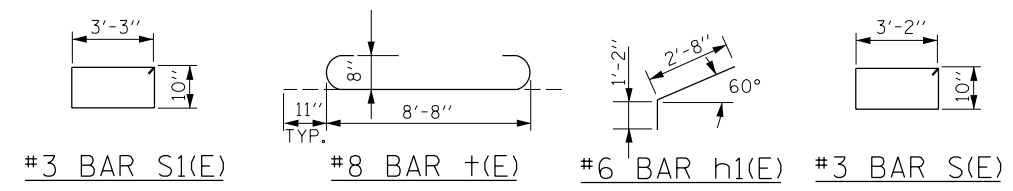
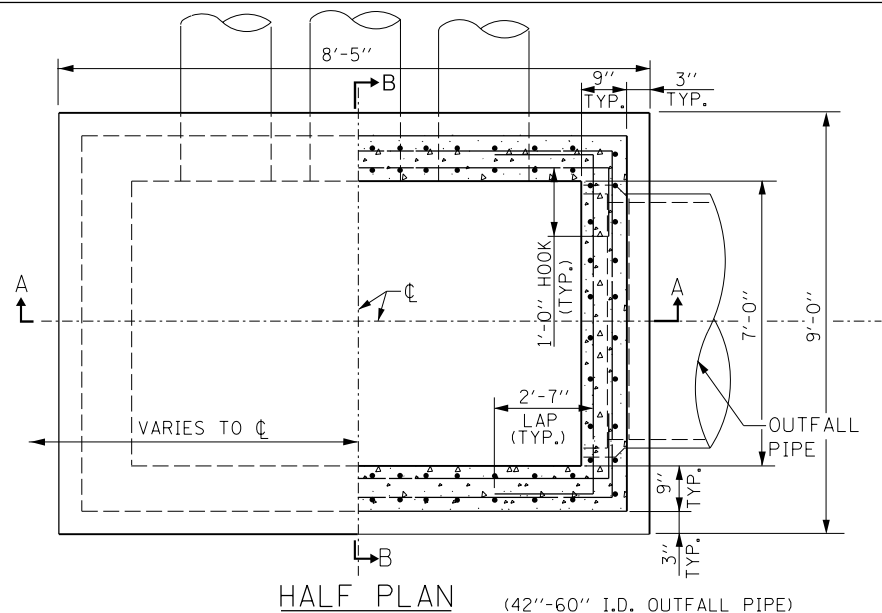


CATCH BASIN TYPE G-4

- NOTES:
- SEE SHEET 1 OF THIS SERIES FOR ADDITIONAL NOTES.
 - CATCH BASINS TYPE G-4 SHALL BE USED IN TANGENT SECTIONS AND ON THE LOW SIDE OF SUPERELEVATED PAVEMENT.
 - CATCH BASINS TYPE G-4 SHALL BE PROVIDED WITH A REINFORCED CONCRETE SLAB TOP AS DETAILED ON THIS DRAWING.
 - CATCH BASINS TYPE G-4 SHALL BE USED WHEN GUTTER, TYPE G-3 IS PROVIDED.
 - MORTAR OR SEALER SHALL BE USED WHEN A PRECAST REINFORCED CONCRETE LID IS USED.
 - EDGE OF SHOULDER, FRAME AND GRATE RIM ELEVATION AND OFFSET MEASURED AT THIS POINT.
 - 36"Ø MAX. OUTFALL PIPE FOR TYPE G-4 CATCH BASIN.
 - ALL CONCRETE SHALL BE CLASS SI CONCRETE.
 - DISTANCE FROM CL OUTFALL PIPE TO CL ROADWAY TO BE VERIFIED BY ENGINEER.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009

CATCH BASINS TYPE G AND TYPE G MODIFIED, FRAMES AND GRATES
STANDARD B8-05



CATCH BASIN TYPE G-5

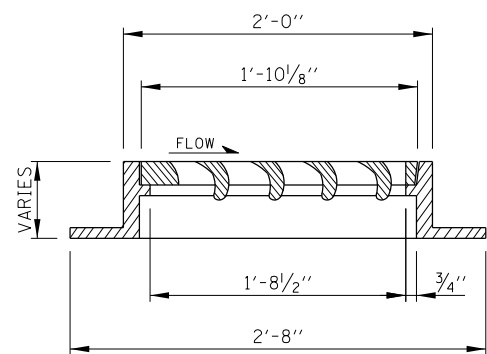
- NOTES:**
- SEE SHEET 1 OF THIS SERIES FOR ADDITIONAL NOTES.
 - CATCH BASINS TYPE G-5 SHALL BE USED IN TANGENT SECTIONS AND ON THE LOW SIDE OF SUPERELEVATED PAVEMENT.
 - CATCH BASINS TYPE G-5 SHALL BE PROVIDED WITH A REINFORCED CONCRETE SLAB TOP AS DETAILED ON THIS DRAWING.
 - CATCH BASINS TYPE G-5 SHALL BE USED WHEN GUTTER, TYPE G-3 IS PROVIDED.
 - MORTAR OR SEALER SHALL BE USED WHEN A PRECAST REINFORCED CONCRETE LID IS USED.
 - EDGE OF SHOULDER, FRAME AND GRATE RIM ELEVATION AND OFFSET MEASURED AT THIS POINT.
 - 60" Ø MAX. OUTFALL PIPE FOR TYPE G-5 CATCH BASIN.
 - ALL CONCRETE SHALL BE CLASS SI CONCRETE.
 - DISTANCE FROM CL OUTFALL PIPE TO CL ROADWAY TO BE VERIFIED BY ENGINEER.



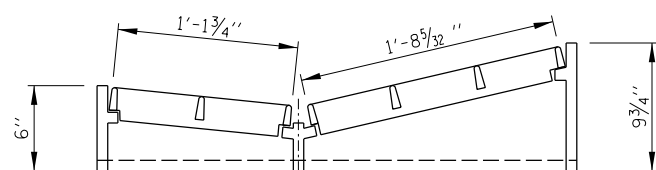
CATCH BASINS TYPE G AND TYPE G MODIFIED, FRAMES AND GRATES

STANDARD B8-05

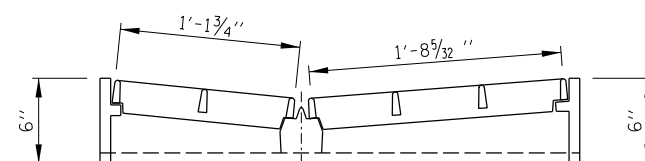
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009



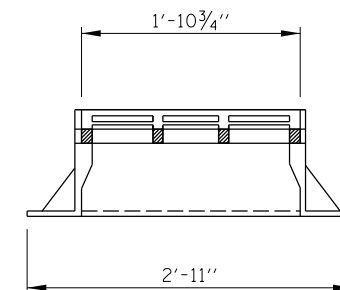
SECTION T-T



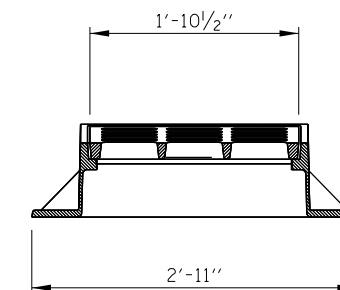
SECTION U-U



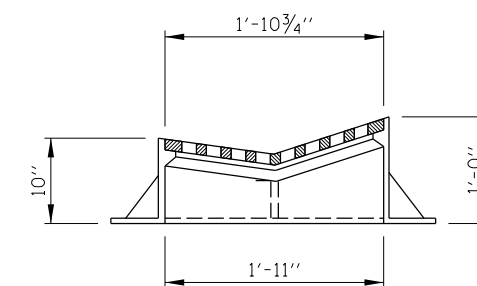
SECTION W-W



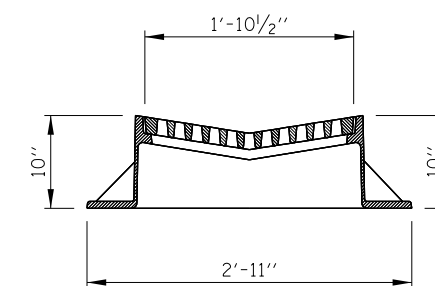
SECTION Y-Y



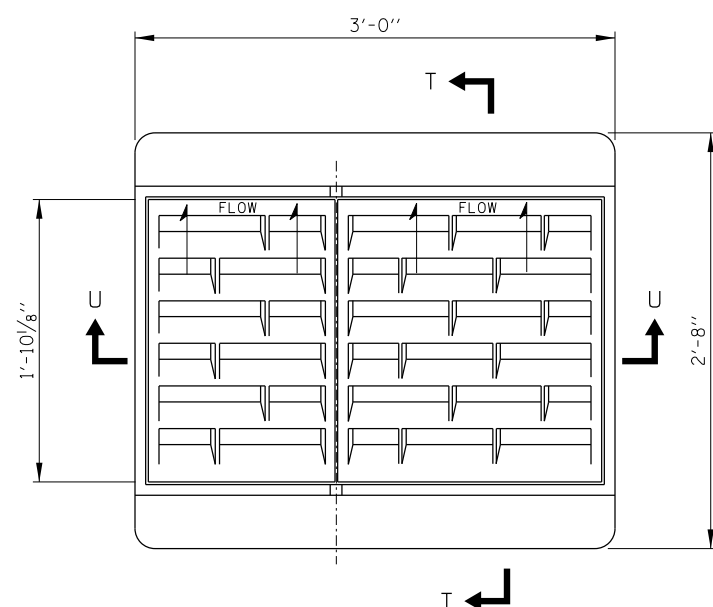
SECTION S-S



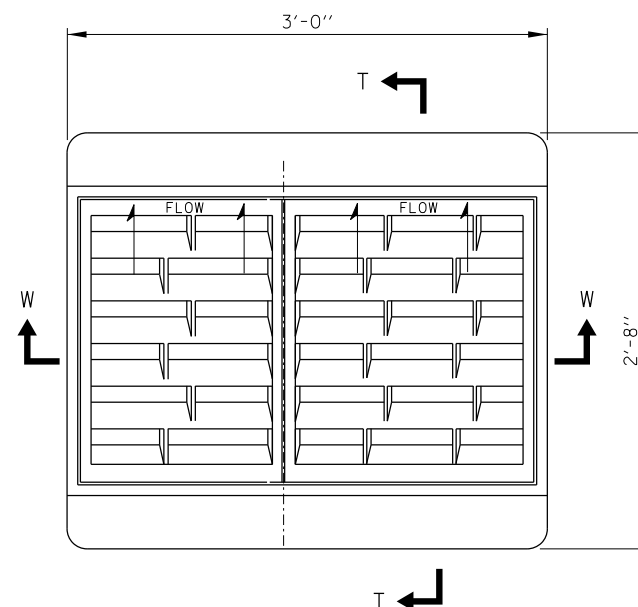
SECTION Z-Z



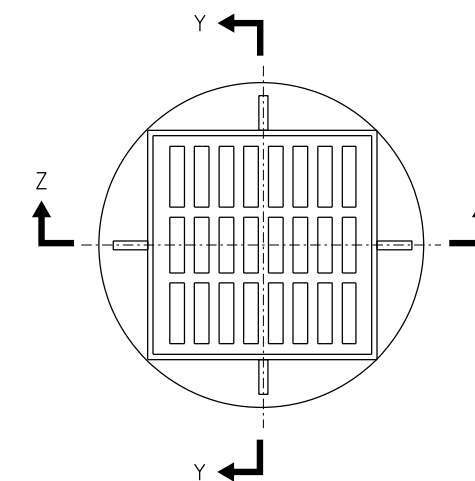
SECTION V-V



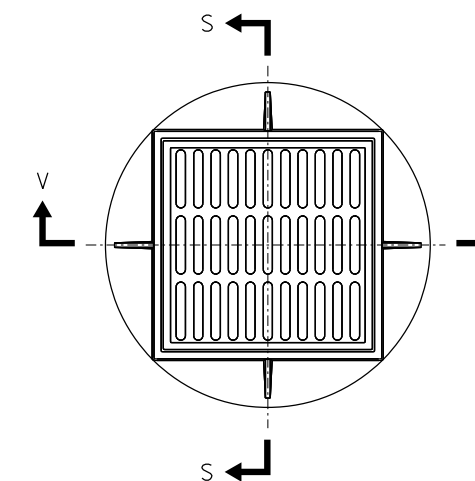
TYPE G-3 FRAME & GRATE



TYPE G-3, MODIFIED
FRAME & GRATE



TYPE G-2 FRAME & GRATE



TYPE G-2 MODIFIED
FRAME & GRATE

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009

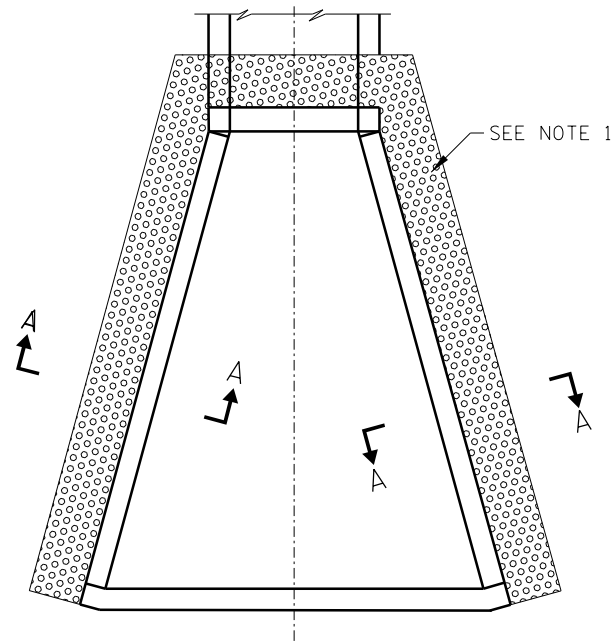
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 4 OF 4

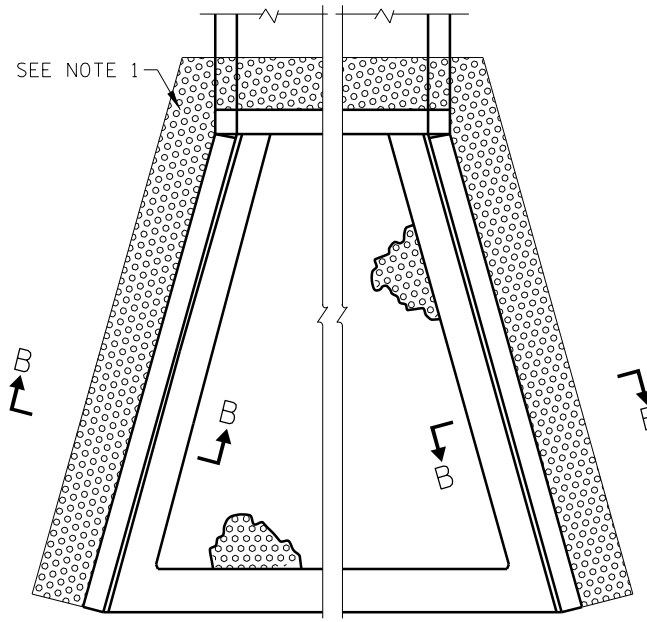


CATCH BASINS TYPE G AND
TYPE G MODIFIED, FRAMES
AND GRATES

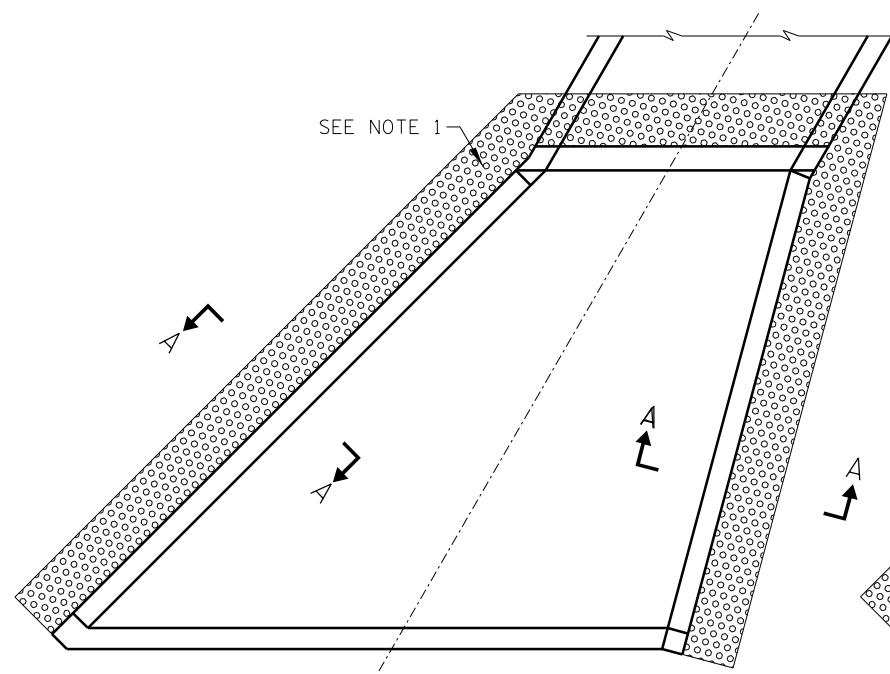
STANDARD B8-05



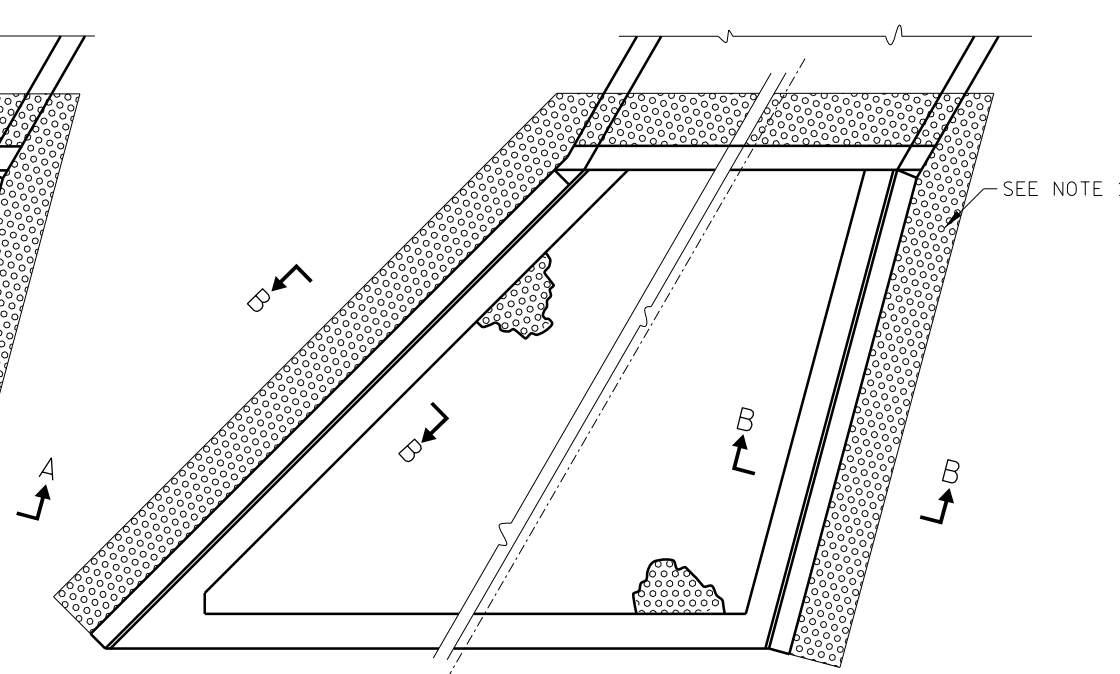
PLAN-0° SKEW, H ≤ 4'



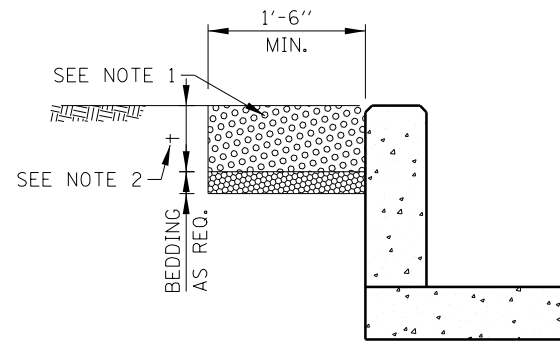
PLAN-0° SKEW, H ≤ 8'



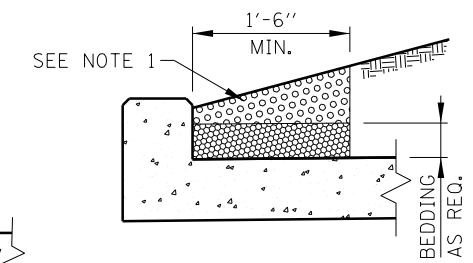
PLAN-SKEW, H ≤ 4'



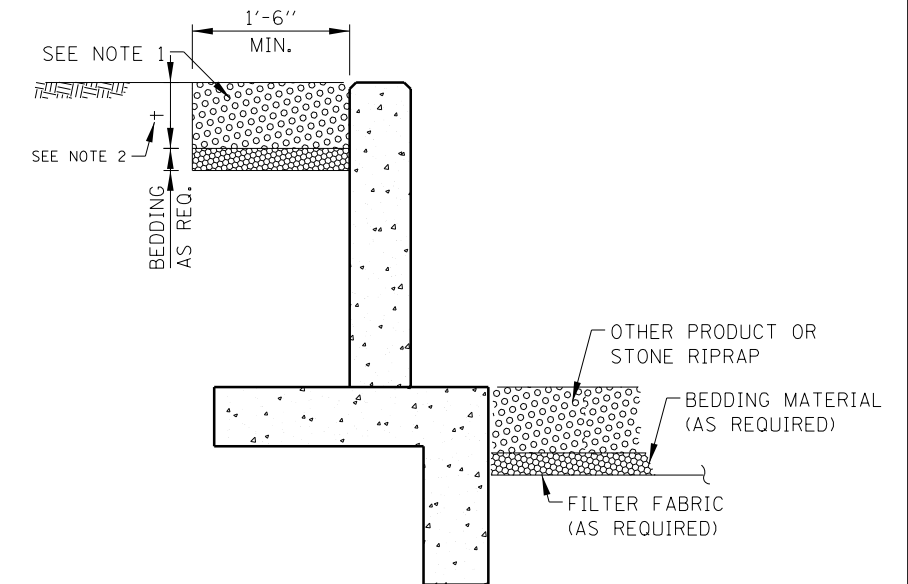
PLAN-SKEW, H ≤ 8'



SECTION A-A



SECTION AT HEADWALL



SECTION B-B

NOTES:

1. THE PREFERRED METHOD FOR ACHIEVING EROSION PROTECTION AT END SECTIONS SHOULD BE THROUGH THE USE OF PRODUCTS THAT PROMOTE REVEGETATION WITHIN THE AREA OF CONCERN.
2. THICKNESS "+" WILL BE DETERMINED BY THE MANUFACTURER'S RECOMMENDATION FOR THE PRODUCT USED.
3. EROSION PROTECTION PLACEMENT SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE.
4. FOR USE WITH STANDARDS B10 TO B18.
5. STONE RIPRAP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DRAINAGE DESIGN MANUAL.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-1-2010

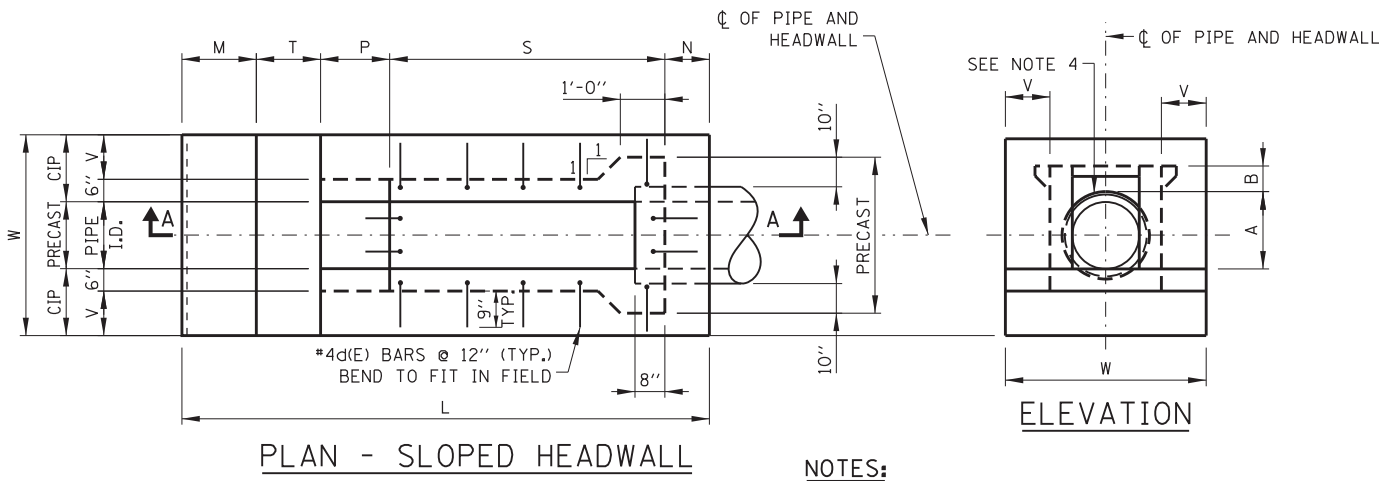
DATE	REVISIONS
3-01-2010	REVISED EROSION PROTECTION AND NOTES
3-11-2015	REVISED NOTES



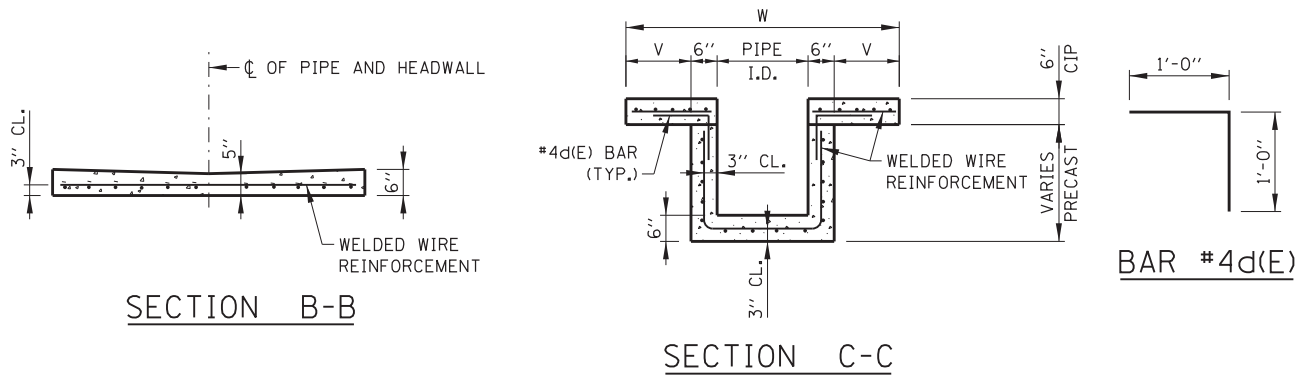
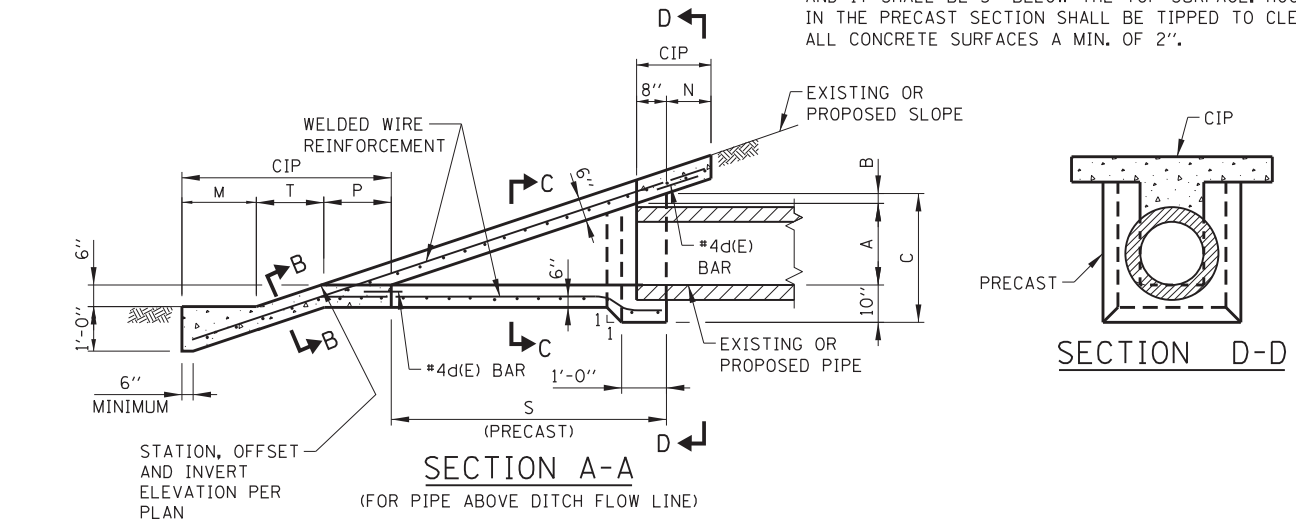
EROSION PROTECTION

STANDARD B19-02

**DIMENSIONS AND QUANTITIES
FOR ONE SLOPED HEADWALL TYPE III**



NOTES:
EACH #4d(E) BAR SHALL BE PLACED SUCH THAT IT WILL PROJECT 9" INTO THE CAST IN PLACE (CIP) CONCRETE AND IT SHALL BE 3" BELOW THE TOP SURFACE. HOOKS IN THE PRECAST SECTION SHALL BE TIPPED TO CLEAR ALL CONCRETE SURFACES A MIN. OF 2".



PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	2 3/4"	1'-9 3/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	2'-11 1/4"	8'-8"	1'-0"	3'-6"	0.15	0.72	3.28	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2 3/4"	2'-4 1/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	4'-6 3/4"	10'-3 1/2"	1'-0"	4'-0"	0.34	0.92	4.50	d12	#4	14	2'-0"	19
15"	1'-6 1/2"	2 3/4"	2'-7 1/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	5'-3 3/4"	11'-1 1/2"	1'-0"	4'-3"	0.45	1.01	5.88	d15	#4	16	2'-0"	21
18"	1'-10"	2 3/4"	2'-10 3/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	6'-2 1/4"	11'-11"	1'-0"	4'-6"	0.61	1.13	6.44	d18	#4	18	2'-0"	24
21"	2'-1"	2 3/4"	3'-1 3/4"	1'-0"	1'-9"	1'-6"	1'-6 3/4"	6'-11 1/4"	12'-9"	1'-3"	5'-3"	0.76	1.39	8.34	d21	#4	22	2'-0"	29
24"	2'-4 1/2"	2 3/4"	3'-5 1/4"	1'-0"	2'-0"	1'-6"	1'-6 3/4"	7'-9 3/4"	13'-10 1/2"	1'-6"	6'-0"	0.95	1.72	9.85	d24	#4	24	2'-0"	32
27"	2'-7 1/2"	2 3/4"	3'-8 1/4"	1'-1 1/2"	2'-3"	1'-6"	1'-6 3/4"	8'-6 3/4"	15'-0"	1'-9"	6'-9"	1.14	2.07	13.54	d27	#4	24	2'-0"	32
30"	2'-11"	2 3/4"	3'-11 3/4"	1'-3"	2'-6"	1'-6"	1'-6 3/4"	9'-5 1/4"	16'-3"	2'-0"	7'-6"	1.38	2.46	16.40	d30	#4	26	2'-0"	35

PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	2"	1'-9"	1'-0"	1'-8"	2'-0"	2'-1"	3'-8"	10'-5"	1'-0"	3'-6"	0.17	0.83	4.07	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2"	2'-3 1/2"	1'-0"	1'-8"	2'-0"	2'-1"	5'-10"	12'-7"	1'-0"	4'-0"	0.41	1.07	5.50	d12	#4	16	2'-0"	21
15"	1'-6 1/2"	2"	2'-6 1/2"	1'-0"	1'-8"	2'-0"	2'-1"	6'-10"	13'-7"	1'-0"	4'-3"	0.55	1.18	6.63	d15	#4	18	2'-0"	24
18"	1'-10"	2"	2'-10"	1'-0"	1'-8"	2'-0"	2'-1"	8'-0"	14'-9"	1'-0"	4'-6"	0.74	1.32	8.60	d18	#4	22	2'-0"	29
21"	2'-1"	2"	3'-1"	1'-0"	1'-9"	2'-0"	2'-1"	9'-0"	15'-10"	1'-3"	5'-3"	0.93	1.63	11.03	d21	#4	24	2'-0"	32
24"	2'-4 1/2"	2"	3'-4 1/2"	1'-0"	2'-0"	2'-0"	2'-1"	10'-2"	17'-3"	1'-6"	6'-0"	1.18	2.00	13.88	d24	#4	28	2'-0"	37
27"	2'-7 1/2"	2"	3'-7 1/2"	1'-1 1/2"	2'-3"	2'-0"	2'-1"	11'-2"	18'-7 1/2"	1'-9"	6'-9"	1.42	2.41	14.83	d27	#4	30	2'-0"	40
30"	2'-11"	2"	3'-11"	1'-3"	2'-6"	2'-0"	2'-1"	12'-4"	20'-2"	2'-0"	7'-6"	1.71	2.87	20.49	d30	#4	32	2'-0"	43

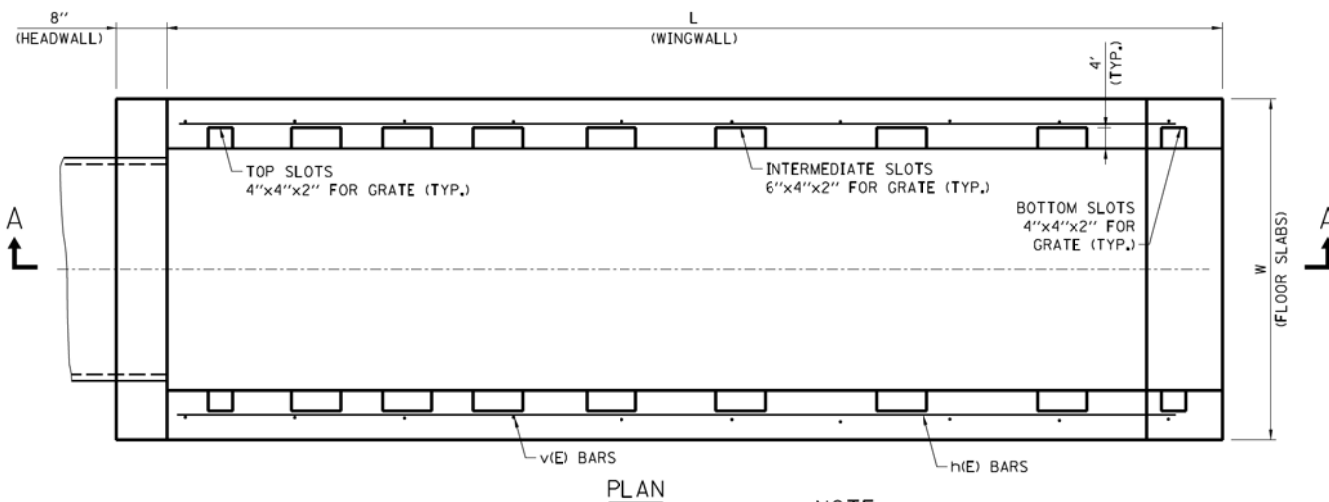
PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	1 1/2"	1'-8 1/2"	1'-0"	1'-8"	3'-0"	3'-0"	5'-3"	13'-11"	1'-0"	3'-6"	0.23	1.07	5.29	d6	#4	16	2'-0"	21
12"	1'-3 1/2"	1 1/2"	2'-3"	1'-0"	1'-8"	3'-0"	3'-0"	8'-6"	17'-2"	1'-0"	4'-0"	0.57	1.38	8.62	d12	#4	22	2'-0"	29
15"	1'-6 1/2"	1 1/2"	2'-6"	1'-0"	1'-8"	3'-0"	3'-0"	10'-0"	18'-8"	1'-0"	4'-3"	0.77	1.53	10.35	d15	#4	26	2'-0"	35
18"	1'-10"	1 1/2"	2'-9 1/2"	1'-0"	1'-8"	3'-0"	3'-0"	11'-9"	20'-5"	1'-0"	4'-6"	1.04	1.70	12.47	d18	#4	28	2'-0"	37
21"	2'-1"	1 1/2"	3'-0 1/2"	1'-0"	1'-9"	3'-0"	3'-0"	13'-3"	22'-0"	1'-3"	5'-3"	1.31	2.11	15.77	d21	#4	34	2'-0"	45
24"	2'-4 1/2"	1 1/2"	3'-4"	1'-0"	2'-0"	3'-0"	3'-0"	15'-0"	24'-0"	1'-6"	6'-0"	1.66	2.59	17.62	d24	#4	38	2'-0"	51
27"	2'-7 1/2"	1 1/2"	3'-7"	1'-1 1/2"	2'-3"	3'-0"	3'-0"	16'-6"	25'-10 1/2"	1'-9"	6'-9"	1.99	3.11	24.10	d27	#4	40	2'-0"	53
30"	2'-11"	1 1/2"	3'-10 1/2"	1'-3"	2'-6"	3'-0"	3'-0"	18'-3"	28'-0"	2'-0"	7'-6"	2.41	3.70	29.13	d30	#4	44	2'-0"	59

- NOTES:**
- THE CAST IN PLACE (CIP) SLOPED HEADWALL SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
 - CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
 - WELDED WIRE REINFORCEMENT SHALL BE EPOXY COATED 6x6-W4xW4, 58 LBS. PER 100 SQ.FT.
 - ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED (E).
 - BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
 - COVER FROM FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
 - PRECAST UNIT USE IS OPTIONAL. THE ENTIRE STRUCTURE MAY BE CAST IN PLACE.
 - AFTER THE PRECAST SLOPED HEADWALL HAS BEEN PLACED, THE SPACE BETWEEN THE HEADWALL AND PIPE SHALL BE COMPLETELY FILLED WITH AN APPROVED NON-SHRINK GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
 - THE SLOPED HEADWALL DETAILS SHOWN ON THIS DRAWING ARE FOR USE ONLY WITH PIPES HAVING DIAMETER OR SPAN OF 30" OR LESS.
 - ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 - I.D. DENOTES INSIDE DIAMETER OF PIPE. O.D. DENOTES OUTSIDE DIAMETER OF PIPE.

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012

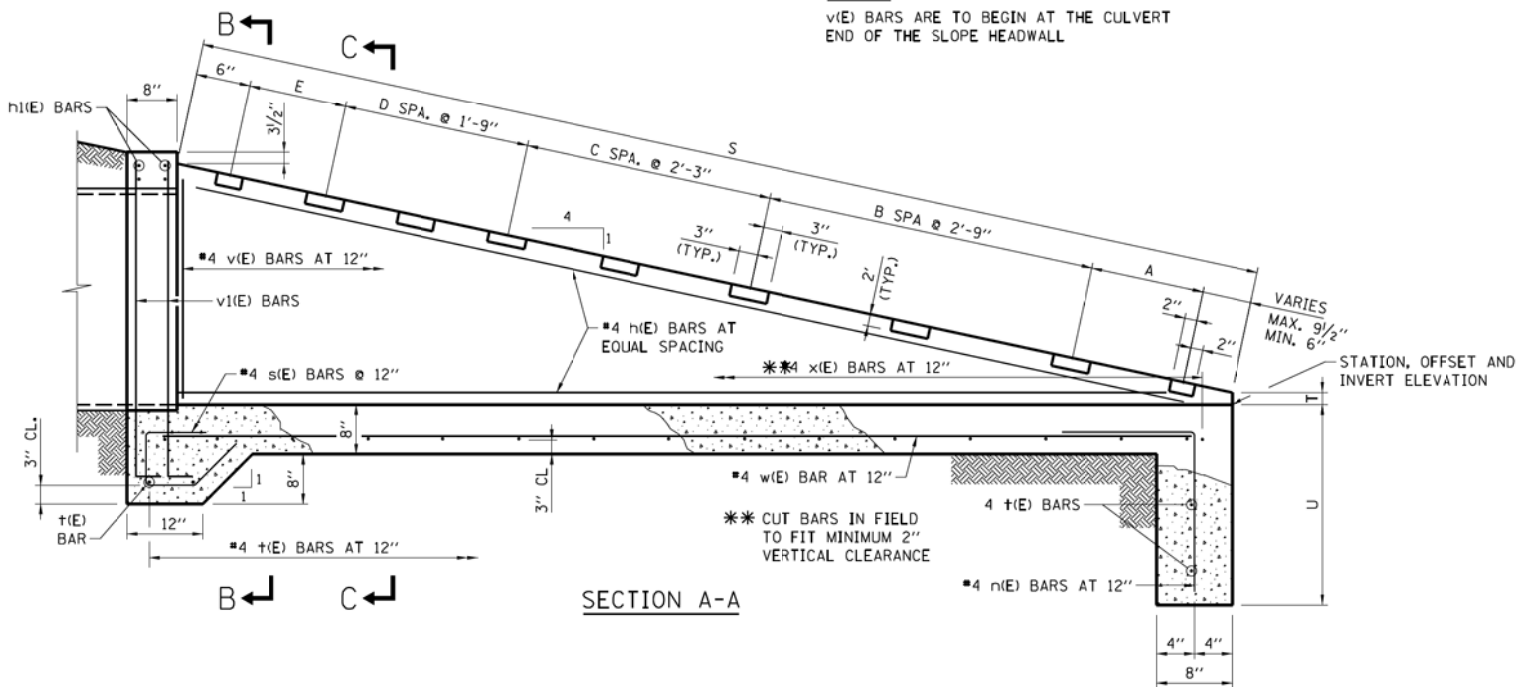
SLOPED HEADWALLS TYPE III DETAILS	
STANDARD B10-09	

DATE	REVISIONS
3-31-2014	REVISED QUANTITIES
3-11-2015	REVISED TABLES AND SECTIONS
3-31-2016	CHANGED TERMINOLOGY TO WELDED WIRE REINFORCEMENT
3-31-2017	REVISED TABLE (L)

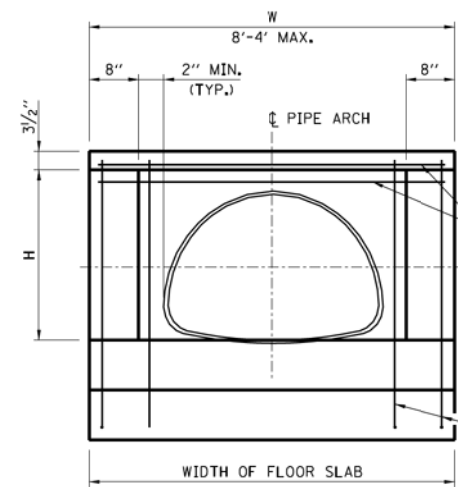


PLAN

NOTE:
v(E) BARS ARE TO BEGIN AT THE CULVERT END OF THE SLOPE HEADWALL

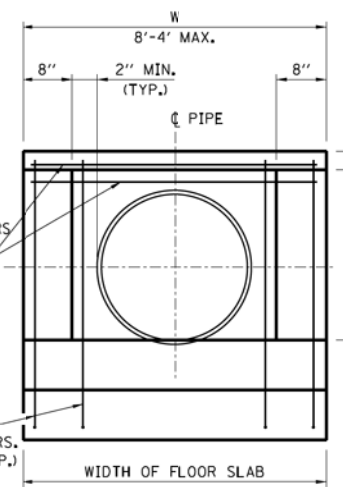


SECTION A-A



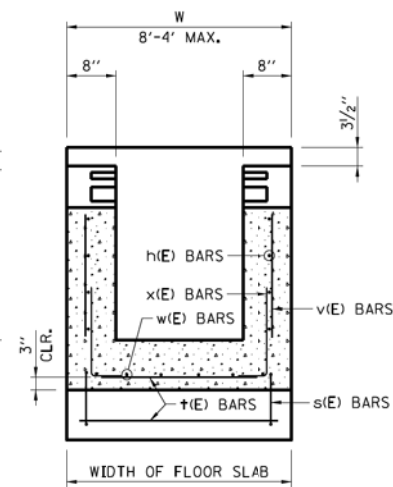
SECTION B-B

ELLIPTICAL PIPE OR PIPE-ARCH



SECTION B-B

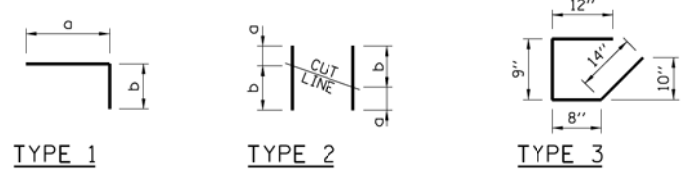
CIRCULAR PIPE



SECTION C-C

DIMENSIONS AND QUANTITIES IN TWO WINGWALLS 1:4 SLOPE

PIPE-ARCH ELLIPTICAL PIPE (SPAN ≤ 77")	CIRCULAR PIPE (DIAMETER)	DIMENSIONS								NO. OF SPACES			CONCRETE CLASS SI* (C.Y.)	REINF. BAR* (POUND)
		H	L	S	T	U	A	E	B	C	D			
RISE ≤ 30"		3'-2"	12'-0"	12'-4 1/2"	2"	2'-8"	2'-2"	2'-2"	-	3	-	.98	151	
RISE ≤ 36"		3'-8"	14'-0"	14'-5 1/8"	2"	2'-8"	2'-2"	2'-2"	-	4	-	1.33	188	
RISE ≤ 42"		4'-3"	16'-4"	16'-10"	2"	3'-2"	2'-8"	2'-2"	4	-	-	1.78	251	
RISE ≤ 48"		4'-9"	18'-4"	18'-10 3/4"	2"	3'-2"	2'-2"	2'-2"	-	6	-	2.23	295	
RISE ≤ 54"	54"	5'-3"	20'-4"	20'-11 1/2"	2"	3'-6"	2'-2"	2'-2"	4	2	-	2.72	370	
RISE ≤ 60"	60"	5'-10"	22'-8"	23'-4 3/4"	2"	3'-6"	2'-2"	2'-2"	-	8	-	3.36	428	
	66"	6'-4"	24'-8"	25'-5 1/8"	2"	3'-6"	2'-2"	2'-2"	4	4	-	3.96	517	



TYPE 1

TYPE 2

TYPE 3

TABLE OF BARS IN ONE WINGWALL 1:4 SLOPE

NO. 4 REINFORCEMENT BARS						
H	MARK(E)	TYPE	NO. REQ'D	LENGTH	a	b
3'-2"	H 30	STR.	4	11'-8"		
	V 30	2	5	5'-0"	2'-0"	3'-0"
	X 30	1	13	3'-2"	2'-2"	1'-0"
3'-8"	H 36	STR.	4	13'-8"		
	V 36	2	7	5'-6"	2'-0"	3'-6"
	X 36	1	15	3'-2"	2'-2"	1'-0"
4'-3"	H 42	STR.	5	16'-0"		
	V 42	2	9	6'-0"	1'-11"	4'-1"
	X 42	1	17	3'-2"	2'-2"	1'-0"
4'-9"	H 48	STR.	5	18'-0"		
	V 48	2	11	6'-5"	1'-10"	4'-7"
	X 48	1	19	3'-2"	2'-2"	1'-0"
5'-3"	H 54	STR.	6	20'-0"		
	V 54	2	13	6'-11"	1'-10"	5'-1"
	X 54	1	21	3'-2"	2'-2"	1'-0"
5'-10"	H 60	STR.	6	22'-4"		
	V 60	2	15	7'-7"	1'-11"	5'-8"
	X 60	1	23	3'-2"	2'-2"	1'-0"
6'-4"	H 66	STR.	7	24'-4"		
	V 66	2	17	8'-1"	1'-11"	6'-2"
	X 66	1	25	3'-2"	2'-2"	1'-0"

TABLE OF BARS IN SLAB 1:4 SLOPE (PER FT. OF FLOOR SLAB WIDTH)

NO. 4 REINFORCEMENT BARS								
H	MARK(E)	TYPE	NO. REQ'D	LENGTH	a	b	REINF. BARS (POUND)*	CONCRETE CLASS SI (C.Y.)*
3'-2"	h 131	STR.	4	W-(0'-4")			52	.38
	v 131	1	8	5'-0"	4'-4"	8"		
	n 30	1	1	4'-1"	2'-1"	2'-0"		
	w 30	STR.	1	12'-1"				
	t 30	STR.	15	W-(0'-4")				
3'-8"	h 136	STR.	4	W-(0'-4")			58	.43
	v 136	1	8	5'-6"	4'-10"	8"		
	n 36	1	1	4'-1"	2'-1"	2'-0"		
	w 36	STR.	1	14'-1"				
	t 36	STR.	19	W-(0'-4")				
4'-3"	h 142	STR.	4	W-(0'-4")			65	.50
	v 142	1	8	6'-1"	5'-5"	8"		
	n 42	1	1	4'-7"	2'-7"	2'-0"		
	w 42	STR.	1	16'-5"				
	t 42	STR.	21	W-(0'-4")				
4'-9"	h 148	STR.	4	W-(0'-4")			70	.55
	v 148	1	8	6'-7"	5'-11"	8"		
	n 48	1	1	4'-7"	2'-7"	2'-0"		
	w 48	STR.	1	18'-5"				
	t 48	STR.	23	W-(0'-4")				
5'-3"	h 154	STR.	4	W-(0'-4")			76	.60
	v 154	1	8	7'-1"	6'-5"	8"		
	n 54	1	1	4'-11"	2'-11"	2'-0"		
	w 54	STR.	1	20'-5"				
	t 54	STR.	25	W-(0'-4")				
5'-10"	h 160	STR.	4	W-(0'-4")			82	.66
	v 160	1	8	7'-8"	7'-0"	8"		
	n 60	1	1	4'-11"	2'-11"	2'-0"		
	w 60	STR.	1	22'-9"				
	t 60	STR.	27	W-(0'-4")				
6'-4"	h 166	STR.	4	W-(0'-4")			87	.71
	v 166	1	8	8'-2"	7'-6"	8"		
	n 66	1	1	4'-11"	2'-11"	2'-0"		
	w 66	STR.	1	24'-9"				
	t 66	STR.	29	W-(0'-4")				

GENERAL NOTES:

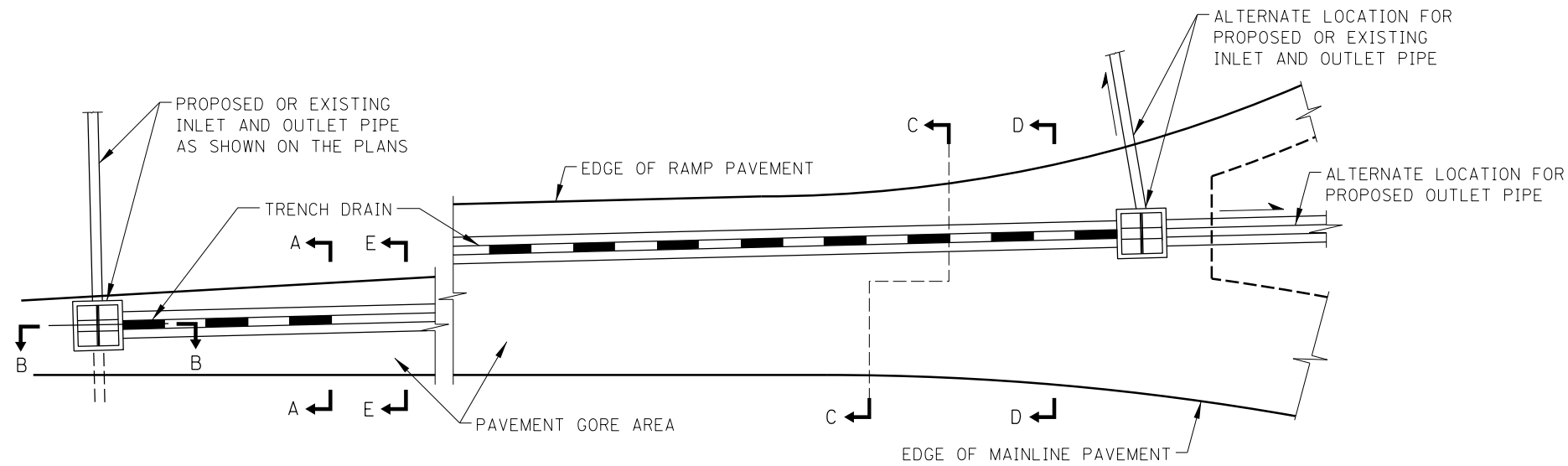
- TYPE 2 "v(E)" BARS SHALL BE ORDERED FULL LENGTH AND CUT IN THE FIELD. THE REMAINING PORTION OF THE "v(E)" BARS SHALL BE USED IN THE OTHER WALL.
- THE LONG LEG OF THE "h(E)" BARS SHALL BE VERTICAL.
- PAY ITEMS ARE IDENTIFIED BY AN ASTERISK (*).
- SEE STANDARD B23 FOR GRATING DETAILS.
- ALL CONCRETE SHALL BE CLASS SI.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
- ALL REINFORCEMENT BARS SHALL BE EPOXY COATED (E).

DATE	REVISIONS
2-07-2012	REVISED TABLE QUANTITIES
3-11-2015	REVISED NOTES
3-31-2016	STATION, OFFSET AND INERT ELEVATION, MOVE,

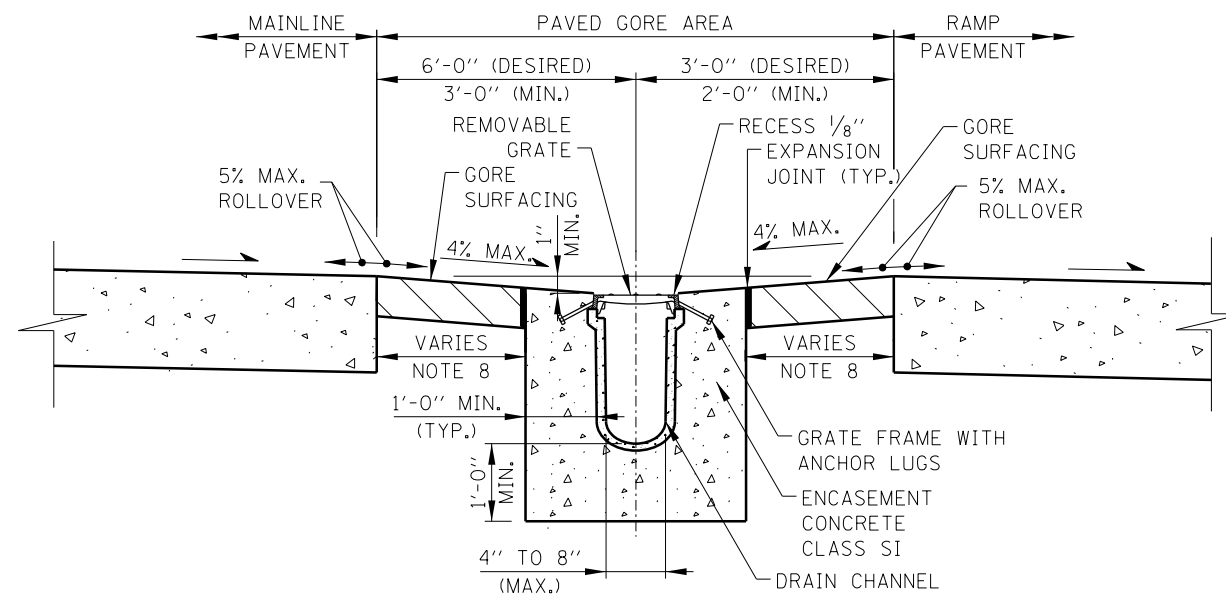
HEADWALL TYPE IV
METAL PIPE & PIPE-ARCH
CULVERTS

STANDARD B22-04

Paul Kovacs
APPROVED... CHIEF ENGINEER... DATE 2-7-2012



PLAN



SECTION A-A
TRENCH DRAIN INSTALLATION

NOTES:


1. OUTLET PIPES AND PREFORMED CHANNEL INVERTS SHALL BE SLOPED AT 0.6% OR STEEPER TOWARD OUTLET REGARDLESS OF THE SURFACE SLOPE.
2. TRENCH DRAIN MAY BE STUBBED DIRECTLY INTO DRAINAGE STRUCTURES OR OUTLET PIPES MAY BE USED TO CONNECT TRENCH DRAIN TO DRAINAGE STRUCTURES.
3. TRENCH EXCAVATION MUST ALLOW FOR A MINIMUM OF 12 INCHES OF CONCRETE TO BE PLACED UNDER AND ALONGSIDE THE TRENCH DRAIN CHANNEL SYSTEM.
4. THE FINISHED LEVEL OF CONCRETE MUST BE APPROXIMATELY 1/8" ABOVE THE TOP OF THE DRAIN CHANNEL.
5. TRENCH DRAINS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS DETAILS AND SPECIFICATIONS.
6. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN PAVED SHOULDER AND TRENCH DRAIN ENCASEMENT.
7. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL PLACEMENT (V:H).
8. WHEN THE CONCRETE ENCASEMENT FOR TRENCH DRAIN IS WITHIN 6' OF THE PAVEMENT, REPLACE THE GORE SURFACING WITH CLASS SI CONCRETE 9" DEPTH; PAY ITEM: PORTLAND CEMENT CONCRETE SHOULDERS (JOINTED) 9".

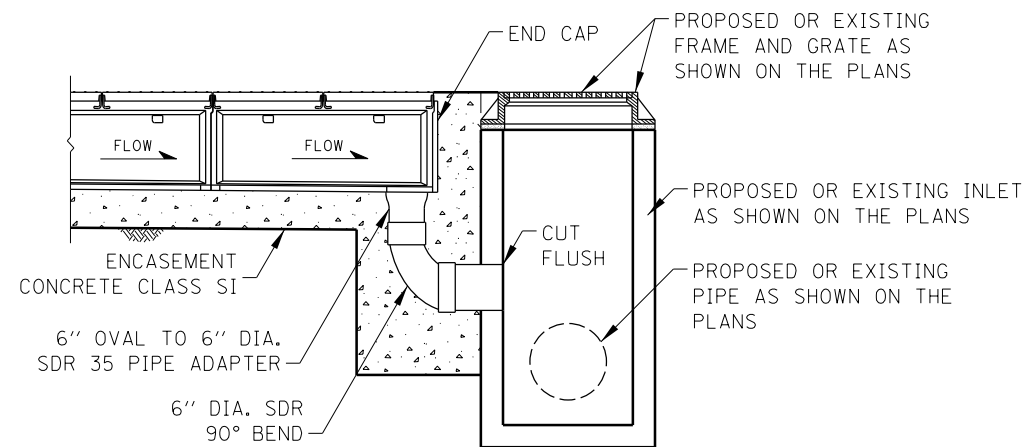


DATE	REVISIONS
2-01-2013	REVISED MAINLINE SHOULDER GRADE
3-31-2014	REVISED NOTES
3-11-2015	REVISED ROLLOVER, ADDED CATCH BASIN, TYPE B
3-31-2016	REVISED PIPING BEND

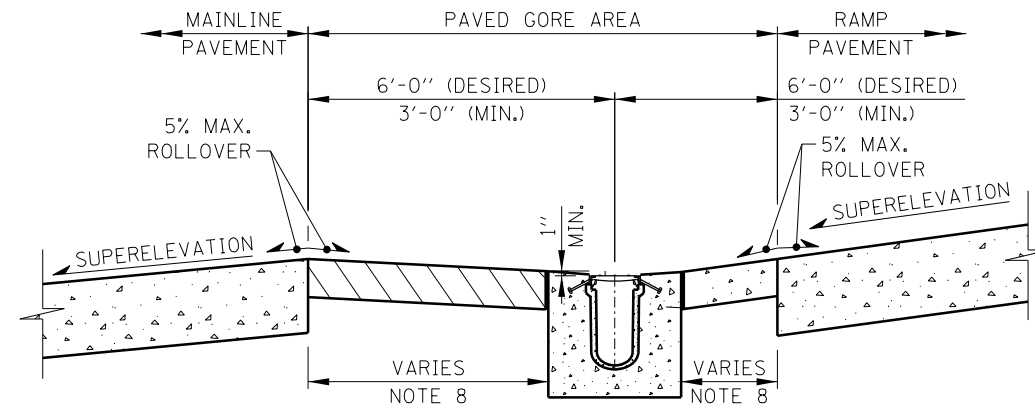
TRENCH DRAIN DETAIL

STANDARD B12-06

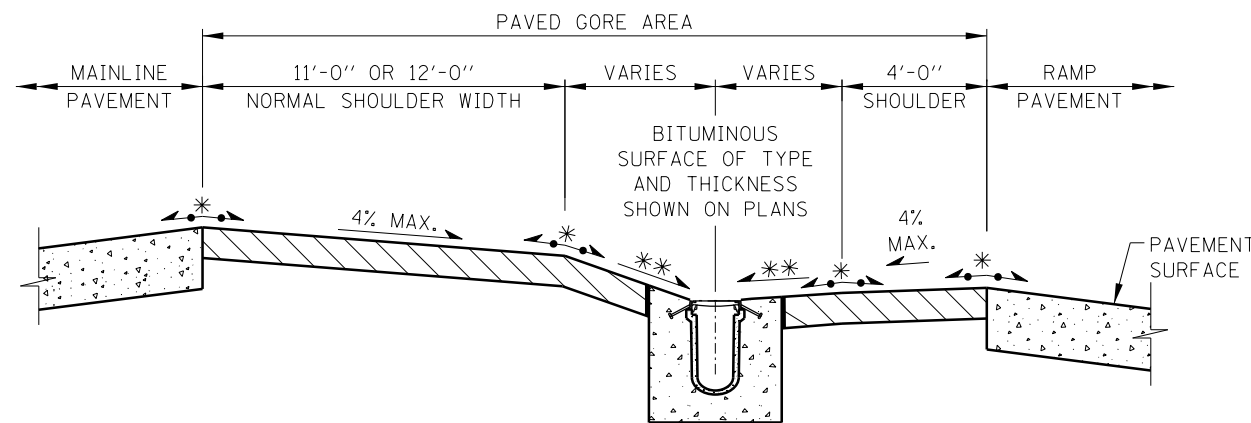

 APPROVED..... CHIEF ENGINEER DATE 1-1-2011...



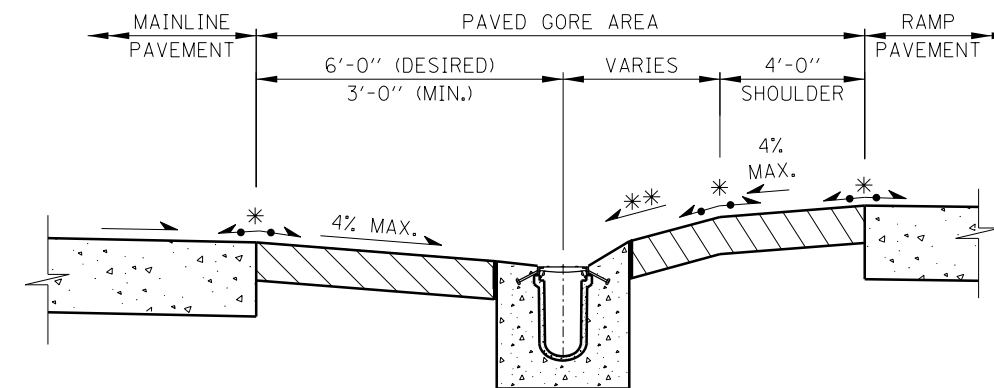
SECTION B-B
PIPE OUTLET TO DRAINAGE STRUCTURE



SECTION E-E
RAMP ON OUTSIDE OF
SUPERELEVATED MAINLINE SECTION



SECTION D-D



SECTION C-C

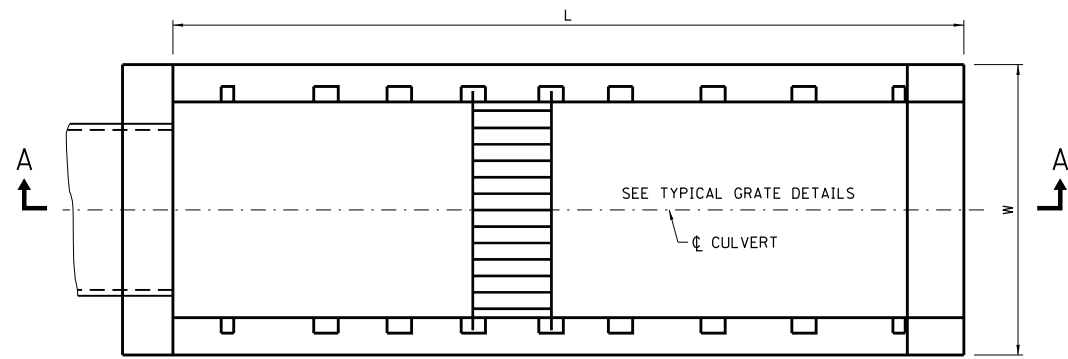
* MAXIMUM ROLLOVER AND ** MAXIMUM SLOPE FROM EDGE OF SHOULDER
VARIES FROM THE PHYSICAL NOSE TO THE GORE NOSE ACCORDING TO THE FOLLOWING:

FOR EXIT RAMPS: * 5% MAX. ROLLOVER AND
** 9% MAX. SLOPE FROM EDGE OF SHOULDER

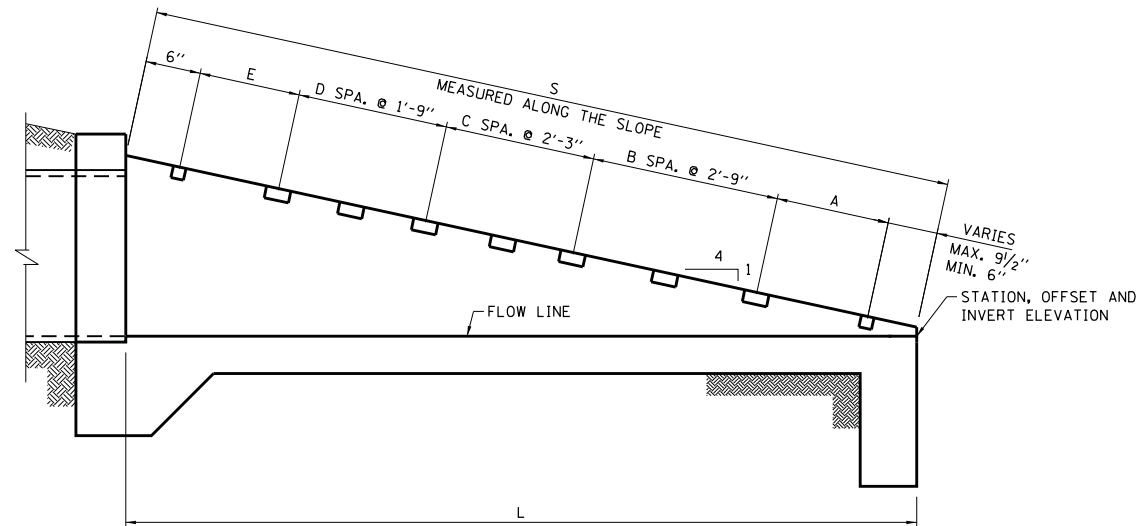
FOR ENTRANCE RAMPS: * 7% MAX. ROLLOVER AND
** 10% MAX. SLOPE FROM EDGE OF SHOULDER

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

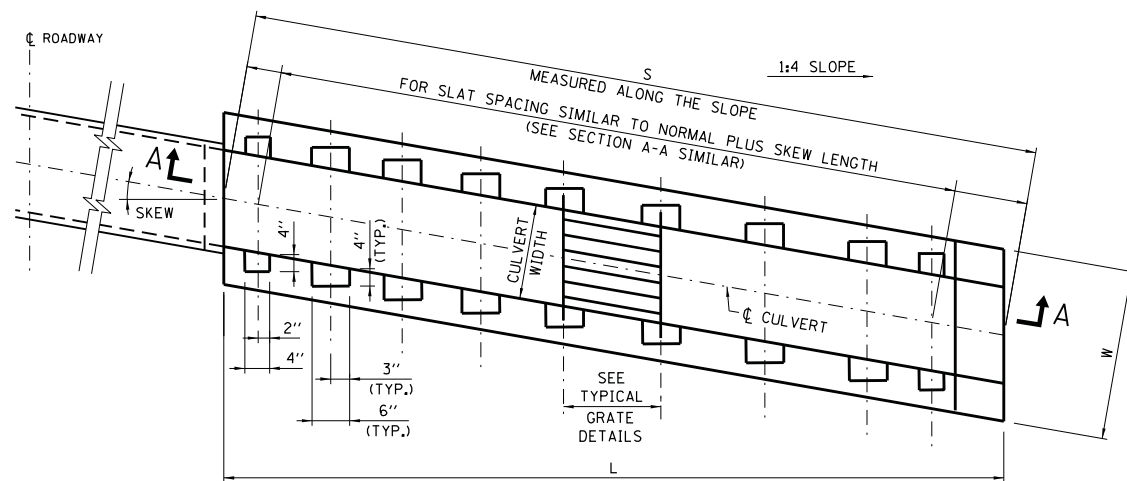
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2011



PLAN VIEW (NO SKEW)
SINGLE BOX CULVERT ≤ 84" WIDE

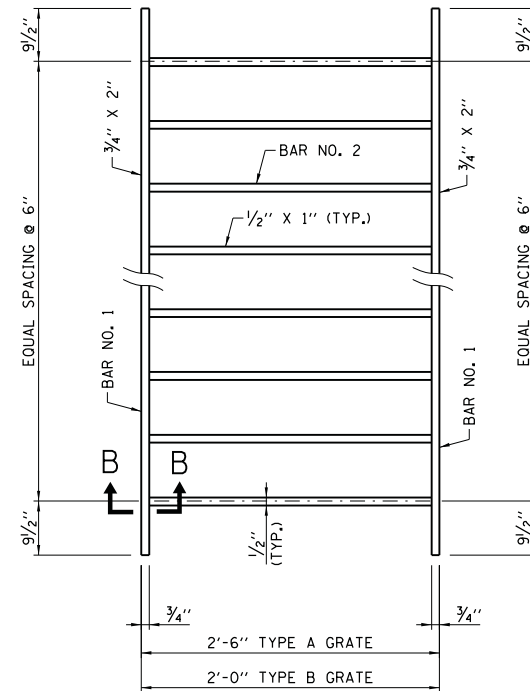


SECTION A-A
END TREATMENT - MULTIPLE OR SINGLE CELL
BOX CULVERT

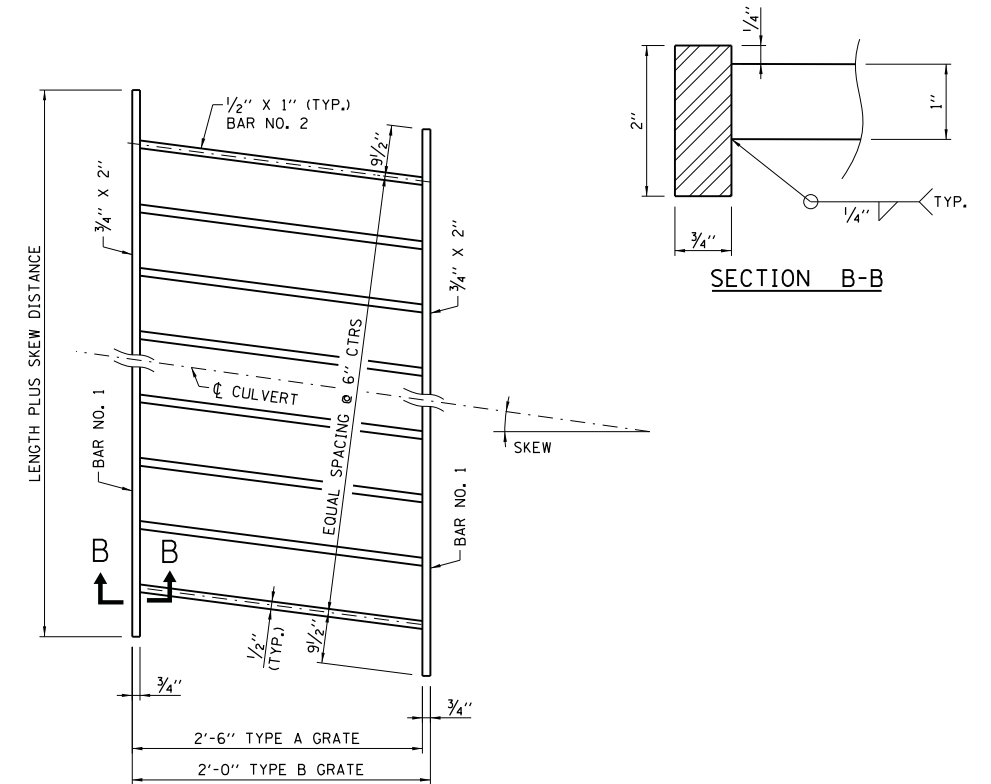


PLAN VIEW (WITH SKEW)

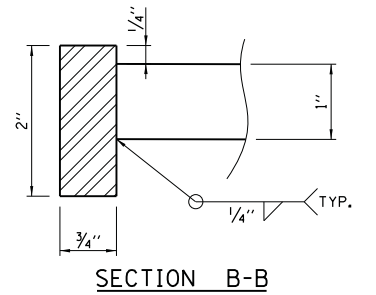
NOTE:
REINFORCEMENT BARS AND GRATE SPACING ARE
SIMILAR TO BOX CULVERT AT NORMAL (NO SKEW).



GRATE DETAILS
(WITH NO SKEW)



GRATE DETAILS
(WITH SKEW)



SECTION B-B

GRATING DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE IV
BASED ON A 1 FOOT WIDTH, 1:4 SLOPE AND SKEW

H	GRATES		BARS FOR ONE GRATE				GRATING (POUND)* EACH GRATE
	NUMBER REQUIRED	TYPE REQ'D.	BAR NO. 1 BARS REQ'D.	LENGTH	BAR NO. 2 BARS REQ'D.	LENGTH	
3'-2"	5	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
3'-8"	6	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
4'-3"	5	A	2	W-.75	W-1.33 0.5 -1	2'-4 1/2"	18.3W - 22.4
	1	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
4'-9"	8	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
5'-3"	4	A	2	W-.75	W-1.33 0.5 -1	2'-4 1/2"	18.3W - 22.4
	4	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
5'-10"	10	B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3
	6'-4"	4	A	2	W-.75	W-1.33 0.5 -1	2'-4 1/2"
6		B	2	W-.75	W-1.33 0.5 -1	1'-10 1/2"	16.6W - 19.3

DIMENSIONS "S" FOR SLOPE 1:4
FOR VARIOUS CULVERT SIZES AND SKEWS

H	NO SKEW	≤ 10°	10° ≤ 20°	20° ≤ 30°
3'-2"	12'-4 1/2"	12'-6 3/4"	13'-2"	14'-3 3/8"
3'-8"	14'-5 1/4"	14'-7 3/4"	15'-4 1/4"	16'-8"
4'-3"	16'-10"	17'-1"	17'-11"	19'-5 1/4"
4'-9"	18'-10 3/4"	19'-2 1/4"	20'-1 1/4"	21'-10"
5'-3"	20'-11 1/2"	21'-3 3/8"	22'-3 3/8"	24'-2 3/4"
5'-10"	23'-4 3/8"	23'-8 3/4"	24'-10 3/8"	26'-11 3/4"
6'-4"	25'-5 1/8"	25'-9 3/4"	27'-0 5/8"	29'-4 1/4"

GENERAL NOTES:

- ALL TABLE DIMENSIONS AND QUANTITIES ARE FOR SINGLE CULVERT HEADWALLS. TO ADAPT ANY OF THESE TABLES FOR DOUBLE CULVERTS, DOUBLE THE NUMBER OF GRATES REQUIRED AND ADD AN ADDITIONAL WALL. (WALL THICKNESS SHALL BE SAME AS THE CENTER WALL THICKNESS OF THE CULVERT.)
- FOR QUANTITY CALCULATIONS DIMENSION "W" SHALL BE MEASURED IN FEET.
- QUANTITIES FOR SKEWED HEADWALLS NOT SHOWN.
- PAY ITEMS ARE IDENTIFIED BY AN ASTERISK (*).
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

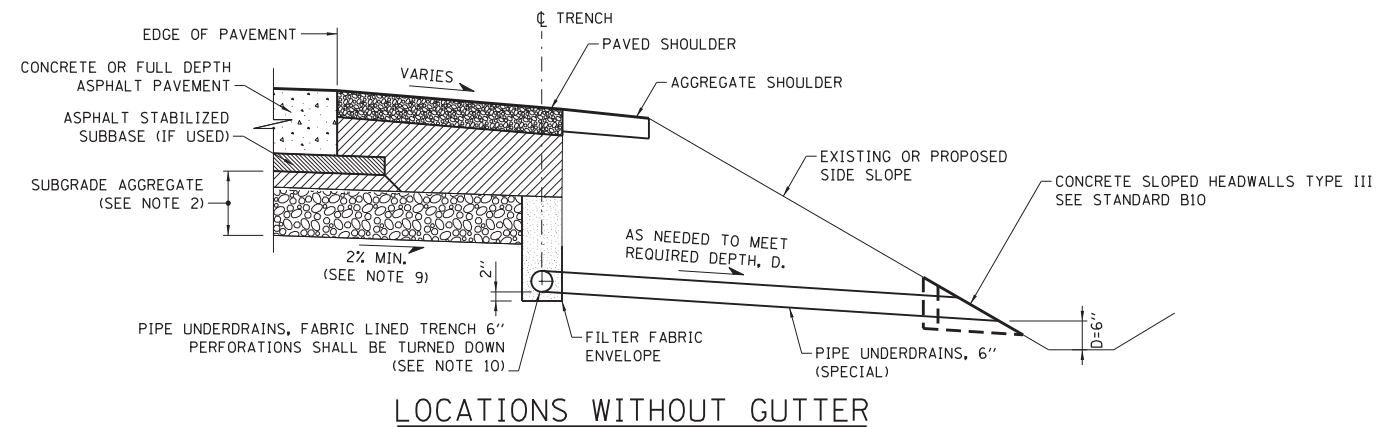
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
06-01-09	CHANGED SECTION B-B
02-07-12	DIMENSION REVISED NOTES, DELETED SECTION VIEW FROM SKEW PLAN.
3-31-2016	STATION, OFFSET AND INVERT ELEVATION MOVED.

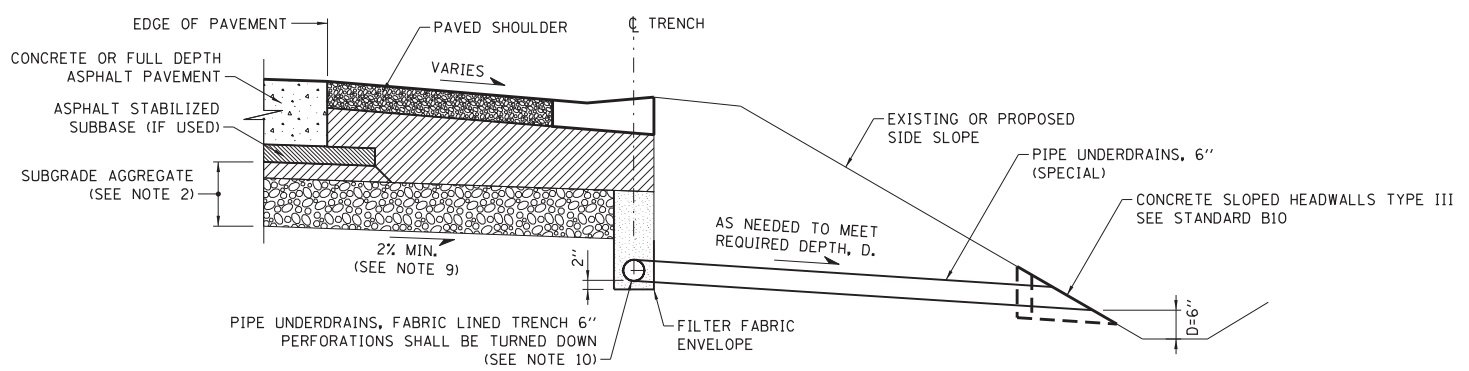


GRATING FOR
HEADWALL TYPE IV PIPE
AND PIPE-ARCH CULVERTS

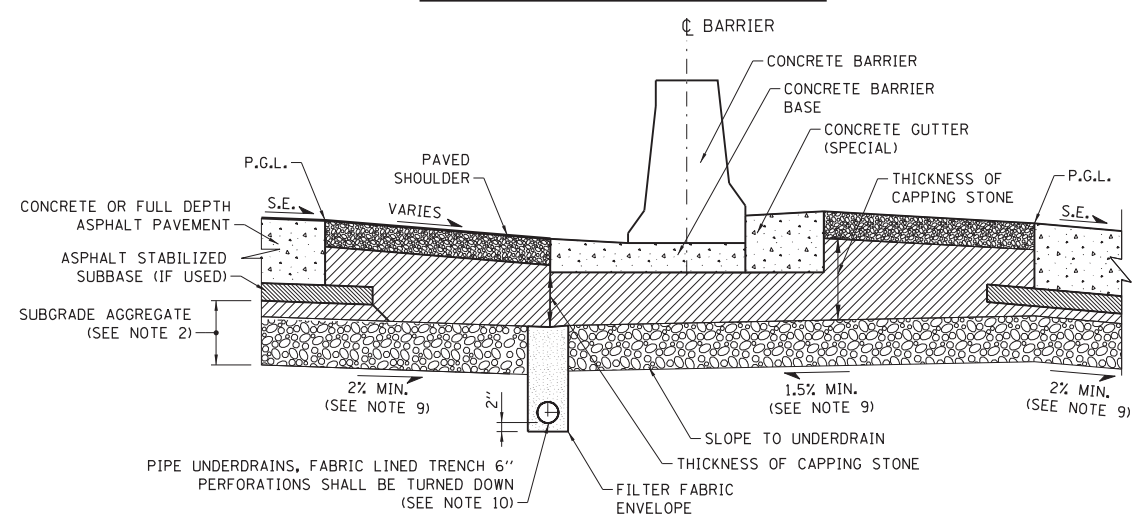
STANDARD B23-03



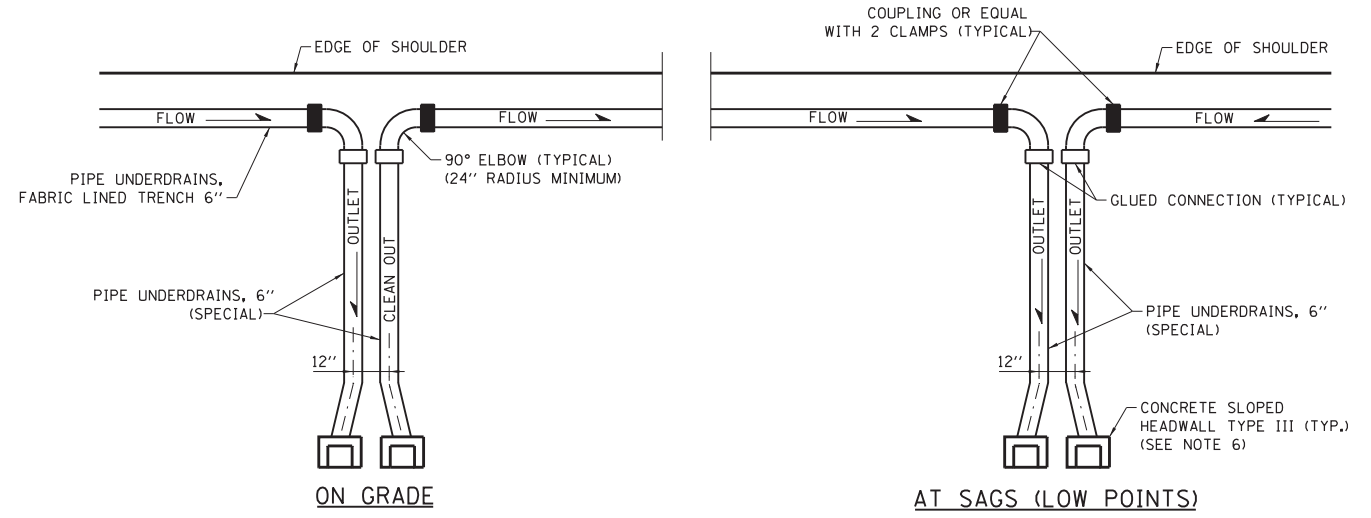
LOCATIONS WITHOUT GUTTER



LOCATIONS WITH GUTTER

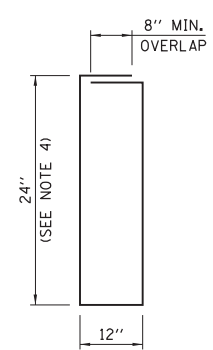


LOCATIONS WITH VARIABLE HEIGHT DOUBLE FACE BARRIER



DETAIL OF PIPE UNDERDRAIN OUTLETS

(SEE NOTE 7)

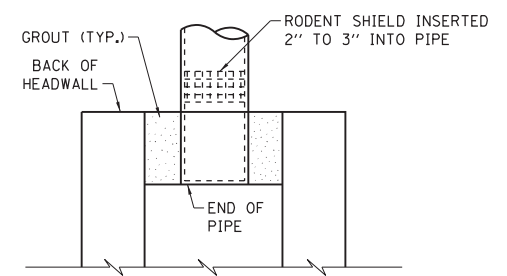


FILTER FABRIC ENVELOPE

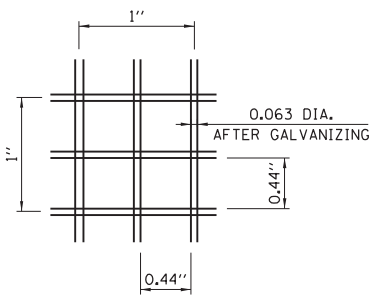
NOTES FOR PIPE UNDERDRAIN

- FOR NEW CONSTRUCTION OR WIDENING PROJECTS, THE PIPE UNDERDRAIN INSTALLATION SHALL OCCUR AFTER SUBGRADE HAS BEEN PREPARED AND AFTER LIFT OF PGE BASE IS PLACED AND BEFORE 3" AND VARIES CA-6 CAPPING STONE IS PLACED. FOR PAVEMENT RUBBLIZATION PROJECTS, THE PIPE UNDERDRAIN SHALL BE INSTALLED PRIOR TO RUBBLIZATION.
- SUBGRADE AGGREGATE SHALL CONSIST OF A 3" AND VARIES CA-6 CAP ABOVE A PGE BASE, THICKNESS AS NOTED IN THE PLANS.
- ON SUPERELEVATED CURVES PLACE LONGITUDINAL UNDERDRAIN ON LOW SIDE ONLY.
- IN AREAS WHERE ROADWAY LONGITUDINAL GRADE IS LESS THAN 0.5%, DIMENSION WILL INCREASE AS NECESSARY TO MAINTAIN MINIMUM 0.5% SLOPE IN PIPE UNDERDRAIN.
- IF 500' MAXIMUM DISTANCE IS EXCEEDED, PIPE UNDERDRAIN SHALL BE INCREASED TO 8" DIAMETER AND TRENCH WIDTH INCREASED TO 16".
- AT OUTLET LOCATIONS, PIPE UNDERDRAINS SHALL SEPARATE SUFFICIENTLY TO PROVIDE SPACE FOR TWO CONCRETE SLOPED HEADWALLS, OR TWO PIPES CAN RUN PARALLEL INTO A LARGER HEADWALL.
- IN AREAS WHERE A CLOSED DRAINAGE SYSTEM EXISTS, THE PIPE UNDERDRAIN, 6" (SPECIAL) SHALL DRAIN TO THE NEAREST CATCH BASIN. THE UPPER END OF A RUN ON GRADE SHALL ALSO BE CONNECTED TO A CATCH BASIN TO BE USED AS A CLEANOUT.
- THE OUTLET END OF THE SUBDRAIN SHALL BE PROTECTED BY A PERMANENT RODENT SHIELD. THE RODENT SHIELD SHALL HAVE THE CONFIGURATION SHOWN AND BE CONSTRUCTED FROM HOT DIP GALVANIZED STEEL INDUSTRIAL WIRE CLOTH 3x3 MESH, 0.063"x0.063" WIRE SIZE IN ACCORDANCE WITH AASHTO M232 (ASTM A153).
- BOTTOM OF SUBGRADE AGGREGATE SLOPE FROM ROADWAY PROFILE GRADE SHALL NOT BE LESS THAN 1.5% TOWARD THE PIPE UNDERDRAIN IN SUPERELEVATED SECTIONS.
- A CA 16 BACKFILLED TRENCH SHALL BE USED WITH THE INSTALLATION OF A PIPE UNDERDRAIN SYSTEM, EXCEPT THE PERCENT PASSING THE NO. 16 (1.18 mm) SIEVE SHALL BE 4 ± 4 PERCENT.

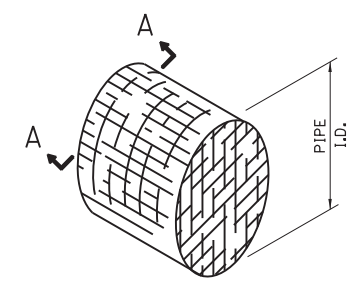
MAXIMUM ALLOWABLE DRAINAGE DISTANCE TO OUTLET OR SEPARATION DISTANCE BETWEEN OUTLETS	
ROADWAY PROFILE GRADE (%)	DISTANCE
≤ 1	250 FT.
BETWEEN 1 AND 2	375 FT.
≥ 2	500 FT. (NOTE 5)



RODENT SHIELD PLACEMENT



SECTION A-A



DETAIL OF RODENT SHIELD

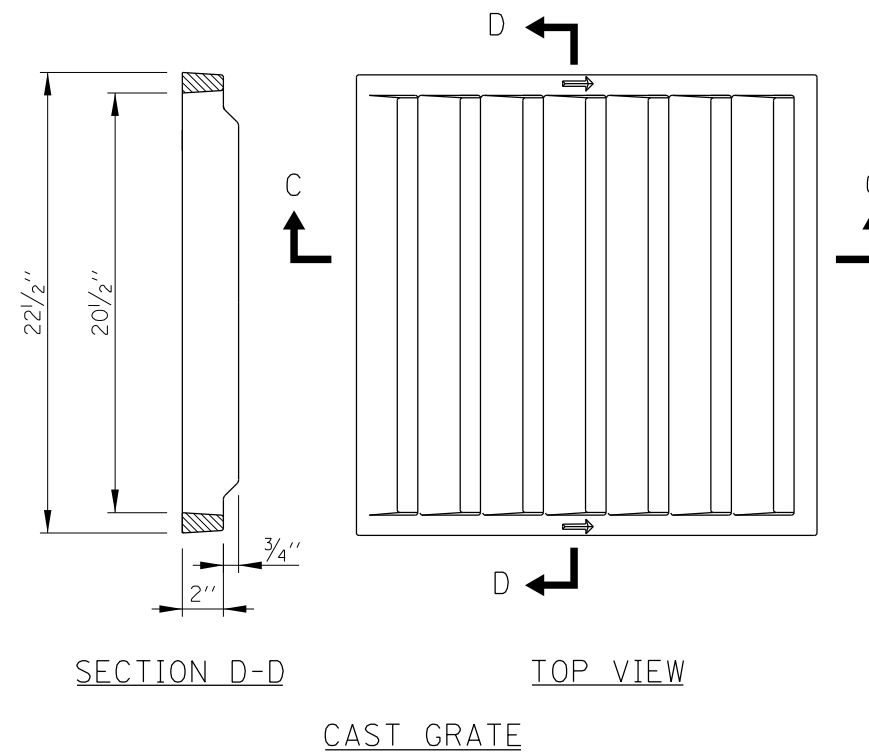
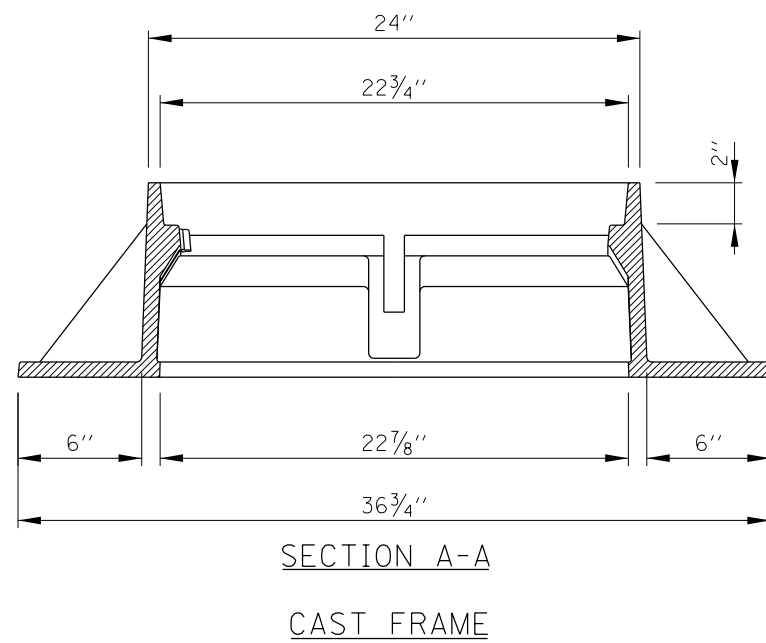
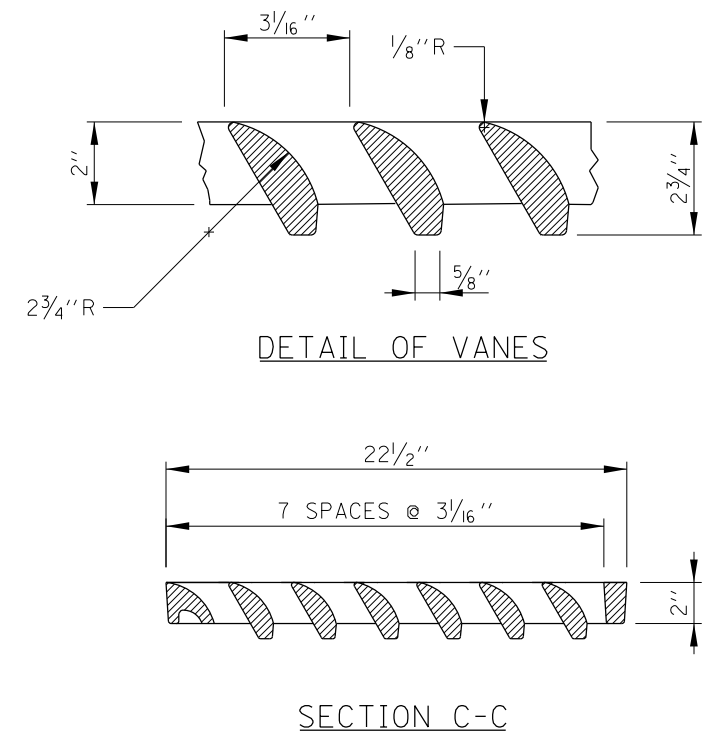
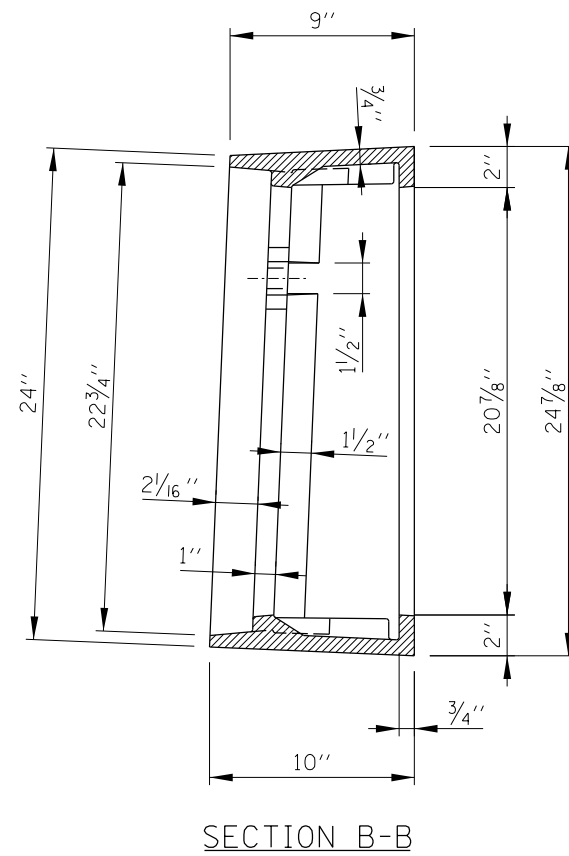
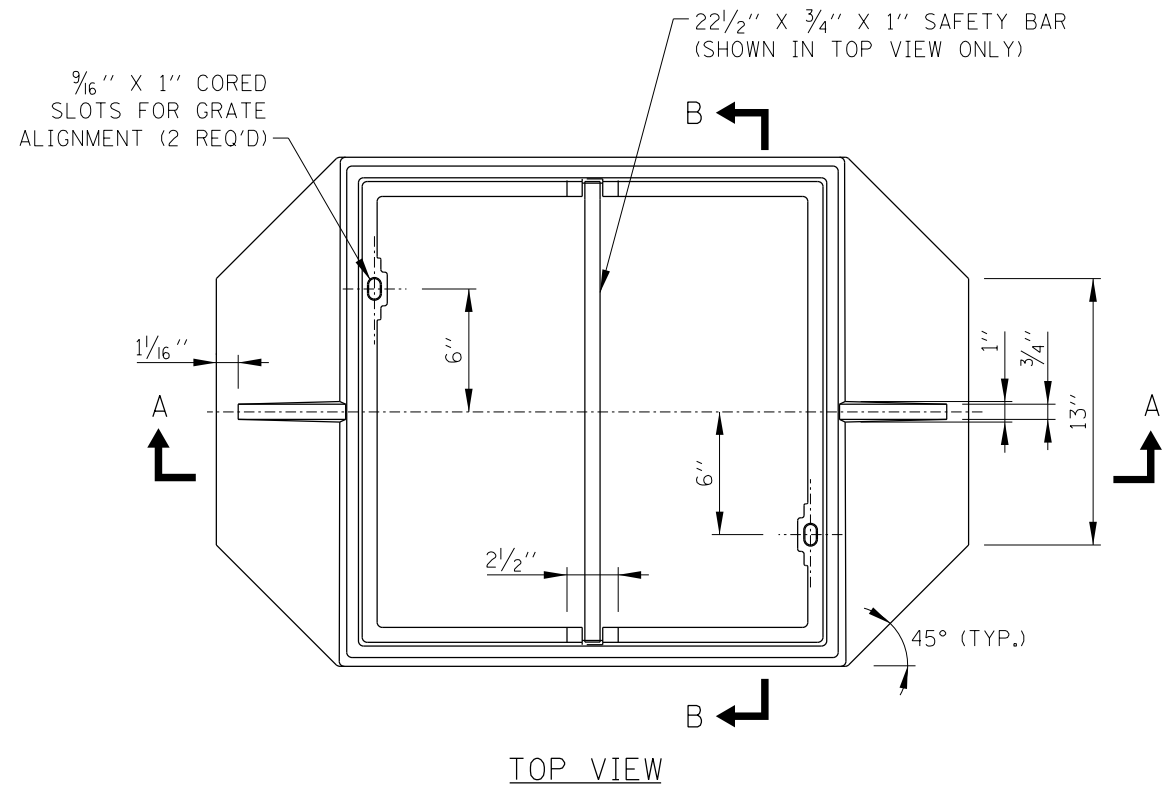
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009

DATE	REVISIONS
06-01-09	CHANGES TO PIPE UNDERDRAIN, 6" (MODIFIED) DETAIL.
11-01-12	REVISED NOTES, MODIFIED PIPE UNDERDRAIN WITHOUT GUTTER.
3-11-2015	REVISED PIPE UNDERDRAIN DIMENSIONS.
3-31-2016	REMOVE RUBBLIZED DETAIL, ADD VAR. HEIGHT BARRIER DETAIL.
3-31-2017	REVISED SUBGRADE SCOPE IN LOCATIONS WITH VARIABLE HEIGHT DOUBLE FACE BARRIER



PIPE UNDERDRAINS

STANDARD B24-05



NOTES:

1. ALL FRAMES AND GRATES SHALL CONFORM TO THE REQUIREMENTS OF ART. 1006.14 FOR GRAY IRON CASTINGS AND TO ART. 1006.15 FOR DUCTILE IRON CASTINGS.
2. FRAME AND GRATE TO BE NEENAH FOUNDRY COMPANY, NEENAH NO. R-3528-V, EAST JORDAN IRON WORKS 7535 OR APPROVED EQUAL.
3. GRATE SHALL NOT BE BOLTED TO FRAME.

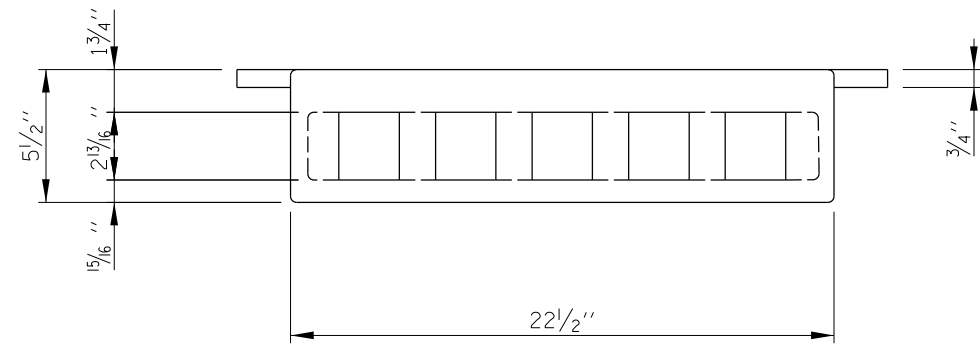
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-30-2008

DATE	REVISIONS
03-31-14	ADDED FRAME AND GRATE CASTINGS

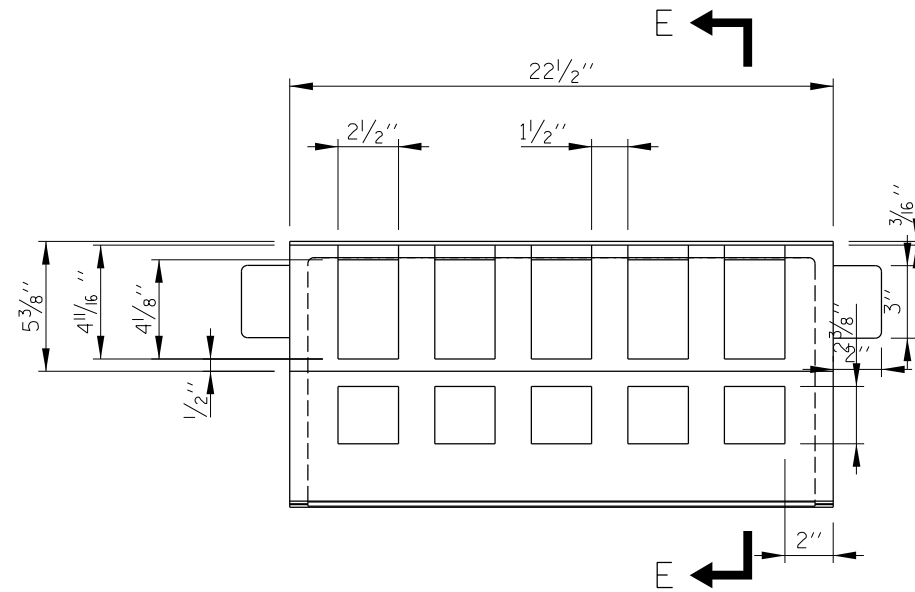


FRAME AND GRATE
TYPE 20A

STANDARD B25-01

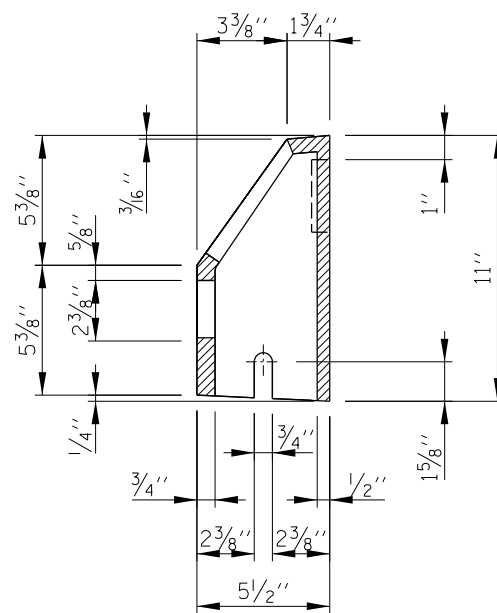


TOP VIEW

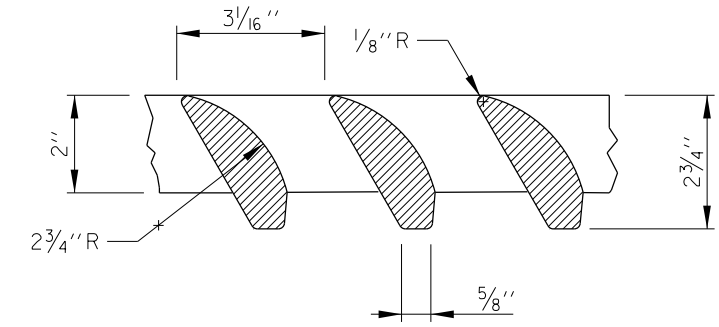


FRONT VIEW

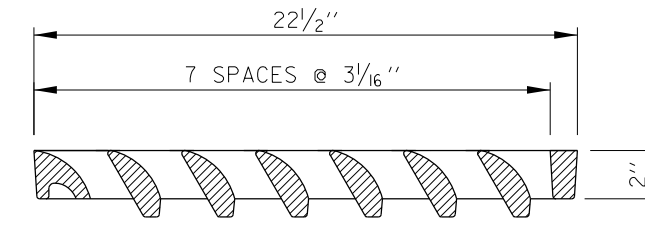
CURB BOX



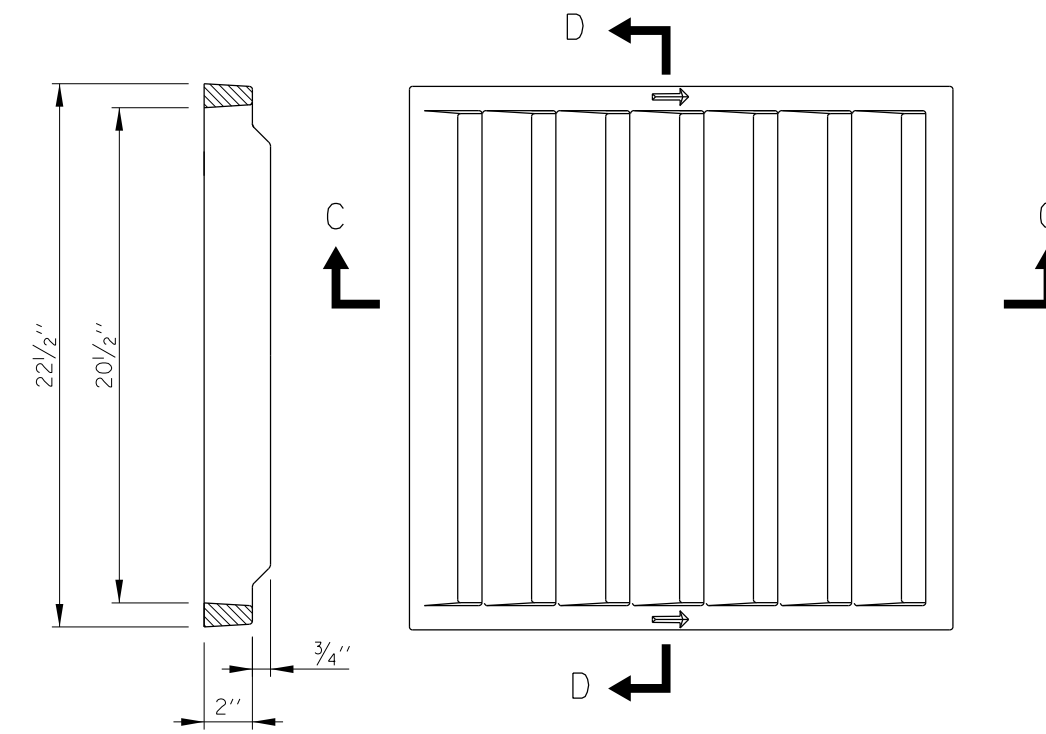
SECTION E-E



DETAIL OF VANES



SECTION C-C



SECTION D-D

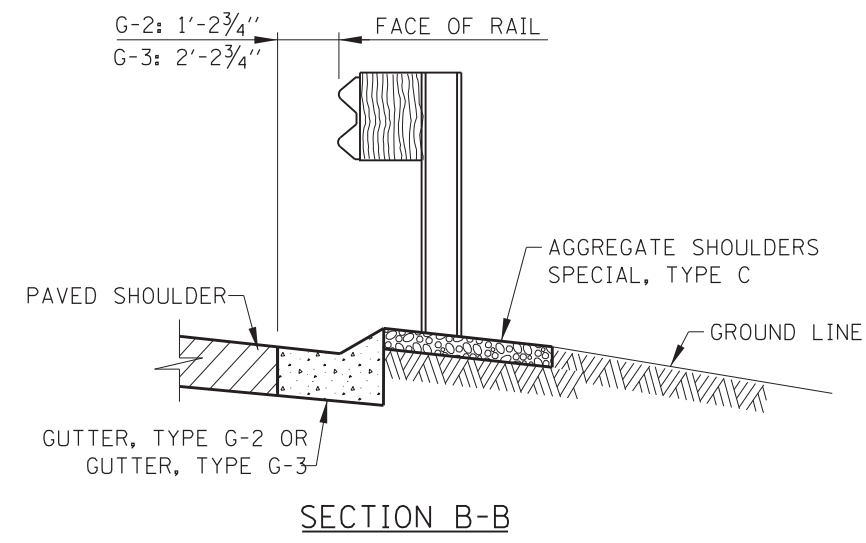
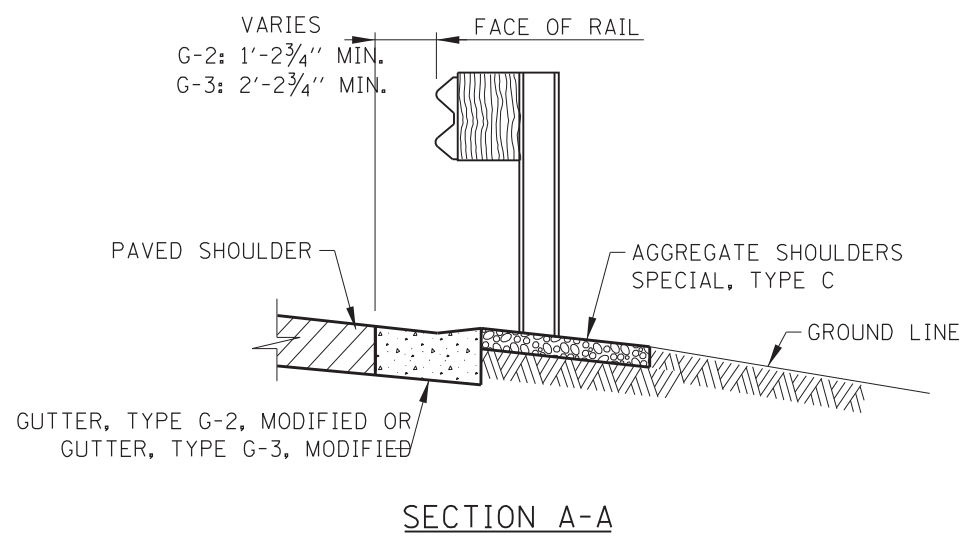
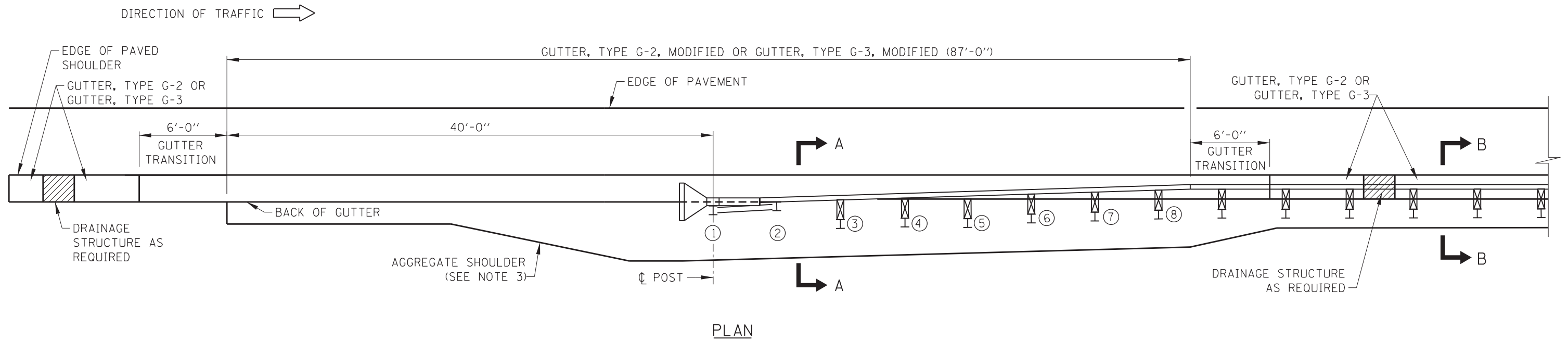
TOP VIEW

CAST GRATE

NOTES:

1. ALL FRAMES AND GRATES SHALL CONFORM TO THE REQUIREMENTS OF ART. 1006.14 FOR GRAY IRON CASTINGS AND TO ART. 1006.15 FOR DUCTILE IRON CASTINGS.
2. FRAME AND GRATE TO BE NEENAH FOUNDRY COMPANY, NEENAH NO. R-3527-VF, EAST JORDAN IRON WORKS 7540 OR APPROVED EQUAL.
3. GRATE SHALL NOT BE BOLTED TO FRAME.
4. CURB BOX SHALL BE BOLTED TO FRAME WITH 5/8" GALVANIZED HEX. HD. BOLT AND NUT WITH GALV WASHERS.
5. CURB BOXES SHALL ONLY BE USED AT SAG LOCATIONS.





**GUTTER, TYPE G-2 TRANSITION AND GUTTER, TYPE G-3 TRANSITION
AT TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL)**

GENERAL NOTES:

1. GUTTER TRANSITIONS SHALL BE PAID FOR PER FOOT AS GUTTER, TYPE G-2 OR GUTTER, TYPE G-3, AS SPECIFIED IN THE PLANS.
2. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR ADDITIONAL GUARDRAIL INFORMATION.
3. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING C6 FOR SHOULDER WIDENING INFORMATION.

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 3-1-2010

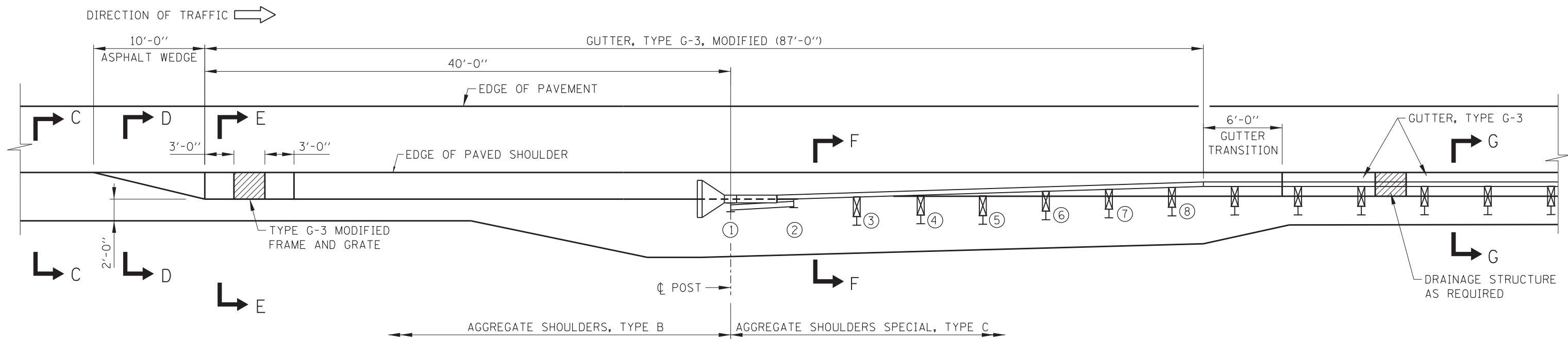
DATE	REVISIONS
1-01-2011	REVISED GUTTER TRANSITION TERMINATION
3-01-2013	REVISED GUTTER
3-11-2015	REVISED NOTES
3-31-2017	DELETED SHEET 2

SHEET 1 OF 2

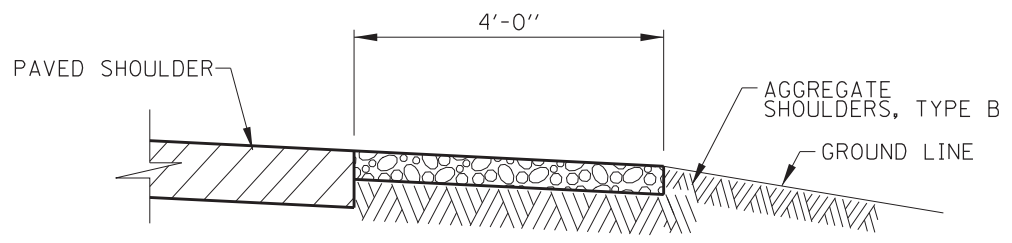


GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)

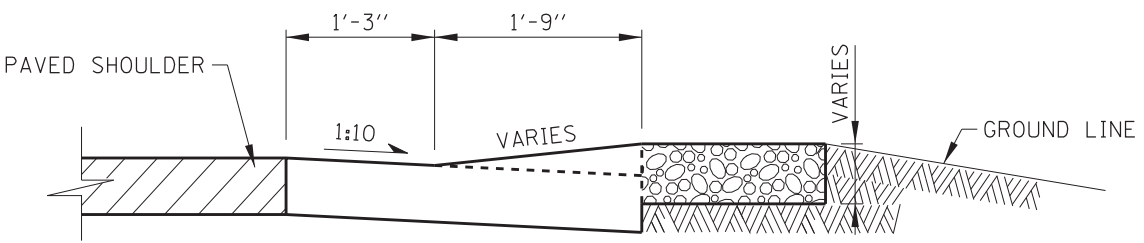
STANDARD B28-04



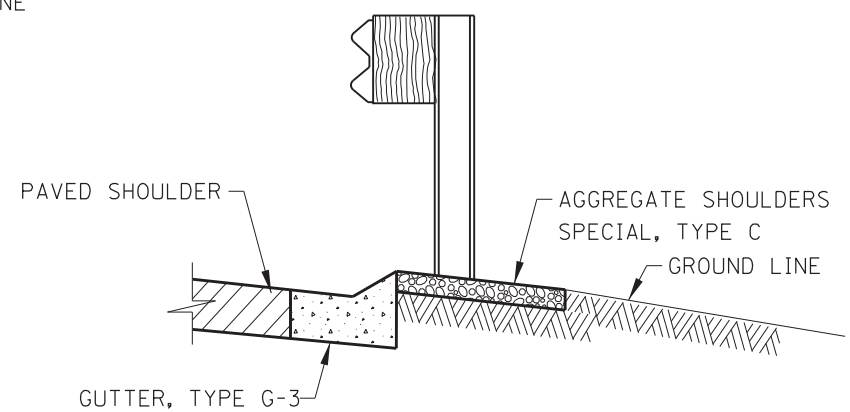
PLAN



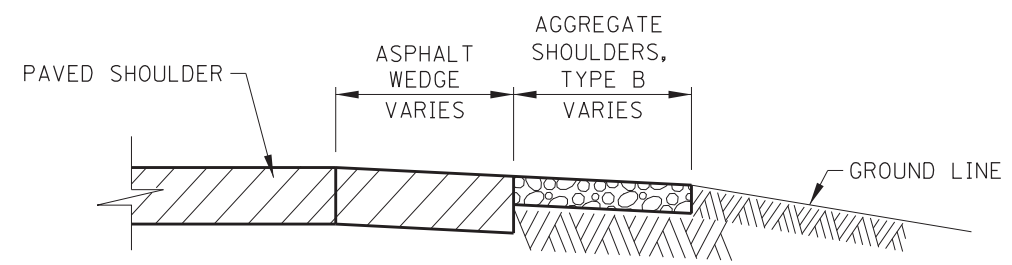
SECTION C-C



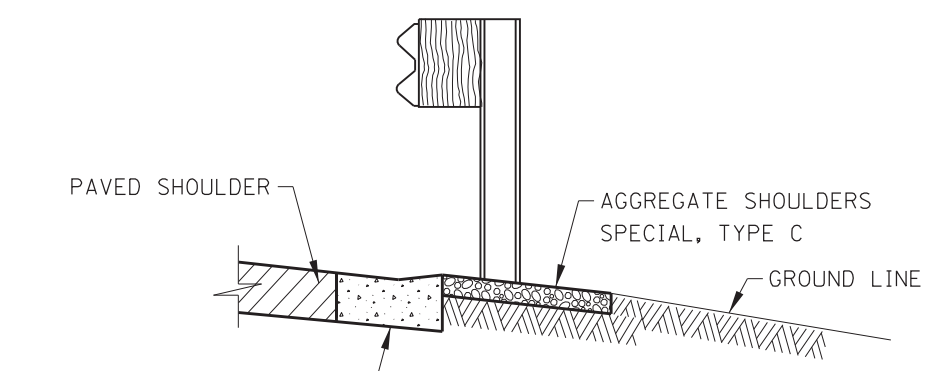
SECTION E-E
GUTTER, TYPE G-3, MODIFIED TRANSITION



SECTION G-G



SECTION D-D
ASPHALT SHOULDER TRANSITION



SECTION F-F

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES

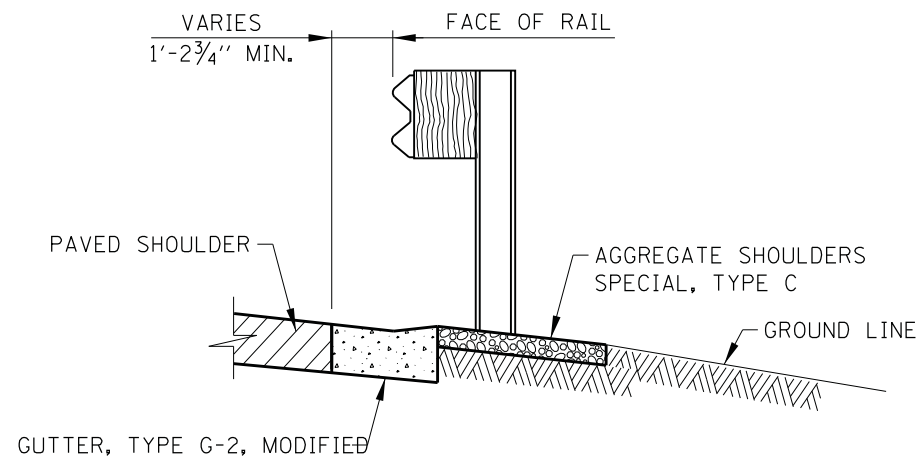
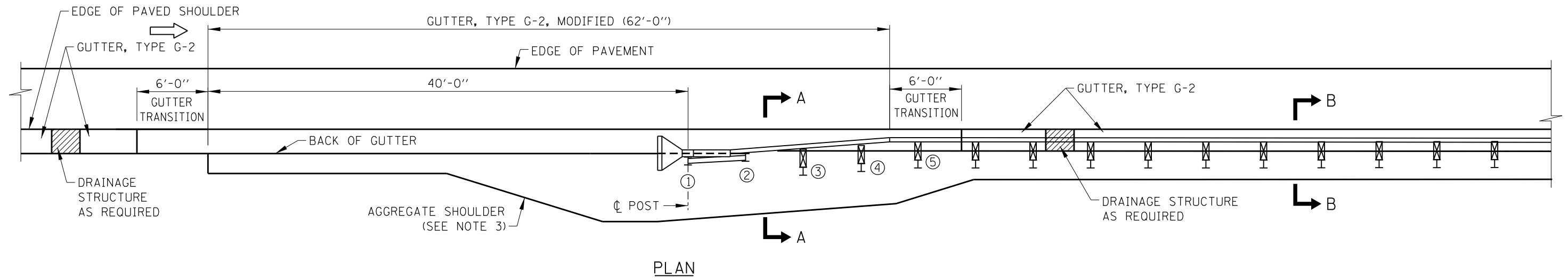
GUTTER, TYPE G-3 TRANSITION TERMINATION AT TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL)

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-1-2010

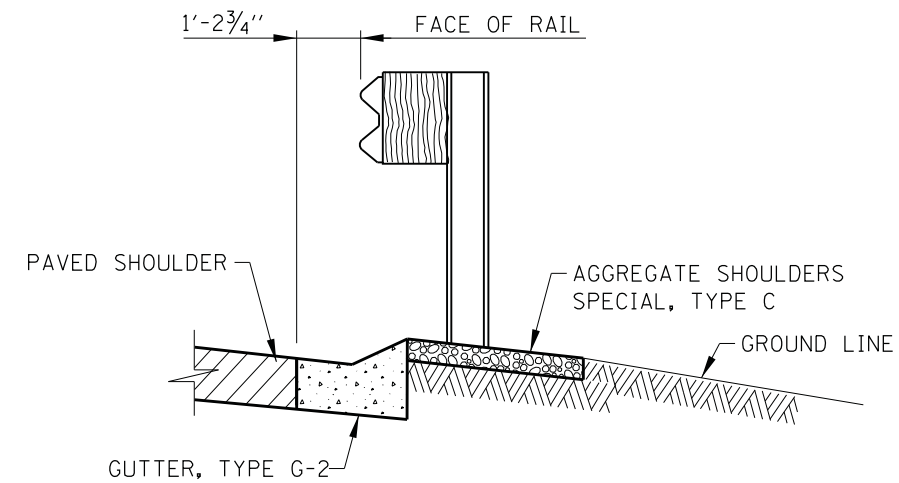
GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)

STANDARD B28-04

DIRECTION OF TRAFFIC →



SECTION A-A



SECTION B-B

GUTTER, TYPE G-2 TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T1-A (SPECIAL)

GENERAL NOTES:

1. GUTTER TRANSITIONS SHALL BE PAID FOR PER FOOT AS GUTTER, TYPE G-2 OR AS SPECIFIED IN THE PLANS.
2. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR ADDITIONAL GUARDRAIL INFORMATION.
3. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING C12 FOR SHOULDER WIDENING INFORMATION.

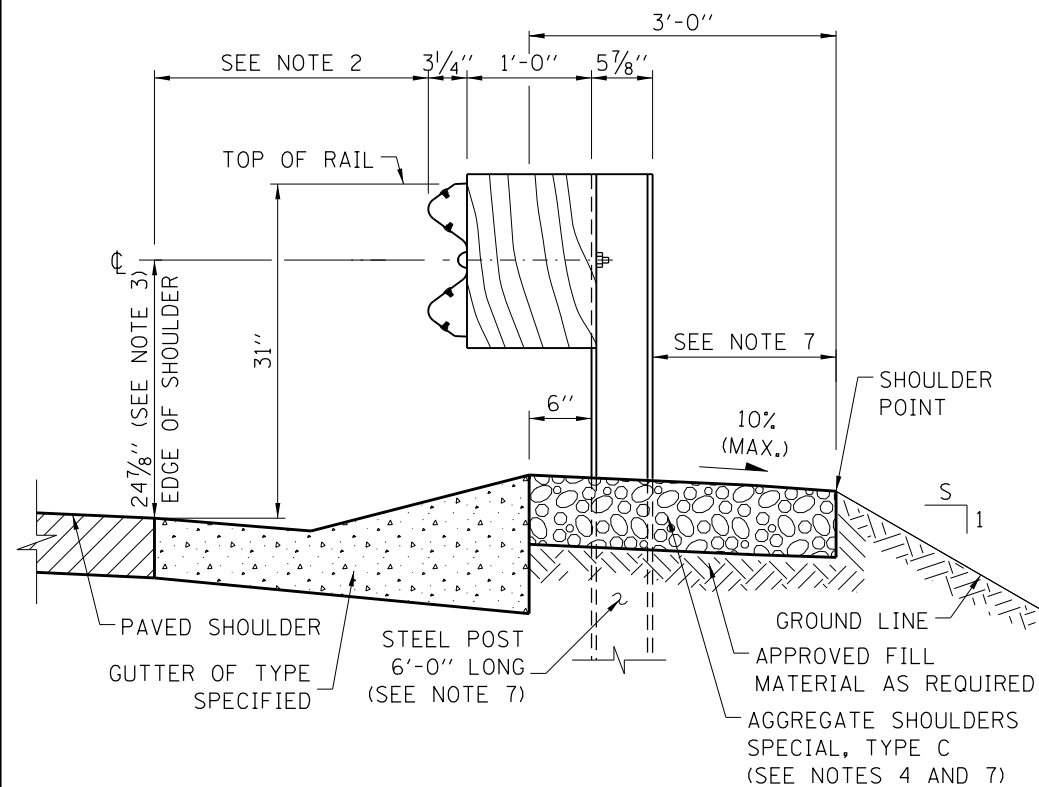
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2011

DATE	REVISIONS
3-01-2013	REVISED GUTTER
3-11-2015	REVISED NOTES
3-31-2017	REMOVED SHLDR DIMS

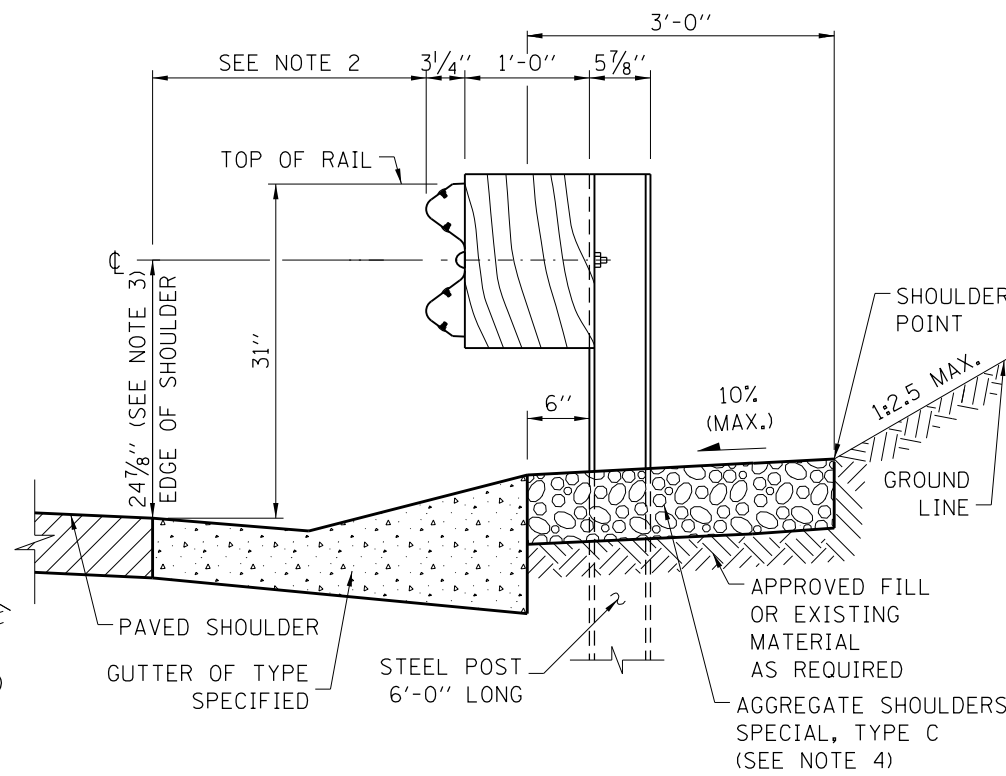
Illinois Tollway

GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL)

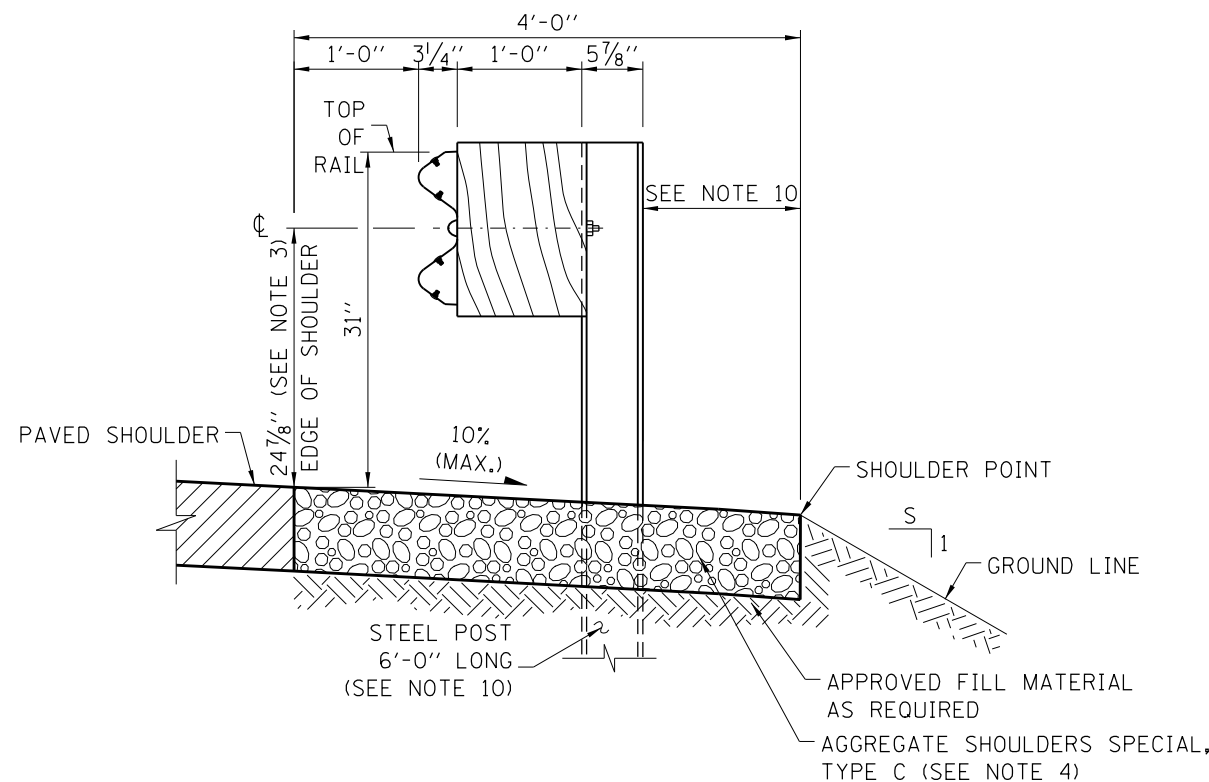
STANDARD B29-03



FILL SECTION WITH GUTTER



CUT SECTION WITH GUTTER



SECTION WITHOUT GUTTER

GUARDRAIL INSTALLATION DETAILS

NOTES:

- 1'-0" OFFSET FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL IS TYPICAL FOR ALL INSTALLATIONS WITHOUT GUTTER EXCEPT AS OTHERWISE DETAILED IN THE PLAN DRAWINGS.
- WHERE GUTTERS SUCH AS TYPE G-2, G-3 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 6" BEHIND THE GUTTER, OR AS OTHERWISE DETAILED IN THE PLANS. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON STANDARD B28.
- THE 24 7/8" TYPICAL RAIL HEIGHT IS MEASURED FROM EXISTING SURFACE 1'-0" IN FRONT OF RAIL, OR FROM EDGE OF SHOULDER/EDGE OF GUTTER WHEN EDGE IS MORE THAN 1'-0" IN FRONT OF RAIL TO CENTER OF RAIL.
- WHERE GUTTER IS PROPOSED WITH GUARDRAIL, A 6" MINIMUM THICKNESS OF AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL BE PLACED BEHIND GUTTER. FOR GUARDRAIL WITHOUT GUTTER, AGGREGATE SHOULDER, TYPE C, OF THE SAME THICKNESS AS PAVED SHOULDER SLOPING AWAY TO A 6" MIN. THICKNESS.
- GUARDRAIL POSTS SHALL NOT BE ATTACHED TO ANY STRUCTURE.
- PLASTIC BLOCK-OUTS SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR WOOD BLOCK-OUTS ON NEW INSTALLATIONS.
- WHEN S IS GREATER THAN OR EQUAL TO 3 AND 3'-0" AGGREGATE SHOULDER WIDTH CANNOT BE MET, THE POST LENGTH SHALL BE 9'-0" AND THE AGGREGATE SHOULDER WIDTH SHALL BE 1'-0" MIN. BEHIND THE POST TO THE SHOULDER POINT.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENTS (V:H).
- UNDER NO CIRCUMSTANCES SHALL AN EXISTING GUARDRAIL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE EXTENDED, ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
- WHEN S IS GREATER THAN OR EQUAL TO 3, THE POST LENGTH SHALL BE 9'-0" AND 4'-0" AGGREGATE SHOULDER WIDTH MAINTAINED.
- THE GUARDRAIL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.
- GUARDRAIL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENT. WHEN NECESSARY USE LEAVE-OUT DETAIL ON SHEET 3 OF 4 OF THIS SERIES.

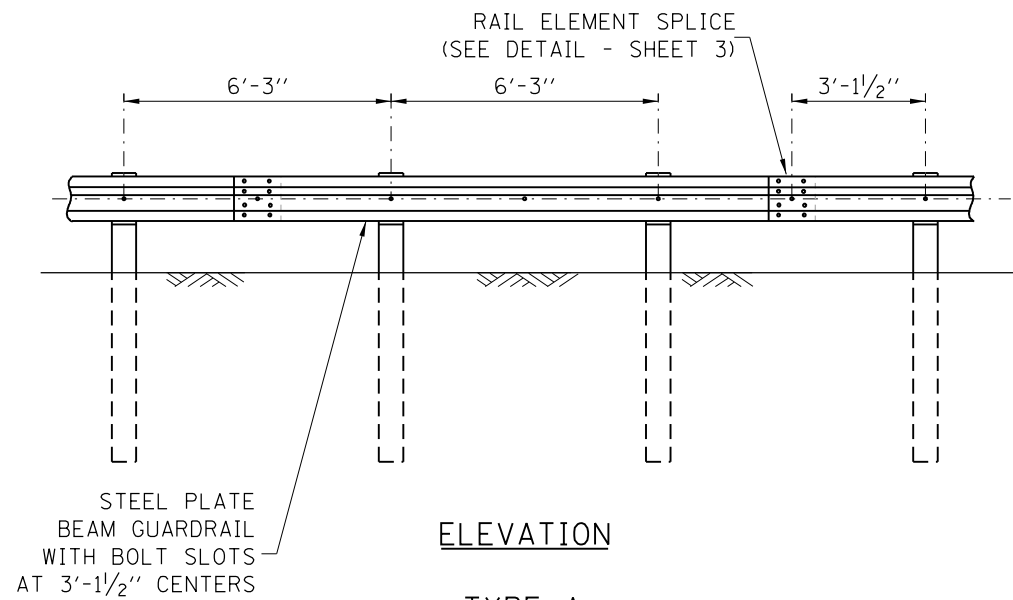


GALVANIZED STEEL PLATE BEAM GUARDRAIL

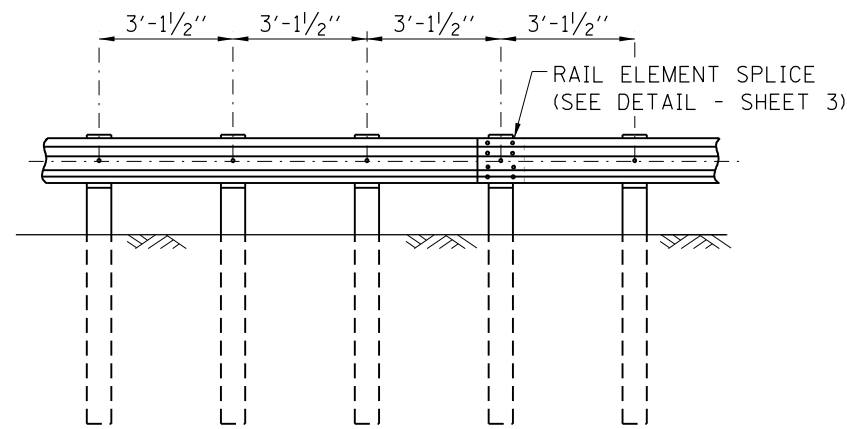
STANDARD C1-09

DATE	REVISIONS
11-01-12	MODIFIED AGGREGATE SHOULDERS
03-31-14	REMOVED SECONDARY HOLE FROM POST AND UPDATED NOTES.
03-31-16	ADDED SECTION, REV'D SHLDR
03-31-17	REVISED NOTES

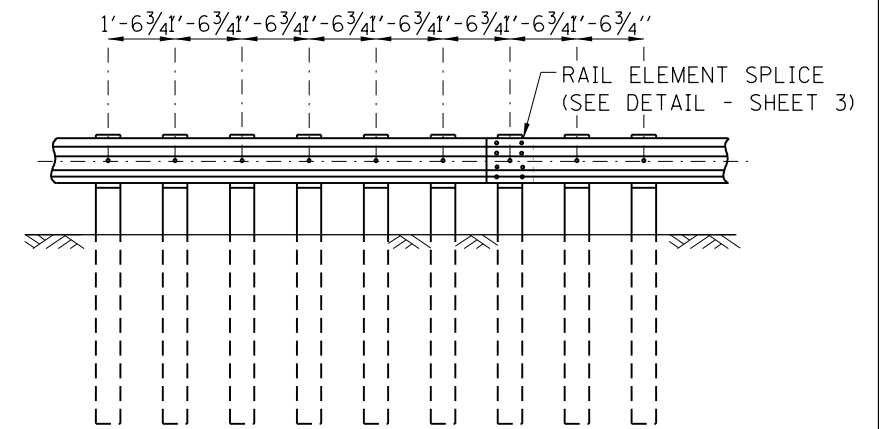
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



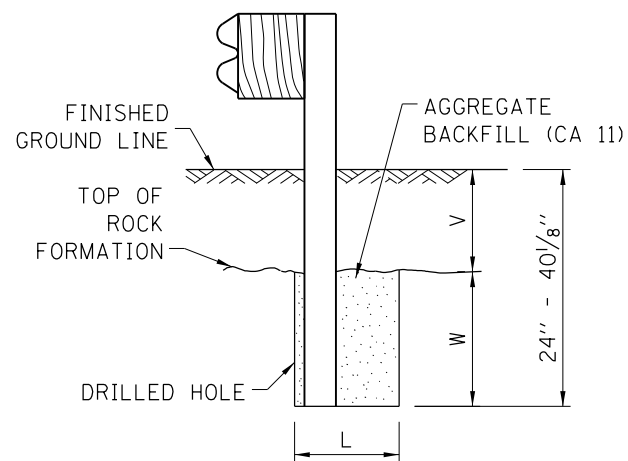
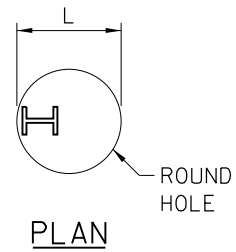
TYPE A
6'-3" TYPICAL POST SPACING



TYPE B
3'-1/2" 1/2 POST SPACING



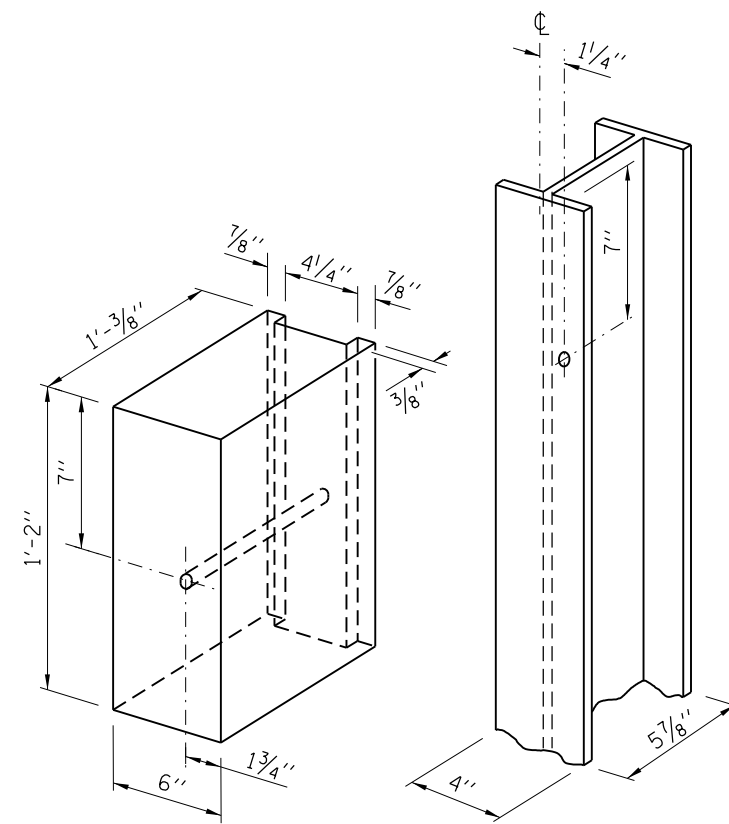
TYPE C
1'-6 3/4" 1/4 POST SPACING



ELEVATION
FOOTING FOR POST WHEN ROCK FORMATION IS ENCOUNTERED

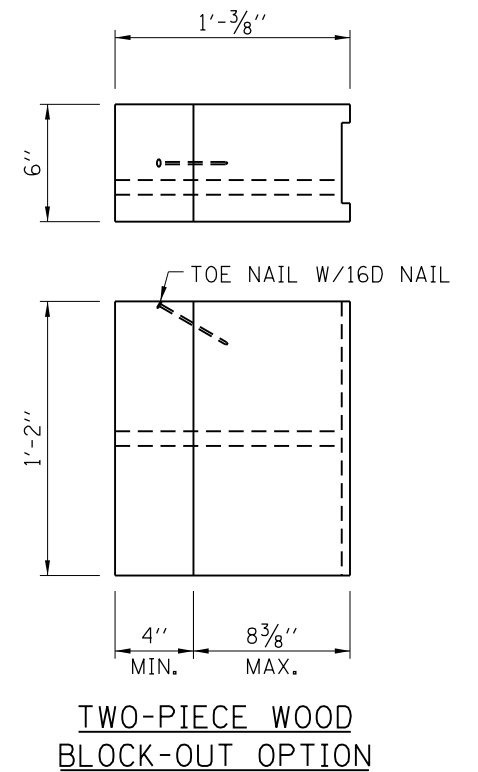
TABLE 1		
V	W	L
0 - 16 1/8"	24"	21"
> 16 1/8" - 28 1/8"	12"	8"
> 28 1/8" - 40 1/8"	12" - 0 (*)	8"

* V + W = 40 1/8"



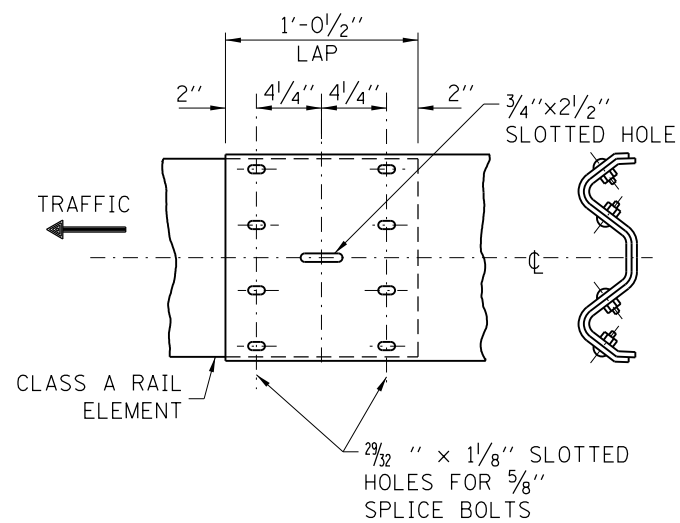
NOTES:
ALL HOLES 3/4" DIA.

WOOD BLOCK-OUT AND STEEL POST DETAILS

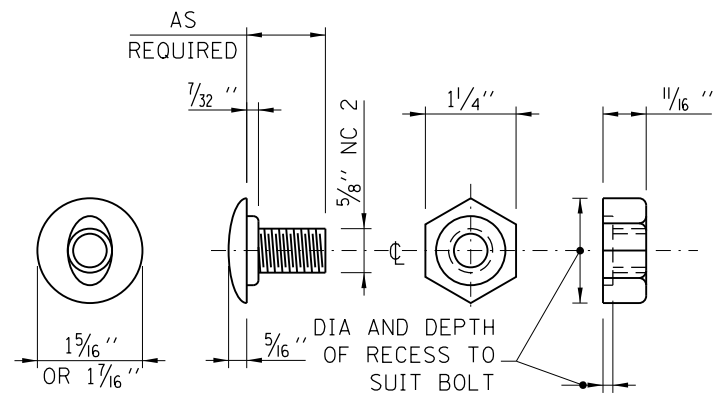


TWO-PIECE WOOD BLOCK-OUT OPTION

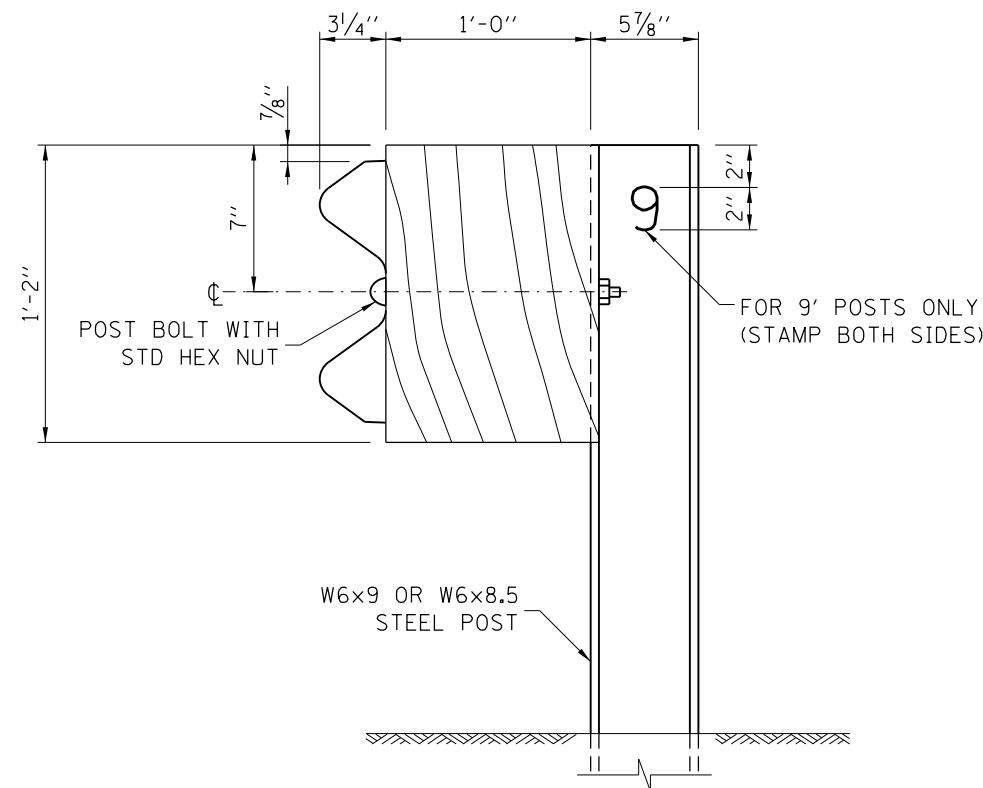




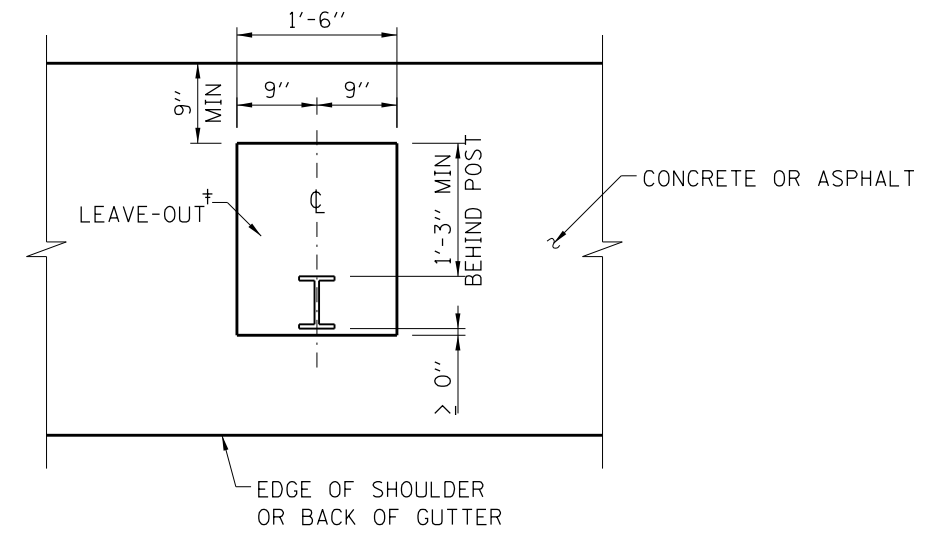
RAIL ELEMENT SPLICE



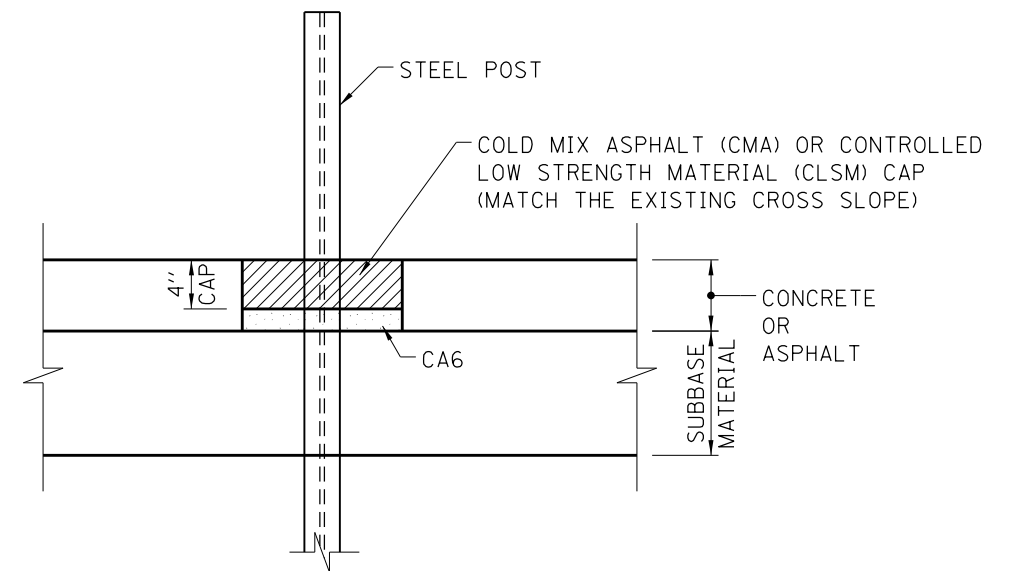
POST OR SPLICE BOLT & NUT



STEEL POST CONSTRUCTION



PLAN

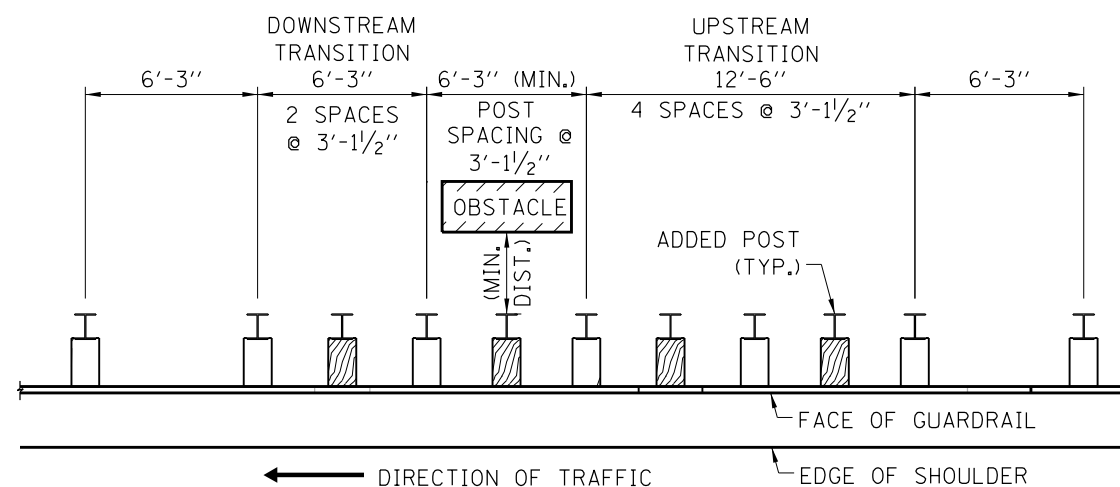


ELEVATION

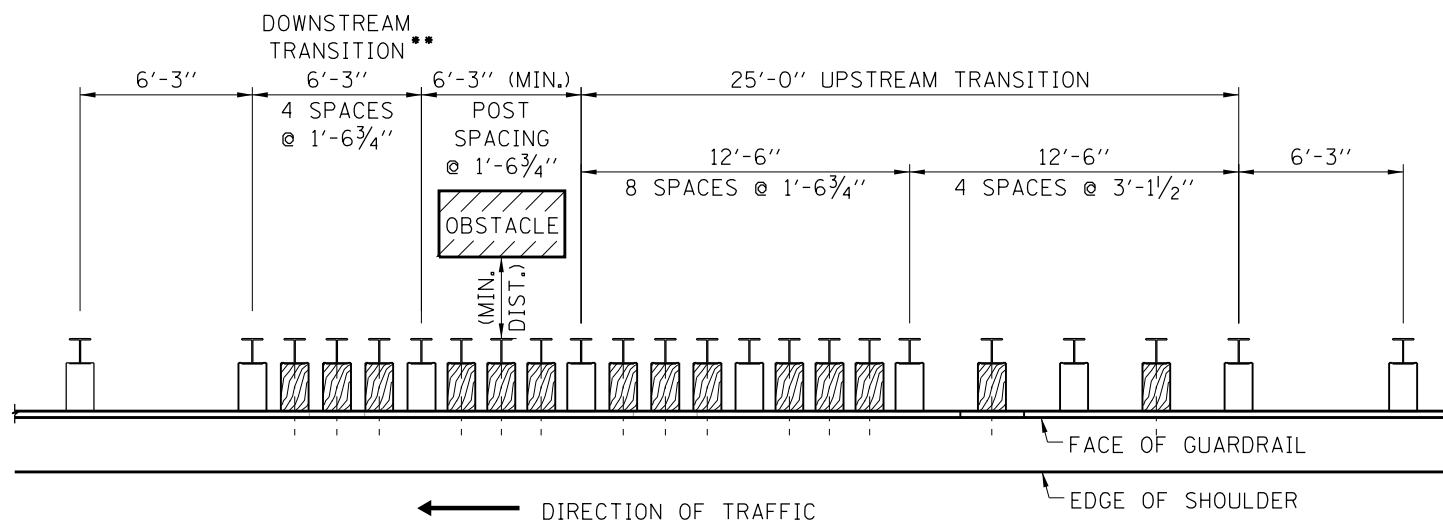
LEAVE-OUTS

† THE AREA AROUND THE POST THAT IS EITHER OMITTED FROM THE NEW CONSTRUCTION OR REMOVED FROM THE EXISTING CONCRETE OR ASPHALT.

TABLE 2 - BARRIER CLEARANCE DISTANCE			
GUARDRAIL SYSTEM	POST SPACING	MINIMUM DISTANCE	
		CURRENT	CONSTRUCTION AFTER 2017
TYPE A	6'-3"	28"	39"
TYPE B 1/2 POST SPACING	3'-1 1/2"	23"	34"
TYPE C 1/4 POST SPACING	1'-6 3/4"	14"	26"



TRANSITION TO 1/2-POST SPACING



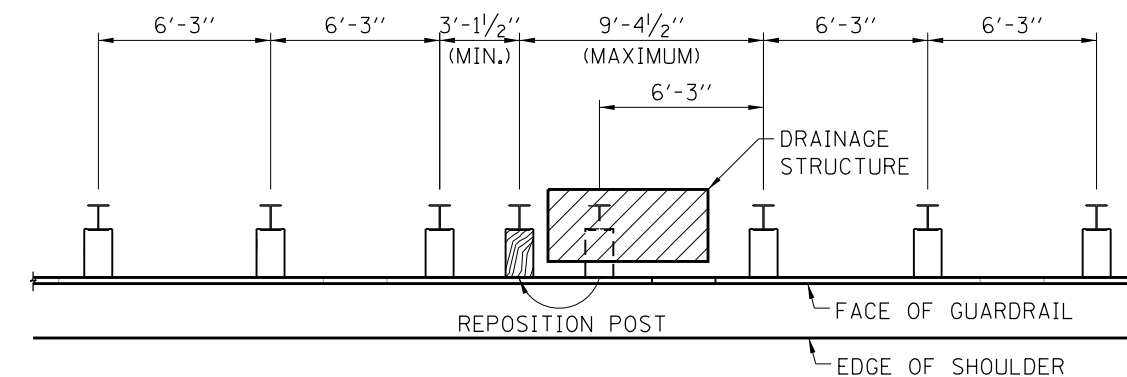
TRANSITION TO 1/4-POST SPACING

** WHEN LENGTH OF OBSTACLES IS 1'-3" OR LESS, THE DOWNSTREAM TRANSITION SHALL BE OMITTED.

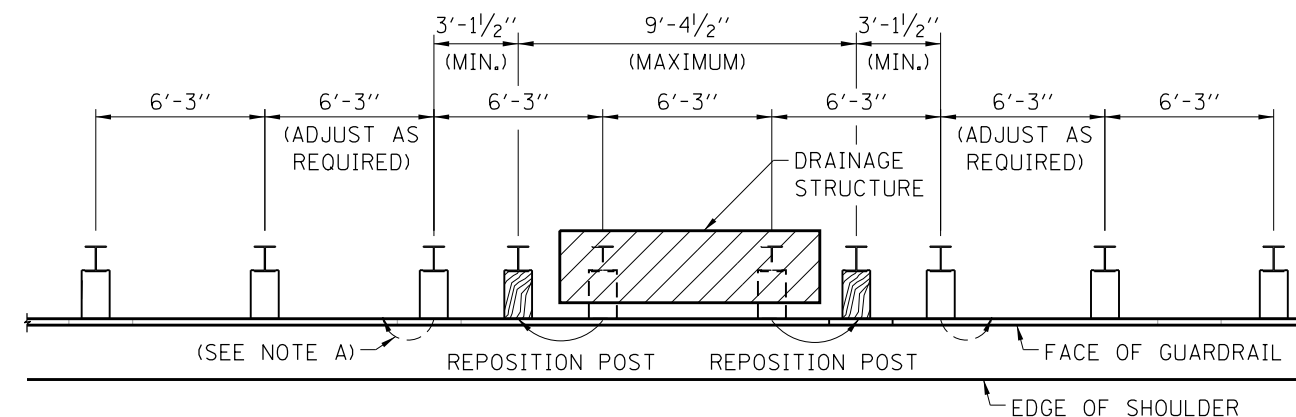
POST SPACING TRANSITIONS

NOTE: NO MODIFICATIONS OF ANY KIND TO THE TRANSITION POST SPACING ARE ALLOWED.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



TYPE A GUARDRAIL- DRAINAGE STRUCTURE CONFLICT
ONE POST



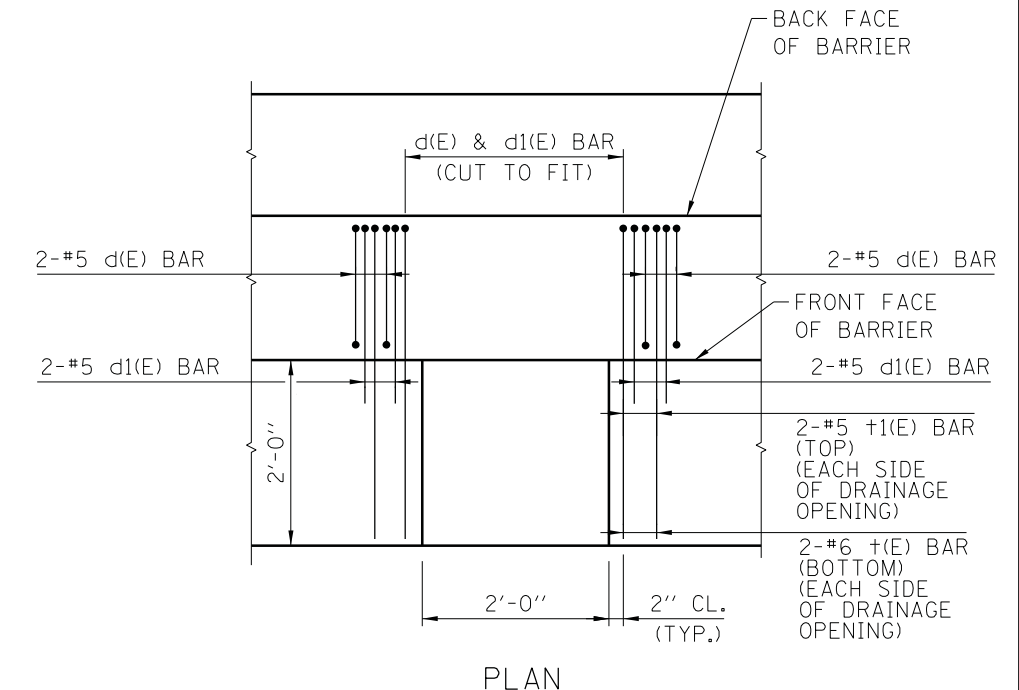
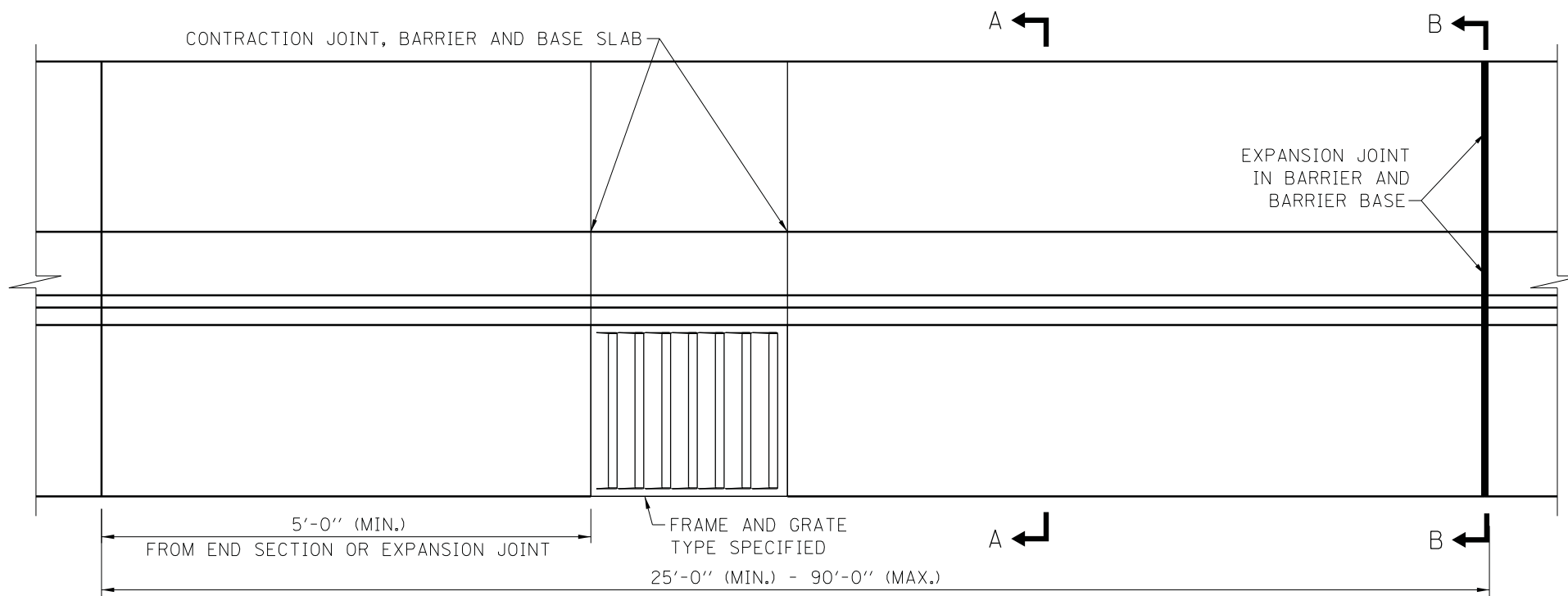
TYPE A GUARDRAIL - DRAINAGE STRUCTURE CONFLICT
TWO POSTS

DRAINAGE STRUCTURE CONFLICTS

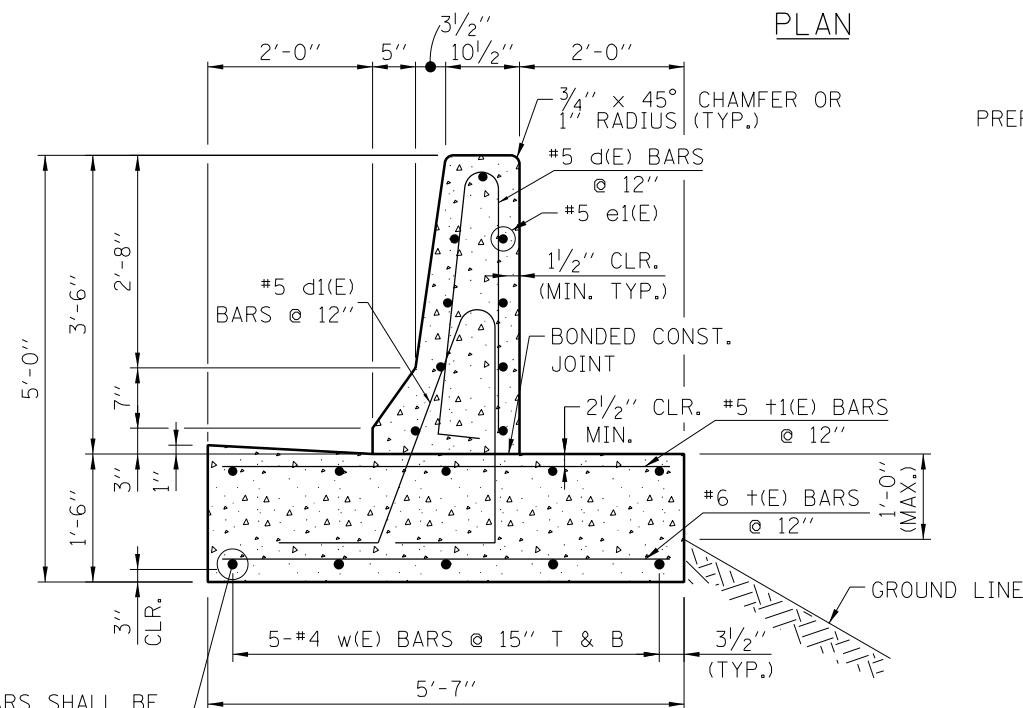
NOTES:

- A. GUARDRAIL POSTS SHALL NOT BE ELIMINATED; ALL POSTS MUST BE USED. POSTS ADJACENT TO REPOSITIONED POSTS MAY NEED TO BE MOVED TO KEEP 3'-1 1/2" MINIMUM SPACING.
- B. GUARDRAIL POSTS SHALL NOT BE SET BACK TO AVOID CONFLICTS WITH A DRAINAGE STRUCTURE.
- C. THIS DETAIL ALSO APPLIES TO OTHER UNDERGROUND CONFLICTS.

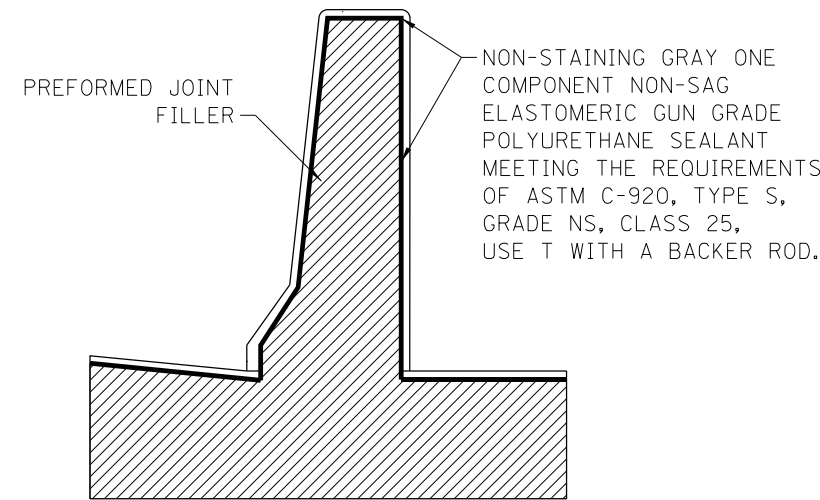




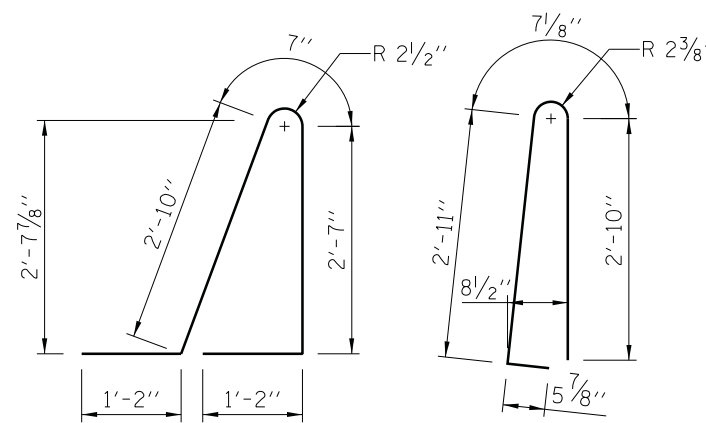
PLAN
REINFORCEMENT AROUND
DRAINAGE STRUCTURE



TYPE F BARRIER
SECTION A-A



TYPE F BARRIER
EXPANSION JOINT
SECTION B-B

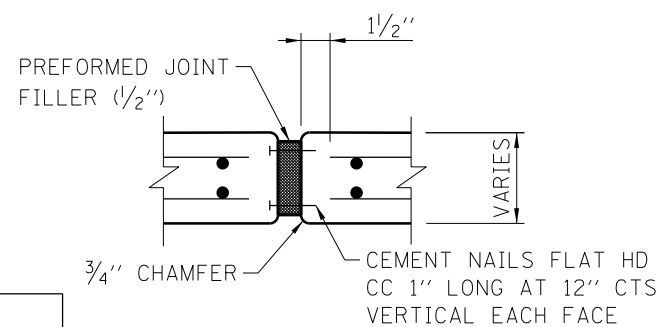


BENDING DIAGRAMS

NOTES:

1. TOP SHOULDER EDGE OF BARRIER BASE GUTTER SHALL MATCH THE TOP OF SHOULDER ELEVATION.
2. 1" DEEP CONTRACTION JOINTS SHALL BE CONSTRUCTED IN BOTH THE REINFORCED CONCRETE BARRIER WALL AND BASE. CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0".
3. THE FORMING OF CONTRACTION JOINTS SHALL BE DONE WITH AN APPROVED FINISHING TOOL OR BY SAWING SUBJECT TO THE SATISFACTORY CONTROL OF CRACKING.
4. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
5. REINFORCEMENT BARS BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
6. REINFORCEMENT BARS BENDING DIMENSIONS ARE OUT TO OUT.
7. AT DRAINAGE STRUCTURES, CUT FOOTING BARS TO FIT. ADD AN ADDITIONAL SET OF d, d1, t, AND +1 BARS ON EACH SIDE OF THE DRAINAGE STRUCTURE.
8. EXPANSION JOINTS SHALL BE CONSTRUCTED IN BARRIER WALL AT MAXIMUM JOINT SPACING OF 90'-0". SEE SECTION B-B FOR DETAILS.
9. MINIMUM LENGTH OF INSTALLATION SHALL BE 25'-0".
10. MINIMUM EXPANSION JOINT SPACING SHALL BE 25'-0".

#4 w(E) BARS SHALL BE CONTINUOUS WITH MIN. LAP 2'-0" (TYP.)



EXPANSION JOINT

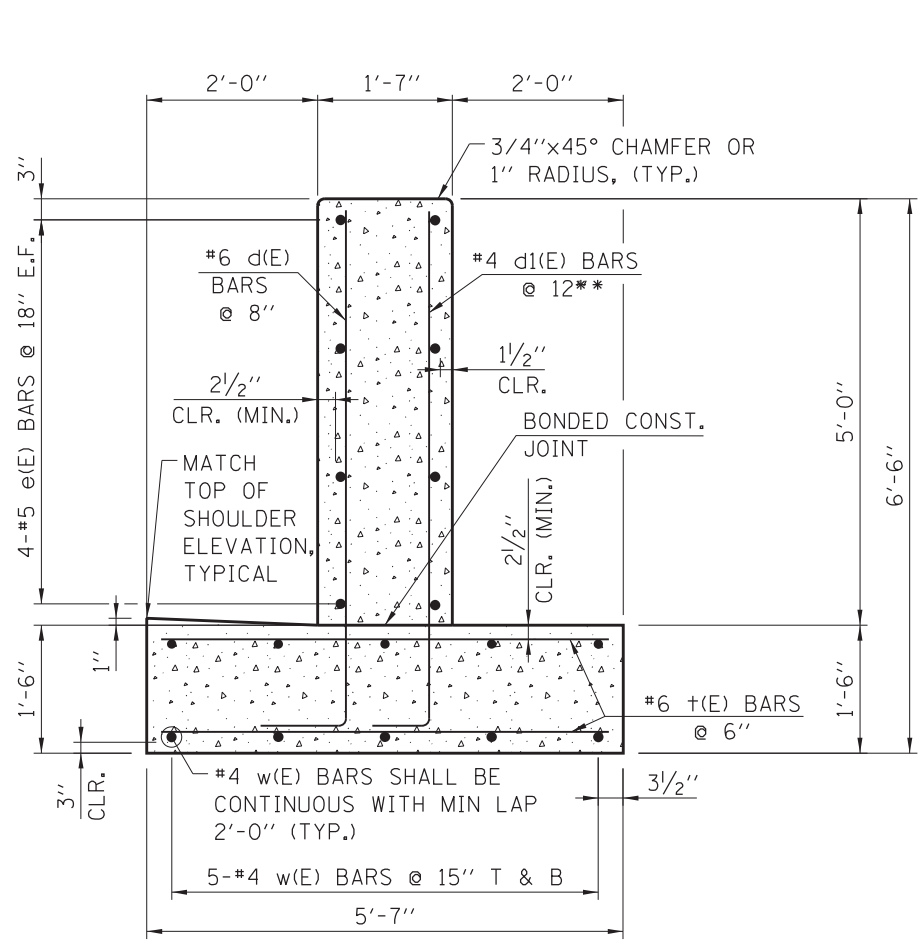
DATE	REVISIONS
11-01-12	GUTTER TRANS. TAPER DET. NEW JOINT DET., REV. NOTES
10-01-13	REVISED REINFORCEMENT BARS AND GUTTER WIDTH
03-31-14	REDESIGNED FOR TL-4 LOADING
3-11-2015	REVISED BENDING DIAGRAM
3-31-2016	ADDED MAX. EXPOSED BASE, REVISED EXP. JT. NOTE



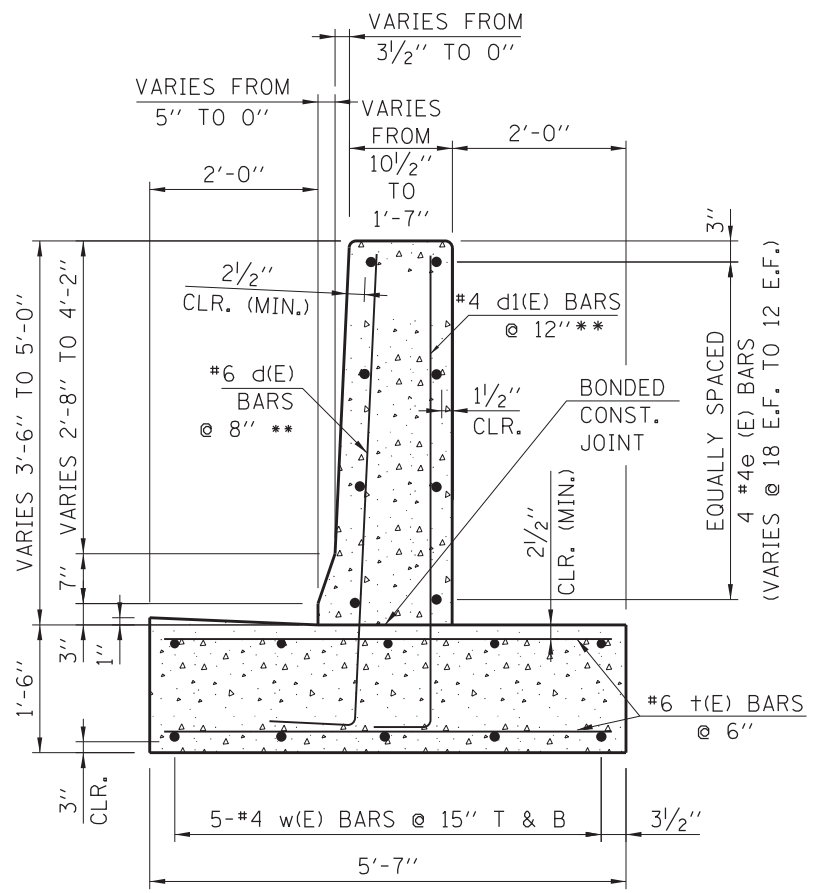
SINGLE FACE REINFORCED CONCRETE BARRIER

STANDARD C3-06

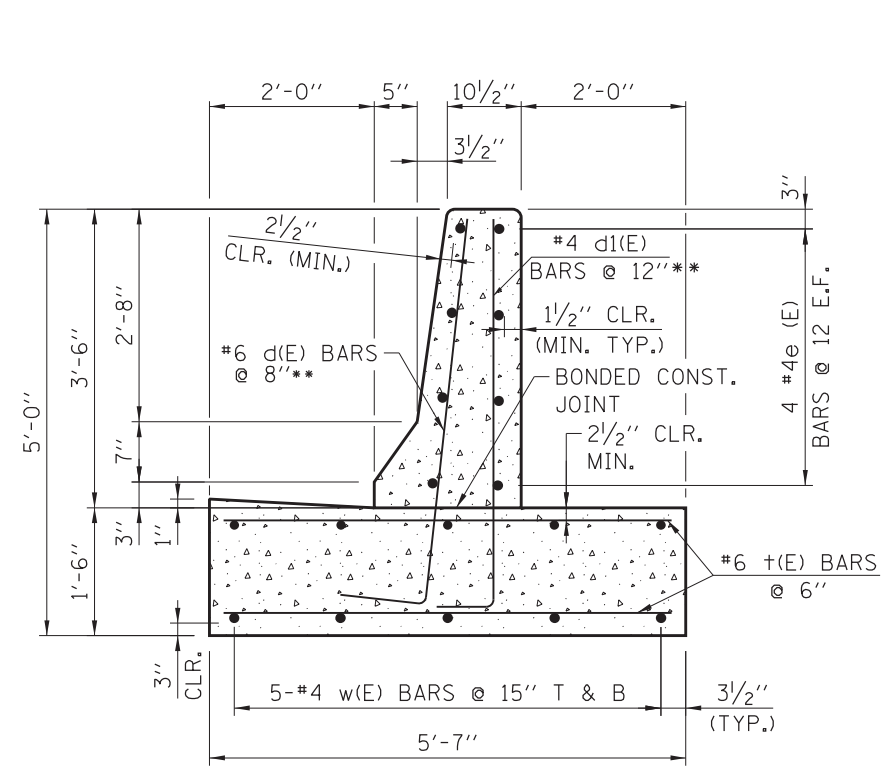
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



SECTION C-C



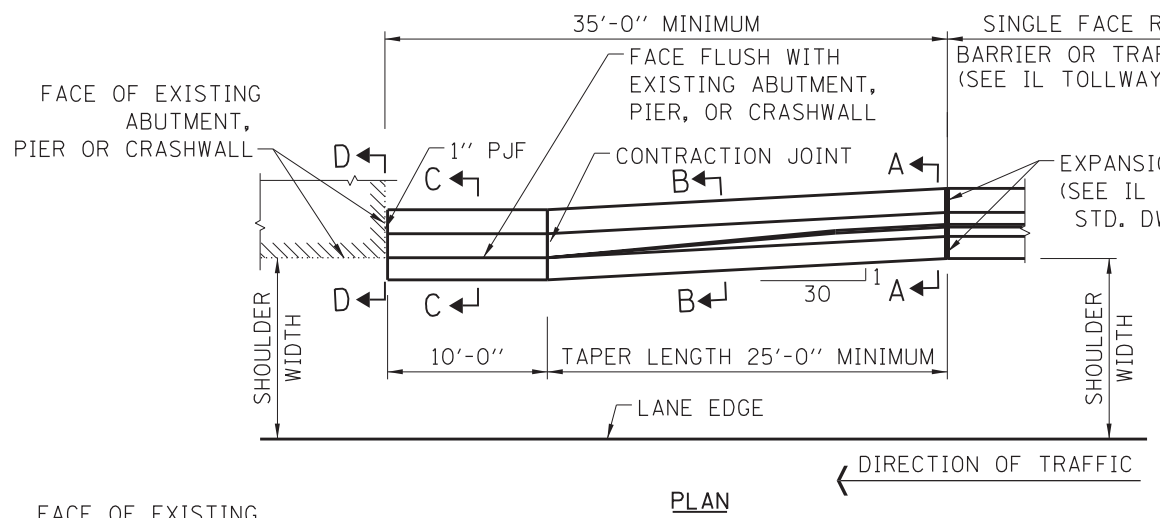
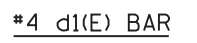
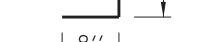
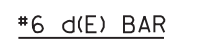
SECTION B-B



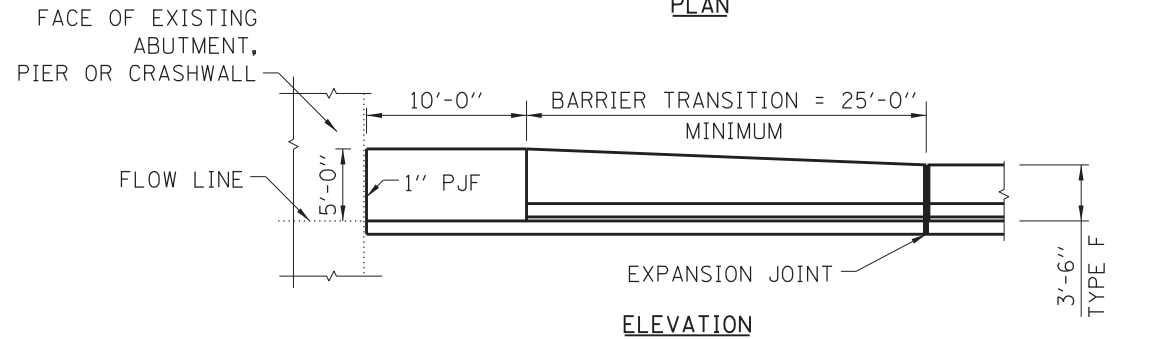
SECTION A-A

** CUT TO FIT IN FIELD
2" VERTICAL CLR.

BENDING DIAGRAMS

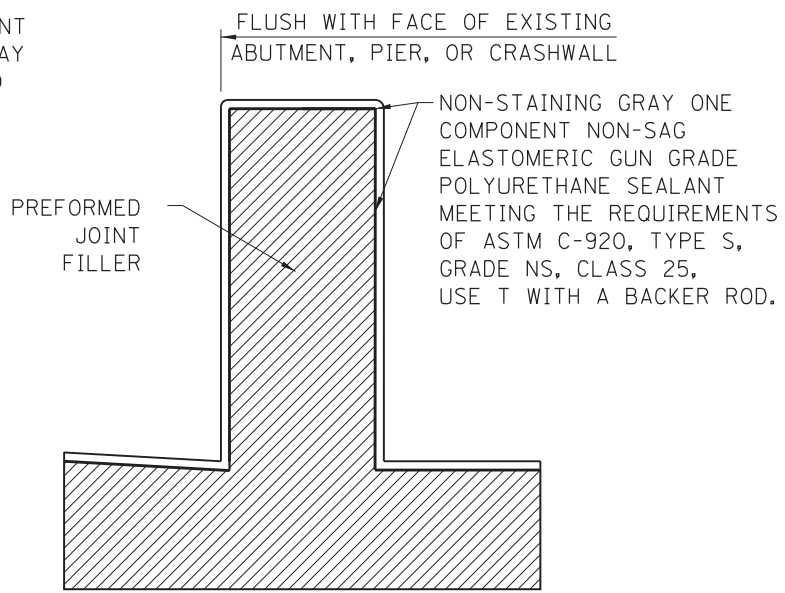


PLAN



ELEVATION

CONCRETE SHOULDER BARRIER TRANSITION, TYPE F



SECTION D-D

NOTES:

1. TAPER LENGTH REQUIRED FOR THE WIDTH TRANSITION WILL BE 25'-0" MINIMUM. INCREASE TAPER RATE AS REQUIRED TO OBTAIN THE LENGTH OF 25'-0".
2. TOP SHOULDER EDGE OF BARRIER BASE GUTTER SHALL MATCH THE TOP OF SHOULDER ELEVATION.
3. 1" DEEP CONTRACTION JOINTS SHALL BE CONSTRUCTED IN BOTH THE REINFORCED CONCRETE BARRIER WALL AND BASE. CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0".
4. THE FORMING OF CONTRACTION JOINTS SHALL BE DONE WITH AN APPROVED FINISHING TOOL OR BY SAWING SUBJECT TO THE SATISFACTORY CONTROL OF CRACKING.
5. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
6. REINFORCEMENT BARS BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICES FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
7. REINFORCEMENT BARS BENDING DIMENSIONS ARE OUT TO OUT.
8. TYPE F BARRIER SHALL BE USED WITH ALL NEW CONSTRUCTION, OR RECONSTRUCTION OF EXISTING BARRIERS.
9. E.F. DENOTES EACH FACE
10. MINIMUM EXPANSION JOINT SPACING SHALL BE 25'-0".

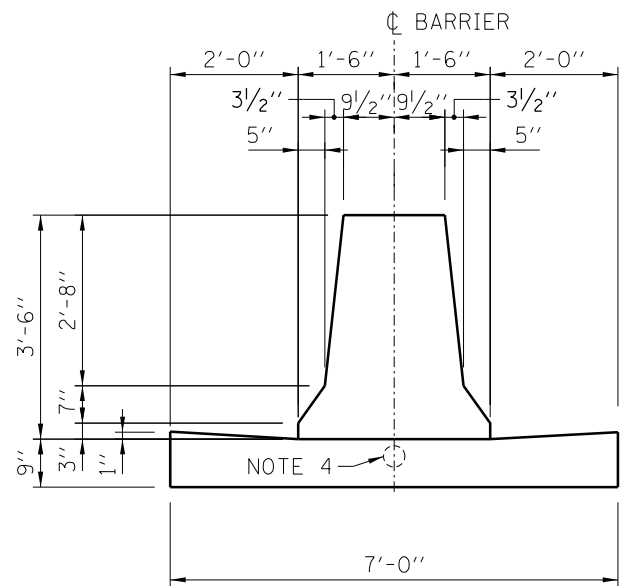
DATE	REVISIONS
11-01-12	GUTTER TRANS. TAPER DET. NEW JOINT DET., REV. NOTES
10-01-13	REVISED REINFORCEMENT BARS AND GUTTER WIDTH
3-31-14	REDESIGNED FOR TL-4 LOADING
3-11-2015	MODIFIED PREFORMED JOINT FILLER DETAIL
3-31-2016	REVISED SECT. B-B TO D-D
3-31-2017	ADDED CALLOUT TO SEC D-D



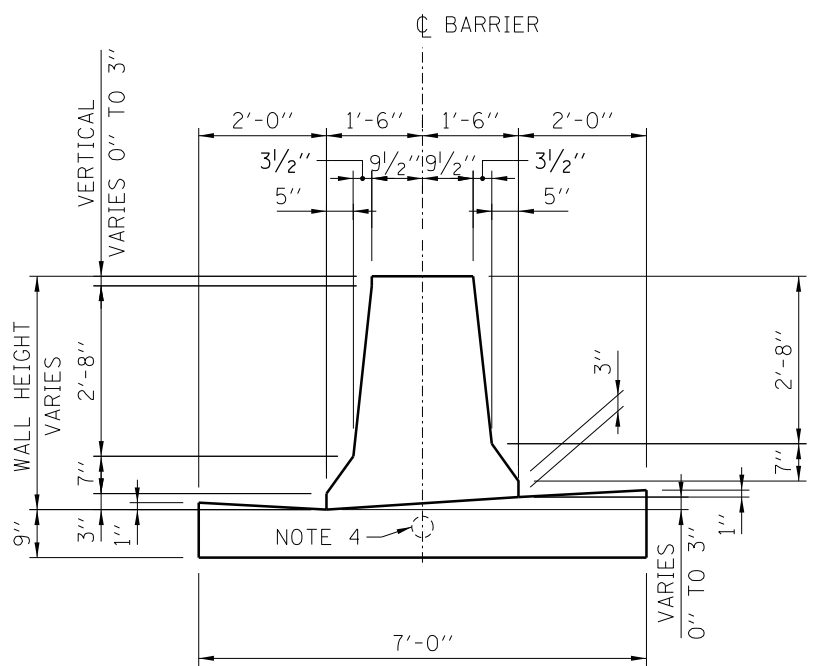
CONCRETE SHOULDER BARRIER TRANSITION TYPE F

STANDARD C4-07

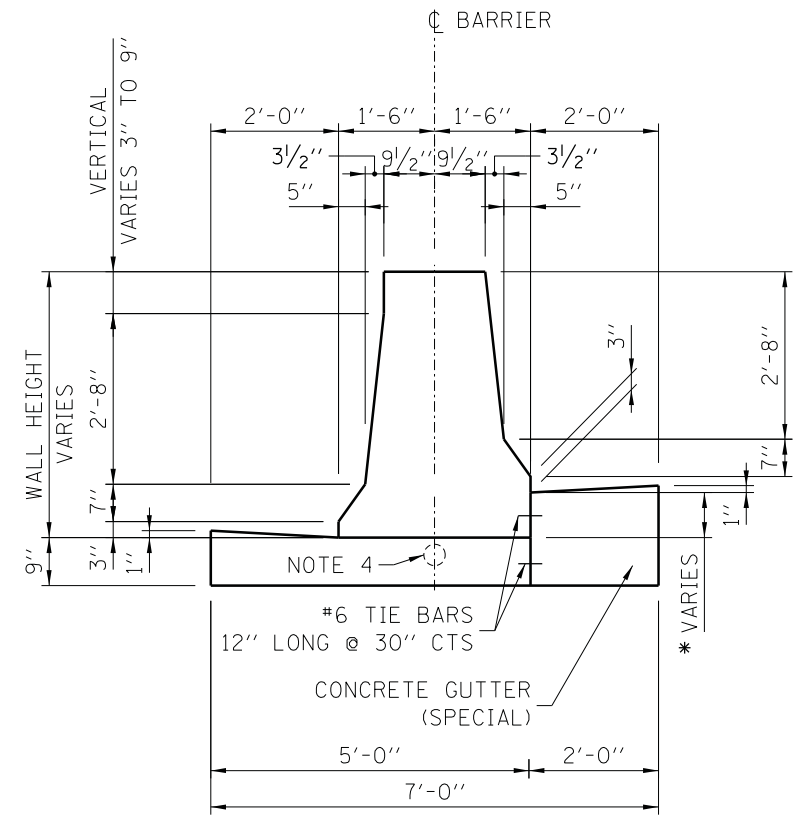
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



CONCRETE BARRIER, DOUBLE FACE, 42"
CONCRETE BARRIER BASE, 7'-0"



CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7'-0"
(BARRIER HEIGHT VERTICAL DIFFERENTIAL VARIES 0" TO 3")



CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT
CONCRETE BARRIER BASE, 5'-0"
(BARRIER HEIGHT VERTICAL DIFFERENTIAL VARIES 3" TO 9")
* WHEN 6" OR GREATER ADD TOP TIE BAR.

NOTES:

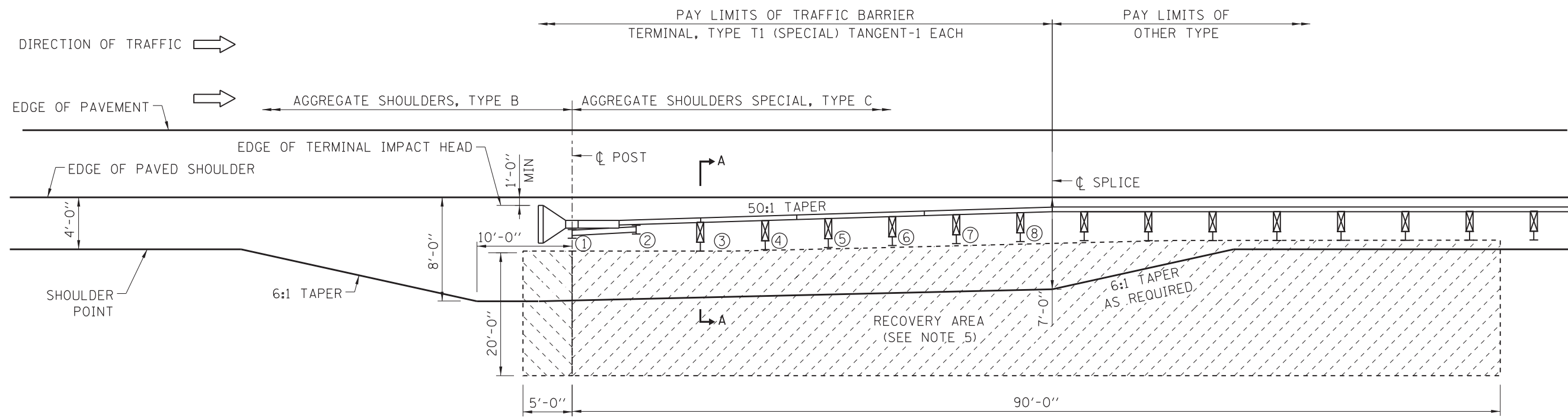
- 2" DEEP CONTRACTION JOINTS SHALL BE DONE BY SAWING AND SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL, CONCRETE BARRIER BASE, AND CONCRETE GUTTER (SPECIAL). CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0". THE MINIMUM DISTANCE BETWEEN CONTRACTION JOINTS IN THE MEDIAN BARRIER WALL SHALL BE 2'-0". WHEN A DRAINAGE STRUCTURE FALLS WITHIN 2'-0" FROM AN EXPANSION JOINT (OR) CONTRACTION JOINT, THE NEAREST CONTRACTION JOINT SHALL BE OMITTED.
- GUTTER PROFILE IN THE VICINITY OF SAG VERTICAL CURVES, ALONG FLAT GRADES AND AT THE MEETING OF PROPOSED AND EXISTING GUTTER, SHALL BE CAREFULLY CONTROLLED AND FIELD ADJUSTED IF NECESSARY TO ENSURE POSITIVE DRAINAGE AND AVOID PONDING.
- IN AREAS OF RELATIVELY FLAT LONGITUDINAL PROFILE GRADES, THE 3" VERTICAL DIMENSION AT THE BOTTOM OF THE BARRIER CAN VARY FROM 2" TO 3 1/4" TO CREATE AN ACCEPTABLE LONGITUDINAL GRADE IN THE GUTTER.
- REFERENCE PLAN SHEET FOR TYPE, SIZE AND NUMBER OF CONDUITS. PROVIDE 1/2" (MIN.) CLEARANCE TO THE TOP OF CONDUIT AND 2" (MIN.) CLEARANCE TO THE BOTTOM OF THE CONDUIT.
- WHEN VARIABLE HEIGHT VERTICAL DIFFERENTIAL EXCEEDS 9" SEE STRUCTURAL PLANS FOR DETAILS.
- GUTTER SLOPE SHALL BE 4.17% SLOPED TOWARD THE MEDIAN UNLESS OTHERWISE NOTED. GUTTER SLOPE IS REVERSE PITCHED IN SUPERELEVATED SECTIONS. TRANSITION GUTTER SLOPE OVER 30'-0". GUTTER SLOPE TRANSITIONS ARE INCLUDED IN THE COST OF CONCRETE BASE AND/OR CONCRETE GUTTER (SPECIAL). SEE ROADWAY PLANS FOR LIMITS OF REVERSE PITCHED GUTTER AND TRANSITIONS.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE: 2-7-2012

DATE	REVISIONS
2-07-2012	ADDED CONDUITS TO BARRIER BASE
11-01-2012	ADDED GUTTER TRANSITION TAPER DETAIL AND NEW JOINT DETAIL
3-31-2014	MODIFIED BARRIER BASE
3-11-2015	REVISED NOTES
3-31-2016	REVISED NOTES



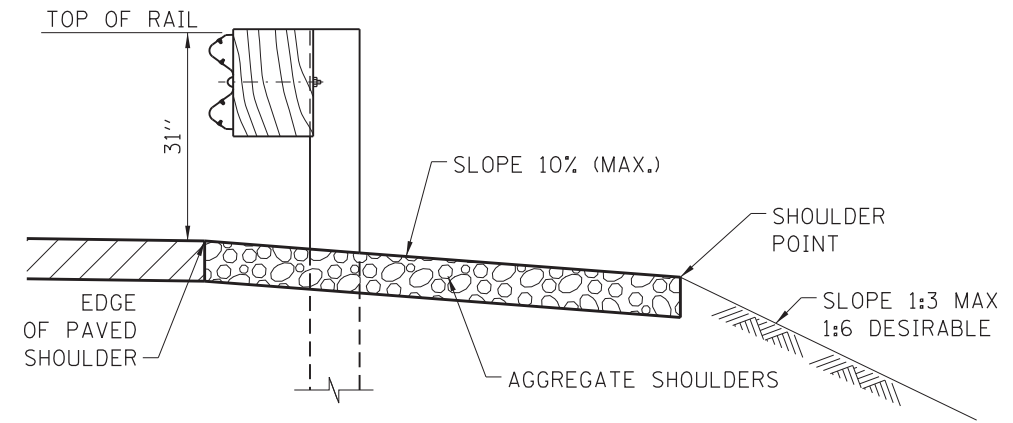
CONCRETE BARRIER BASE, AND CONCRETE BARRIER, DOUBLE FACE, 42" AND VARIABLE HEIGHT
STANDARD C5-05



SHOULDER WIDENING TRANSITION-WITHOUT GUTTER FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT

GENERAL NOTES:

1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
2. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING B28 FOR GUTTER TRANSITION, AND MINIMUM DISTANCE FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL.
3. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
4. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
5. NO ABOVE-GROUND ROADSIDE OBSTACLE OF ANY TYPE-FIXED OR BREAKAWAY, EITHER TEMPORARY OR PERMANENT SHALL BE ALLOWED WITHIN THIS RECOVERY AREA.
6. ON TANGENT ROADWAY: TRAFFIC BARRIER TERMINAL SHALL BE INSTALLED AT A 50:1 TAPER MEASURED FROM EDGE OF TRAVELED WAY. ON CURVED ROADWAY: THE EDGE OF THE TERMINAL IMPACT HEAD SHALL BE OFFSET A DISTANCE FROM A POINT ON THE BACK OF THE CURVED EDGE OF PAVED SHOULDER AS SHOWN IN TABLE 1. NO CURVED W-BEAM SECTIONS ARE PERMITTED WITHIN THE TERMINAL PAY LIMITS. THE TERMINAL SHALL BE LAID OUT IN A STRAIGHT LINE.
7. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA. WHEN NECESSARY USE LEAVE-OUT DETAIL SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING C1.
8. THE TERMINAL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH REPORT (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.
9. WHEN GUTTER IS PRESENT, DRAINAGE STRUCTURES SHALL NOT BE INSTALLED WITHIN THE TERMINAL LIMITS, BUT SHALL BE INSTALLED UPSTREAM AND DOWNSTREAM OF THE TERMINAL AS REQUIRED.



SECTION A-A

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 7-1-2009

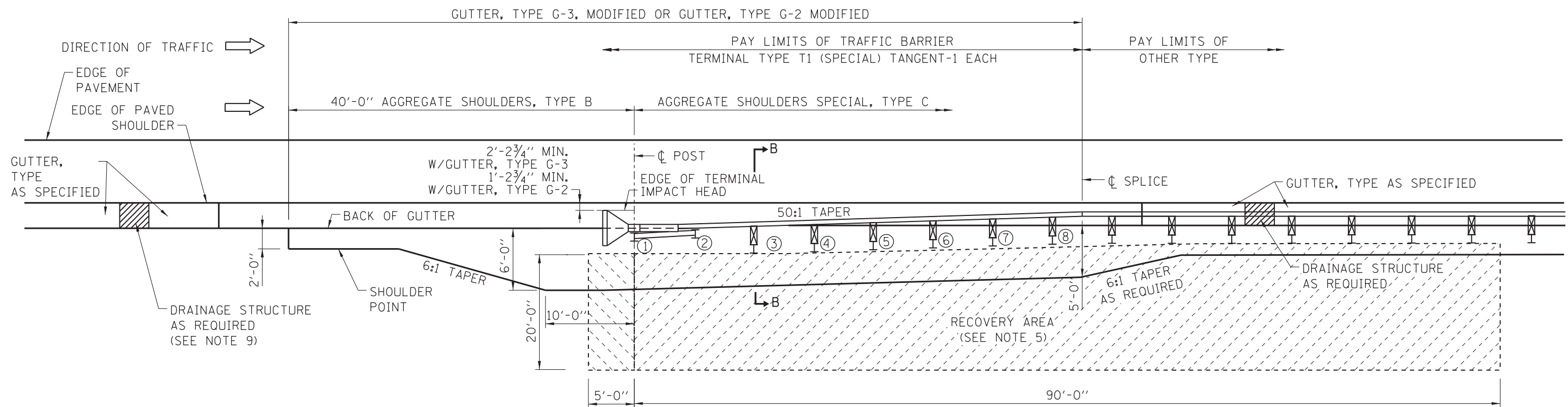
DATE	REVISIONS
03-01-13	TERMINAL CHANGED TO ALL STEEL POST SYSTEM, REVISED TERMINAL PAY LIMITS
03-31-14	REVISED RECOVERY AREA DIMENSION
3-11-2015	REVISED NOTES
3-31-2016	COMBINED G-3 & G-2
3-31-2017	REVISED NOTES

SHEET 1 OF 2

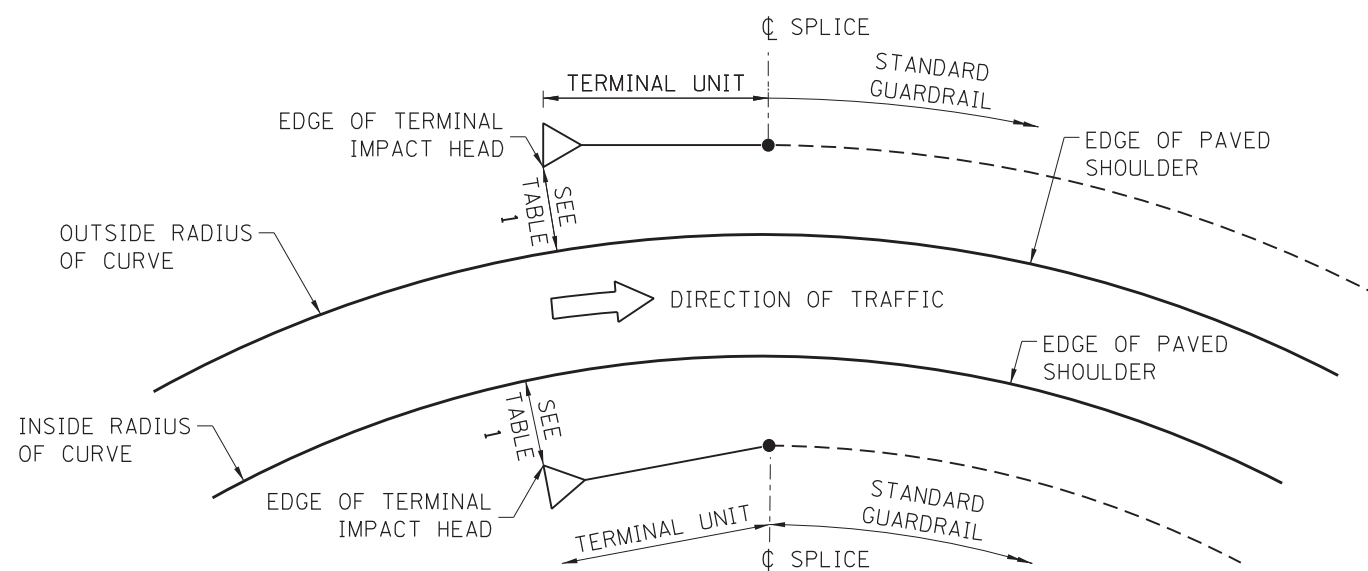


SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT

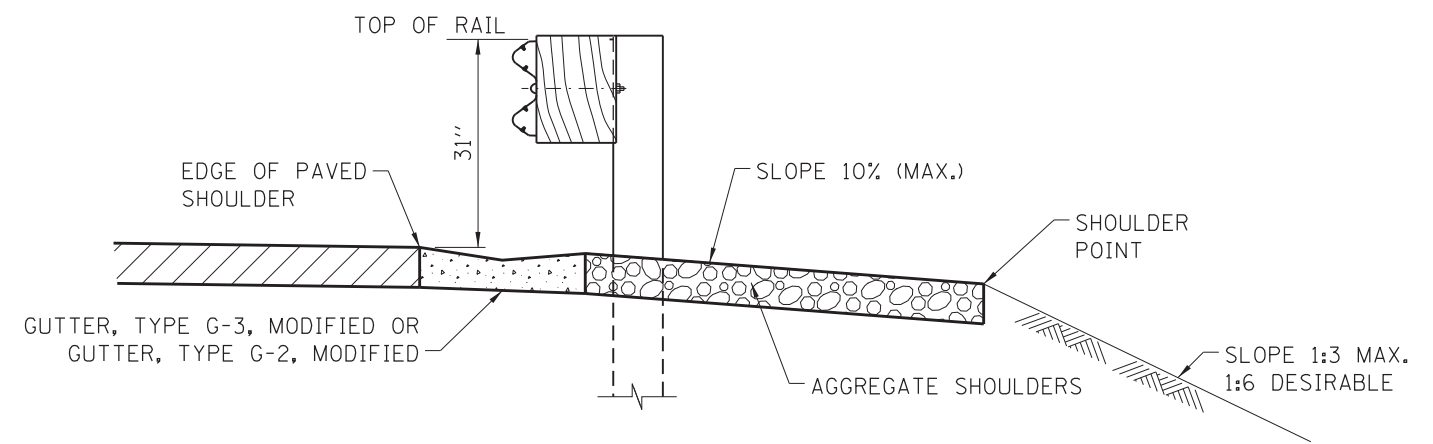
STANDARD C6-09



SHOULDER WIDENING TRANSITION-WITH GUTTER, TYPE G-3 OR TYPE G-2 FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT



CURVED ROADWAY TRAFFIC BARRIER TERMINAL PLACEMENT



SECTION B-B

TABLE 1		
LATERAL OFFSET DIMENSION TO EDGE OF TERMINAL IMPACT HEAD		
	INSIDE RADIUS OF CURVE	OUTSIDE RADIUS OF CURVE
NO GUTTER	1'-0"	1'-0" MIN. *
GUTTER, TYPE G-2	1'-2 3/4"	1'-2 3/4" MIN. *
GUTTER, TYPE G-3	2'-2 3/4"	2'-2 3/4" MIN. *

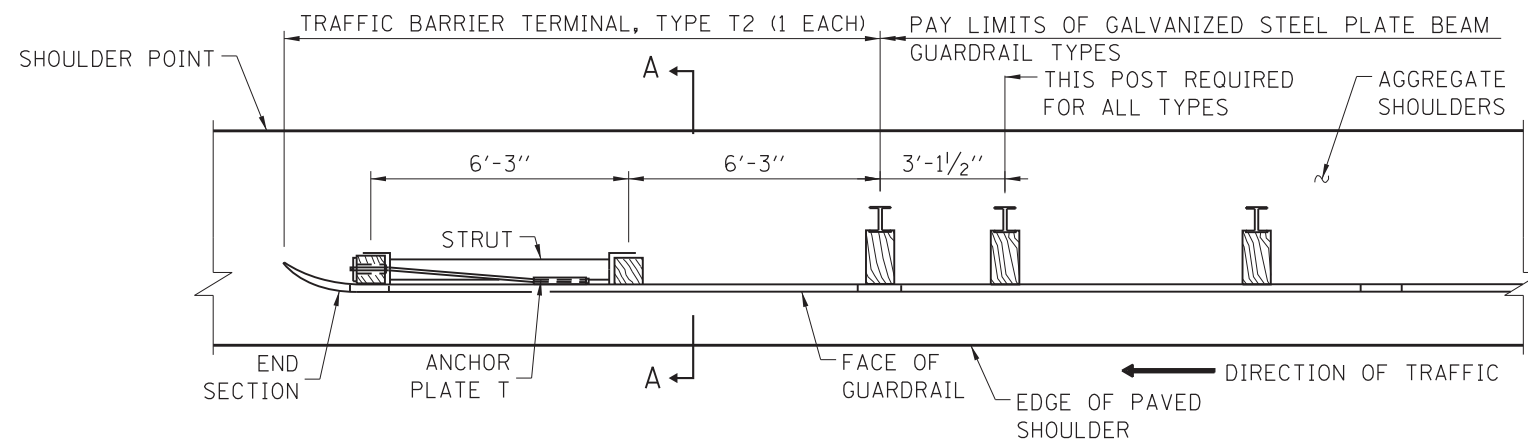
(*) OFFSET DISTANCE WILL VARY BASED ON RADIUS OF HORIZONTAL CURVE AND THE TERMINAL BEING INSTALLED IN A STRAIGHT LINE.

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

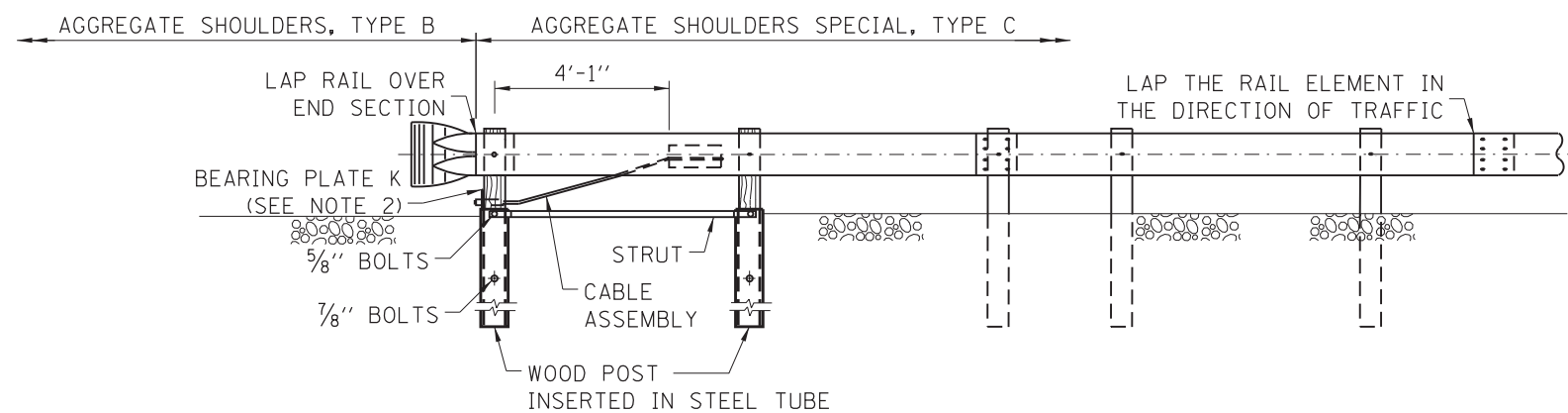
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT

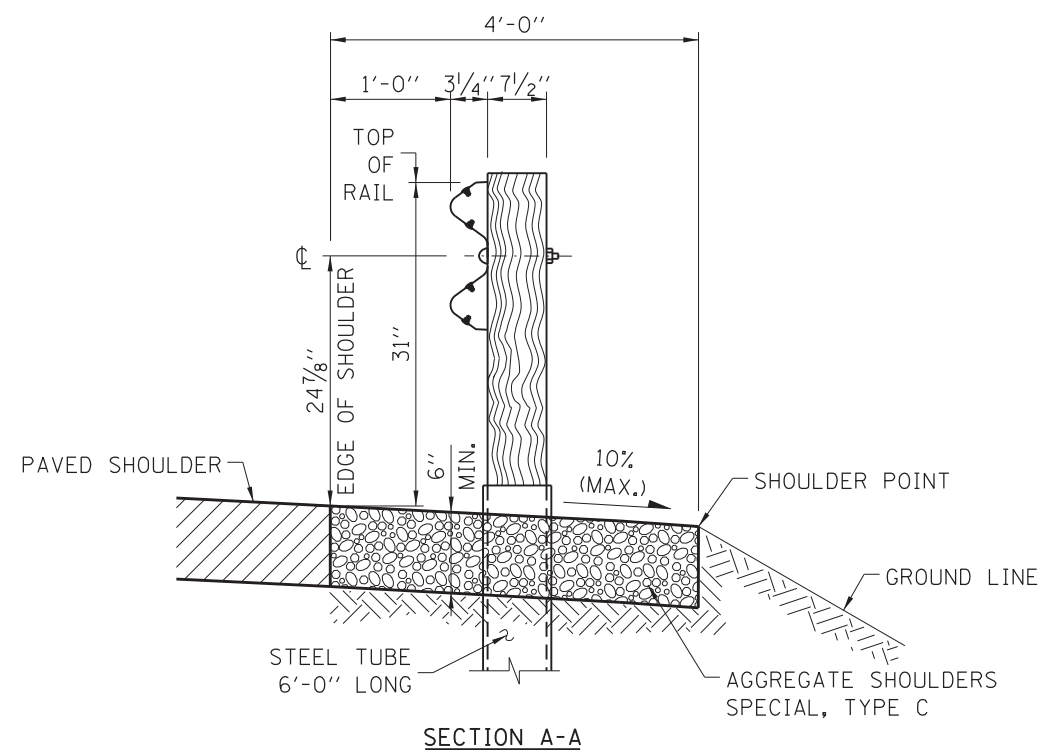


PLAN



ELEVATION

TRAFFIC BARRIER TERMINAL, TYPE T2-WITHOUT GUTTER



SECTION A-A

NOTES:

1. SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THE BEARING PLATE K SHALL BE HELD IN POSITION BY TWO 8D NAILS DRIVEN INTO THE POST AND BENT OVER THE TOP OF THE PLATE.
3. THE TRAFFIC BARRIER TERMINAL, TYPE T2 IS TYPICALLY UTILIZED FOR THE DEPARTING END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL BARRIER SYSTEM.
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY'S DETAILS AND SPECIFICATIONS. NO MODIFICATIONS SHALL BE PERMITTED.
6. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENT. WHEN NECESSARY USE LEAVE-OUT DETAIL PER ILLINOIS TOLLWAY STANDARD DRAWING C1.
7. WHERE GUTTER, TYPE G-2 OR GUTTER, TYPE G-3 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 6" BEHIND THE GUTTER, OR AS OTHERWISE DETAILED IN THE PLANS. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING B28.

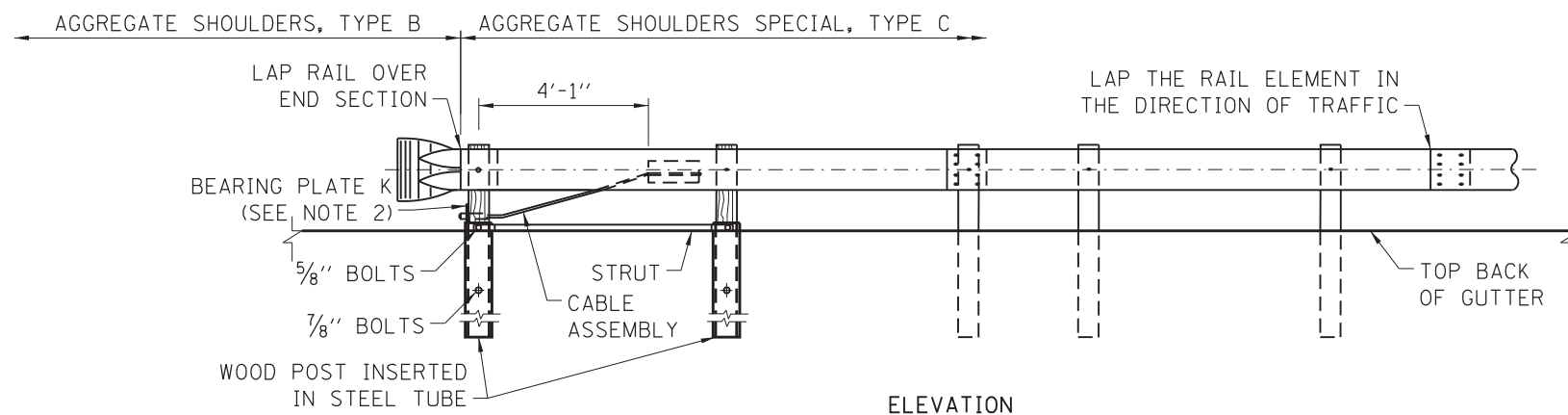
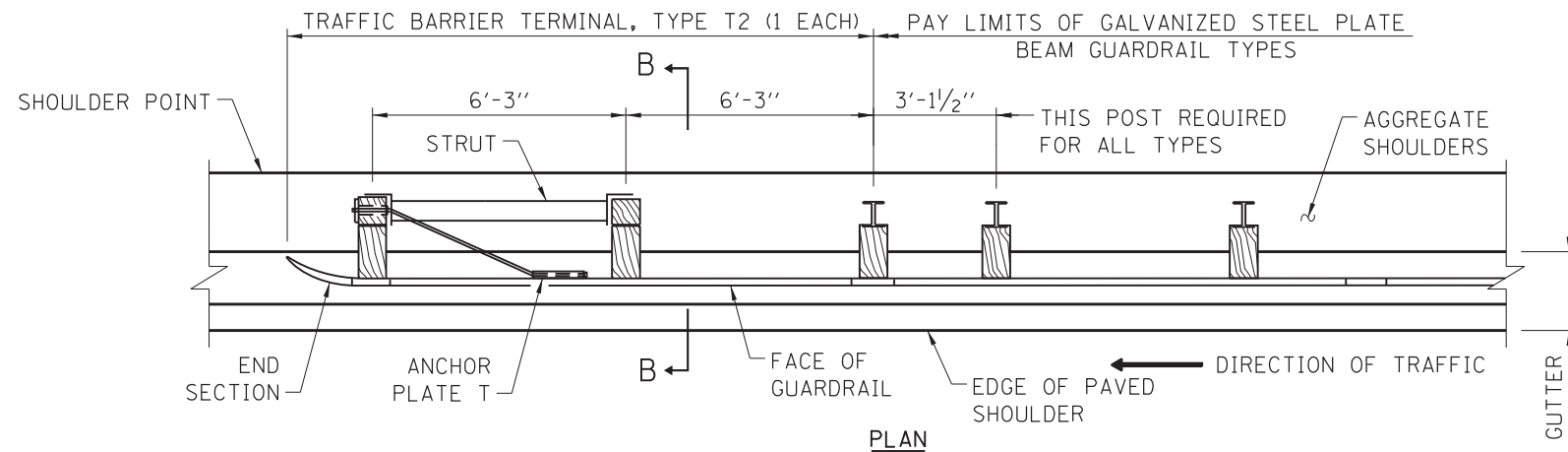


TRAFFIC BARRIER TERMINAL, TYPE T2

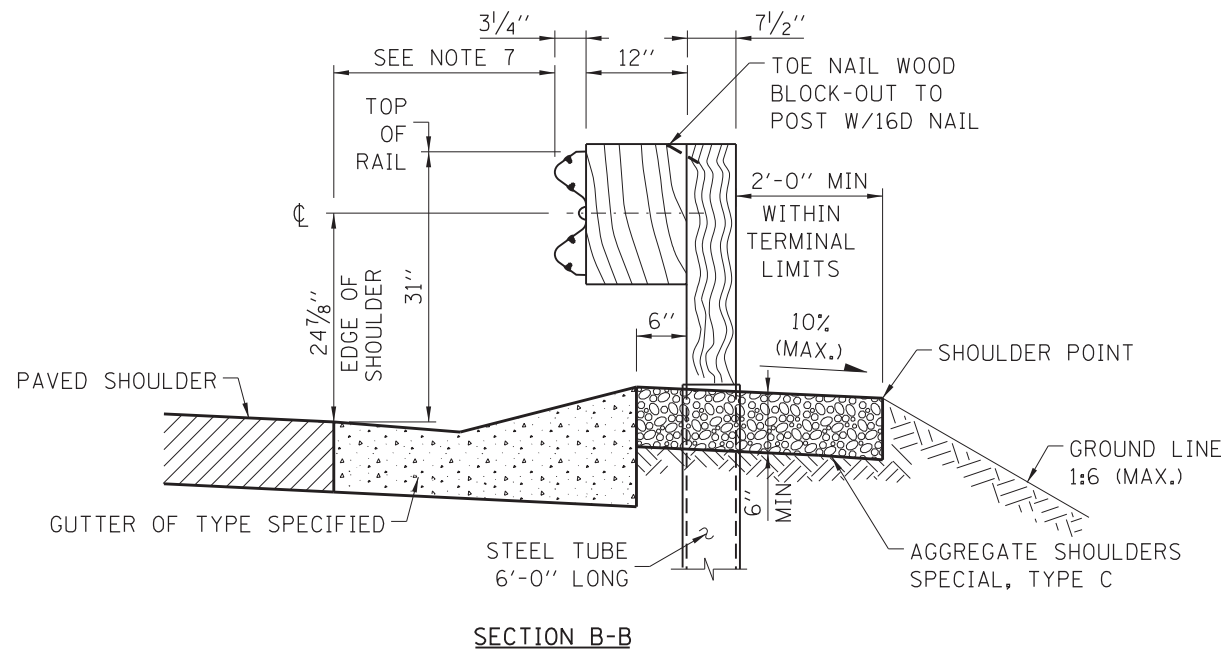
STANDARD C7-08

DATE	REVISIONS
2-07-2012	REVISED DIMENSIONS OF BEARING PLATE, POST, CABLE STRUT AND TUBE AND NOTES
11-01-2012	MODIFIED AGGREGATE SHOULDERS, REVISED WOOD POST DIMENSION
3-31-2014	REVISED NOTES
3-11-2015	REVISED NOTES
3-31-2016	REVISED SECTION A-A SHOULDER
3-31-2017	REVISED SECT A-A SHOULDER SLOPE TO 2%

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



TRAFFIC BARRIER TERMINAL, TYPE T2-WITH GUTTER

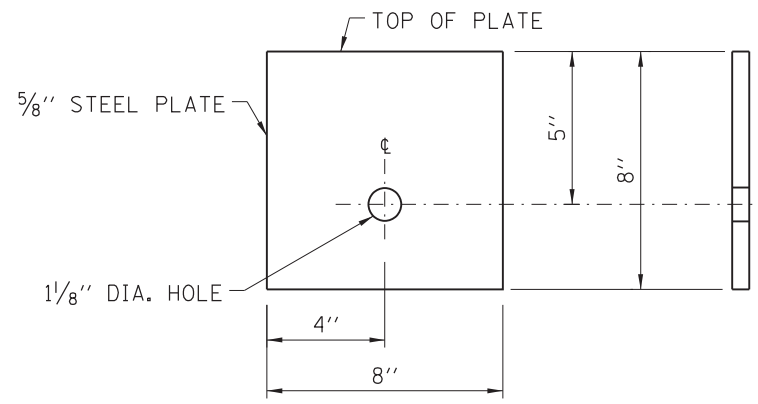


SECTION B-B

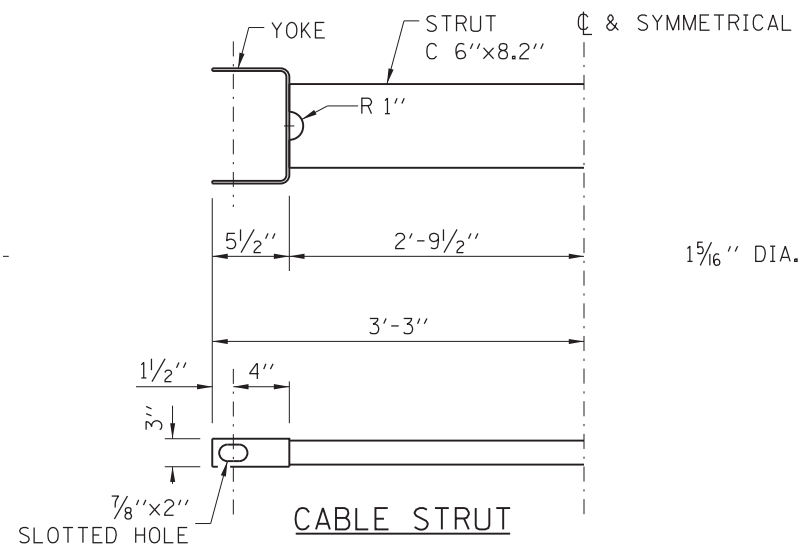
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

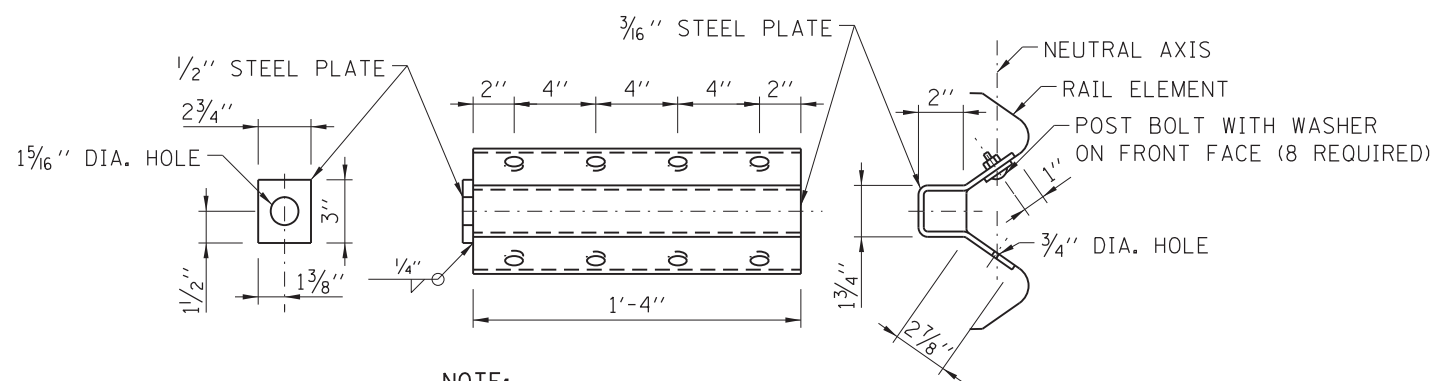




BEARING PLATE K

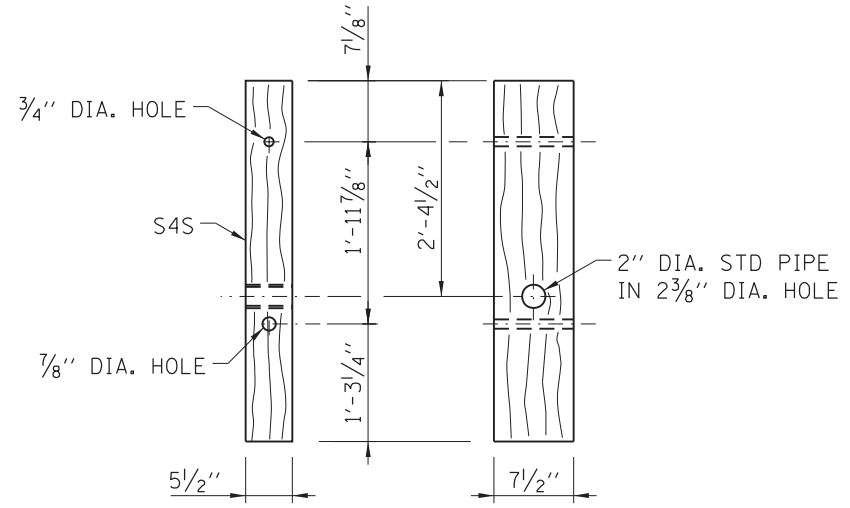


CABLE STRUT

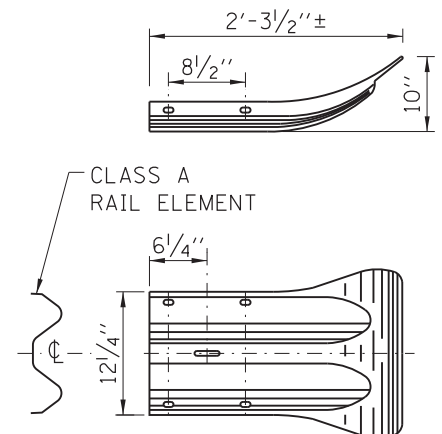


NOTE:
ANCHOR PLATE T SHALL BE USED TO ATTACH CABLE ASSEMBLY TO GUARDRAIL WHEN REQUIRED ON TRAFFIC BARRIER TERMINALS.

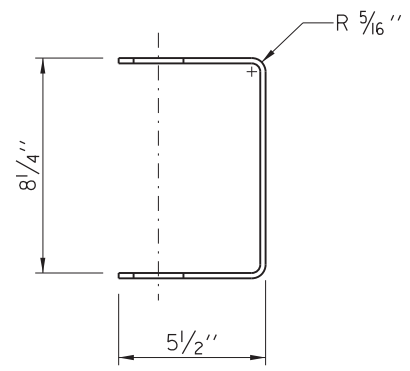
ANCHOR PLATE T DETAILS



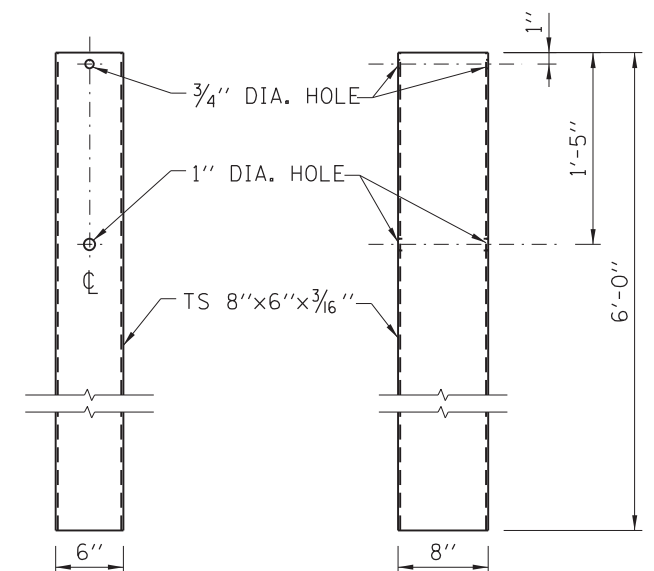
WOOD POST



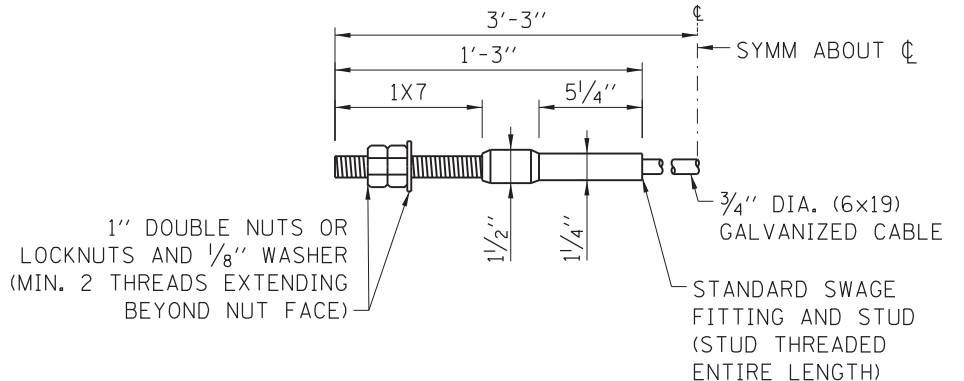
END SECTION



YOKE
3/16 inch THICK STEEL



STEEL TUBE

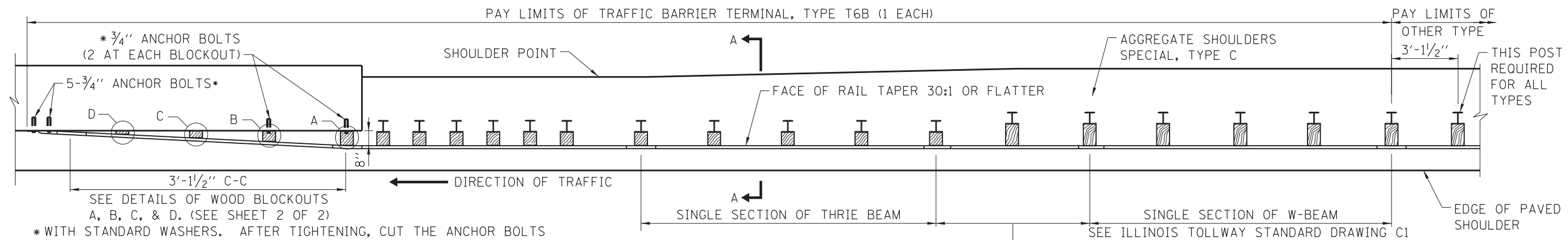


CABLE ASSEMBLY
(40,000 LBS.) MIN. BREAKING STRENGTH)
TIGHTEN TO TAUT TENSION

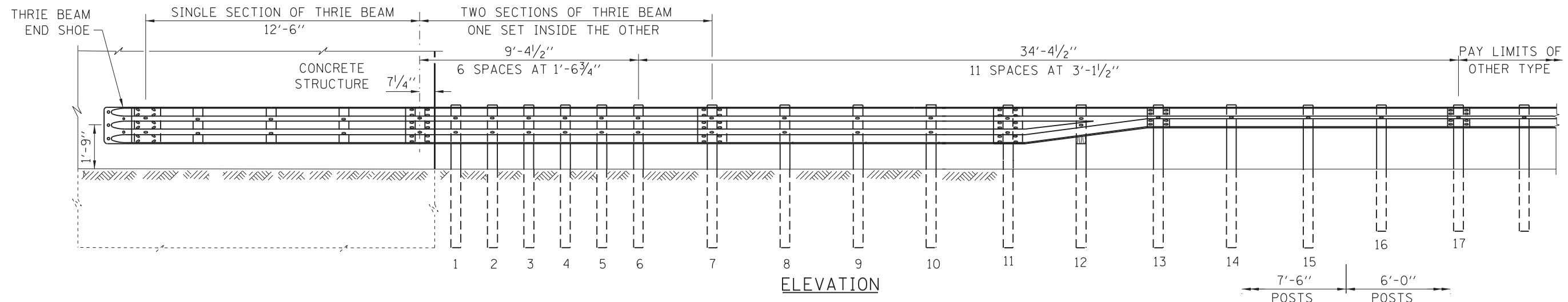
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009





* WITH STANDARD WASHERS. AFTER TIGHTENING, CUT THE ANCHOR BOLTS FLUSH WITH THE NUTS AND DAMAGE THE NUTS TO PREVENT THEM FROM LOOSENING. BOLTS SHALL BE ANCHORED INTO DRILLED HOLES USING A CHEMICAL ADHESIVE RESIN SYSTEM. MINIMUM EMBEDMENT 10\".

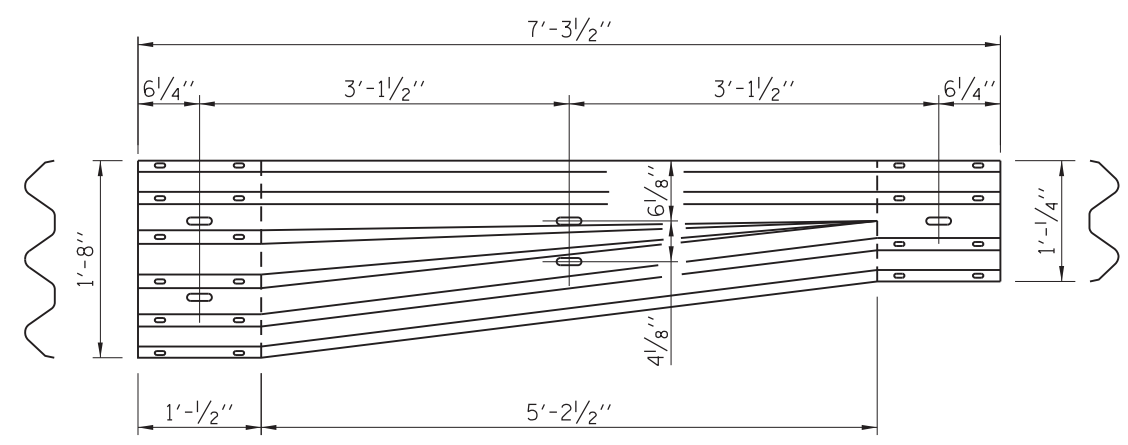


PLAN

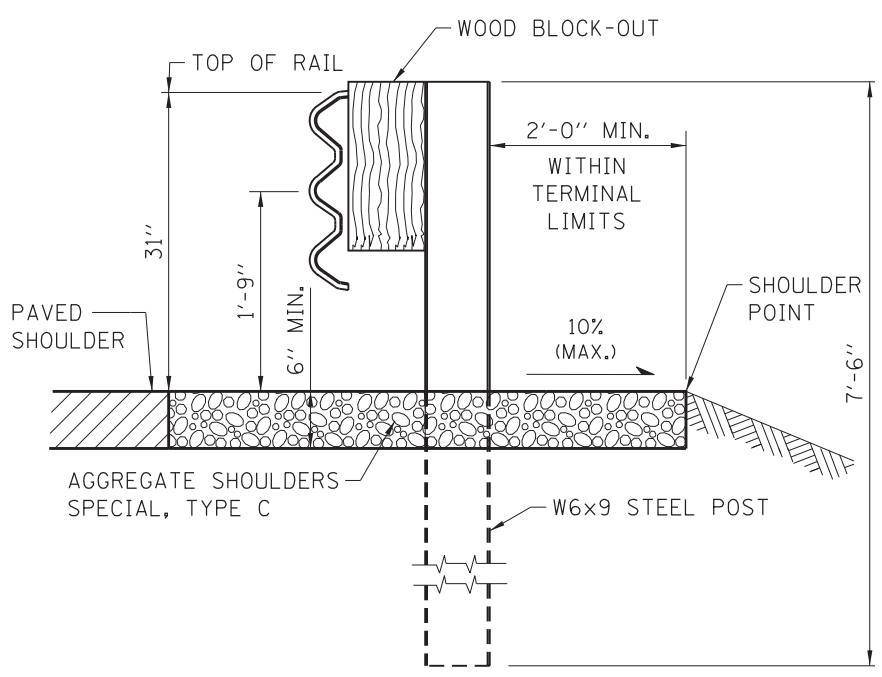
ELEVATION

NOTES:

1. SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THRIE BEAM RAIL SHALL BE BOLTED TO BLOCK-OUT AT ALL POSTS.
3. THE TRAFFIC BARRIER TERMINAL, TYPE T6B IS TYPICALLY UTILIZED TO ATTACH GALVANIZED STEEL PLATE BEAM GUARDRAIL AT THE UPSTREAM END OF THE BRIDGE CONCRETE PARAPET, WHERE A ROADSIDE GUTTER IS NOT TO BE INSTALLED.
4. UNDER NO CIRCUMSTANCES SHALL EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY'S DETAILS AND SPECIFICATIONS. NO MODIFICATIONS SHALL BE PERMITTED.
6. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENTS. WHEN NECESSARY USE LEAVE-OUT DETAIL PER ILLINOIS TOLLWAY STANDARD DRAWING C1, SHEET 3 OF 4.
7. TERMINAL BARRIER CLEARANCE DISTANCE SHALL CONFORM WITH TABLE 2 ON ILLINOIS TOLLWAY STANDARD DRAWING C1.
8. LEAVE-OUT DIMENSION BEHIND POSTS 1-6, SHALL BE A MINIMUM OF 4\".



TRANSITION SECTION
(10 GAUGE RAIL ELEMENT)



SECTION A-A

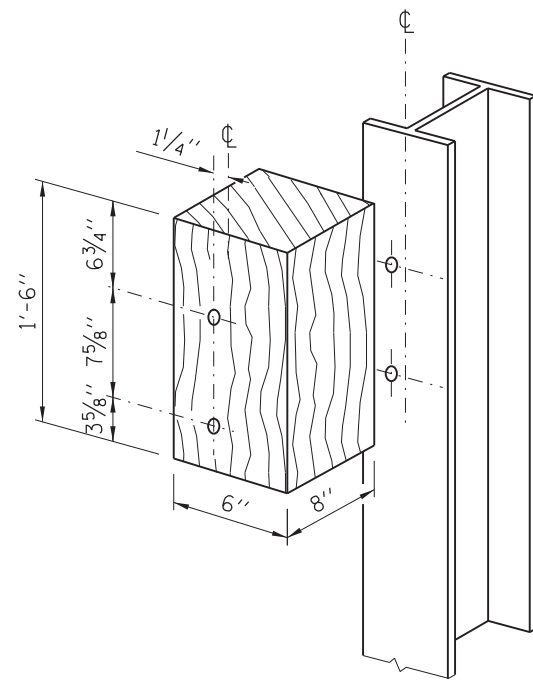


TRAFFIC BARRIER
TERMINAL, TYPE T6B

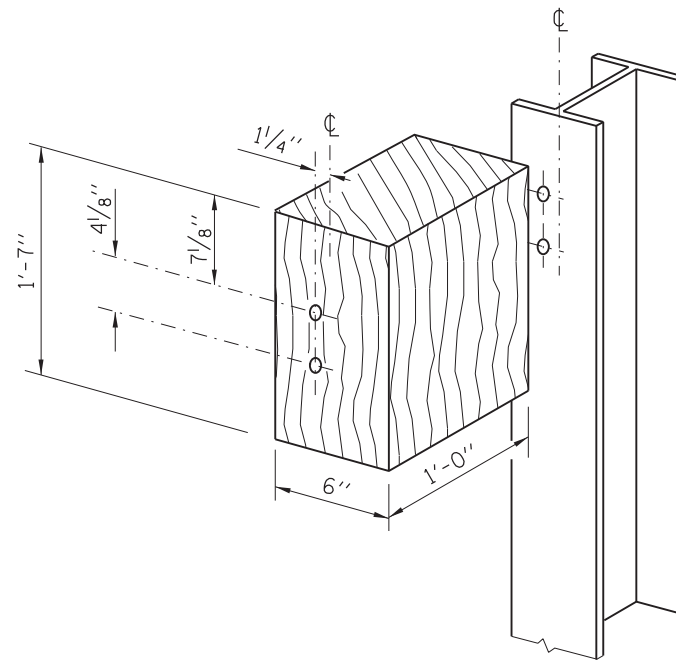
STANDARD C10-08

DATE	REVISIONS
2-07-2012	REVISED WOOD BLOCK-OUT DIMENSION ADHESIVE AND REVISED NOTES
11-01-2012	MODIFIED AGGREGATE SHOULDERS, REVISED NOTES
3-31-2014	REVISED WOOD BLOCKS AND NOTES
3-11-2015	REVISED NOTES
3-31-2016	REVISED SECTION A-A SHOULDER
3-31-2017	REVISED SHOULDER SLOPE LABEL

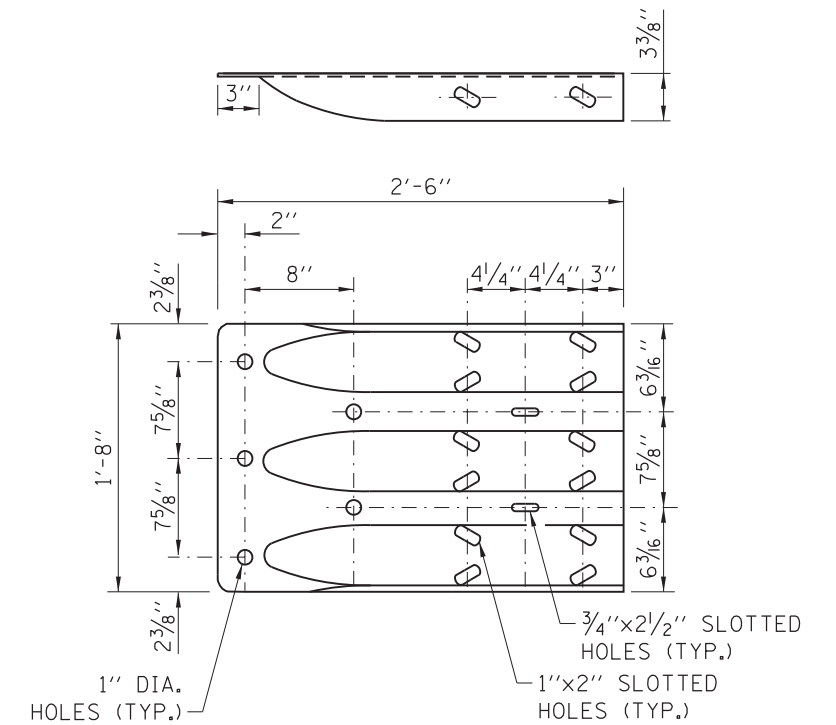
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



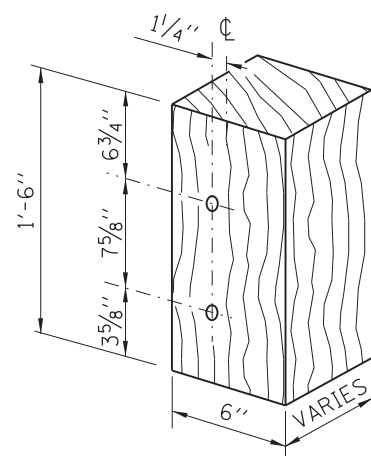
POSTS 1-11 WOOD BLOCK-OUT DETAIL



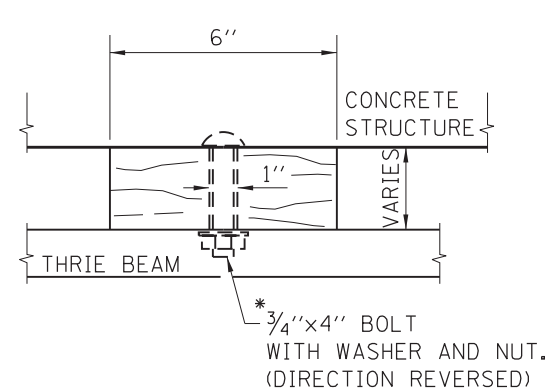
POST 12 WOOD BLOCK-OUT DETAIL
(SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR POST 13-17 BLOCKOUTS)



THRIE BEAM END SHOE DETAIL

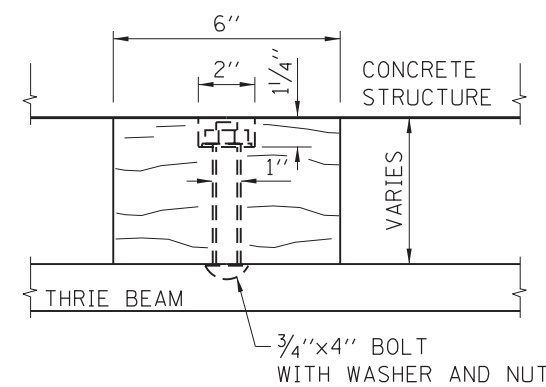


MODIFIED THICKNESS DETAIL
WOOD BLOCK-OUTS A, B, C, & D

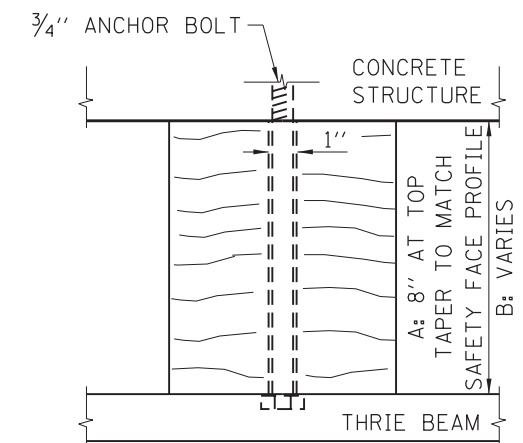


WOOD BLOCK-OUT D

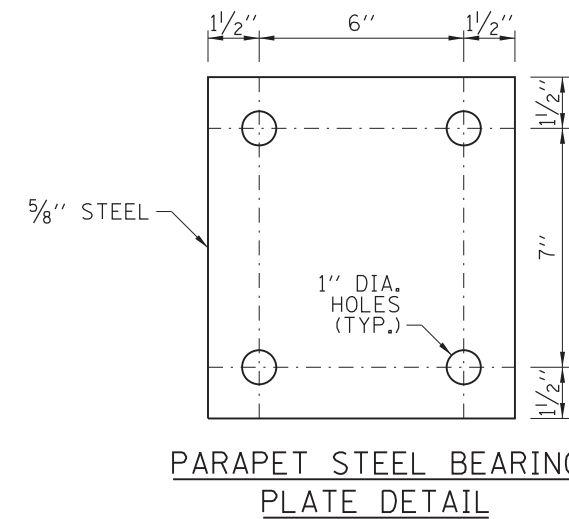
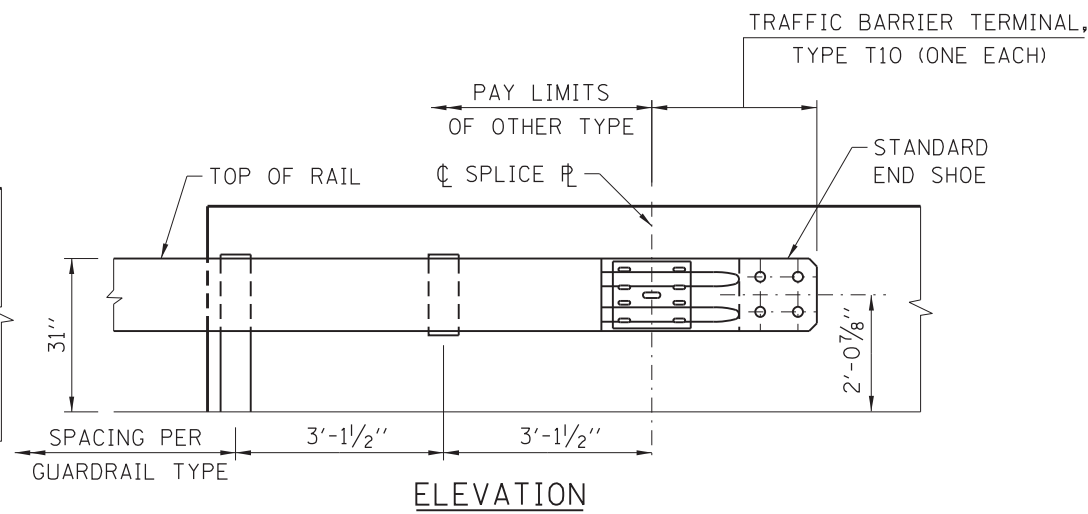
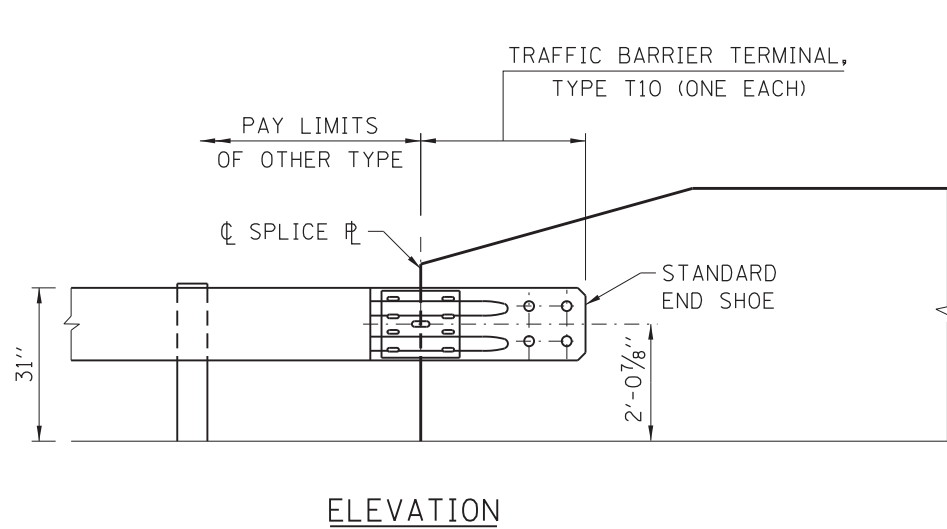
* AFTER TIGHTENING, CUT THE BOLTS FLUSH WITH THE NUTS AND DAMAGE THE NUTS TO PREVENT THEM FROM LOOSENING.



WOOD BLOCK-OUT C



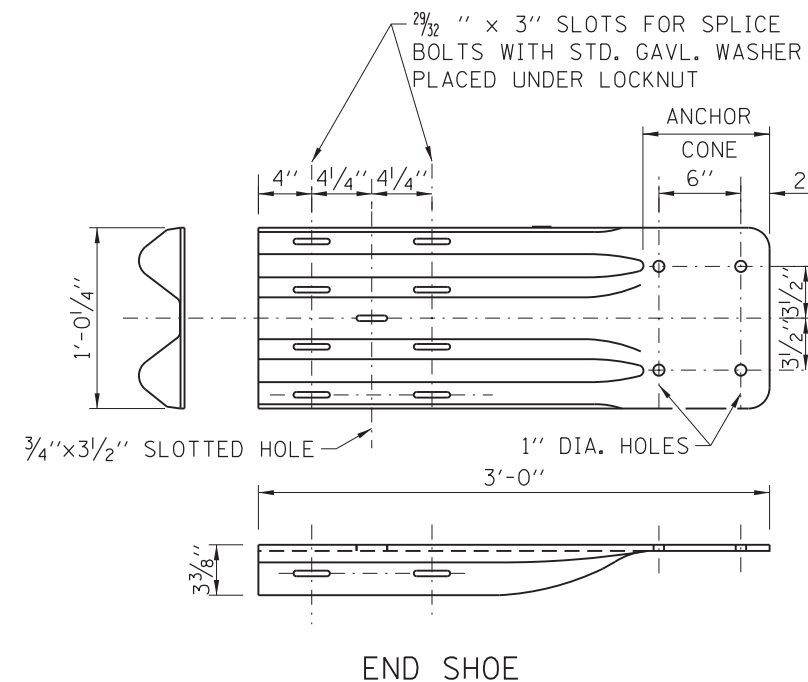
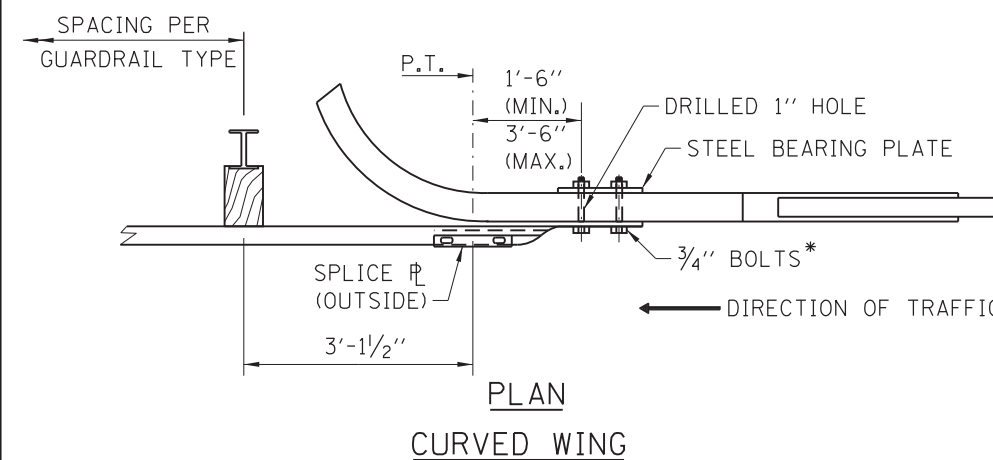
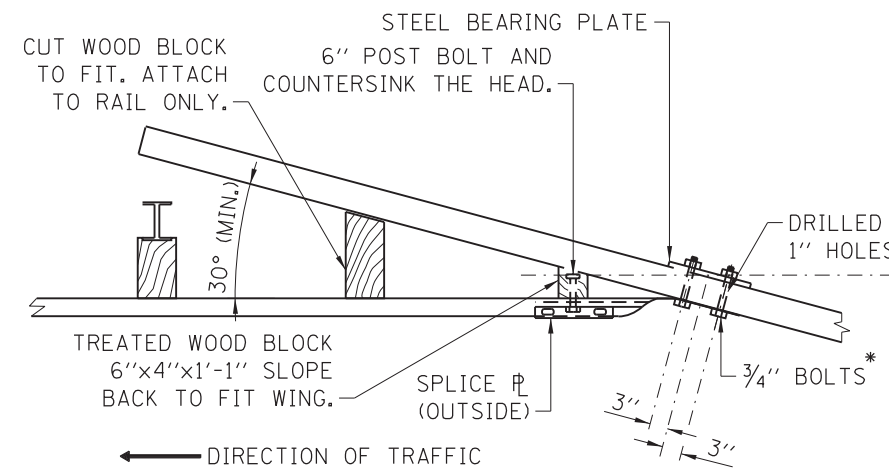
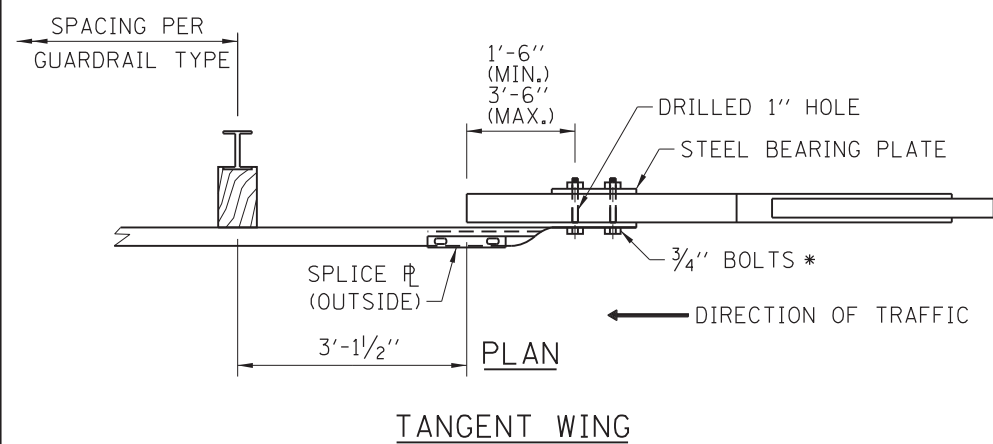
WOOD BLOCK-OUT A & B



(4 EACH INDIVIDUAL 5"x5"x5/8" STEEL PLATES WITH CENTERED HOLES MAY BE SUBSTITUTED FOR THE PLATE SHOWN)

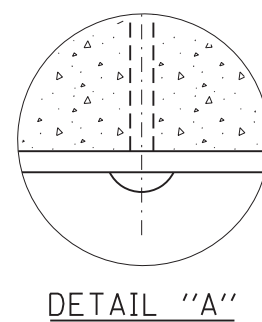
NOTES:

- SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
- THE 24 7/8" TYPICAL RAIL HEIGHT IS MEASURED FROM EXISTING SURFACE 1'-0" IN FRONT OF RAIL, OR FROM EDGE OF SHOULDER/EDGE OF GUTTER WHEN EDGE IS MORE THAN 1'-0" IN FRONT OF RAIL TO CENTER OF RAIL.
- THE TRAFFIC BARRIER TERMINAL, TYPE T10 IS TYPICALLY UTILIZED TO CONNECT GALVANIZED STEEL PLATE BEAM GUARDRAIL TO THE DEPARTING END OF AN EXISTING BRIDGE CONCRETE WING WALL OR PARAPET.
- UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
- TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY'S DETAILS AND SPECIFICATIONS. NO MODIFICATIONS SHALL BE PERMITTED.
- WHEN END SHOE IS ATTACHED TO A BRIDGE PARAPET WHICH HAS AN EXPANSION JOINT, THE BOLTS SHALL BE PROVIDED WITH A LOCKNUT OR DOUBLE NUT AND SHALL BE TIGHTENED ONLY TO A POINT THAT WILL ALLOW GUARDRAIL MOVEMENT.
- THE ANCHOR CONE SHALL BE SET FLUSH WITH THE SURFACE OF THE CONCRETE.
- EXTERNALLY THREADED STUDS PROTRUDING FROM THE SURFACE OF THE CONCRETE SHALL NOT BE PERMITTED.
- WHEN WING WALL THICKNESS IS GREATER THAN 18" OR NOT ACCESSIBLE TO THE BACK SIDE, 4-3/4" BOLTS SHALL BE ANCHORED INTO DRILLED HOLES, USING A CHEMICAL ADHESIVE. MINIMUM EMBEDMENT SHALL BE 10". ANCHOR BOLTS WITH STANDARD WASHER SHALL BE USED. AFTER TIGHTENING, CUT THE ANCHOR BOLTS FLUSH WITH THE NUTS, AND DAMAGE THE NUTS TO PREVENT THEM FROM LOOSENING.



GENERAL NOTE:

* HEAD OF BOLT TO BE ON TRAFFIC SIDE. SEE DETAIL "A"

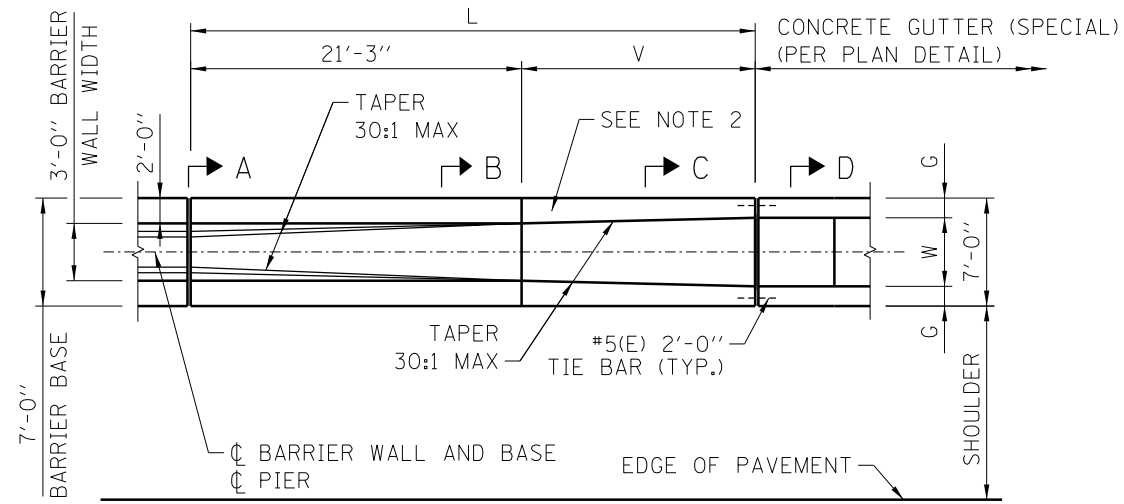


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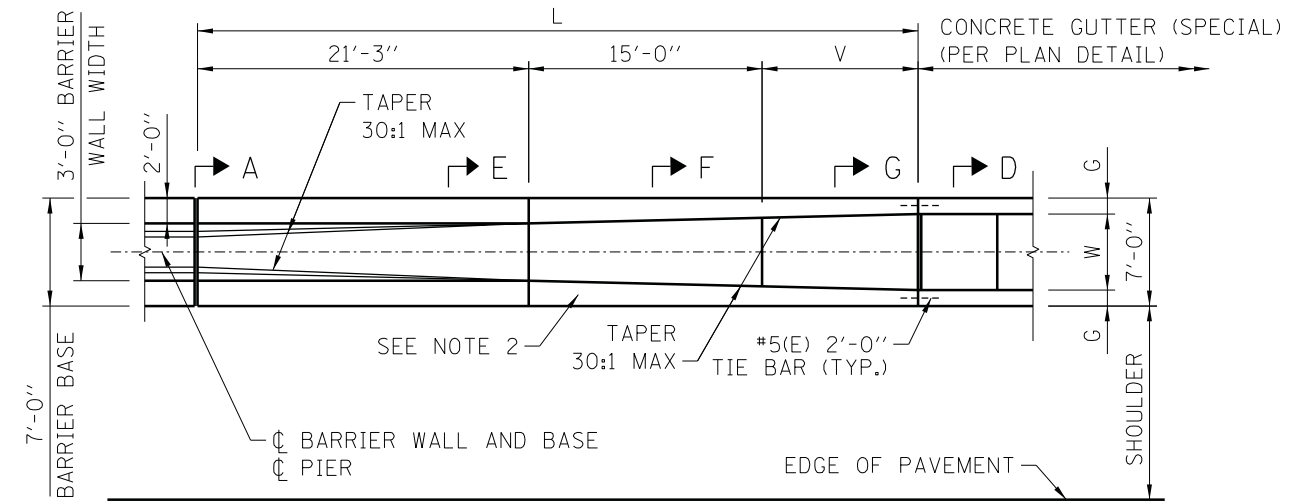
DATE	REVISIONS
3-01-2010	REVISED NOTES, ADDED END SHOE AND PARAPET BEARING PLATE DETAIL.
1-01-2011	REVISED END SHOE HEIGHT ATTACHMENT
2-07-2012	REVISED BOLT NOTE, ADDED DETAIL "A" AND REVISED NOTES.
3-31-2014	REVISED NOTES.
3-11-2015	REVISED NOTES.
3-31-2016	REVISED FLARED WING ANGLE.
3-31-2017	REV'D ELEV PARAPET & FL WING ANGLE

TRAFFIC BARRIER TERMINAL, TYPE T10

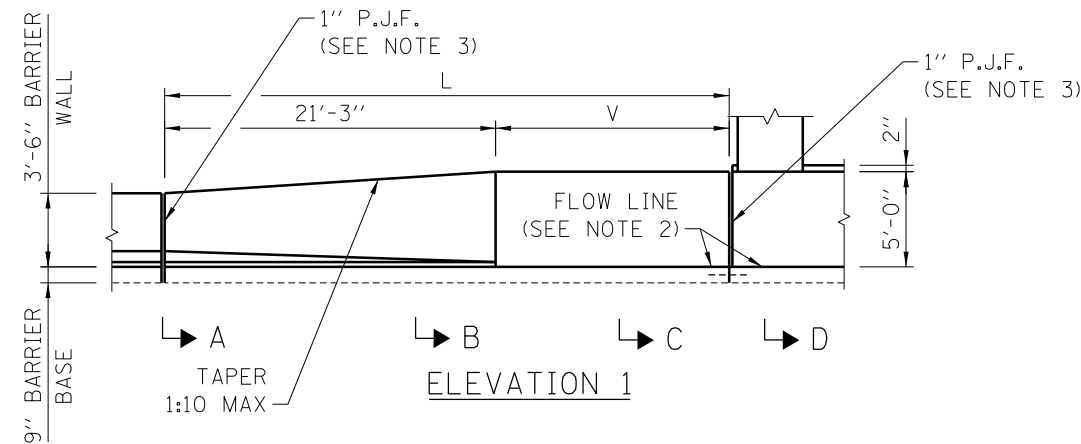
STANDARD C11-07



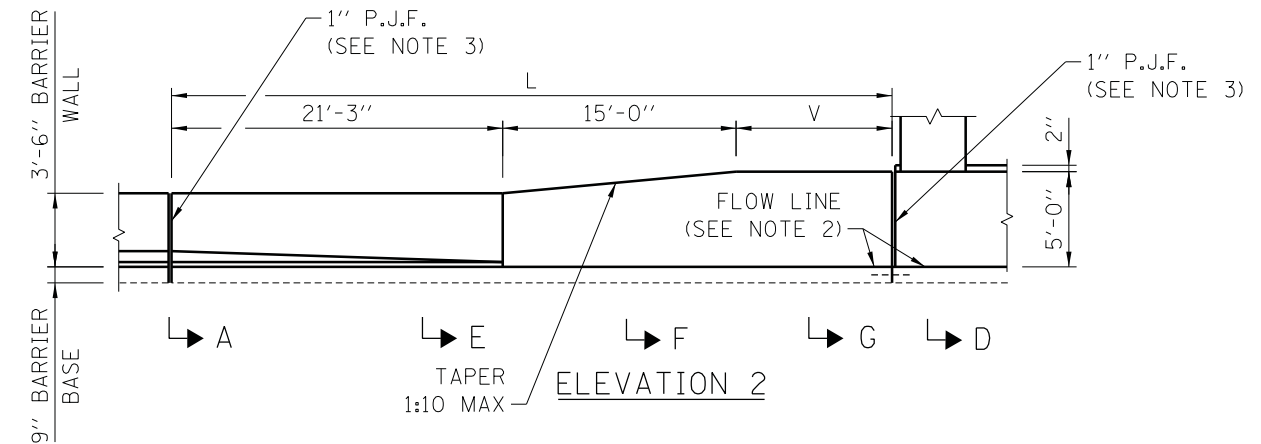
PLAN 1



PLAN 2



ELEVATION 1



ELEVATION 2

CONCRETE MEDIAN BARRIER TRANSITION, TYPE V-F
AT BRIDGE PIERS (FOR $W \leq 4'-0''$)

CONCRETE MEDIAN BARRIER TRANSITION, TYPE V-F
AT BRIDGE PIERS (FOR $W > 4'-0''$)

		TABLE OF VARIABLES			
		W	L	V	G
PLAN 1	3'-0"	31'-3"	10'-0"	2'-0"	
	3'-6"	31'-3"	10'-0"	1'-9"	
	4'-0"	36'-3"	15'-0"	1'-6"	
PLAN 2	4'-6"	46'-3"	10'-0"	1'-3"	
	5'-0"	51'-3"	15'-0"	1'-0"	
	5'-6"	58'-9"	22'-6"	9"	
	6'-0"	66'-3"	30'-0"	6"	

NOTES:

- 2" DEEP CONTRACTION JOINTS SHALL BE DONE BY SAWING AND SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL, CONCRETE BARRIER BASE, AND CONCRETE GUTTER (SPECIAL). CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0". THE MINIMUM DISTANCE BETWEEN CONTRACTION JOINTS IN THE MEDIAN BARRIER WALL SHALL BE 2'-0". WHEN A DRAINAGE STRUCTURE FALLS WITHIN 2'-0" FROM AN EXPANSION JOINT (OR) CONTRACTION JOINT, THE NEAREST CONTRACTION JOINT SHALL BE OMITTED.
- GUTTER PROFILE IN THE VICINITY OF SAG VERTICAL CURVES, ALONG FLAT GRADES AND AT THE MEETING OF PROPOSED AND EXISTING GUTTER, SHALL BE CAREFULLY CONTROLLED AND FIELD ADJUSTED IF NECESSARY TO ENSURE POSITIVE DRAINAGE AND AVOID PONDING.
- NON-STAINING GRAY ONE COMPONENT NON-SAG ELASTOMERIC GUN GRADE POLYURETHANE SEALANT MEETING THE REQUIREMENTS OF ASTM C-920, TYPE S, GRADE NS, CLASS 25, USE T WITH A BACKER ROD.

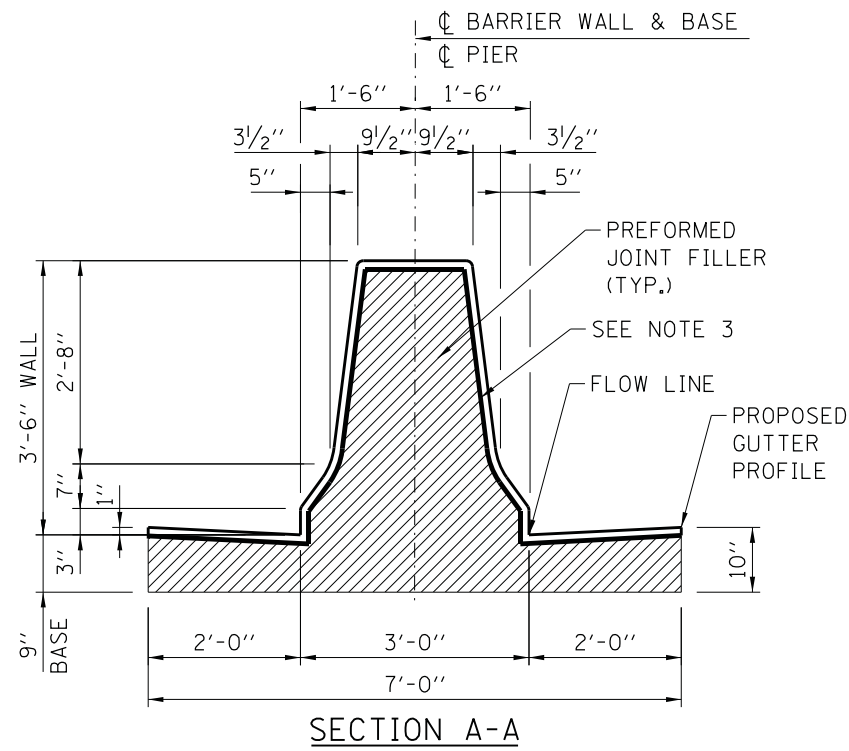
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
11-01-2012	MODIFIED MEDIAN BARRIER TRANSITION.
3-31-2014	MODIFIED BARRIER BASE.
3-11-2015	MODIFIED MEDIAN BARRIER TRANSITION.
3-31-2016	MODIFIED NOTES

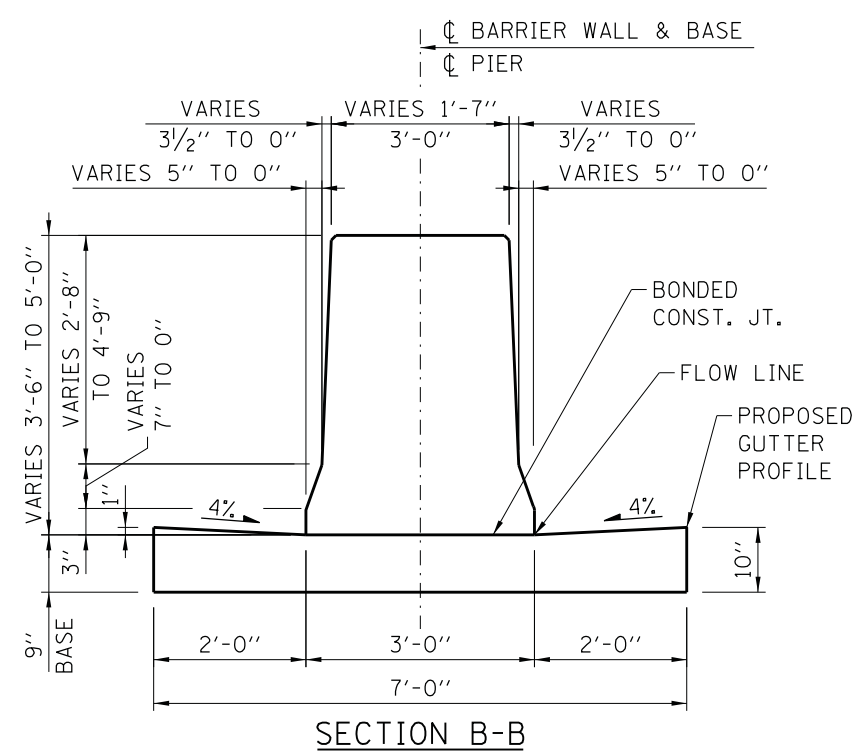
SHEET 1 OF 2



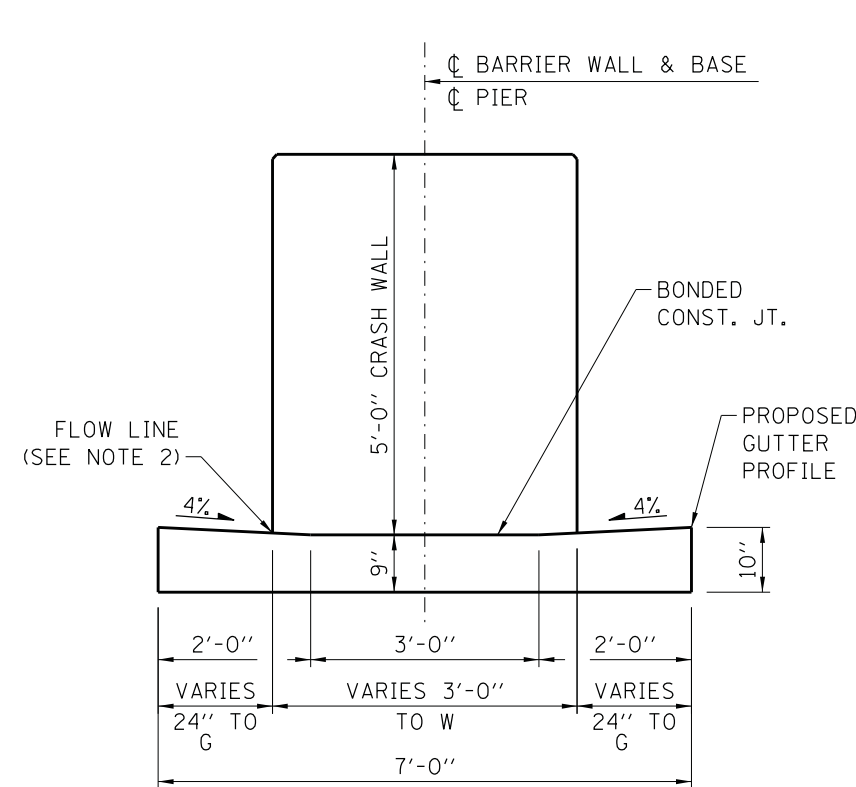
CONCRETE MEDIAN BARRIER
TRANSITION, TYPE V-F
AT BRIDGE PIERS
STANDARD C13-04



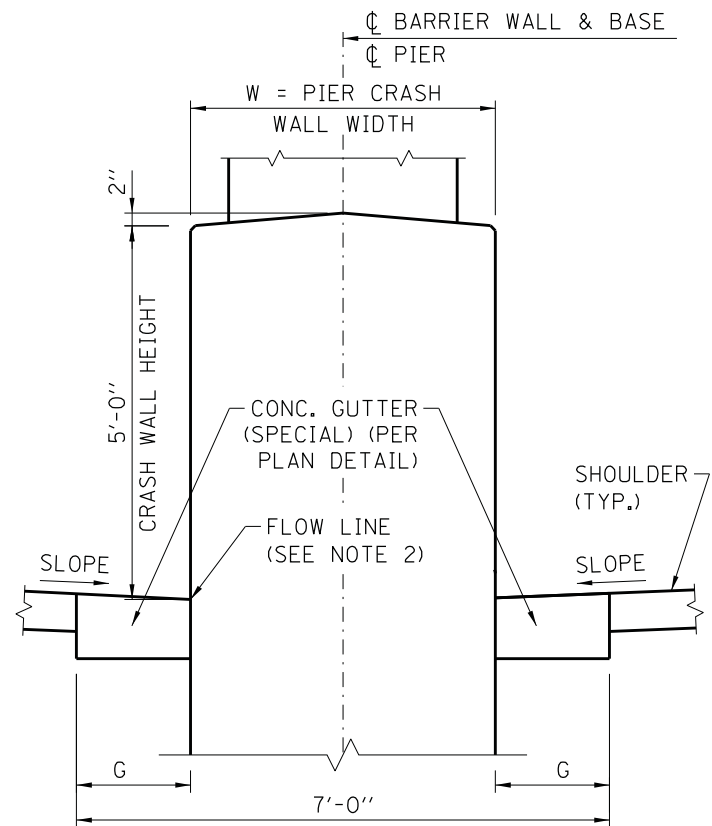
SECTION A-A



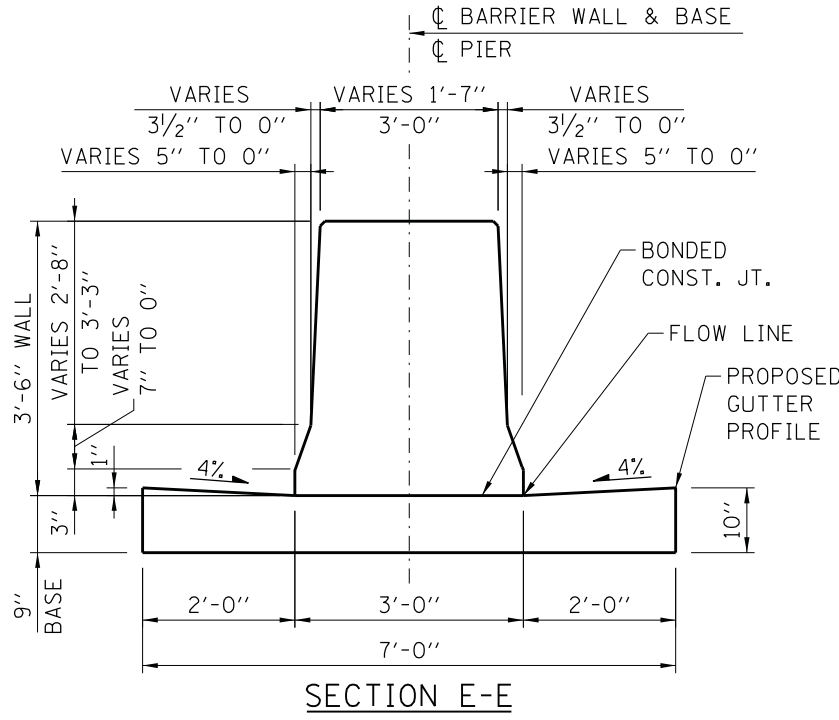
SECTION B-B



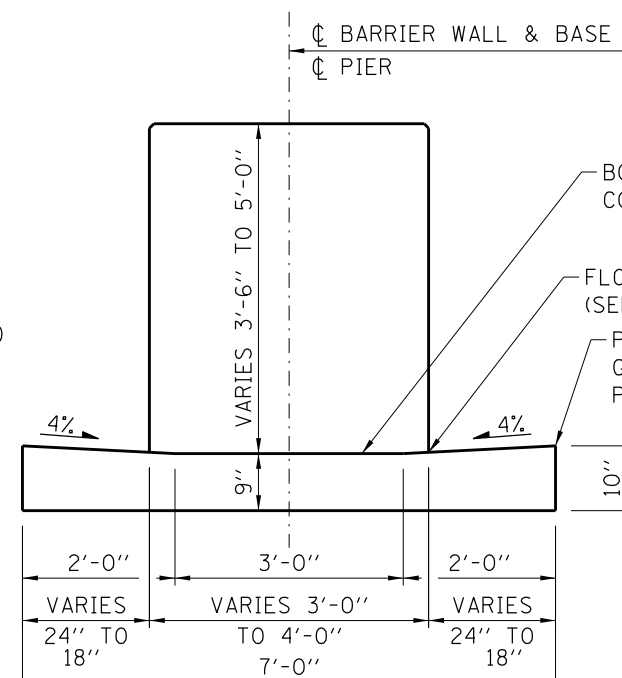
SECTION C-C



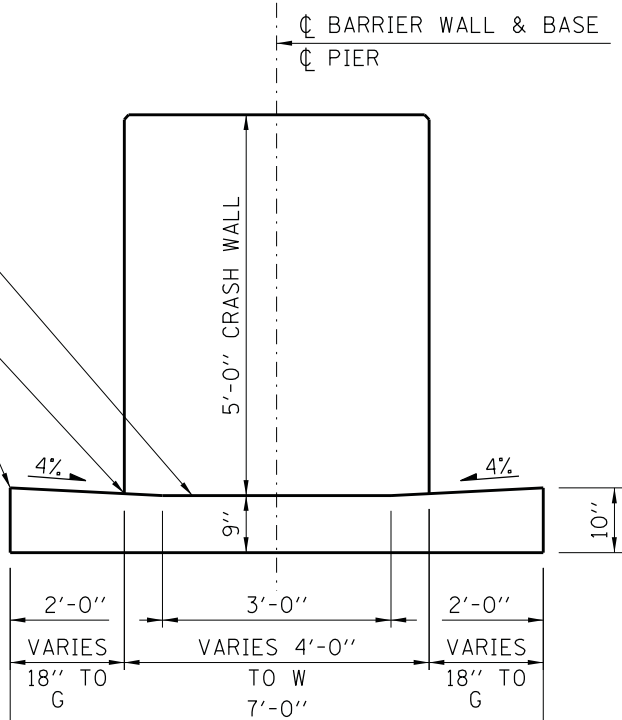
SECTION D-D



SECTION E-E




SECTION F-F



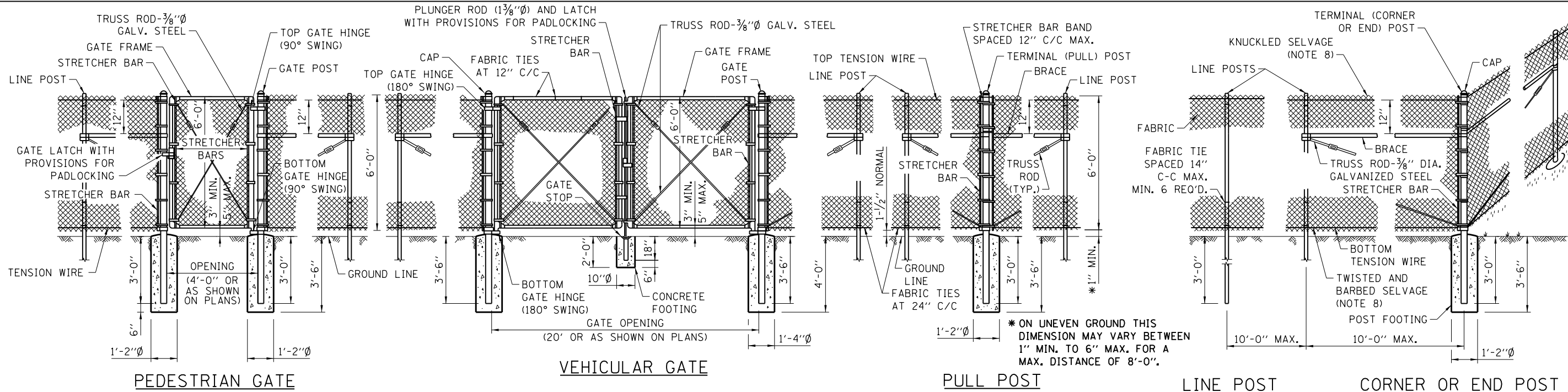
SECTION G-G

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

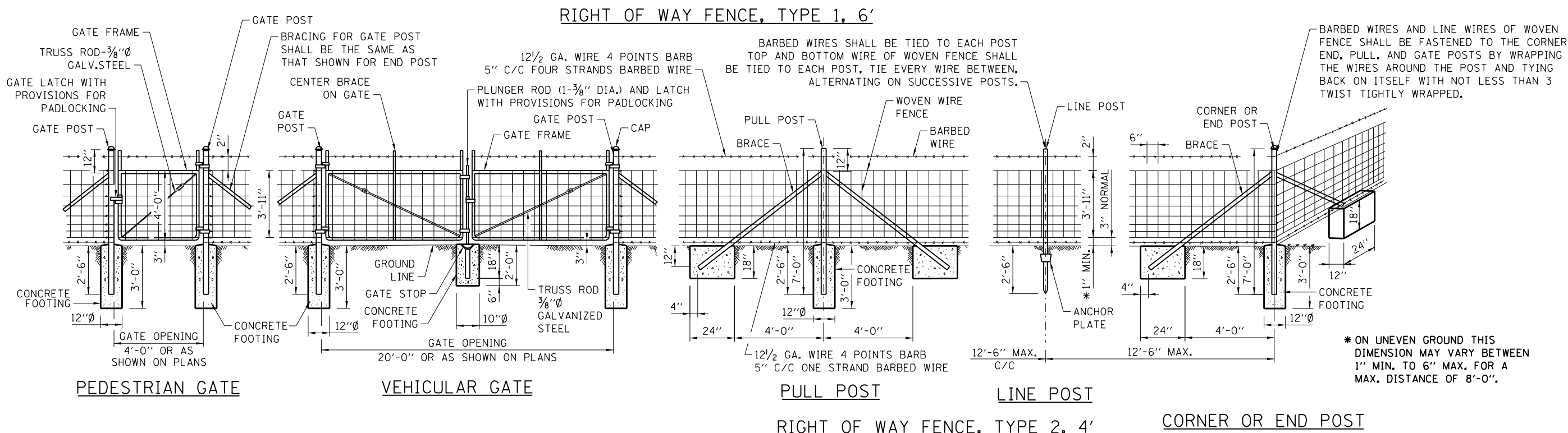
APPROVED: *Paul Kovacs*
CHIEF ENGINEER DATE 2-7-2012



CONCRETE MEDIAN BARRIER
TRANSITION, TYPE V-F
AT BRIDGE PIERS
STANDARD C13-04



RIGHT OF WAY FENCE, TYPE 1, 6'



GENERAL NOTES

- ON STRAIGHT RUNS OF FENCE, PULL POSTS SHALL BE USED AT 500' CENTERS FOR TYPE 1 AND 330' CENTERS FOR TYPE 2.
- WHERE R.O.W. FENCE FOLLOWS R.O.W. LINE IT SHALL BE INSTALLED PARALLEL TO AND 6" INSIDE THE R.O.W. LINE ON ILLINOIS TOLLWAY PROPERTY.
- LINE POSTS AND BRACES SHALL BE ON ILLINOIS TOLLWAY SIDE OF FENCE FABRIC.
- WHEN THE TENSION OF THE FENCE TENDS TO PULL THE POSTS FROM THE GROUND, THE LINE POSTS SHALL BE ANCHORED WITH ANCHORAGE SPECIFIED FOR CORNER POSTS.
- WHEN THE FENCE LINE HAS A CHANGE IN DIRECTION OF 10° OR MORE, A CORNER POST SHALL BE PLACED AT THE POINT OF CHANGE. WHERE THE ANGLE OF CHANGE IS LESS THAN 10° A PULL POST SHALL BE USED.
- WHERE GRADE LINE HAS A CHANGE IN SLOPE OF 10° OR MORE, A CORNER POST WITH BRACING AS REQUIRED SHALL BE PLACED. WHERE ANGLE IS LESS THAN 10° LINE POST MAY BE USED.
- WHERE RIGHT-OF-WAY FENCE, TYPE 1 IS USED, THE FABRIC SHALL BE KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED SELVAGE ON BOTTOM.
- PLACEMENT OF BRACED END POSTS OR CORNER POSTS WITHIN THE CLEAR ZONE SHALL BE AVOIDED.

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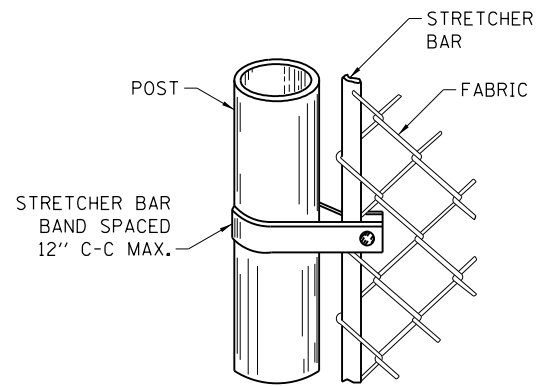
DATE	REVISIONS
7-01-2009	R.O.W. FENCE TYPES 1 AND 2 FENCE DETAILS
11-01-2012	REVISED NOTES
3-31-2014	REVISED ROLLED FORM SECTIONS
3-11-2015	REVISED NOTES
3-31-2017	REVISED NOTES

SHEET 1 OF 3

Illinois Tollway

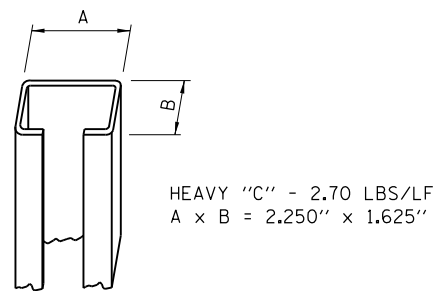
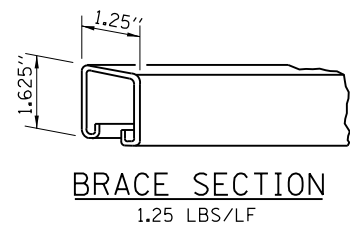
RIGHT OF WAY FENCE

STANDARD D1-05

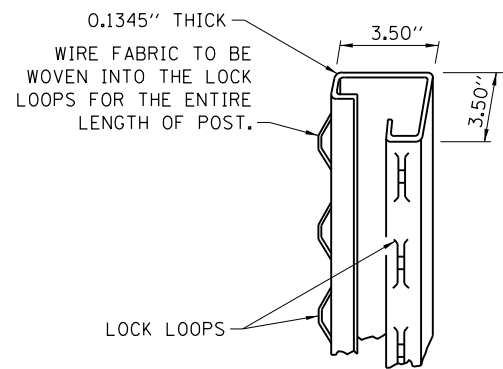


STRETCHER BARS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN 1/4" x 3/4" AND THE STRETCHER BAR BANDS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN 1/8" x 1" WITH A 3/8" GALVANIZED CARRIAGE BOLT.

METHOD OF FASTENING STRETCHER BAR TO POST

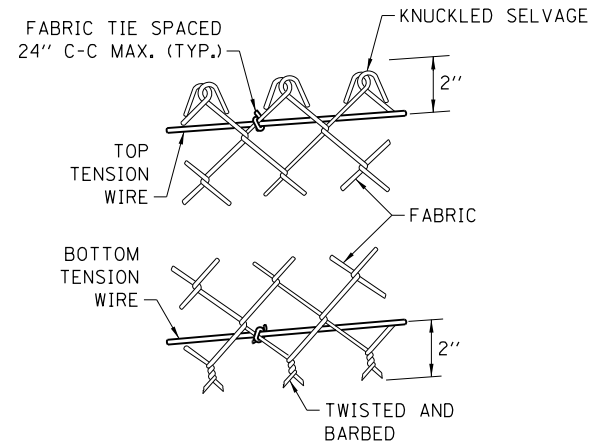


LINE POST 'C' SECTION

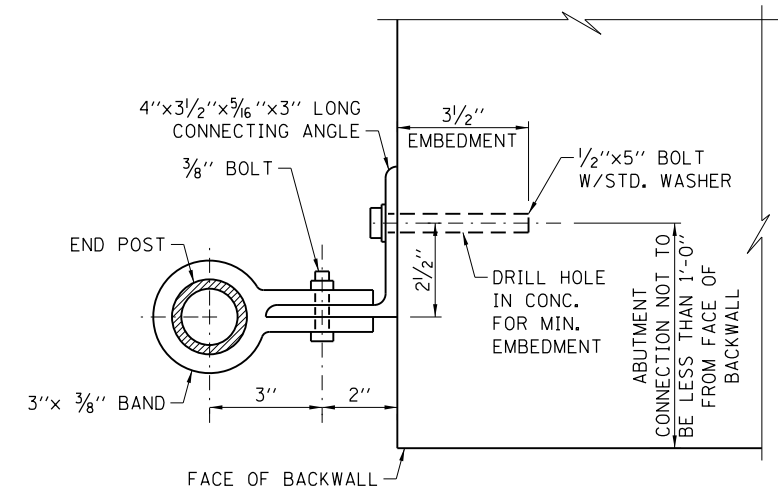


TERMINAL POST SECTION
5.10 LBS/LF

DETAILS OF ROLL FORMED SECTIONS



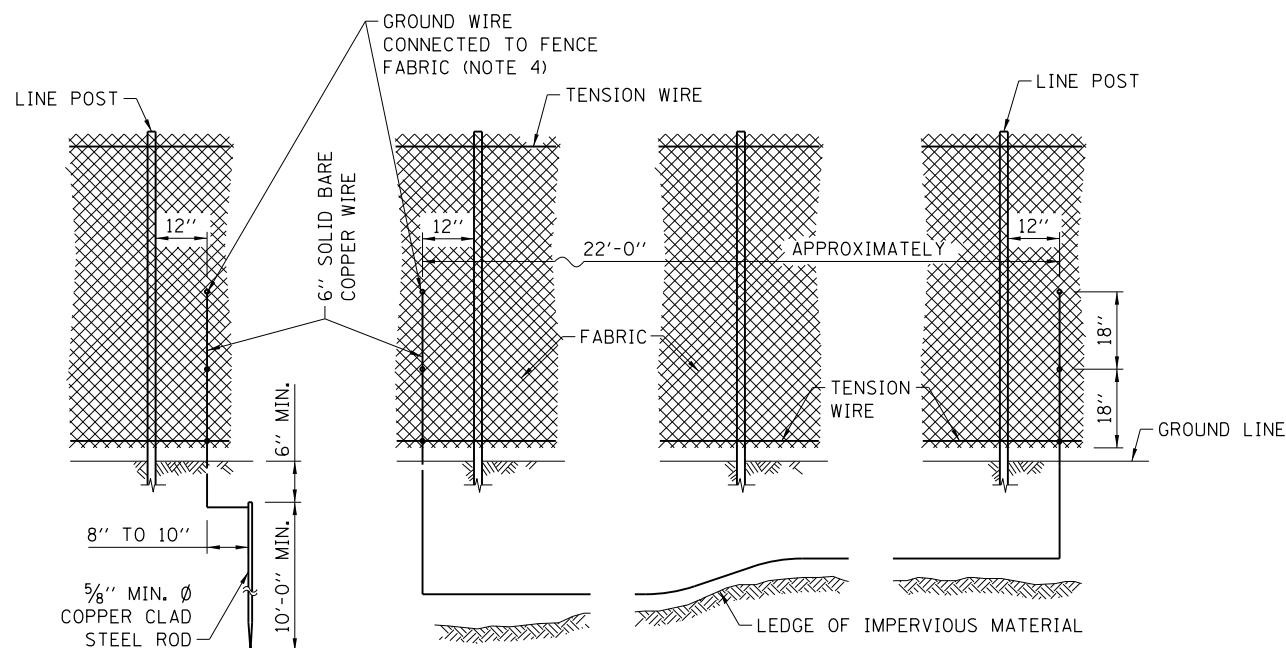
METHOD OF TYING FABRIC TO TENSION WIRES



ABUTMENT CONNECTION DETAIL

NOTES FOR ABUTMENT CONNECTION:

1. WHEN ROLL FORMED SECTION IS USED IN LIEU OF PIPE AS END POST, THE POST SHALL BE BOLTED DIRECTLY TO THE ABUTMENT WALL WITH 2 1/2" x 5" BOLTS WITH STANDARD WASHERS MEETING THE APPROVAL OF THE ENGINEER.

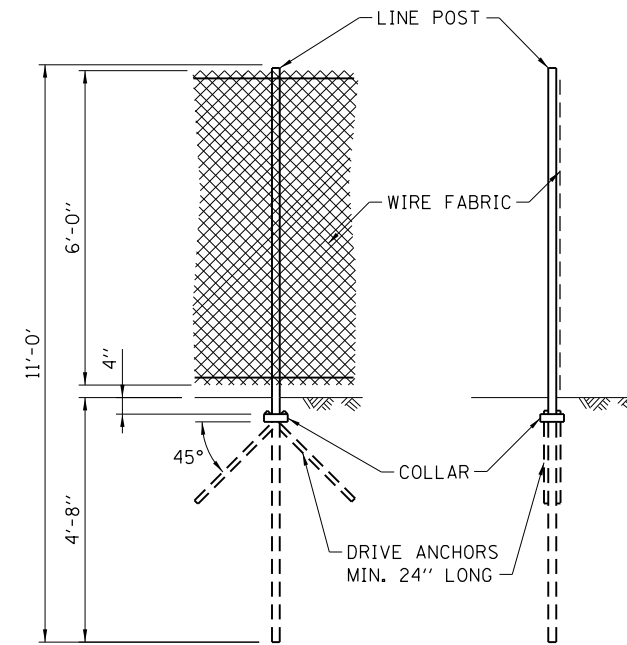


STANDARD GROUND

COUNTERPOISE GROUND (ALTERNATE)

NOTES FOR STANDARD AND COUNTERPOISE GROUND:

1. THE INTERVALS FOR GROUNDING CONTINUOUS FENCING SHALL NOT EXCEED 500 FEET IN URBAN AREAS AND 1000 FEET IN RURAL AREAS. FENCE ADJACENT TO A GATE SHALL BE GROUNDED A MAXIMUM DISTANCE 100 FEET EACH SIDE OF THE GATE.
2. FENCE CROSSING UNDER A POWER LINE SHALL BE GROUNDED, ONCE DIRECTLY UNDER THE CROSSING AND ONE ON EACH SIDE AT 25 TO 50 FEET AWAY. FENCE LOCATED DIRECTLY UNDER A TELEPHONE WIRE OR CABLE CROSSING SHALL HAVE A SINGLE GROUND.
3. COUNTERPOISE GROUNDS SHALL BE USED AT LOCATIONS WHERE GROUND RODS CAN NOT BE DRIVEN DUE TO IMPERVIOUS EARTH MATERIALS.
4. THE GROUND WIRES SHALL BE CONNECTED TO FENCE FABRIC AND GROUND ROD BY STAINLESS STEEL BOLTS AND WASHERS. THE LOWER CONNECTION OF THE GROUND WIRE SHALL BE MADE TO THE BOTTOM TENSION WIRE.



ALTERNATE DRIVEN LINE POST ANCHORAGE WITH OR WITHOUT DRIVE ANCHORS

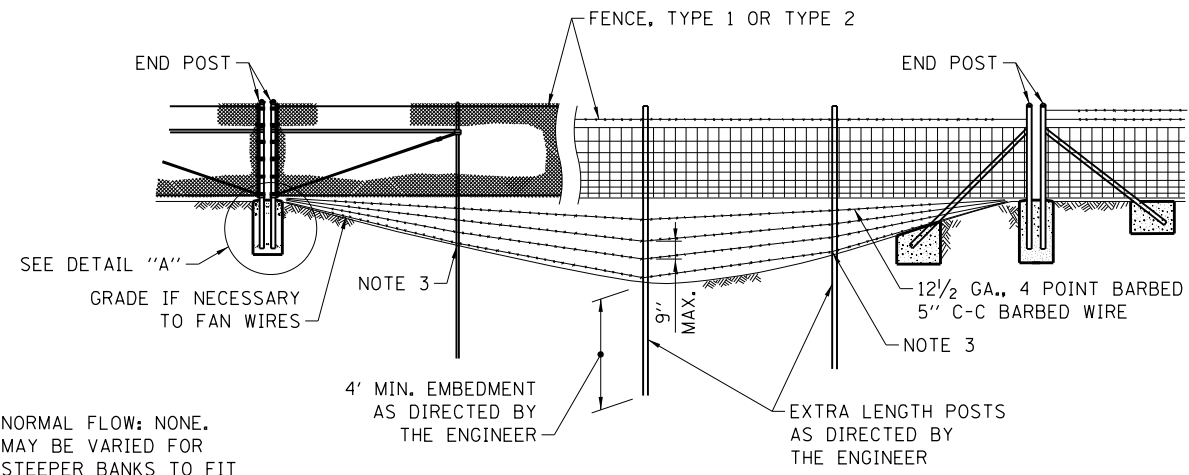
NOTE FOR FENCE POST:

ALTERNATE DRIVEN LINE POST ANCHORAGE IS OPTIONAL. DRIVEN LINE POST ANCHORAGE WITHOUT DRIVE ANCHORS MAY BE USED IN AVERAGE TO GOOD SOIL CONDITIONS. WHEN SOIL IS WEAKER ($Q_u < 1.25$ TONS/SQ. FT.) AND STABILITY OF THE POST IS QUESTIONABLE, DRIVE ANCHORS SHALL BE USED. TYPES, SHAPES, DIMENSIONS AND COATING REQUIREMENTS OF DRIVE ANCHORS (ANCHOR BLADES AND COLLARS) FOR DIFFERENT TYPE OF POSTS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

ELECTRICAL GROUNDING DETAILS

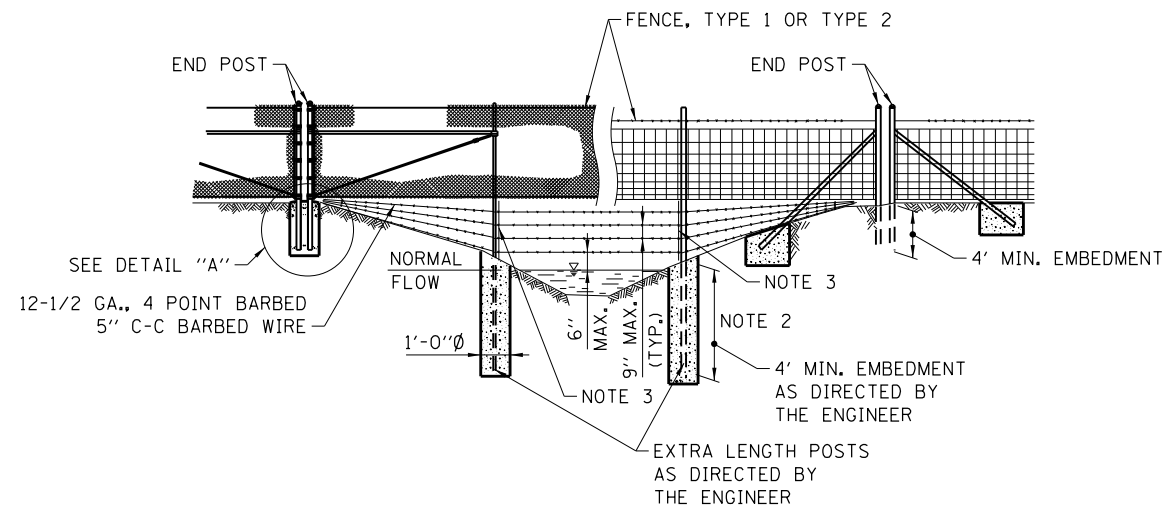
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NORMAL FLOW: NONE.
MAY BE VARIED FOR
STEEPER BANKS TO FIT
VARIOUS CHANNEL SECTIONS.

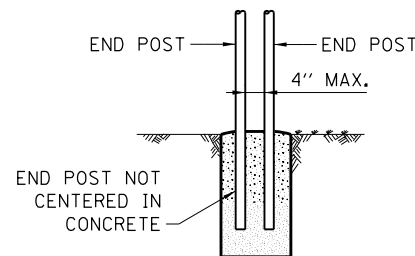
STREAM CROSSING, TYPE 1



STREAM CROSSING, TYPE 2

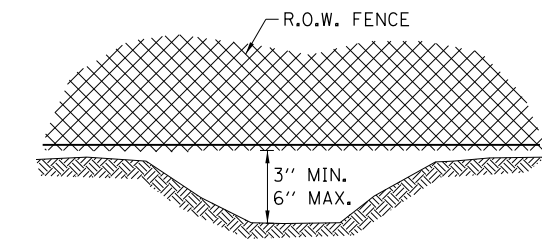
NOTES FOR STREAM CROSSING TYPE 1 AND TYPE 2:

1. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED. CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
2. FOR STREAM CROSSING OF THE TYPE REQUIRED THE BOTTOM BARBED WIRE SHALL BE ANCHORED TO CONCRETE FOOTING OR TO HOLES DRILLED IN POSTS, AND INTERMEDIATE WIRES SHALL BE TIED TO THE BOTTOM WIRE AND TO POSTS IN AN EVENLY SPACED FASHION TO PREVENT SLIPPAGE.
3. CONCRETE AND FITTINGS FOR ALL TYPES OF FENCE SHALL BE AS DETAILED FOR SIMILAR CONDITIONS PER STANDARD DRAWING.

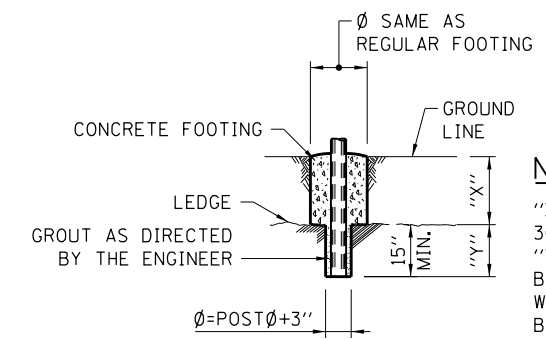


THE FENCE FABRIC SHALL BE REPLACED BY BARBED WIRE STRANDS AT 12\"/>

DETAIL A

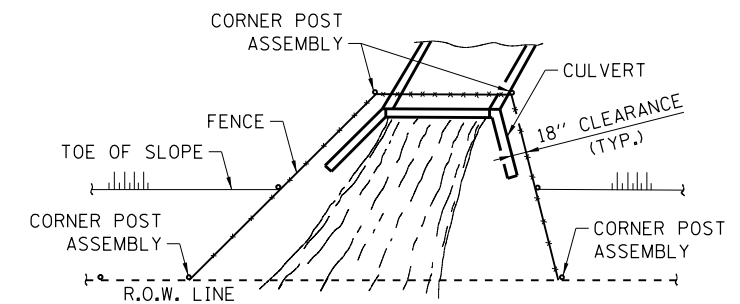


FENCE INSTALLATION OVER DITCH

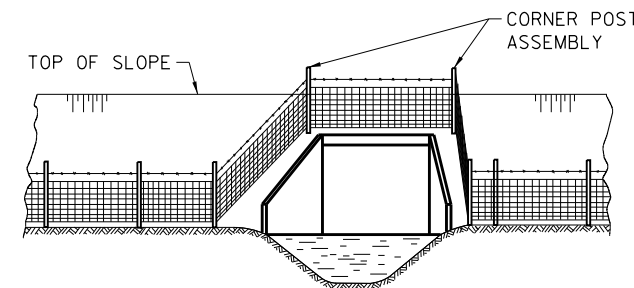


NOTE:
"X" + "Y" SHALL NOT EXCEED 30" WHEN "X" IS 0" TO 15" "Y" = 15", AND THE POST SHALL BE SHORTENED AS REQUIRED. WHEN "X" EXCEEDS 15" "Y" SHALL BE DECREASED ACCORDINGLY.

FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED



PLAN AT HEADWALL



ELEVATION

NOTES FOR INSTALLATION AROUND HEADWALL:

1. THIS TYPE OF INSTALLATION IS TO BE USED ONLY WHEN SPECIFICALLY CALLED FOR IN THE CONTRACT PLANS.
2. WHEN THE WIDTH OF THE CULVERT MAKES NECESSARY TO ANCHOR A POST TO THE TOP OF THE CULVERT, A CAST IRON SHOE OR OTHER DEVICE APPROVED BY THE ENGINEER SHALL BE USED.

INSTALLATION AROUND HEADWALL



SURVEY AND ROADWAY ITEMS

EXISTING	PROPOSED	
		CONSTRUCTION JOINT W/DOWEL BARS
		BENCHMARK
		CANTILEVER SIGN STRUCTURE
		BUTTERFLY SIGN STRUCTURE
		DOUBLE COLUMN GROUND MOUNTED SIGN
		SINGLE COLUMN GROUND MOUNTED SIGN
		SPAN TYPE SIGN STRUCTURE
		TRIPLE COLUMN GROUND MOUNTED SIGN
		RUMBLE STRIP

EROSION & SEDIMENT CONTROL, LANDSCAPING ITEMS

EXISTING	PROPOSED		EXISTING	PROPOSED	
		CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)			EROSION CONTROL BLANKET
		DIVERSION DIKE			OVER SEEDING CLASS B1
		DRAINAGE DIVIDE			OVER SEEDING CLASS B2
		DRAINAGE PATH			SEEDING CLASS A1
		SEDIMENT BASIN AGGREGATE BERM			SEEDING CLASS A2
		CULVERT INLET PROTECTION-STONE			SEEDING CLASS A3
		CULVERT INLET PROTECTION-FENCE			SEEDING CLASS A4
		DEWATERING BASIN			SEEDING CLASS A5
		FILTER FABRIC INLET PROTECTION, BASKET TYPE			SEEDING CLASS A6
		FILTER FABRIC INLET PROTECTION, COVER TYPE			SEEDING CLASS D1
		FLOTATION BOOM			SODDING (SALT TOLERANT)
		INITIAL CONSTRUCTION ITEM			TEMPORARY GROUND COVER
		RECTANGULAR INLET PROTECTION			TURF REINFORCEMENT MAT
		TEMPORARY ROCK CHECK DAM			
		TEMPORARY DITCH CHECK			
		SEDIMENT BASIN			
		SILT FENCE			
		SUPER SILT FENCE			
		STABILIZED CONSTRUCTION ENTRANCE			
		STONE OUTLET STRUCTURE			
		SEDIMENT TRAP			
		STREAM DIVERSION			
		TEMPORARY PIPE SLOPE DRAIN			
		TEMPORARY RIPRAP			
		TEMPORARY SWALE			
		TREES AND STUMP			
		TREE PROTECTION			
		TEMPORARY STREAM CROSSING			

DRAINAGE AND UTILITY ITEMS; ROADWAY LIGHTING AND SIGNS

EXISTING	PROPOSED	
		BOX CULVERT WITH HEADWALL
		CABLE IN DUCT W/O GROUND
		LOW POINT
		OVERHEAD ELECTRICAL
		OVERHEAD TELEPHONE
		PIPE CULVERT
		LAKE OR POND
		QUARRY
		STREAM
		SWAMP
		CABLE OR CONDUIT TAG
		ELECTRICAL MANHOLE
		LIGHT-DUTY BOX
		ROADWAY LUMINAIRE
		STEEL TOWER
		TELEPHONE MANHOLE
		UNDERPASS LUMINAIRE
		WATER POINT
		WATERMAIN VALVE VAULT
		WATER WELL
		WOOD POLE

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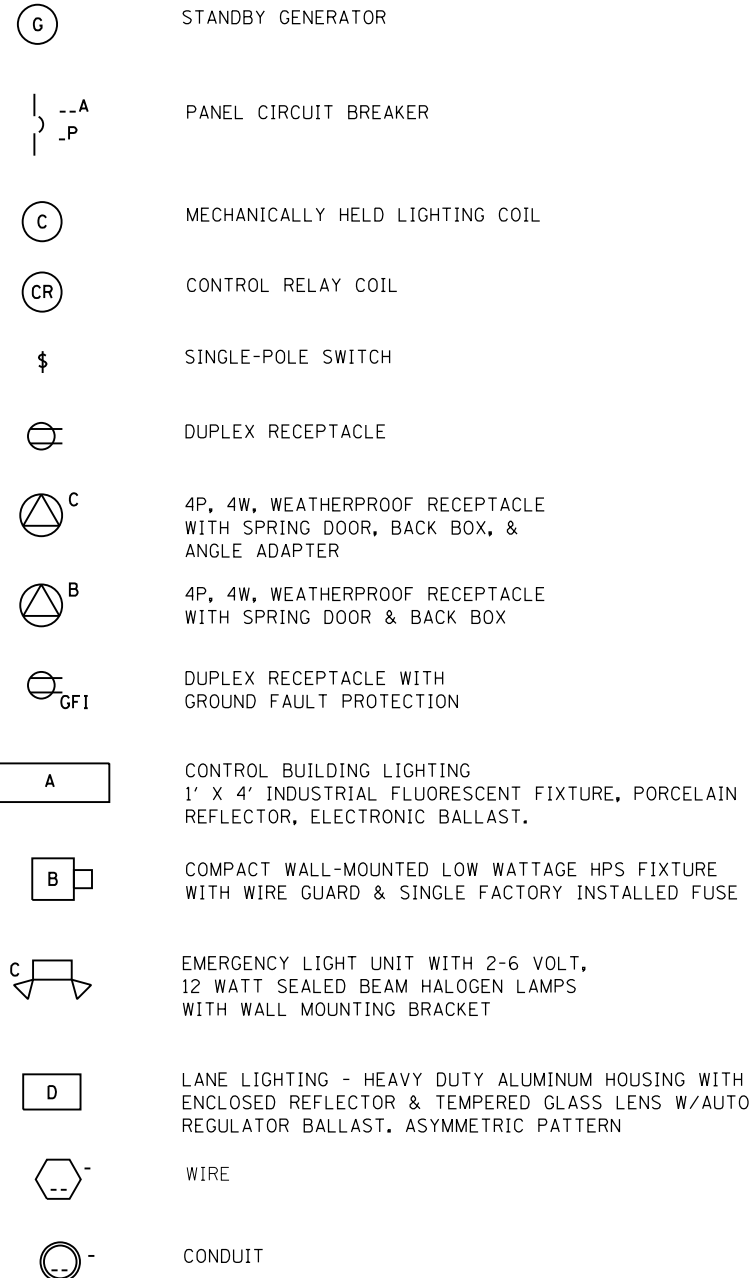
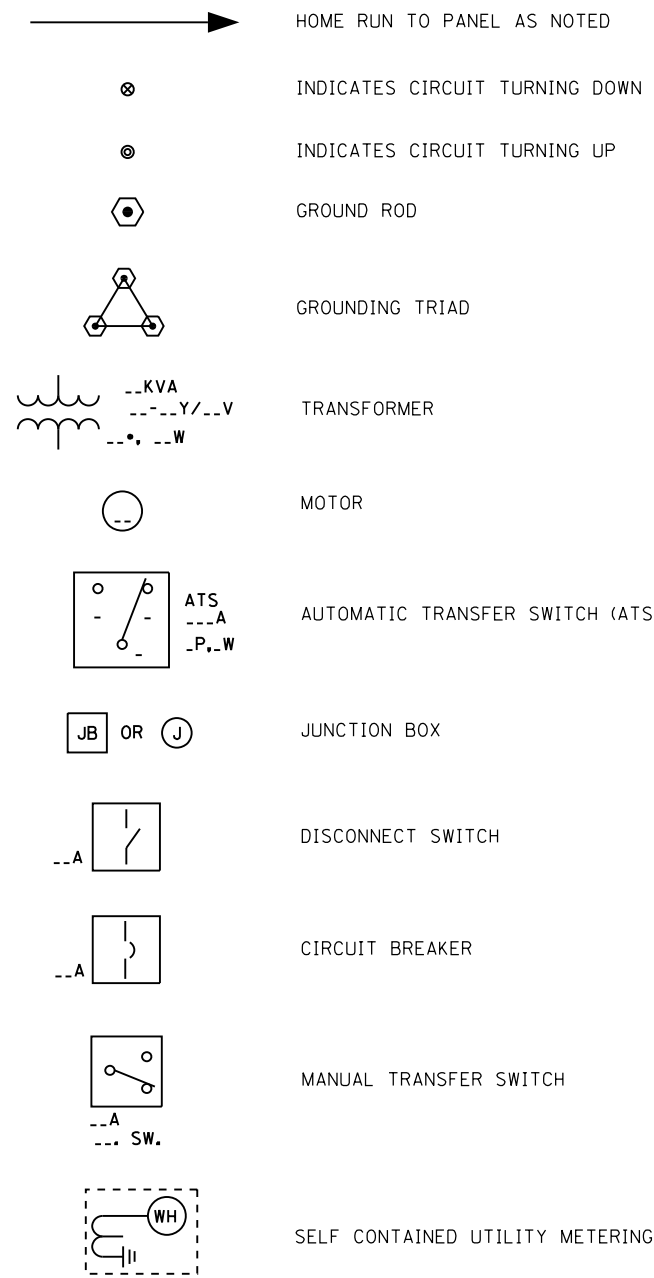


DATE	REVISIONS
7-01-2009	REVISED SYMBOL & PATTERNS
11-01-2012	ADDED NEW SYMBOLS
3-11-2015	ADDED NEW SYMBOL
3-31-2016	UPDATED DITCH CHECK SYMBOL

SYMBOLS AND PATTERNS

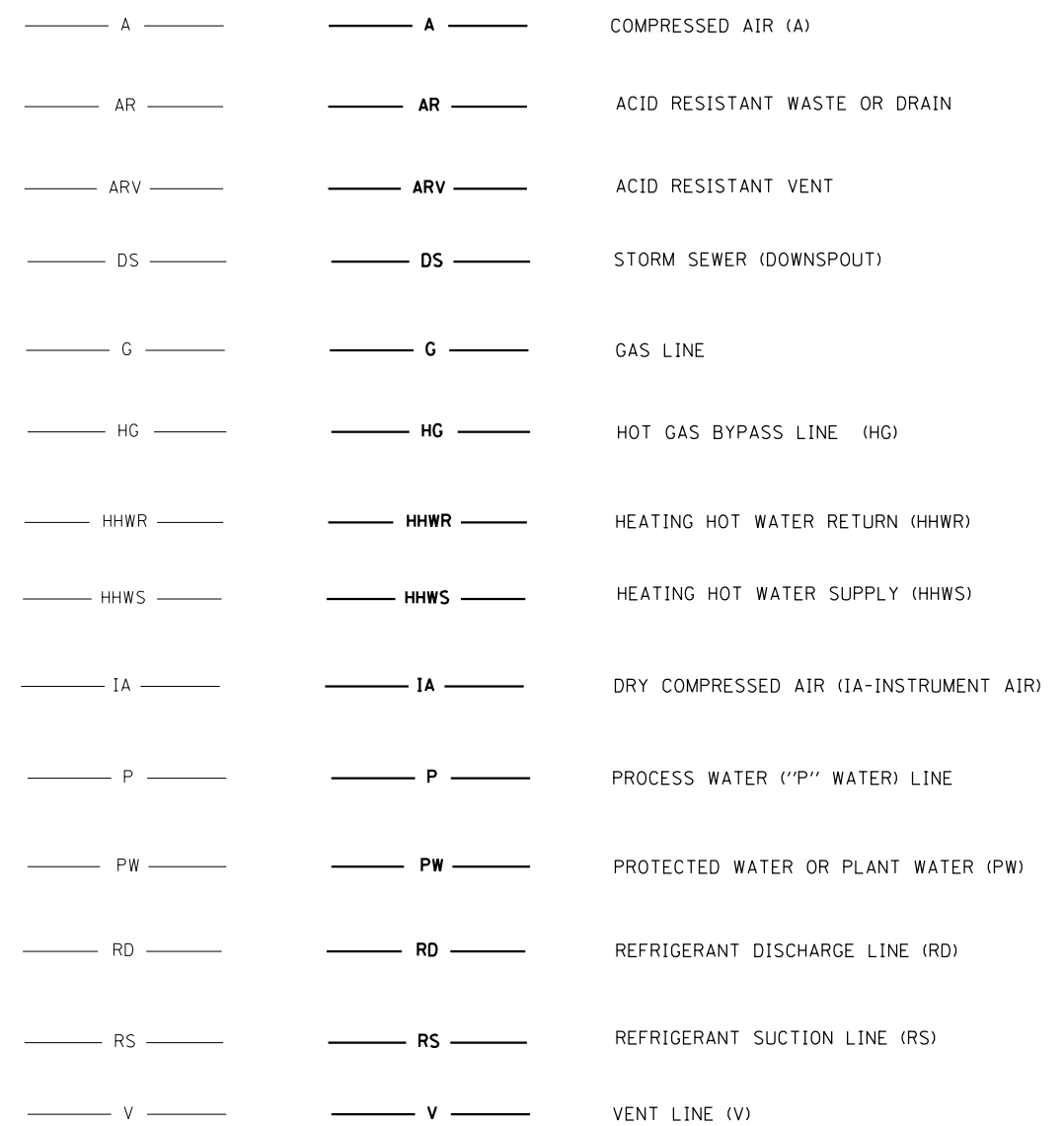
STANDARD D2-04

ELECTRICAL AND MECHANICAL ITEMS



EXISTING

PROPOSED



SYMBOLS AND PATTERNS

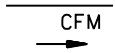
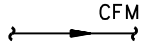
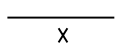
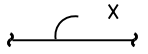
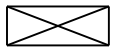
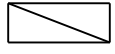
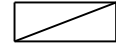
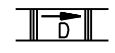
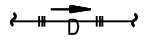

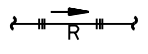
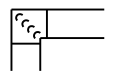
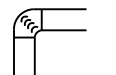
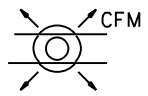
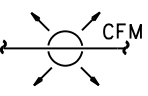
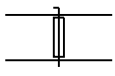
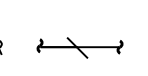
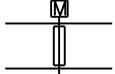
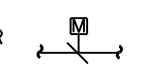

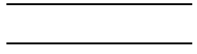
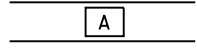
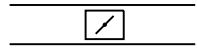
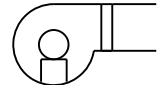

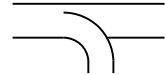
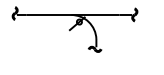












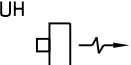
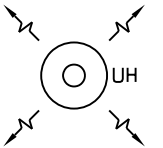
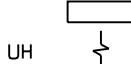



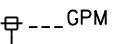





























STANDARD D2-04

NOTE:

ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

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ELECTRICAL AND MECHANICAL ITEMS

	OR		QUANTITY AND DIRECTION OF THE AIR FLOW		
	OR		DUCT SIZE (FIRST FIGURE SIZE OF SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN.)		
			SUPPLY DUCT SECTION		
	OR		RETURN OR EXHAUST DUCT SECTION		
	OR		DUCT DROPS IN THE DIRECTION OF FLOW		
	OR		DUCT RISES IN THE DIRECTION OF FLOW		
	OR		TURNING VANES		
	OR		8" THROAT DIAMETER CEILING DIFFUSER; AIR FLOW -- 100 CFM		
	OR		BALANCING OR VOLUME DAMPER		
	OR		MOTOR OPERATED DAMPER		
			FLEXIBLE DUCT		
			FIRE DAMPER		
			SOUND ATTENUATOR		
			ZONE DAMPER		
			FLEXIBLE CONNECTION AT FAN OR EQUIPMENT		
			EXTRACTOR		
	OR		SPLITTER DAMPER		
			PLUG VALVE WITH MEMORY STOP (BALANCING)		
			PLUG VALVE		
			SOLENOID VALVE		
			TEMPERATURE CONTROL VALVE		
			THREE-WAY TEMPERATURE CONTROL VALVE DIAPHRAGM		
			THREE-WAY TEMPERATURE CONTROL VALVE TOP VIEW		
			PRESSURE REDUCING VALVE (NOS. = INITIAL AND FINAL PRESSURE - PSIG)		
			AIR PRESSURE REDUCING STATION (NO. CORRESPONDS WITH AIR PRESSURE REDUCER SCHEDULE)		
	OR		SAFETY VALVE (NOS. = PRESSURE SETTING - PSIG)		
			FLOAT OPERATED VALVE		
			QUICK COUPLING (QC)		
			HORIZONTAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		
			VERTICAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		
			CABINET TYPE UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		
			THERMOSTAT OR ROOM TEMPERATURE SENSOR		
			GATE VALVE		
			FLOW SWITCH		
			VENTURI FLOW METER AND FLOW TO BE INDICATED		
			CONNECTION BETWEEN NEW AND EXISTING		
			GLOBE VALVE		
			BUTTERFLY VALVE		
			CHECK VALVE		
			ANGLE GATE VALVE		
			CONCENTRIC REDUCER		
			ECCENTRIC REDUCER		
			ORIFICE FLANGE		
			CROSSOVER		
			PIPE GUIDE		
			EXPANSION JOINT (SLIP TYPE)		
			EXPANSION JOINT (BELLOWS TYPE)		
			AIR ELIMINATOR (AIR VENT)		
			PIPE CAP		
			STRAIGHT CROSS		
			90° ELBOW		
			90° ELBOW TURNED DOWN		
			90° ELBOW TURNED UP		
			SIDE OUTLET ELBOW TURNED DOWN		
			SIDE OUTLET ELBOW TURNED UP		
			LATERAL		
			TEE		
			TEE OUTLET UP		
			TEE OUTLET DOWN		
			UNION		
			STRAINER		
			PIPE ANCHOR		
			THERMOMETER (NOS. = RANGE IN DEGREES FAHRENHEIT)		
			PRESSURE, VACUUM OR COMPOUND GAUGE		



NOTE:

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PERMANENT DELINEATION SPACING				
REFLECTORS	MAINLINE		RAMP	
	TANGENT	CURVE	TANGENT	CURVE
* GUARDRAIL	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
* BARRIER WALL (DOUBLE FACE)	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
* BARRIER WALL (SINGLE FACE)	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
SHOULDER NARROWING	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
BRIDGE APPROACHES	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'
* BRIDGE PARAPET	50'	50'	50'	50'
* NOISE ABATEMENT WALL (CRASH WORTHY)	100'	100'	100'	100' (R >= 1,050') 50' (R < 1,050')
ROADWAY DELINEATORS	MAINLINE		RAMP	
	TANGENT	CURVE	TANGENT	CURVE
POST MOUNTED DELINEATOR	200'	200'	200'	TABLE A
POST MOUNTED DELINEATOR (RAMP TAPERS AND TANGENTS)	100'	100'	NA	NA
TEMPORARY DELINEATION SPACING				
	TANGENT	REVERSE CURVE	SHIFT	TAPER
TEMPORARY CONCRETE BARRIER	50'	25'	25'	25'
* WHEN ADJACENT SHOULDER IS USED AS A TRAVELED LANE, USE SPACING REQUIREMENTS AS SHOWN FOR TEMPORARY DELINEATION.				

TABLE A	
REFLECTOR SPACING ON RAMP-CURVES	
RADIUS OF CURVE (FT.)	SPACING ALONG CURVE (FT.)
LESS THAN 1050	50
1050-1299	100
1300-1999	125
2000-2999	150
3000-3999	175
MORE THAN 3999	200

GENERAL NOTES:

EMERGENCY TURNAROUNDS DELINEATION-THE FOLLOWING DELINEATION SHOULD BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT APPROACHING EMERGENCY TURNAROUNDS.

- A. ONE-HALF OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFECTOR UNIT OVER THREE AMBER REFLECTOR UNITS.
- B. ONE-FOURTH OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER TWO AMBER REFLECTOR UNITS.
- C. AT A POINT NEAR THE INTERSECTION OF THE EDGE OF THE LEFT SHOULDER AND NEAR EDGE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER ONE AMBER REFLECTOR UNIT.

NOTES FOR ROADWAY DELINEATORS, POST MOUNTED INSTALLATION:

1. A. MAINLINE-SINGLE WHITE REFECTOR UNITS SHALL BE PLACED CONTINUOUSLY ON THE RIGHT AND SINGLE AMBER REFLECTOR UNITS SHALL BE PLACED ON THE LEFT ON MAIN LINE SECTIONS WITHOUT BARRIER WALL.
- B. RAMPS-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMPS, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS.
- C. DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.
2. REFLECTORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE TOP OF REFLECTORS IS FOUR FEET ABOVE THE ROADWAY EDGE AND TWO FEET OUTSIDE THE OUTER EDGE OF THE PAVED SHOULDER OR TWO FEET MINIMUM AND SIX FEET MAXIMUM OUTSIDE THE BACKS OF CURBS OR GUTTERS.
3. IN ALL CASES, THE COLOR OF THE REFLECTORS SHALL BE THE SAME AS THE ADJACENT EDGE LINE EXCEPT AS SPECIFIED IN GENERAL NOTES.
4. POST MOUNTED REFLECTORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.
5. THE PLACEMENT OF ROADWAY DELINEATOR "CIRCULAR REFLECTORS" SHALL BE USED FOR ALL MINOR PROJECTS WHICH HAVE A LENGTH OF LESS THAN 5 MILES. THE PLACEMENT OF ROADWAY DELINEATOR "RECTANGULAR REFLECTORS" SHALL BE USED FOR ALL MAJOR PROJECTS WHICH HAVE A LENGTH GREATER THAN 5 MILES. ALL ROADWAY DELINEATORS WITHIN A ROADWAY SEGMENT SHALL BE OF THE SAME TYPE.

NOTES FOR GUARDRAIL AND BARRIER WALL REFLECTOR:

1. REFLECTORS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY.

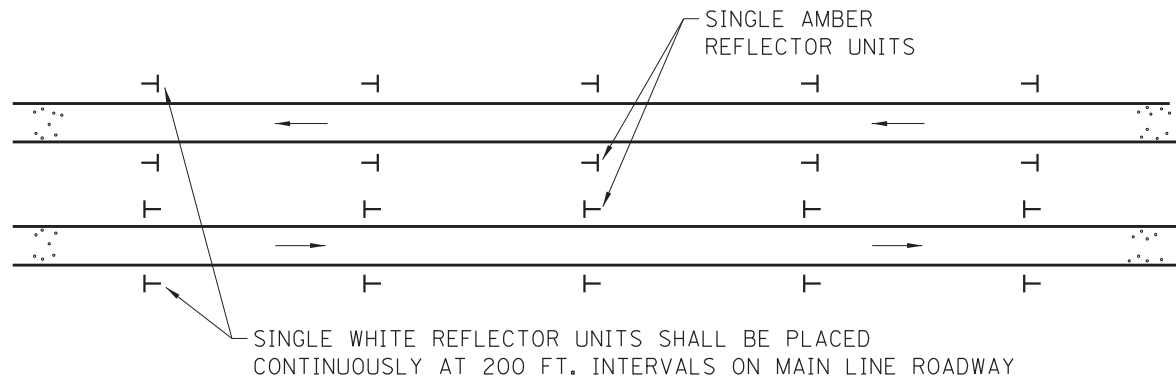


ROADWAY DELINEATORS AND REFLECTORS

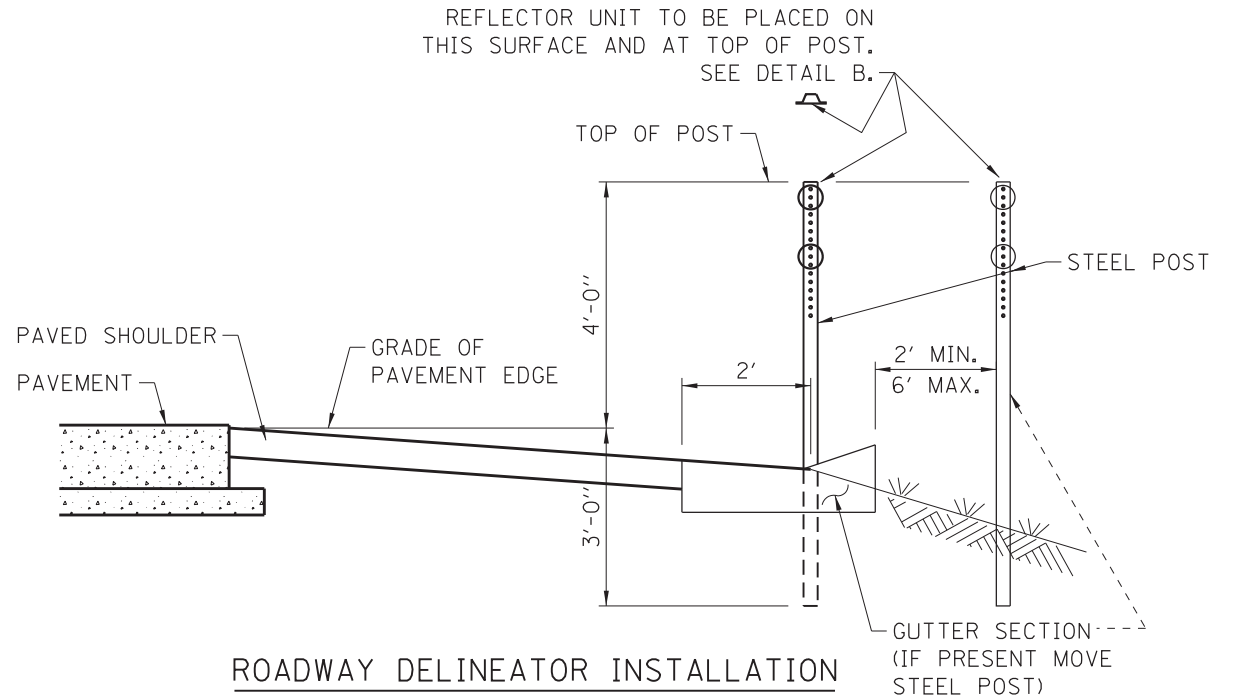
STANDARD D4-06

DATE	REVISIONS
07-01-09	CHANGED BARRIER TO F-SHAPE CONFIG. ADDED SECTION C-C NEW BARRIER DELINEATORS
02-07-12	REVISED REFLECTOR MARKER TYPE C DIMENSION
11-01-12	REVISED NOTES, TABLE AND DELINEATION SPACING
3-11-2015	REVISED NOTES
3-31-2016	REVISED DELINEATOR ATTACHMENT TO POST
3-31-2017	REVISED PERM. DELINEATION SPACING TABLE

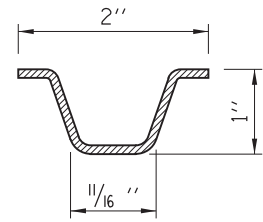
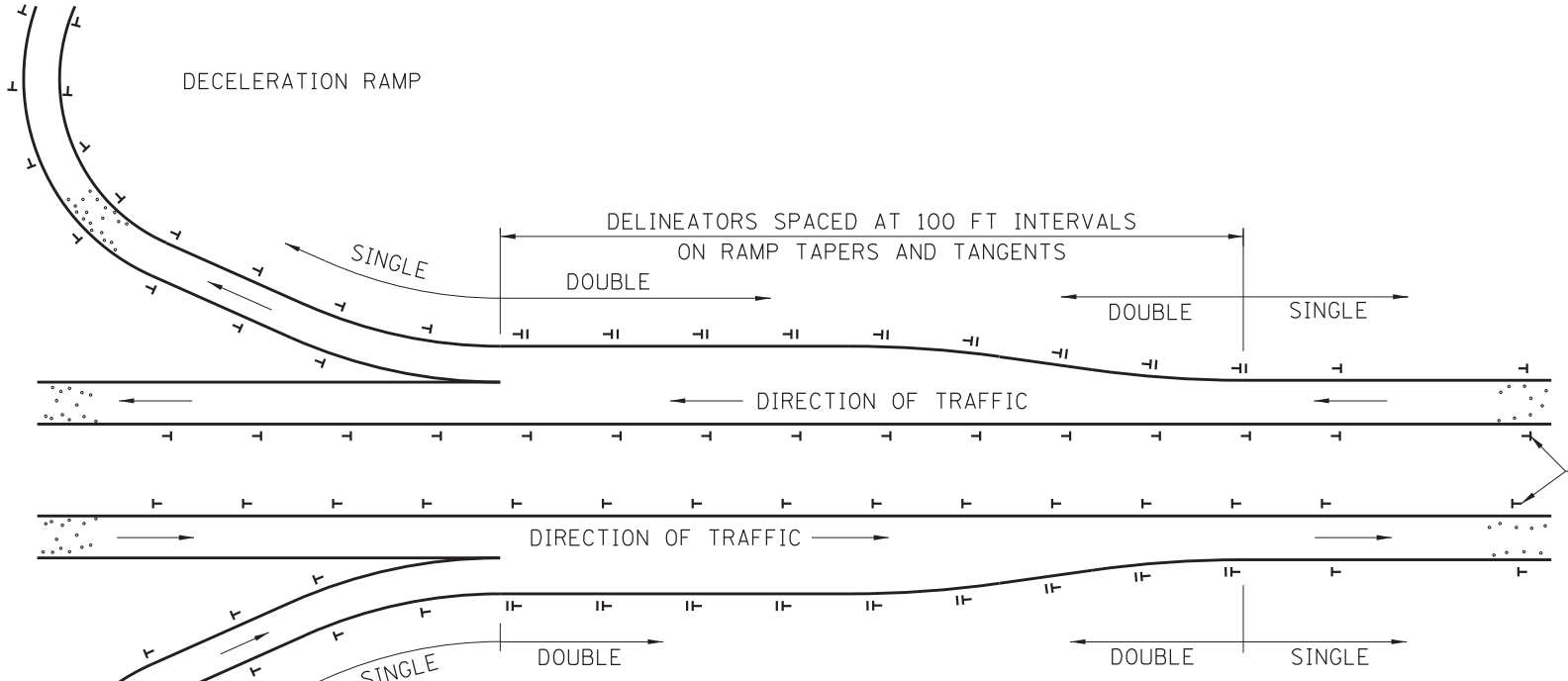
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



TANGENT PLACEMENT

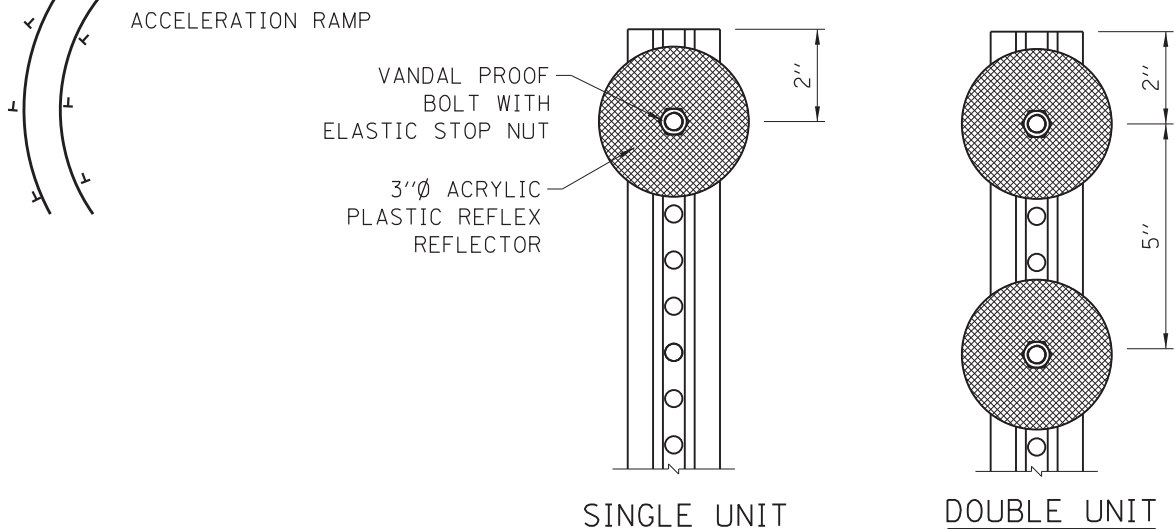


ROADWAY DELINEATOR INSTALLATION

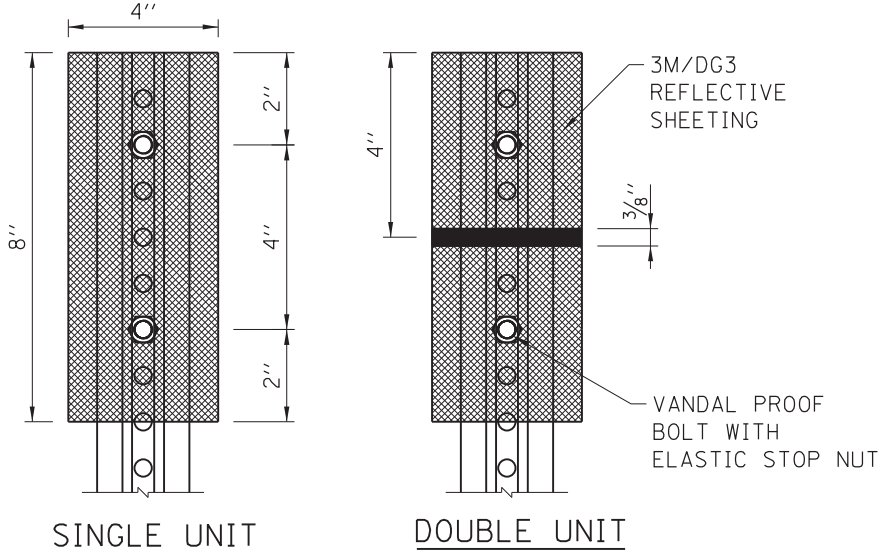


SECTION A-A
STEEL- 1.12 LBS/FT.

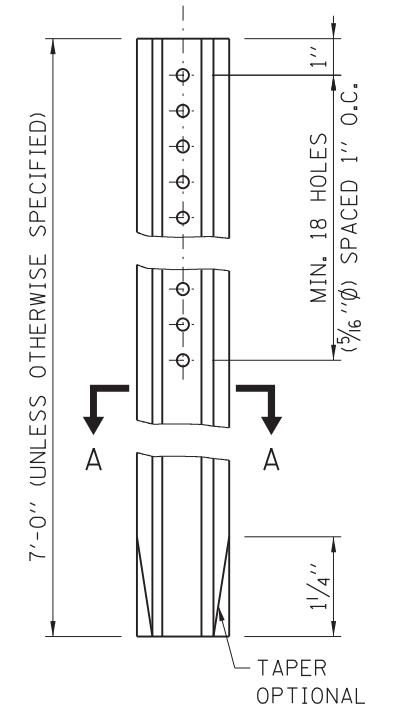
INTERCHANGE RAMP PLACEMENT



CIRCULAR REFLECTORS



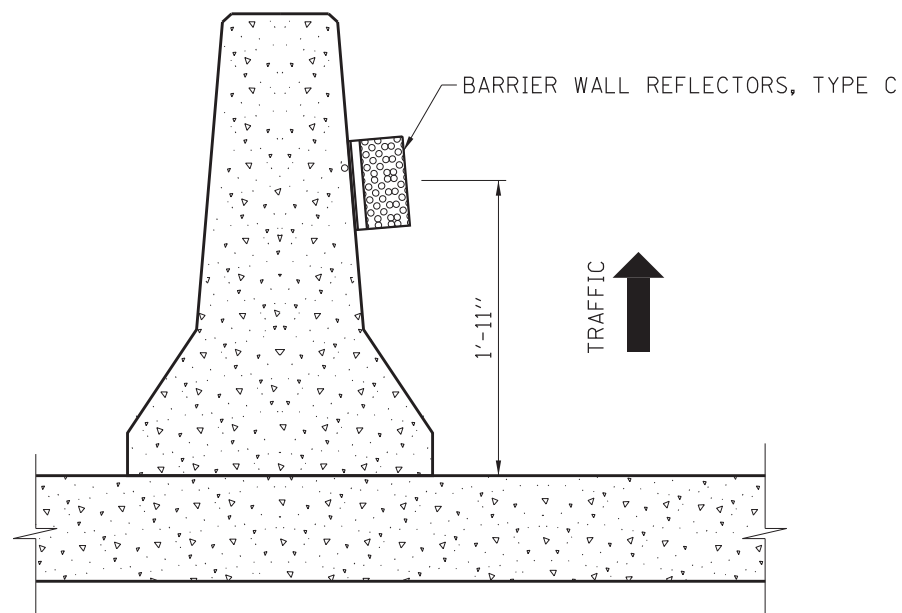
RECTANGULAR REFLECTORS



STEEL POST

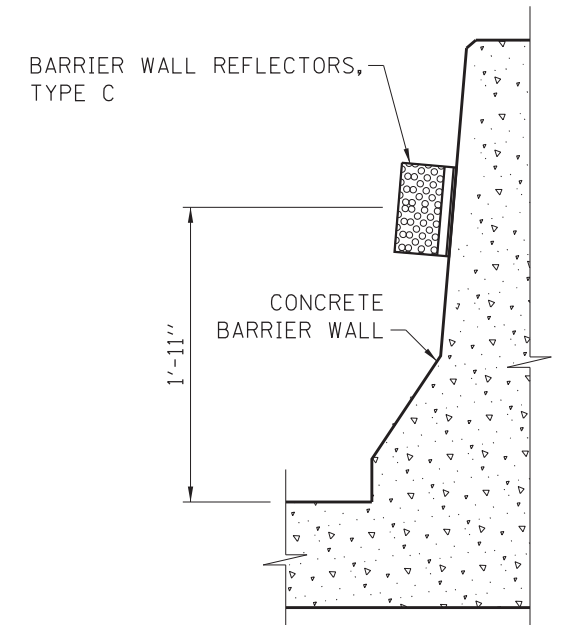
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



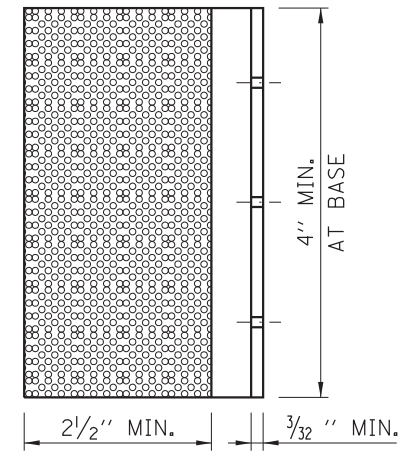


CROSS-SECTION

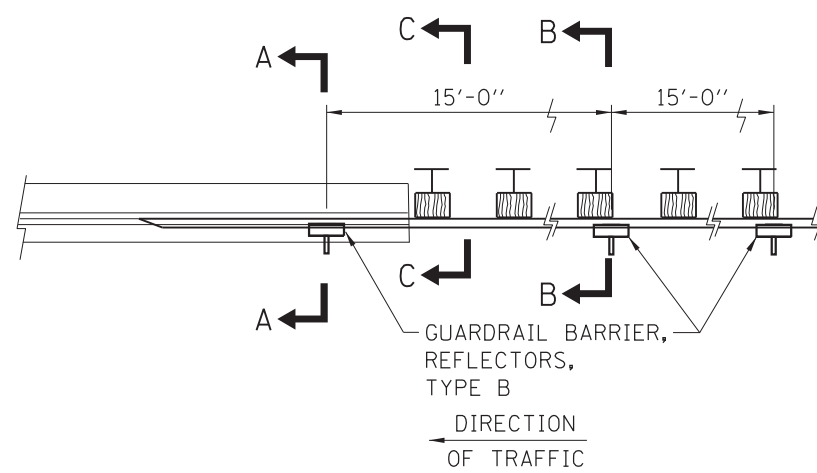
TEMPORARY CONCRETE BARRIER



BARRIER OR PARAPET REFLECTOR INSTALLATION



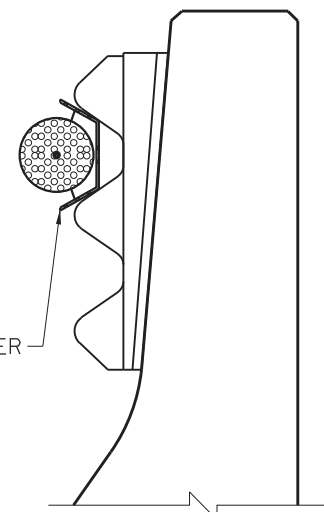
REFLECTOR, TYPE C



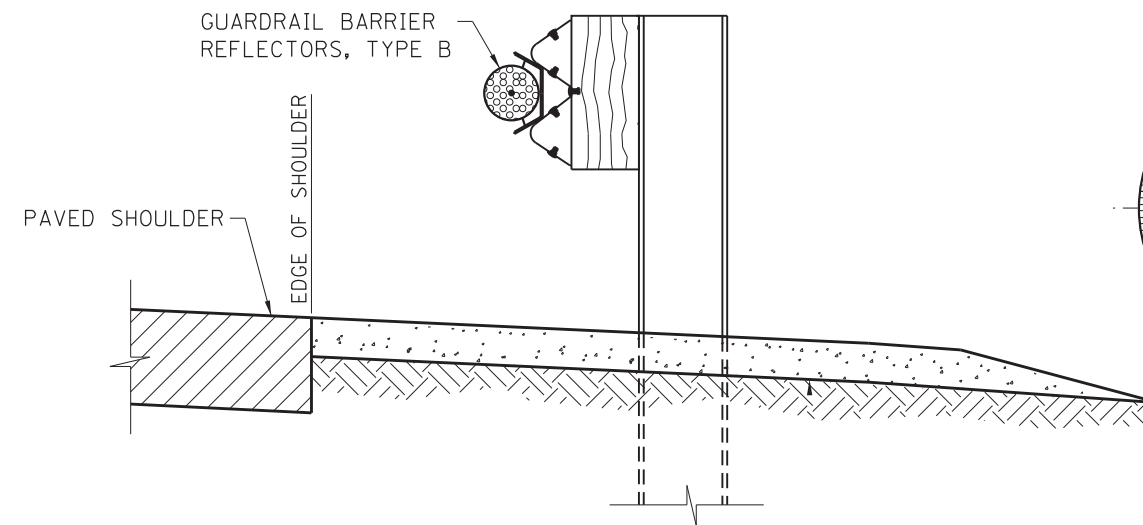
PLAN

REFLECTOR INSTALLATION ON GUARDRAIL AT BRIDGE APPROACHES

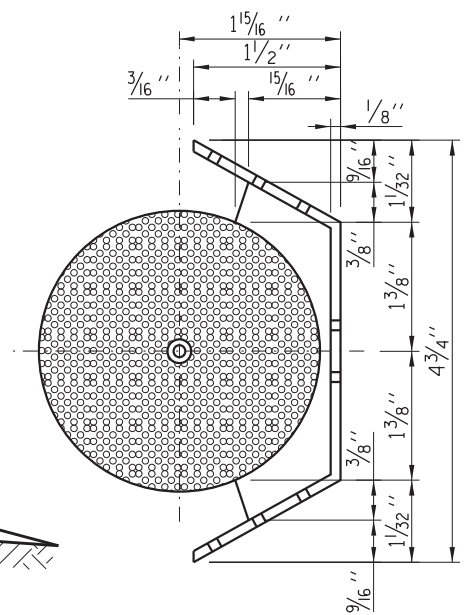
ALSO SEE SHEET 1 IN THIS SERIES FOR ADDITIONAL INFORMATION



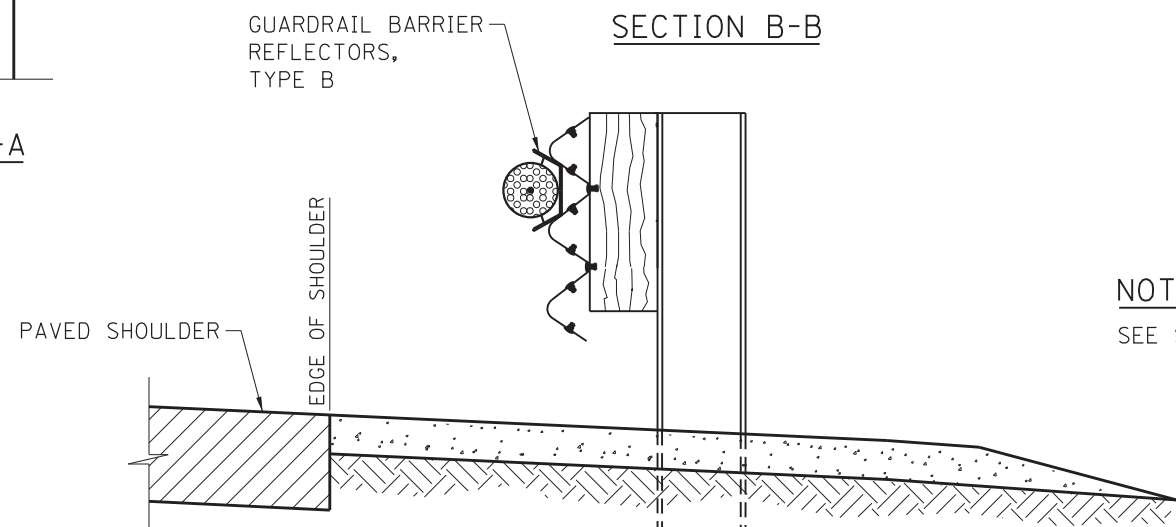
SECTION A-A



SECTION B-B



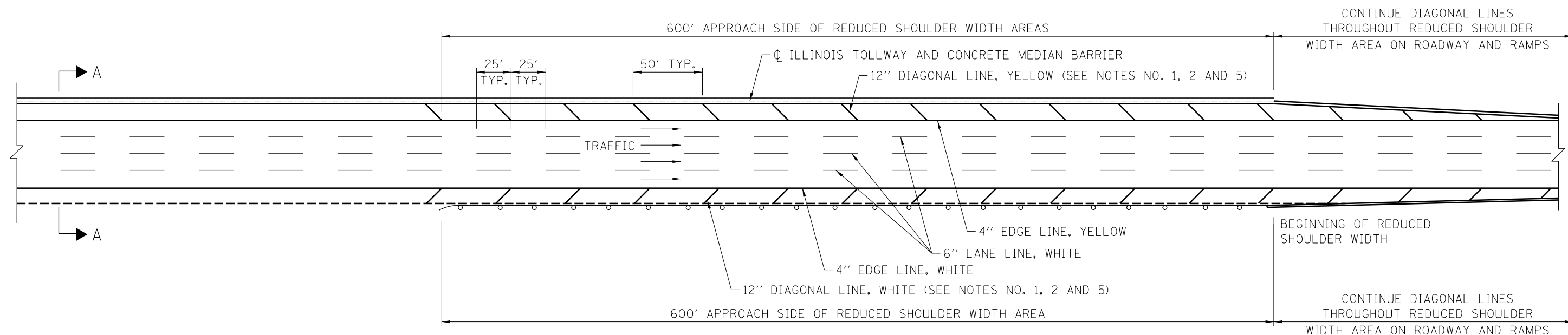
REFLECTOR, TYPE B



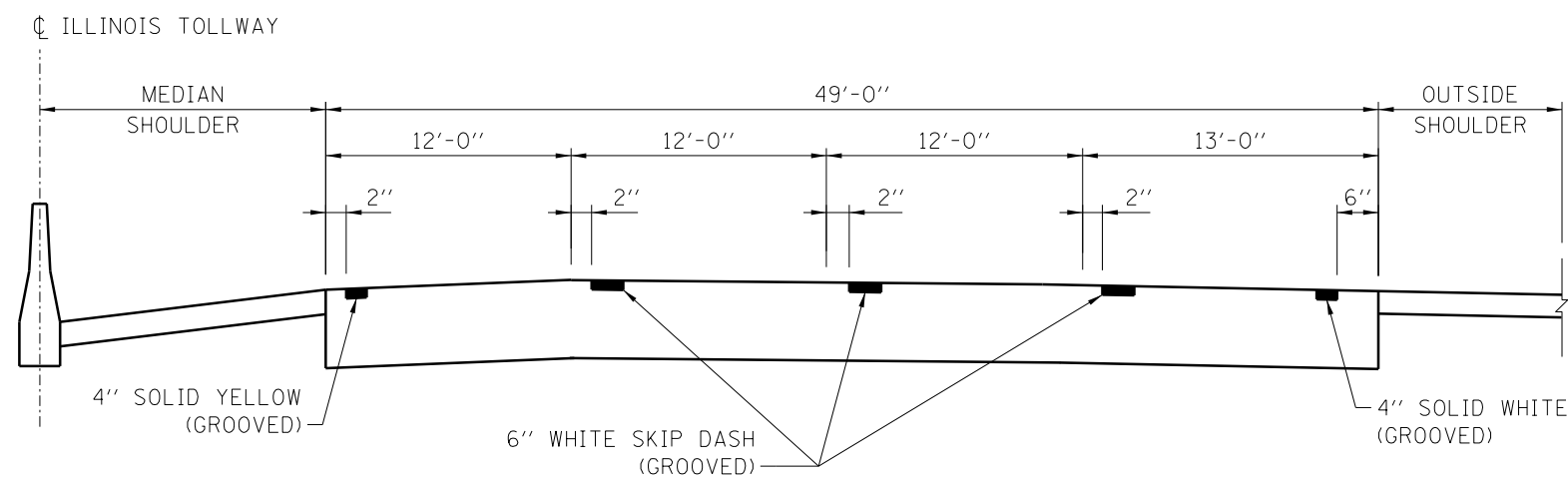
SECTION C-C

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.





PLAN



SECTION A-A

ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION

GENERAL NOTES:

1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE THE SHOULDER WIDTH IS LESS THAN STANDARD.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. WHERE THE GUARDRAIL ENCROACHES ON THE SHOULDER THE DIAGONAL MARKINGS SHALL EXTEND AS CLOSE TO THE FACE OF THE RAIL AS POSSIBLE.
4. ALL PERMANENT LANE LINES AND EDGE LINES SHALL BE GROOVED, ON ROADWAY SURFACES, UNLESS OTHERWISE NOTED.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
7. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON BRIDGES.
8. PAVEMENT MARKINGS SHALL NOT BE GROOVED AT THE CASH SIDE OF MAINLINE TOLL PLAZAS OR THE OPEN ROAD TOLLING (ORT), 100' CONTINUOUSLY REINFORCED CONCRETE (CRC) PAVEMENT SECTION OF MAINLINE UNDER MONOTUBES.

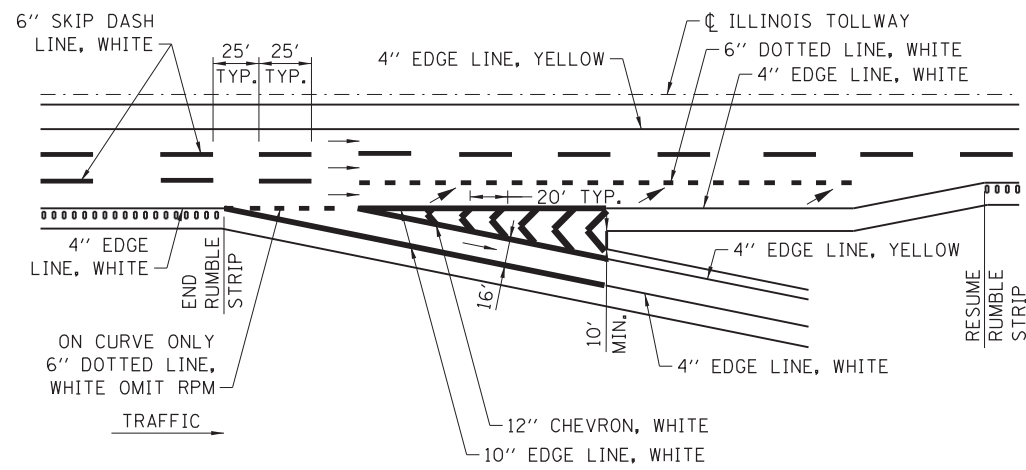
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009

DATE	REVISIONS
7-01-09	ADDED LINE GROOVING NOTES
2-07-12	REVISED NOTES
11-01-12	REVISED EDGELINE OFFSET, REVISED NOTES
3-31-14	REVISED NOTES
3-31-16	REVISED NOTES

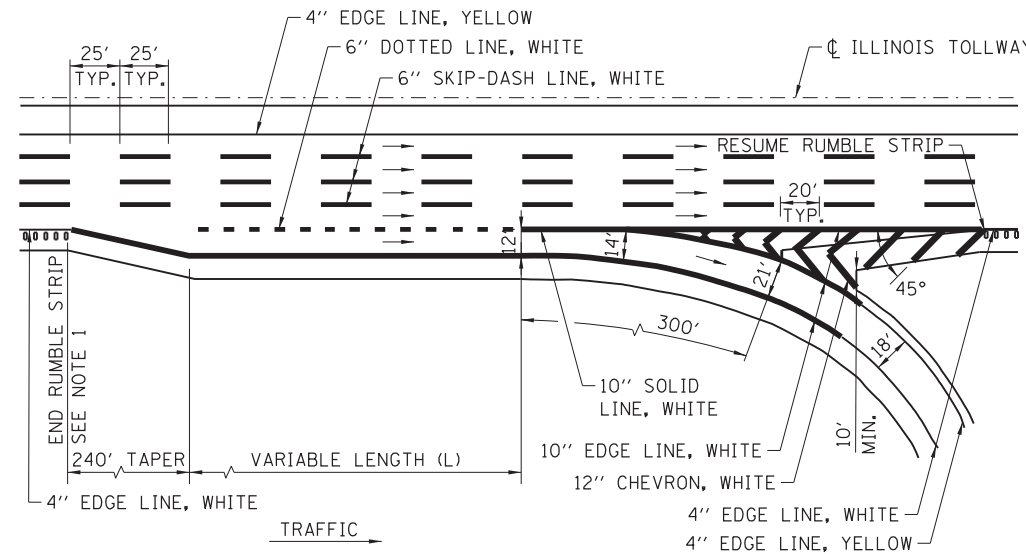


PERMANENT PAVEMENT MARKINGS

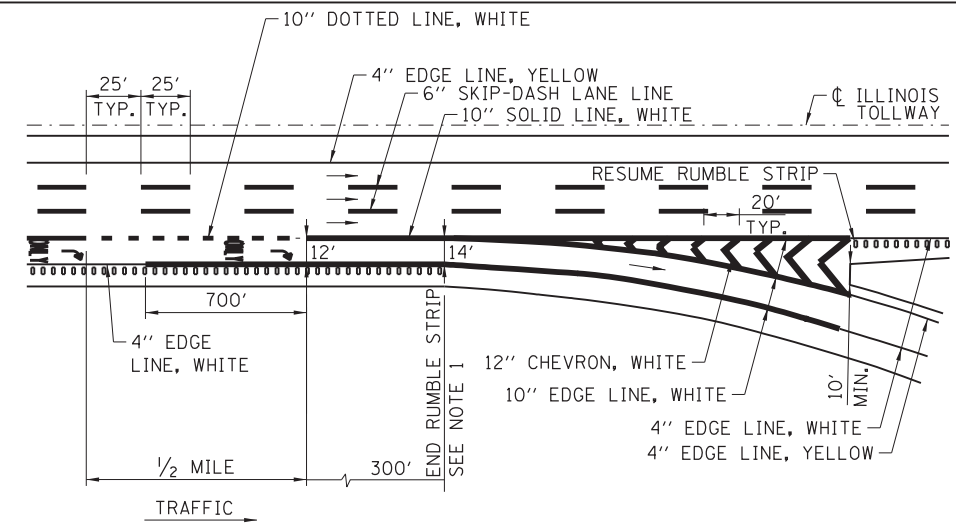
STANDARD D5-06



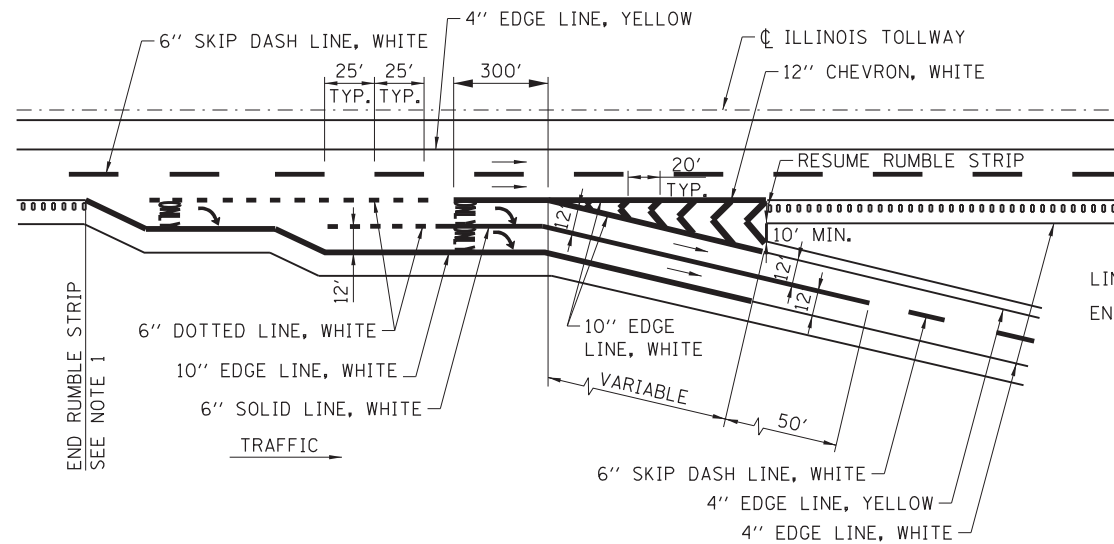
EXIT - SINGLE LANE RAMP
LANE THREE TERMINATION



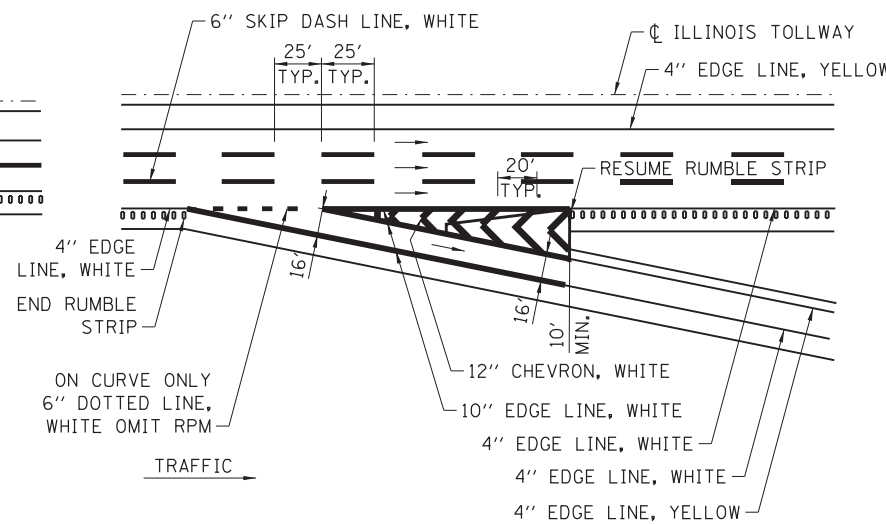
EXIT - SINGLE LANE LOOP RAMP - PARALLEL TYPE



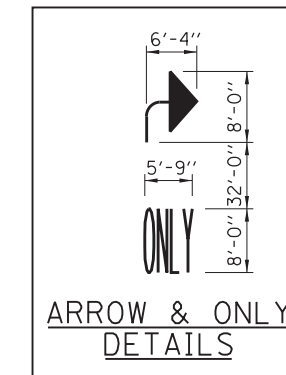
EXIT - SINGLE LANE RAMP - LANE DROP



EXIT - TWO LANE PARALLEL RAMP



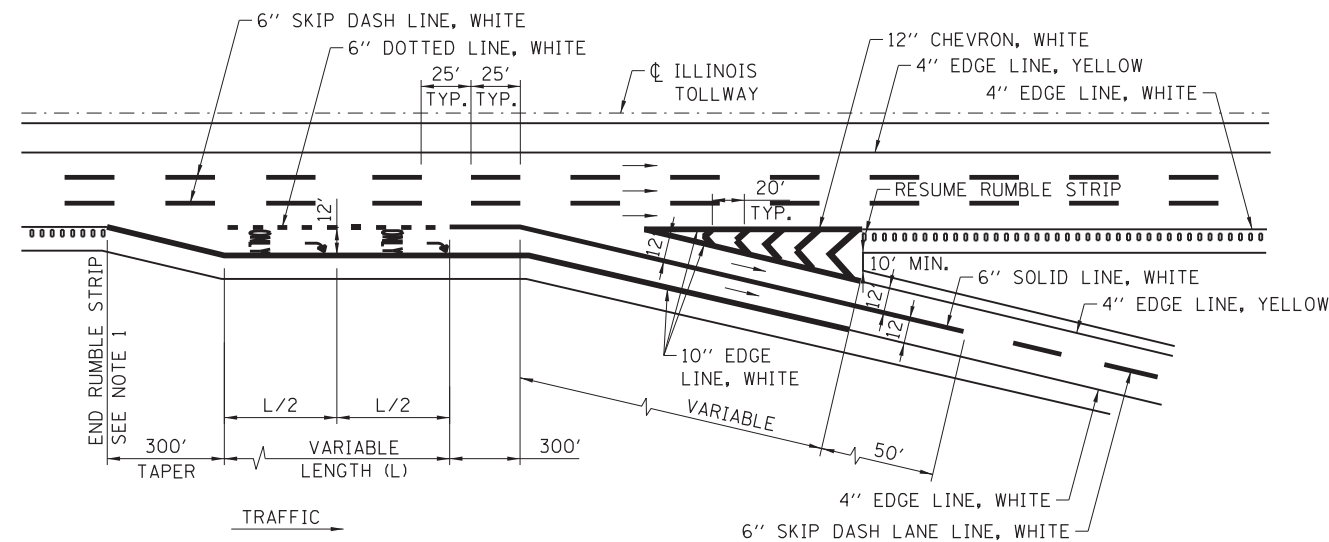
EXIT - SINGLE LANE RAMP - TAPER TYPE



NOTE:
PAVEMENT MARKING LETTERS AND SYMBOLS-ONLY AND ARROW ARE TO BE TYPICALLY PLACED AT 1/2 MILE EXIT ONLY GUIDE SIGN, AT GORE EXIT GUIDE SIGN AND APPROXIMATELY HALFWAY BETWEEN THE TWO.

GENERAL NOTES:

1. RUMBLE STRIPS SHALL BE INSTALLED BETWEEN THE THEORETICAL GORE AND TAPER WHEN LENGTHS (L) OF AUXILIARY LANES, ACCELERATION LANES OR DECELERATION LANES, ARE GREATER THAN 1000'.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
4. GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
5. LETTERS AND SYMBOL MARKING SHALL BE SURFACE APPLIED.
6. DOTTED LINES SHALL CONSIST OF 3' LINE AND 9' GAPS.



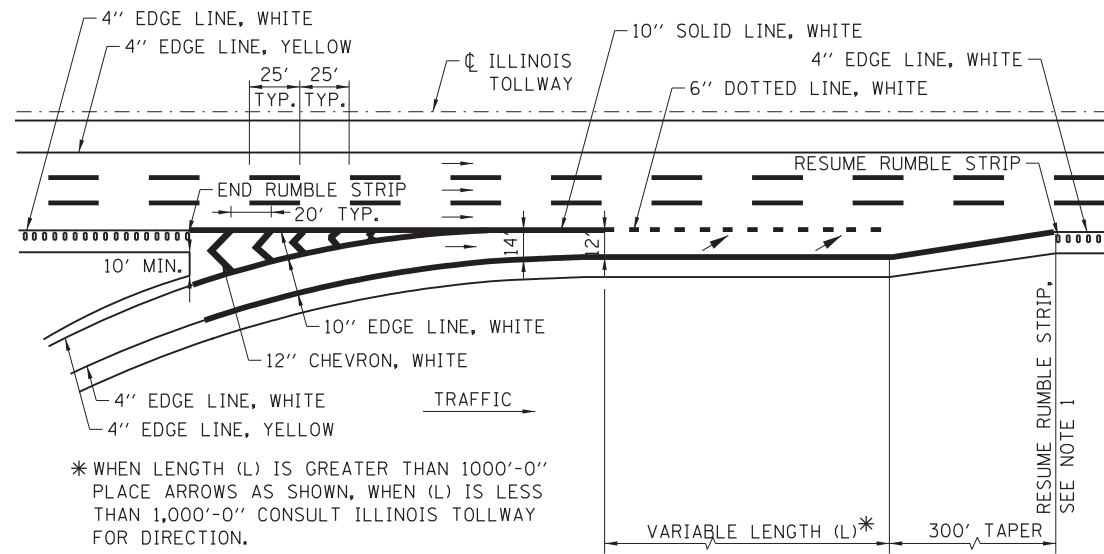
EXIT - TWO LANE RAMP

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



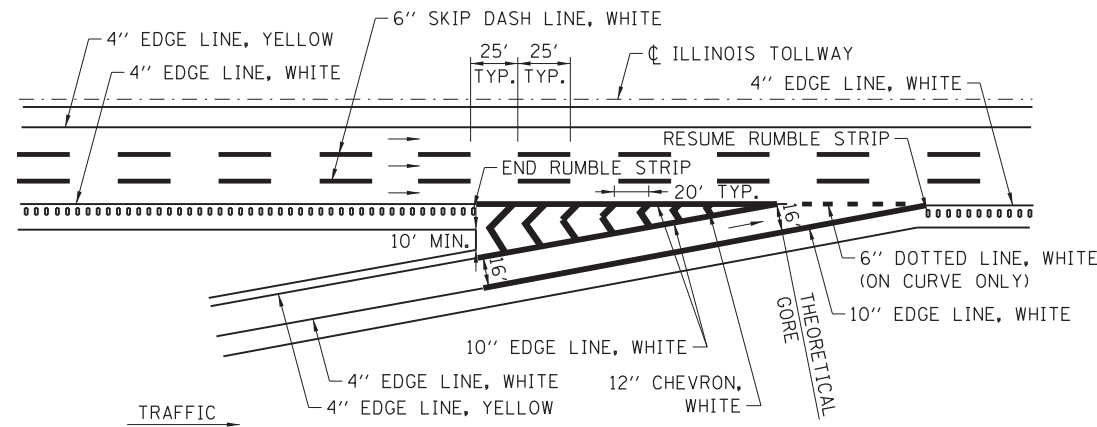
DATE	REVISIONS
11-01-12	REVISED NOTES AND ADDED DOTTED LINE
03-01-13	REVISED SINGLE LANE LOOP RAMP DETAILS
03-31-14	ADDED LANE REDUCTION MARKINGS
3-11-2015	REVISED DETAILS, ADDED LANE-REDUCTION ARROWS AND SHEET 3
3-31-2016	REVISED NOTES, ADDED IPO PAVEMENT MARKING DETAIL.
3-31-2017	REVISED NOTES

PAVEMENT MARKING AND SHOULDER RUMBLE STRIP DETAILS
STANDARD D6-07

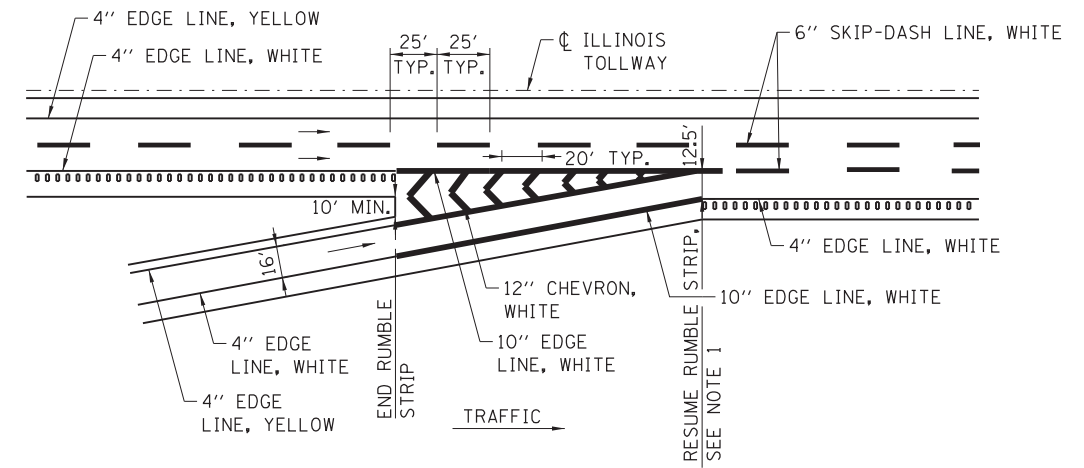


* WHEN LENGTH (L) IS GREATER THAN 1000'-0" PLACE ARROWS AS SHOWN, WHEN (L) IS LESS THAN 1,000'-0" CONSULT ILLINOIS TOLLWAY FOR DIRECTION.

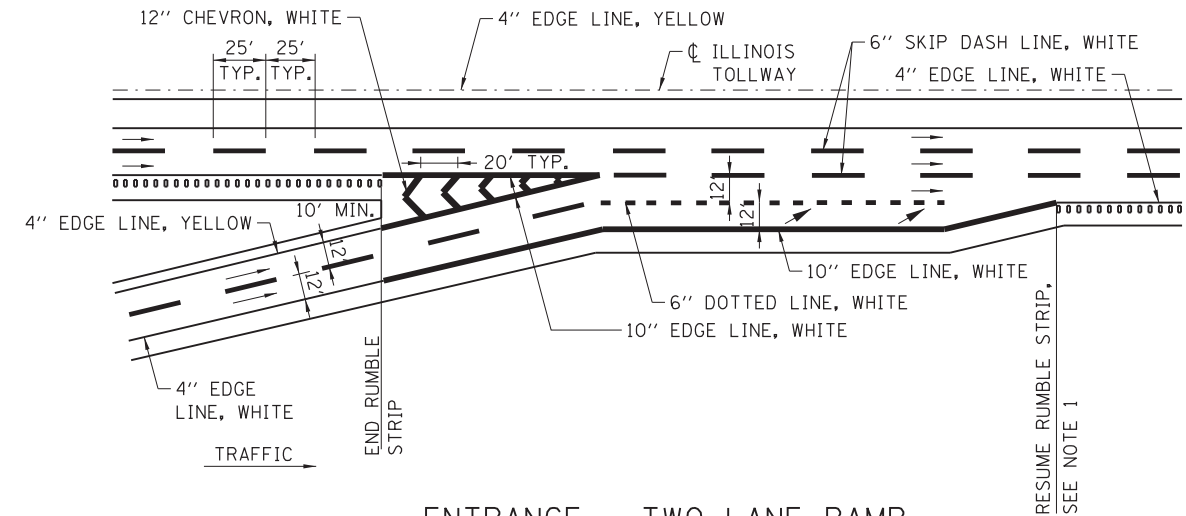
ENTRANCE - SINGLE LANE RAMP - PARALLEL TYPE



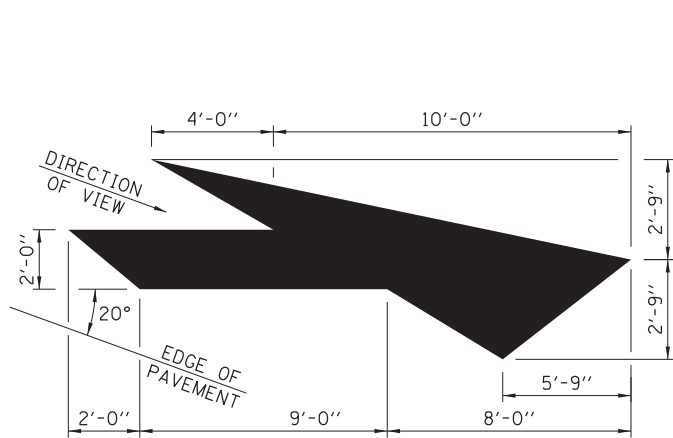
ENTRANCE - SINGLE LANE RAMP - TAPER TYPE



ENTRANCE - SINGLE LANE RAMP WITH ADDED MAINLINE LANE

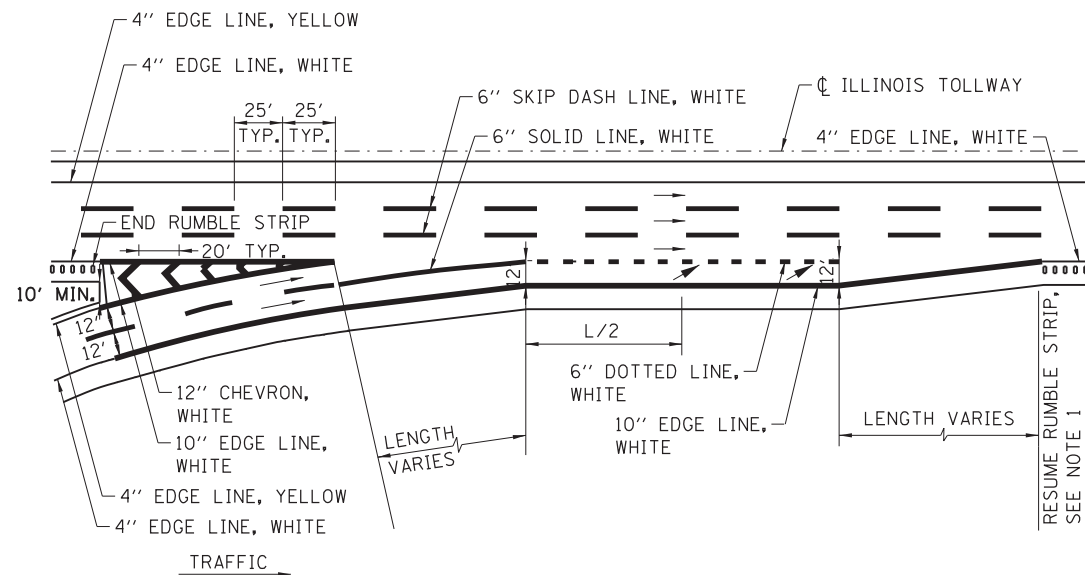


ENTRANCE - TWO LANE RAMP WITH ADDED MAINLINE LANE

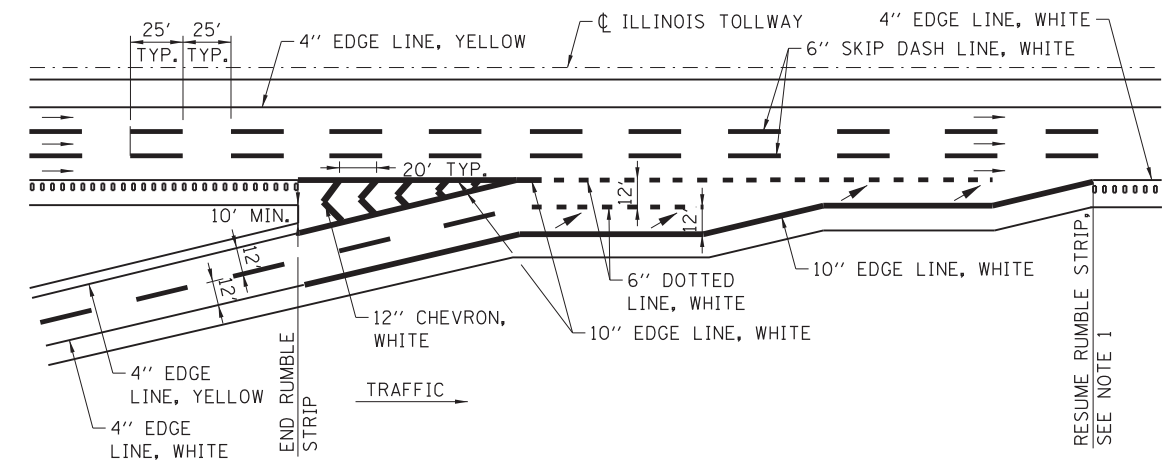


LANE-REDUCTION ARROW

RIGHT LANE-REDUCTION ARROW SHOWN. USE MIRROR IMAGE FOR LEFT LANE.

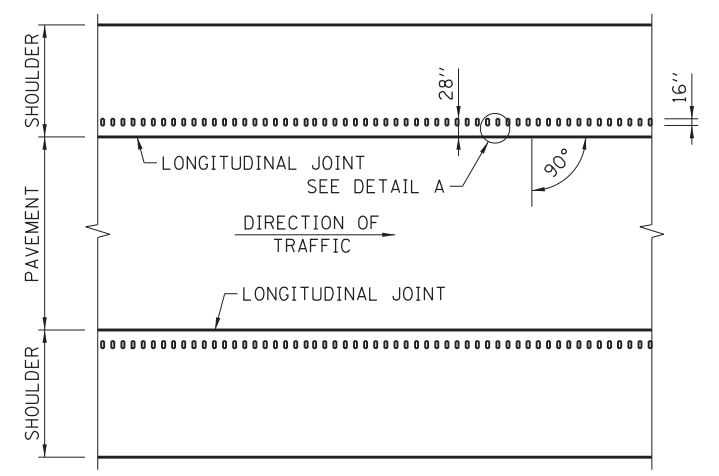
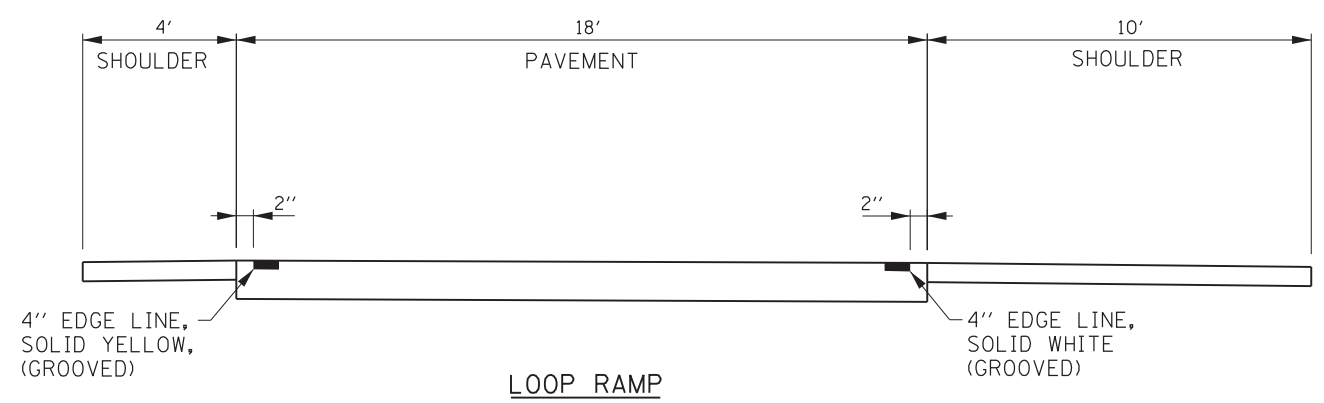
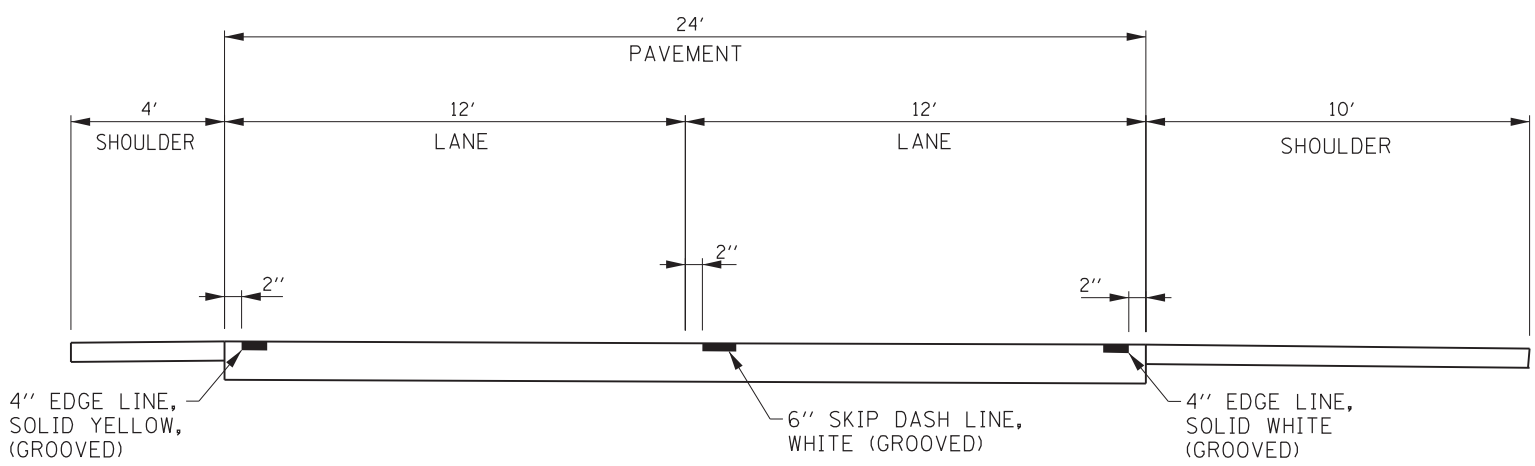
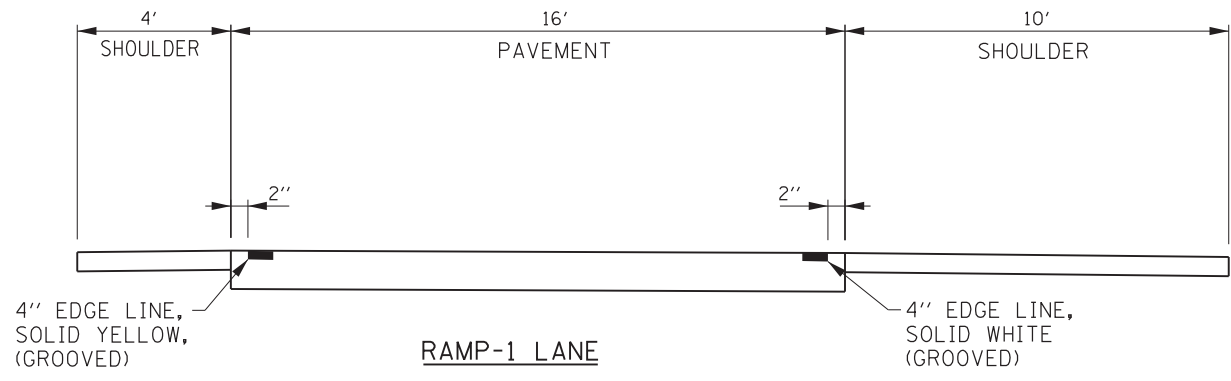


ENTRANCE - TWO LANE RAMP

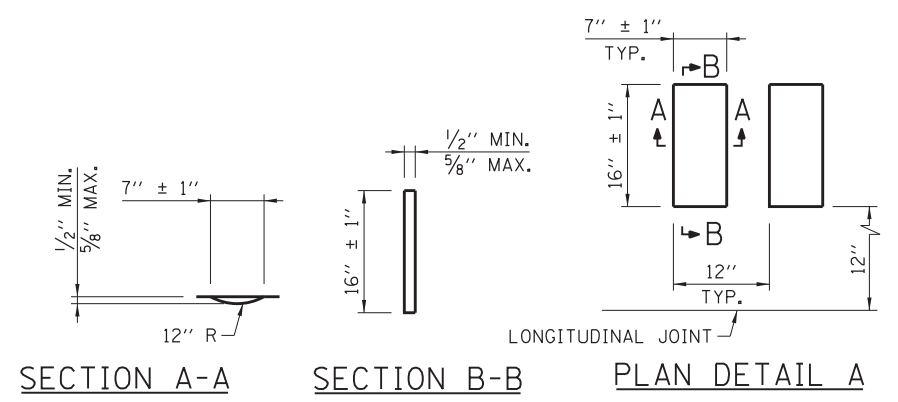


ENTRANCE - TWO LANE PARALLEL RAMP

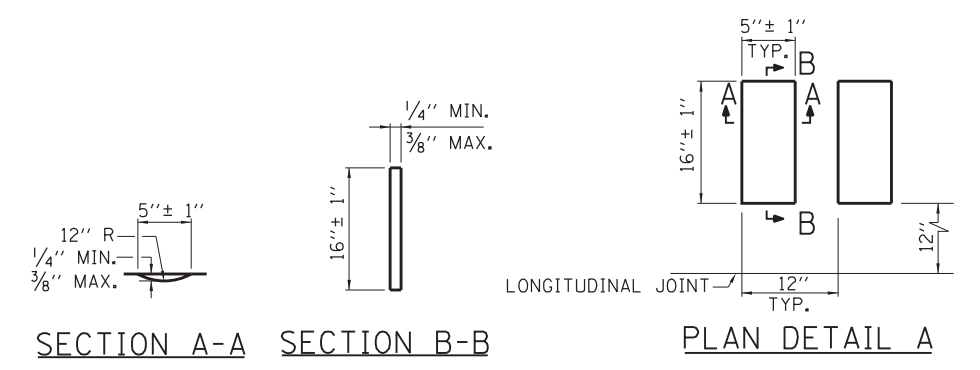




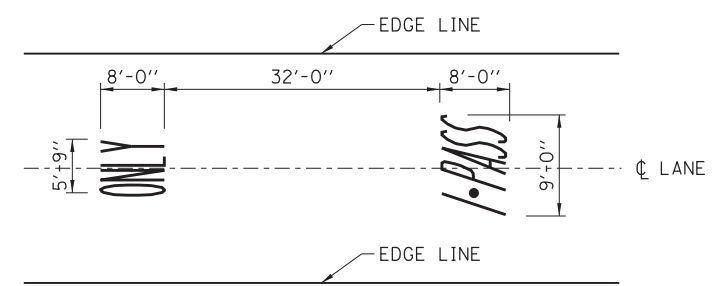
TYPICAL PLAN VIEW
MAINLINE



ASPHALT SHOULDER
RUMBLE STRIP DETAILS



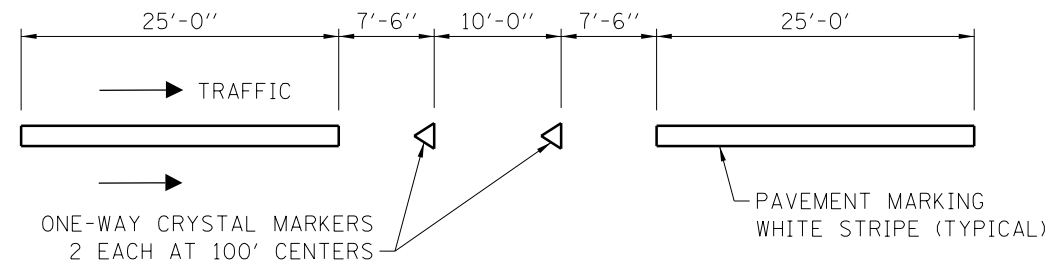
CONCRETE SHOULDER
RUMBLE STRIP DETAILS



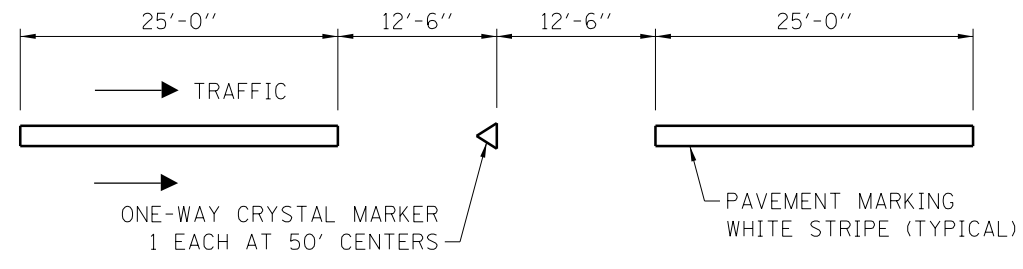
IPO LANE PAVEMENT MARKING

SEE SHEET 1 IN
THIS SERIES FOR
GENERAL NOTES.

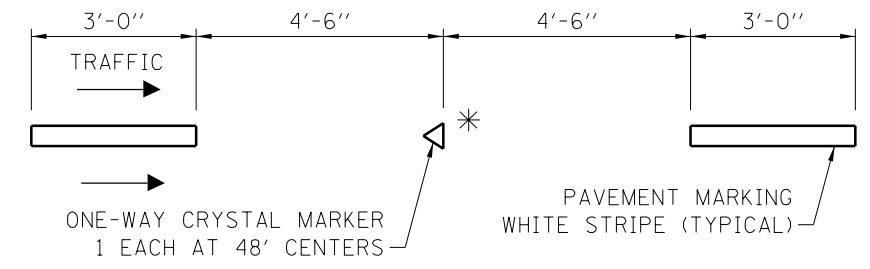




DETAIL A

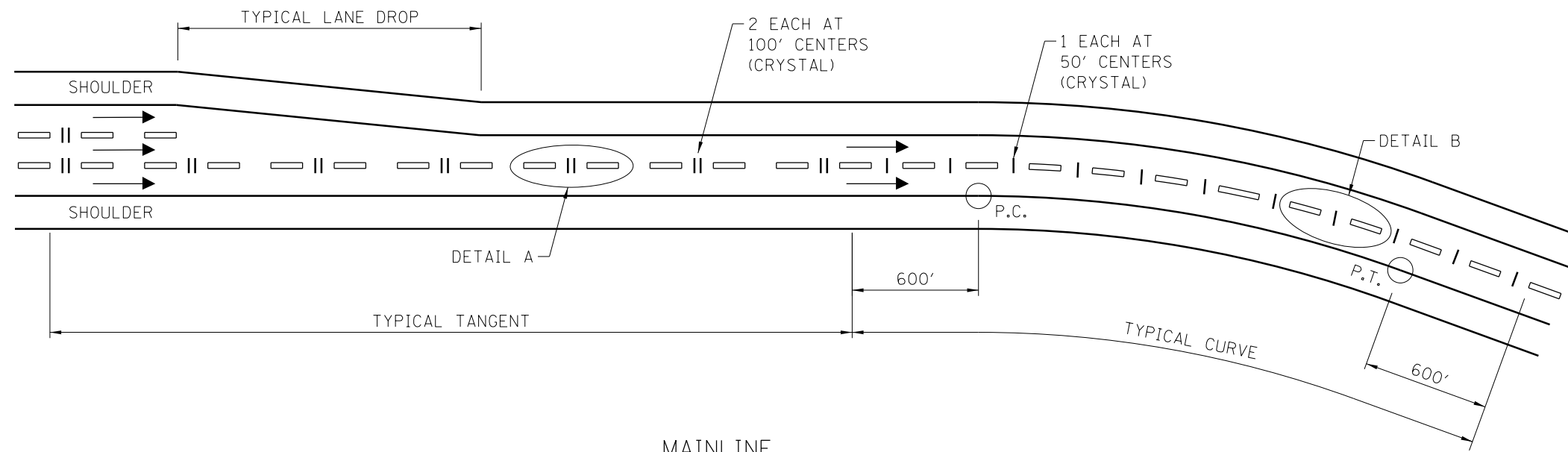


DETAIL B



* MARKER TO BE INSTALLED WHEN LENGTHS OF AUXILIARY LANES ARE GREATER THAN 1000'.

DETAIL C



MAINLINE

RAISED PAVEMENT LANE MARKER DETAILS

NOTES:

1. FOR COLLECTOR-DISTRIBUTOR (C-D) ROADWAYS, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
2. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
3. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

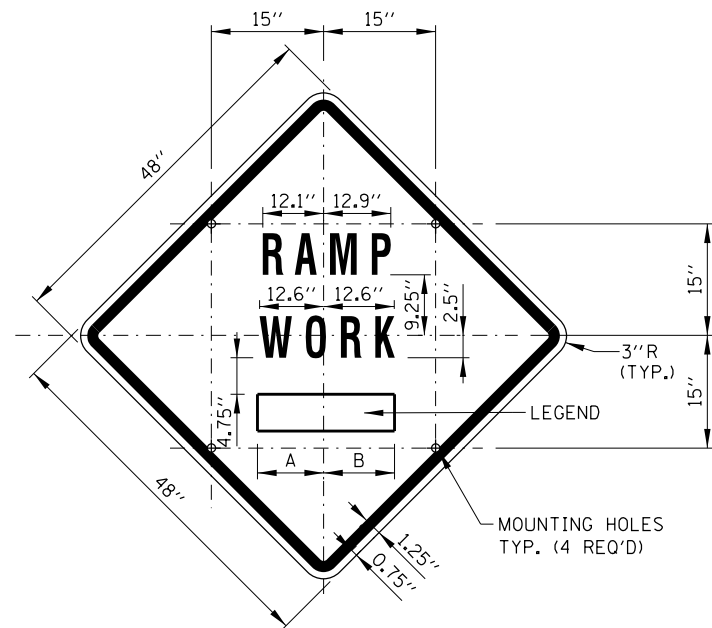
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009

DATE	REVISIONS
11-01-2012	REVISED DETAIL C.
3-31-2016	REVISED NOTES 1.



RAISED PAVEMENT LANE MARKER

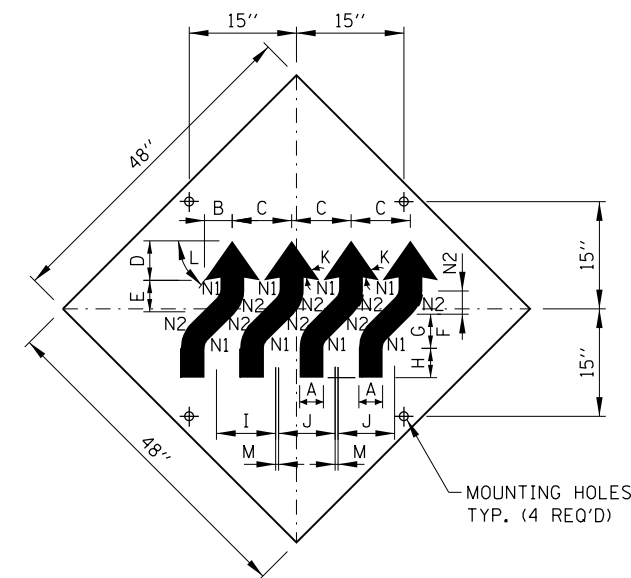
STANDARD D8-02



SIGN TS-2 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND SYMBOL - BLACK
 SIZE: 48"x48"
 LETTERING: 7" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN

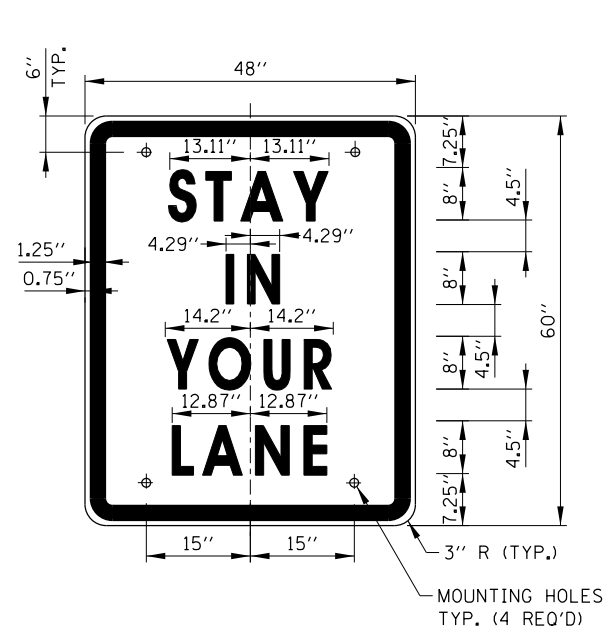
SIGN NO.	LEGEND	A	B
TS-2A	AHEAD	15.50"	15.50"
TS-2B	500 FT	14.25"	15.13"
TS-2C	1000 FT	14.88" L2	15.75" L2
TS-2D	1500 FT	14.88" L2	15.75" L2
TS-2E	1/2 MILE	15.75" L3	15.75" L3
TS-2F	1 MILE	13.06"	13.06"



SIGN W1-4dR (O)

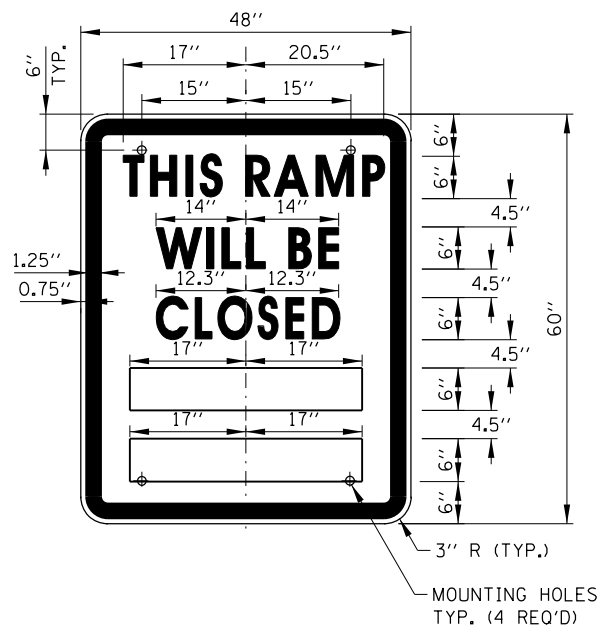
COLOR: BACKGROUND-FLUORESCENT ORANGE (O)
 TYPE A REFLECTIVE SHEETING PER STANDARD SPECIFICATIONS (*A)
 BORDER AND LETTERS-BLACK
 SIZE: 48"x48"
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN.

A	4 1/2"
B	5 3/4"
C	12 1/2"
D	7 3/4"
E	6 1/2"
F	4 1/2"
G	6 1/2"
H	6"
I	12 3/4"
J	12"
K	45°
L	55°
M	3/4"
N1	2"
N2	6 1/2"



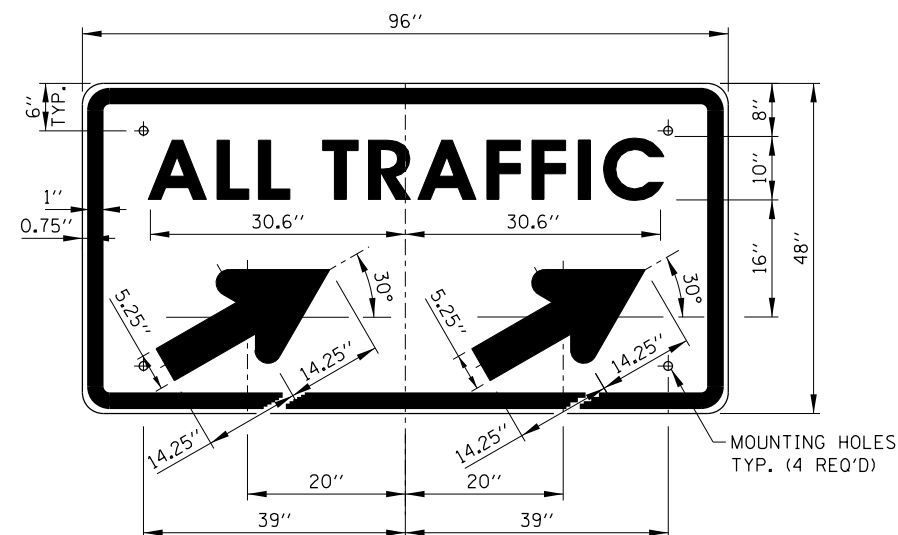
SIGN TS-3

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: LEGEND - 8" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN



SIGN TS-4

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(*A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: LEGEND - 6" FEDERAL SERIES C
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN



SIGN TS-5a & TS-5b

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(*A)
 BORDER AND LETTERS - BLACK
 ARROW - BLACK
 SIZE: 96"x48"
 LETTERING: 10" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN
 NOTE: SIGN TS-5a IS SHOWN, SUBSTITUTE LEGEND "▲" FOR "▲" FOR SIGN TS-5b

NOTES:

- ALL LETTERING IS DESIGNATED BY SIZE AND SERIES IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. LETTERING SPACING SHALL BE IN ACCORDANCE WITH THIS GUIDE EXCEPT WHERE NOTED.
- SYMBOLS AND ARROWS SHALL CONFORM TO THE DETAILS SHOWN IN THE LATEST EDITION OF "STANDARD HIGHWAY SIGNS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- SEE THE CONTRACT REQUIREMENTS FOR ADDITIONAL NOTES AND SPECIFICATIONS.
 (O) FLUORESCENT ORANGE REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
 (*A) - REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
- DIMENSIONS INDICATED THUS L ARE BASED ON A REDUCTION IN STANDARD LETTERING SPACING AS SHOWN BELOW:
 L1 SPACING REDUCED BY 25%
 L2 SPACING REDUCED BY 40%
 L3 SPACING REDUCED BY 50%

RAMP CLOSURE ADVANCE INFORMATION SIGN

THE VARIABLE MESSAGE WITH DATES FOR THE BOTTOM TWO LINES SHALL BE DETERMINED BY THE ENGINEER AND GIVEN TO THE CONTRACTOR BEFORE THE REQUIRED FIELD ERECTION DATE.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

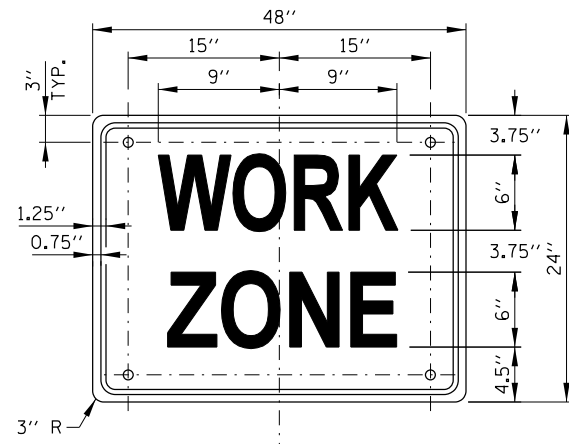
DATE	REVISIONS
05-01-09	DELETED FLASHING ARROW BOARDS
01-01-11	ADDED SIGN COLOR DESIGNATION
11-01-12	DELETED SIGN TS-1
03-31-14	REVISED FINE SIGN NUMBER AND ADDED LED SPEED LIMIT DISPLAY
3-11-2015	REVISED NOTES
3-31-2017	REVISED END WZSL SIGN COLOR

SHEET 1 OF 2



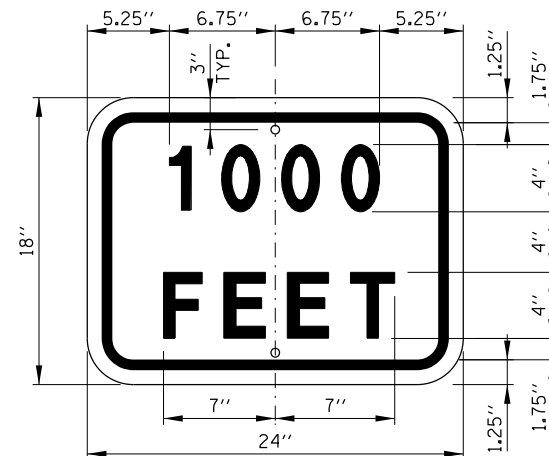
CONSTRUCTION SIGNS

STANDARD E1-06



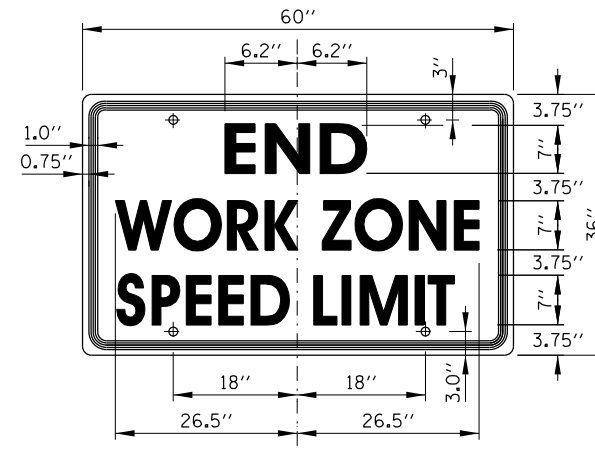
SIGN G20-I102 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x24"
 LETTERING: 6" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



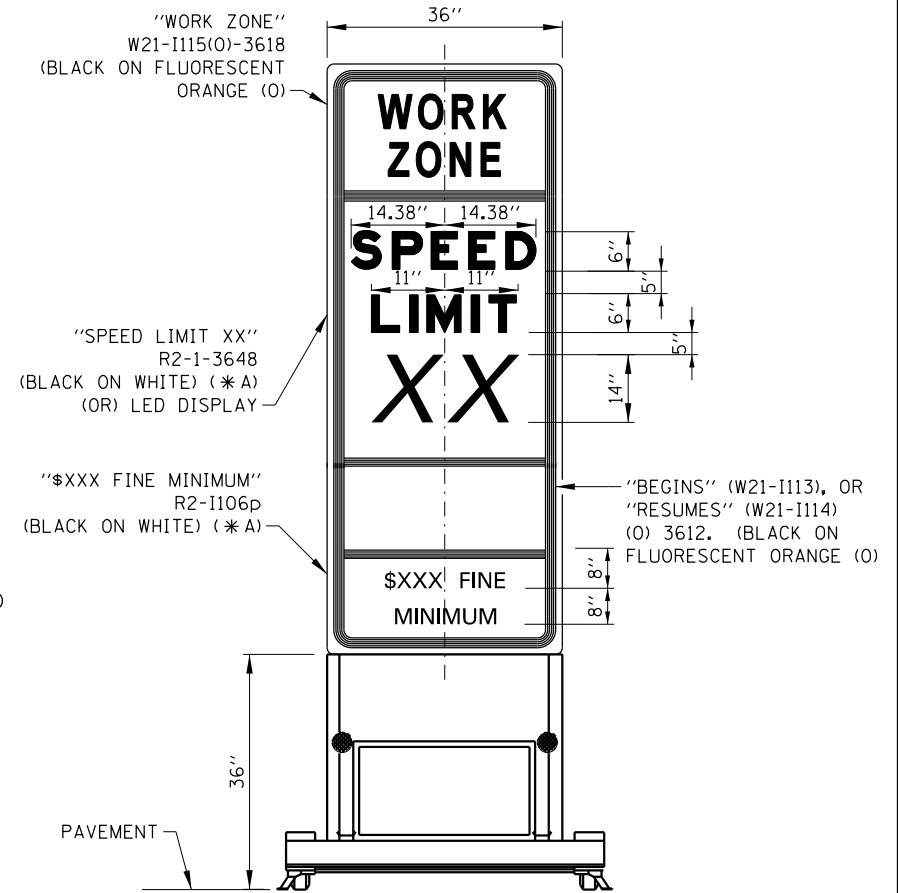
SUPPLEMENTAL PLATE (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 24"x18"
 LETTERING: 4" FEDERAL SERIES D
 MOUNTING HOLES: 1/16" DIA., 2 HOLES SPACED AS SHOWN

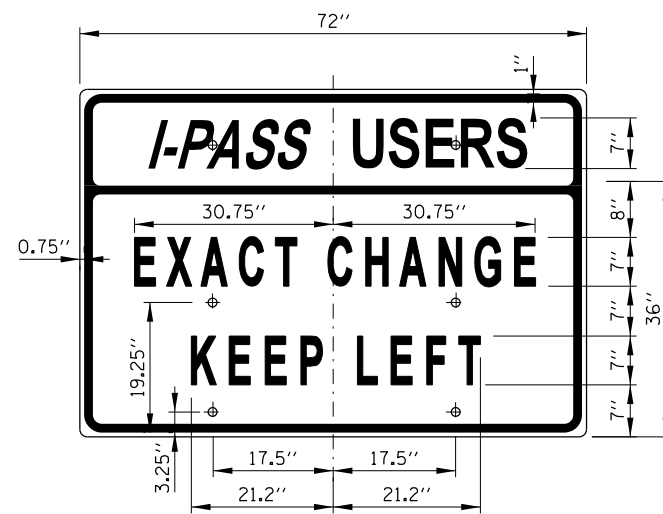


SIGN G20-I103

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x36"
 LETTERING: 6" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN

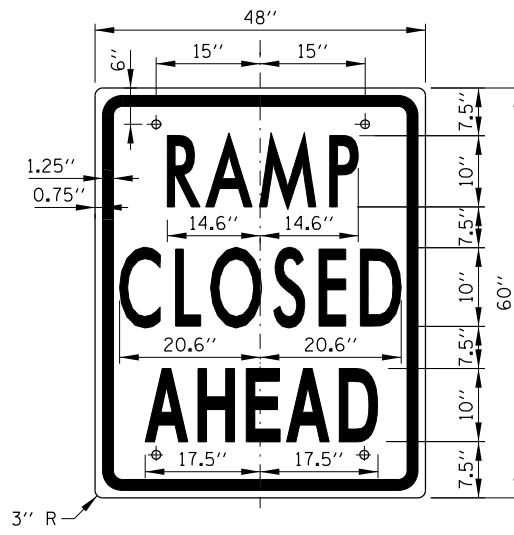


WORK ZONE SPEED LIMIT SIGN ASSEMBLY



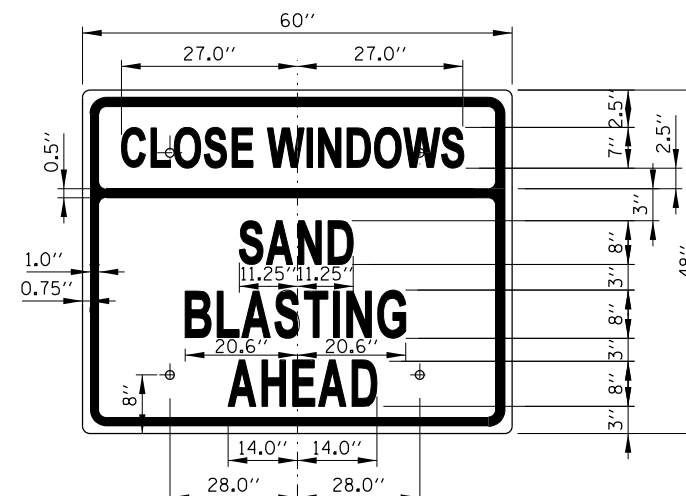
SIGN TS-7

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 72"x36"
 LETTERING: 7" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



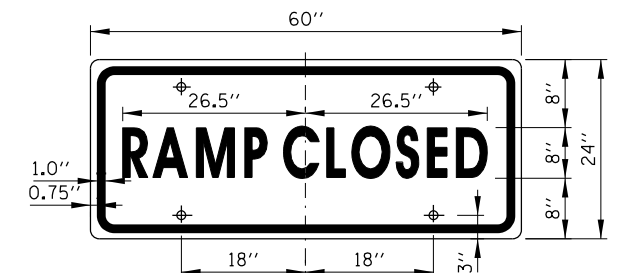
SIGN TS-9

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: 10" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



SIGN TS-10 (O)

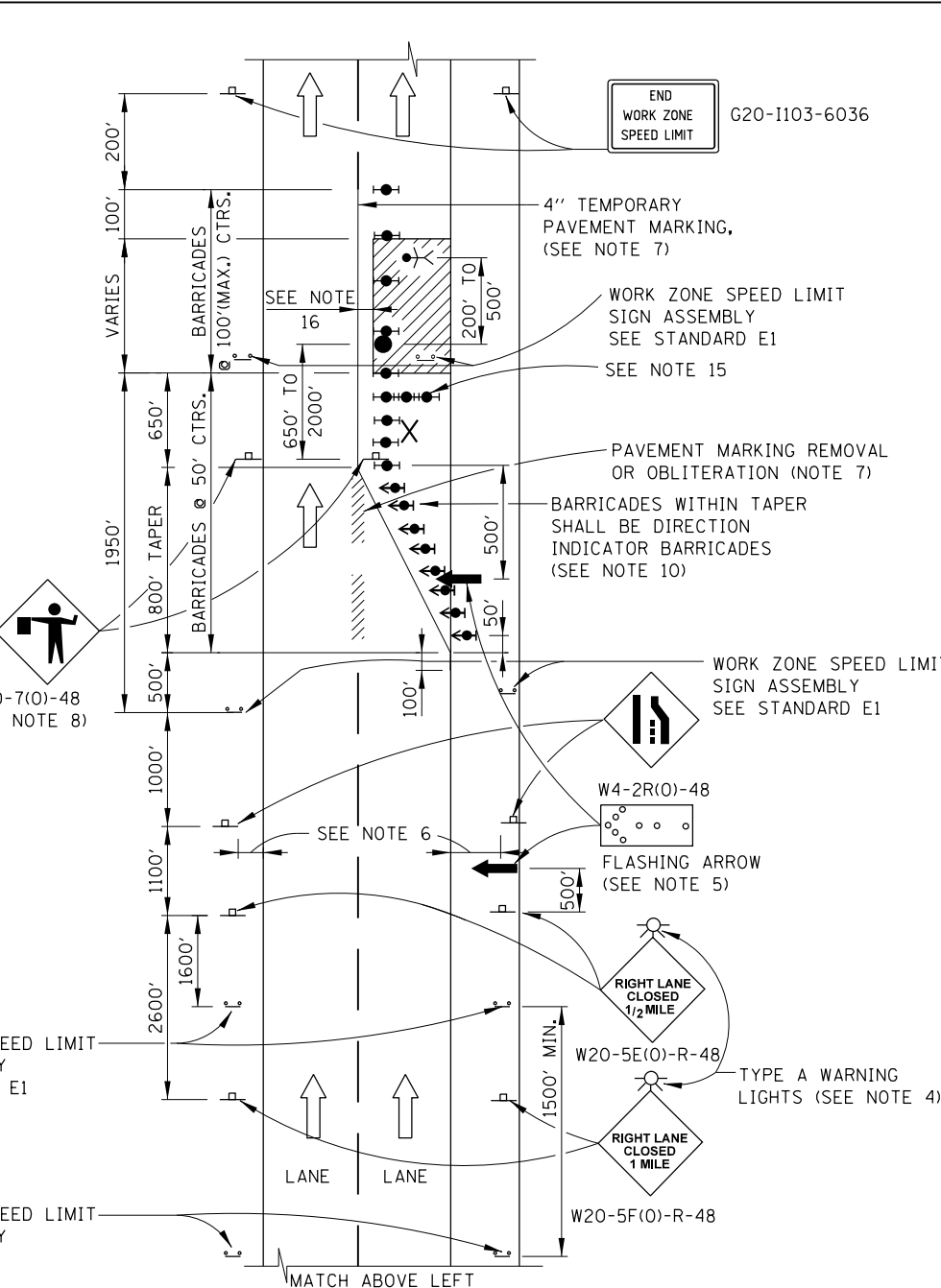
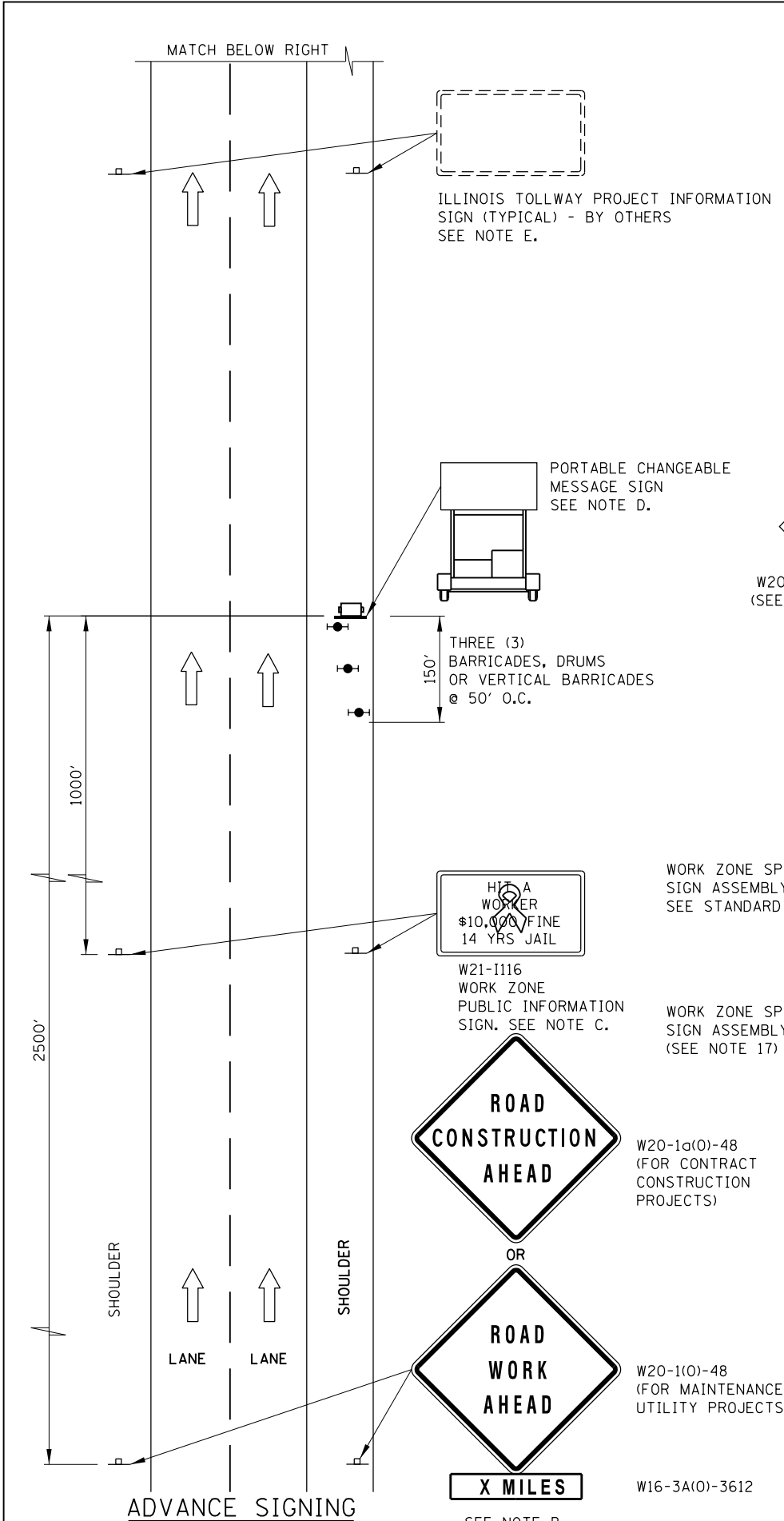
COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x48"
 LETTERING: 8" FEDERAL SERIES C, 7" FEDERAL SERIES B
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



SIGN TS-6

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x24"
 LETTERING: 8" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN





ONE-LANE CLOSURE WITH BARRICADE

ADVANCE SIGNING NOTES:

- A. THE ADVANCE SIGNING SHOWN ON THIS STANDARD SHALL APPLY ANY TIME THE CONTRACTOR CLOSES ONE OR MORE LANES, OR IS REQUIRED TO SHIFT THE LANE ALIGNMENT. THE "ROAD WORK AHEAD" OR "ROAD CONSTRUCTION AHEAD" SIGNS, WORK ZONE PUBLIC INFORMATION SIGNS AND PORTABLE CHANGEABLE MESSAGE ARE STATIONARY.
- B. THE ROAD CONSTRUCTION AHEAD SIGN (W20-1A, WITH W16-3a SUPPLEMENTAL PLATE) OR ROAD WORK AHEAD SIGN (W20-1, WITH W16-3A SUPPLEMENTAL PLATE) SHALL BE LOCATED UP TO 5 MILES IN ADVANCE OF THE PROJECT LIMITS, WITH THE LOCATION BEING DETERMINED BY THE ENGINEER.
- C. THE WORK ZONE PUBLIC INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
- D. THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE USED TO DISPLAY THE STATUS OF LANE WITHIN THE CONTRACT LIMITS. THE PRIMARY MESSAGES SHALL BE: "RIGHT LANE(S) CLOSED" / "X MILES AHEAD", "LEFT LANE(S) CLOSED" / "X MILES AHEAD", "LANE(S) SHIFT" / "X MILES AHEAD", "ALL LANES OPEN". THE PORTABLE CHANGEABLE MESSAGE SIGN MAY BE MOVED TO THE MEDIAN SHOULDER WHEN THE LANE CLOSURES ARE ON THE LEFT, PROVIDED THE EXISTING SHOULDER WIDTH IS ADEQUATE.
- E. THE ILLINOIS TOLLWAY WILL FURNISH AND INSTALL STATIC PROJECT INFORMATION SIGNS IN ADVANCE, THROUGH AND AT THE END OF THE WORK ZONE. THESE SIGNS WILL BE INSTALLED ALONG THE OUTSIDE SHOULDER WITH THE ADVANCE SIGNS LOCATED BEYOND THE PORTABLE CHANGEABLE MESSAGE SIGN. THE ENGINEER AND CONTRACTOR SHALL COORDINATE WITH THE ILLINOIS TOLLWAY REGARDING THE LOCATION OF THESE SIGNS AND NOTIFY THE ILLINOIS TOLLWAY OF ANY DAMAGE TO THE SIGNS OR SUPPORTS.

LANE CLOSURE NOTES:

1. IF CLOSURES ARE EXPECTED TO PRODUCE TRAFFIC BACKUPS EXTENDING BEYOND THE FIRST WARNING SIGN SHOWN ON THE DETAILS, ADDITIONAL UPSTREAM SIGNS SHALL BE PLACED SO THAT THE TRAFFIC CONTROL ZONE ENCOMPASSES THE ANTICIPATED BACKUP ZONE.
2. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
3. THESE DETAILS ALSO APPLY TO OPPOSITE HAND LANE CLOSURES BY CHANGING SIGN LEGENDS AND ARROW DIRECTIONS TO INDICATE THE APPROPRIATE CLOSURE.
4. FOR NIGHT TIME CLOSURES, ONE TYPE A WARNING LIGHT SHALL BE INSTALLED ABOVE EACH OF THE 1 MILE AND 1/2 MILE ADVANCE WARNING SIGNS. FOR DAYLIGHT-ONLY CLOSURES, THE LIGHTS MAY BE OMITTED.
5. FOR ANY LANE CLOSURE, FLASHING ARROW BOARDS SHALL BE REQUIRED AND IN OPERATION AT ALL TIMES. THE FLASHING ARROW BOARD IN ADVANCE OF THE TAPER SHALL BE PROTECTED WITH THREE TYPE II BARRICADES AT 50' O.C.
6. CONSTRUCTION SIGNS SHALL GENERALLY BE POST-MOUNTED OR ATTACHED TO PORTABLE SUPPORTS AND SHALL BE INSTALLED 8' TO 12' FROM ADJACENT TRAVEL LANE WHEREVER POSSIBLE. IN NO CASE SHALL SIGNS BE LOCATED TO PROVIDE LESS THAN 2' CLEARANCE BETWEEN EDGE OF SIGN AND ADJACENT TRAVEL LANE.
7. PAVEMENT MARKING TAPE AND REMOVAL OR OBLITERATION OF EXISTING MARKINGS SHALL BE REQUIRED WHEN THE CLOSURE TIME EXCEEDS FOUR DAYS. THIS WORK SHALL BE MEASURED AND PAID FOR SEPARATELY.
8. WHEN A FLAGGER IS NOT ON STATION, THE FLAGGER SIGN SHALL BE PROMPTLY REMOVED, COVERED OR TURNED TO FACE AWAY FROM TRAFFIC. FLAGGER SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN THE SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY, PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
9. WORK ZONE SPEED LIMIT SIGN ASSEMBLIES, SHALL BE PLACED ADJACENT TO THE OPEN TRAFFIC LANE(S). WORK ZONE SPEED SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
10. DIRECTION INDICATOR BARRICADES SHALL BE USED IN LANE TAPERS.
11. FOR CLOSURES OTHER THAN SHORT TERM (SUNRISE TO ONE HOUR BEFORE SUNSET), THE MINIMUM HEIGHT OF THE SIGN FROM SHOULDER ELEVATION SHALL BE 7'-0".
12. CONES MAY BE USED IN LIEU OF BARRICADES IN THE BUFFER AND WORK AREAS, WHEN THE CLOSURE IS FOR MAINTENANCE OPERATIONS.
13. BARRICADES ARE TO BE LOCATED AT JOINT LINE WHEN WORK AREA EXTENDS UP TO JOINT UNLESS OTHERWISE SHOWN ON THE PLANS.
14. SEE MAINTENANCE OF TRAFFIC DRAWINGS FOR ADDITIONAL SIGNING IN THIS AREA.
15. CHECK BARRICADES SHALL BE PLACED IN THE MIDDLE OF THE CLOSED LANE AND AT THE SHOULDER AT 1000 FOOT CENTERS.
16. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.
17. ADDITIONAL WORK ZONE SPEED LIMIT SIGNS SHALL BE PLACED WHEN DIFFERENCE BETWEEN POSTED TO WORK ZONE SPEED LIMIT IS > 20 M.P.H.

LEGEND

- ↑ ARROW BOARD
- ▨ WORK AREA
- | SIGN
- ⬇️ DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- ⬇️ TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- ⤴️ WORKER
- ✕ LANE CLOSED

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

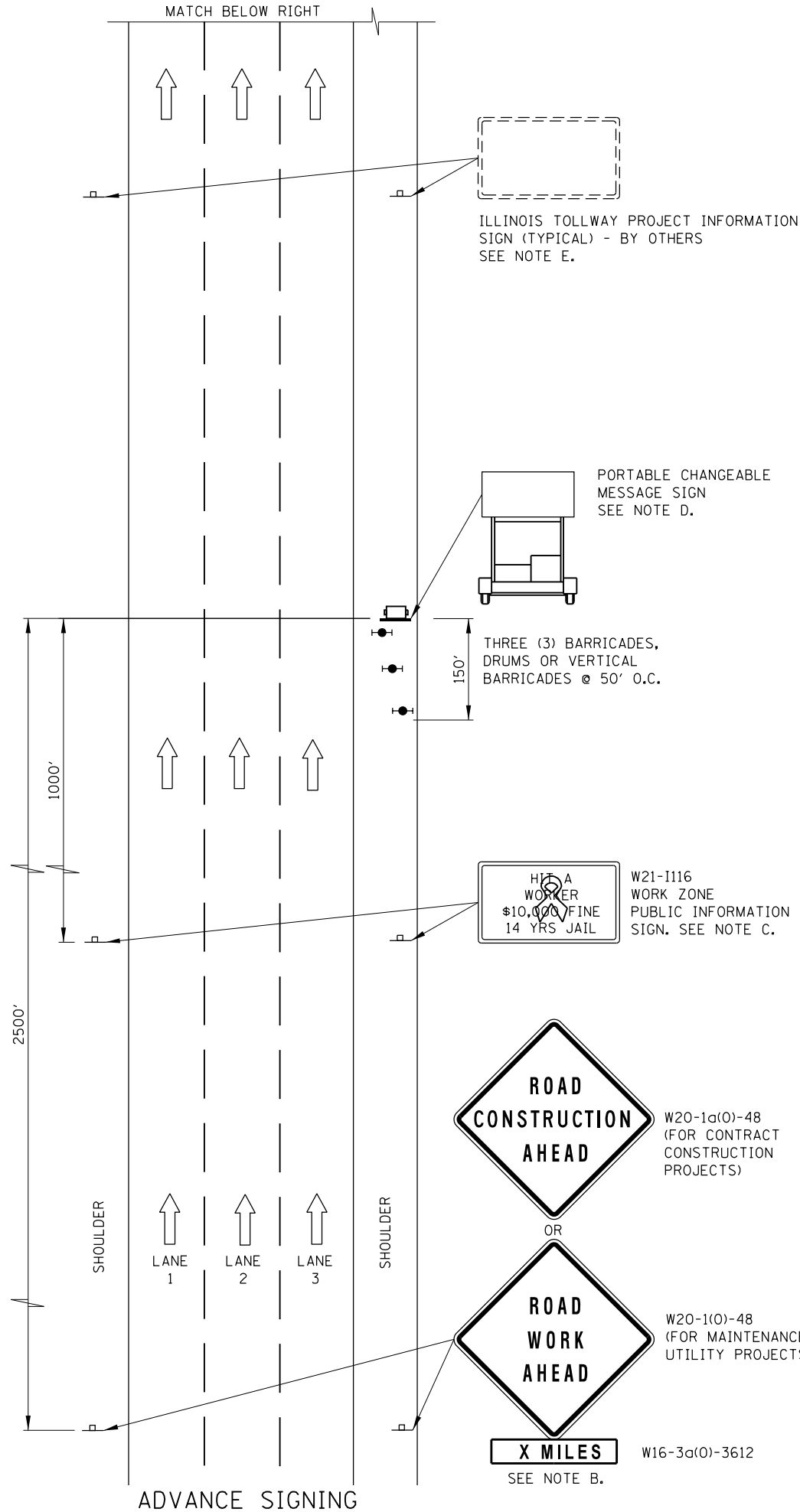
DATE	REVISIONS
11-01-12	ADDED THREE LANE CLOSURE
03-31-14	REVISED BUFFER SPACE, TAPER DIMENSIONS AND REVISED NOTES.
3-11-2015	REVISED NOTES.
3-31-2016	ADDED LANE CLOSURE WITH BARRIER AND ADDED SEQUENTIAL FLASHING WARNING LIGHT.
3-31-2017	ADDED TAPER RATE TABLE

SHEET 1 OF 4

LANE CLOSURE DETAILS

STANDARD E2-07

MATCH BELOW RIGHT

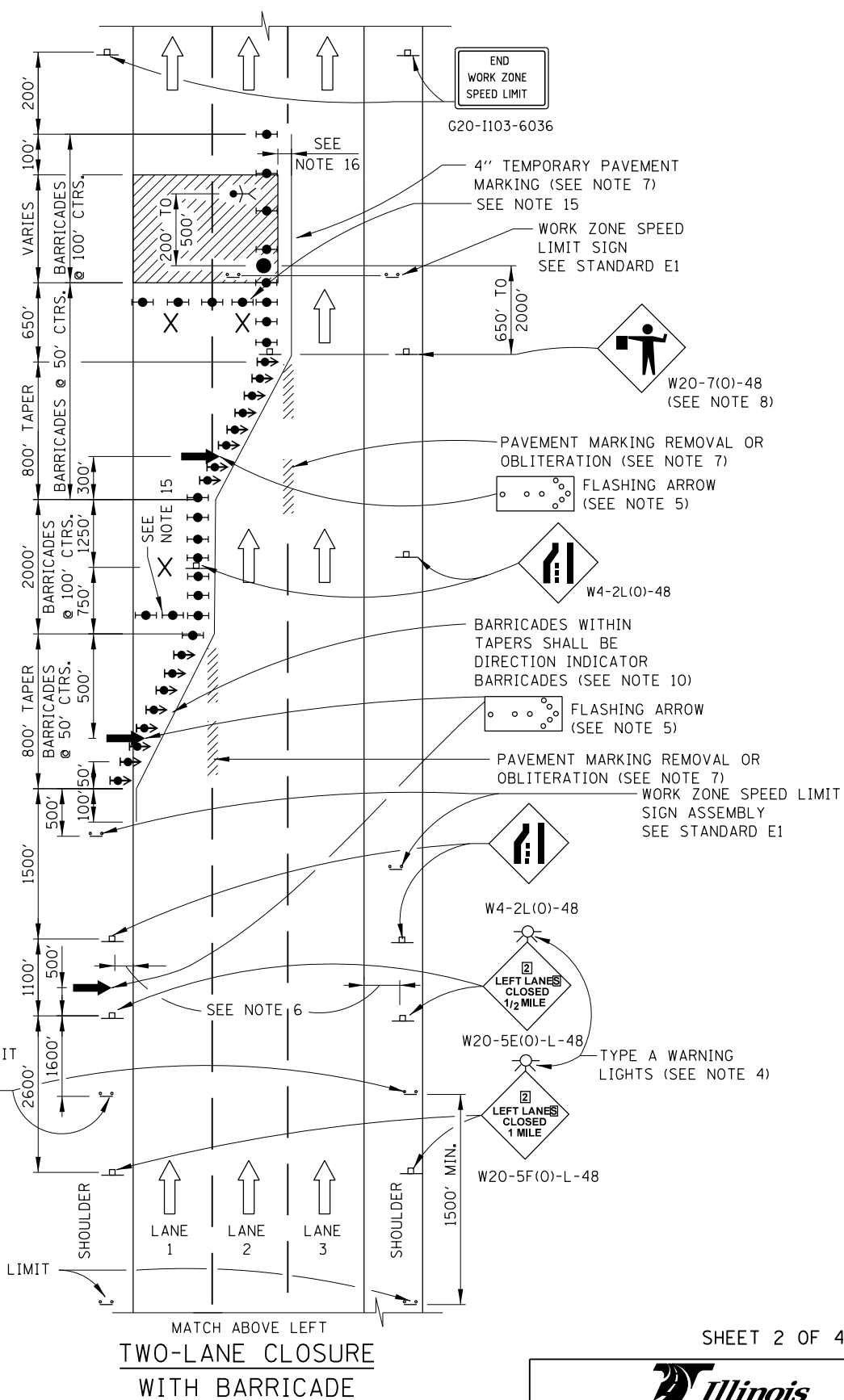


LEGEND

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- WORKER
- LANE CLOSED

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

ADVANCE SIGNING



MATCH ABOVE LEFT
TWO-LANE CLOSURE
WITH BARRICADE

SHEET 2 OF 4

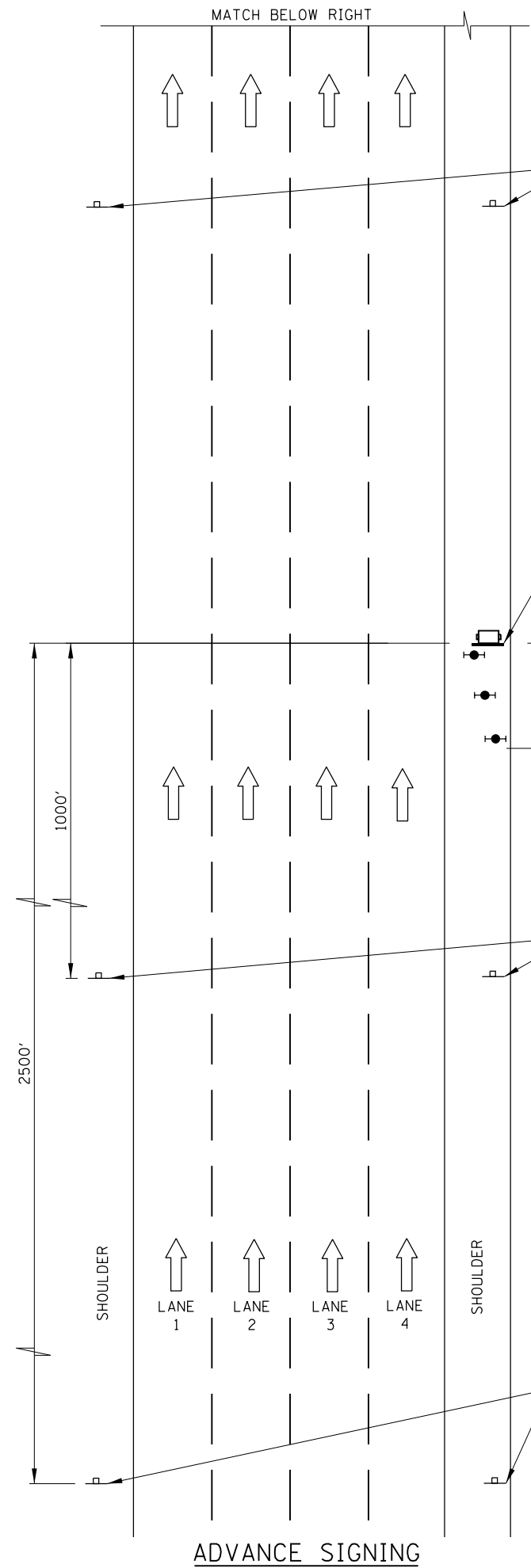
Illinois Tollway

LANE CLOSURE DETAILS

STANDARD E2-07

SEE SHEET 1 IN THIS SERIES FOR NOTES

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



ILLINOIS TOLLWAY PROJECT INFORMATION SIGN (TYPICAL) - BY OTHERS SEE NOTE E.

PORTABLE CHANGEABLE MESSAGE SIGN SEE NOTE D.

THREE (3) BARRICADES, DRUMS OR VERTICAL BARRICADES @ 50' O.C.

W21-1116 WORK ZONE PUBLIC INFORMATION SIGN, SEE NOTE C.

W20-1a(0)-48 (FOR CONTRACT CONSTRUCTION PROJECTS)

ROAD CONSTRUCTION AHEAD

OR

W20-1(0)-48 (FOR MAINTENANCE AND UTILITY PROJECTS)

ROAD WORK AHEAD

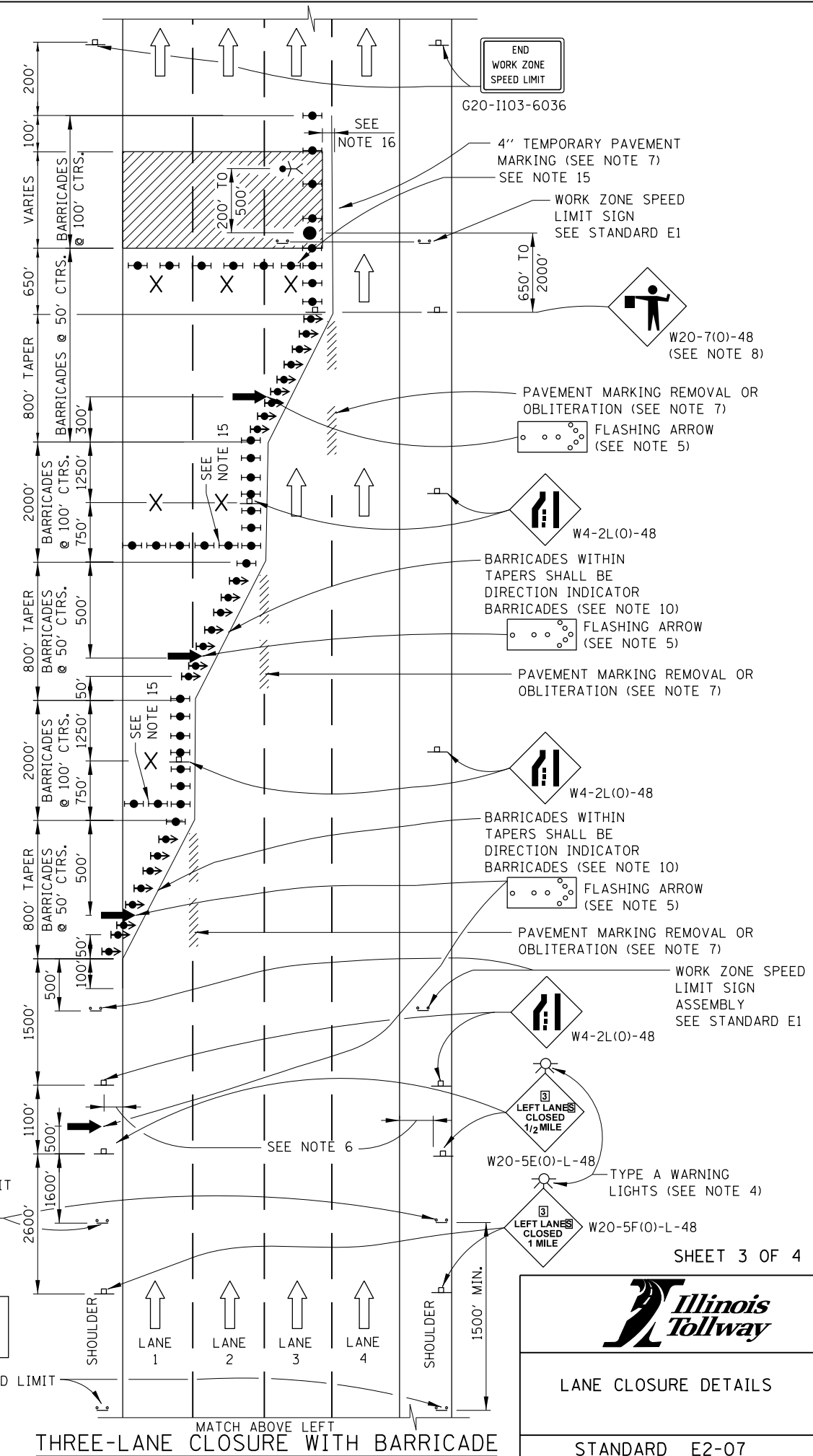
W16-3a(0)-3612

X MILES

SEE NOTE B.

LEGEND

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- WORKER
- LANE CLOSED



WORK ZONE SPEED LIMIT SIGN ASSEMBLY SEE STANDARD E1

SEE SHEET 1 IN THIS SERIES FOR NOTES

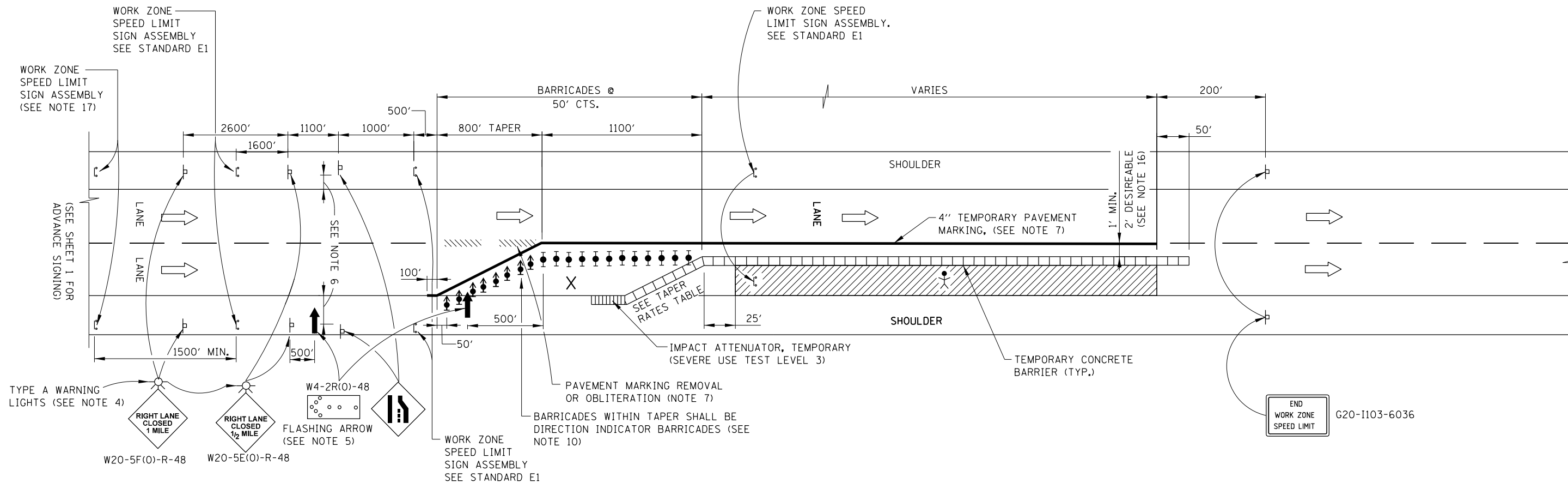
WORK ZONE SPEED LIMIT SIGN ASSEMBLY (SEE NOTE 17)

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

SHEET 3 OF 4

LANE CLOSURE DETAILS

STANDARD E2-07



ONE-LANE CLOSURE WITH BARRIER

TAPER RATES

WORK ZONE SPEED (mph)	SHY LINE (ft.)	BARRIER INSIDE SHY LINE	BARRIER AT OR BEYOND SHY LINE
65	8.5	28:1	19:1
60	8	26:1	18:1
55	7	24:1	16:1
50	6.5	21:1	14:1
45	6	18:1	12:1
40	5	16:1	10:1
35	4.5	15:1	9:1
30	4	13:1	8:1

LEGEND

- ARROW BOARD
- WORK AREA
- SIGN
- PORTABLE CHANGEABLE MESSAGE SIGN
- DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- WORKER
- LANE CLOSED

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

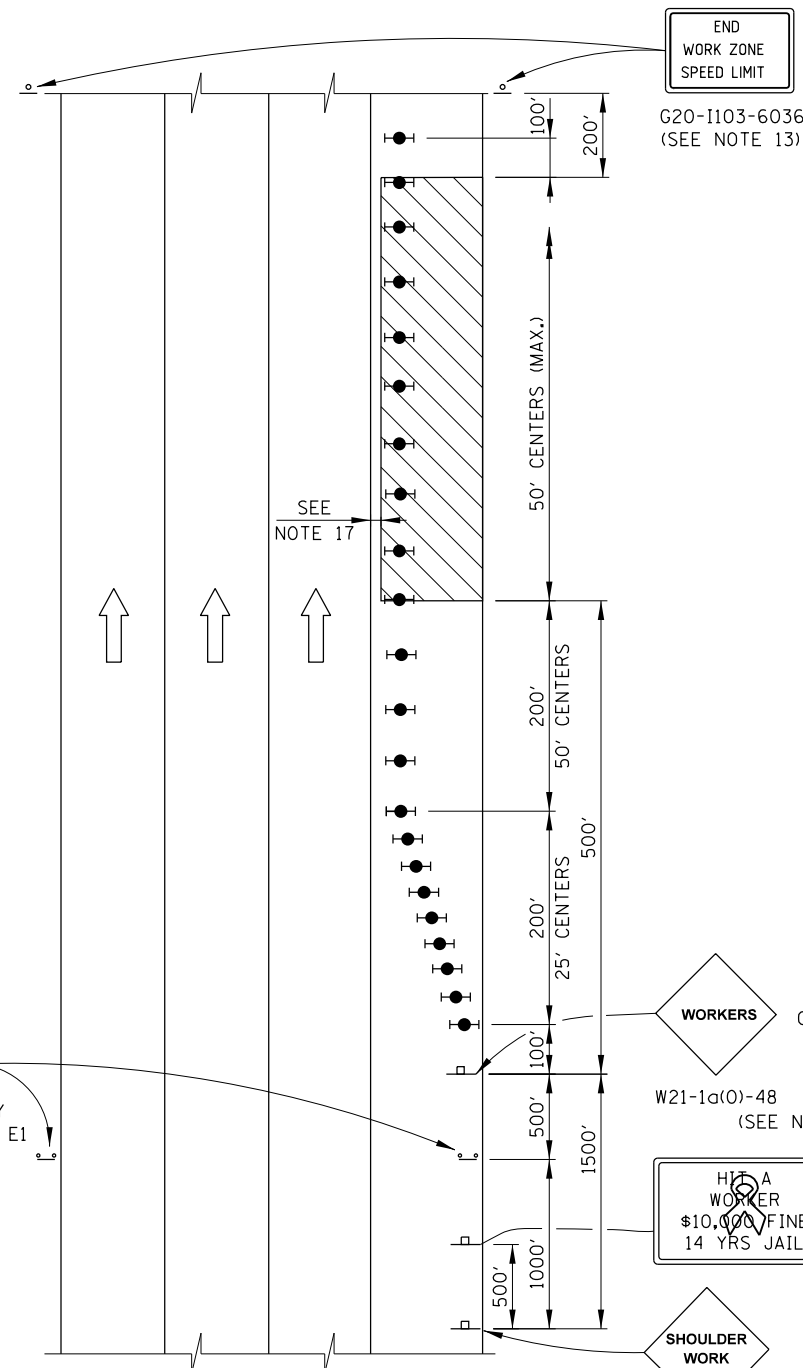


APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2016

END WORK ZONE SPEED LIMIT G20-I103-6036

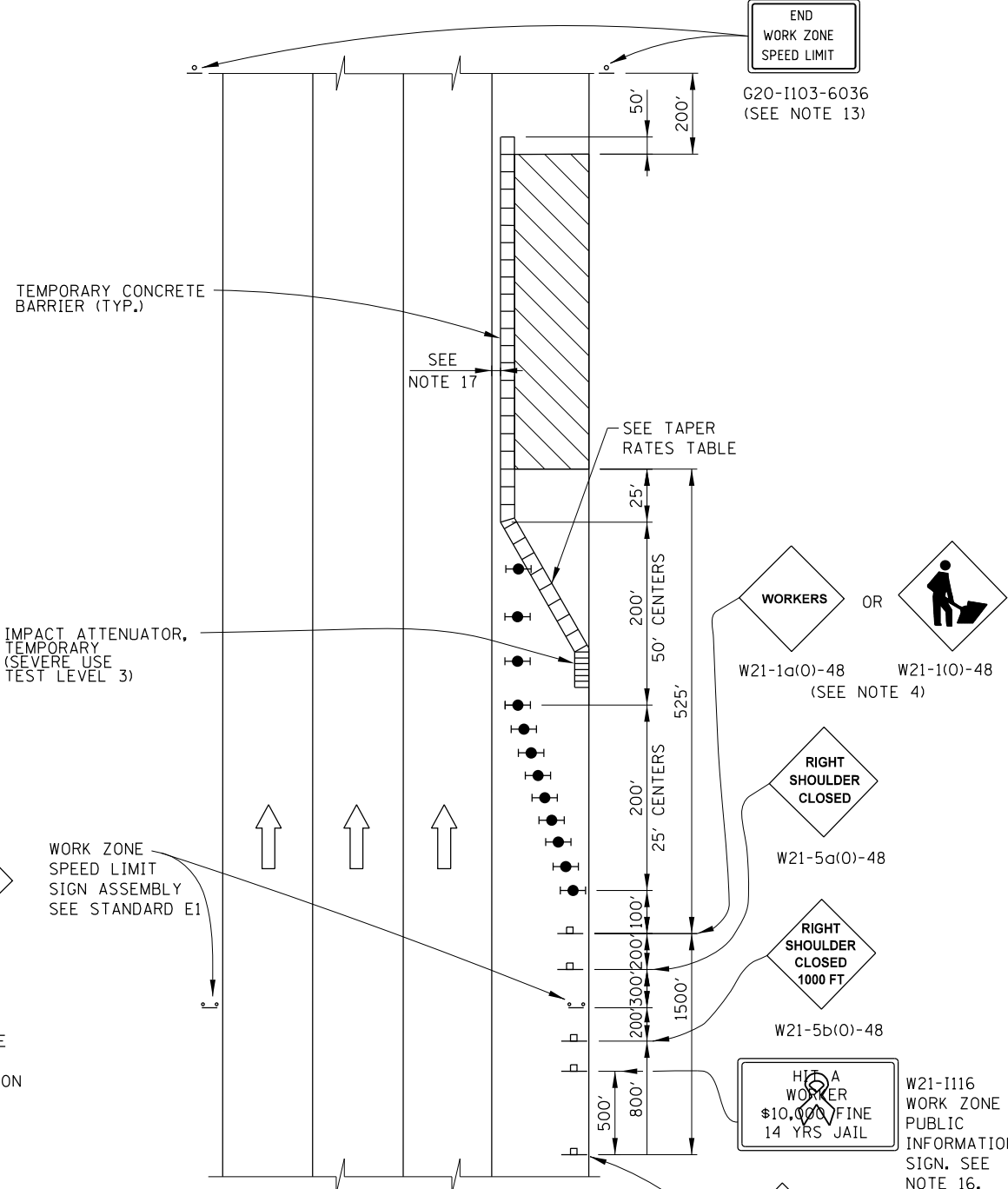
GENERAL NOTES:

1. THE SHOULDER SHALL BE CLOSED WHEN A WORK ACTIVITY REQUIRING 15 OR MORE MINUTES IS PERFORMED AT A DISTANCE WHICH IS LESS THAN 15 FEET BUT NO CLOSER THAN 2 FEET FROM THE EDGE OF PAVEMENT.
2. THE ADJACENT EXTERIOR LANE SHALL BE CLOSED WHEN WORK IS PERFORMED WITHIN 2 FEET FROM THE EDGE OF PAVEMENT.
3. THE CHANNELIZING DEVICES WHICH SEPARATE THE WORK SPACE FROM THE ADJACENT TRAVEL LANE SHALL BE SPACED AT 25' FOR (200 FEET) AND AT A MAXIMUM OF 50' FOR ALL ADDITIONAL DEVICES.
4. WHEN THE WORKSITE IS UNATTENDED, SUBSTITUTE - "SHOULDER WORK AHEAD" SIGN.
5. WORKER SIGNS OR SHOULDER WORK SIGNS AND CHANNELIZATION DEVICES ARE PLACED ONLY ON THE SIDE OF THE ROADWAY ON WHICH THE ACTIVITY IS PERFORMED.
6. FOR SHOULDER CLOSURE EXTENDING OVERNIGHT, BARRICADE TYPE II WITH STEADY BURNING LIGHT, TYPE C SHALL BE USED.
7. FOR SHORT TERM CLOSURE (SUNRISE TO ONE HOUR BEFORE SUNSET) NOT EXTENDING INTO DARKNESS, CONES MAY BE USED.
8. ONE WORK ZONE SPEED LIMIT SIGN ASSEMBLY SHALL BE PLACED AT A DISTANCE OF 500' TO 2,500' MAXIMUM IN ADVANCE OF WORKERS THROUGHOUT THE SHOULDER CLOSURE. MOVING OPERATIONS MAY REQUIRE CONTINUOUS ADJUSTMENT OF THE SIGN ASSEMBLY LOCATION TO MAINTAIN THE ABOVE INTERVAL.
9. AN ADDITIONAL SIGN ASSEMBLY SHALL BE PLACED 500' BEYOND THE LAST ENTRANCE RAMP FOR EACH INTERCHANGE THAT FALLS WITHIN THE 2,500'.
10. THE SIGN ASSEMBLY SHALL BE PLACED NO CLOSER THAN 500' TO ANY OTHER SIGN.
11. THE WORK ZONE SPEED LIMIT SIGNS AND SIGN ASSEMBLY SHALL BE PROMPTLY REMOVED OR COVERED WHEN SHOULDER CLOSURE IS NOT IN USE.
12. ALL CONFLICTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
13. "END WORK ZONE SPEED LIMIT" SIGNS SHALL BE IN PLACE ONLY WHEN THE EXISTING POSTED SPEED > 55MPH.
14. FOR SHOULDER REPAIRS OR REPLACEMENT THE CHANNELIZING DEVICES SHALL BE PLACED AT THE EDGE OF PAVEMENT WHENEVER THE WORK ACTIVITIES RESULT IN A DROPOFF AT THE EDGE OF PAVEMENT.
15. ANY UNATTENDED OBSTACLE OR EXCAVATION LEFT ON THE SHOULDER OVERNIGHT SHALL BE IN COMPLIANCE WITH THE ROADWAY TRAFFIC CONTROL AND COMMUNICATIONS MANUAL.
16. THE WORK ZONE PUBLIC INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
17. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.



WORK ZONE WITH BARRICADES

N.T.S.



WORK ZONE WITH BARRIERS

N.T.S.

TAPER RATES

WORK ZONE SPEED (mph)	SHY LINE (ft.)	BARRIER INSIDE SHY LINE	BARRIER AT OR BEYOND SHY LINE
65	8.5	28:1	19:1
60	8	26:1	18:1
55	7	24:1	16:1
50	6.5	21:1	14:1
45	6	18:1	12:1
40	5	16:1	10:1
35	4.5	15:1	9:1
30	4	13:1	8:1

LEGEND

- WORK AREA
- SIGN
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT

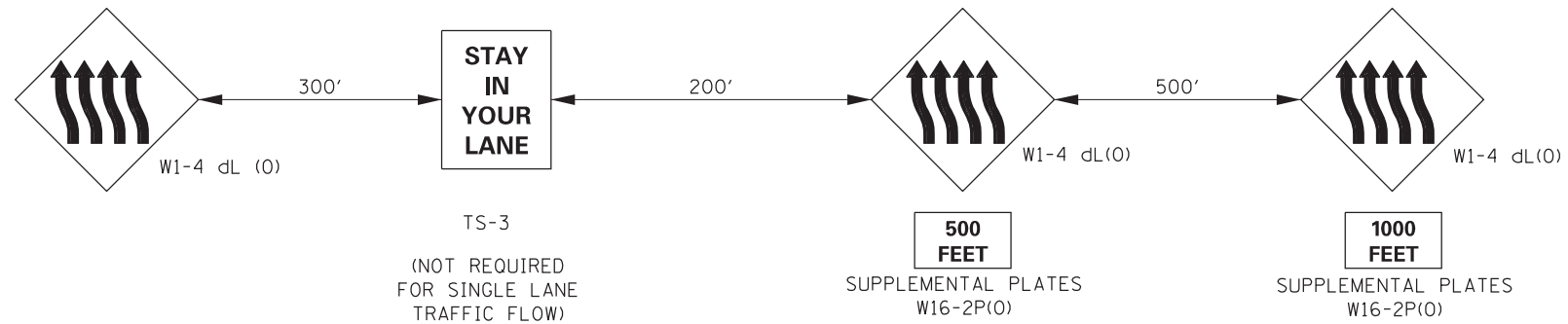
DATE	REVISIONS
1-01-11	CHANGED SYMBOL DESIGNATION
	REVISED NOTES
3-31-14	REVISED WORKER SIGN NUMBERS PER "MUTCD" AND REVISED NOTES.
3-11-2015	REVISED NOTES
3-31-2016	ADD WORK ZONE WITH BARRIERS.
3-31-2017	ADDED TAPER RATE TABLE.



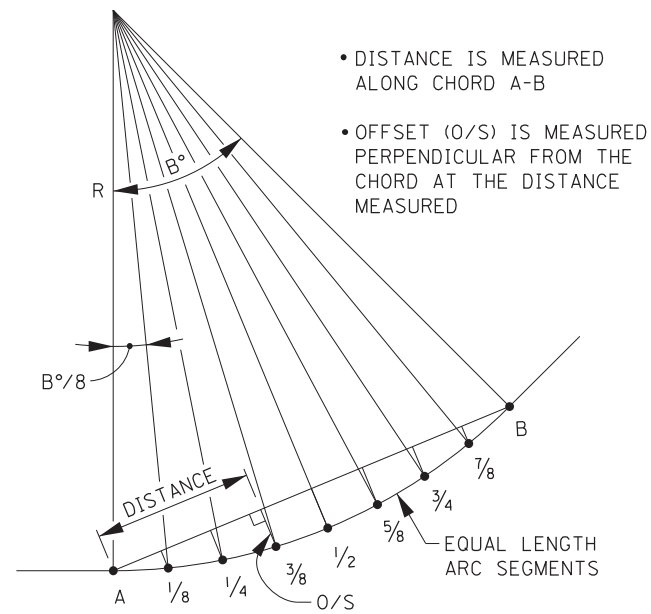
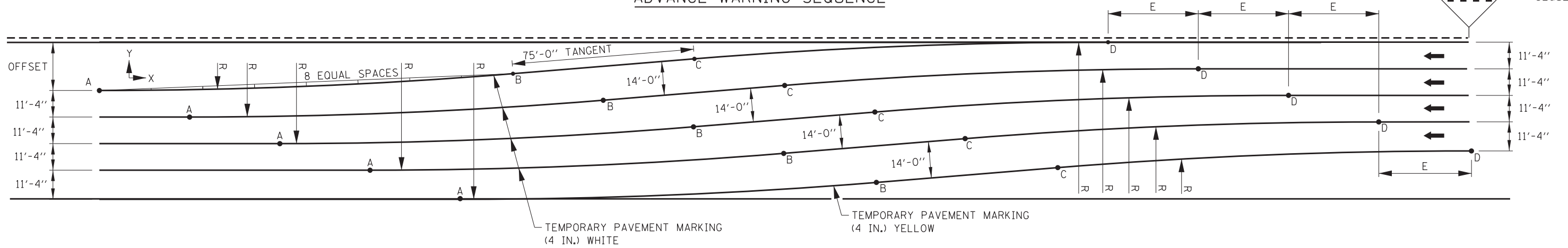
SHOULDER CLOSURE DETAILS

STANDARD E3-06

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



ADVANCE WARNING SEQUENCE



CHORD OFFSET SKETCH

- DISTANCE IS MEASURED ALONG CHORD A-B
- OFFSET (O/S) IS MEASURED PERPENDICULAR FROM THE CHORD AT THE DISTANCE MEASURED

GENERAL NOTES:

1. REVERSE CURVE INFORMATION CAN BE USED FOR SINGLE LANE OR MULTILANE TRAFFIC FLOWS, SHIFTING RIGHT TO LEFT (AS SHOWN) OR LEFT TO RIGHT BY CHANGING TO THE APPROPRIATE ADVANCE WARNING SEQUENCE.
2. THE REVERSE CURVE SHALL NOT BE USED OUTSIDE THE ACTIVITY AREA. LANE SHIFTS IN ADVANCE OF OR ON THE APPROACH TO THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 65:1.
3. LANE SHIFTS FOR DEPARTURES OUT OF THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 65:1.

DATE	REVISIONS
2-07-12	REVISED NOTES
11-01-12	REVISED NOTES.
3-31-14	REVISED CURVE DATA PER MPH AND REVISED NOTES.
3-11-2015	REVISED NOTES AND ADDED RADIUS DIMENSIONS TO TABLES.
3-31-2016	REVISED TABLE DATA ON SHEET 2.
3-31-2017	REVISED TABLE DATA ON SHEET 2.



TYPE I (45 MPH) (RADIUS: 2100')

TYPE II (50-55 MPH) (RADIUS: 3100')

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	50.23	3.06	0	0	112.2	3.0	187.1	7.0	299.2	10.0		
12	44.94	3.43	0	0	125.6	3.8	200.4	8.2	326.0	12.0		
14	40.96	3.77	0	0	138.0	4.5	212.8	9.5	350.8	14.0		
16	37.86	4.08	0	0	149.5	5.3	224.3	10.7	373.9	16.0		
18	35.34	4.38	0	0	160.4	6.1	235.2	11.9	395.6	18.0		
20	33.26	4.66	0	0	170.7	7.0	245.5	13.0	416.2	20.0		
22	31.50	4.93	0	0	180.5	7.8	255.3	14.2	435.8	22.0		
24	30.00	5.19	0	0	189.9	8.6	264.6	15.4	454.6	24.0		
26	28.68	5.44	0	0	199.0	9.4	273.6	16.6	472.6	26.0		
28	27.53	5.67	0	0	207.7	10.3	282.3	17.7	489.9	28.0		
30	26.51	5.90	0	0	216.0	11.1	290.6	18.9	506.7	30.0		
32	25.59	6.13	0	0	224.2	12.0	298.7	20.0	522.9	32.0		
34	24.76	6.34	0	0	232.0	12.9	306.6	21.1	538.6	34.0		
36	24.02	6.55	0	0	239.7	13.7	314.2	22.3	553.8	36.0		
38	23.33	6.76	0	0	247.1	14.6	321.6	23.4	568.7	38.0		
40	22.71	6.96	0	0	254.3	15.5	328.8	24.5	583.1	40.0		
42	22.13	7.15	0	0	261.4	16.3	335.8	25.7	597.2	42.0		
44	21.60	7.34	0	0	268.3	17.2	342.7	26.8	611.0	44.0		
46	21.11	7.53	0	0	275.0	18.1	349.4	27.9	624.4	46.0		
48	20.65	7.71	0	0	281.6	19.0	356.0	29.0	637.6	48.0		
50	20.22	7.89	0	0	288.1	19.9	362.4	30.1	650.5	50.0		
52	19.82	8.06	0	0	294.4	20.7	368.7	31.3	663.1	52.0		
54	19.44	8.23	0	0	300.6	21.6	374.9	32.4	675.5	54.0		
56	19.09	8.40	0	0	306.7	22.5	380.9	33.5	687.7	56.0		
58	18.76	8.56	0	0	312.7	23.4	386.9	34.6	699.6	58.0		
60	18.44	8.73	0	0	318.6	24.3	392.7	35.7	711.4	60.0		

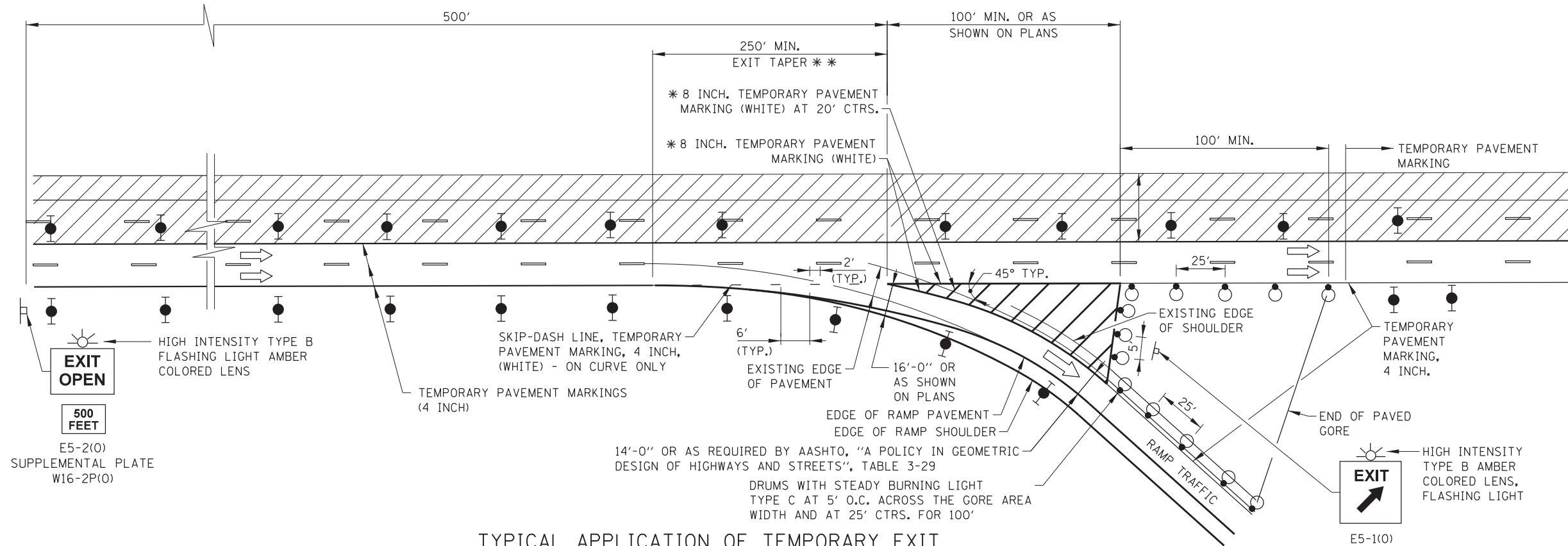
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O/S	DIST	O/S	DIST	O/S	DIST	O/S	DIST
0.3	14.0	0.6	28.0	0.7	42.1	0.7	56.1
0.4	15.7	0.7	31.4	0.9	47.1	0.9	62.8
0.5	17.3	0.9	34.5	1.1	51.8	1.1	69.0
0.6	18.7	1.0	37.4	1.2	56.1	1.3	74.8
0.7	20.1	1.2	40.1	1.4	60.2	1.5	80.3
0.8	21.4	1.3	42.7	1.6	64.1	1.7	85.4
0.9	22.6	1.5	45.2	1.8	67.8	1.9	90.4
0.9	23.8	1.6	47.5	2.0	71.3	2.2	95.1
1.0	24.9	1.8	49.8	2.2	74.7	2.4	99.6
1.1	26.0	1.9	52.0	2.4	78.0	2.6	104.0
1.2	27.0	2.1	54.1	2.6	81.1	2.8	108.2
1.3	28.0	2.3	56.1	2.8	84.2	3.0	112.2
1.4	29.0	2.4	58.1	3.0	87.1	3.2	116.2
1.5	30.0	2.6	60.0	3.2	90.0	3.4	120.0
1.6	30.9	2.7	61.9	3.4	92.8	3.7	123.8
1.7	31.8	2.9	63.7	3.6	95.5	3.9	127.4
1.8	32.7	3.1	65.4	3.8	98.2	4.1	131.0
1.9	33.6	3.2	67.2	4.0	100.8	4.3	134.4
2.0	34.4	3.4	68.9	4.2	103.3	4.5	137.8
2.1	35.2	3.6	70.5	4.5	105.8	4.7	141.1
2.2	36.1	3.7	72.2	4.7	108.3	5.0	144.4
2.3	36.9	3.9	73.7	4.9	110.7	5.2	147.6
2.4	37.6	4.1	75.3	5.1	113.0	5.4	150.7
2.5	38.4	4.2	76.8	5.3	115.3	5.6	153.8
2.6	39.2	4.4	78.3	5.5	117.6	5.9	156.8
2.7	39.9	4.6	79.8	5.7	119.8	6.1	159.8

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	58.28	2.63	0	0	142.5	3.3	217.4	6.7	359.9	10.0		
12	52.30	2.94	0	0	158.9	4.1	233.8	7.9	392.8	12.0		
14	47.80	3.22	0	0	174.1	4.9	249.0	9.1	423.1	14.0		
16	44.25	3.48	0	0	188.3	5.7	263.1	10.3	451.4	16.0		
18	41.38	3.73	0	0	201.6	6.6	276.4	11.4	478.0	18.0		
20	38.99	3.96	0	0	214.2	7.4	289.0	12.6	503.2	20.0		
22	36.96	4.18	0	0	226.2	8.3	301.0	13.7	527.2	22.0		
24	35.22	4.40	0	0	237.7	9.1	312.5	14.9	550.1	24.0		
26	33.70	4.60	0	0	248.7	10.0	323.5	16.0	572.1	26.0		
28	32.36	4.80	0	0	259.3	10.9	334.0	17.1	593.3	28.0		
30	31.16	4.99	0	0	269.5	11.7	344.2	18.3	613.8	30.0		
32	30.10	5.17	0	0	279.4	12.6	354.1	19.4	633.6	32.0		
34	29.13	5.35	0	0	289.0	13.5	363.7	20.5	652.7	34.0		
36	28.25	5.52	0	0	298.4	14.4	373.0	21.6	671.4	36.0		
38	27.45	5.69	0	0	307.4	15.3	382.1	22.7	689.5	38.0		
40	26.72	5.86	0	0	316.3	16.2	390.9	23.8	707.1	40.0		
42	26.04	6.02	0	0	324.9	17.1	399.5	24.9	724.3	42.0		
44	25.41	6.17	0	0	333.3	18.0	407.9	26.0	741.1	44.0		
46	24.83	6.32	0	0	341.5	18.9	416.1	27.1	757.6	46.0		
48	24.29	6.47	0	0	349.6	19.8	424.1	28.2	773.6	48.0		
50	23.78	6.62	0	0	357.4	20.7	431.9	29.3	789.4	50.0		
52	23.31	6.76	0	0	365.2	21.6	439.6	30.4	804.8	52.0		
54	22.86	6.91	0	0	372.7	22.5	447.2	31.5	819.9	54.0		
56	22.44	7.04	0	0	380.2	23.4	454.6	32.6	834.8	56.0		
58	22.05	7.18	0	0	387.5	24.3	461.9	33.7	849.4	58.0		
60	21.67	7.31	0	0	394.7	25.2	469.1	34.8	863.7	60.0		

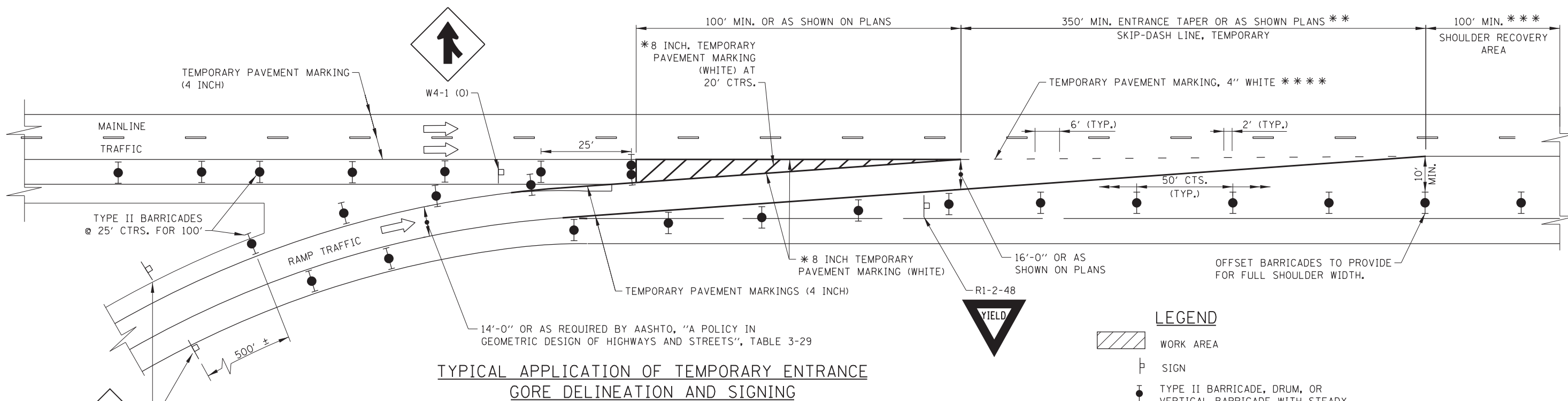
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O/S	DIST	O/S	DIST	O/S	DIST	O/S	DIST
0.4	17.8	0.6	35.6	0.8	53.4	0.8	71.3
0.4	19.9	0.8	39.7	1.0	59.6	1.0	79.5
0.5	21.8	0.9	43.5	1.1	65.3	1.2	87.1
0.6	23.5	1.1	47.1	1.3	70.6	1.4	94.2
0.7	25.2	1.2	50.4	1.5	75.6	1.6	100.8
0.8	26.8	1.4	53.6	1.7	80.4	1.9	107.2
0.9	28.3	1.5	56.6	1.9	84.9	2.1	113.2
1.0	29.7	1.7	59.5	2.1	89.2	2.3	118.9
1.1	31.1	1.9	62.2	2.3	93.3	2.5	124.4
1.2	32.4	2.0	64.9	2.5	97.3	2.7	129.8
1.3	33.7	2.2	67.4	2.8	101.2	2.9	134.9
1.4	34.9	2.4	69.9	3.0	104.9	3.2	139.9
1.5	36.2	2.5	72.3	3.2	108.5	3.4	144.7
1.6	37.3	2.7	74.7	3.4	112.0	3.6	149.4
1.7	38.5	2.9	76.9	3.6	115.4	3.8	153.9
1.8	39.6	3.0	79.1	3.8	118.7	4.0	158.3
1.9	40.6	3.2	81.3	4.0	122.0	4.3	162.7
2.0	41.7	3.4	83.4	4.2	125.1	4.5	166.9
2.1	42.7	3.5	85.5	4.4	128.2	4.7	171.0
2.2	43.7	3.7	87.5	4.6	131.3	4.9	175.1
2.3	44.7	3.9	89.5	4.8	134.2	5.2	179.0
2.4	45.7	4.0	91.4	5.1	137.2	5.4	182.9
2.5	46.6	4.2	93.3	5.3	140.0	5.6	186.7
2.6	47.6	4.4	95.2	5.5	142.8	5.9	190.5
2.7	48.5	4.6	97.0	5.7	145.6	6.1	194.1
2.8	49.4	4.7	98.8	5.9	148.3	6.3	197.7

TYPE III (60-65 MPH) (RADIUS: 4400')

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	67.06	2.29	0	0	175.6	3.5	250.5	6.5	426.1	10.0		
12	60.34	2.54	0	0	195.3	4.3	270.2	7.7	465.5	12.0		
14	55.24	2.78	0	0	213.5	5.2	288.4	8.8	501.8	14.0		
16	51.22	3.00	0	0	230.4	6.0	305.3	10.0	535.7	16.0		
18	47.95	3.21	0	0	246.3	6.9	321.2	11.1	567.5	18.0		
20	45.22	3.41	0	0	261.4	7.8	336.3	12.2	597.7	20.0		
22	42.90	3.59	0	0	275.8	8.6	350.6	13.4	626.4	22.0		
24	40.91	3.77	0	0	289.5	9.5	364.3	14.5	653.8	24.0		
26	39.16	3.94	0	0	302.6	10.4	377.5	15.6	680.1	26.0		
28	37.62	4.11	0	0	315.3	11.3	390.1	16.7	705.4	28.0		
30	36.24	4.27	0	0	327.5	12.2	402.3	17.8	729.9	30.0		
32	35.01	4.42	0	0	339.4	13.1	414.2	18.9	753.5	32.0		
34	33.90	4.57	0	0	350.8	14.0	425.6	20.0	776.4	34.0		
36	32.88	4.72	0	0	362.0	14.9	436.7	21.1	798.7	36.0		
38	31.95	4.86	0	0	372.8	15.8	447.5	22.2	820.4	38.0		
40	31.10	5.00	0	0	383.4	16.7	458.1	23.3	841.4	40.0		
42	30.31	5.13	0	0	393.7	17.6	468.4	24.4	862.0	42.0		
44	29.59	5.26	0	0	403.7	18.6	478.4	25.4	882.1	44.0		
46	28.91											



TYPICAL APPLICATION OF TEMPORARY EXIT GORE DELINEATION AND SIGNING



TYPICAL APPLICATION OF TEMPORARY ENTRANCE GORE DELINEATION AND SIGNING

- LEGEND**
- WORK AREA
 - SIGN
 - TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
 - DRUM WITH STEADY BURNING LIGHT

NOTE:

WHEN TEMPORARY PAVEMENT MARKING IS NOT REQUIRED, TEMPORARY GORES MAY BE DELINEATED BY DRUMS WITH STEADY BURN LIGHTS AT 25' C-C ACCORDING TO THE CONFIGURATIONS SHOWN.

* 8 INCH TEMPORARY PAVEMENT MARKING IS TO BE MADE OF 2-TEMPORARY PAVEMENT MARKING 4 INCH, WHITE OF THE TYPE SPECIFIED.

** BASED ON A MAINLINE WORK ZONE SPEED LIMIT OF 45 M.P.H.

*** WHERE VIABLE WITH STAGED CONSTRUCTION

**** WHEN MAINLINE IS WITHIN HORIZONTAL CURVE

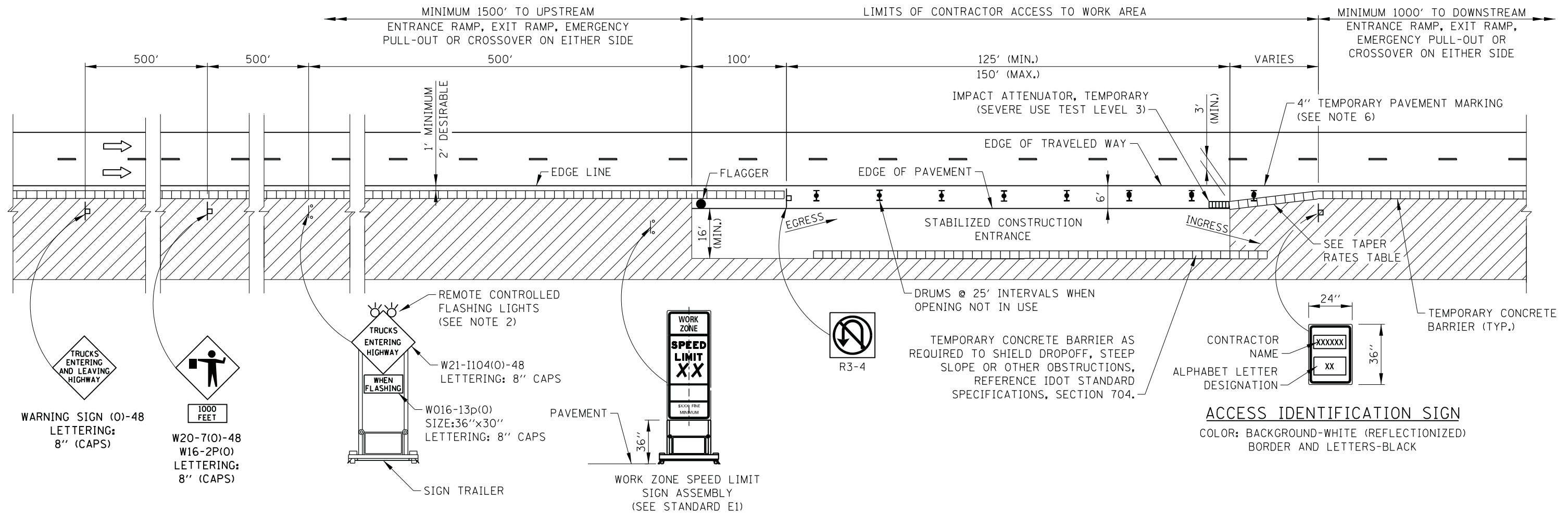
DATE	REVISIONS
2-07-2012	REVISED MERGE SIGN.
3-31-2014	ADDED 45 MPH SPEED TO ENTRANCE TAPER.
3-11-2015	REVISED EXIT/ENTRANCE DETAIL LAYOUTS. REMOVED DETAILS NOT NEEDED.
3-31-2016	REVISED ENTRANCE GORE DETAIL.
3-31-2017	REVISED EXIT GORE DRUM LAYOUT



TEMPORARY GORE DETAILS

STANDARD E5-06

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 5-1-2009



CONTRACTOR ACCESS TO WORK AREA

LEGEND

- FLAGGER
- ▬ CONSTRUCTION SIGN ON SUPPORT PER ILLINOIS TOLLWAY STANDARD UNLESS NOTED
- ➔ DIRECTION OF TRAFFIC FLOW
- ▨ WORK AREA
- ⊥ DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT

NOTES:

1. SIGNS DESIGNATED FOR THIS ACCESS TO WORK AREA SHALL BE COVERED OR TURNED AWAY FROM THE TRAFFIC WHEN THE FLAGGER IS NOT ON STATION AND THE ACCESS OPENINGS ARE NOT IN USE.
2. THE FLASHING WARNING LIGHT SHALL MEET THE REQUIREMENTS OF ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS AND BE OPERATED BY THE FLAGGER REMOTELY. THE LIGHTS SHALL BE FLASHING ONLY WHEN A VEHICLE IS ENTERING THE ILLINOIS TOLLWAY.
3. WHEN THREE LANES OR MORE ARE OPENED TO TRAFFIC, ADVANCE WARNING SIGNS AND ASSEMBLIES SHALL BE PROVIDED ON BOTH SIDES OF TRAVELED WAY.
4. WHEN CONTRACTOR ACCESS TO WORK AREA IS ON OPPOSITE SIDE FROM SHOWN, ALL INSTALLATIONS ARE MIRROR IMAGE.
5. FOR NIGHTTIME OPERATIONS, TEMPORARY LIGHTING OF CONSTRUCTION ACCESS TO WORK AREA SHALL BE PROVIDED.
6. TEMPORARY PAVEMENT MARKINGS SHALL BE REPLACED AS OFTEN AS NECESSARY TO DELINEATE OPENINGS.
7. IF POSSIBLE, LANE CLOSURES SHALL BE UTILIZED TO ELIMINATE THE MERGING OF CONSTRUCTION TRAFFIC INTO THROUGH TRAFFIC LANES.
8. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICES.
9. "TRUCKS ENTERING HIGHWAY" SIGN MAY BE SUPPORTED BY OPTIONAL POST OR STAND MOUNTED DEVICES WHEN POSITIONED BEHIND TEMPORARY CONCRETE BARRIER.

TAPER RATES

WORK ZONE SPEED (mph)	SHY LINE (ft.)	BARRIER INSIDE SHY LINE	BARRIER AT OR BEYOND SHY LINE
65	8.5	28:1	19:1
60	8	26:1	18:1
55	7	24:1	16:1
50	6.5	21:1	14:1
45	6	18:1	12:1
40	5	16:1	10:1
35	4.5	15:1	9:1
30	4	13:1	8:1

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
3-01-2013	REVISED NOTES.
3-31-2014	REVISED NOTE FOR TEMPORARY CONCRETE BARRIER.
3-31-2017	ADDED TAPER RATES TABLE

Illinois Tollway

CONTRACTOR ACCESS TO WORK AREA

STANDARD E6-03

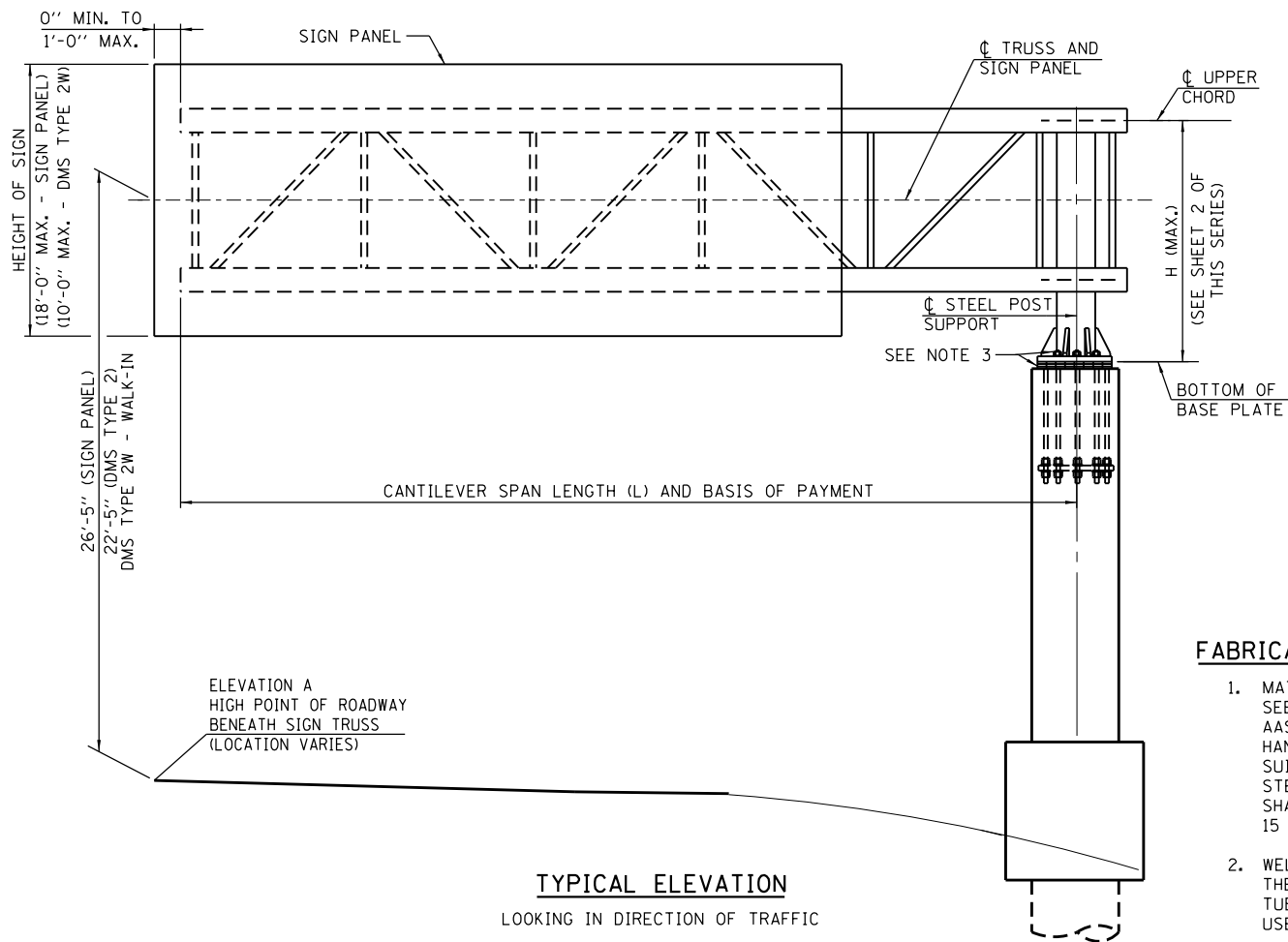
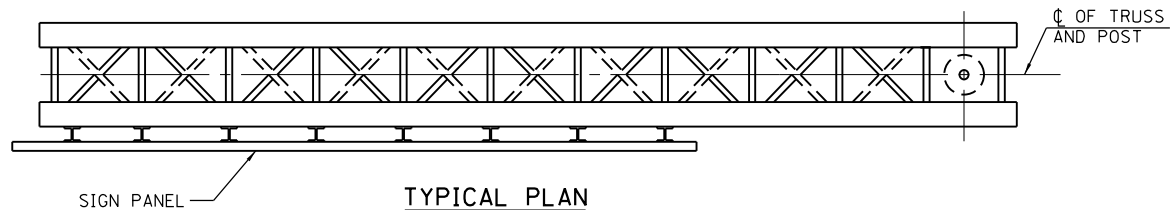
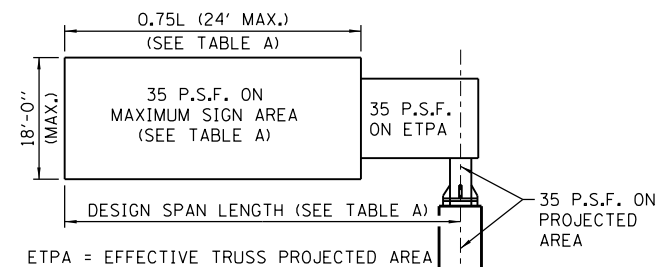


TABLE A: MAXIMUM LIMITS FOR SIGNS

TRUSS TYPE	DESIGN SPAN LENGTH (FT.)	MAXIMUM SIGN AREA (SQ. FT.)	MAXIMUM SIGN LENGTH (FT.)
20-D	20	270	15
25-D	25	338	18.75
30-D	30	405	22.5
35-D	35	432	24
40-D	40	432	24
45-D	45	432	24
50-D	50	432	24



DESIGN WIND LOADING DIAGRAM

FABRICATION NOTES:

- MATERIALS: FOR MATERIAL SPECIFICATIONS FOR CANTILEVER SIGN STRUCTURES, SEE TABLE B. ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO AASHTO M270 GR. 50, STAINLESS STEEL FOR SHIMS, SLEEVES AND HANDHOLE COVERS SHALL BE ASTM A240, TYPE 302 OR 304 OR ANOTHER ALLOY SUITABLE FOR EXTERIOR EXPOSURE AND ACCEPTABLE TO THE ENGINEER. THE STEEL PIPE AND STIFFENING RIBS AT THE BASE PLATE FOR THE STEEL POST SHALL HAVE A MINIMUM LONGITUDINAL CHARPY V-NOTCH (CVN) ENERGY OF 15 LB.-FT. AT 40° F (ZONE 2) BEFORE GALVANIZING.
- WELDING: ALL MATERIALS, WELDING PROCEDURES AND INSPECTION USED FOR THE CANTILEVER OVERHEAD SIGN STRUCTURE SHALL CONFORM TO AWS D1.1-10 FOR TUBULAR, CYCLICALLY LOADED STRUCTURES. ADDITIONALLY, ALL WELDED MATERIALS USED SHALL BE PREQUALIFIED FOR USE WITH WPS AS PER AWS D1.1-10, TABLE 3.1.
- FASTENERS FOR STEEL TRUSSES: HIGH STRENGTH BOLTS MUST SATISFY THE REQUIREMENTS OF AASHTO M164 (ASTM A325), OR APPROVED ALTERNATE, AND MUST HAVE MATCHING LOCKNUTS. THREADED STUDS FOR SPLICES (IF MEMBERS INTERFERE) MUST SATISFY THE REQUIREMENTS OF ASTM A449, ASTM A193 GRADE B7, OR APPROVED ALTERNATE, AND MUST HAVE MATCHING LOCKNUTS. BOLTS AND LOCKNUTS NOT REQUIRED TO BE HIGH STRENGTH MUST SATISFY THE REQUIREMENTS OF ASTM A307. ALL BOLTS AND LOCKNUTS MUST BE HOT DIP GALVANIZED PER AASHTO M232, EXCEPT STAINLESS STEEL FASTENERS, NUTS AND WASHERS. THE LOCKNUTS MUST HAVE NYLON OR STEEL INSERTS. A STAINLESS STEEL FLAT WASHER CONFORMING TO ASTM A240 TYPE 302 OR 304, IS REQUIRED UNDER BOTH HEAD AND NUT OR UNDER BOTH NUTS WHERE THREADED STUDS ARE USED. HIGH STRENGTH BOLT INSTALLATION SHALL CONFORM TO ARTICLE 505.04(F)(2)d OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ROTATIONAL CAPACITY ("ROCAP") TESTING OF BOLTS WILL NOT BE REQUIRED.
- U-BOLTS: U-BOLTS MUST BE PRODUCED FROM ASTM A276 TYPE 304, 304L, 316 OR 316L, CONDITION A, COLD FINISHED STAINLESS STEEL, OR AN EQUIVALENT MATERIAL ACCEPTABLE TO THE ENGINEER. ALL NUTS FOR U-BOLTS MUST BE LOCKNUTS EQUIVALENT TO ASTM A307 WITH NYLON OR STEEL INSERTS AND HOT DIP GALVANIZED PER AASHTO M232. A STAINLESS STEEL FLAT WASHER CONFORMING TO ASTM A240, TYPE 302 OR 304, IS REQUIRED UNDER EACH U-BOLT LOCKNUT.
- GALVANIZING: ALL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111. PAINTING IS NOT PERMITTED. ALL FASTENERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111 OR M232 AS APPROPRIATE FOR THE PRODUCT (EXCEPT STAINLESS STEEL FASTENERS).

GENERAL NOTES:

- WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURE CANTILEVER TYPE SUMMARY AND TOTAL BILL OF MATERIAL SHEET.
- AFTER ADJUSTMENTS TO LEVEL TRUSS AND ENSURE ADEQUATE VERTICAL CLEARANCE, ALL TOP AND LEVELING NUTS SHALL BE TIGHTENED AGAINST THE BASE PLATE WITH A MINIMUM TORQUE OF 200 LB.-FT. STAINLESS STEEL MESH SHALL THEN BE PLACED AROUND THE PERIMETER OF THE BASE PLATE. SECURE TO BASE PLATE WITH STAINLESS STEEL BANDING.
- SIGN SUPPORT STRUCTURES MAY BE SUBJECT TO DAMAGING VIBRATIONS AND OSCILLATIONS WHEN SIGN PANELS ARE NOT IN PLACE DURING ERECTION OR MAINTENANCE OF THE STRUCTURE. TO AVOID THESE, ATTACH TEMPORARY BLANK SIGN PANELS OR OTHER BRACING TO THE STRUCTURE UNTIL PERMANENT SIGNS ARE INSTALLED.
- TRUSSES SHALL BE SHIPPED INDIVIDUALLY WITH ADEQUATE PROVISION TO PREVENT DETRIMENTAL MOTION DURING TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION AND PROTECTION OF THE TRUSSES.
- ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH CURRENT AWS D1.1 STRUCTURE WELDING CODE AND THE STANDARD SPECIFICATIONS.
- ALL STEEL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111.
- PROVIDE RUBBED SURFACE FINISH FOLLOWED BY CONCRETE SEALER APPLICATION ON ENTIRE SURFACE OF CONCRETE COLUMN AND NORMAL SURFACE FINISH ON GRADE BEAM, EXCEPT BOTTOM SURFACE.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- DMS TYPE 2W - WALK-IN IS PERMITTED TO BE INSTALLED ON CANTILEVER TRUSS. DO NOT INSTALL SIGN PANEL IN CONJUNCTION WITH DMS TYPE 2W - WALK-IN. SEE SHEET 9 OF THIS SERIES FOR PERMISSIBLE SIGN SIZE AND WEIGHT.

CONSTRUCTION SPECIFICATIONS:

- ALL MATERIALS, EXCEPT AS SHOWN, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE LATEST ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.

LOADING:

- ALL CANTILEVER TRUSSES ARE DESIGNED FOR AN 18'-0" DEEP SIGN PANEL OVER 75% OF THE ARM LENGTH, WITH A MAXIMUM PANEL WIDTH OF 24'-0".
- ALL CANTILEVER TRUSSES ARE DESIGNED FOR 35 PSF WIND PRESSURE ON TRUSS MEMBERS AND SIGN PANEL.
- THE AASHTO GROUP II AND III ALLOWABLE STRESS SHALL BE 133% (ALLOWABLE STRESS DESIGN).

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION.

CONCRETE COLUMN, GRADE BEAM AND DRILLED SHAFT ARE DESIGNED IN ACCORDANCE WITH THE 2012 EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (INCLUDING THE 2013 INTERIM REVISIONS).

DESIGN UNIT STRESSES FOR REINFORCED CONCRETE:

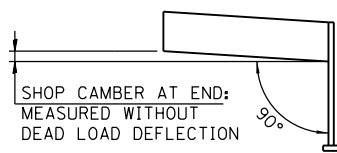
CLASS SI CONCRETE $f'_c = 3,500$ P.S.I.
 CLASS DS CONCRETE $f'_c = 4,000$ P.S.I.
 REINFORCING STEEL $f_y = 60,000$ P.S.I.

SHOP CAMBER TABLE

CANTILEVER LENGTH (L)	SHOP CAMBER AT END
20'	1 1/2"
25'	1 1/2"
30'	2"
35'	2 1/2"
40'	2 1/2"
45'	3"
50'	3 1/2"

TABLE B: MATERIAL SPECIFICATIONS FOR STRUCTURAL STEEL AND FASTENERS

ELEMENT OF STRUCTURE	SPECIFICATION	MINIMUM YIELD STRENGTH (K.S.I.)	MINIMUM ULTIMATE STRENGTH (K.S.I.)
STRUCTURAL STEEL TUBE	ASTM A500 GRADE B	46	58
STRUCTURAL STEEL POST AND PIPE	API 5L GRADE B OR X42 OR X52	35	52
	ASTM A106 GRADE B	35	60
STEEL BAR AND STEEL PLATES	ASTM A53, TYPE E OR S, GRADE B	35	60
	ASTM A572 GRADE 50	50	65
STAINLESS STEEL BOLTS	ASTM A193, CLASS 1, GRADE B8	30	75
STRUCTURAL STEEL BOLTS	ASTM 325 TYPE 1	--	105
STAINLESS STEEL LOCKNUTS	ASTM A194 GRADE 8F	--	--
	ASTM A194 GRADE 2H	--	--
NUTS	ASTM A563 GRADE DH	--	--
STEEL WASHERS	ASTM F436	--	--
STAINLESS STEEL WASHERS	ASTM A240, TYPE 302	--	--
STEEL ANCHOR BOLTS	AASHTO M314 OR ASTM F1554	55	75



CAMBER DIAGRAM (FOR FABRICATION ONLY)

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2014



DATE	REVISIONS
12-12-2013	REVISED TABLES AND NOTES
2-07-2014	REVISED STEEL POST TO CONCRETE
3-31-2014	ADDED DMS TYPE II
7-01-2014	ADDED DIMENSIONS AND REVISED NOTES
3-11-2015	ADDED DIMENSIONS AND REVISED NOTES
3-31-2016	REVISED FOUNDATION NOTE
3-31-2017	ADDED WALKWAY GRATING DETAILS

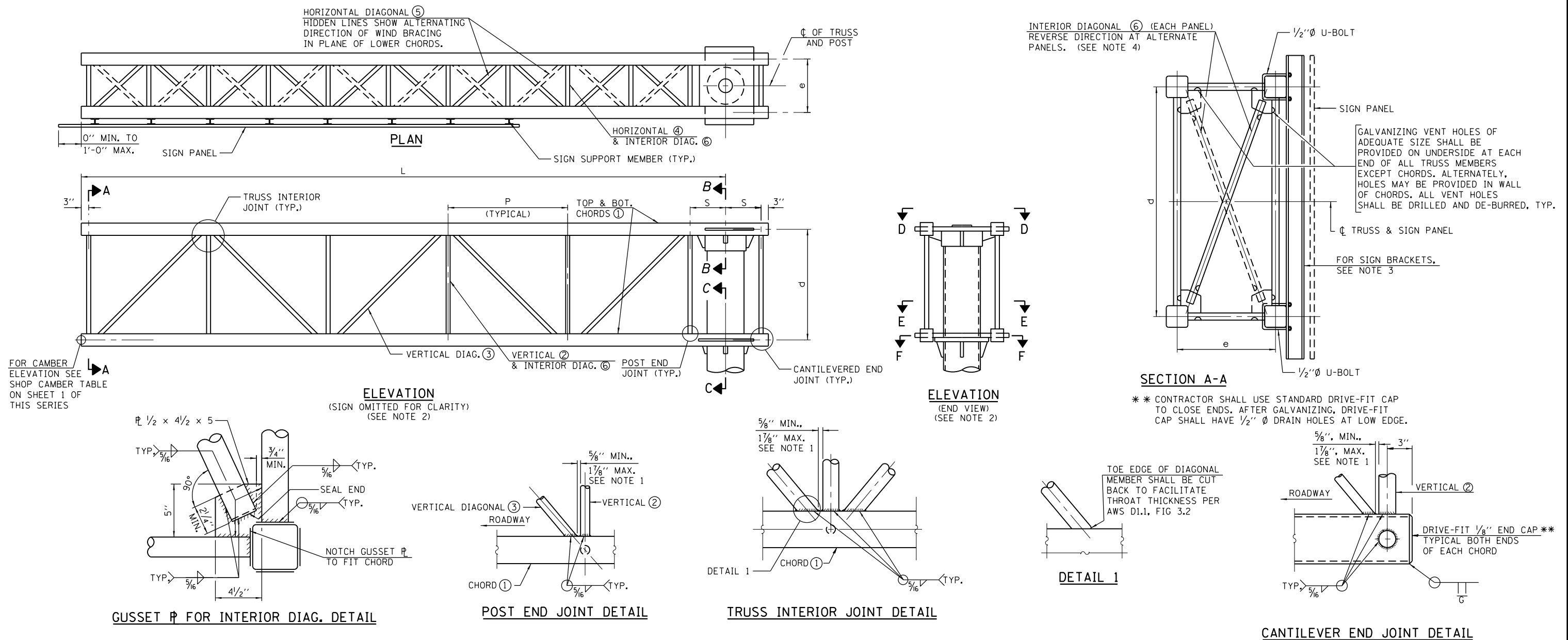


TABLE C: TRUSS AND POST DETAILS FOR 18'-0" (MAX.) SIGN HEIGHT

DESIGN SPAN LENGTH (L)	TRUSS TYPE	TRUSS SIZE		ACTUAL SPAN LENGTH	MAXIMUM SIGN LENGTH	STEEL SUPPORT POST (COLUMN)				TRUSS MEMBERS AND DETAILS													
		e	d			DIAMETER	WEIGHT	* WALL THICKNESS	H (MAX.)	TOP & BOTTOM CHORD (1)	VERTICAL (2)		VERTICAL DIAG. (3)		HORIZONTAL (4)		HORIZONTAL DIAG. (5)		INTERIOR DIAG. (6)		PANELS		
											PIPE	WALL	PIPE	WALL	PIPE	WALL	PIPE	WALL	PIPE	WALL	NO.	P	S
20'	20-D	2'-6"	5'-6"	20'-1"	15'-0"	18"	138.30 (#/FT)	1"	12'-0"	HSS 5x5x1/4	2 1/2" Ø X.S	0.276"	3" Ø X.X.S	0.600"	1 1/2" Ø X.S	0.200"	2 1/2" Ø X.S	0.276"	1 1/2" Ø X.S	0.200"	4	4'-7"	1'-6"
25'	25-D	3'-6"	5'-6"	24'-11"	18'-9"	18"	181.73 (#/FT)	1"	12'-0"	HSS 5x5x1/4	2 1/2" Ø X.S	0.276"	3" Ø X.X.S	0.600"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	4'-7"	1'-9"
30'	30-D	3'-6"	7'-0"	30'-2"	22'-6"	18"	181.73 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	5'-7"	2'-0"
35'	35-D	4'-0"	7'-0"	35'-0"	24'-0"	24"	186.41 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	6'-6"	2'-3"
40'	40-D	4'-0"	7'-0"	40'-0"	24'-0"	24"	186.41 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	6	6'-3"	2'-3"
45'	45-D	4'-6"	7'-0"	45'-0 1/2"	24'-0"	24"	245.87 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	7	6'-0 1/2"	2'-6"
50'	50-D	4'-6"	7'-0"	50'-1"	24'-0"	24"	245.87 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	8	5'-11"	2'-6"

* NOMINAL WALL THICKNESS SHOWN. THICKER WALL IS PERMITTED UPON ENGINEER'S APPROVAL.

NOTES:

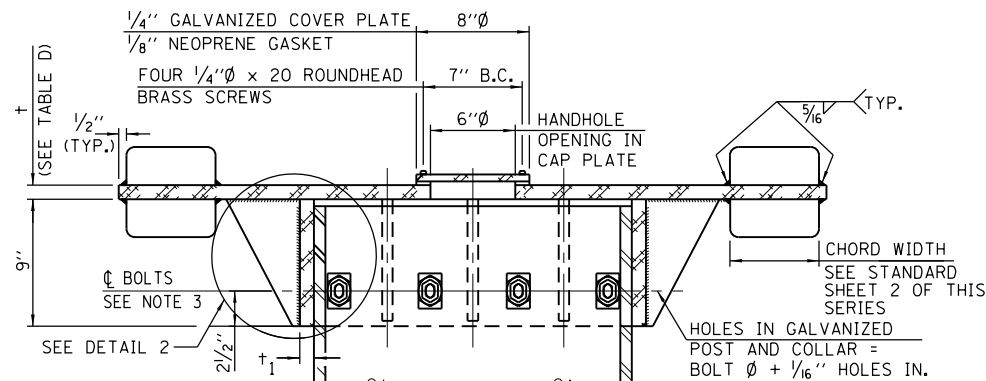
- TRUSS MEMBERS SHALL BE SPACED A MINIMUM OF 3 TIMES THE WALL THICKNESS OF THE LARGEST CONNECTING MEMBERS TO ENSURE PROPER WELD SPACING.
- FOR SECTIONS B-B, C-C, D-D, E-E AND F-F SEE SHEET 3 OF THIS SERIES.
- FOR SIGN SUPPORT DETAILS, SEE ILLINOIS TOLLWAY STANDARD DRAWING F8, FOR DMS TYPE 2W - WALK-IN SIGN SUPPORT DETAILS, SEE SHEET 9 OF THIS SERIES.
- DIRECTION OF INTERIOR DIAGONALS SHOWN IN SECTION A-A CORRECTLY DEPICTS TRUSSES HAVING AN ODD NUMBER OF PANELS. TRUSSES WITH AN EVEN NUMBER OF PANELS WILL HAVE DIAGONALS IN A REVERSED DIRECTION THAN AS SHOWN.
- FOR ANY DESIGN SPAN LENGTH THAT FALLS BETWEEN TWO CONSECUTIVE SPANS, PROVIDED IN COLUMN 1 OF TABLE C, THE LARGER DESIGN SPAN LENGTH SHALL BE USED (I.E. FOR A 32' SPAN LENGTH FALLING BETWEEN 30' AND 35' DESIGN SPAN LENGTHS IN TABLE C, THE 35' DESIGN SPAN LENGTH TRUSS AND POST DETAILS SHALL BE USED).

APPROVED: *Paul Kovacs*
 CHIEF ENGINEER DATE 3-31-2014

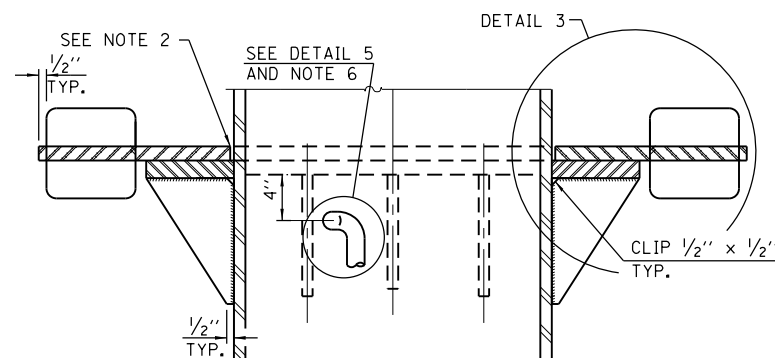


OVERHEAD SIGN STRUCTURE
 CANTILEVER TYPE
 STRUCTURE DETAILS

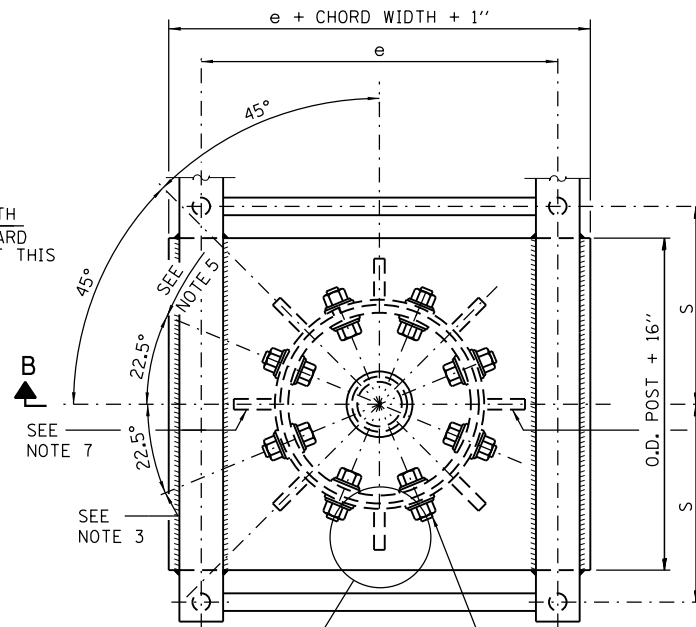
STANDARD F4-08



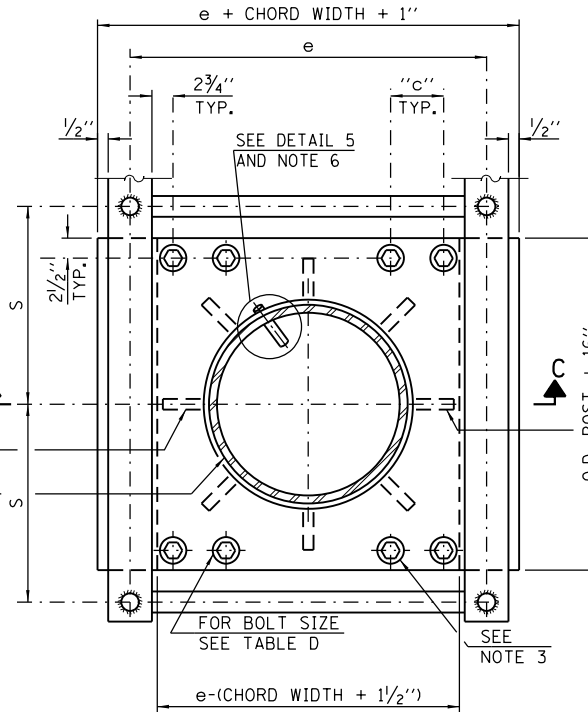
SECTION B-B



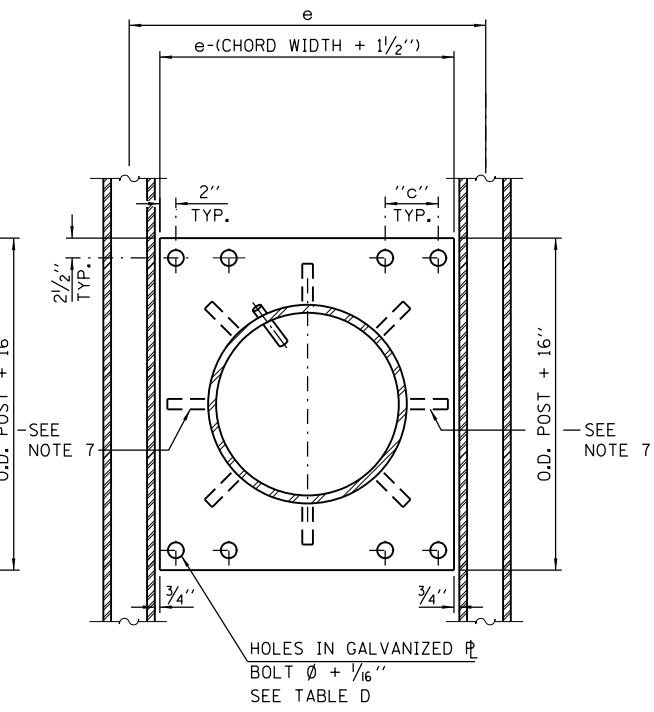
SECTION C-C



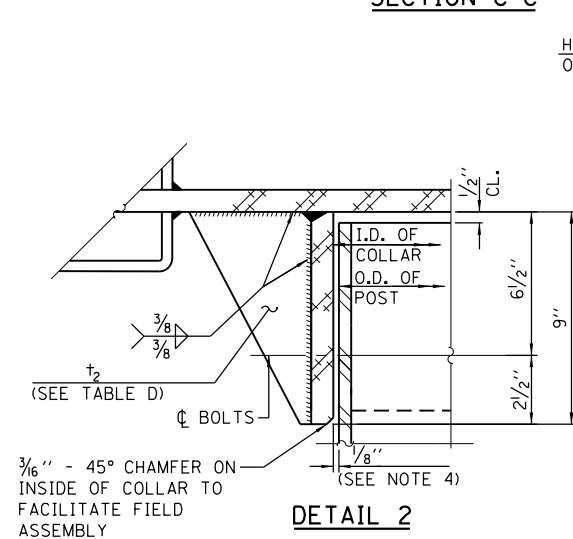
VIEW D-D
(CAP PLATE)



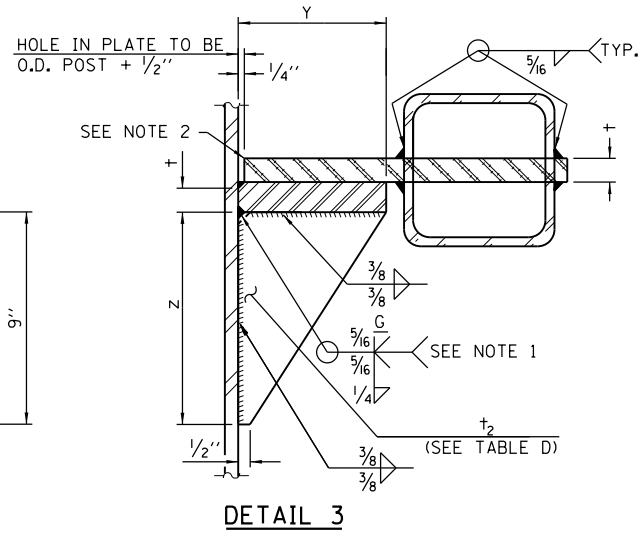
SECTION E-E
(JUNCTURE PLATE)



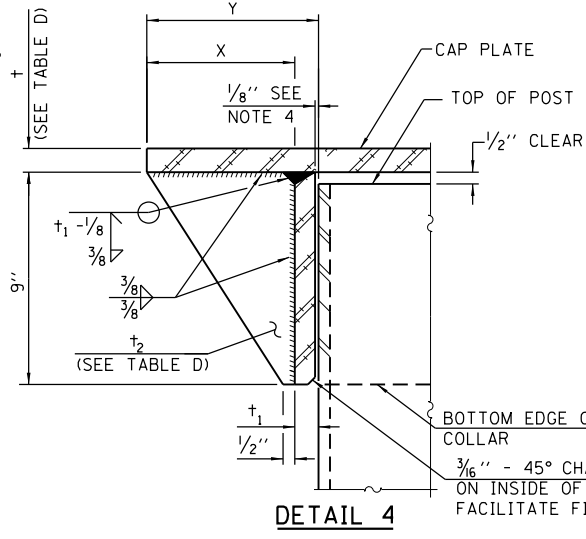
SECTION F-F
(SETTING PLATE)



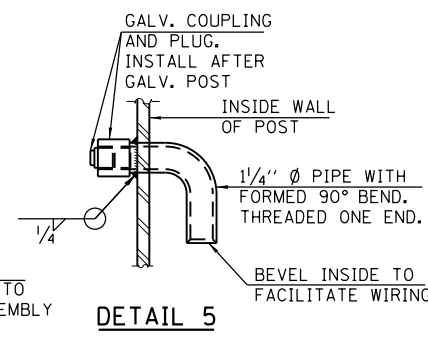
DETAIL 2



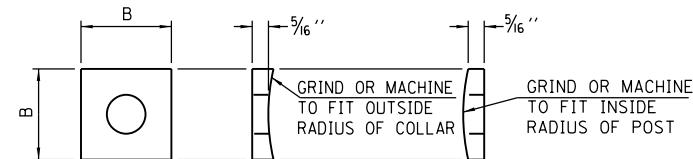
DETAIL 3



DETAIL 4



DETAIL 5



CONTOURED WASHERS
(ASTM A240, TYPE 304)

NOTES:

- GRIND TOP IF REQUIRED TO FULLY SEAT PLATE. REPAIR DAMAGED GALVANIZING BEFORE ASSEMBLY.
- AFTER TIGHTENING LOWER CONNECTION BOLTS, FILL GAP WITH NON-HARDENING SILICONE CAULK SUITABLE FOR EXTERIOR EXPOSURE AND ACCEPTABLE TO THE ENGINEER.
- CONNECTION BOLTS IN COLLAR AND BOLTS AT LOWER CHORD CONNECTION MUST BE HIGH STRENGTH WITH MATCHING LOCKNUTS. LOWER CONNECTION BOLTS MUST HAVE 2 FLAT WASHERS EACH.
- AFTER GALVANIZING, COLLAR I.D. SHALL EQUAL O.D. OF GALVANIZED POST PLUS 1/8" (±1/16") MAXIMUM GAP BETWEEN POST AND COLLAR AT ANY LOCATION SHALL BE 1/8" BEFORE TIGHTENING BOLTS.
- OPTIONAL FULL PENETRATION WELD IN COLLAR. (TWO LOCATIONS MAXIMUM (180° APART) X-RAY OR UT 100%) ALL BOLTS SHOWN ARE HIGH STRENGTH.
- ORIENT PIPE TOWARD SIGN PANEL SIDE. HOLE IN POST = O.D. PIPE + 1/8".
- OMIT INDICATED STIFFENER IN TRUSS TYPE 20-D.

TABLE D: BOLT SCHEDULE

SPAN LENGTH	POST OUTSIDE DIAMETER	JUNCTURE & COLLAR CONNECTION BOLT DIAMETER	LOWER JUNCTURE BOLT SPACING DIMENSION "c"	PLATE THICKNESS		STIFFENER THICKNESS (t ₂)	NO. OF STIFFENERS	STIFFENERS		
				(t)	(t ₁)			x	y	z
< = 20'	18"	1/8"	3 1/8"	1"	3/4"	1/2"	6	5"	6"	8"
21'-30'	18"	1/2"	3 3/4"	1/8"	7/8"	3/4"	8	5"	6"	8"
31'-40'	24"	1/2"	4 1/2"	1/4"	1"	3/4"	8	7"	8"	10 1/2"
41'-50'	24"	1/2"	4 1/2"	1/4"	1"	3/4"	8	7"	8"	10 1/2"

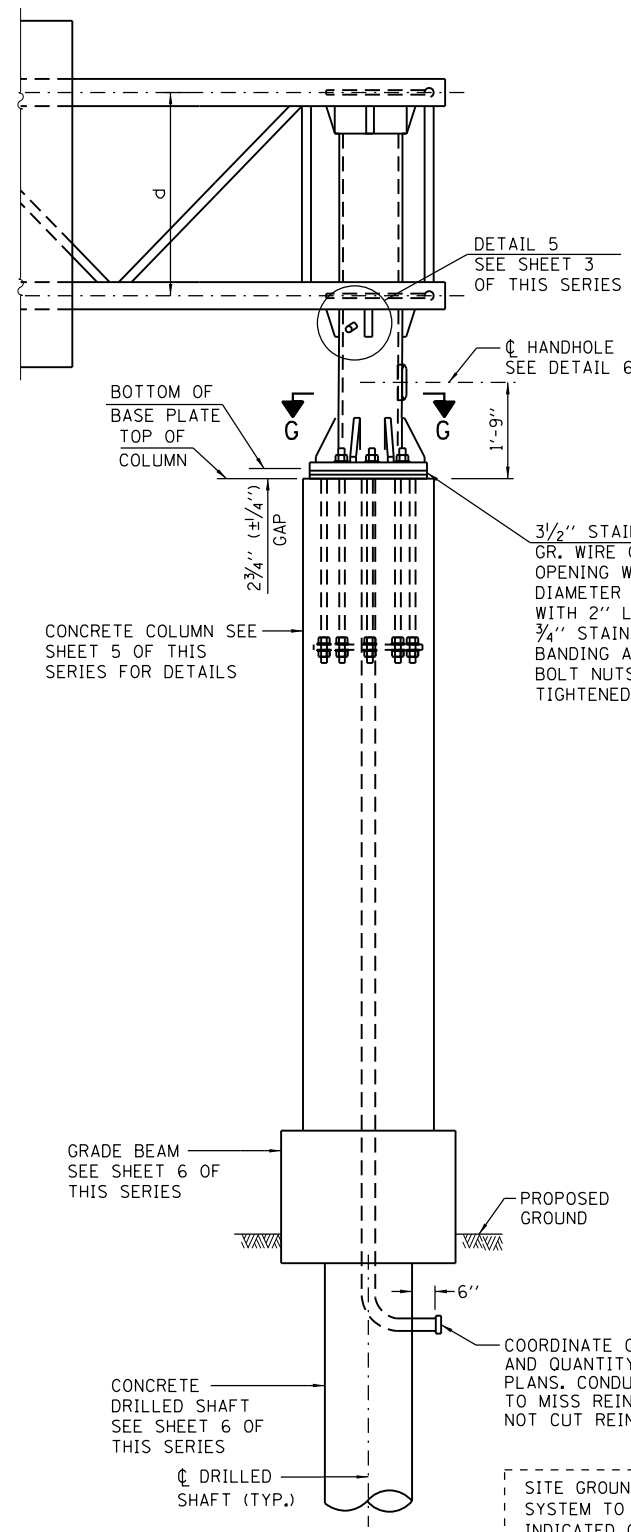
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B.C. = BOLT CIRCLE



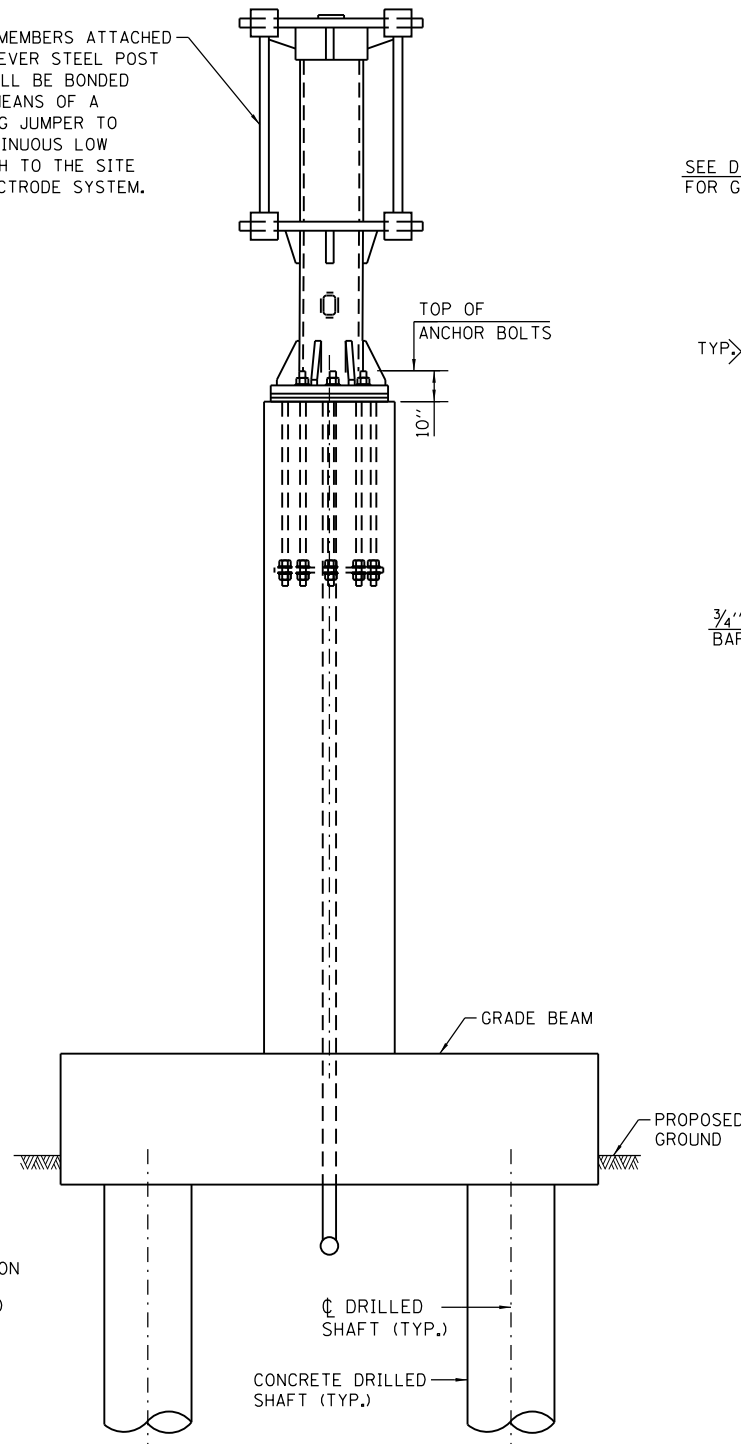
OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

STANDARD F4-08

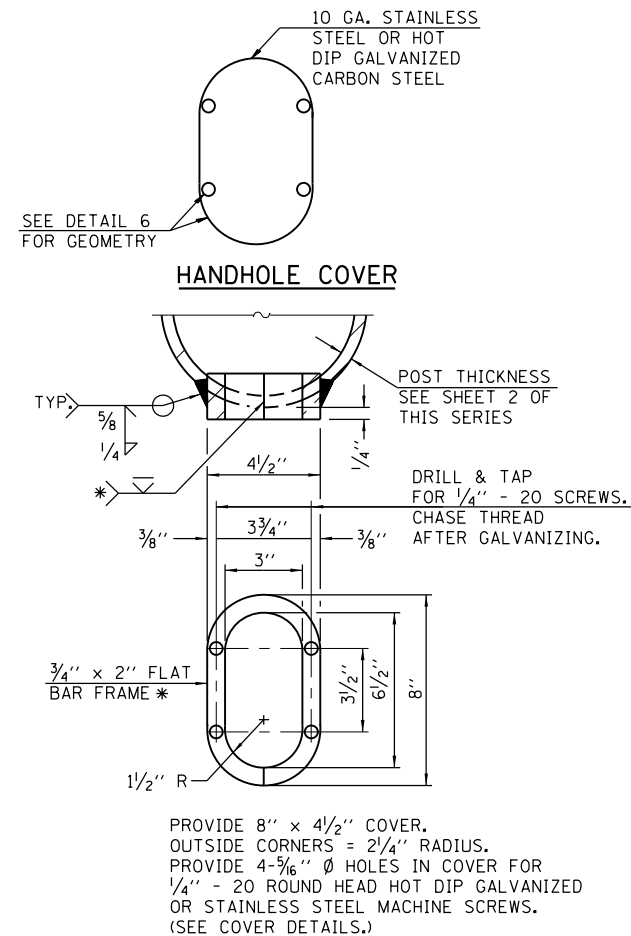


FRONT ELEVATION

ALL METALLIC MEMBERS ATTACHED TO THE CANTILEVER STEEL POST STRUCTURE SHALL BE BONDED TOGETHER BY MEANS OF A COPPER BONDING JUMPER TO CREATE A CONTINUOUS LOW IMPEDANCE PATH TO THE SITE GROUNDING ELECTRODE SYSTEM.



SIDE ELEVATION

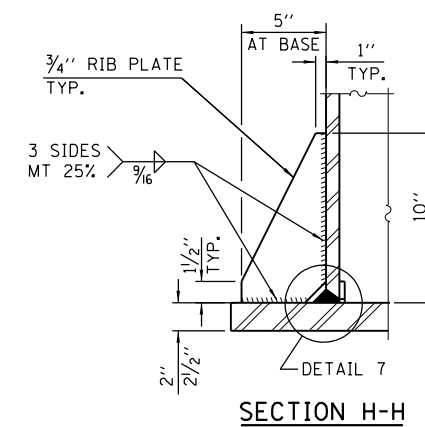


DETAIL 6

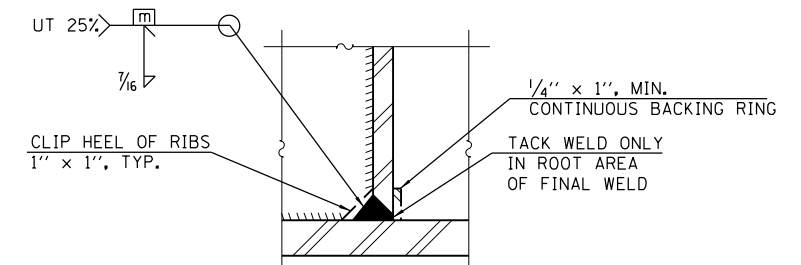
- * BENT BARS MAY BE BUTT WELDED TOP AND BOTTOM OR BOTTOM ONLY. IN LIEU OF FABRICATED HANDHOLE FRAME AS SHOWN, MAY CUT FROM 2" PLATE (ROLLING DIRECTION VERTICAL). ALL CUT FACES TO BE GROUND TO ANSI ROUGHNESS OF 500 μIN OR LESS.
- * * 18" IS MINIMUM TO BE GALVANIZED. ENTIRE BOLT MAY BE GALVANIZED AT CONTRACTOR'S OPTION.

TABLE E: BASE PLATE DETAIL

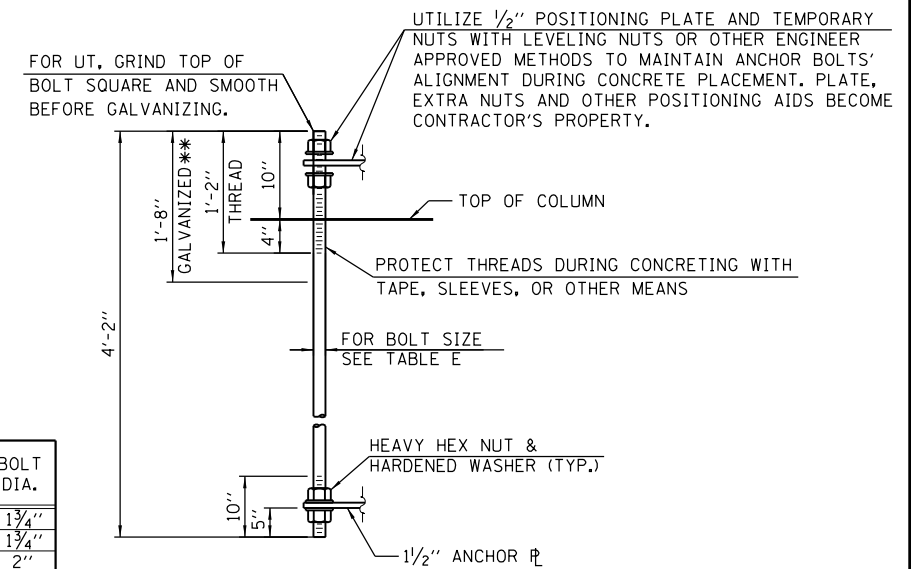
SPAN LENGTH (L)	POST OUTSIDE DIAMETER	BASE PLATE		BOLT CIRCLE	BOLT DIA.
		DIAMETER	THICKNESS		
< = 20'	18"	30"	2"	24"	1 3/4"
21'-30'	18"	30"	2"	24"	1 3/4"
31'-40'	24"	36"	2 1/2"	30"	2"
41'-50'	24"	36"	2 1/2"	30"	2 1/4"



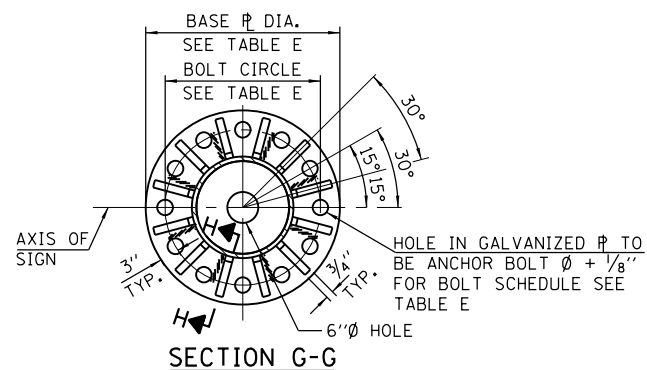
SECTION H-H



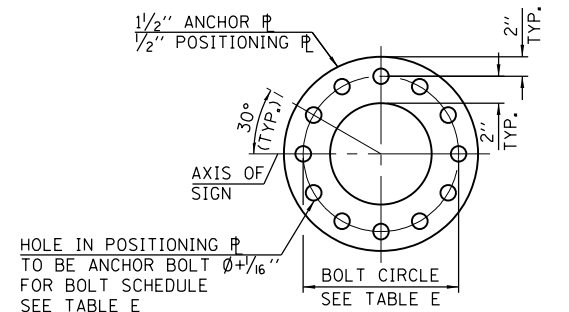
DETAIL 7 (TYPICAL RIB)



ANCHOR BOLT DETAIL



SECTION G-G



POSITIONING P / ANCHOR P

NOTE:

ANCHOR BOLTS SHALL CONFORM TO AASHTO M314 OR ASTM F1554 AND MEET CHARPY V-NOTCH (CVN) ENERGY OF 15 LB.-FT. AT 10° F. BEFORE GALVANIZING. GALVANIZE THE UPPER 18" (MINIMUM **) AND ASSOCIATED M291, GRADE A, C OR DH HEAVY HEX NUTS AND HARDENED WASHERS PER AASHTO M293. NO WELDING SHALL BE PERMITTED ON BOLTS. PROVIDE AN UNFINISHED NUT AT BOTTOM, A HEXAGON LOCKNUT AND WASHER ABOVE BASE PLATE AND A LEVELING NUT AND WASHER BELOW BASE PLATE. NUTS SHALL EACH BE TIGHTENED WITH 200 LB.-FT. MINIMUM TORQUE AGAINST BASE PLATE. BEFORE OR AFTER THREADING, BUT BEFORE GALVANIZING, EACH ANCHOR BOLT SHALL BE ULTRASONICALLY TESTED (UT) BY A LEVEL II OR III INSPECTOR, QUALIFIED IN ACCORDANCE WITH ANSI GUIDELINES, USING A STRAIGHT BEAM, 1/2" Ø 3.5 MHZ. TRANSDUCER, TO ENSURE NO REJECTABLE FLAWS EXIST IN THE UPPER 18" (TENSION CRITERIA).

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 3-31-2014



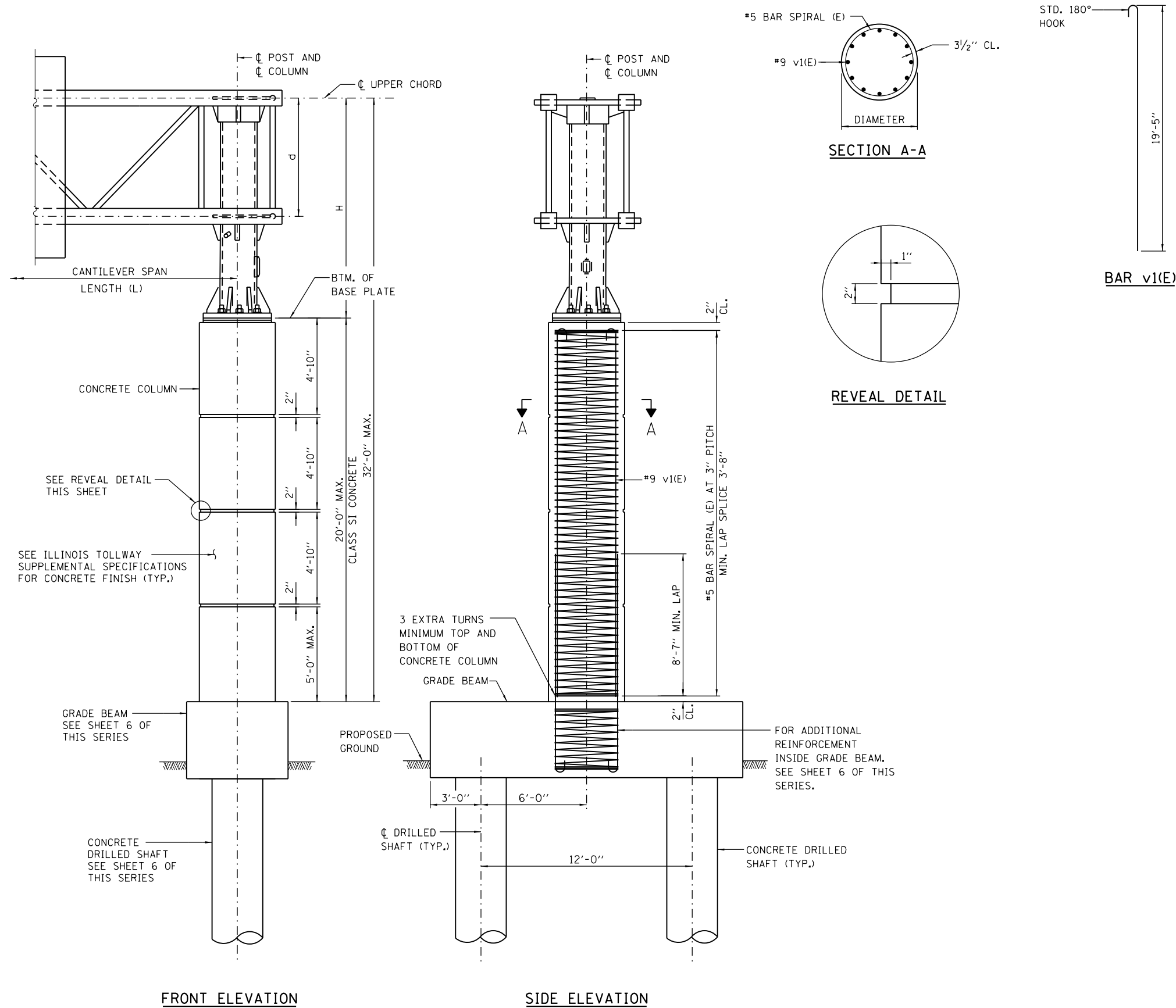


TABLE F: CONCRETE COLUMN DESIGN TABLE

SPAN LENGTH (L)	STEEL POST DIAMETER	CONCRETE COLUMN			
		DIAMETER	VERTICAL BAR v1(E)	CLASS SI CONC. CU. YD.*	REINF. BARS POUND *
< = 20'	18"	3'-6"	16-#9	7.1	1,910
21'-30'	18"	3'-6"	16-#9	7.1	1,910
31'-40'	24"	4'-0"	20-#9	9.2	2,330
41'-50'	24"	4'-0"	20-#9	9.2	2,330

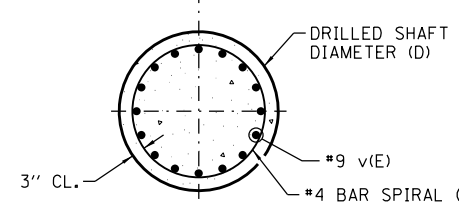
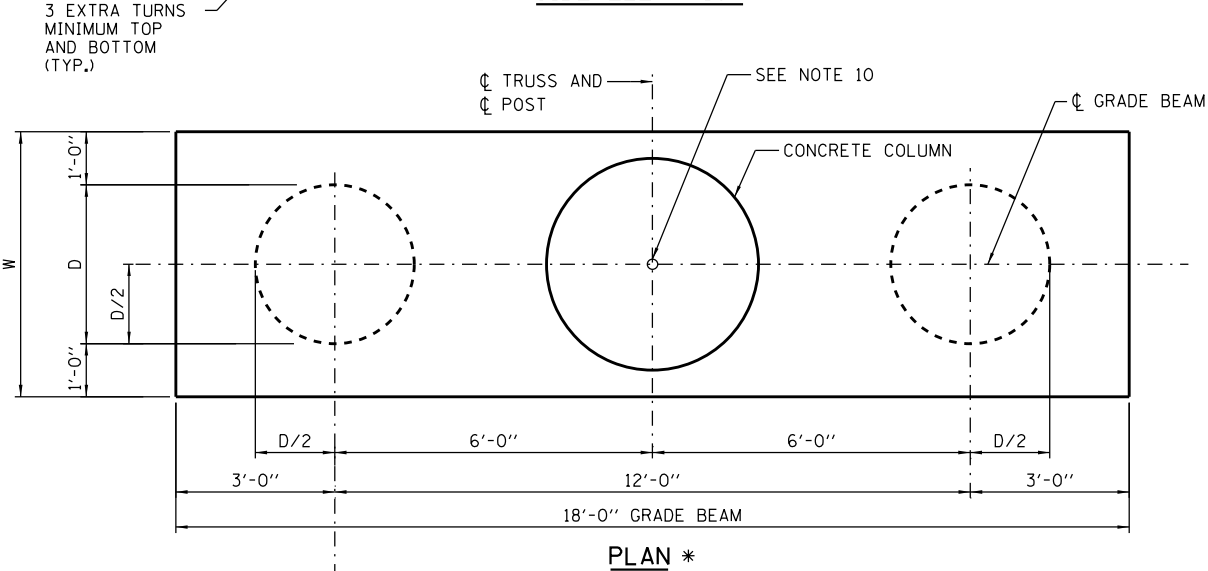
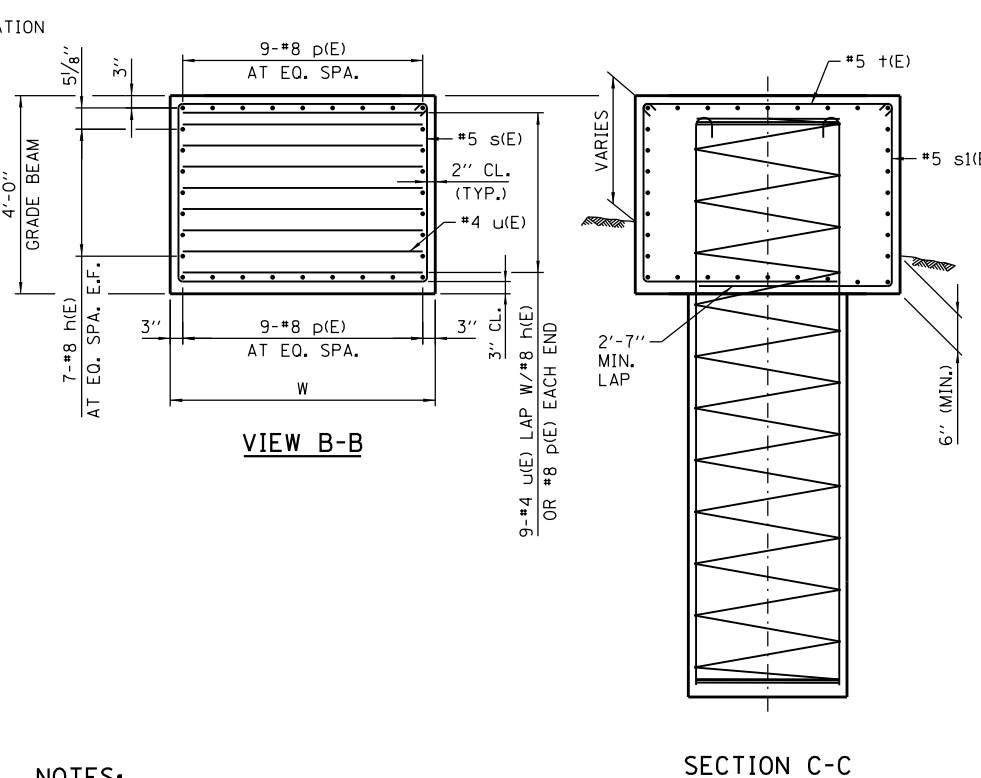
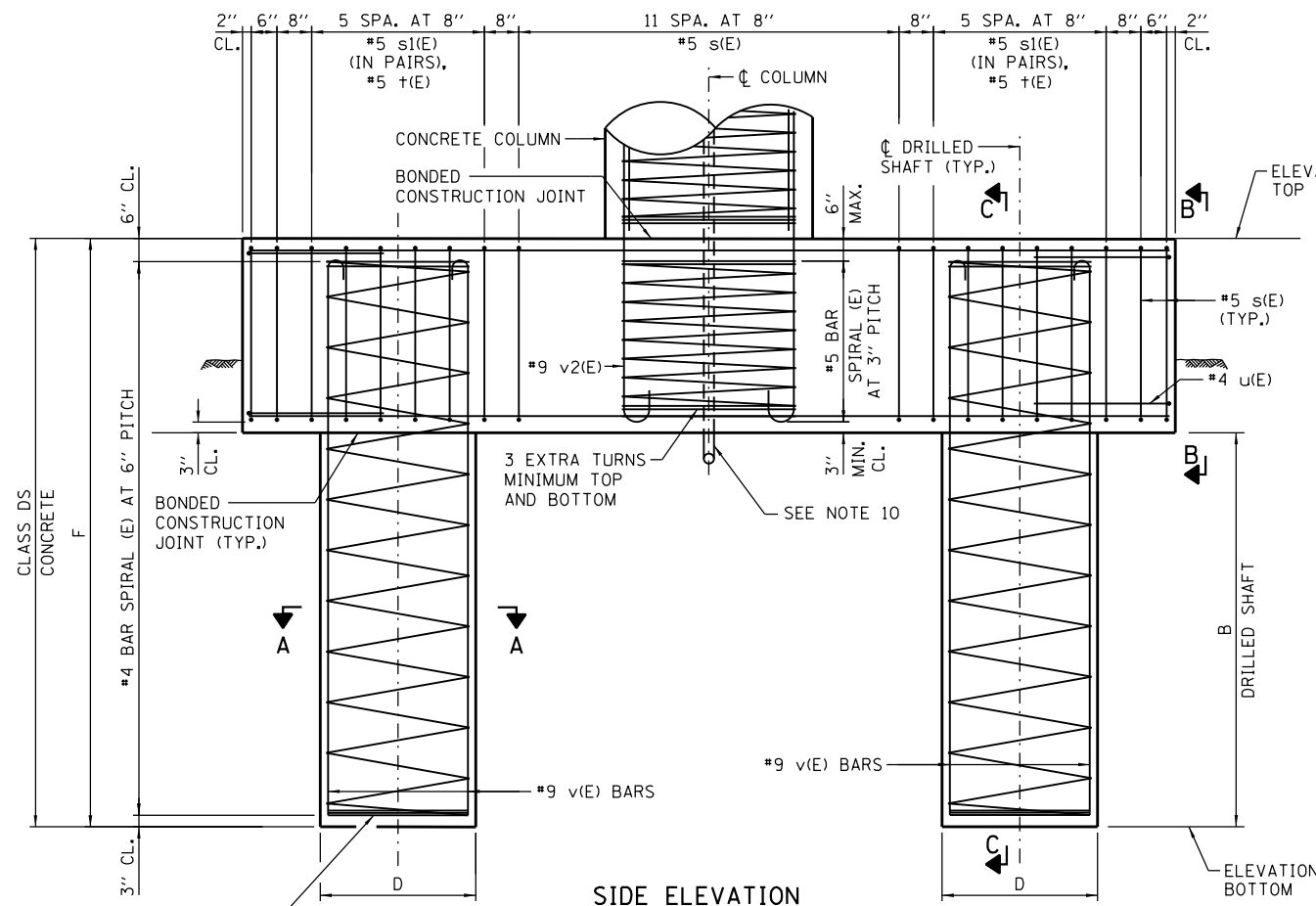
* CONCRETE VOLUME AND REBAR WEIGHT ARE DETERMINED FOR 20'-0" CONCRETE COLUMN HEIGHT. ADJUST CONCRETE VOLUME AND REBAR WEIGHT ACCORDINGLY IF CONCRETE COLUMN HEIGHT IS LESS THAN 20'-0".



BAR LIST - EACH FOUNDATION

(2 SHAFT AND 1 GRADE BEAM)

BAR	NUMBER	SIZE	LENGTH		SHAPE
			D = 3'-0"	D = 4'-0"	
h(E)	14	#8	17'-8"	17'-8"	
p(E)	18	#8	17'-8"	17'-8"	
s(E)	16	#5	17'-5"	19'-5"	⊏
s1(E)	24	#5	7'-8 1/2"	8'-2 1/2"	⊏
t(E)	12	#5	5'-7"	6'-7"	⊏
u(E)	18	#4	8'-7"	9'-7"	⊏
v(E)	SEE TABLE G	#9	44'-6"	44'-6"	⊏
v2(E)	SEE TABLE G	#9	13'-9"	13'-9"	⊏
*4 BAR SPIRAL (E) - SEE SIDE ELEVATION					
*5 BAR SPIRAL (E) - SEE SIDE ELEVATION					



NOTES:

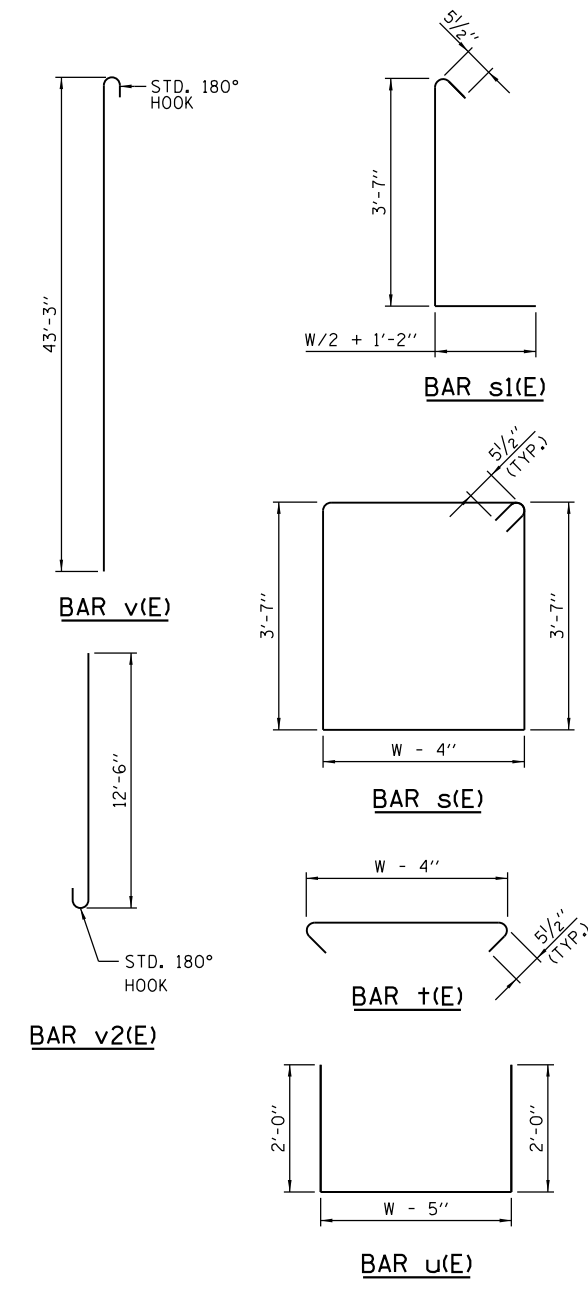
1. THE FOUNDATION DETAILS SHOWN ARE BASED ON THE PRESENCE OF MOSTLY COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (QU) > 1.25 TON/SQ. FT. WHICH MUST BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE BORING DATA SHALL BE INCLUDED IN THE PLANS AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.
2. ALL MATERIAL, FABRICATION, AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
3. CONCRETE SHALL BE PLACED MONOLITHICALLY, WITHOUT CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.
4. BACKFILL SHALL BE PLACED PER SECTION 502 OF THE STANDARD SPECIFICATION AND PRIOR TO ERECTION OF CONCRETE COLUMN.
5. PROVIDE RUBBED SURFACE FINISH FOLLOWED BY CONCRETE SEALER APPLICATION ON ENTIRE SURFACE OF CONCRETE COLUMN AND NORMAL SURFACE FINISH ON GRADE BEAM, EXCEPT BOTTOM SURFACE. COST IS INCLUDED IN THE COST OF "FOUNDATION FOR OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE".
6. ALL REBAR DESIGNATED (E) SHALL BE EPOXY COATED. REBAR SHALL BE POSITIONED SO THAT THERE WILL BE NO INTERFERENCE BETWEEN VERTICAL REINFORCEMENT AND STIRRUPS.
7. NO SONOTUBES OR DECOMPOSABLE FORMS SHALL BE USED 6" BELOW THE FINISHED GROUND LINE. PERMANENT METAL FORMS OR OTHER SHIELDING SHALL NOT BE LEFT IN PLACE BELOW THE ELEVATION WITHOUT THE ENGINEER'S WRITTEN PERMISSION. EXCAVATIONS SHALL BE DEWATERED BEFORE CONCRETE PLACEMENT IF DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
8. FOR SIZE AND NUMBER OF PVC COATED STEEL CONDUITS, SEE ELECTRICAL CONSTRUCTION DRAWINGS.
9. TYPICAL SIGN STRUCTURE FOUNDATION IS SHOWN ON THIS SHEET. SEE SHEET 7 OF THIS SERIES FOR FOUNDATION LOCATED IN ROADWAY MEDIAN.
10. COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.

NOTE:
 * REINFORCEMENT IN GRADE BEAM NOT SHOWN FOR CLARITY.
 ** FOR GRADE BEAM ONLY.

BAR SPIRAL LAP SPLICE	
BAR	MIN. LAP
#4	2'-11"
#5	3'-8"

TABLE G: DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS

SPAN LENGTH (L)	W	D	B	F	VERTICAL BAR			CLASS DS CONC. CU. YD.**	CLASS DS CONC. CU. YD.	REINF. BARS POUND
					v(E) SHAFT 1	v(E) SHAFT 2	v2(E)			
< = 20'	5'-0"	3'-0"	40'	44'	12-#9	12-#9	16-#9	13.4	21	7,700
21'-30'	5'-0"	3'-0"	40'	44'	12-#9	12-#9	16-#9	13.4	21	7,700
31'-40'	6'-0"	4'-0"	40'	44'	20-#9	20-#9	20-#9	16	37.3	10,800
41'-50'	6'-0"	4'-0"	40'	44'	20-#9	20-#9	20-#9	16	37.3	10,800

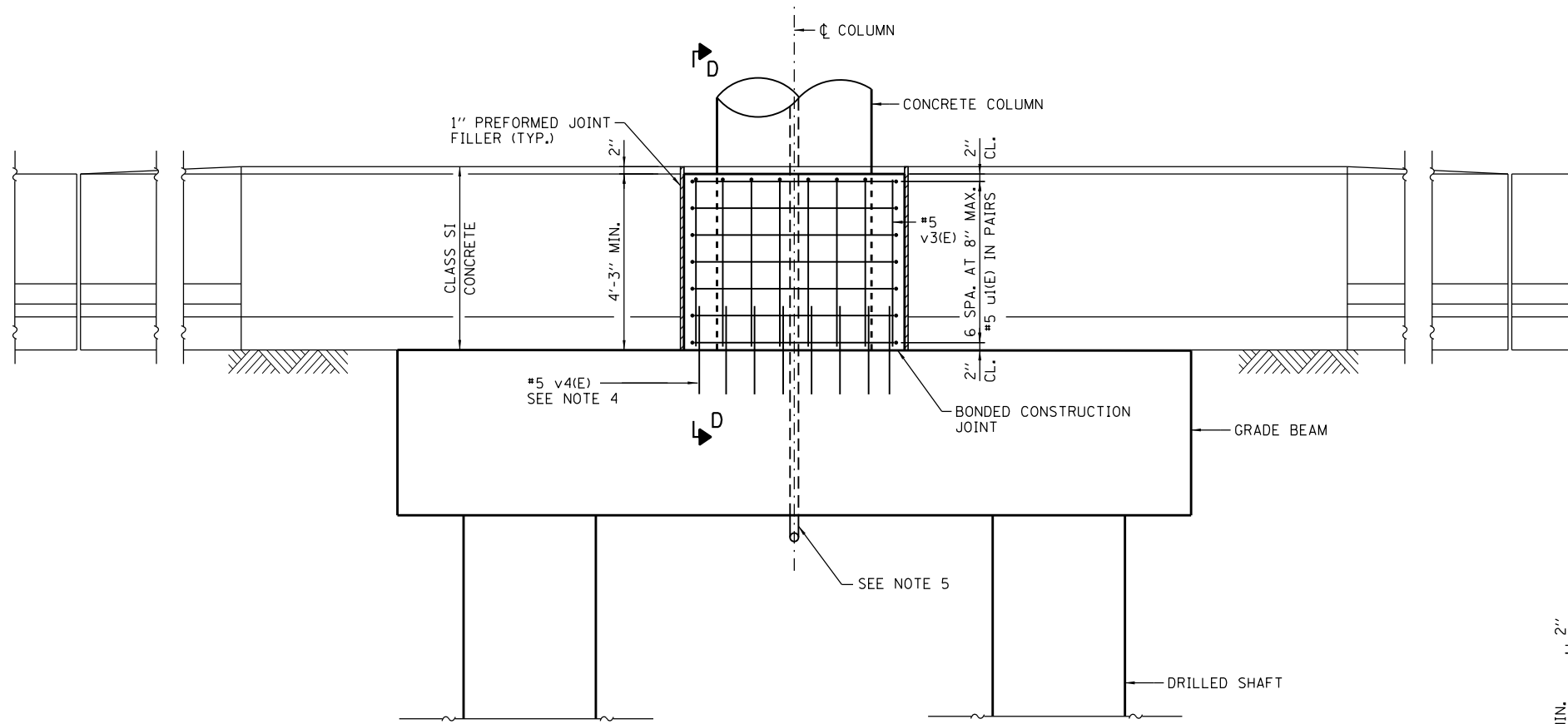


OVERHEAD SIGN STRUCTURE
 CANTILEVER TYPE
 STRUCTURE DETAILS
 STANDARD F4-08

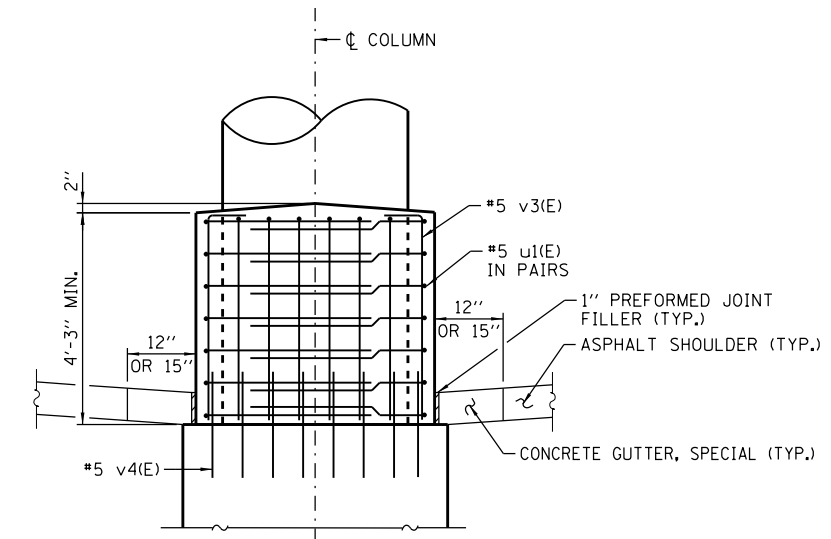
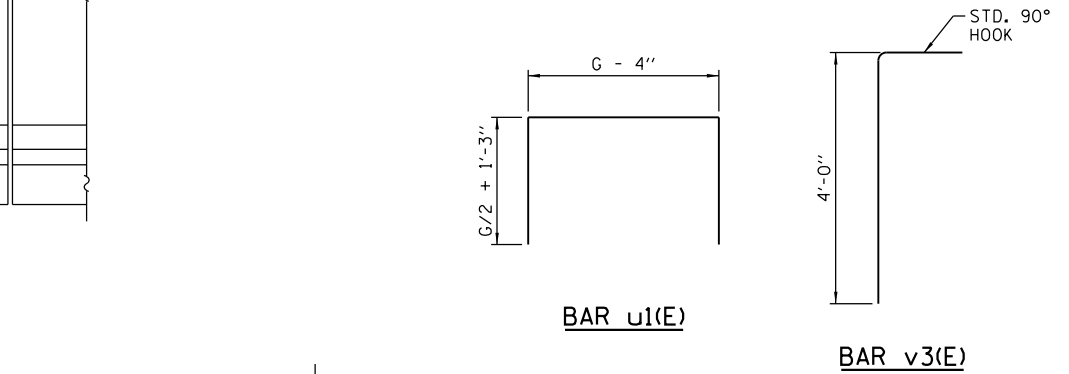
APPROVED: *Paul Kovacs*
 CHIEF ENGINEER
 DATE: 3-31-2014

BAR LIST - CRASHWALL

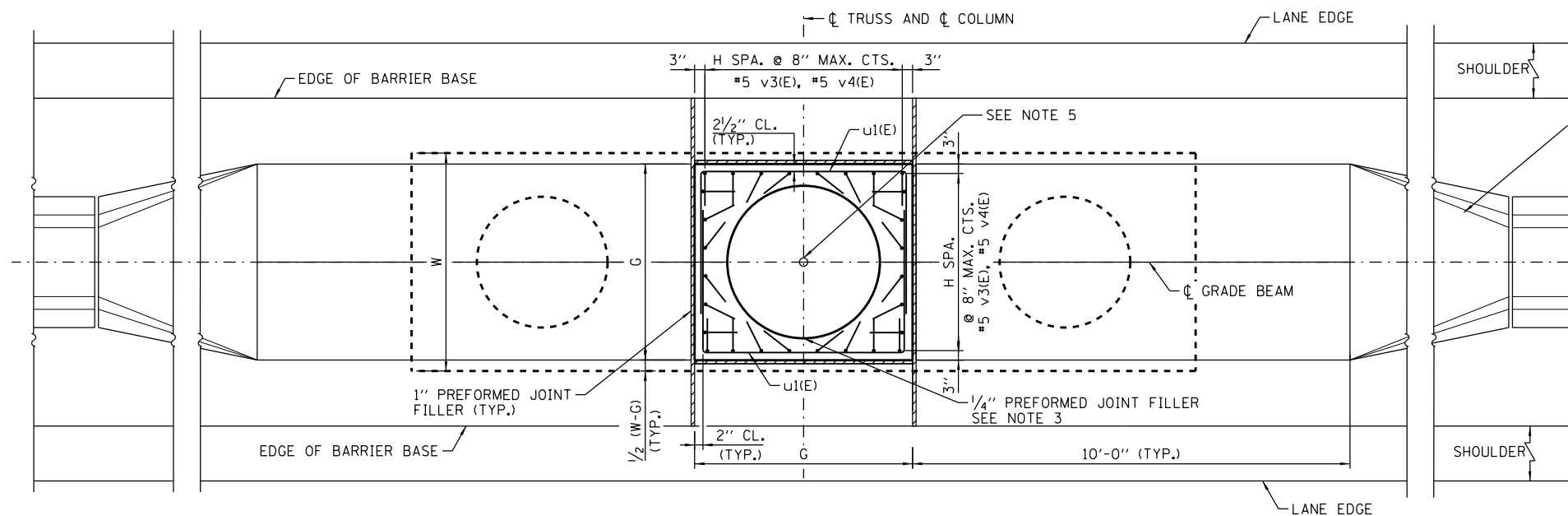
BAR	SIZE	G = 4'-6"		G = 5'-0"		SHAPE
		NUMBER	LENGTH	NUMBER	LENGTH	
u1(E)	#5	14	11'-2"	14	12'-2"	
v3(E)	#5	24	4'-10"	28	4'-10"	
v4(E)	#5	24	2'-0"	28	2'-0"	



SIDE ELEVATION



SECTION D-D



PLAN

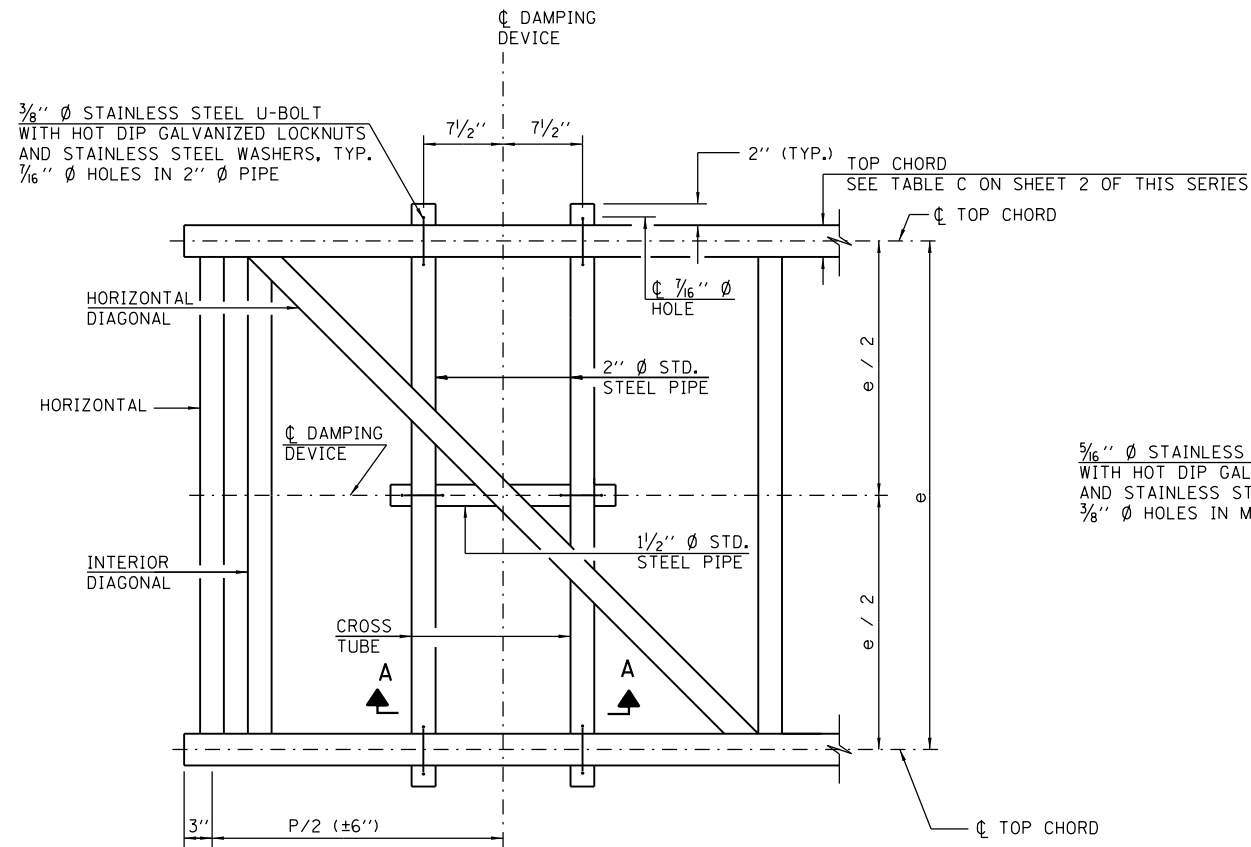
NOTES:

- SEE SHEET 6 OF THIS SERIES FOR ADDITIONAL NOTES.
- GRADE BEAM AND DRILLED SHAFT DIMENSIONS, DETAILS, QUANTITIES AND BAR LIST ARE SHOWN ON SHEET 6 OF THIS SERIES.
- SEAL EXPOSED SURFACE OF 1/4" PREFORMED JOINT FILLER WITH BACKER ROD AND SILICONE SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- #5 DRILLED ANCHOR BARS WILL BE EPOXY GROUTED AASHTO M31, GRADE 60 REBAR. PROVIDE 12" MINIMUM EMBEDMENT. INSTALL ANCHORS ACCORDING TO STANDARD SPECIFICATIONS SECTION 584. LOCATE GRADE BEAM REBAR PRIOR TO DRILLING. DO NOT DAMAGE GRADE BEAM REBAR DURING INSTALLATION.
- COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.
- PROTECTIVE COAT SHALL BE APPLIED TO TRAFFIC AND TOP FACES OF CRASHWALL.

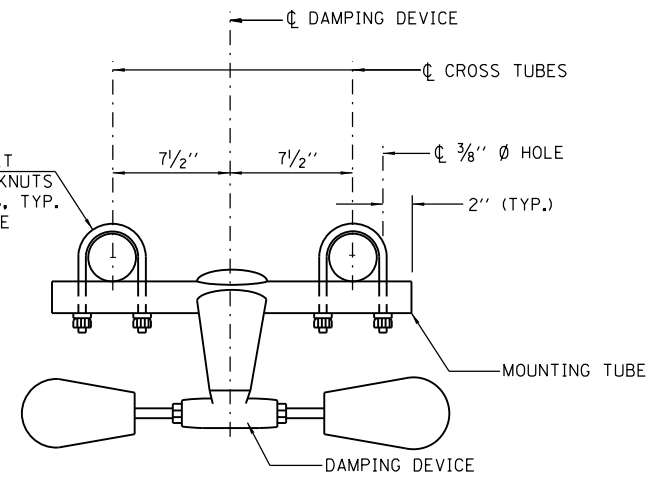
TABLE H: DESIGN TABLE FOR CRASHWALL

SPAN LENGTH (L)	W	G	H	CLASS S1 CONCRETE CU. YD.	REINF. BARS POUND	PROTECTIVE COAT SQ. YD.
< = 20'	5'-0"	4'-6"	6	1.7	340	6.0
21'-30'	5'-0"	4'-6"	6	1.7	340	6.0
31'-40'	6'-0"	5'-0"	7	2.0	380	7.0
41'-50'	6'-0"	5'-0"	7	2.0	380	7.0

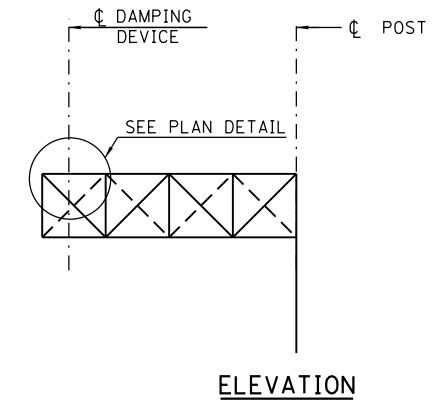




PLAN DETAIL

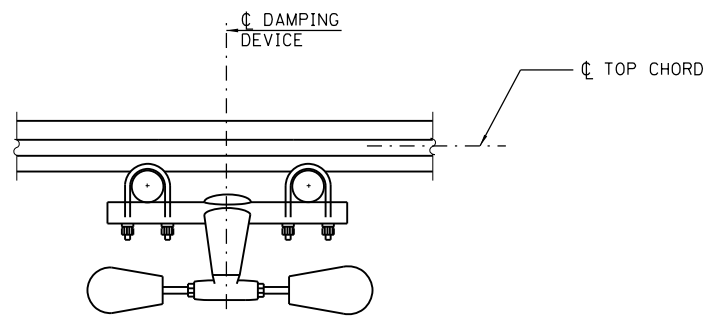


TRUSS DAMPING DEVICE CONNECTION DETAIL

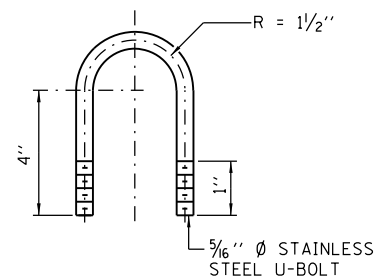


ELEVATION

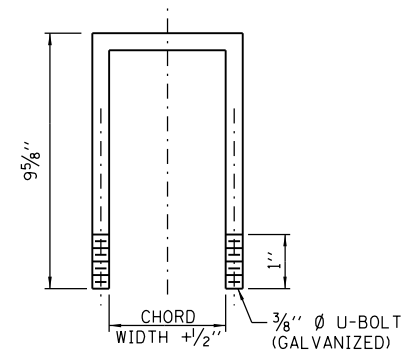
NOTE:
 DAMPER: ONE DAMPER PER TRUSS. (31 LBS. STOCKBRIDGE-TYPE
 29" MINIMUM BETWEEN ENDS OF WEIGHTS.)



SECTION A-A

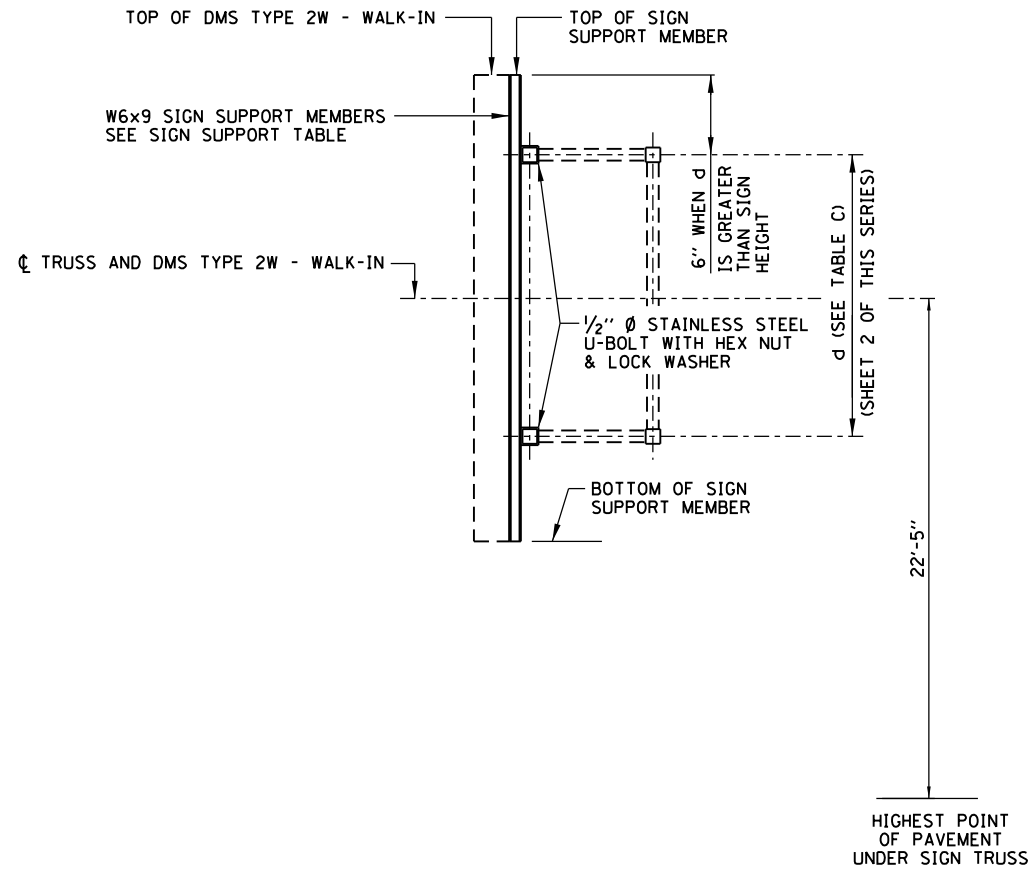
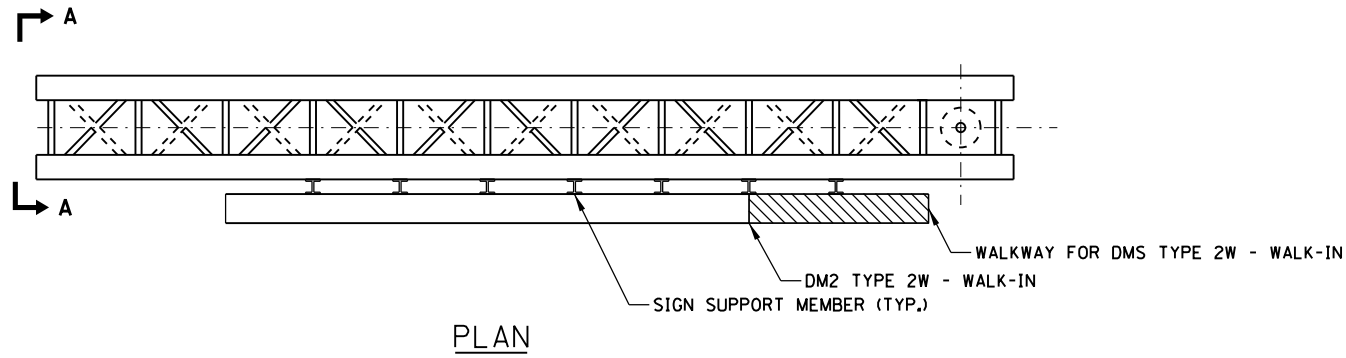


DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL (TYPICAL)



TOP CHORD TO CROSS TUBE U-BOLT DETAIL (TYPICAL)

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2014



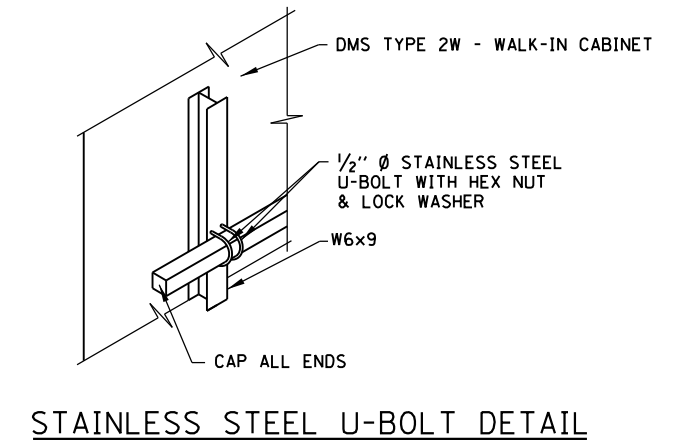
SECTION A-A
DMS TYPE 2W - WALK-IN SUPPORT DETAIL

TABLE I: SIGN SUPPORT TABLE

SIGN WIDTH		NUMBER OF SIGN SUPPORTS REQUIRED
GREATER THAN	LESS THAN OR EQUAL TO	
8'-0"	14'-0"	2
14'-0"	20'-0"	3
20'-0"	26'-0"	4
26'-0"	32'-0"	5
		6

TABLE J: DMS TYPE 2W - WALK-IN TABLE

MAXIMUM TRUSS LENGTH	SIGN WIDTH			MAXIMUM WEIGHT
	HEIGHT	WIDTH	DEPTH	
40 FEET	8'-0"	26'-6"	3'-4 1/2"	4200 LBS.

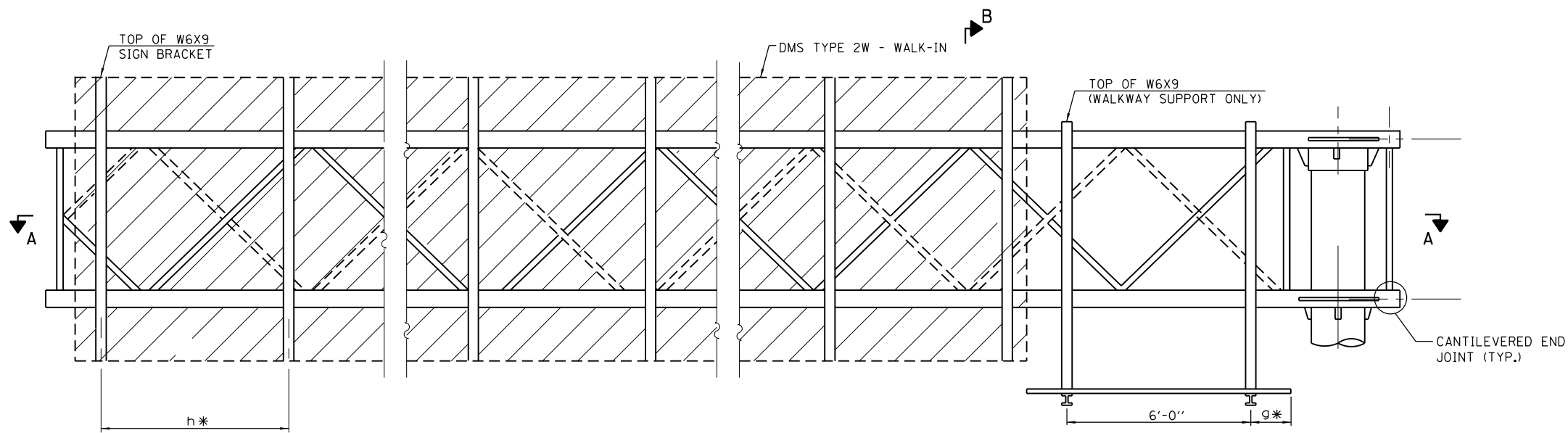


NOTES:

1. DMS TYPE 2W - WALK-IN SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
2. VERIFY SIGN SUPPORT MEMBER LENGTH PRIOR TO FABRICATION.
3. DMS TYPE 2W - WALK-IN MANUFACTURER SHALL DESIGN, PROVIDE AND INSTALL HORIZONTAL MOUNTING MEMBERS. VERTICAL SPACING OF HORIZONTAL MEMBERS SHALL BE DESIGNED BY DMS TYPE 2W - WALK-IN MANUFACTURER. VERIFY VERTICAL SPACING WITH HOLES FOR STAINLESS STEEL U-BOLT.

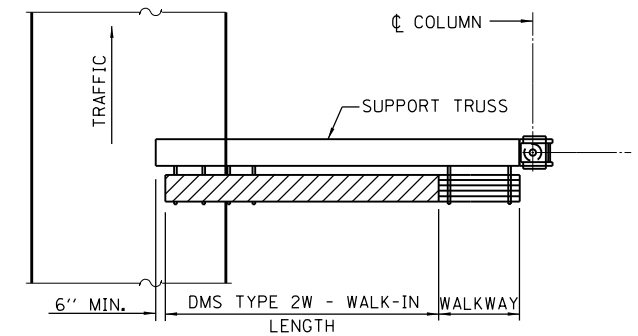
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2014





* BRACKET AND GRATING DIMENSIONS ARE NOMINAL AND WILL VARY BASED ON ACTUAL DMS TYPE 2W - WALK-IN DIMENSIONS PLUS MANUFACTURER'S MOUNTING DEVICES.

TYPICAL FRONT ELEVATION
WITH HANDRAIL OMITTED FOR CLARITY.
FOR SECTION B-B, SEE SHEET 11 OF THIS SERIES.



PLAN WALKWAY AND HANDRAIL SKETCH
(ROAD PLAN BENEATH TRUSS VARIES)
WALKWAY MAY BE LOCATED AT RIGHT OR LEFT END OF TRUSS.

NOTES:

SPACE WALKWAY BRACKETS AND SIGN BRACKETS W6X9 FOR EFFICIENCY AND WITHIN LIMITS SHOWN:

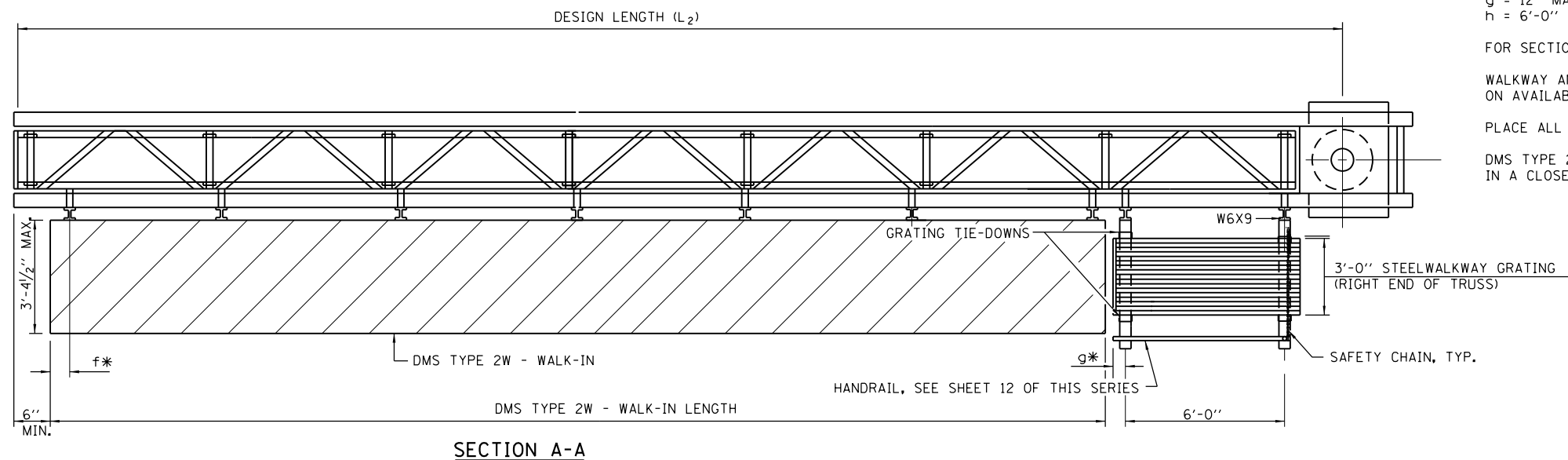
f = 12" MAXIMUM, 4" MINIMUM (END OF SIGN TO ϕ OF NEAREST BRACKET)
g = 12" MAXIMUM, 4" MINIMUM (END OF WALKWAY GRATING TO ϕ OF NEAREST SUPPORT BRACKET)
h = 6'-0" MAXIMUM (ϕ TO ϕ SIGN AND/OR WALKWAY SUPPORT BRACKETS, W6X9)

FOR SECTION B-B, SEE SHEET 11 OF THIS SERIES.

WALKWAY AND TRUSS GRATING WIDTH DIMENSIONS ARE NOMINAL AND MAY VARY $\pm 1/2$ " BASED ON AVAILABLE STANDARD WIDTH.

PLACE ALL SIGN AND WALKWAY BRACKETS AS CLOSE TO PANEL POINTS AS PRACTICAL.

DMS TYPE 2W - WALK-IN SHALL HAVE THE DOOR AT THE END, OPPOSITE THE WALKWAY SECURED IN A CLOSED POSITION.

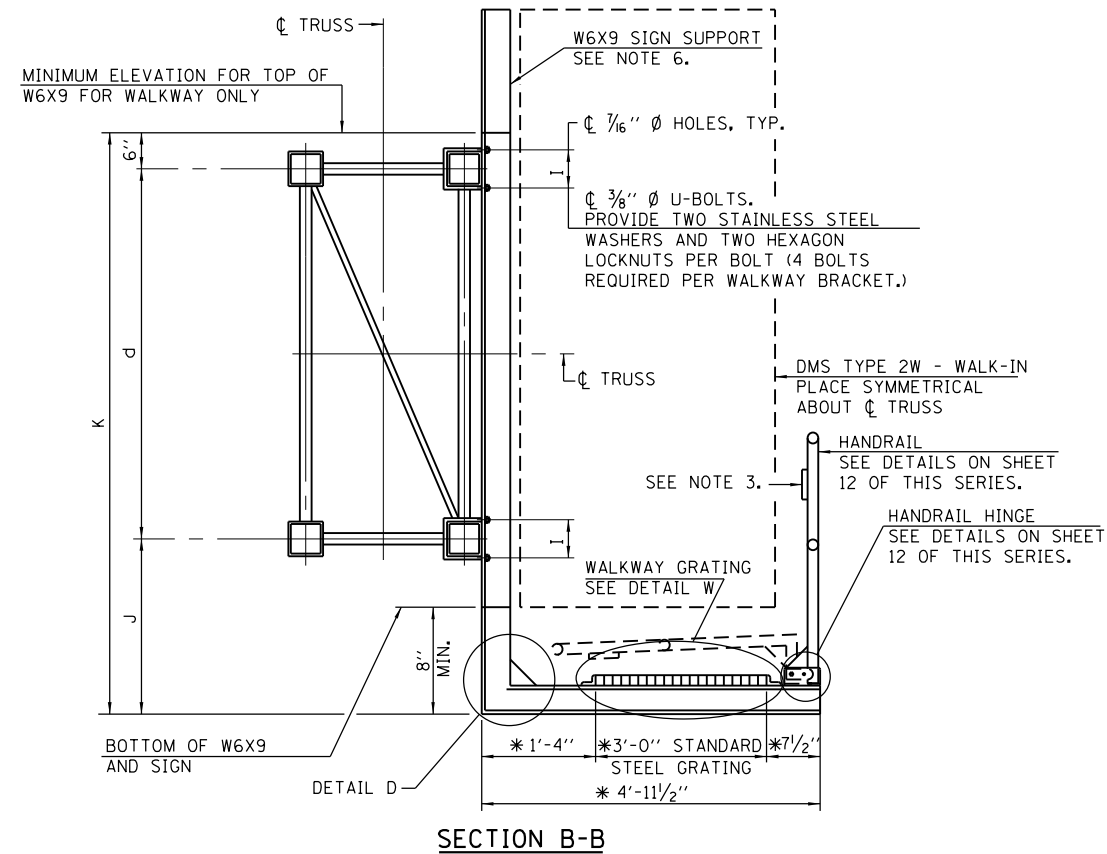


PLACE ALL SIGN AND WALKWAY BRACKETS AS CLOSE TO PANEL POINTS AS PRACTICAL.

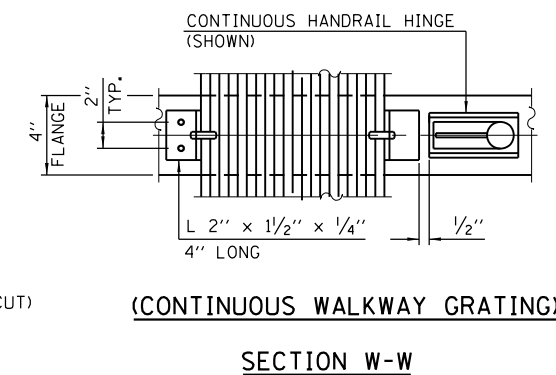
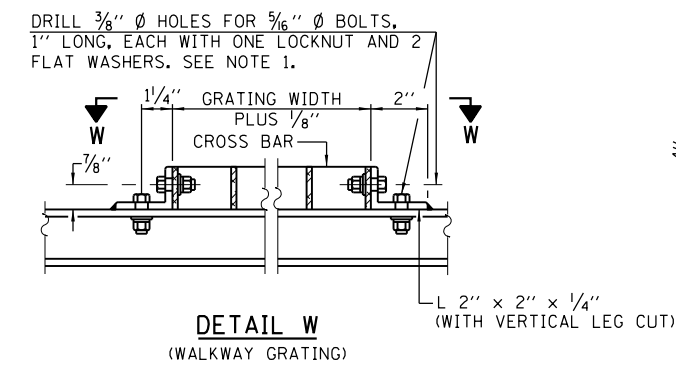
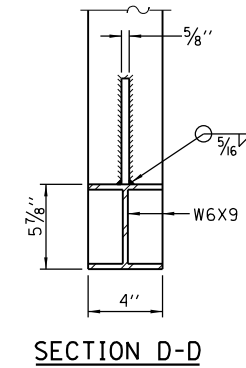
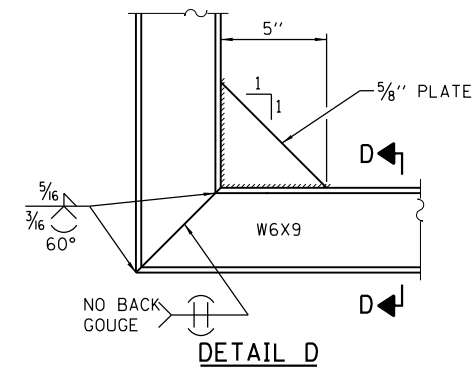
BRACKET TABLE

W6X9		
SIGN WIDTH		NUMBER OF BRACKETS REQUIRED
GREATER THAN	LESS THAN OR EQUAL TO	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6





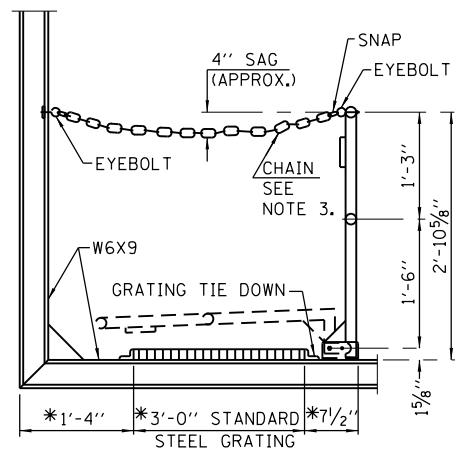
*BRACKET AND GRATING DIMENSIONS ARE NOMINAL AND WILL VARY BASED ON ACTUAL DMS TYPE 2W - WALK-IN DIMENSIONS PLUS MANUFACTURERS MOUNTING DEVICE.



NOTES:

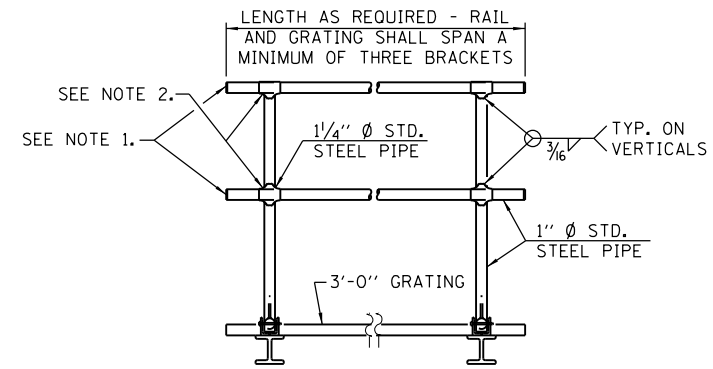
1. DRILLING HOLES IN GRATING MAY BE DONE IN SHOP OR FIELD, BASED ON CONTRACTOR'S PREFERENCE AND SUBJECT TO ACCURATE ALIGNMENT.
2. IF HANDRAIL JOINT PRESENT, WELD ANGLE TO W6X9 AND 1/4" EXTENSION BARS. SEE SHEET 12 OF THIS SERIES.
3. # 1*8" x 1*2" x 2" WELDED TO HANDRAIL POSTS TO PROTECT LOCATIONS THAT CONTACT GRATING.
4. DMS TYPE 2W - WALK-IN MANUFACTURER MUST DESIGN AND SUPPLY HARDWARE FOR CONNECTION TO W6X9. BOLTS MUST BE STAINLESS STEEL OR HOT DIP GALVANIZED HIGH STRENGTH PER IDOT SPECIFICATIONS.





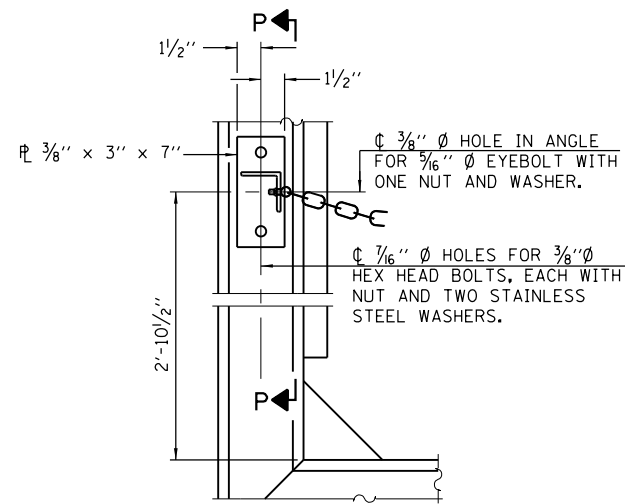
SIDE ELEVATION
(SHOWING SAFETY CHAIN W/O SIGN)

* BRACKET AND GRATING DIMENSIONS ARE NOMINAL AND WILL VARY BASED ON ACTUAL DMS TYPE 2W - WALK-IN DIMENSIONS PLUS MANUFACTURERS MOUNTING DEVICE.



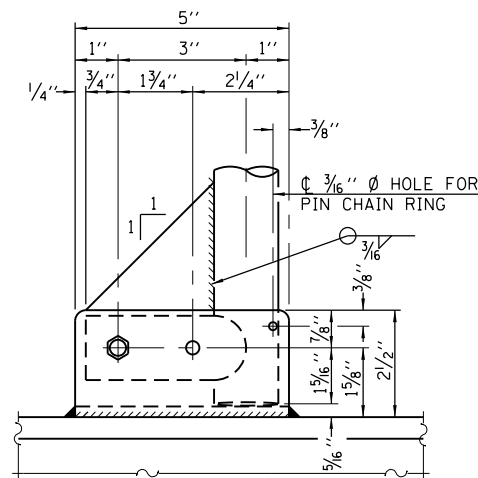
FRONT ELEVATION

HANDRAIL DETAILS

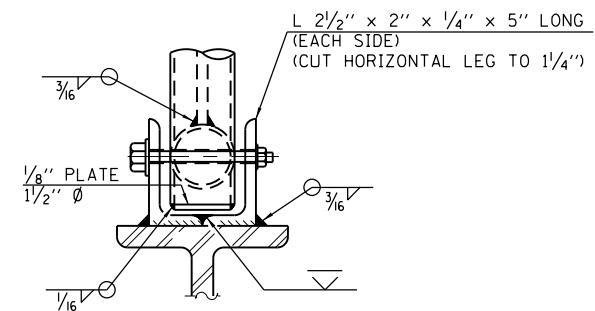


ALTERNATE SAFETY CHAIN ATTACHMENT

ITEMS NOT SHOWN SAME AS "SIDE ELEVATION" OF "HANDRAIL DETAILS"

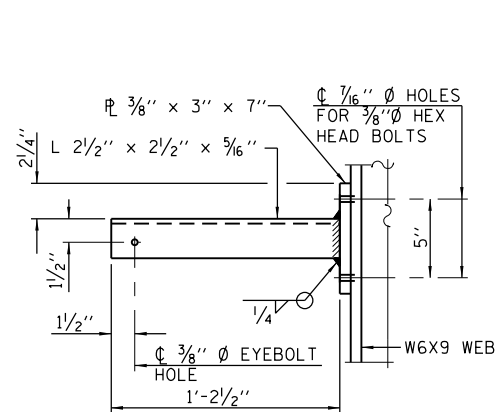


SIDE ELEVATION

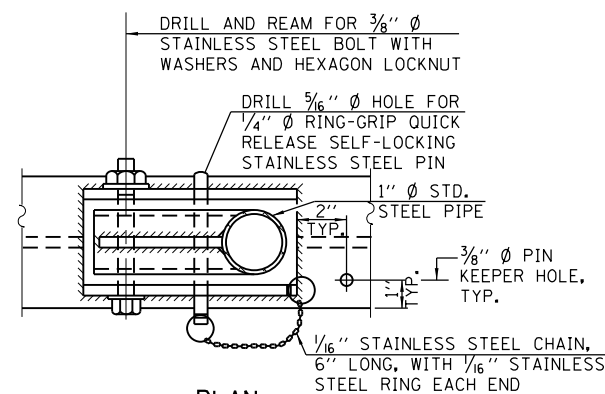


FRONT ELEVATION

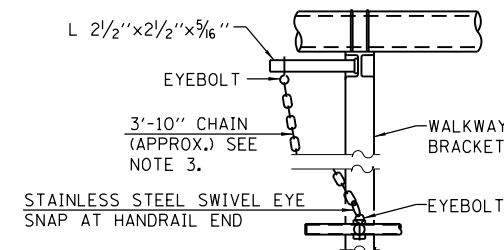
DETAILS NOT SHOWN SAME AS "ELEVATION" AT RIGHT.



SECTION P-P

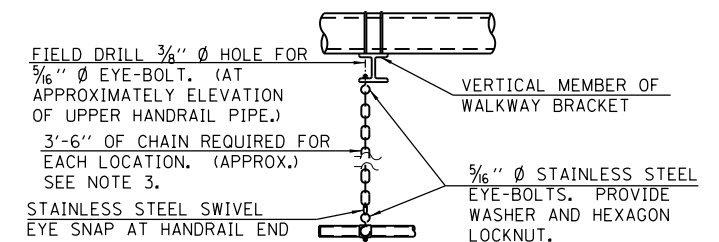


**PLAN
DETAIL E HANDRAIL HINGE**



ALTERNATE SAFETY CHAIN ATTACHMENT

DETAILS NOT SHOWN SIMILAR TO "SAFETY CHAIN" DETAILS (WALKWAY OMITTED FOR CLARITY)



SAFETY CHAIN

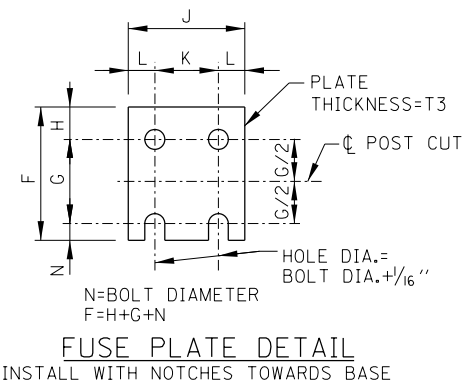
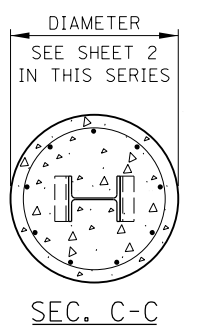
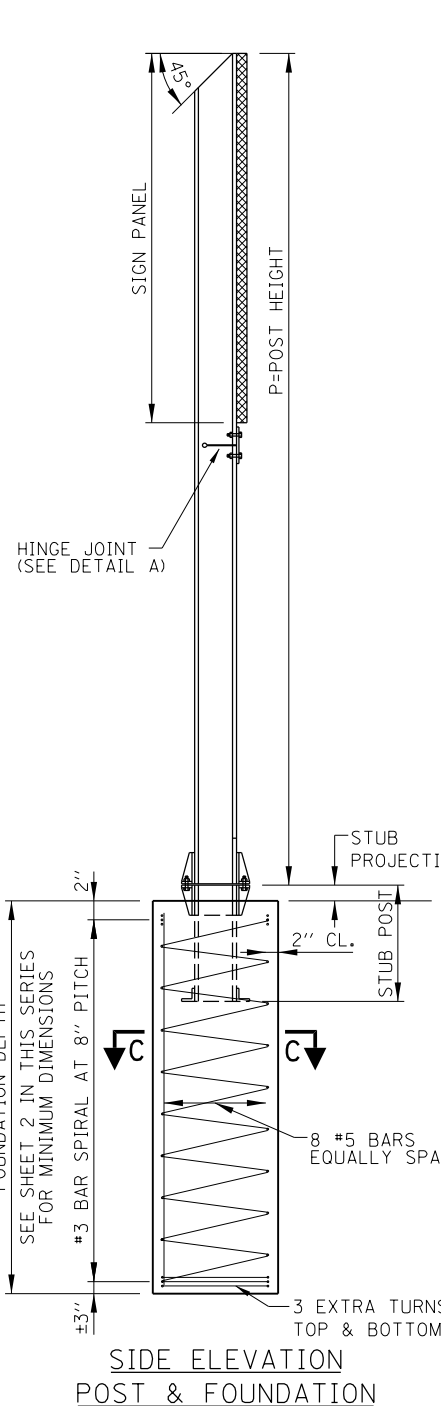
ONE REQUIRED FOR EACH END OF WALKWAY.

NOTES:

1. INSTALL STANDARD FORCE-FIT END CAPS OR WELD 1/8" END PLATES WITH 1/8" C.F.W. AND GRIND SMOOTH. (ALL RAIL ENDS)
2. HORIZONTAL HANDRAIL MEMBER SHALL BE CONTINUOUS THRU 1 1/4" Ø PIPE. PROVIDE 3/16" Ø HOLE IN 1 1/4" Ø PIPE FOR 3/8" Ø BOLT. FIELD DRILL 3/16" Ø HOLE IN HORIZONTAL RAIL MEMBER. PROVIDE LOCKNUT AND TWO STAINLESS STEEL WASHERS FOR BOLT. (USE 3/16" EYEBOLTS IN 3/16" Ø HOLES ON TOP RAIL AT ENDS ONLY.)
3. 3/16" TYPE 304L STAINLESS STEEL CHAIN, APPROXIMATELY 12 LINKS PER FOOT.



Paul Kovacs

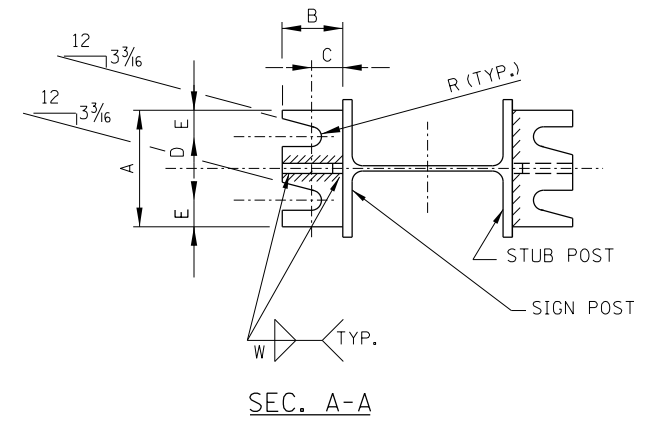
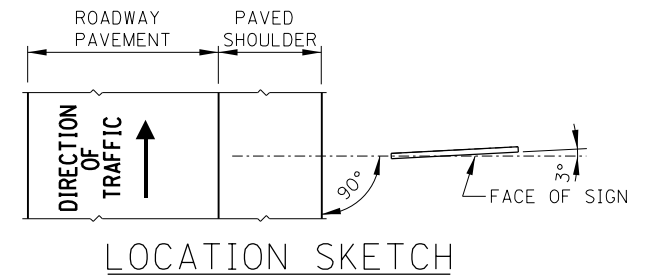
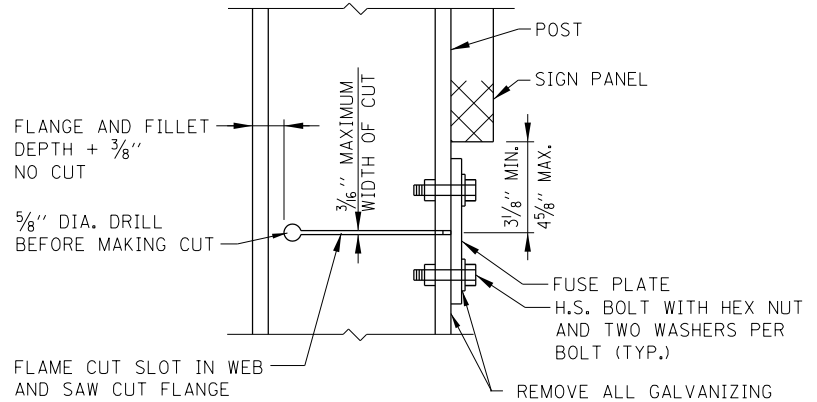


G & H DIM. TABLE

BOLT DIA.	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"
1 1/4"	3 1/2"	1 7/8"

FABRICATORS NOTES

THE SLOT AND THE 5/8" DIA. HOLE IN THE WEB AND THE FUSE PLATE BOLT HOLES IN THE FLANGE SHALL BE MADE BEFORE GALVANIZING. POST FLANGE SHALL BE SAW CUT AFTER GALVANIZING AND BARE METAL SURFACES SHALL BE COATED WITH AN APPROVED ZINC SOLDER OR ZINC-RICH PAINT. THESE SURFACES SHALL NOT BE COATED UNTIL THE FUSE PLATE IS INSTALLED AND BOLTS FULLY TIGHTENED.



GENERAL NOTES

DESIGN: THE LATEST EDITION OF THE "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE AND TRAFFIC SIGNALS".

CONSTRUCTION: IDOT STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

LOADING: FOR 80 MPH WIND VELOCITY PLUS 30% GUST FACTOR NORMAL TO SIGN.

DESIGN STRESSES:
 STRUCTURAL STEEL - PER AASHTO 20,000 P.S.I.
 REINFORCING STEEL - 24,000 P.S.I.
 CLASS SI CONCRETE - 1,400 P.S.I.
 MINIMUM SOIL PRESSURE - 1.25 TONS/SQ. FT.

WELDING: ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING TO BE DONE IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS, AND IDOT STANDARD SPECIFICATIONS.

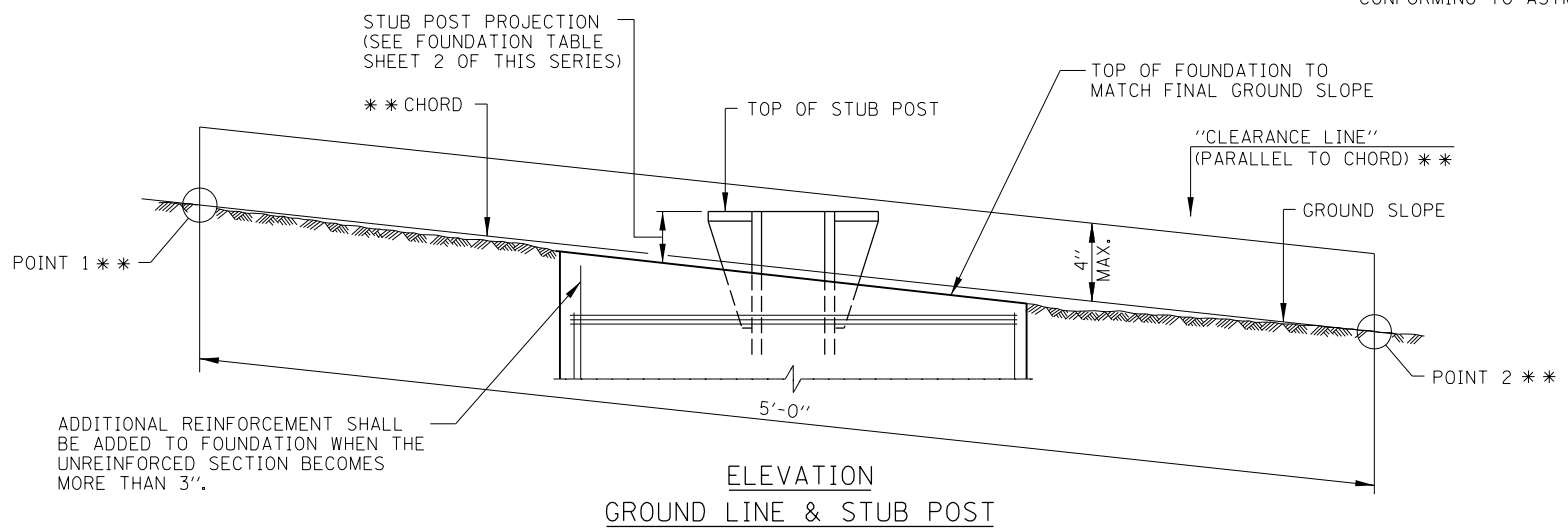
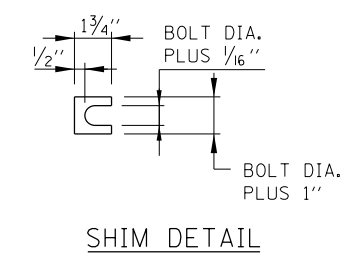
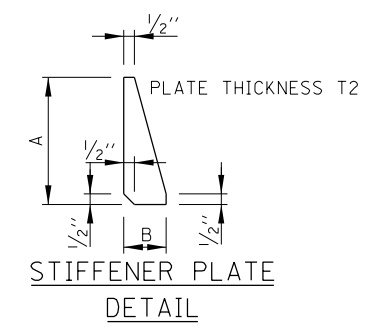
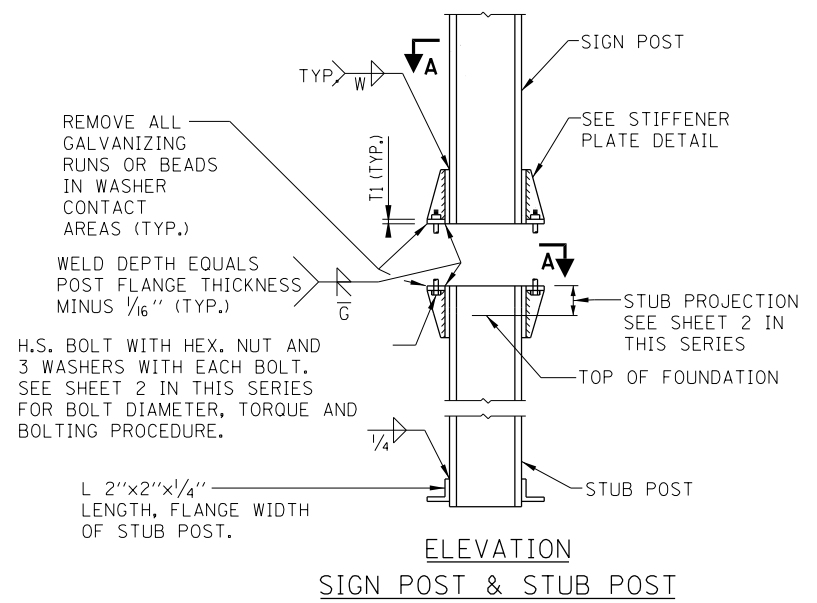
MATERIALS: ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND IDOT STANDARD SPECIFICATIONS.

ALL HIGH STRENGTH STEEL BOLTS, NUTS AND WASHERS SHALL CONFORM TO IDOT STANDARD SPECIFICATIONS.

HIGH STRENGTH STEEL BOLTS, NUTS AND HARDENED WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232.

HIGH STRENGTH BOLTS IN BASE PLATES SHALL BE TIGHTENED TO THE TORQUE SHOWN ON SHEET 2 IN THIS SERIES.

AFTER FABRICATION, THE POST, FUSE PLATE, BASE PLATE AND UPPER 6" OF STUB POST SHALL BE HOT-DIP GALVANIZED ACCORDING TO ASTM M111, EXCEPT AS NOTED UNDER FABRICATOR NOTES.



** FOR ALL "POINT 1" AND "POINT 2" LOCATIONS, "CLEARANCE LINE" MUST BE AT OR ABOVE TOP OF STUB POST.



DATE	REVISIONS
2-7-2012	ADDED STUB POST CLEARANCE DIMENSIONS, REVISED SIGN INSTALLATION CLEARANCE DIMENSIONS
11-1-2012	REVISED NOTES, MODIFIED SLOPE REQUIREMENTS FOR BREAKAWAY SUPPORTS

BREAKAWAY SIGN SUPPORT DETAILS

STANDARD F9-04

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2010...

POST	FOUNDATION TABLE											BASE CONNECTION DATA TABLE												
	FOUNDATION			REINFORCEMENT					STUB POST			BOLT SIZE AND TORQUE	A	B	C	D	E	T1	T2	W	R			
	DIA.	MIN. DEPTH	CY.* CONC.	VERTICAL NO.	BARS SIZE	LGTH.	BAR SPIRALS SIZE	O.D.	LGTH.	LBS.**	STUB LGTH.											STUB PROJECTION	LBS.***	
W6x9	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20 1/2"	79'	78	2'-3"	3"	44	5/8" Ø x 3 1/4" LG. TORQUE = 450" #	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	1/4"	11/32"	
W6x15	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20 1/2"	79'	78	2'-6"	3"	71											
W8x18	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20 1/2"	79'	78	2'-6"	3"	85	3/4" Ø x 3 3/4" LG. TORQUE = 750" #	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	5/16"	13/32"	
W10x22	2'-6"	6'-6"	1.18	8	#5	6'-3"	#3	26 1/2"	105'	92	3'-0"	2 1/2"	110											
W10x26	2'-6"	7'-0"	1.27	8	#5	6'-9"	#3	26 1/2"	112'	98	3'-0"	2 1/2"	137											
W12x26	2'-6"	7'-9"	1.41	8	#5	7'-6"	#3	26 1/2"	119'	107	3'-0"	2 1/2"	140	7/8" Ø x 4" LG. TORQUE = 950" #	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	3/8"	15/32"	
W14x30	3'-0"	7'-3"	1.90	8	#5	7'-0"	#3	32 1/2"	145'	113	3'-0"	2 1/2"	150											
W14x38	3'-0"	8'-0"	2.09	8	#5	7'-9"	#3	32 1/2"	153'	122	3'-6"	2 1/2"	208	1" Ø x 4 1/2" LG. TORQUE = 1100" #	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	3/8"	11/32"	
W16x45	3'-0"	8'-6"	2.23	8	#5	8'-3"	#3	32 1/2"	162'	130	3'-6"	2 1/2"	233											

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

1. ASSEMBLE POST TO STUB WITH H.S. BOLTS AND ONE OF THE THREE FLAT WASHERS ON EACH BOLT BETWEEN PLATES AS SHOWN.
2. SHIMS MAY BE USED BETWEEN PLATES TO LEVEL POST.
3. TIGHTEN BOLTS IN BASE PLATE IN A SYSTEMATIC ORDER TO THE REQUIRED TORQUE.
4. LOOSEN EACH BOLT AND RETIGHTEN TO THE REQUIRED TORQUE IN SAME ORDER AS INITIAL TIGHTENING.
5. BURR OR CENTER PUNCH THREADS AT JUNCTURE OF BOLT AND NUT TO PREVENT NUT FROM LOOSENING.

- * QUANTITY OF IDOT CLASS DS CONCRETE CONSISTS OF ALL CONCRETE NECESSARY FOR ONE FOUNDATION. (CUBIC YARDS)
- ** THIS INCLUDES REINFORCEMENT BARS AND SPIRAL HOOPING REQUIRED FOR ONE FOUNDATION.
- *** INCLUDES WEIGHT OF STUB POST WITH ANGLES, GUSSETS, BASE PLATES, BOLTS, NUTS, WASHERS, PLUS BASE PLATES AND GUSSETS ON MAIN POST, PLUS FUSE PLATE (IF ANY) WITH BOLTS, NUTS AND WASHERS. (ONE POST)

EQUIVALENT TORQUE VALUES

- 450" # = 37.5' #
- 750" # = 62.5' #
- 950" # = 79.2' #
- 1100" # = 91.7' #

POST	FUSE PLATE DATA TABLE				FUSE PLATE BOLT SIZE TABLE											
	J	K	L	T3	SIGN DEPTH											
					4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	
W6x9	4"	2 1/4"	7/8"	1/4"	1/2" Ø x 1 1/2"	1/2" Ø x 1 1/2"	1/2" Ø x 1 1/2"	5/8" Ø x 1 3/4"	5/8" Ø x 1 3/4"	5/8" Ø x 1 3/4"	---	---	---	---	---	
W6x15	6"	3 1/2"	1 1/4"	3/8"	1/2" Ø x 1 3/4"	1/2" Ø x 1 3/4"	5/8" Ø x 2"	5/8" Ø x 2"	3/4" Ø x 2"	3/4" Ø x 2"	3/4" Ø x 2"	3/4" Ø x 2"	7/8" Ø x 2"	7/8" Ø x 2"	---	
W8x18	5 1/4"	2 3/4"	1 1/4"	3/8"	1/2" Ø x 1 3/4"	1/2" Ø x 1 3/4"	1/2" Ø x 1 3/4"	5/8" Ø x 2"	5/8" Ø x 2"	3/4" Ø x 2"	3/4" Ø x 2"	3/4" Ø x 2"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/4"
W10x22	5 3/4"	2 3/4"	1 1/2"	1/2"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	5/8" Ø x 2"	5/8" Ø x 2"	3/4" Ø x 2 1/4"	3/4" Ø x 2 1/4"	3/4" Ø x 2 1/4"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/2"	1" Ø x 2 1/2"
W10x26	5 3/4"	2 3/4"	1 1/2"	5/8"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	5/8" Ø x 2 1/4"	5/8" Ø x 2 1/4"	3/4" Ø x 2 1/2"	3/4" Ø x 2 1/2"	3/4" Ø x 2 1/2"	7/8" Ø x 2 1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 3/4"	1" Ø x 2 3/4"
W12x26	6 1/2"	3 1/2"	1 1/2"	5/8"	---	---	---	---	---	5/8" Ø x 2 1/4"	---	---	7/8" Ø x 2 1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 1/2"	1" Ø x 2 1/2"
W14x30	6 3/4"	3 1/2"	1 5/8"	1/2"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	5/8" Ø x 2 1/4"	5/8" Ø x 2 1/4"	3/4" Ø x 2 1/4"	3/4" Ø x 2 1/4"	7/8" Ø x 2 1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 1/2"
W14x38	6 3/4"	3 1/2"	1 5/8"	1/2"	---	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	1/2" Ø x 2"	5/8" Ø x 2 1/4"	5/8" Ø x 2 1/4"	3/4" Ø x 2 1/2"	3/4" Ø x 2 1/2"	7/8" Ø x 2 1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 1/2"
W16x45	7"	3 1/2"	1 3/4"	1/2"	---	---	---	1/2" Ø x 2"	1/2" Ø x 2"	5/8" Ø x 2 1/4"	5/8" Ø x 2 1/4"	3/4" Ø x 2 1/2"	3/4" Ø x 2 1/2"	7/8" Ø x 2 1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 1/2"

POST	FUSE PLATE DATA TABLE				FUSE PLATE BOLT SIZE TABLE											
	J	K	L	T3	SIGN DEPTH											
					15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	---	
W6x9	4"	2 1/4"	7/8"	1/4"	---	---	---	---	---	---	---	---	---	---	---	---
W6x15	6"	3 1/2"	1 1/4"	3/8"	---	---	---	---	---	---	---	---	---	---	---	---
W8x18	5 1/4"	2 3/4"	1 1/4"	3/8"	7/8" Ø x 2 1/4"	7/8" Ø x 2 1/4"	---	---	---	---	---	---	---	---	---	---
W10x22	5 3/4"	2 3/4"	1 1/2"	1/2"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	---	---	---	---	---	---
W10x26	5 3/4"	2 3/4"	1 1/2"	5/8"	1" Ø x 2 3/4"	1 1/8" Ø x 3"	1 1/8" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	---
W12x26	6 1/2"	3 1/2"	1 1/2"	5/8"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1 1/8" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	---
W14x30	6 3/4"	3 1/2"	1 5/8"	1/2"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	---
W14x38	6 3/4"	3 1/2"	1 5/8"	1/2"	1" Ø x 2 1/2"	1" Ø x 2 3/4"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	---
W16x45	7"	3 1/2"	1 3/4"	1/2"	7/8" Ø x 2 1/2"	1" Ø x 2 3/4"	1" Ø x 2 3/4"	1 1/8" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	1 1/4" Ø x 3"	---

PROCEDURE FOR FUSE PLATE BOLT TIGHTENING:

ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP AS APPROVED BY THE ENGINEER ACCORDING TO ONE OF THE FOLLOWING METHODS:

1. TURN-OF-NUT TIGHTENING,
2. TIGHTENING BY USE OF A DIRECT TENSION INDICATOR.

THE ABOVE METHODS OF INSTALLATION AND TIGHTENING SHALL CONFORM TO THE LATEST ISSUE OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A-325 OR A-490 BOLTS, FOR SLIP-CRITICAL CONNECTIONS AS ISSUED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS OF THE ENGINEERING FOUNDATION.

TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN THE FOLLOWING MINIMUM RESIDUAL TENSION IN EACH BOLT.

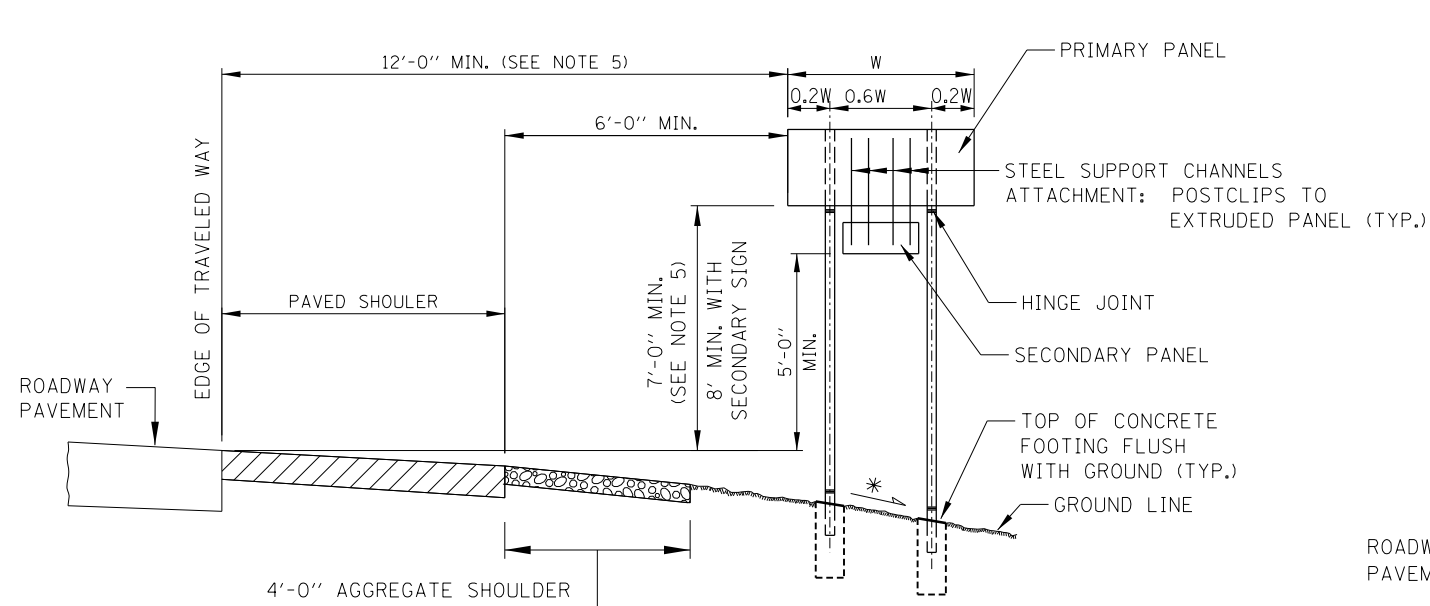
BOLT DIA.	MIN. RESIDUAL BOLT TENSION	BOLT DIA.	MIN. RESIDUAL BOLT TENSION	BOLT DIA.	MIN. RESIDUAL BOLT TENSION
1/2"	12,050	7/8"	39,250	1 1/4"	71,700
5/8"	19,200	1"	51,500		
3/4"	28,400	1 1/8"	56,450		



BREAKAWAY SIGN SUPPORT DETAILS

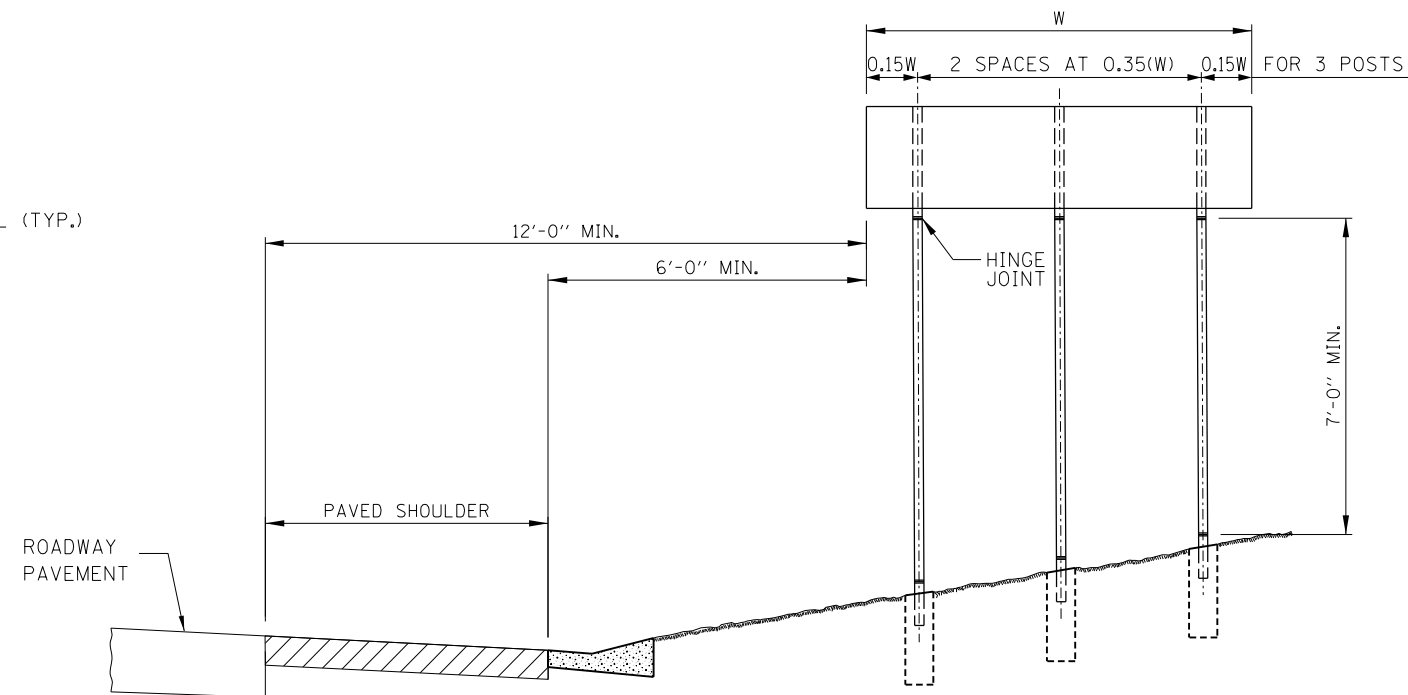
STANDARD F9-04

APPROVED: *Paul Kovacs* DATE 1-1-2010...
 CHIEF ENGINEER

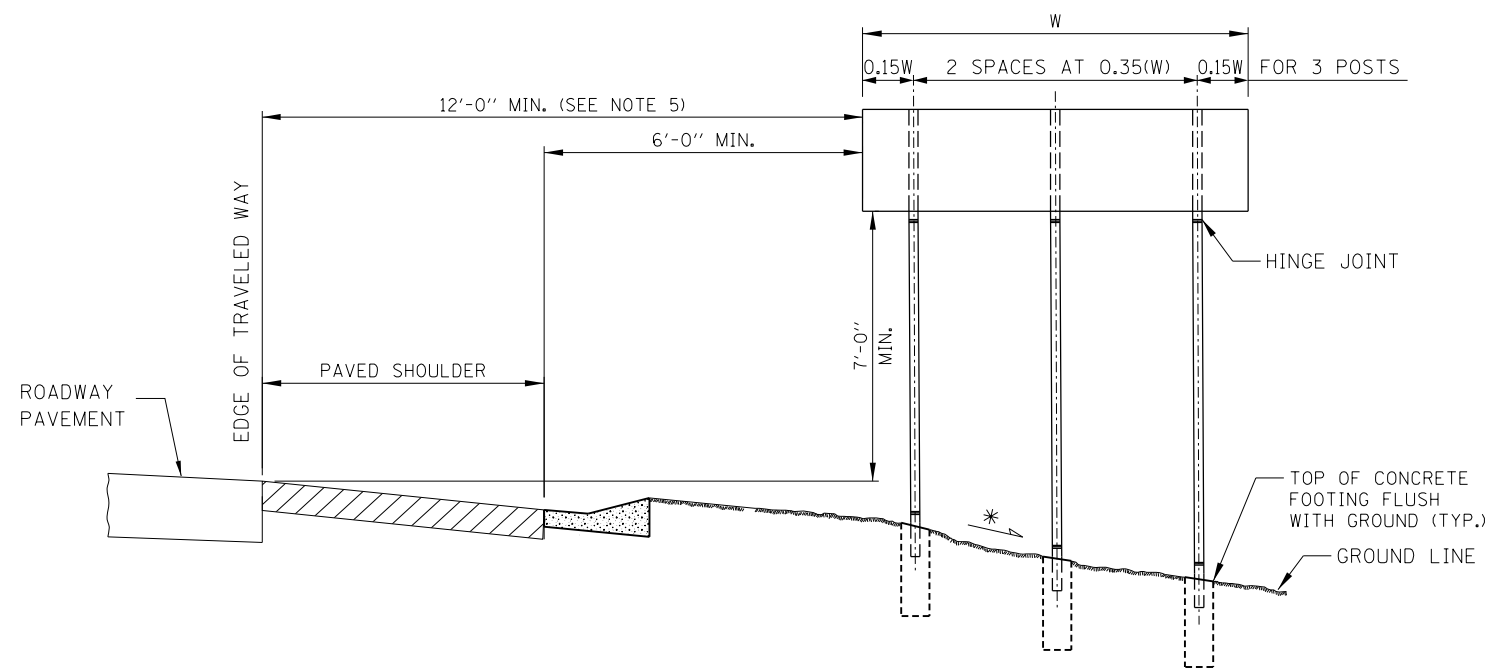


CONDITION 1 - SIGN INSTALLATION

(*) FORESLOPE 1:6 (V:H) OR FLATTER



CONDITION 3 - SIGN INSTALLATION



CONDITION 2 - SIGN INSTALLATION

(*) FORESLOPE 1:6 (V:H) OR FLATTER

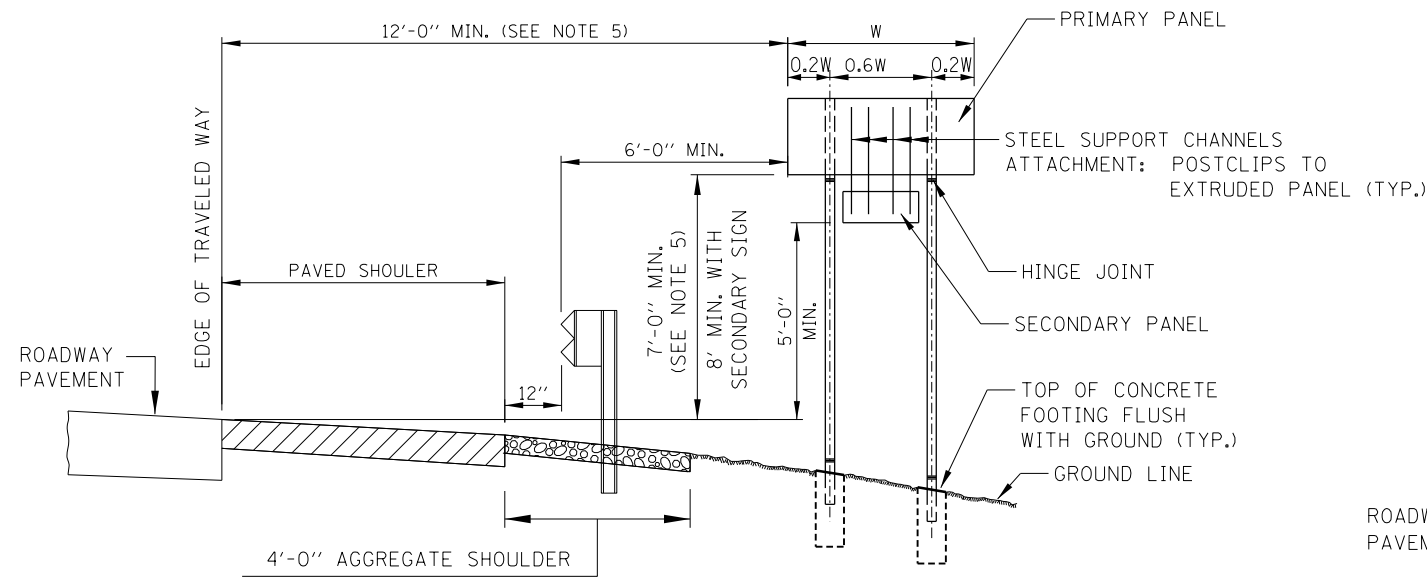
NOTES:

1. SEE SIGN INSTALLATION SCHEDULE IN CONTRACT PLANS FOR DIMENSIONS.
2. THE DIMENSIONS OF ALL POSTS FOR GROUND MOUNTED SIGNS ARE BASED ON DESIGN CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY REQUIRED POST LENGTHS IN THE FIELD, PRIOR TO SUBMITTING SHOP DRAWINGS AND POST FABRICATION TO MAINTAIN THE CLEARANCES SHOWN.
3. SIGN FOUNDATION ELEVATIONS TO BE BASED ON FINISHED SLOPES.
4. ANY ADDITIONAL SIGN TO BE ADDED LATER MUST BE SUPPORTED BY THE EXISTING SIGN PANEL AND NOT THE SIGN POST. MINIMUM CLEARANCES SHALL BE MAINTAINED.
5. SIGNS THAT ARE PLACED WELL OUTSIDE THE CLEAR ZONE MAY BE INSTALLED WITH A MINIMUM HEIGHT OF 5 FEET, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE HORIZONTAL ELEVATION OF THE NEAR EDGE OF TRAVELED ROADWAY.
6. MINIMUM HEIGHT OF LOWEST POST SHALL BE 7'-0" MEASURED BETWEEN STUB PROJECTION AND HINGE JOINT.
7. FOR TWO POSTS SPACED LESS THAN 7 FEET APART, EACH POST SHALL HAVE A MASS LESS THAN 18 lb/ft.
8. WHEN THE TOTAL COMBINED WEIGHT OF THE TWO POSTS LOCATED WITHIN 7 FEET OF EACH OTHER EXCEEDS 600 lbs., THE SIGN SHALL BE PLACED WELL OUTSIDE THE CLEAR ZONE OR BE SHIELDED FROM VEHICULAR IMPACT.

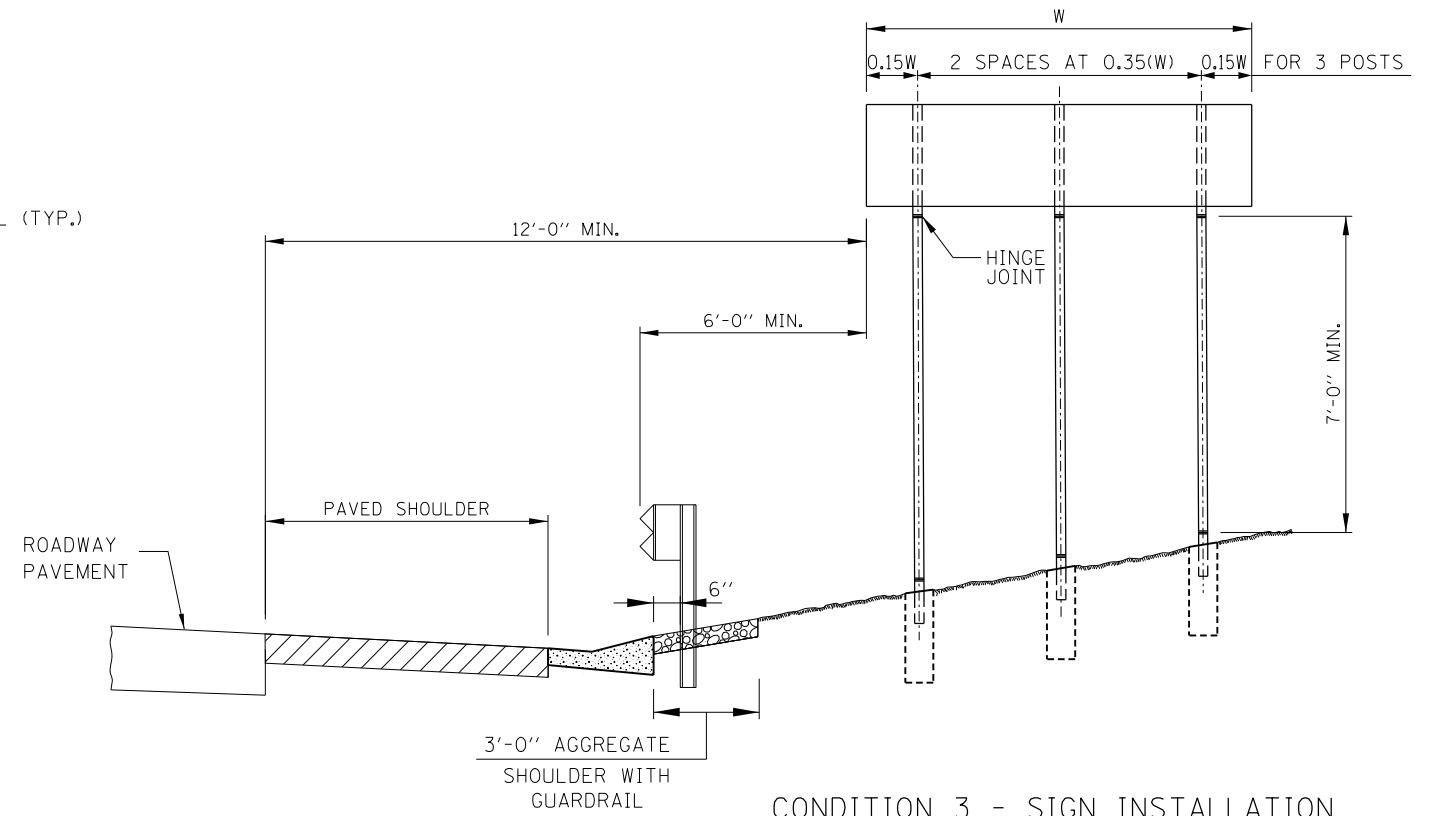


UNSHIELDED SLOPE

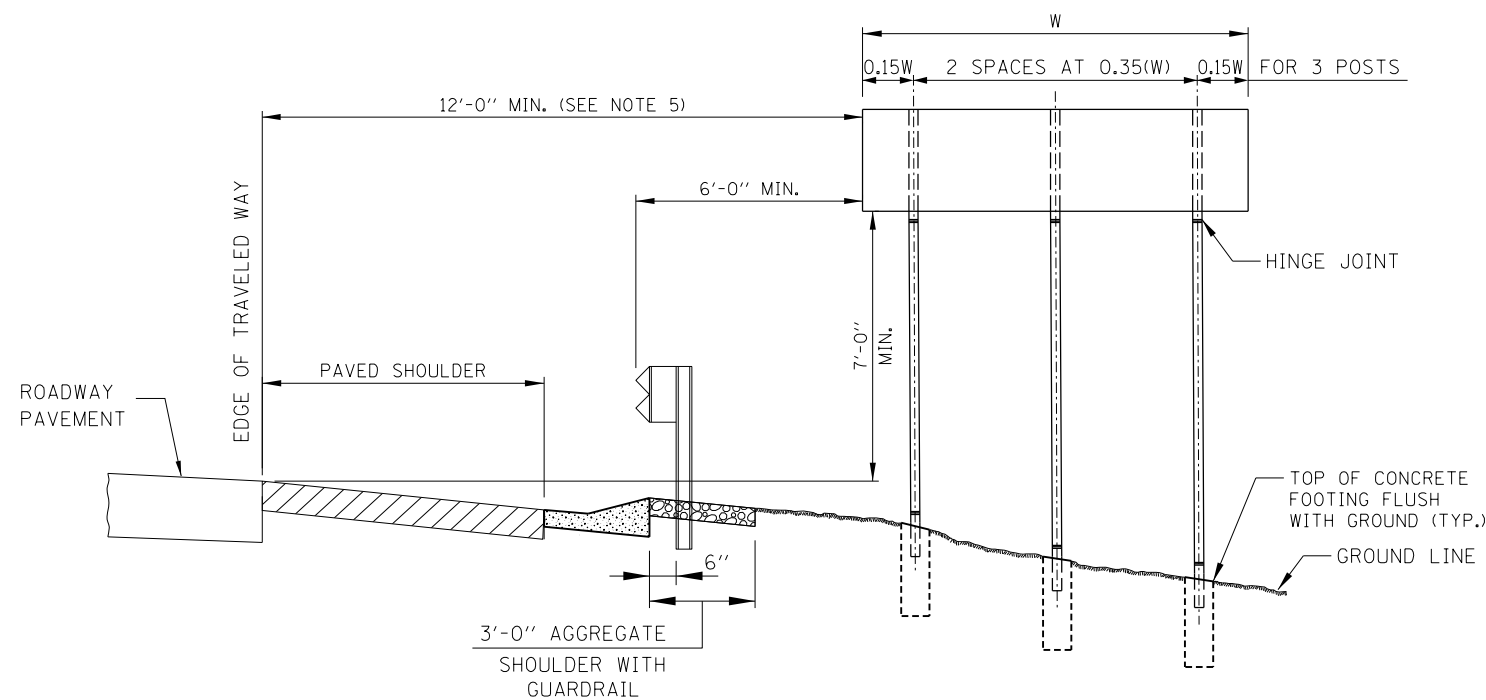
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2010



CONDITION 1 - SIGN INSTALLATION



CONDITION 3 - SIGN INSTALLATION



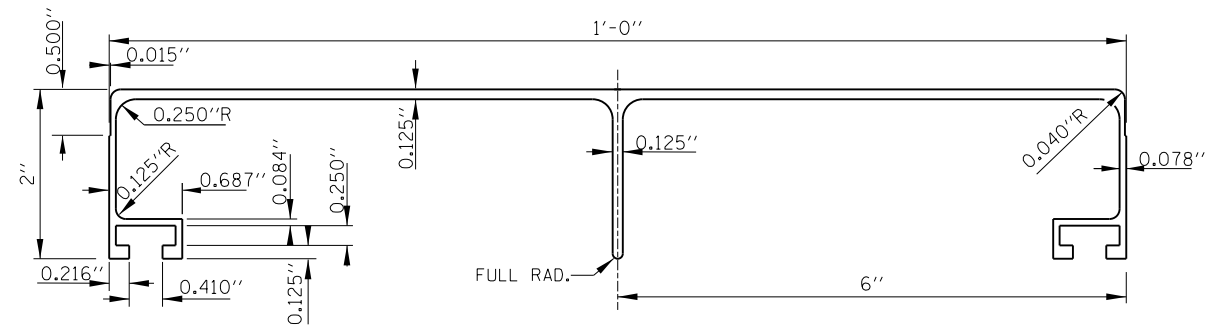
CONDITION 2 - SIGN INSTALLATION

SHIELDED SLOPE

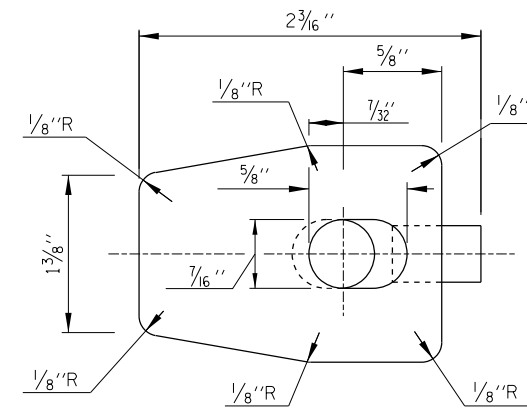
NOTES:

1. SEE SIGN INSTALLATION SCHEDULE IN CONTRACT PLANS FOR DIMENSIONS.
2. THE DIMENSIONS OF ALL POSTS FOR GROUND MOUNTED SIGNS ARE BASED ON DESIGN CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY REQUIRED POST LENGTHS IN THE FIELD, PRIOR TO SUBMITTING SHOP DRAWINGS AND POST FABRICATION TO MAINTAIN THE CLEARANCES SHOWN.
3. SIGN FOUNDATION ELEVATIONS TO BE BASED ON FINISHED SLOPES.
4. ANY ADDITIONAL SIGN TO BE ADDED LATER MUST BE SUPPORTED BY THE EXISTING SIGN PANEL AND NOT THE SIGN POST. MINIMUM CLEARANCES SHALL BE MAINTAINED.
5. SIGNS THAT ARE PLACED WELL OUTSIDE THE CLEAR ZONE MAY BE INSTALLED WITH A MINIMUM HEIGHT OF 5 FEET, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE HORIZONTAL ELEVATION OF THE NEAR EDGE OF TRAVELED ROADWAY.
6. MINIMUM HEIGHT OF LOWEST POST SHALL BE 7'-0" MEASURED BETWEEN STUB PROJECTION AND HINGE JOINT.
7. FOR TWO POSTS SPACED LESS THAN 7 FEET APART, EACH POST SHALL HAVE A MASS LESS THAN 18 lb/ft.
8. WHEN THE TOTAL COMBINED WEIGHT OF THE TWO POSTS LOCATED WITHIN 7 FEET OF EACH OTHER EXCEEDS 600 lbs., THE SIGN SHALL BE PLACED WELL OUTSIDE THE CLEAR ZONE OR BE SHIELDED FROM VEHICULAR IMPACT.

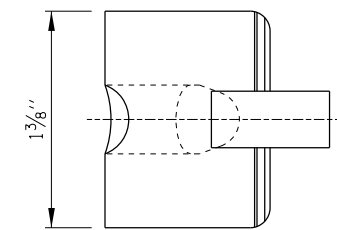




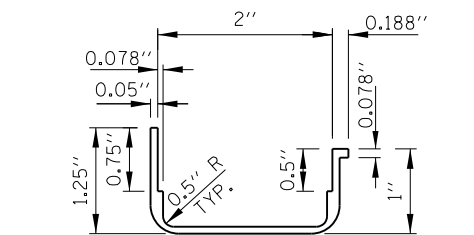
12" PANEL
TYPE B SIGN PANEL EXTRUSIONS



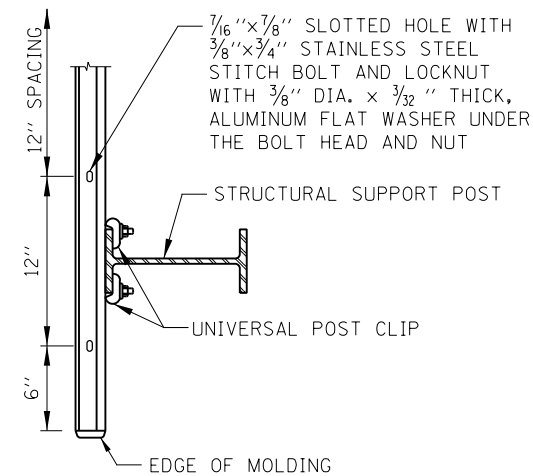
PLAN VIEW



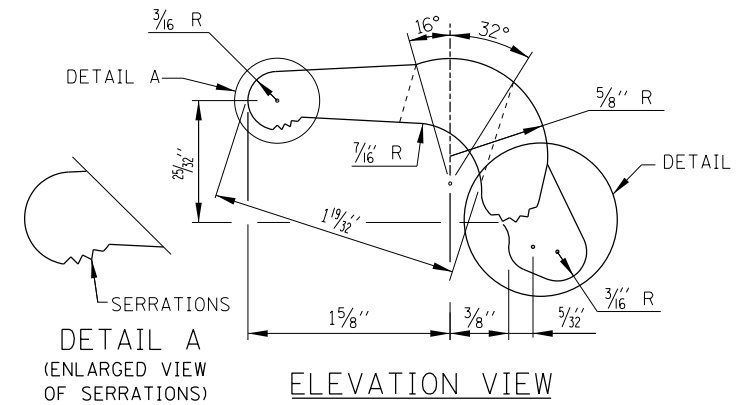
END VIEW



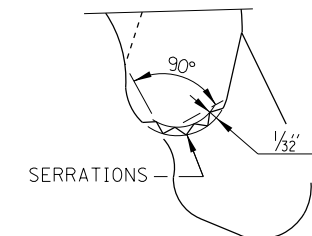
EDGE MOLDING SECTION
FOR SIGN PANEL



SECTION C-C

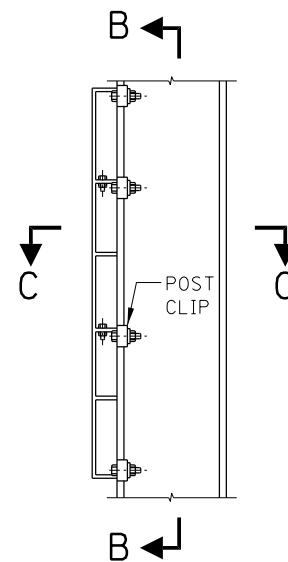


ELEVATION VIEW

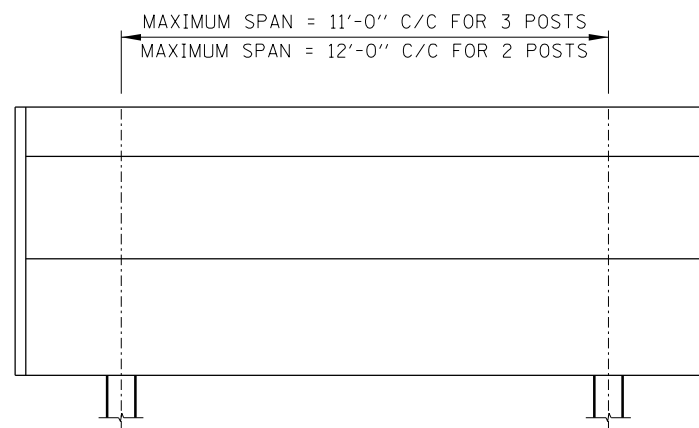


DETAIL B
(ENLARGED DETAIL
OF SERRATIONS)

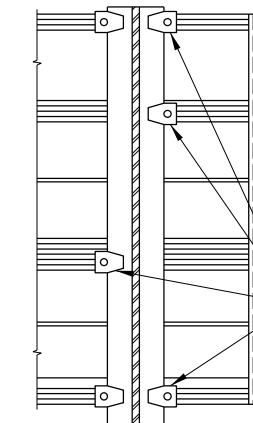
ALUMINUM CLIP DETAIL



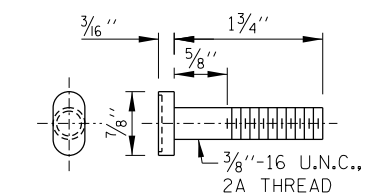
SECTION A-A



FACE OF SIGN PANEL



SECTION B-B



POST CLIP BOLT
STAINLESS STEEL

PROVIDE TWO (2) POST CLIPS AT TOP AND BOTTOM. ALTERNATE INTERIOR POST CLIPS ON SIGNS UNDER 24 FEET LONG AND OVER HEAD MOUNTED SIGNS. DO NOT ALTERNATE INTERIOR CLIPS ON OTHER SIGNS. A 3/8" DIA. x 3/32" THICK, ALUMINUM FLAT WASHER SHALL BE USED UNDER EACH NUT TO PREVENT GOUGING OF THE CLIP.

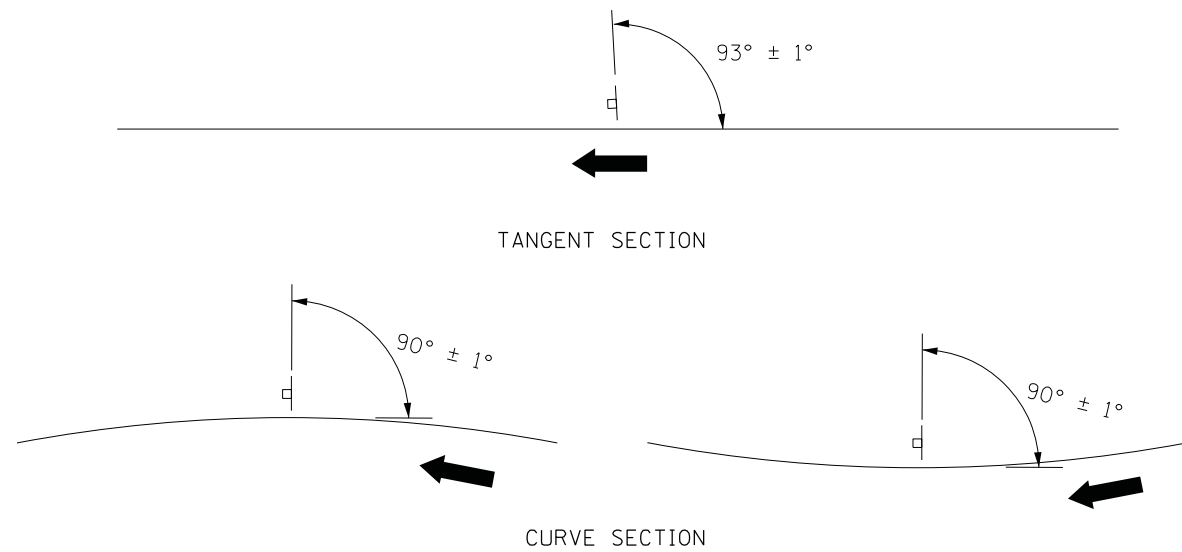


DATE	REVISIONS
1-1-2009	MODIFIED TYPE B SIGN PANEL DIM.
	MODIFIED POST CLIP DETAIL
2-7-2012	REMOVED DETAIL FOR MOUNTING 2 PANEL SIGN
3-11-2015	ADDED WASHERS TO CONNECTION DETAILS

MISCELLANEOUS DETAILS
AND ALUMINUM SIGN PANELS

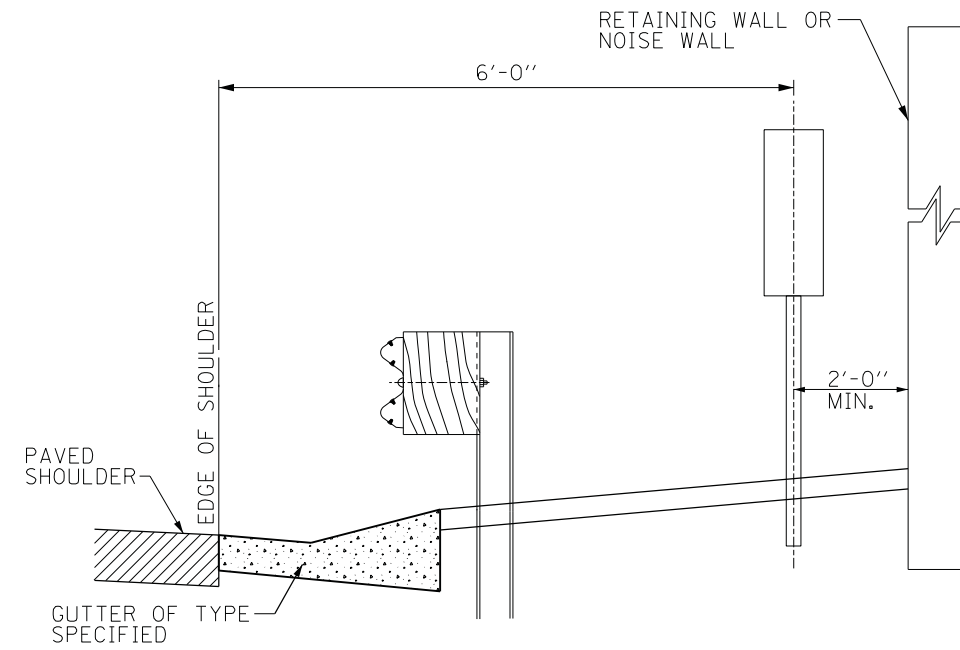
STANDARD F10-03

APPROVED...
Paul Kovacs
CHIEF ENGINEER
DATE 2-7-2012...



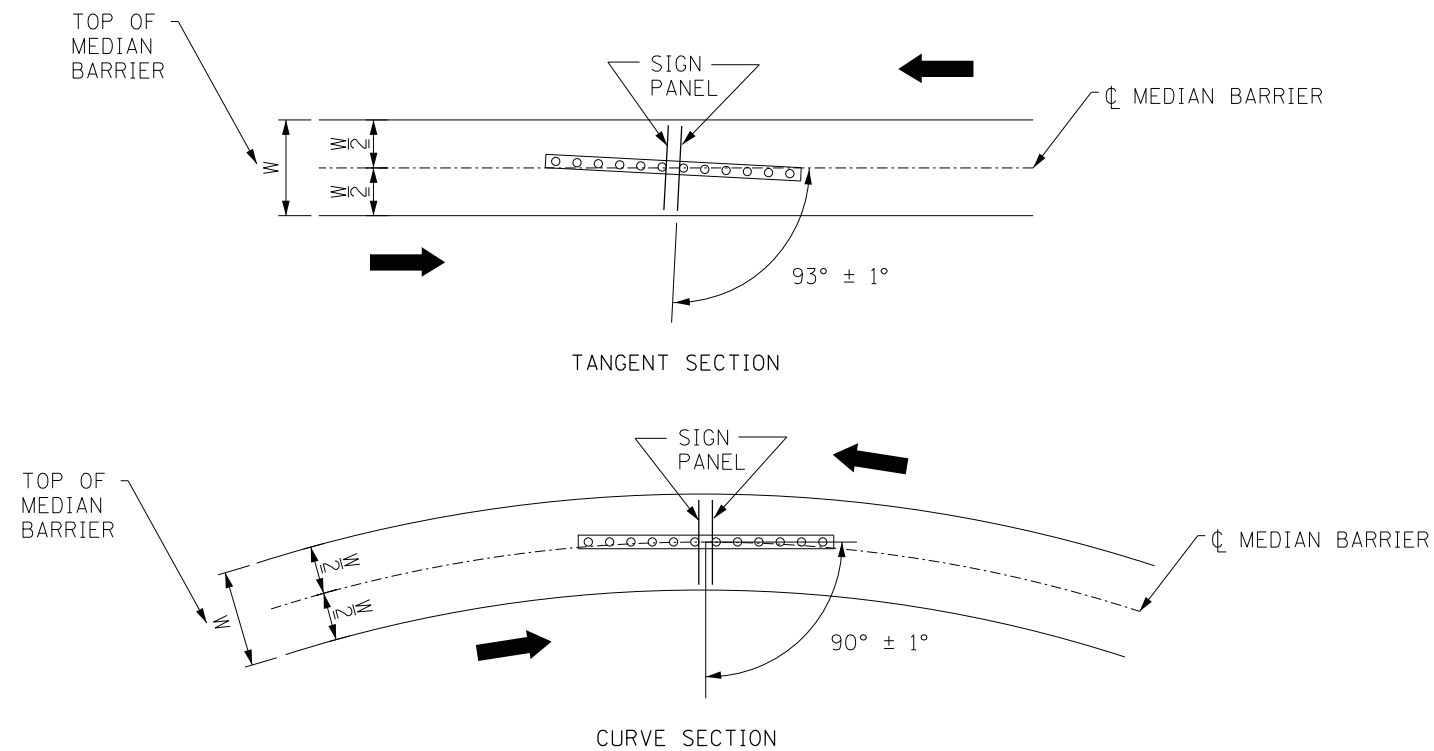
GROUND MOUNT SIGN POSITIONING

NOT TO SCALE



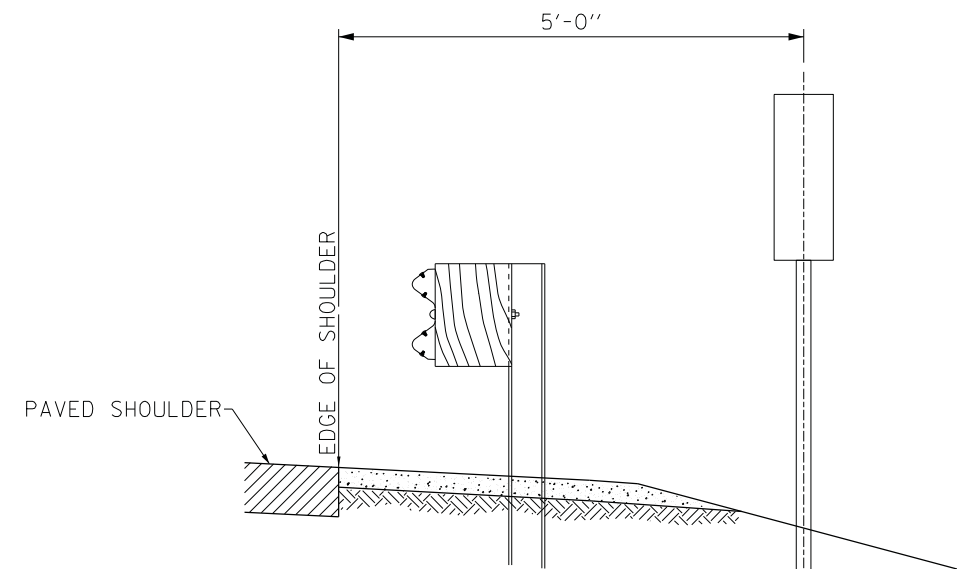
SECTION WITH GUTTER

NOT TO SCALE



MEDIAN BARRIER SIGN POSITIONING

NOT TO SCALE



SECTION WITHOUT GUTTER

NOT TO SCALE

← DIRECTION OF TRAFFIC

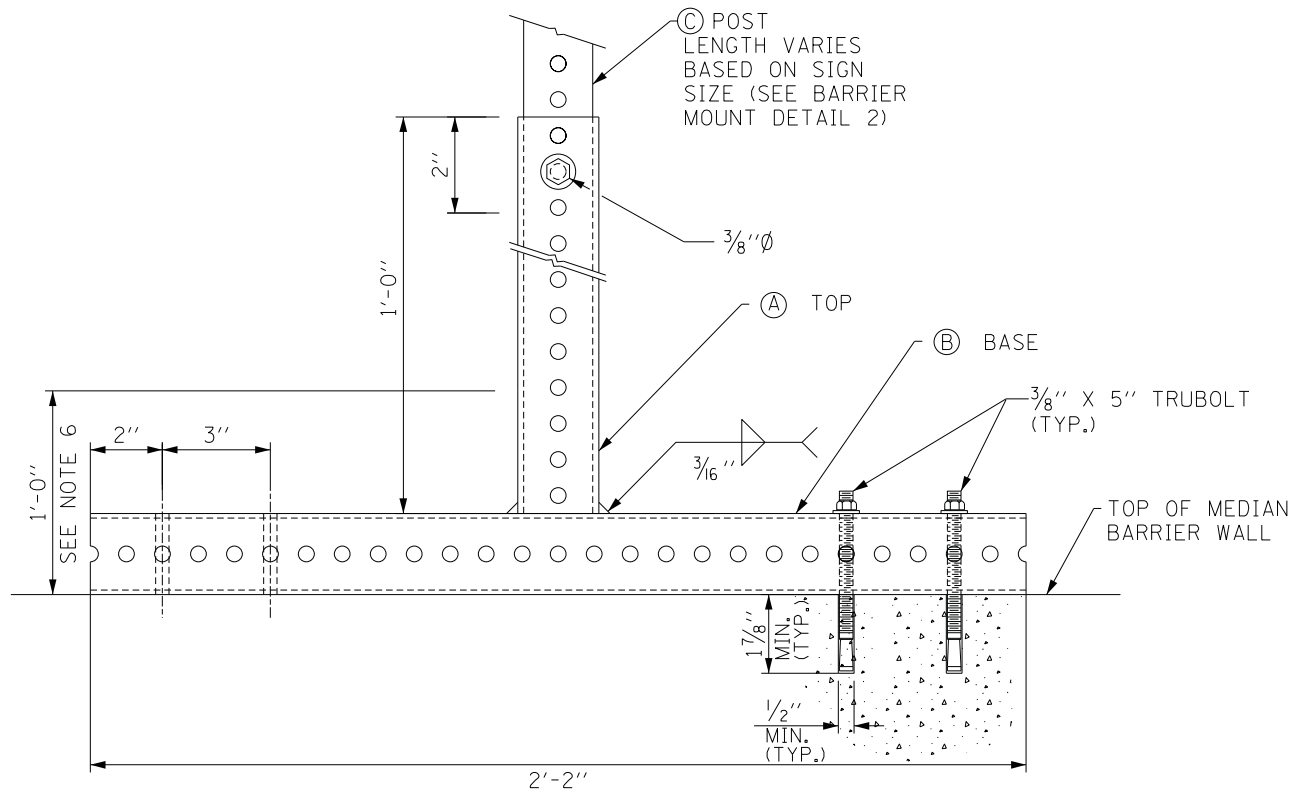


MILEPOST MARKER

STANDARD F11-04

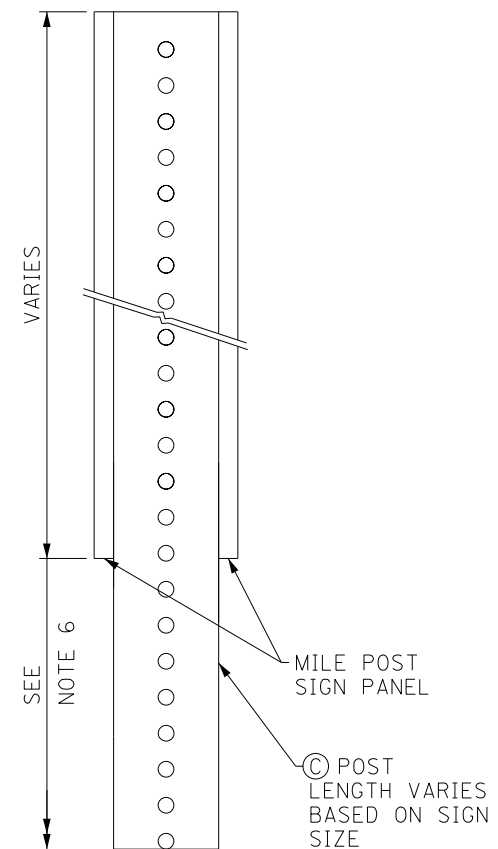
DATE	REVISIONS
5-8-2009	POSITIONING DETAILS
8-1-2009	REVISED BARRIER WALL MOUNT
3-1-2013	REMOVED MILE POST SIGNS
3-31-2016	REVISED BOLT NOTE

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 4-6-2009



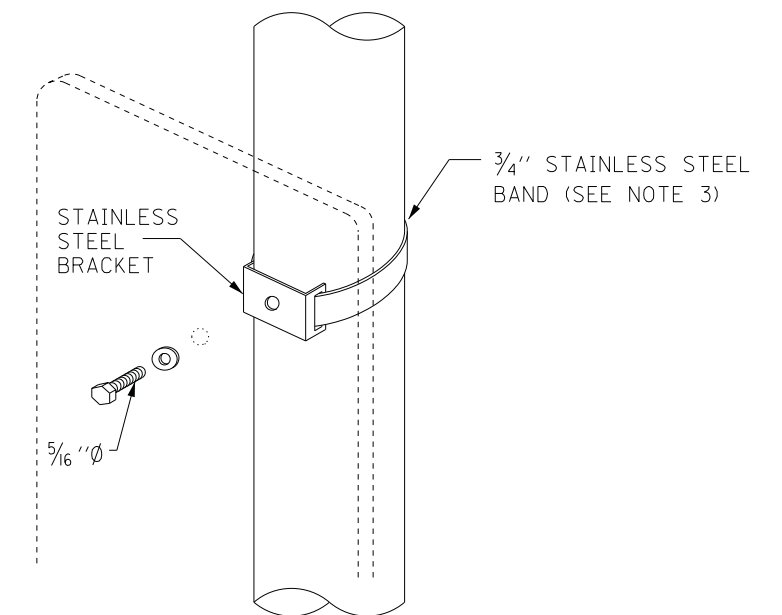
BARRIER WALL MOUNT DETAIL

NOT TO SCALE



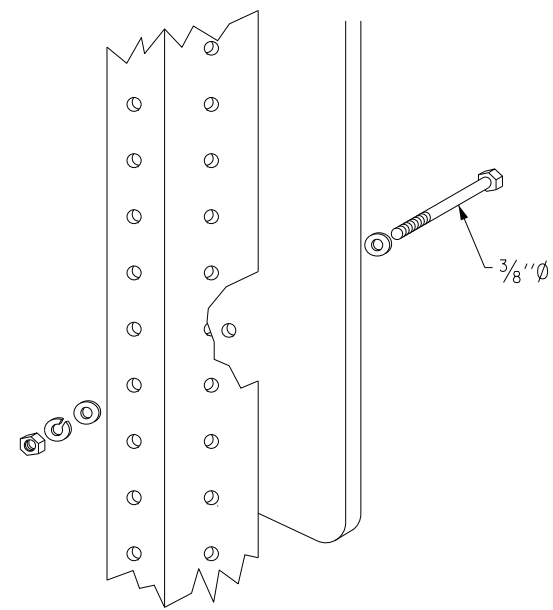
BARRIER WALL MOUNT DETAIL 2

NOT TO SCALE



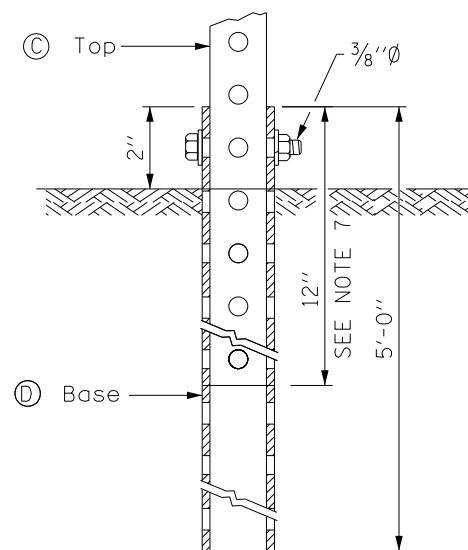
LIGHT POLE/SIGN STRUCTURE MOUNT DETAIL

NOT TO SCALE



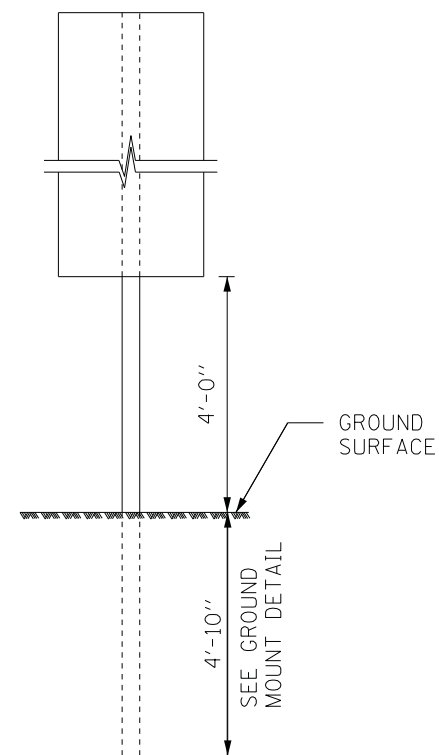
TELESCOPING STEEL POSTS

NOT TO SCALE



GROUND MOUNT DETAIL

NOT TO SCALE



ONE POST INSTALLATION

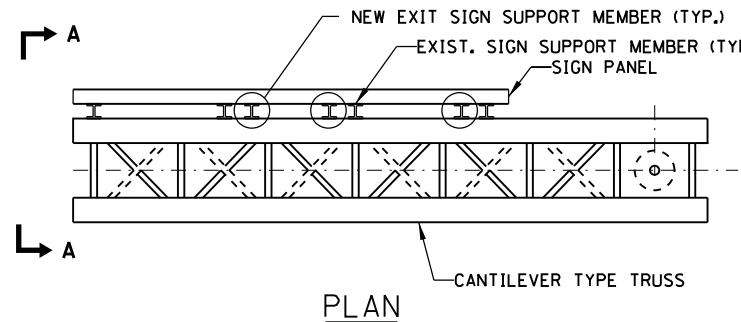
NOT TO SCALE

GENERAL NOTES:

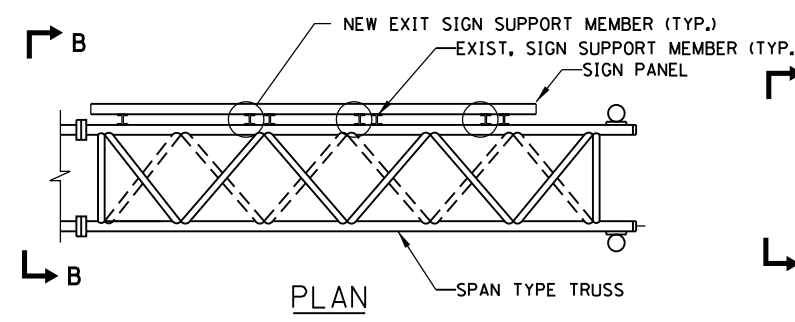
1. ALL ANCHOR BOLTS FOR MEDIAN BARRIER MOUNT DETAIL SHALL BE $\frac{3}{8}$ " DIA. RED HEAD "TRUBOLT" OR APPROVED EQUAL.
2. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.
3. FOLLOWING ARE THE STEPS FOR FASTENING THE MILEPOST MARKER SIGN PANEL. ALL MOUNTING DETAILS SHOWN ON THIS SHEET APPLY:
 - a. CENTER ALL FASTENERS ON THE SIGN PANEL.
 - b. START AND FINISH THE FASTENER SPACING USING A MINIMUM OF 3" TO A MAXIMUM OF 6" FROM THE TOP AND BOTTOM EDGE OF THE SIGN PANEL.
 - c. THE DISTANCE BETWEEN SUCCESSIVE FASTENERS SHALL NOT EXCEED 2'-0".
4. CENTER THE $\frac{5}{16}$ " DIA. BOLT IN THE MIDDLE OF THE SIGN.
5. USE THE SAME ATTACHMENT FOR BACK TO BACK MILEPOST MARKER SIGN.
6. DISTANCE FROM THE GROUND TO THE BOTTOM OF THE MILEPOST MARKER SIGN SHALL HAVE A MINIMUM OF 4'-0" REGARDLESS OF BARRIER TYPE.
7. THE TOP SECTION SHALL BE TELESCOPED INTO THE BASE SECTION 12 INCHES AND FASTENED TOGETHER.
8. FOR ATTACHMENT TO BRIDGE PARAPET USE BARRIER MOUNT WALL DETAIL. ONLY ONE PANEL REQUIRED WHEN ATTACHED TO PARAPET ALONG OUTSIDE SHOULDER.

(A)	2 1/4" x 2 1/4" x 1'-0" (12 GA.)
(B)	2 1/4" x 2 1/4" x 2'-2" (12 GA.)
(C)	2" x 2" x VARIES (12 GA.)
(D)	2 1/2" x 2 1/2" x 5'-0" (12 GA.)

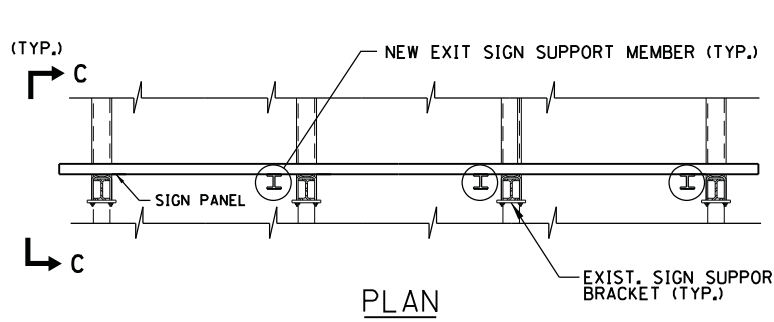




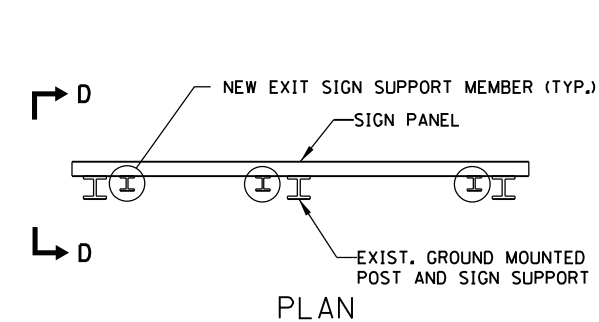
PLAN CANTILEVER TYPE TRUSS



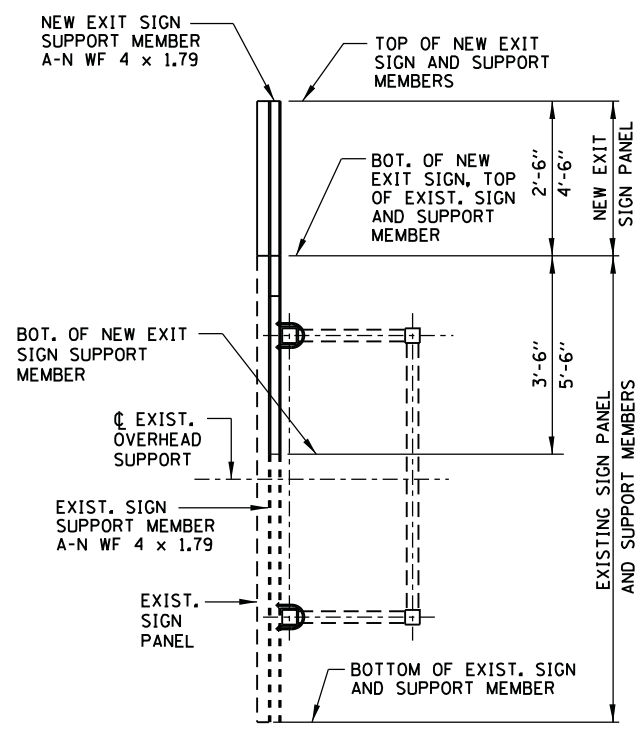
PLAN SPAN TYPE TRUSS



PLAN

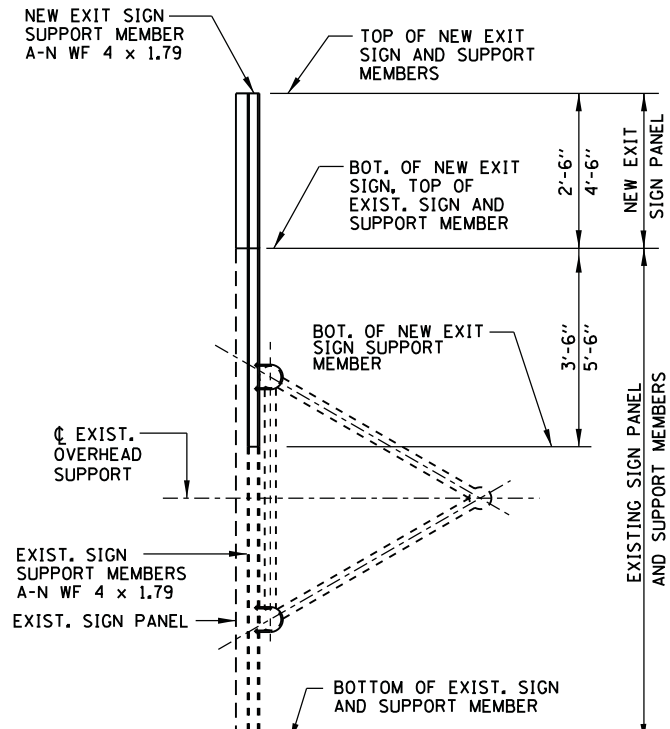


PLAN



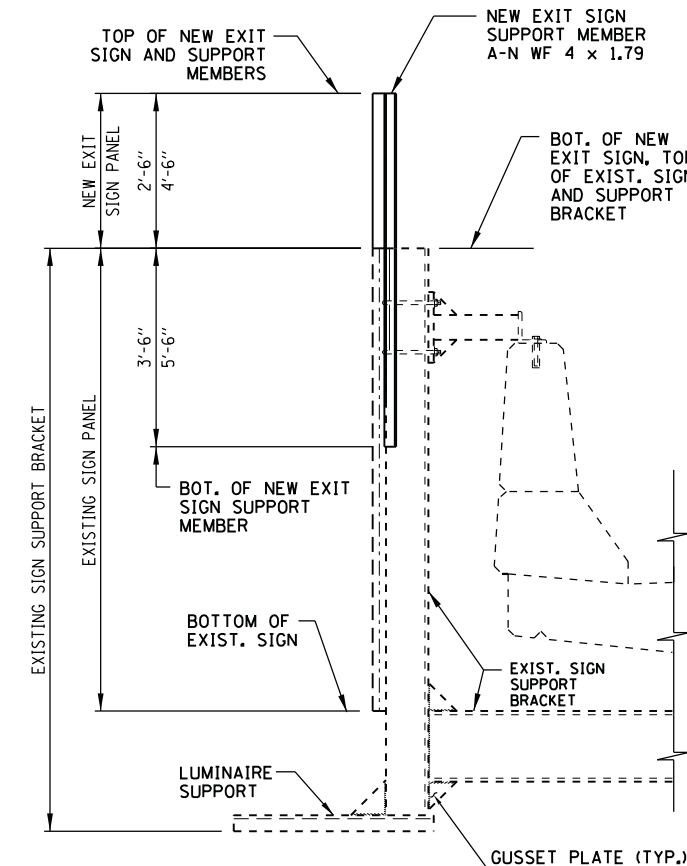
SECTION A-A

OVERHEAD CANTILEVER TYPE SIGN SUPPORT



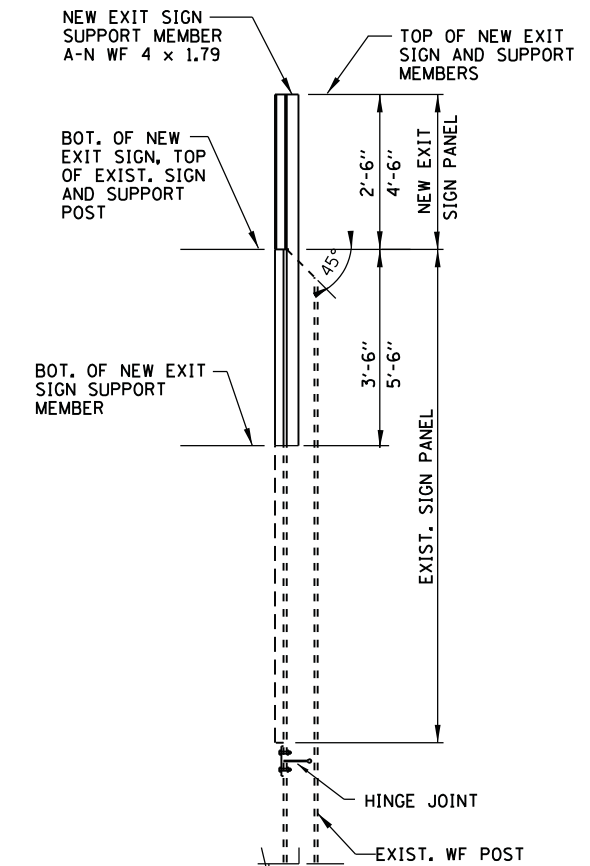
SECTION B-B

OVERHEAD SPAN TYPE SIGN SUPPORT



SECTION C-C

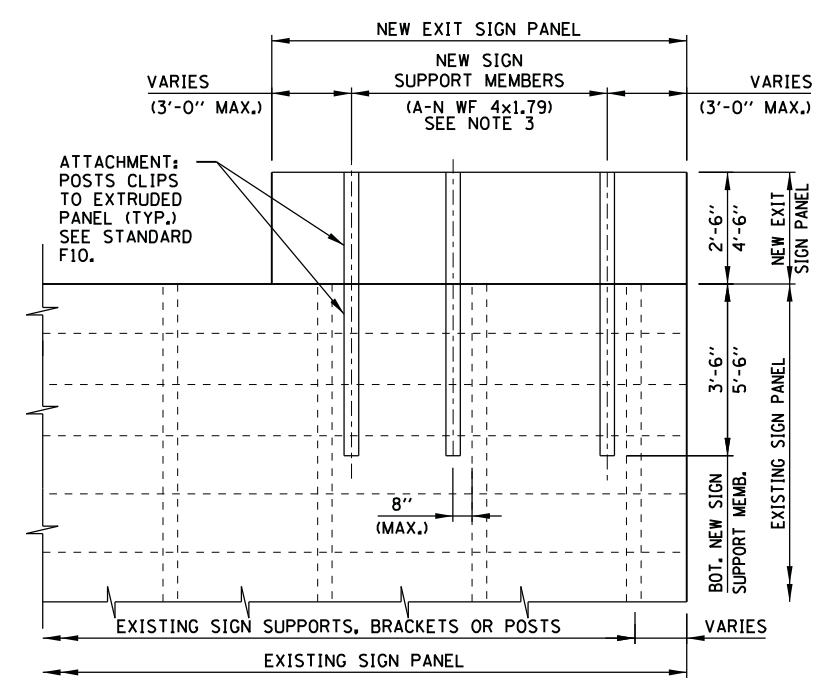
BRIDGE MOUNTED SIGN SUPPORT



SECTION D-D

GROUND MOUNTED SIGN SUPPORT

DETAILS FOR RETROFITTING NEW EXIT SIGN



PARTIAL REAR ELEVATION OF SIGN PANELS AND SUPPORT MEMBERS

NOTES:

1. ALL MATERIAL IS ALUMINUM IN ACCORDANCE WITH SECTION 733 OF THE LATEST STANDARD SPECIFICATIONS. (UNLESS OTHERWISE NOTED).
2. EXISTING TRUSS AND SUPPORT MEMBERS SHALL BE CHECKED FOR STRUCTURAL ADEQUACY TO SUPPORT THE ADDITIONAL SIGN PANEL AREA.
3. NEW SIGN SUPPORT MEMBERS SHALL BE SPACED WITH EXISTING SIGN SUPPORTS. SPACING SHALL NOT EXCEED 6'-0".

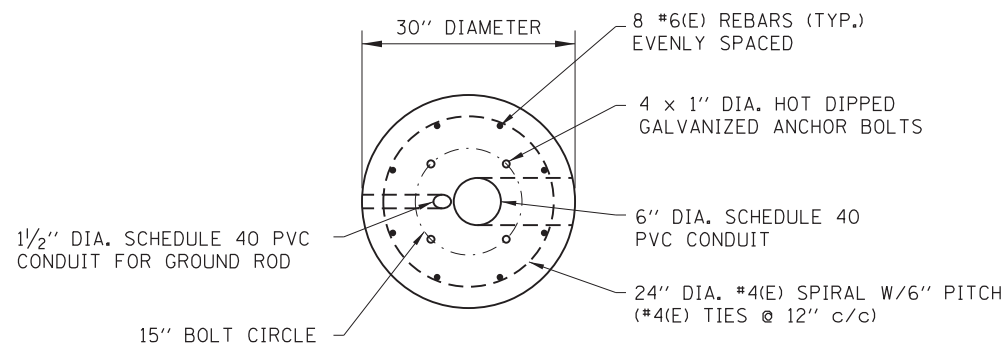
DATE	REVISIONS
3-11-2015	REVISED SUPPORT SPACING.
3-31-2017	REVISED U-BOLT REQUIREMENT



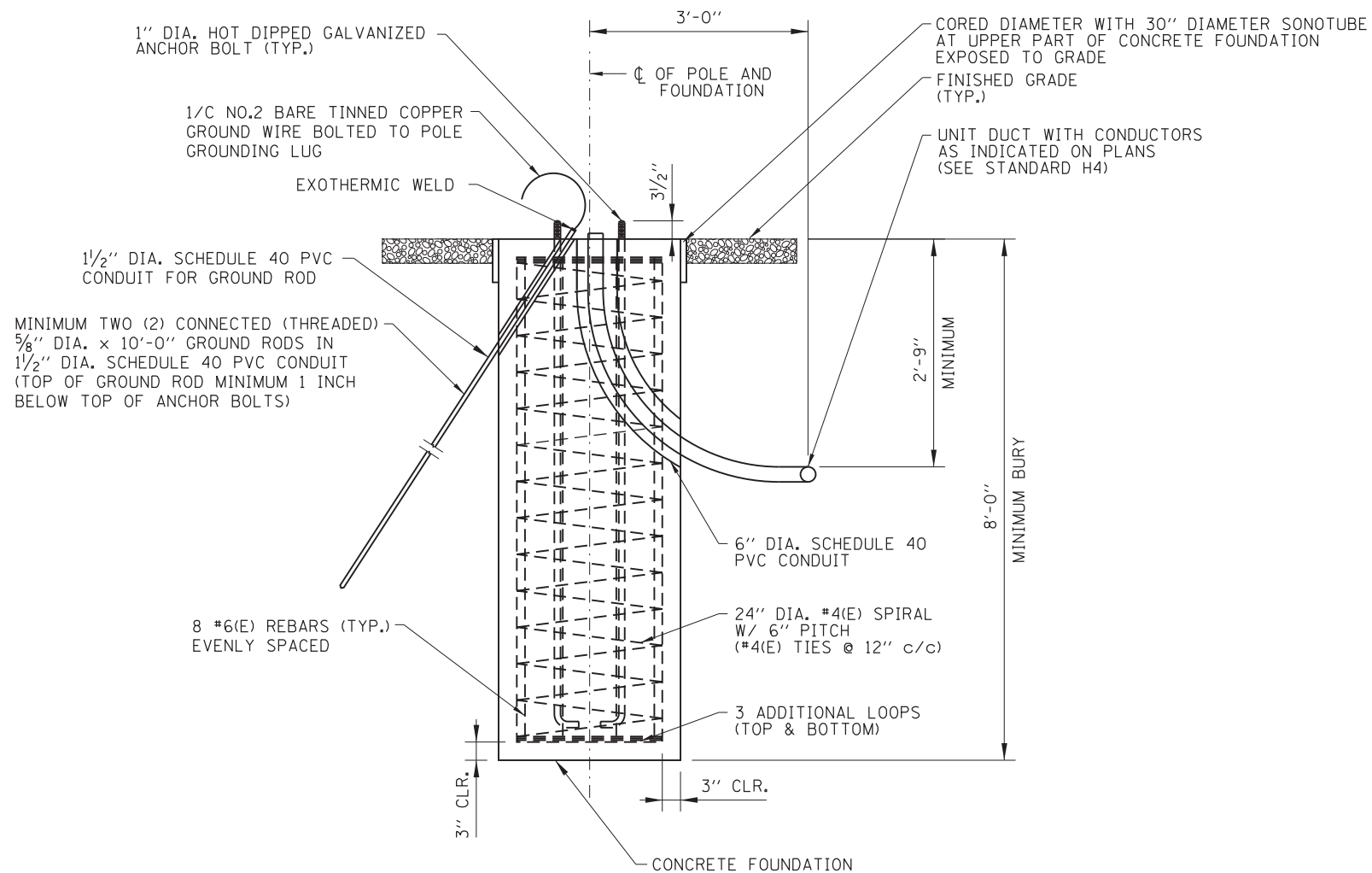
MOUNTING DETAILS FOR RETROFITTING NEW EXIT SIGN PANELS

STANDARD F12-02

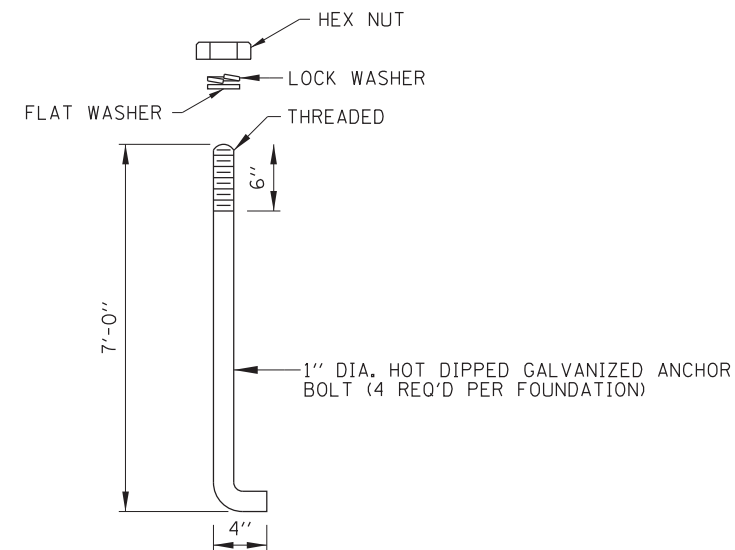
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 3-1-2013



PLAN



ELEVATION



ANCHOR BOLT DETAIL

NOTES:

1. AT LOCATIONS NOT SHIELDED BY GUARDRAIL, THE LIGHT POLE FOUNDATION SHALL BE FLUSH WITH SURROUNDING GRADED ON ALL SIDES. THE SURROUNDING AREA SHALL BE A LEVEL GRADED AREA CONSTRUCTED OF AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B, 4".
2. PROVIDE SEEDING, POTASIMUM FERTILIZER NUTRIENT, AND EROSION CONTROL BLANKET AS REQUIRED.
3. THE TOP OF FOUNDATION SHALL BE AT THE SAME ELEVATION AS THE ADJACENT TOP OF GUTTER OR WHEN ADJACENT TO AGGREGATE SHOULDER, AT THE SAME ELEVATION AS THE OUTSIDE EDGE OF THE AGGREGATE SHOULDER SLOPED A MAXIMUM 6% AWAY FROM THE PAVED SHOULDER.
4. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
5. ALL GROUND MOUNTED LIGHT POLES SHALL BE PROVIDED WITH AN ACCEPTED FHWA BREAKAWAY BASE OR DEVICE PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS SECTION 1070.
6. FOR DETAILS OF FUSE HOLDER, POLE BASE WIRING AND CONDUCTOR SPLICE SEE STANDARD H2.
7. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED.
8. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.
9. FOR ALL MEDIAN BARRIER FOUNDATIONS, THE ANCHOR BOLTS SHALL BE CENTERED AROUND THE MEDIAN BARRIER WALL CENTERLINE.

**LIGHT STANDARD FOUNDATION DETAILS - CONCRETE
(GROUND MOUNTED UNITS)**

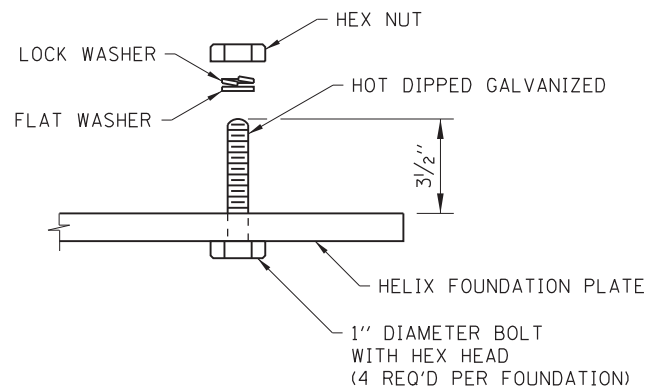
Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
2-07-2012	MODIFIED FOUNDATION DETAILS, REVISED NOTES
11-01-2012	ADDED CONTROLLER NUMBER
3-31-2014	REVISED HELIX FOUNDATION, NEW DETAIL "A", AND GRADED AREA
3-11-2015	MOVED MEDIAN BARRIER MOUNTED FOUNDATION DETAILS.
3-31-2016	ADDED HELIX FOUNDATION DEPTH INFORMATION.
3-31-2017	REVISED MEDIAN FOUNDATION ANCHOR BOLTS.

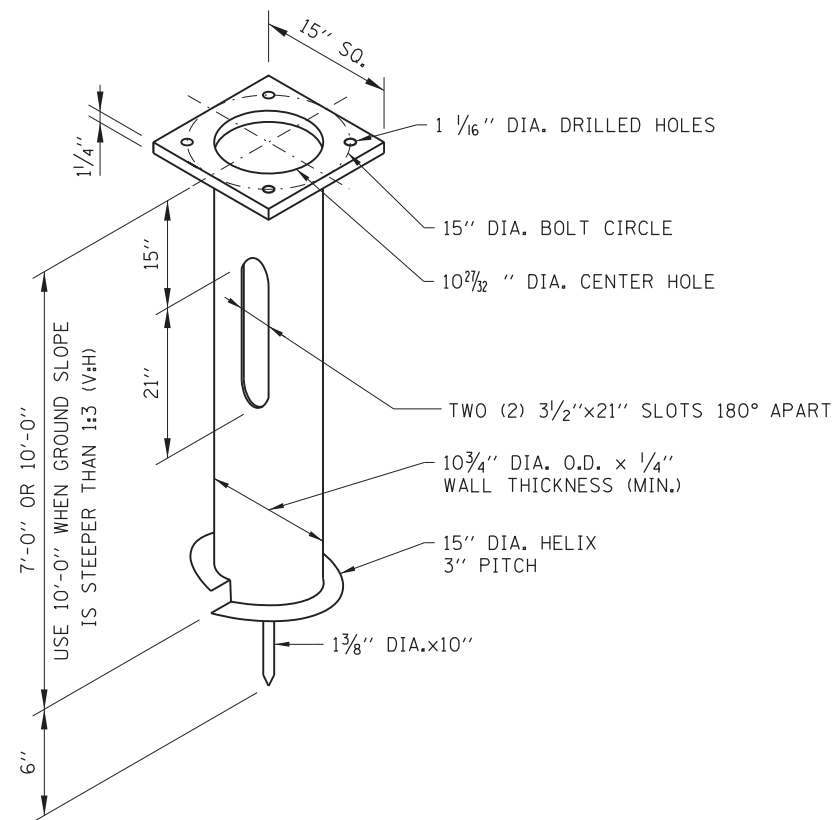


LIGHT STANDARD FOUNDATION

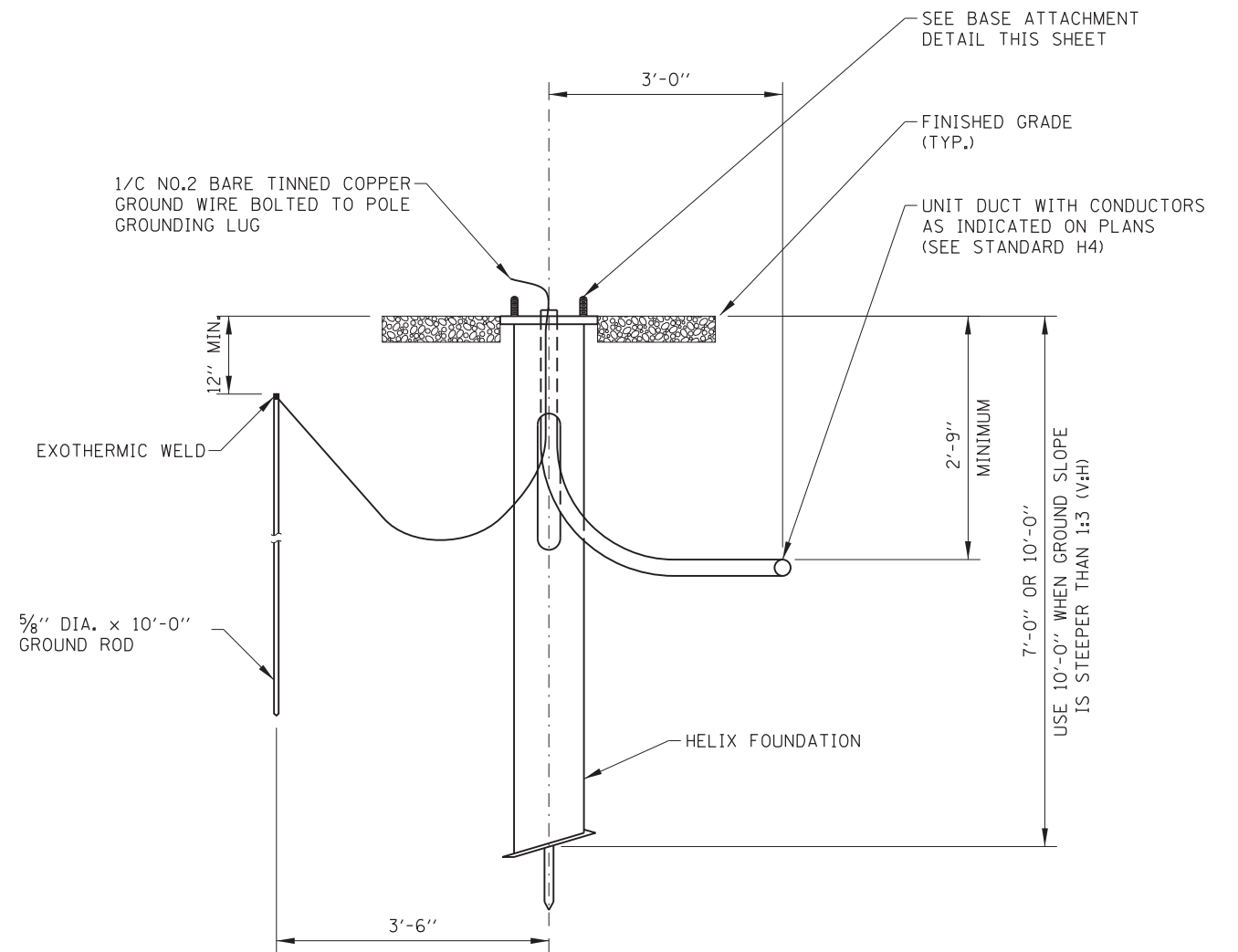
STANDARD H1-06



BASE ATTACHMENT DETAIL



ISOMETRIC



ELEVATION



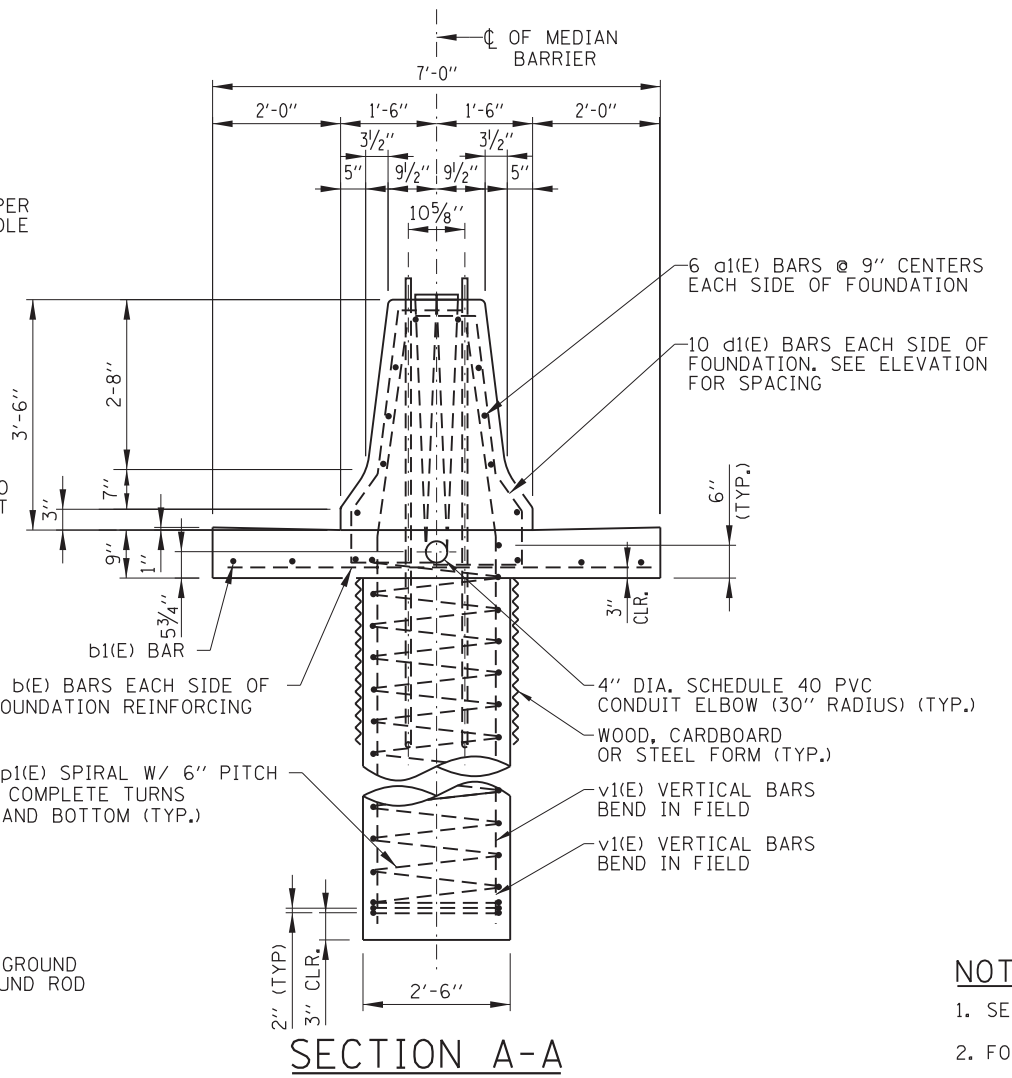
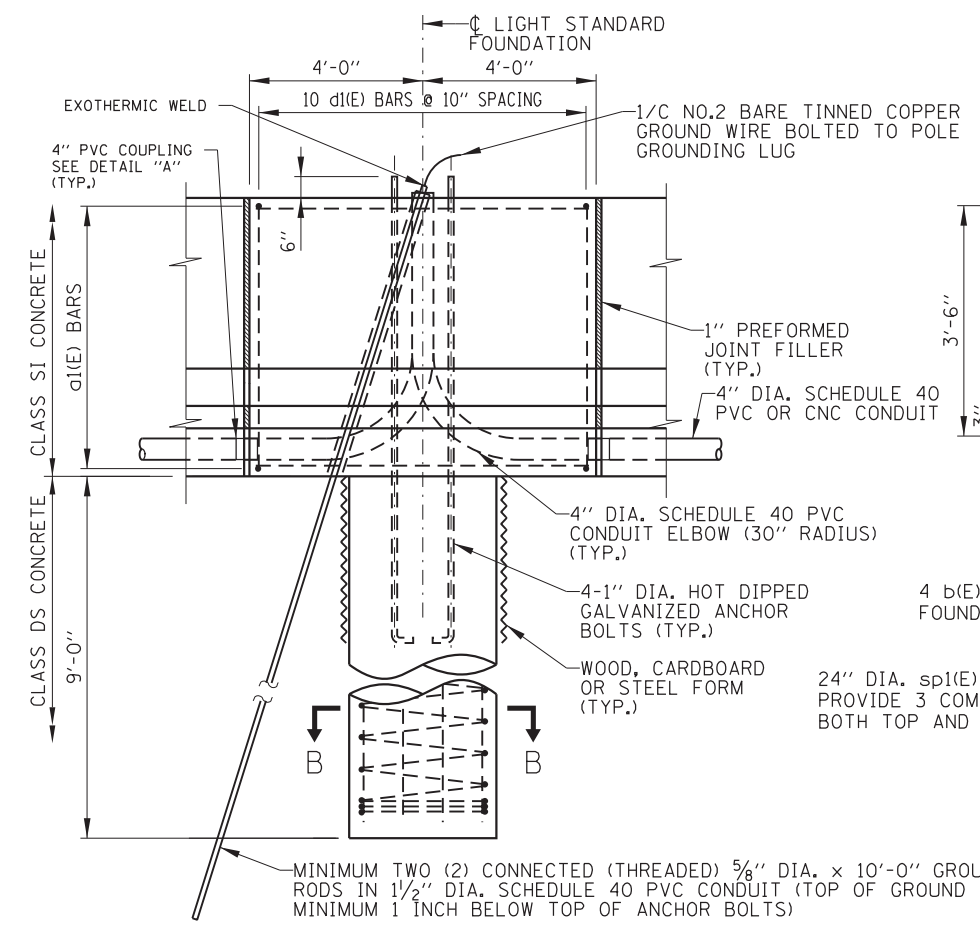
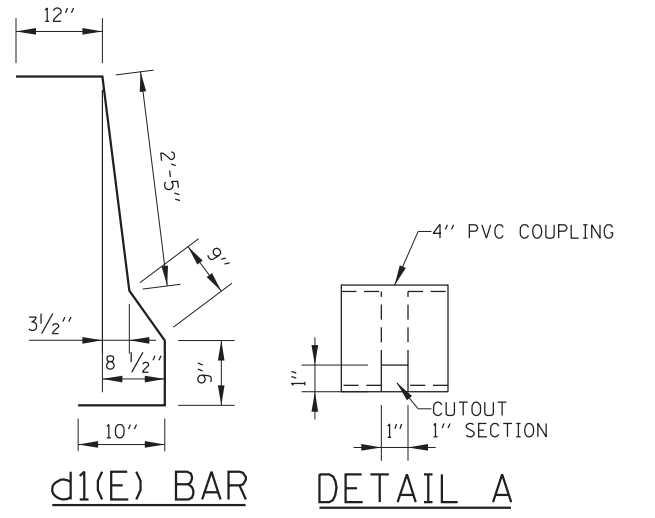
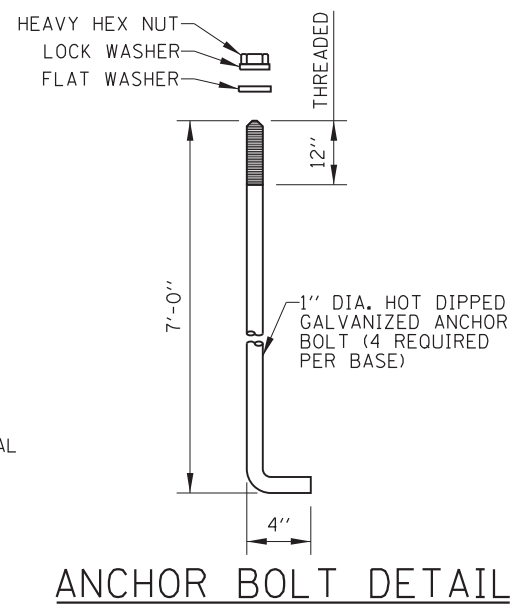
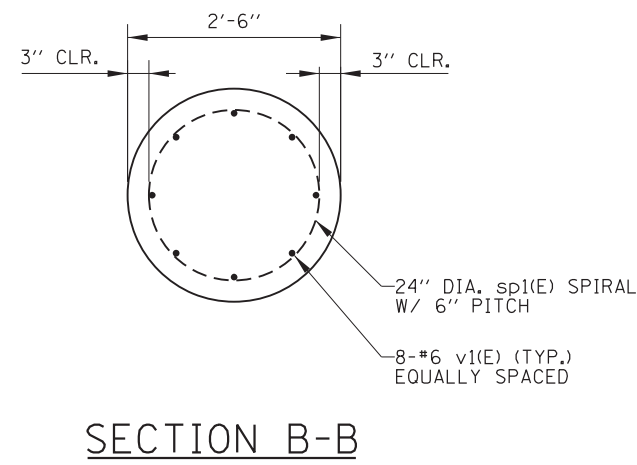
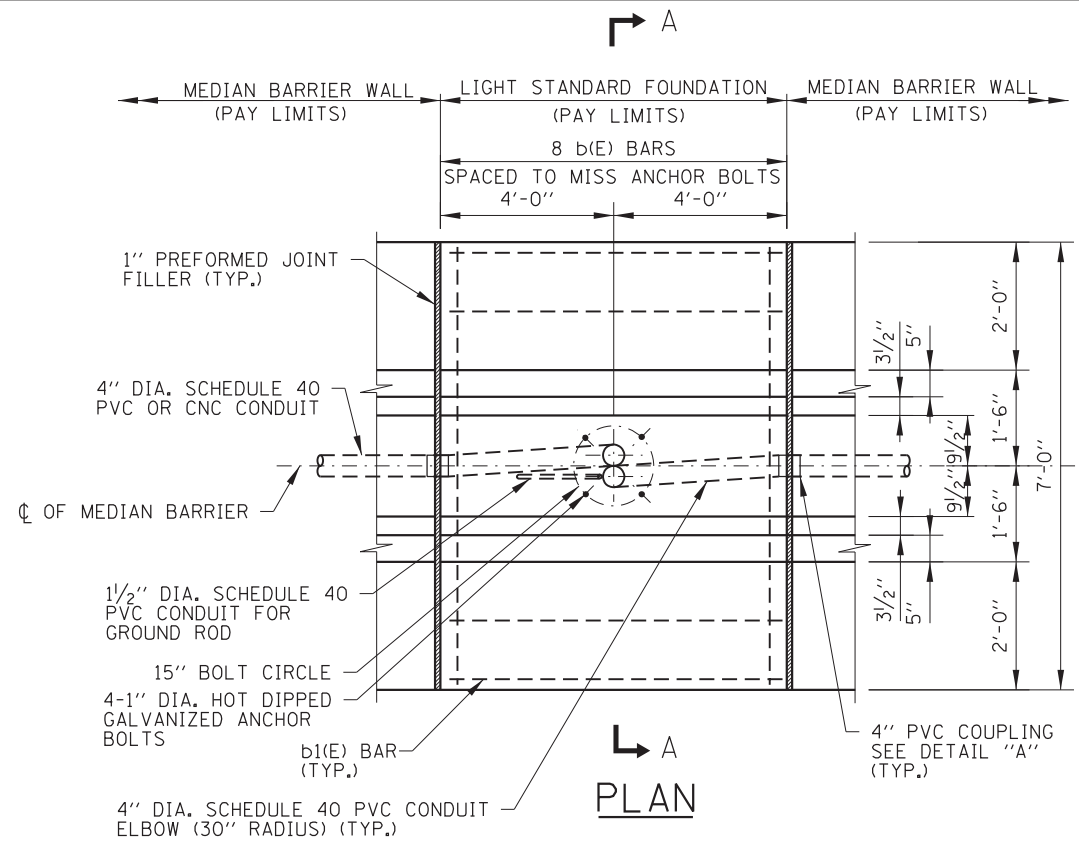
LIGHT STANDARD FOUNDATION

STANDARD H1-06

**LIGHT STANDARD FOUNDATION DETAILS - HELIX
(GROUND MOUNTED UNITS)**

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012



REINFORCEMENT BARS SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LB.	SHAPE
d1(E)	12	#4	7'-6"	60	—
b(E)	8	#4	6'-6"	35	—
b1(E)	4	#4	7'-8"	21	—
d1(E)	20	#4	5'-9"	77	⌋
sp1(E)	1	#4	*		⌋
v1(E)	8	#6	11'-9"	142	—

* SEE SECTION A-A

- NOTES:**
- SEE SHEET 1 OF THIS SERIES FOR NOTES.
 - FOR SLIP FORM, SEE SHEET 6 OF THIS SERIES.

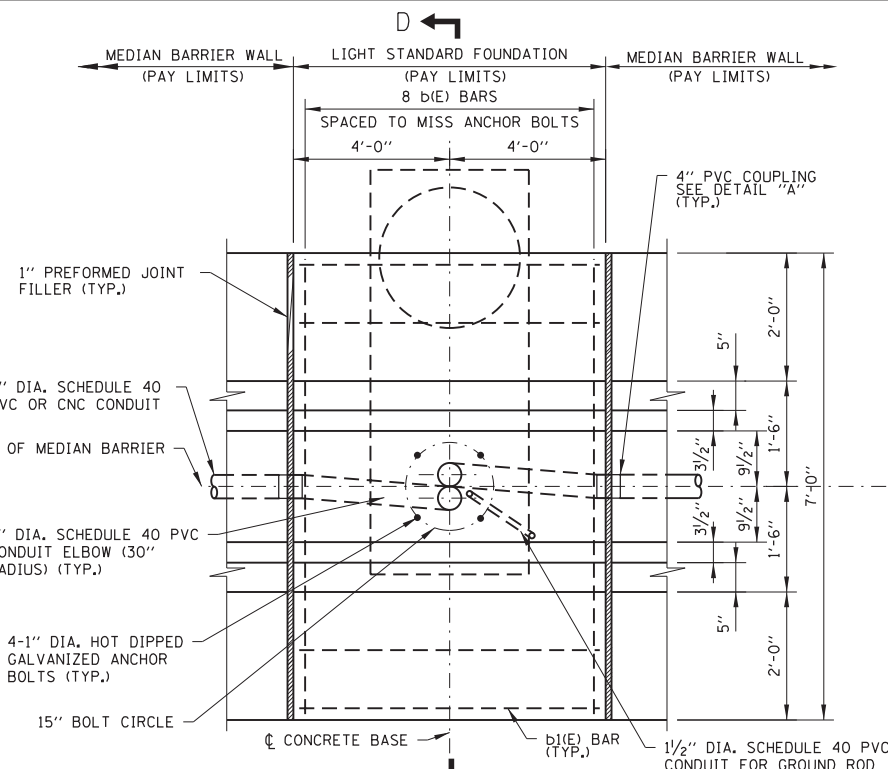


LIGHT STANDARD FOUNDATION

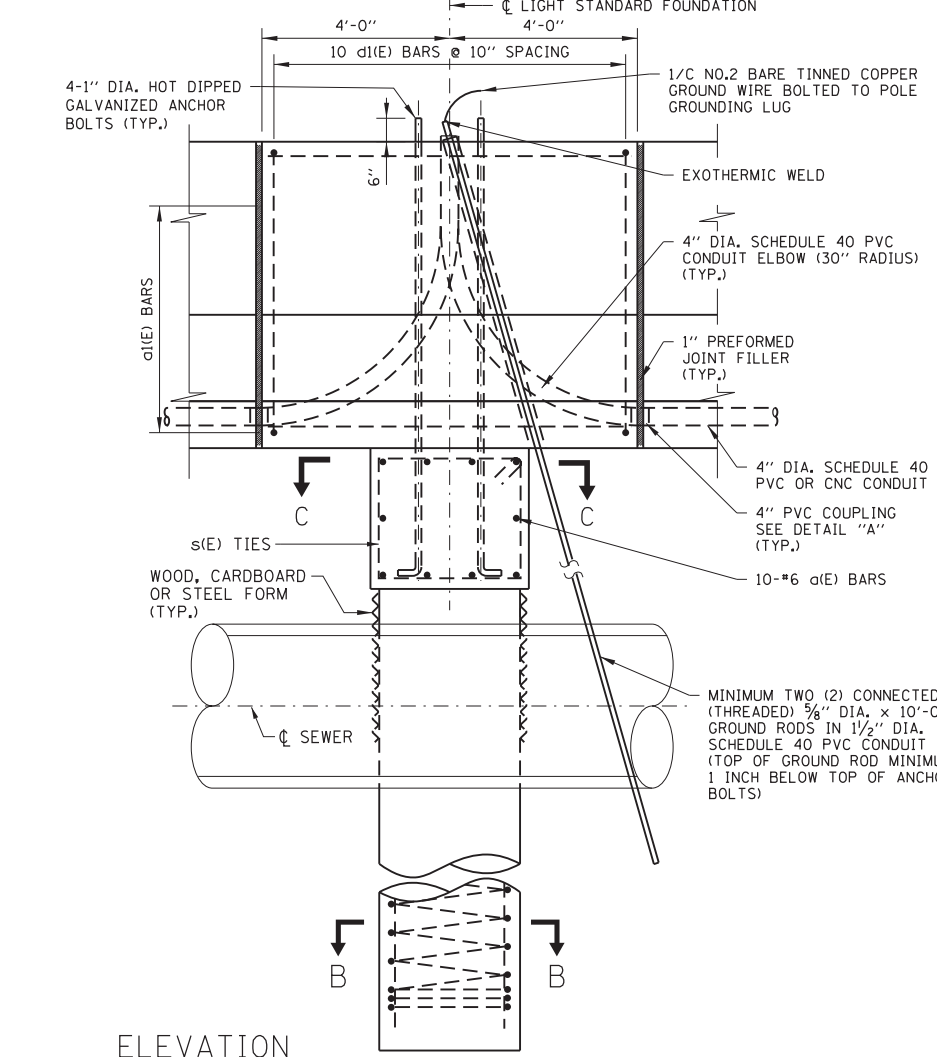
STANDARD H1-06

LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER
(TYPE 1 CENTERED CAISSON, 42" BARRIER)

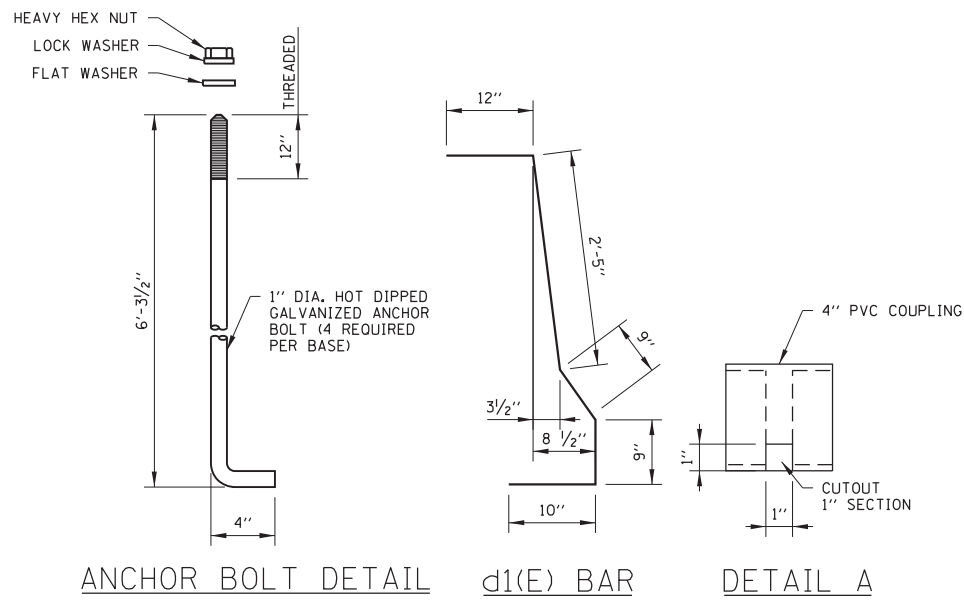
Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012



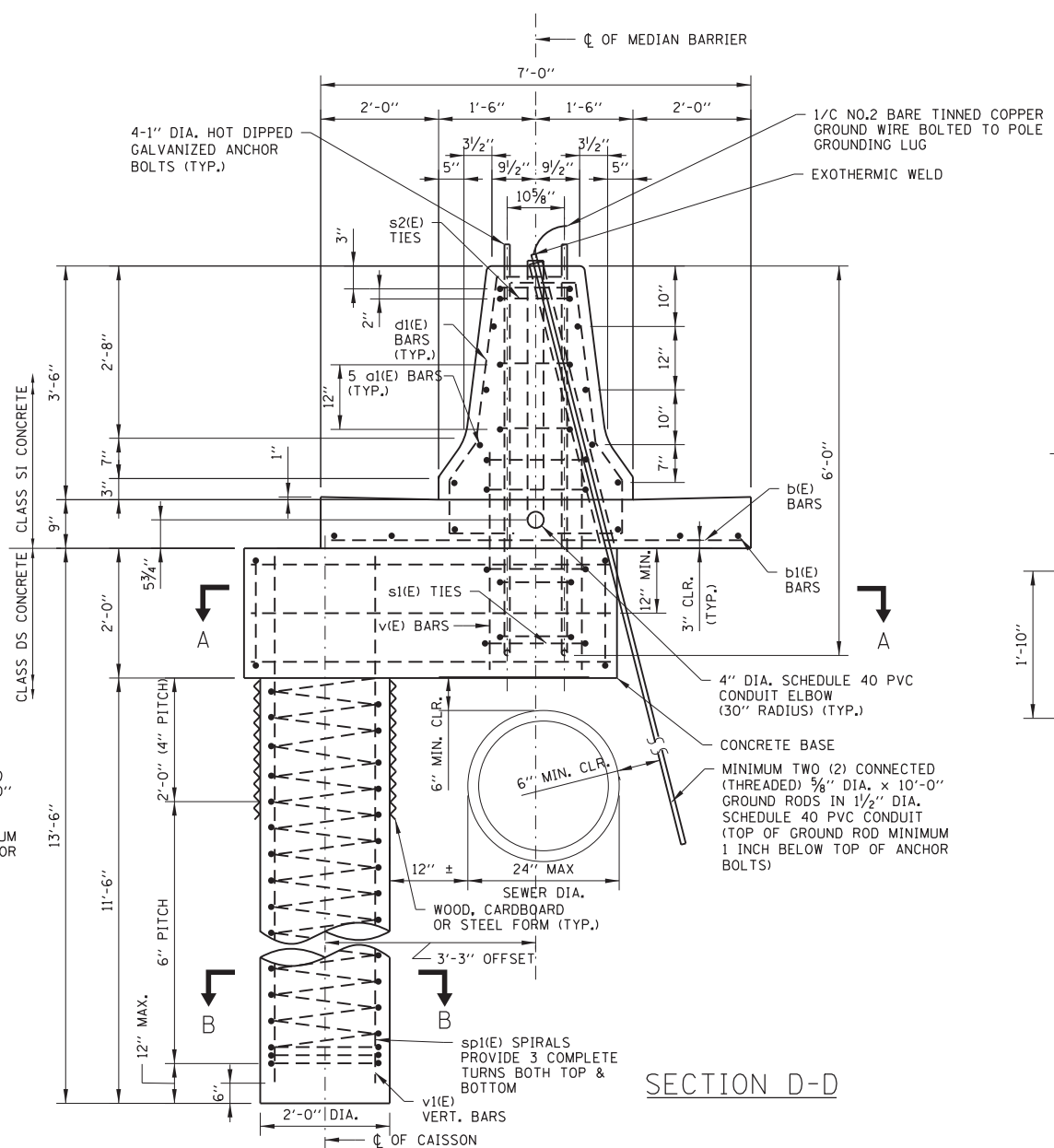
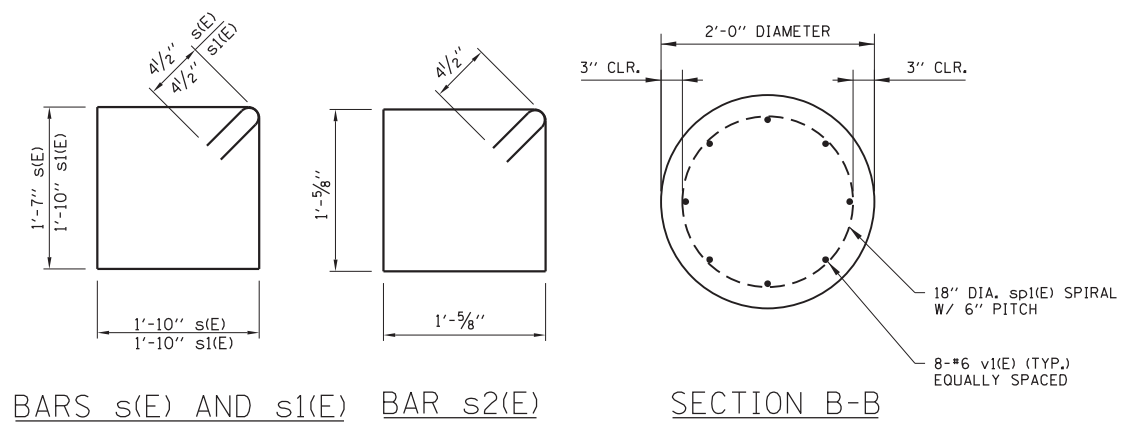
PLAN D



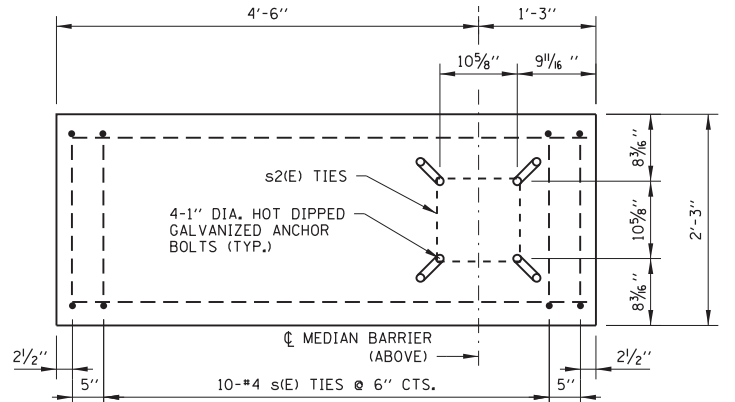
ELEVATION



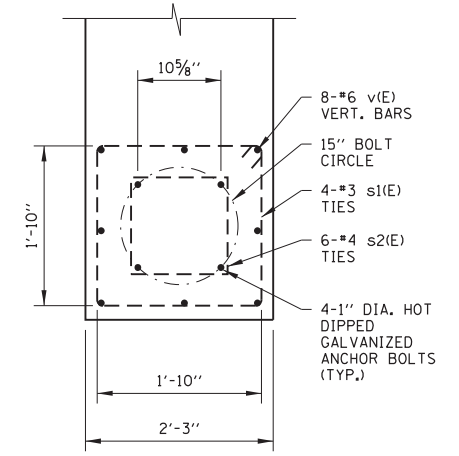
ANCHOR BOLT DETAIL d1(E) BAR DETAIL A



SECTION D-D



SECTION A-A



SECTION C-C

REINFORCEMENT BARS SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LB.	SHAPE
a(E)	10	#6	5'-6"	83	
a1(E)	10	#4	7'-6"	50	
b(E)	8	#4	6'-6"	35	
b1(E)	4	#4	7'-8"	21	
d1(E)	20	#4	5'-9"	77	
s(E)	12	#4	7'-7"	61	
s1(E)	4	#4	8'-1"	22	
s2(E)	6	#4	5'-0"	20	
sp1(E)	1	#4	*		
v(E)	8	#6	3'-2"	38	
v1(E)	8	#6	12'-6"	150	

* SEE D-D



LIGHT STANDARD FOUNDATION

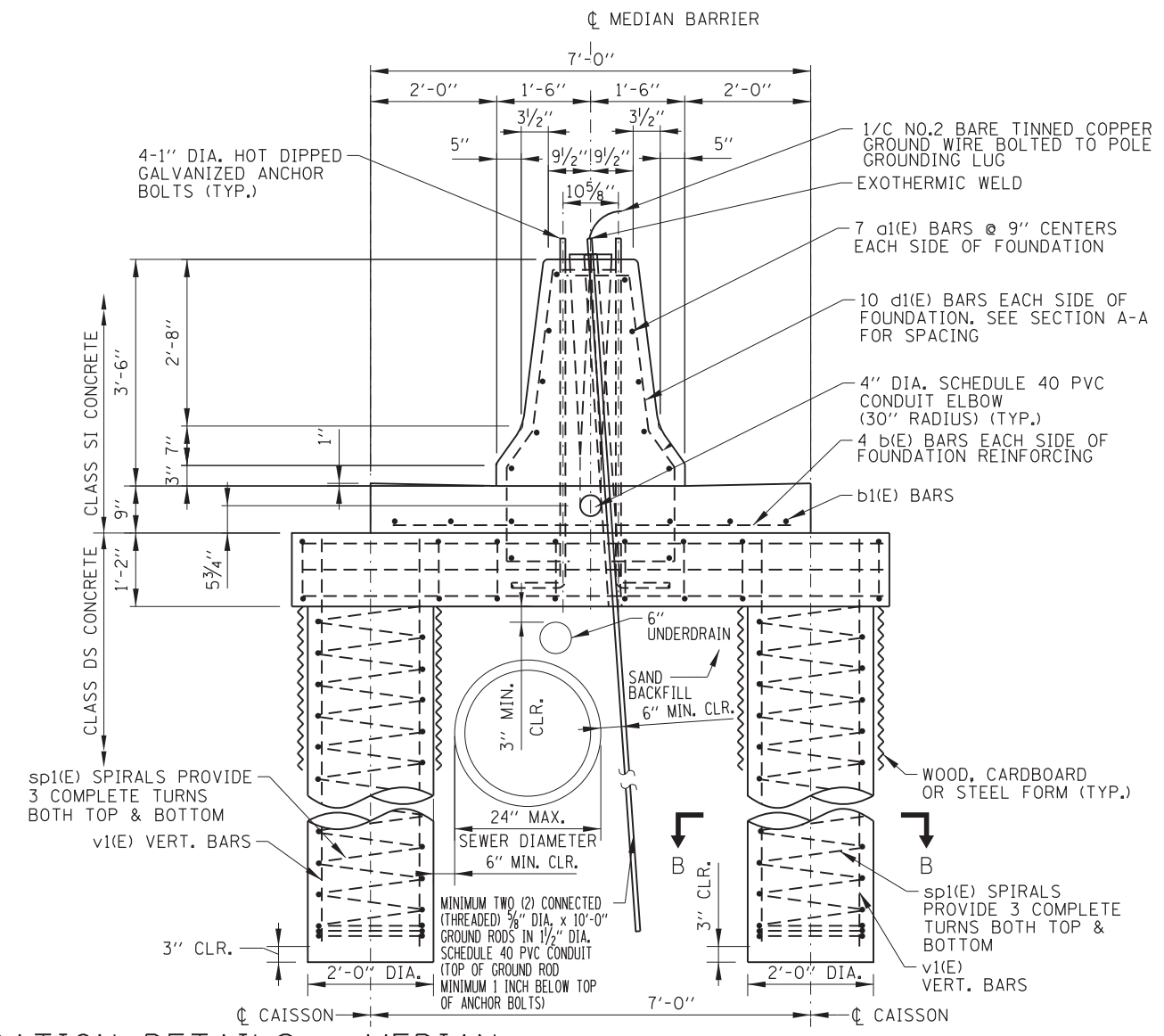
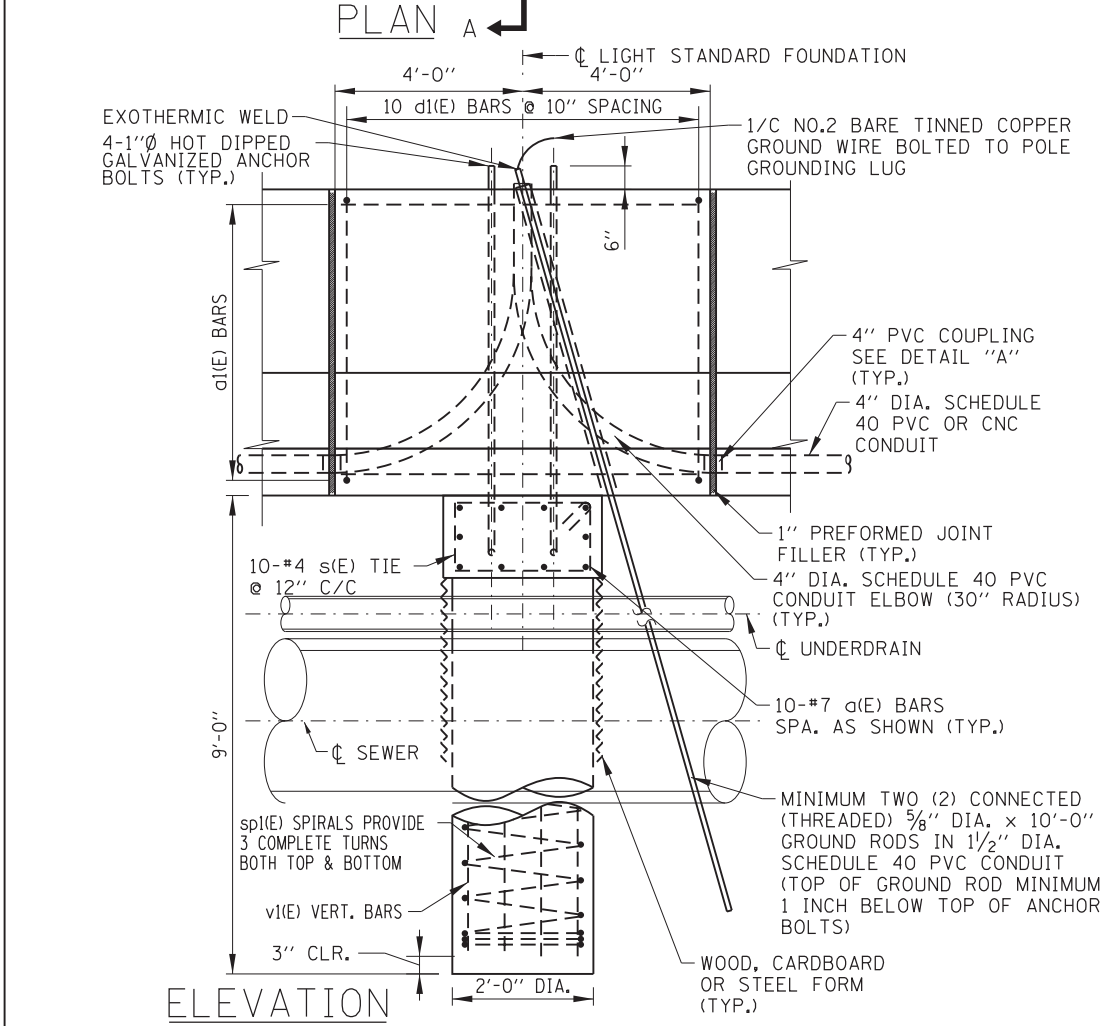
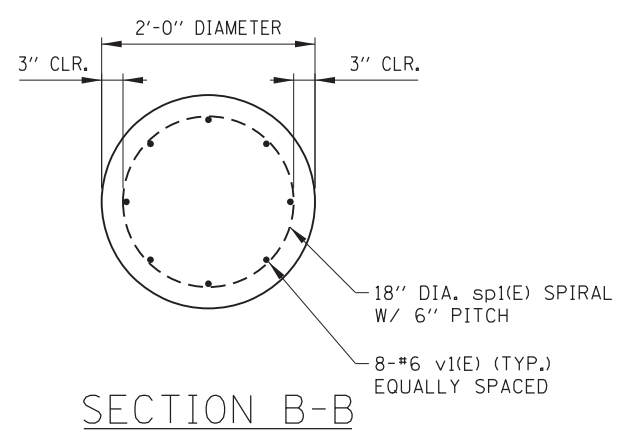
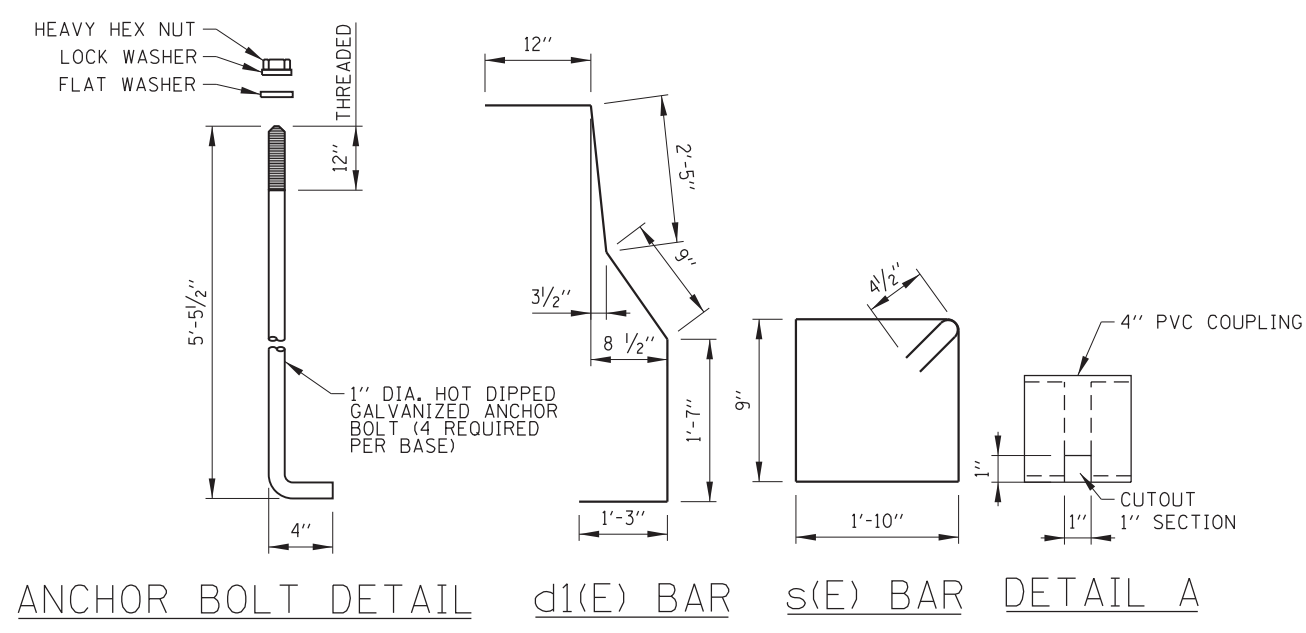
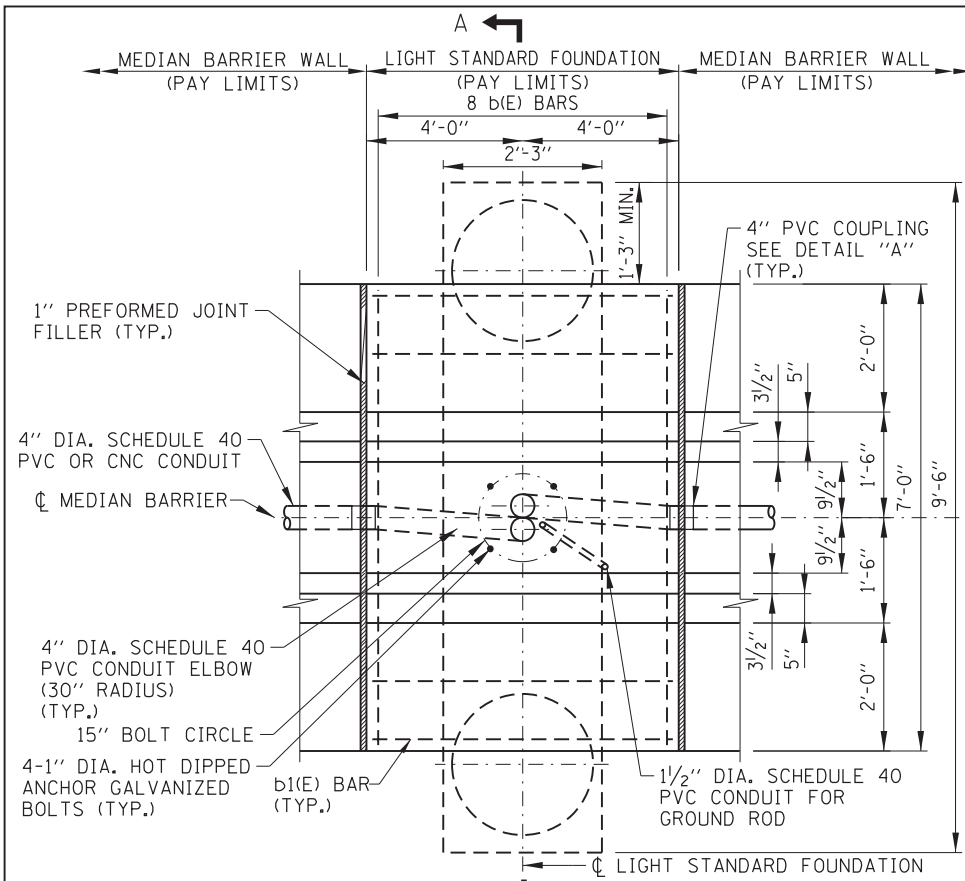
STANDARD H1-06

NOTES:

- SEE SHEET 1 OF THIS SERIES FOR NOTES.
- FOR SLIP FORM, SEE SHEET 6 OF THIS SERIES

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER (TYPE 2 OFFSET CAISSON, 42" BARRIER)



REINFORCEMENT BARS SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LB.	SHAPE
a(E)	10	#7	9'-0"	184	—
a1(E)	14	#4	7'-6"	70	—
b(E)	8	#4	6'-6"	35	—
b1(E)	4	#4	7'-8"	21	—
d1(E)	20	#4	6'-7"	88	—
s(E)	10	#4	5'-11"	40	—
sp1(E)	2	#4	*		—
v1(E)	16	#6	9'-9"	235	—

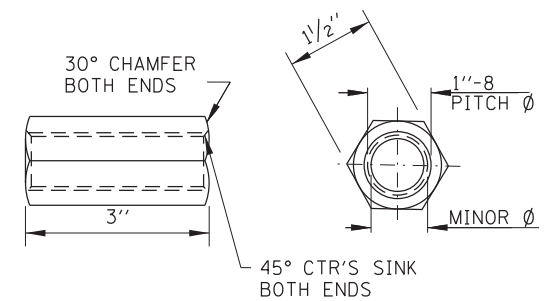
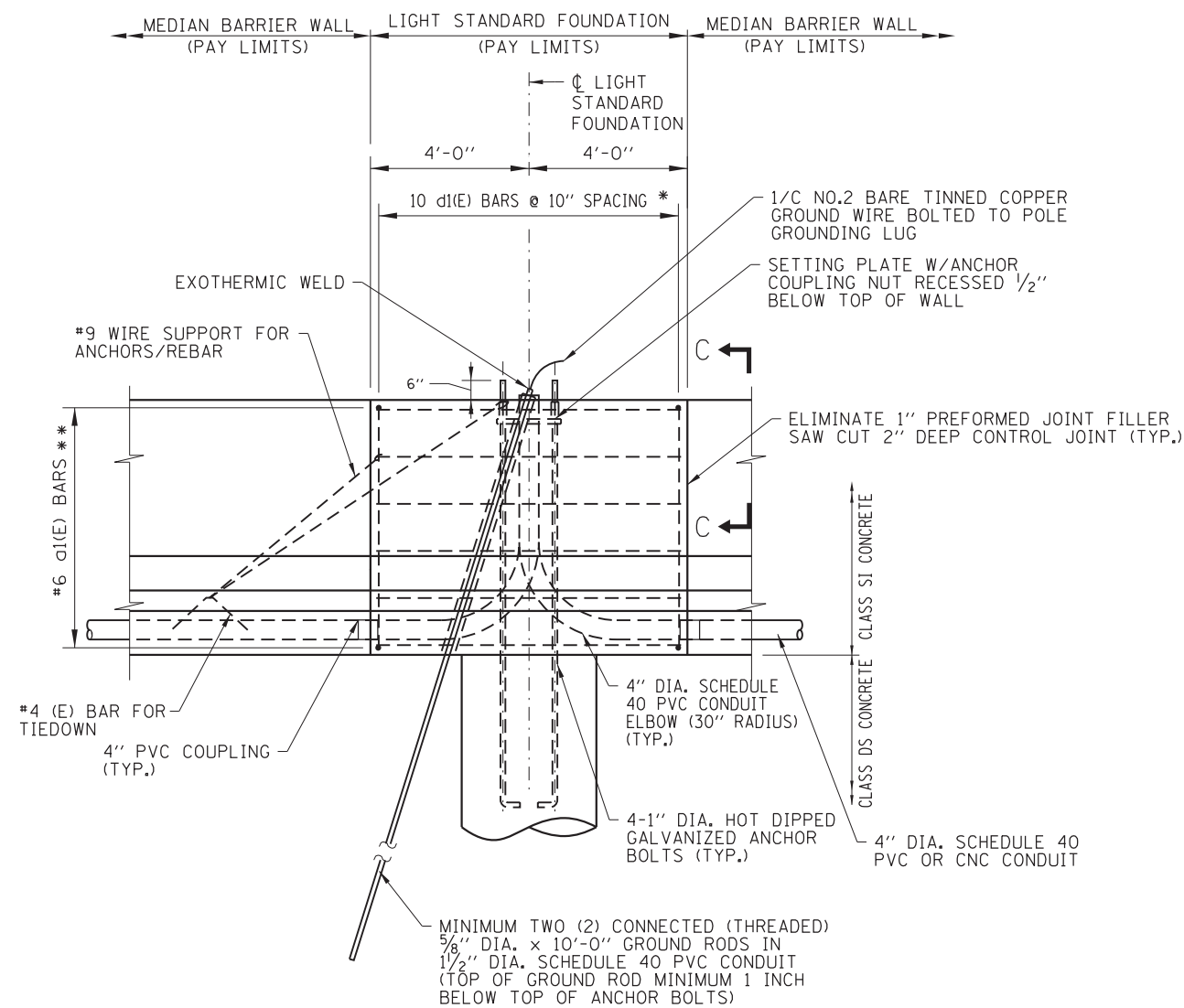
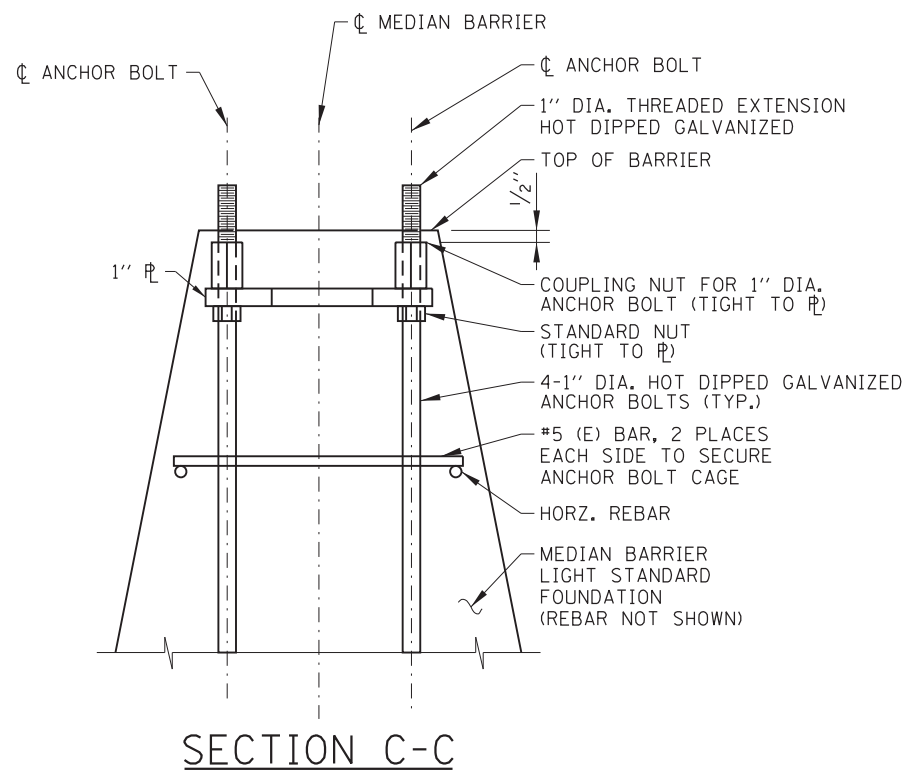
* SEE ELEVATION

- NOTES:**
- SEE SHEET 1 OF THIS SERIES FOR NOTES.
 - FOR SLIP FORM, SEE SHEET 6 OF THIS SERIES.

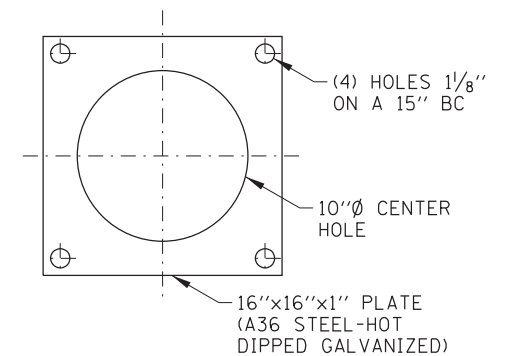
Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 2-7-2012

LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER (TYPE 3 STRADDLED CAISSON, 42" BARRIER)

LIGHT STANDARD FOUNDATION
 STANDARD H1-06



COUPLING NUT



SETTING PLATE

* #6 d1(E) BAR REPLACES #4 d1(E) BAR
 ** #6 d1(E) BAR REPLACES #4 d1(E) BAR

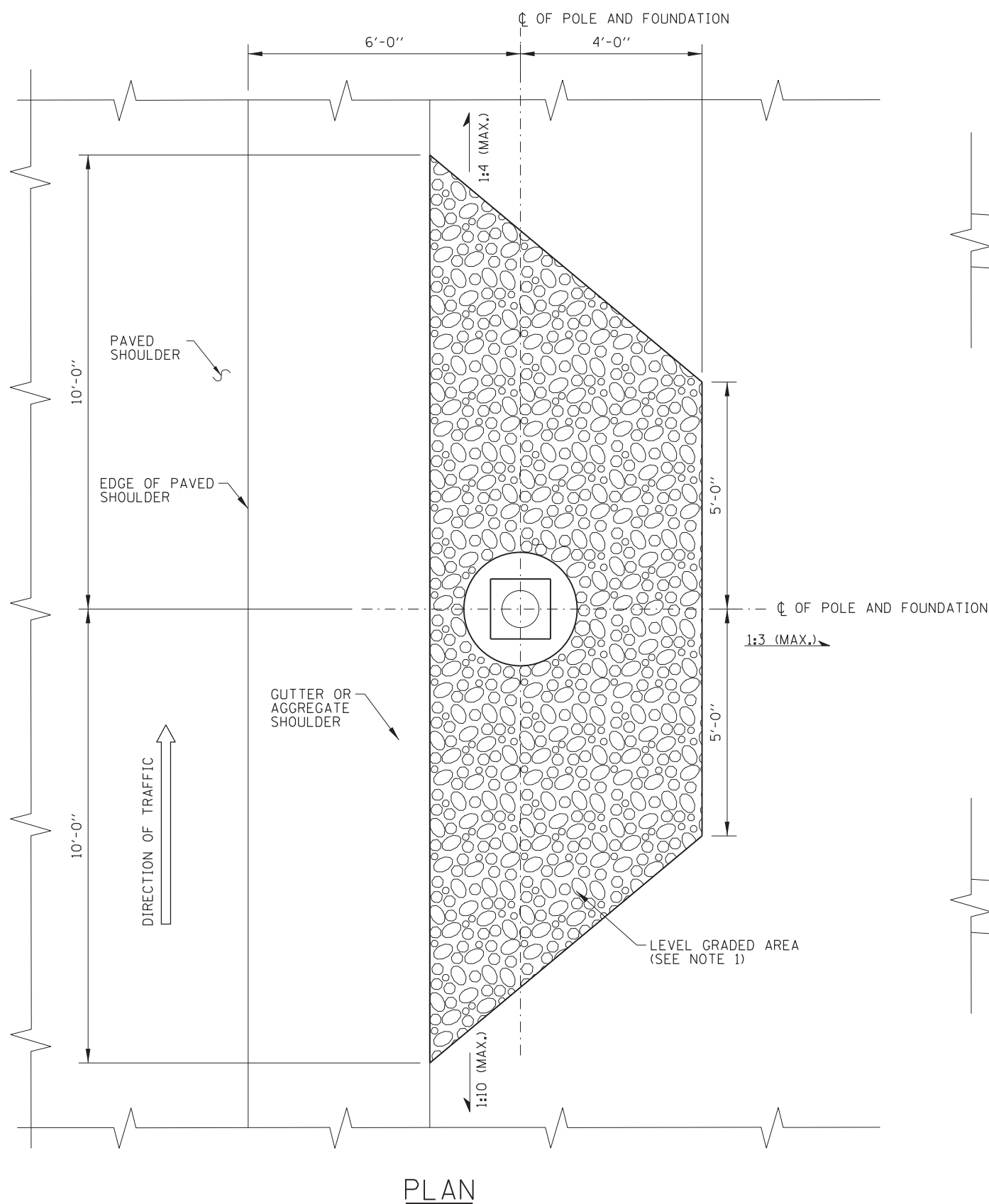
**LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER
 (MODIFICATIONS FOR SLIPFORM POUR, 42" BARRIER)**

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 2-7-2012

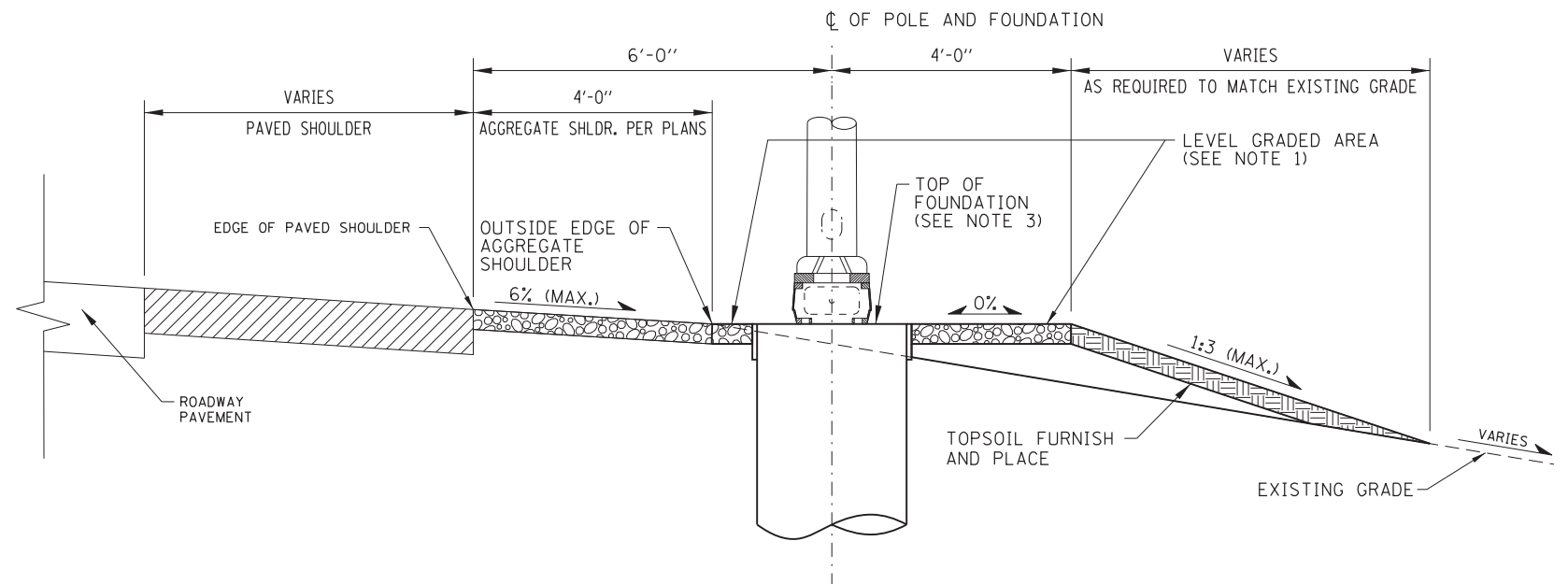
NOTES:

- SEE SHEET 1 OF THIS SERIES FOR NOTES.
- PLUG TOP OF COUPLER WITH PLASTIC PLUG OR COVER WHILE PLACING CONCRETE.

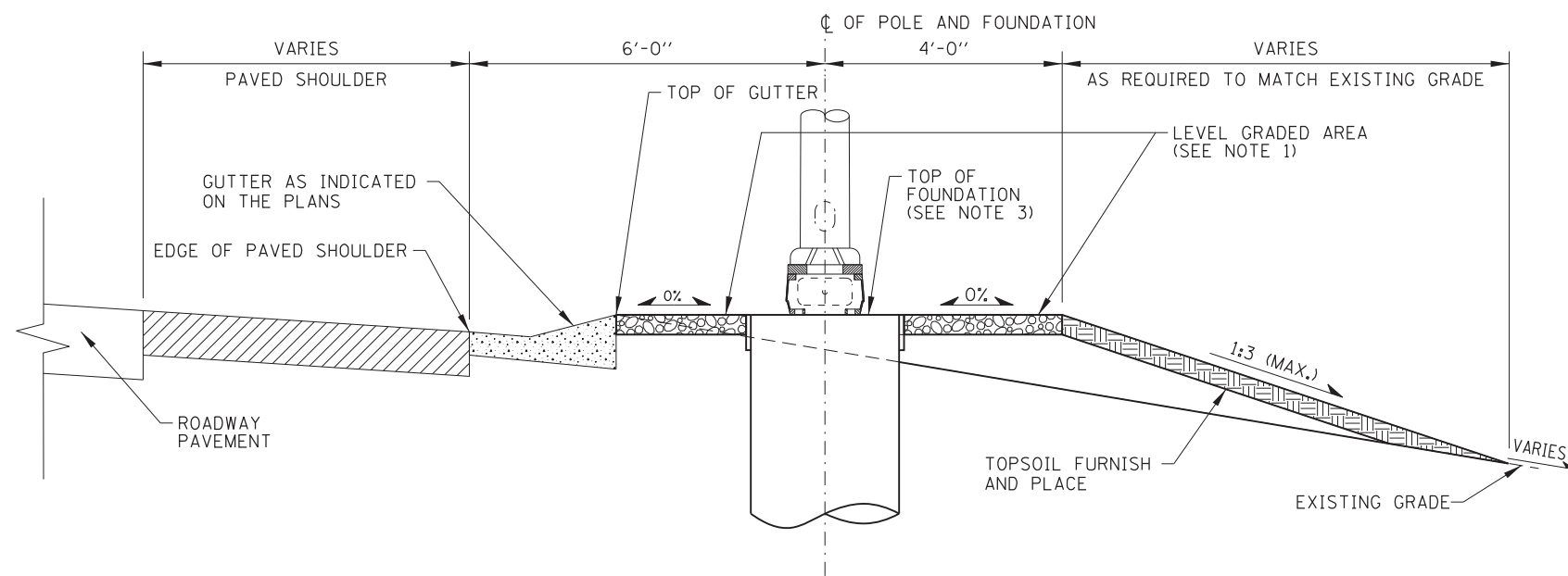




PLAN



LIGHT STANDARD FOUNDATION
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION
ADJACENT TO GUTTER

LIGHT STANDARD FOUNDATION DETAILS - GRADING W/ FORESLOPE
(GROUND MOUNTED UNITS)

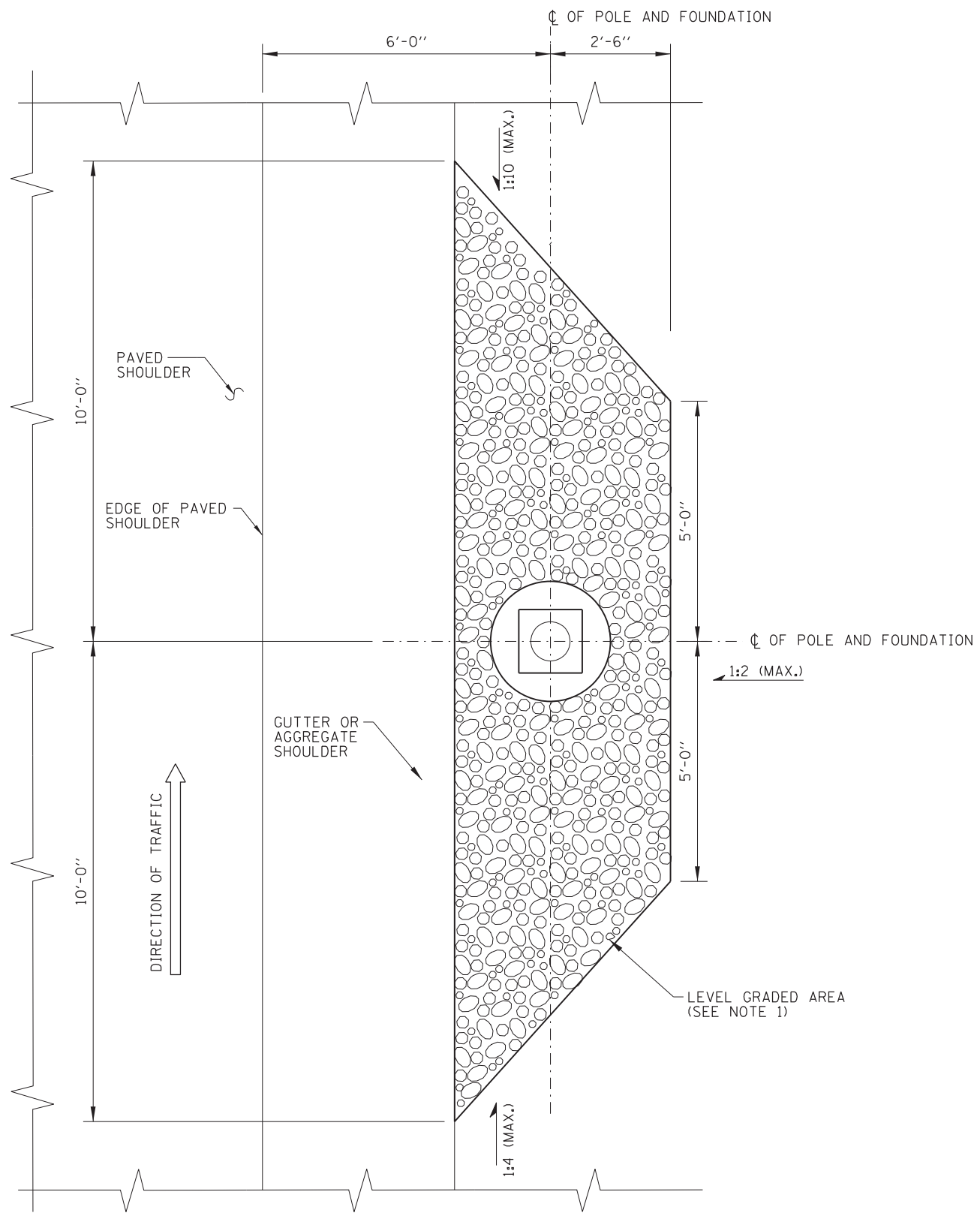
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

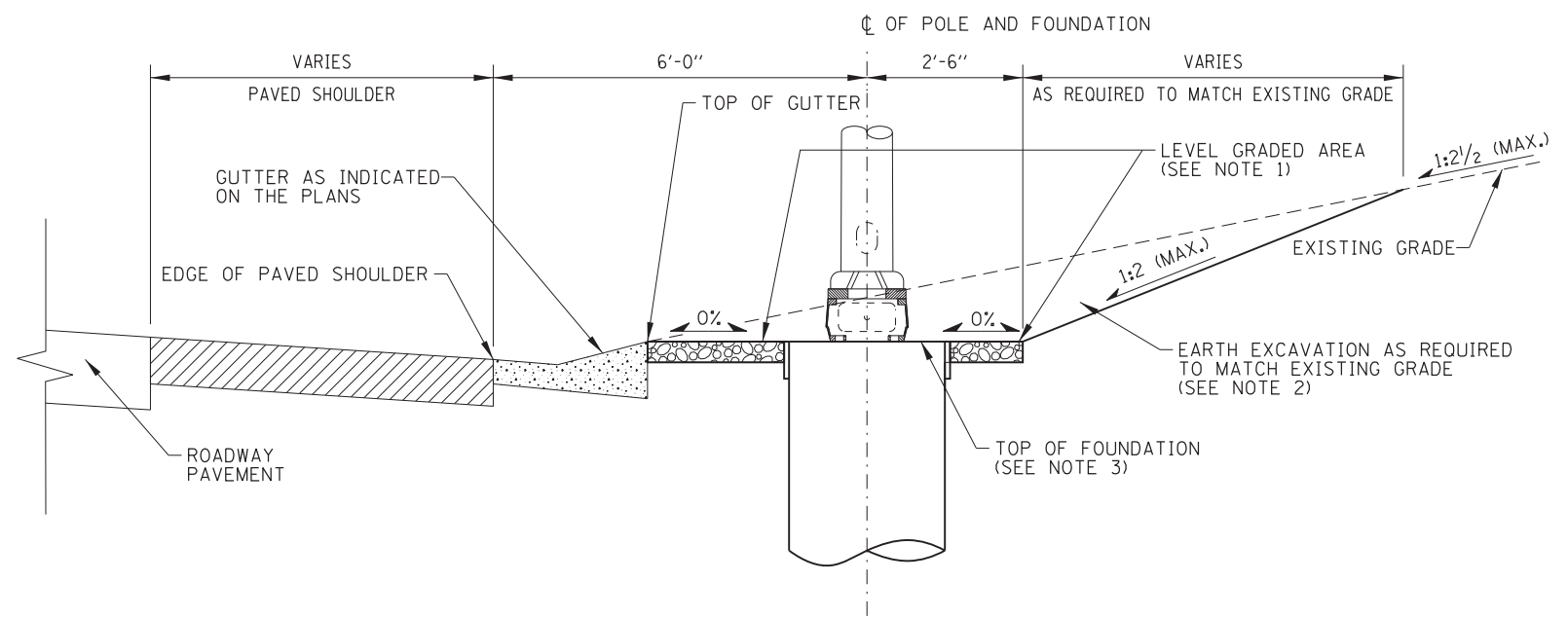


LIGHT STANDARD
FOUNDATION

STANDARD H1-06



PLAN



LIGHT STANDARD FOUNDATION
ADJACENT TO GUTTER

LIGHT STANDARD FOUNDATION DETAILS - GRADING W/ BACKSLOPE
(GROUND MOUNTED UNITS)

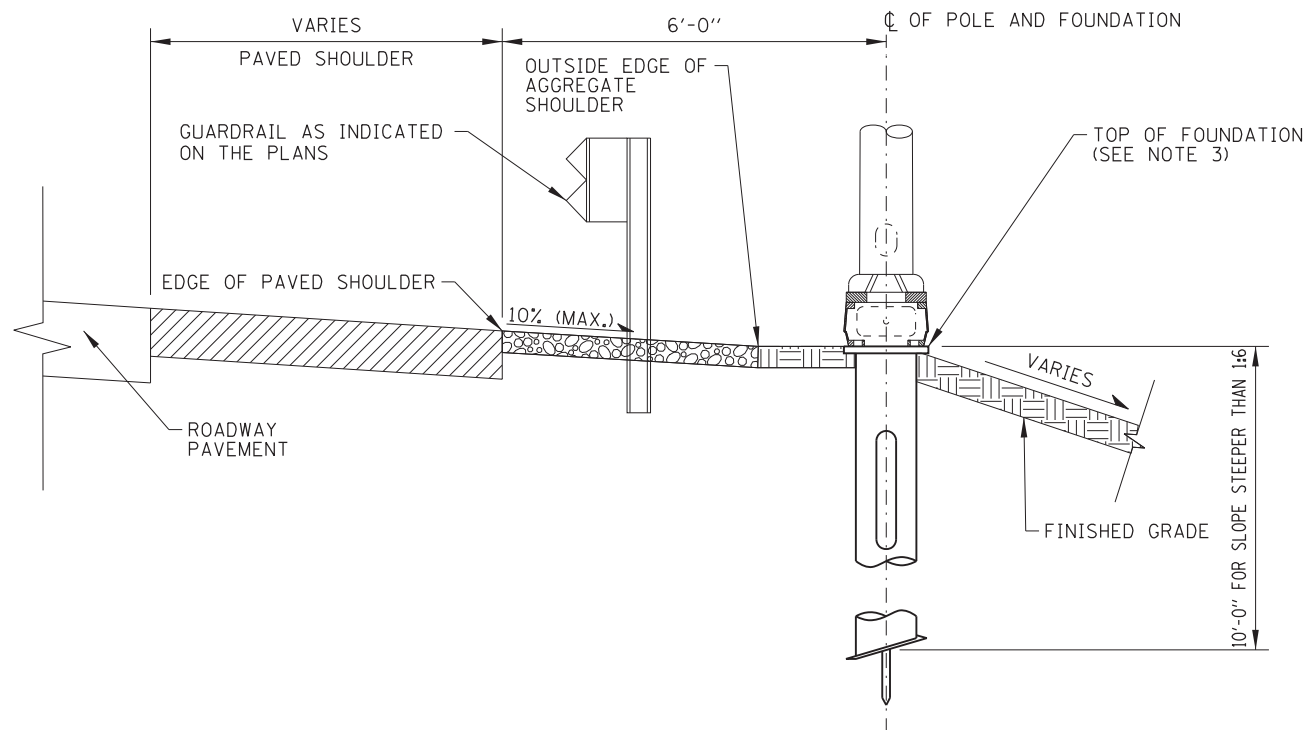
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

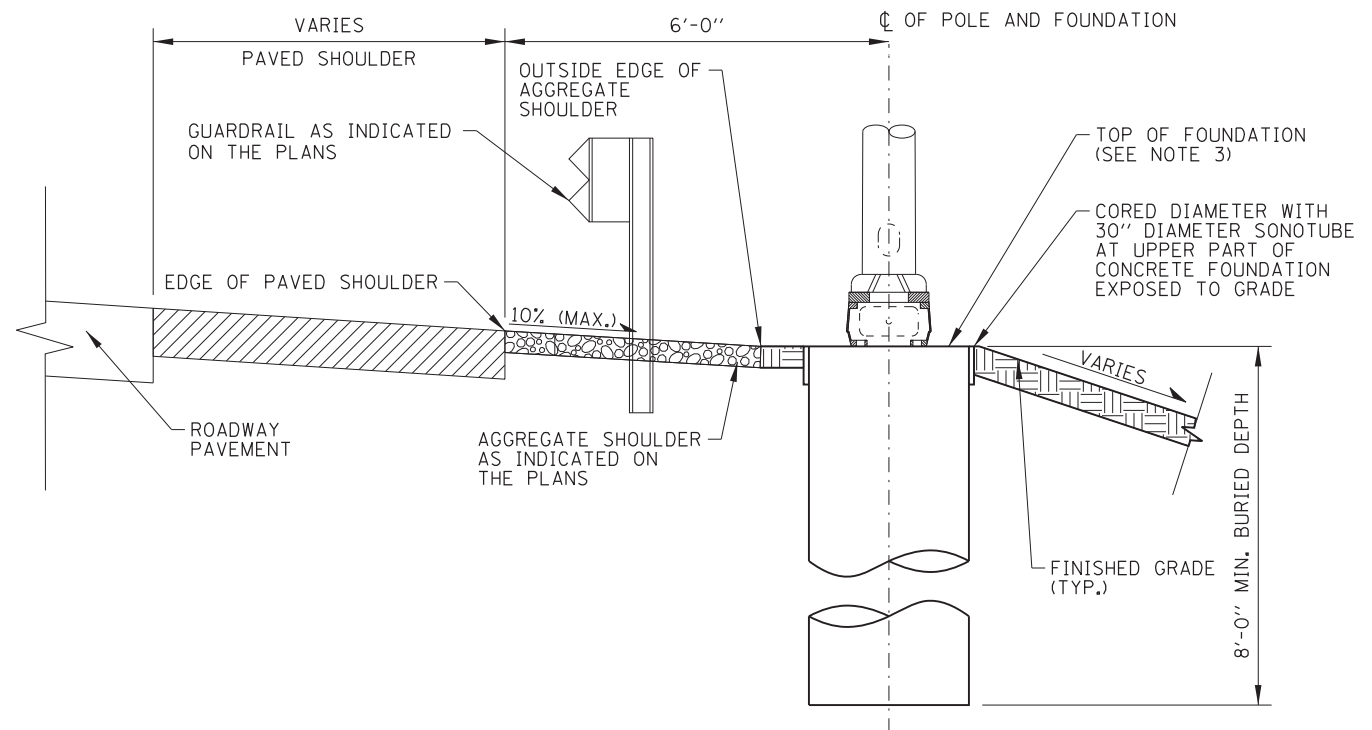


LIGHT STANDARD
FOUNDATION

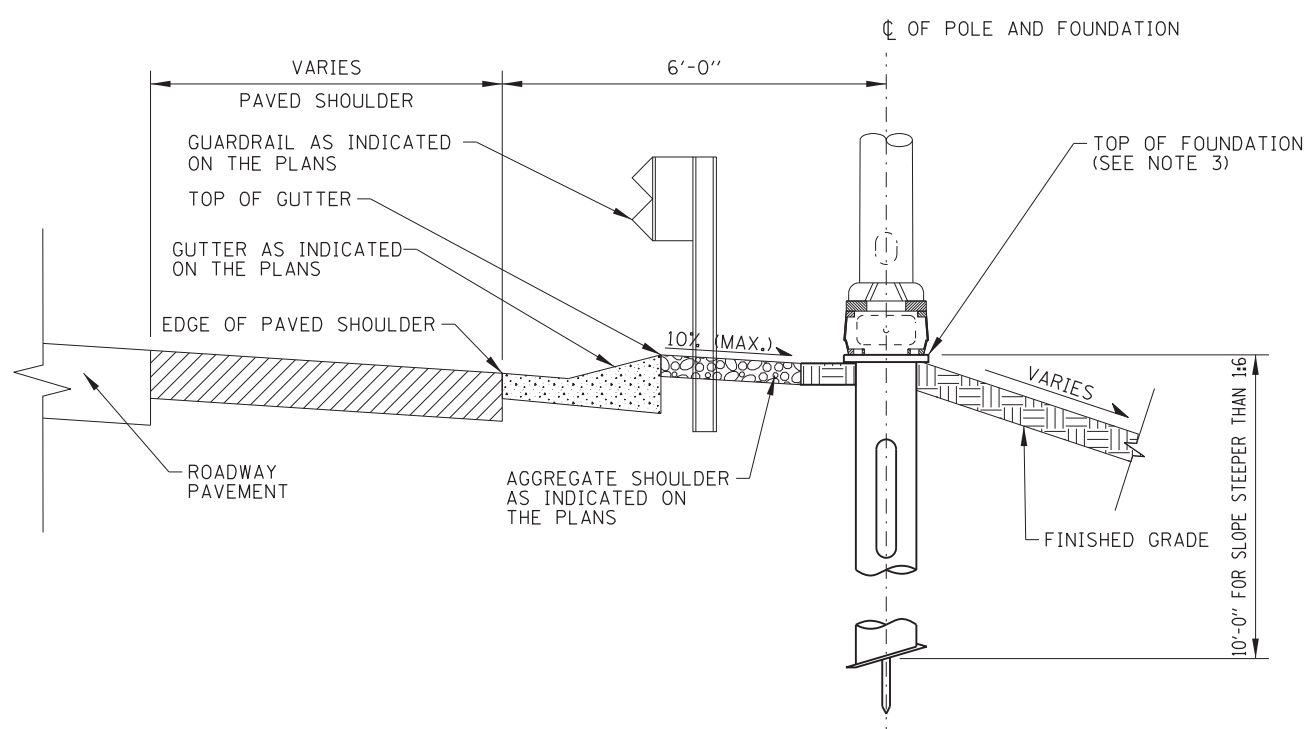
STANDARD H1-06



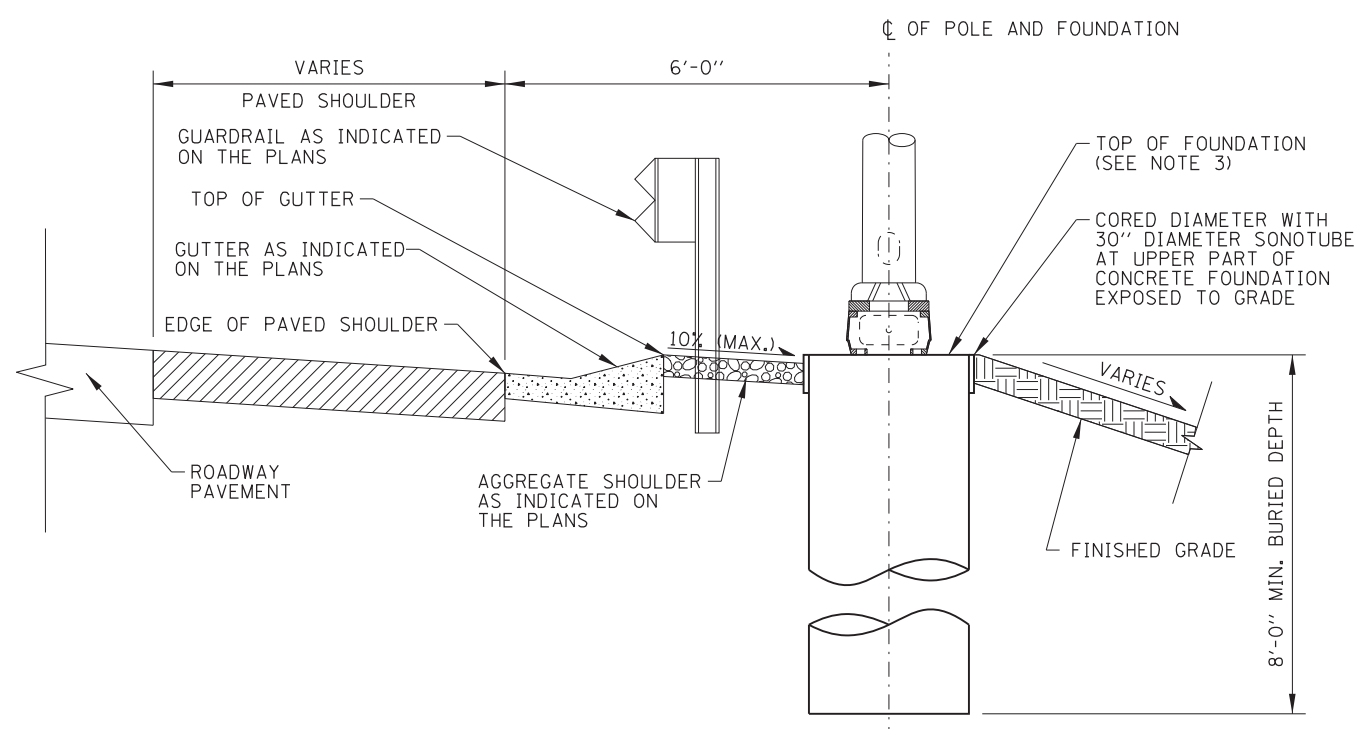
LIGHT STANDARD FOUNDATION - HELIX
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION - CONCRETE
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION - HELIX
ADJACENT TO GUTTER



LIGHT STANDARD FOUNDATION - CONCRETE
ADJACENT TO GUTTER

LIGHT STANDARD FOUNDATION DETAILS - ADJACENT TO GUARDRAIL
(GROUND MOUNTED UNITS)

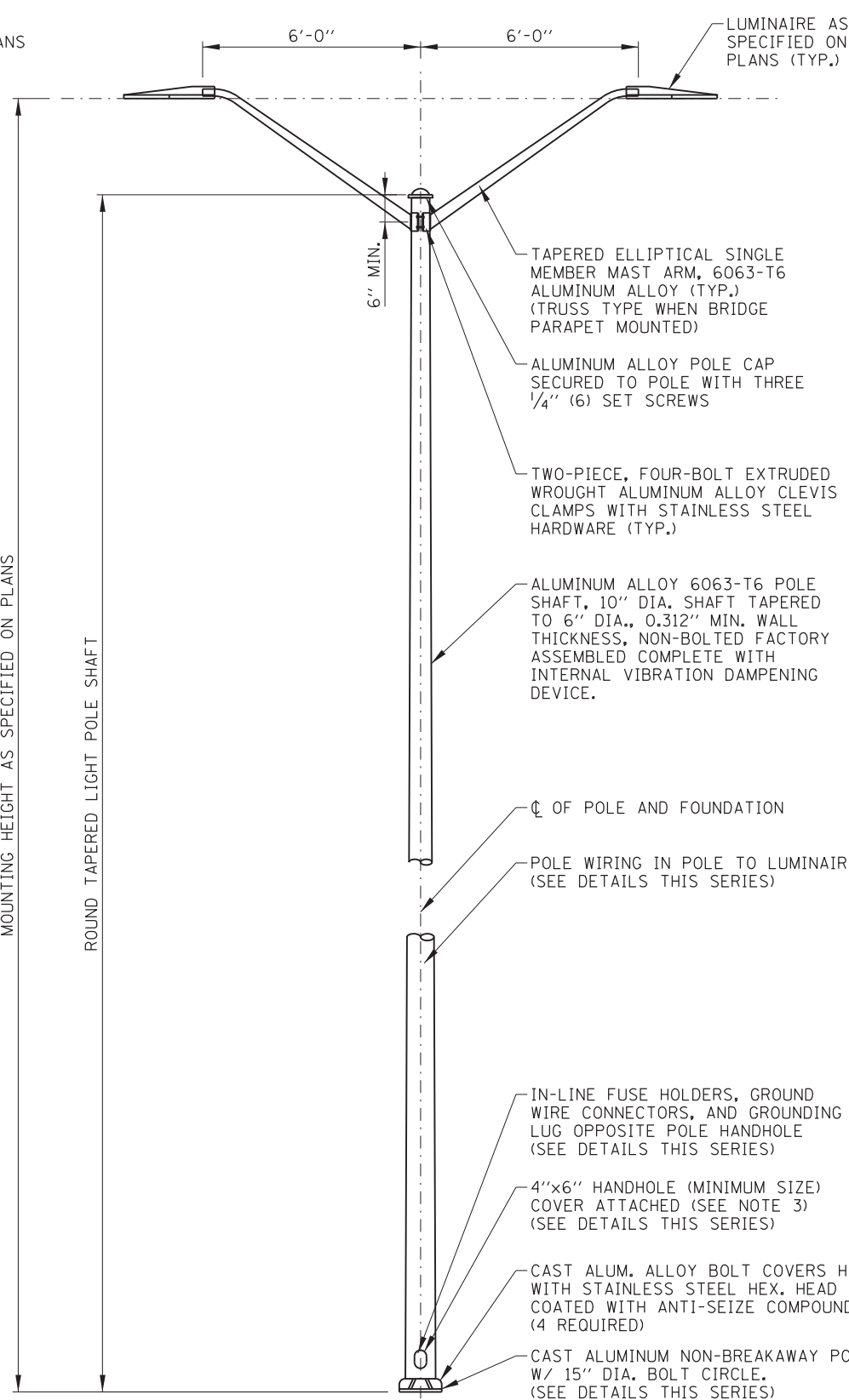
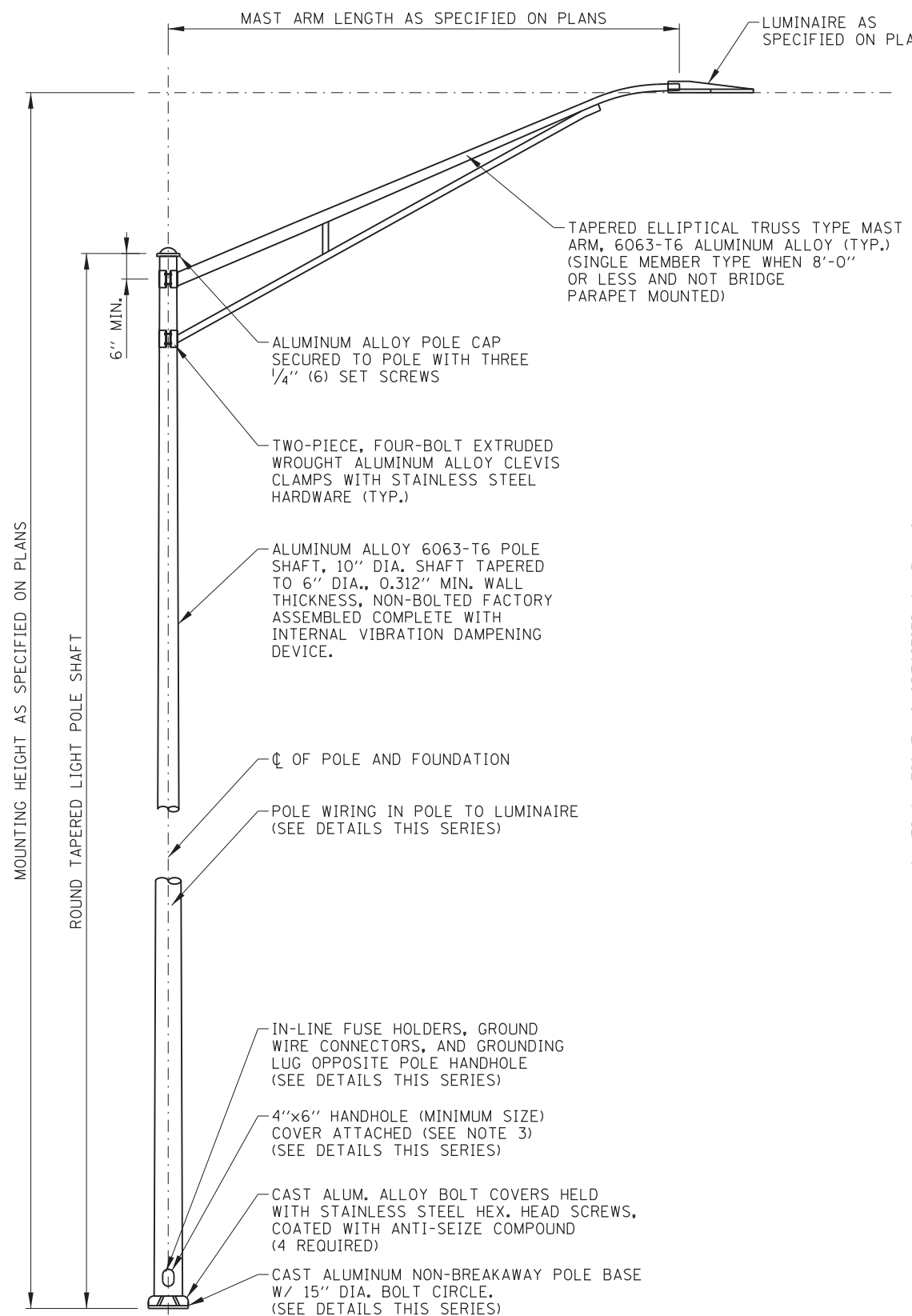
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 9 OF 9

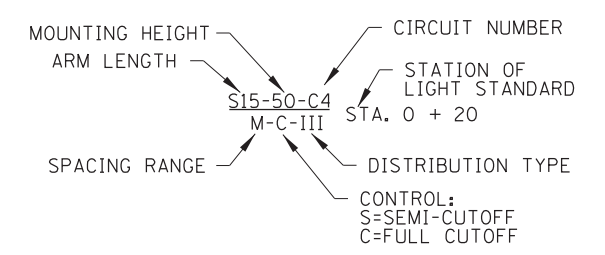
LIGHT STANDARD
FOUNDATION

STANDARD H1-06

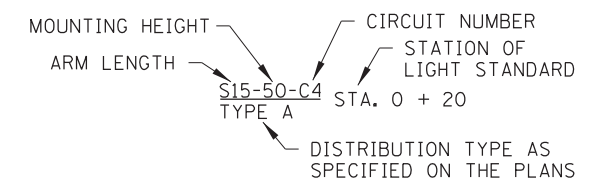


NOTES:

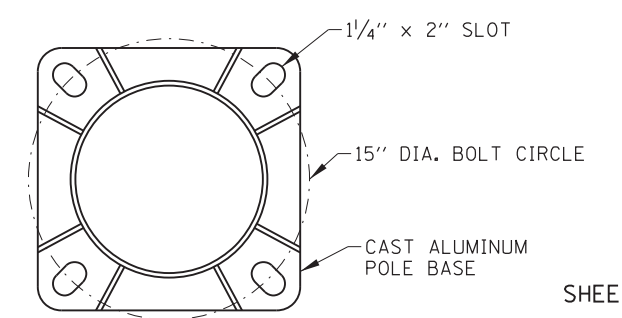
1. ALL LIGHT STANDARDS, BOTH NEW AND EXISTING, ARE SHOWN ON PLANS WITH THE SAMPLE DESCRIPTIONS SHOWN ON THIS SHEET.
2. FOR FOUNDATION DETAILS SEE STANDARD H1. FOR STRUCTURAL PARAPET FOUNDATION DETAILS, SEE STRUCTURAL PLANS.
3. HANDHOLE COVERS SHALL BE FASTENED USING TWO STAINLESS STEEL SCREWS WITH CAPTIVE STAINLESS STEEL NUTS OR INSERTS, PER ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION SECTION 1069.
4. PROVIDE A 24" LONG POLYETHYLENE TUBE TO PROTECT CABLES WHERE THEY PASS THROUGH THE GROMMETED OPENING AT THE POLE/MAST ARM JUNCTION.
5. ALL GROUND MOUNTED LIGHT POLES SHALL BE PROVIDED WITH AN ACCEPTED FHWA BREAKAWAY BASE OR DEVICE PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS SECTION 1070.
6. EACH BRIDGE MOUNTED LIGHT STANDARD SHALL BE PROVIDED WITH SHOCK ABSORBING VIBRATION PADS, NUTS, WASHERS, LEVELING PLATE AND WIRE MESH FOR ITS ERECTION ON THE FOUNDATION AS SHOWN ON THE PLANS.
7. LIGHT STANDARD WIRING DETAIL FOR INSTALLATION WITH CONCRETE FOUNDATION SHOWN. DETAIL FOR INSTALLATION WITH HELIX FOUNDATION IS SIMILAR.
8. LIGHT STANDARD WIRING DETAILS SHOWN FOR TWIN MAST ARM (2 LUMINAIRES PER POLE) INSTALLATIONS. SINGLE MAST ARM (1 LUMINAIRE PER POLE) INSTALLATIONS SHALL OMIT TWO (2) IN-LINE FUSE HOLDERS, ONE SURGE PROTECTION DEVICE AND ASSOCIATED WIRING.
9. CONDUCTORS EXTENDED INTO LIGHT POLE BASE SHALL BE OF SUFFICIENT LENGTH TO WITHDRAW SPLICES AND/OR INSULATED JOINTS A MINIMUM 18" OUT OF THE POLE HANDHOLE.
10. ALL CONDUCTORS ORIGINATING IN POLE SHALL BE A 1/C NO. 10 AWG UNLESS OTHERWISE NOTED.
11. ALL EQUIPMENT SHALL BE GROUNDING AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.



LIGHT STANDARD DESCRIPTION - HPS LUMINAIRES



LIGHT STANDARD DESCRIPTION - LED LUMINAIRES



POLE BASE

LIGHT STANDARD - SINGLE MAST ARM

LIGHT STANDARD - TWIN MAST ARM

LIGHT STANDARD DETAILS

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

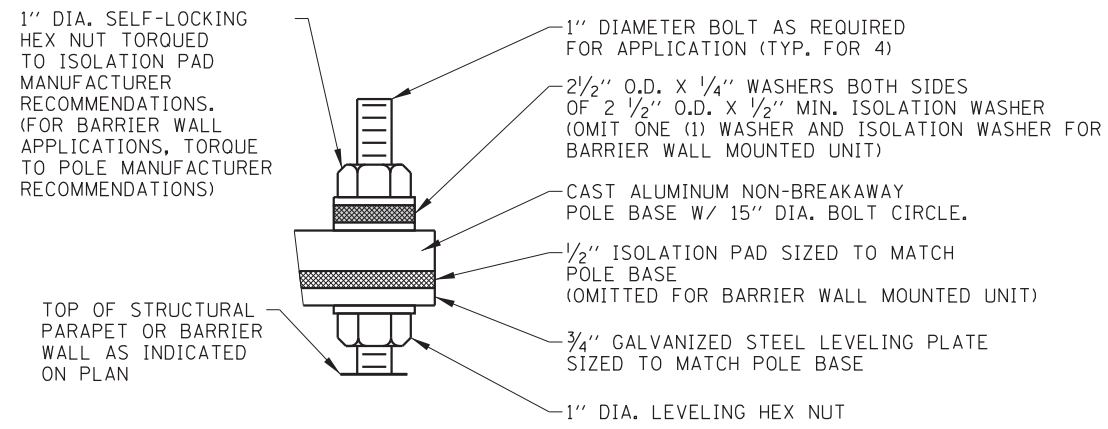
DATE	REVISIONS
02-07-12	REVISED LIGHT POLE HANDHOLE NOTES, REMOVED CABLE VOLTAGE, AND REVISED NOTES.
03-31-14	REVISED WIRING DIAGRAM.
3-11-2015	REVISED LIGHT STANDARD POLE WIRING DETAILS.
3-31-2016	REVISED BARRIER WALL UNIT MOUNTING DETAILS.
3-31-2017	REVISED LIGHT POLE AND MAST ARM DETAILS.
	REVISED WIRING DETAILS: GROUNDING AND SPLICES.

SHEET 1 OF 3

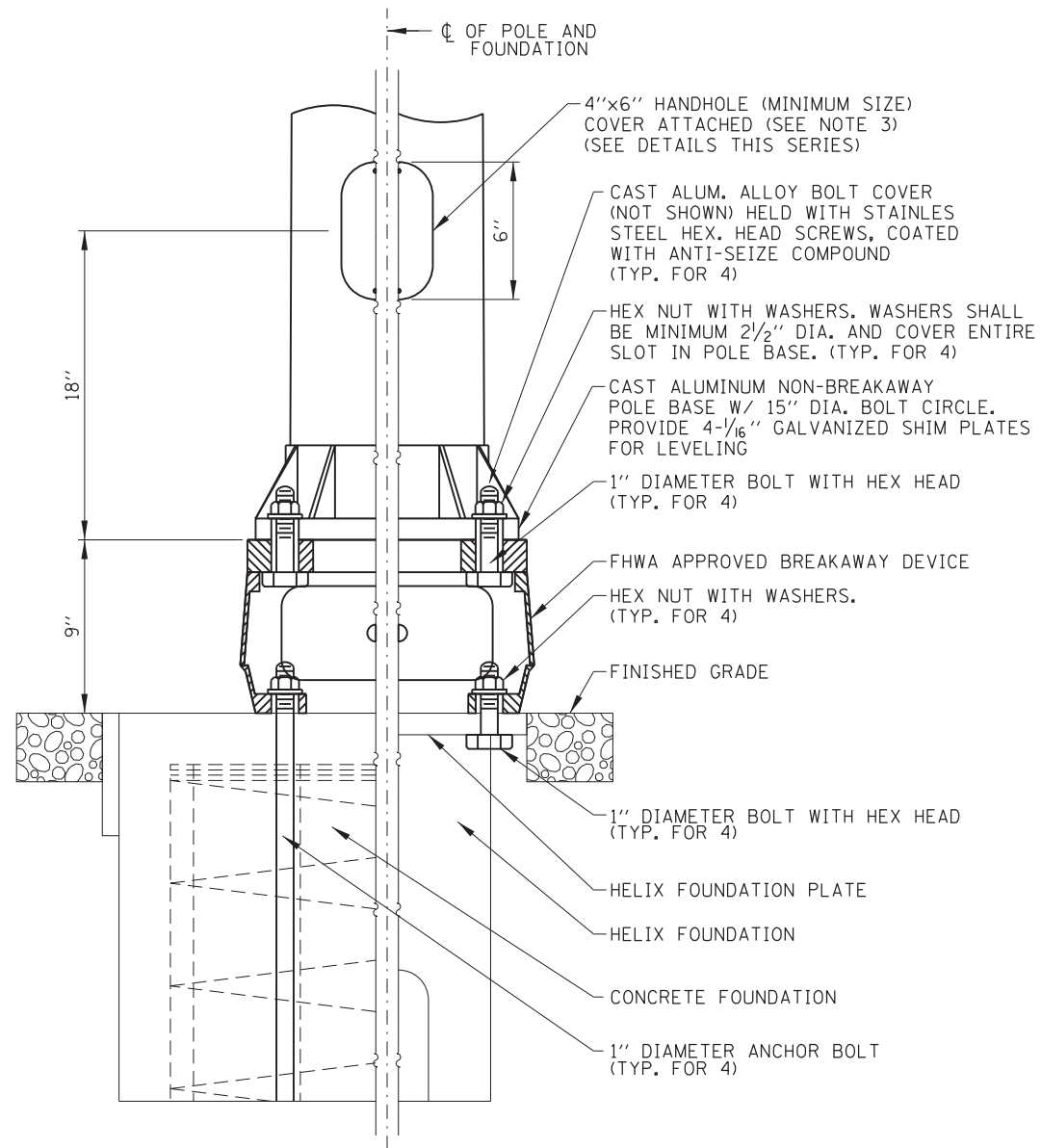


LIGHT STANDARD DETAILS

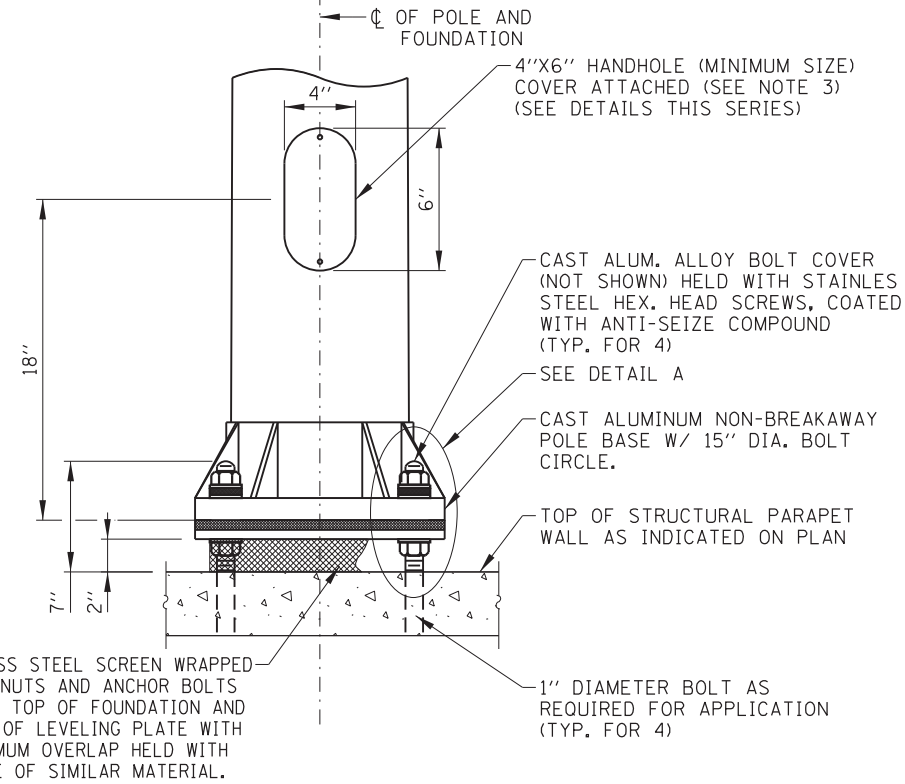
STANDARD H2-05



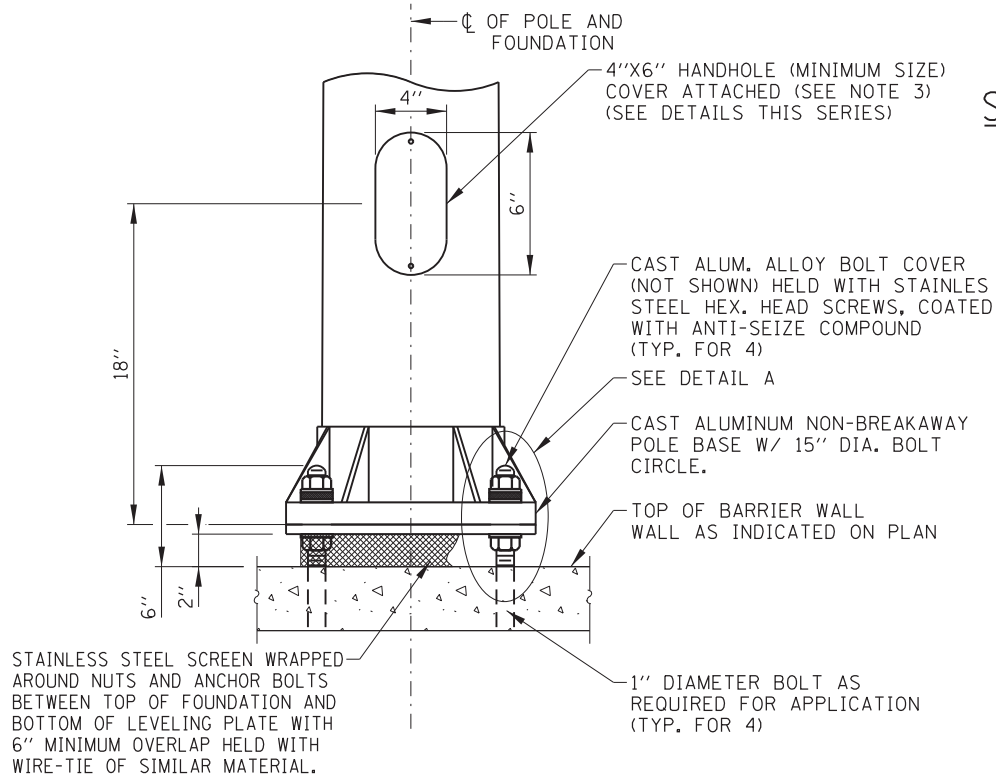
DETAIL A



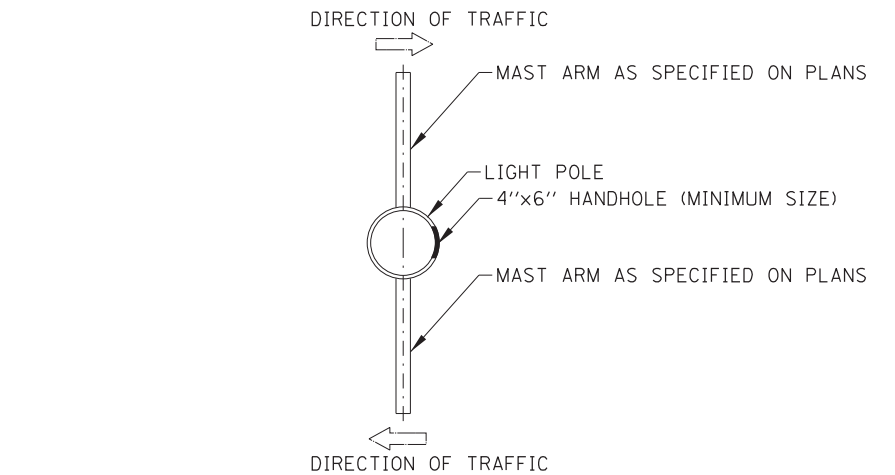
LIGHT STANDARD MOUNTING DETAIL
(GROUND MOUNTED UNITS)



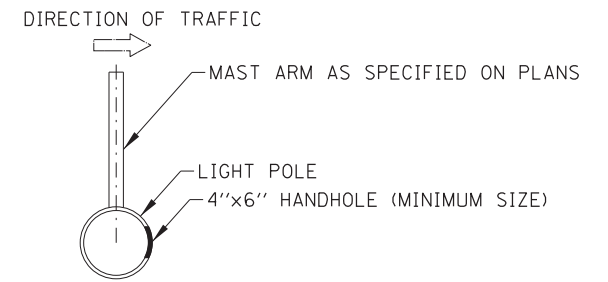
LIGHT STANDARD MOUNTING DETAIL
(STRUCTURAL PARAPET WALL MOUNTED UNITS)



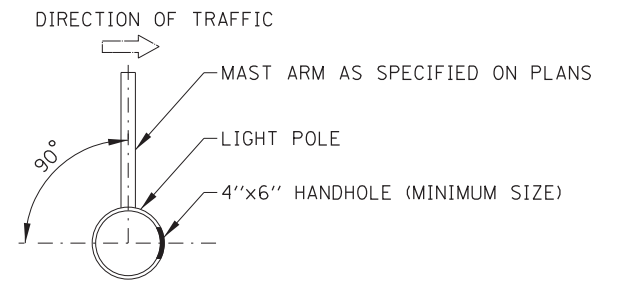
LIGHT STANDARD MOUNTING DETAIL
(BARRIER WALL MOUNTED UNITS)



MEDIAN BARRIER WALL MOUNTED UNITS



STRUCTURAL PARAPET WALL MOUNTED UNITS



GROUND MOUNTED UNITS

LIGHT STANDARD HANDHOLE
ORIENTATION DETAIL

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

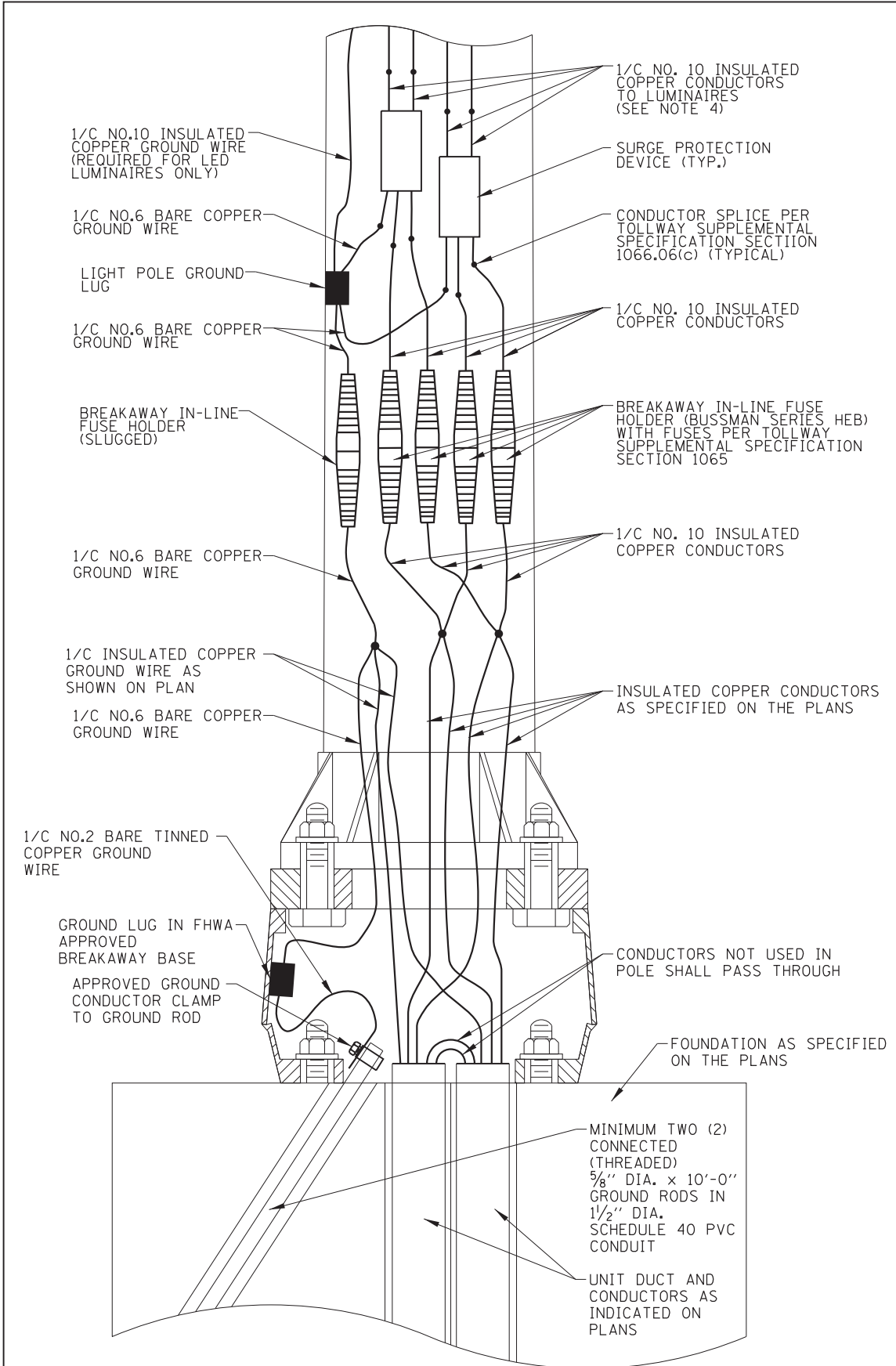
LIGHT STANDARD MOUNTING DETAILS

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

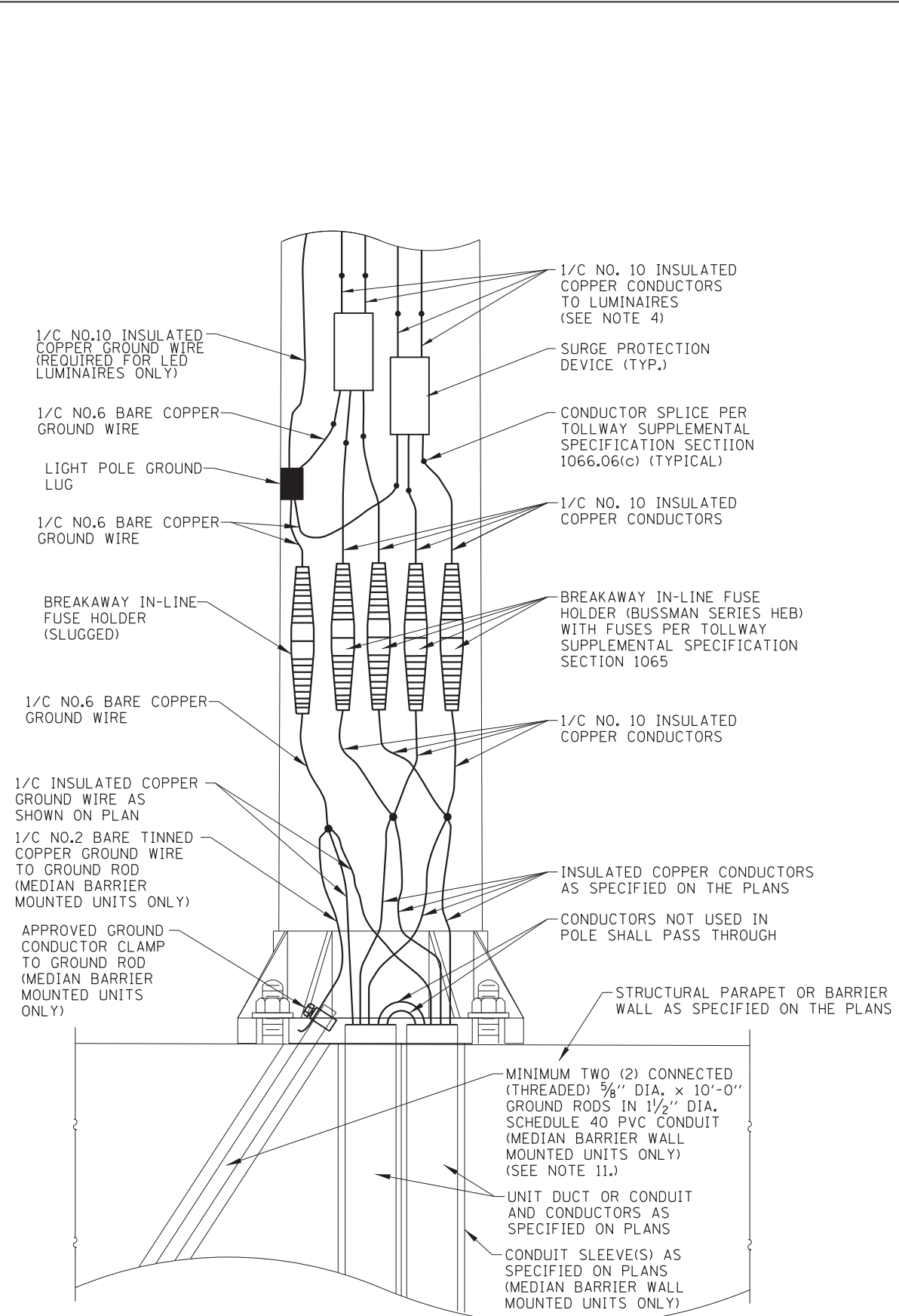
SHEET 2 OF 3

LIGHT STANDARD
DETAILS

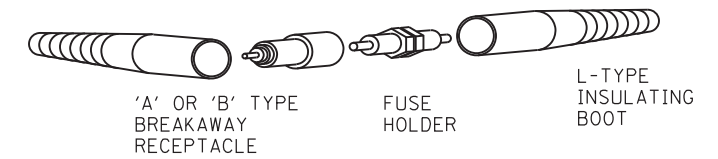
STANDARD H2-05



LIGHT STANDARD WIRING DETAIL
(GROUND MOUNTED UNITS)
 (SEE NOTES 7 & 8)



LIGHT STANDARD WIRING DETAIL
(STRUCTURAL AND BARRIER WALL MOUNTED UNITS)



IN-LINE FUSE HOLDER WITH BREAKAWAY FEATURE DETAIL

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 2-7-2012

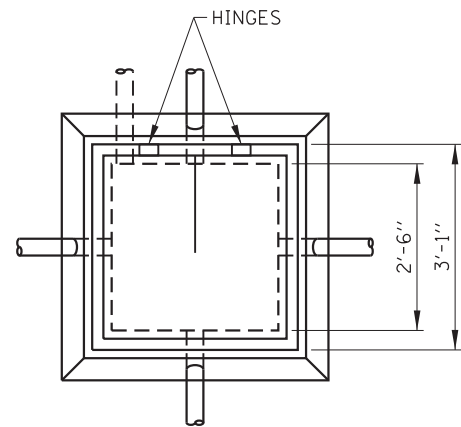
LIGHT STANDARD WIRING DETAILS

NOTE:
 SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 3 OF 3

LIGHT STANDARD DETAILS
 STANDARD H2-05

DIRECTION OF TRAFFIC



PLAN



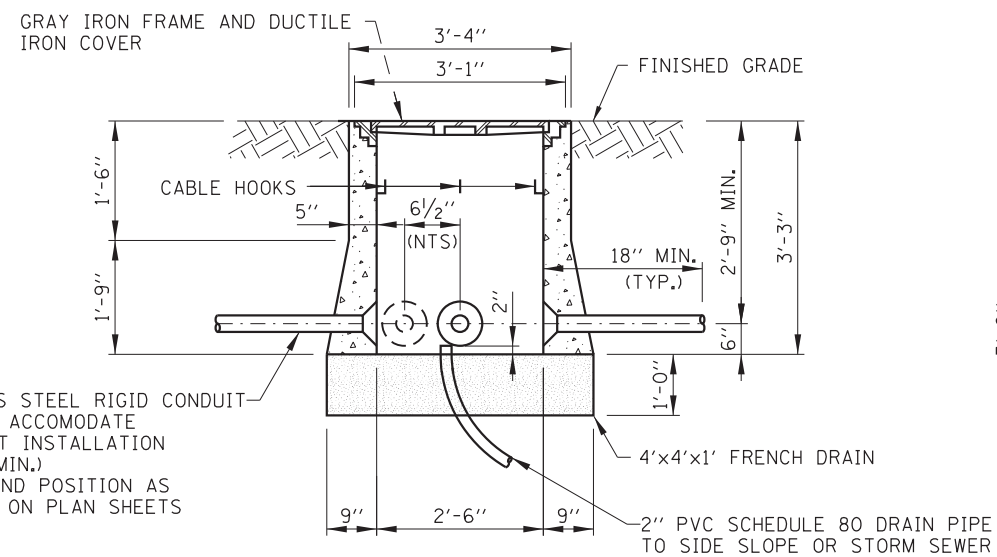
EAST JORDAN
EJ 8216



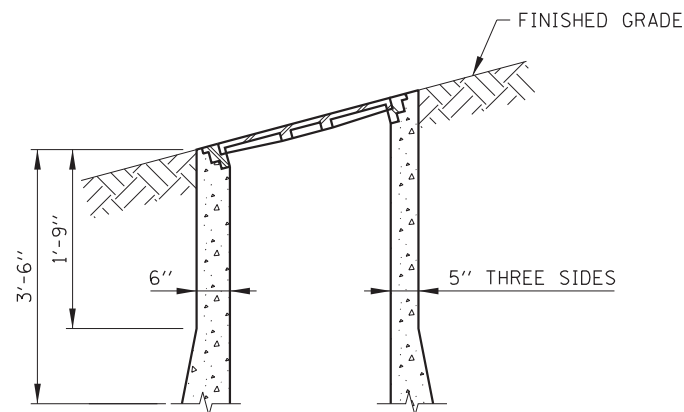
NEENAH
R-6662-PS

NOTES:

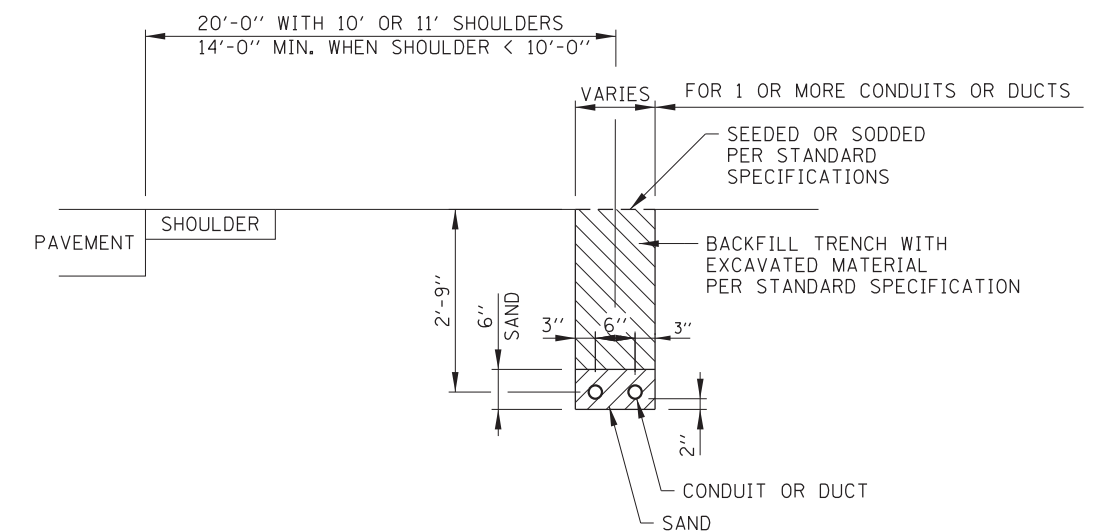
- HEAVY-DUTY HANDHOLE LOCATED IN UNPAVED AREAS AND NOT SHIELDED BY GUARDRAIL SHALL BE CONSTRUCTED WITH THE TOP FLUSH WITH THE ADJACENT SLOPE.
- HEAVY-DUTY HANDHOLE SHALL BE CONSTRUCTED IN NON-PAVED AREAS. THE FRAME AND HINGED COVER SHALL BE EITHER NEENAH FOUNDRY R-6662-PS WITH TYPE G LIFTING HANDLE OR EAST JORDAN IRON WORKS EJ 8216 WITH MPIC OR APPROVED EQUAL. THE HINGED COVER SHALL BE PROVIDED WITH A LIFT ASSIST MECHANISM. THERE SHALL BE TWO SETS OF HINGES AND THE DESIGN SHALL ALLOW FOR THE COVER TO OPEN > 90 DEGREES. THE COVER SHALL BE PROVIDED WITH A HOLD OPEN SAFETY ARM THAT CATCHES TO PREVENT ACCIDENTAL CLOSURE. THE COVER SHALL ALSO BE ABLE TO BE MADE FULLY REMOVABLE. THE FRAME COVER SHALL BE INSTALLED WITH THE HINGES TO THE SIDE FACING APPROACHING TRAFFIC.
- AGGREGATE FOR FRENCH DRAIN SHALL BE PER ARTICLE 1003.04 OF THE STANDARD SPECIFICATIONS.
- 10 FEET OF EXTRA CABLE SHALL BE COILED IN EACH HANDHOLE.
- ALL METALLIC COMPONENTS OF THE HANDHOLE SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS SECTION 814, THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.
- THE HANDHOLE COVER SHALL BE LETTERED "ELECTRIC". LETTERING SHALL BE 2" FLAT FACE GOTHIC AND BE FLUSH WITH THE SLIP RESISTANT SURFACE.



ELEVATION



SLOPE INSTALLATION



TRENCHING FOR CONDUIT IN NON-PAVED AREAS

HEAVY-DUTY HANDHOLE DETAILS

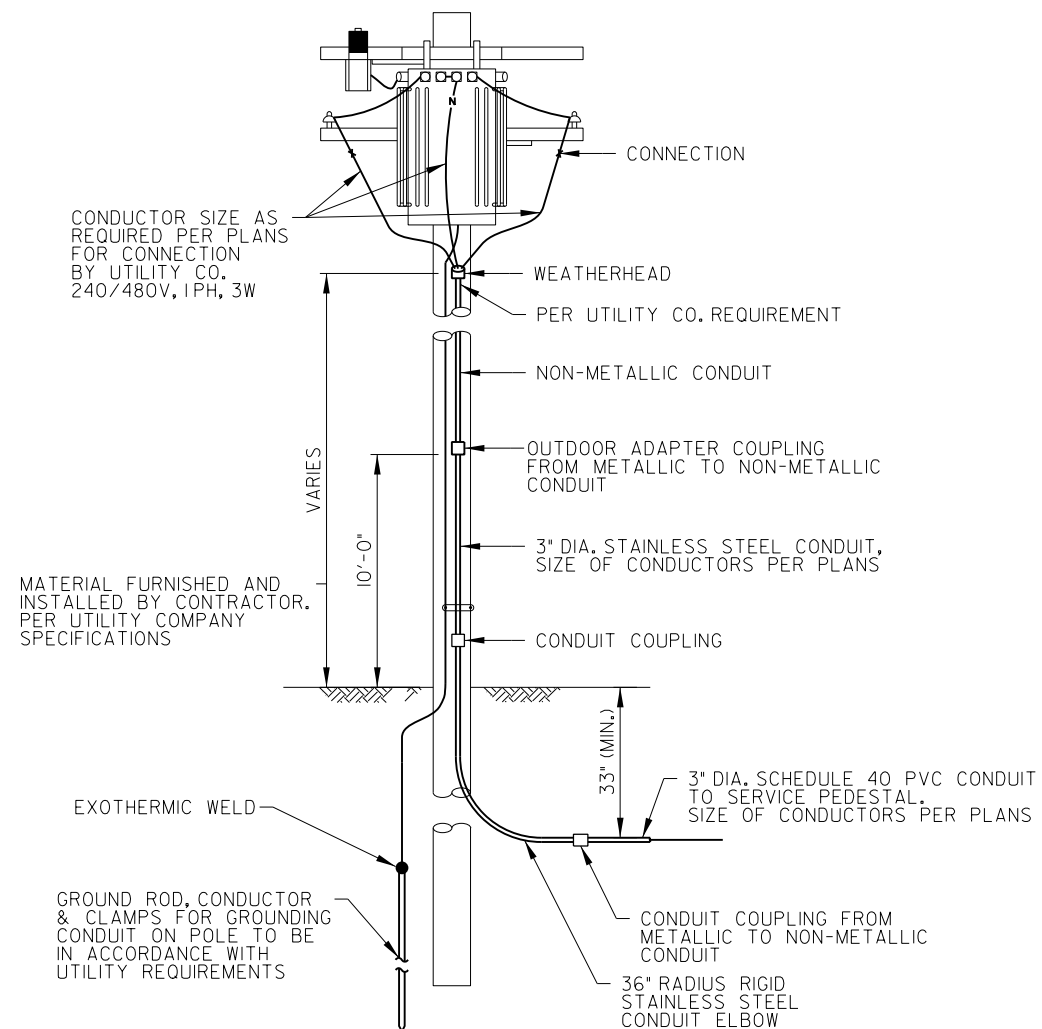
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
2-07-2012	MODIFY TRENCH DETAIL, NEW HANDHOLE DETAILS AND REVISED NOTES.
3-11-2015	DELETED NON HEAVY-DUTY HANDHOLE.
3-31-2016	NEW HINGED COVER AND REVISED NOTES.
3-31-2017	REVISED NOTES. REMOVED GROUND ROD FROM DETAIL.

Illinois Tollway

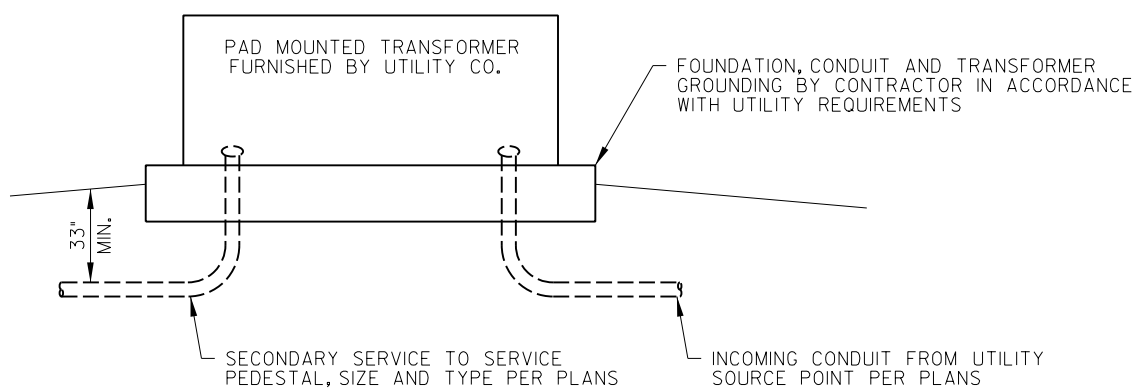
HEAVY-DUTY HANDHOLE AND BURIED WIRING DETAILS

STANDARD H4-04



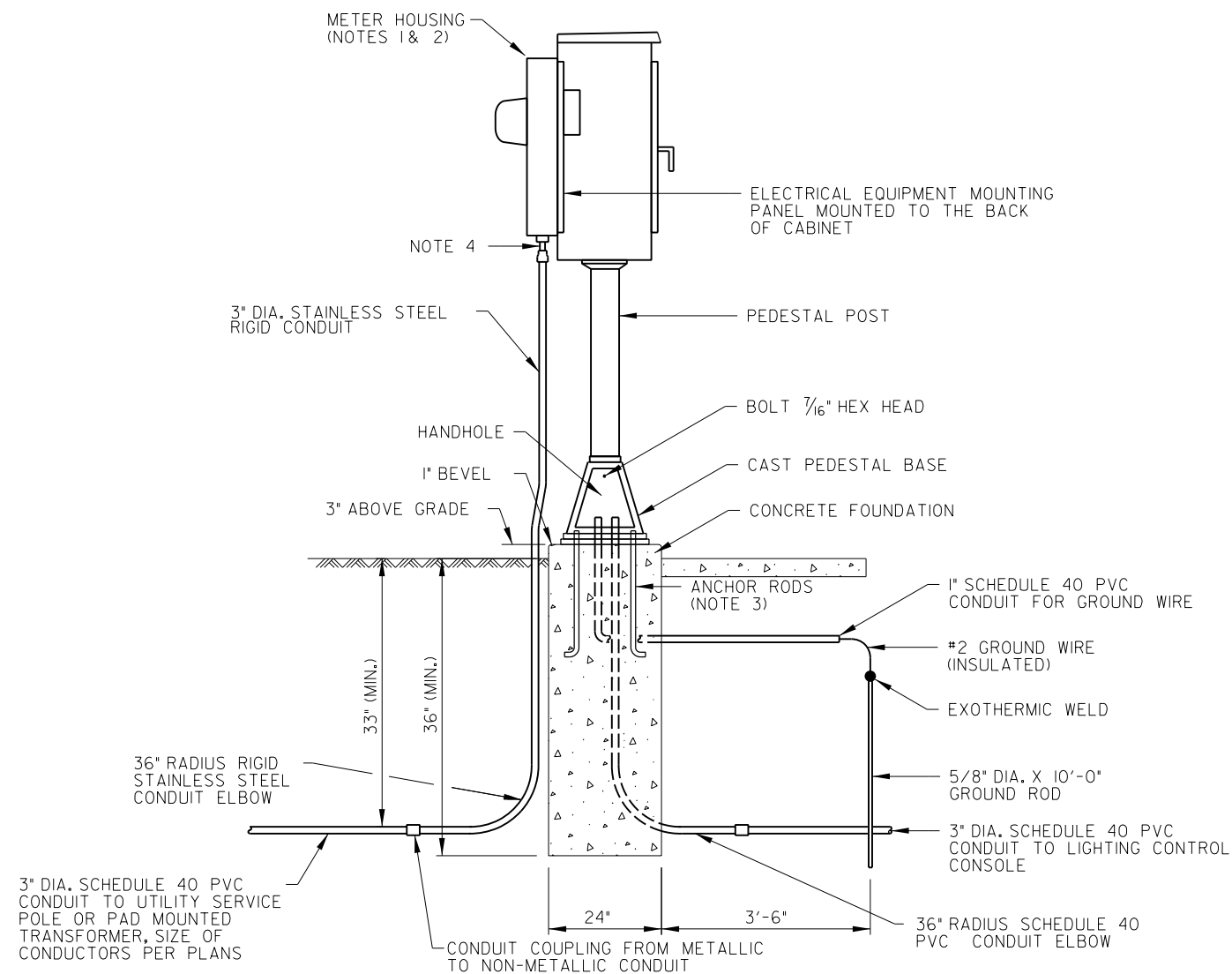
UTILITY SERVICE POLE

SUBJECT TO UTILITY COMPANY APPROVAL



UTILITY PAD MOUNTED TRANSFORMER

SUBJECT TO UTILITY COMPANY APPROVAL



SERVICE PEDESTAL WITH METER DETAIL

NOTES:

- METER HOUSING SHALL BE MOUNTED TO BACK WALL OF CONTROL CABINET, PROVIDE A GATE IN ROW FENCE TO ALLOW UTILITY ACCESS TO READ THE METER.
- CABLES FROM METER HOUSING SHALL PASS THROUGH BACK WALL OF CONTROL CABINET.
- CONTRACTOR MUST COORDINATE WITH PEDESTAL BASE SUPPLIER AND FURNISH THE NECESSARY ANCHOR RODS.
- PROVIDE A 2 1/2" CONDUIT HUB, 2 1/2" NIPPLE AND 2 1/2" TO 3" CONDUIT REDUCER FITTING.
- ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE: 2-7-2012

DATE	REVISIONS
2-07-2012	NEW SERVICE PEDESTAL DETAIL, MODIFIED UTILITY SERVICE POLE.
3-11-2015	REVISED CONDUITS TO STAINLESS STEEL.
3-31-2016	REVISED CONDUIT DEPTH.
3-31-2017	ADDED EQUIPMENT LAYOUTS

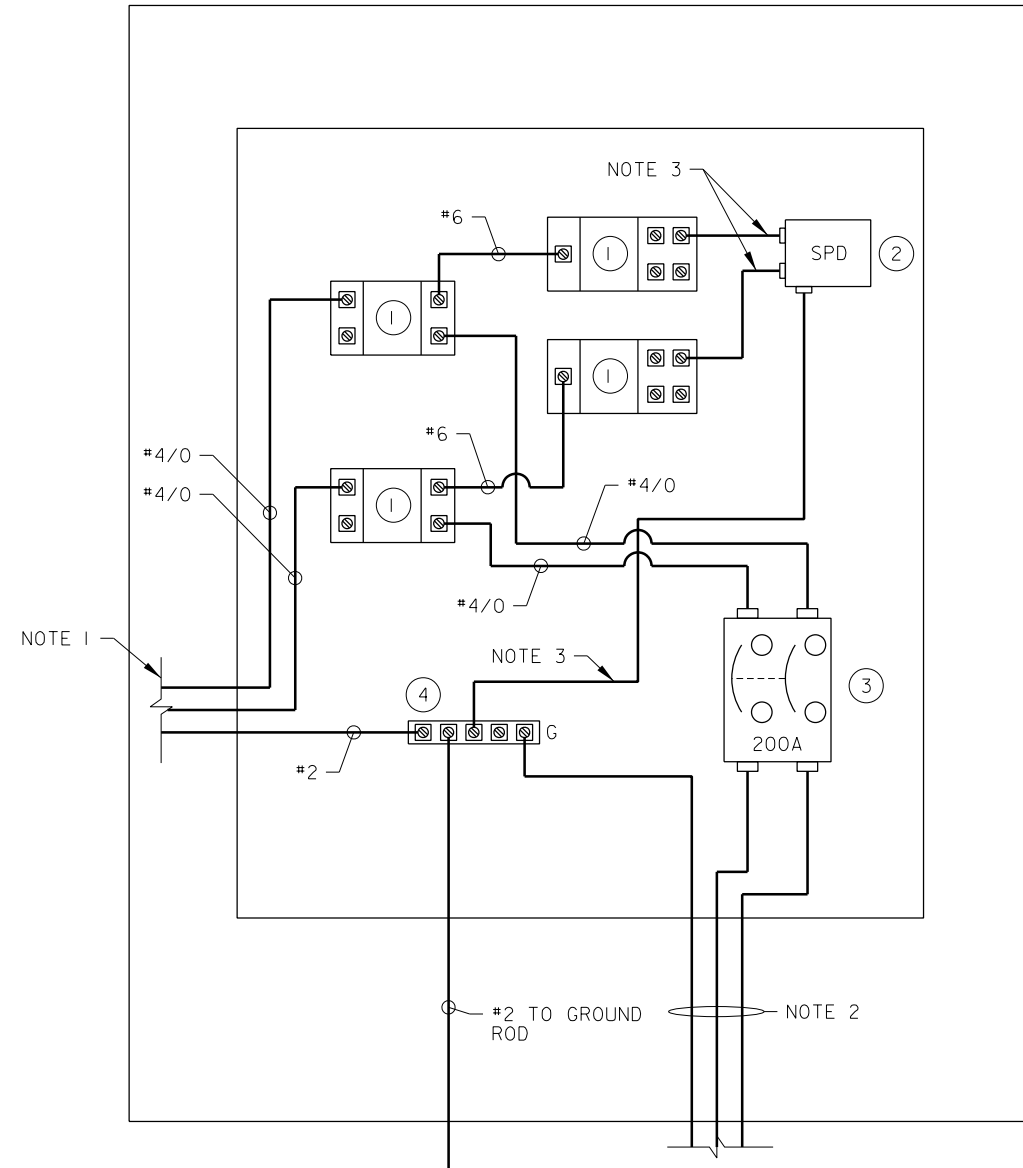


SERVICE POLE AND PEDESTAL DETAILS

STANDARD H5-04

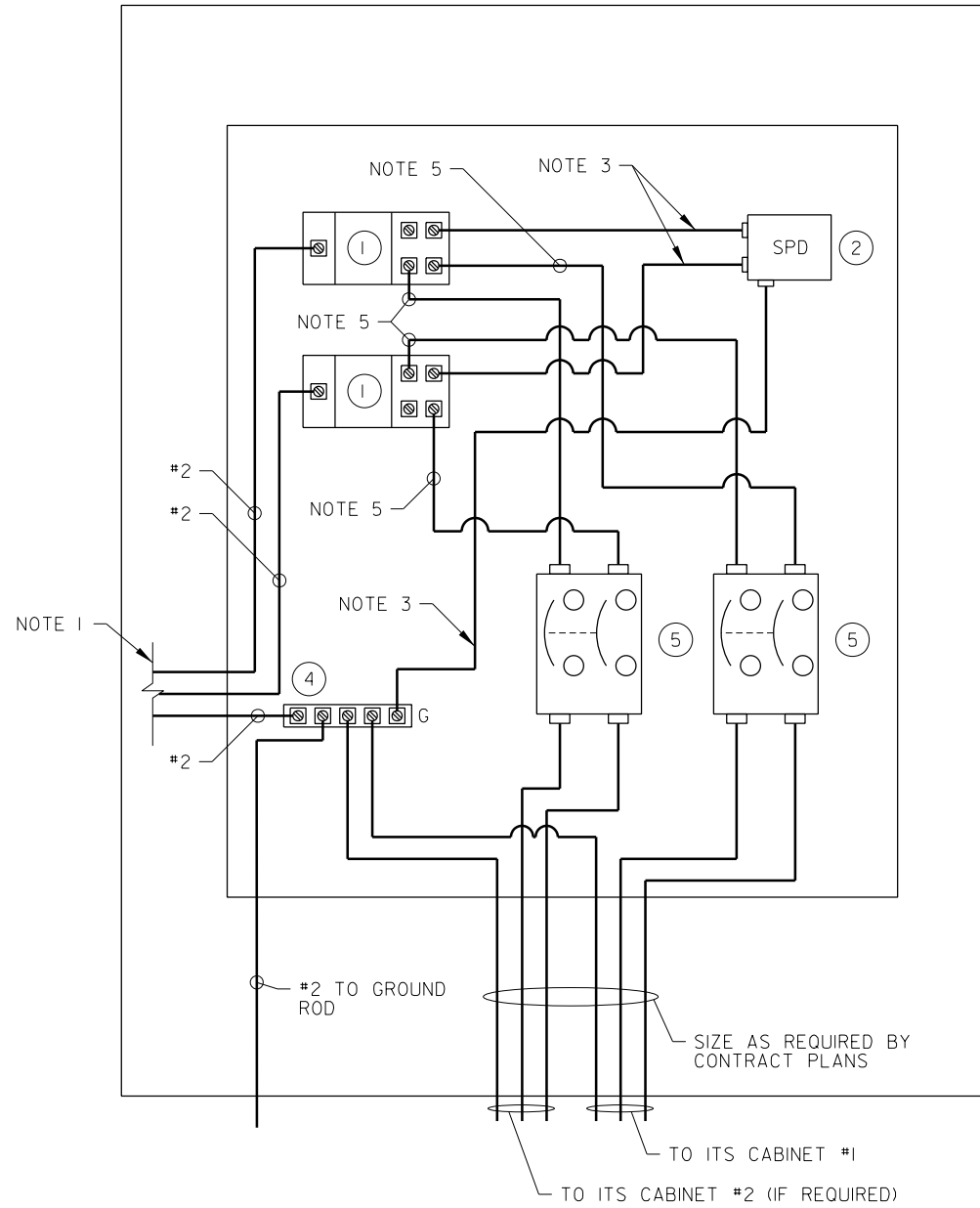
ITEM DESCRIPTION

- ① POWER DISTRIBUTION/TERMINAL BLOCK, WITH INGRESS PROTECTION RATING IP20.
- ② SURGE PROTECTION DEVICE
- ③ CIRCUIT BREAKER, 200 AMPERE, 2-POLE, 600 VOLT RATED
- ④ GROUNDING AND/OR NEUTRAL BUS
- ⑤ CIRCUIT BREAKER, 30 AMPERE (OR AS REQUIRED BY CONTRACT PLANS), 2-POLE, 600 VOLT RATED



SERVICE PEDESTAL INTERIOR ELECTRIC EQUIPMENT LAYOUT & WIRING DIAGRAM

ROADWAY LIGHTING



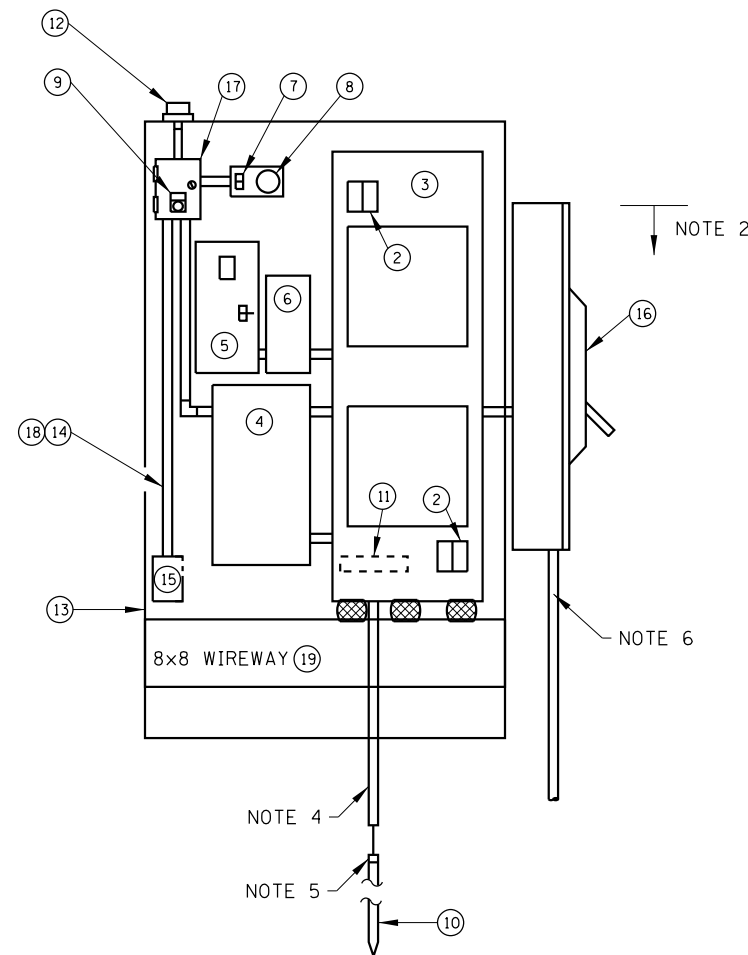
SERVICE PEDESTAL INTERIOR ELECTRIC EQUIPMENT LAYOUT & WIRING DIAGRAM

ROADWAY ITS

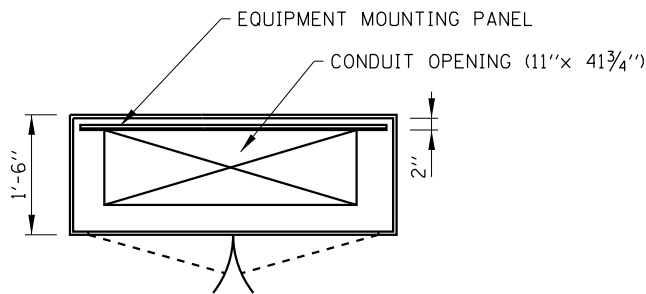
NOTES:

1. ELECTRIC SERVICE CONDUCTORS FROM METER HOUSING.
2. ELECTRIC SERVICE CONDUCTORS TO LIGHTING CONTROL CONSOLE. SIZE AS INDICATED ON THE PLANS.
3. SURGE PROTECTION DEVICE CONDUCTORS SIZE SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATION.
4. ELECTRIC CONDUCTORS SHOWN WITH MINIMUM SIZES. LARGER SIZES SHALL BE USED AS REQUIRED OR AS SHOWN ON THE PLANS.
5. CABLES SHALL BE MINIMUM #4 AWG OR AS REQUIRED FOR CIRCUIT BREAKER.

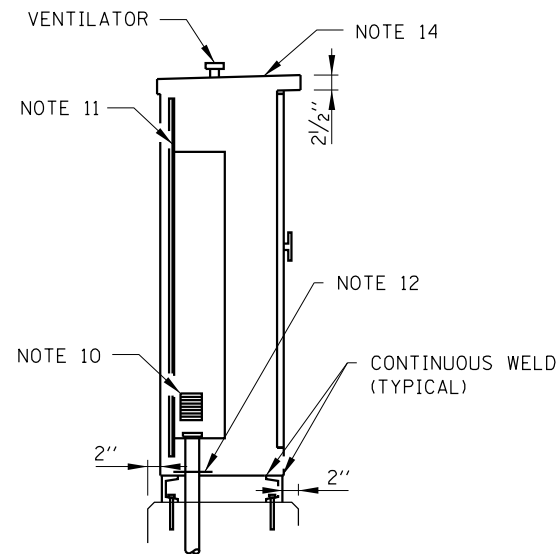




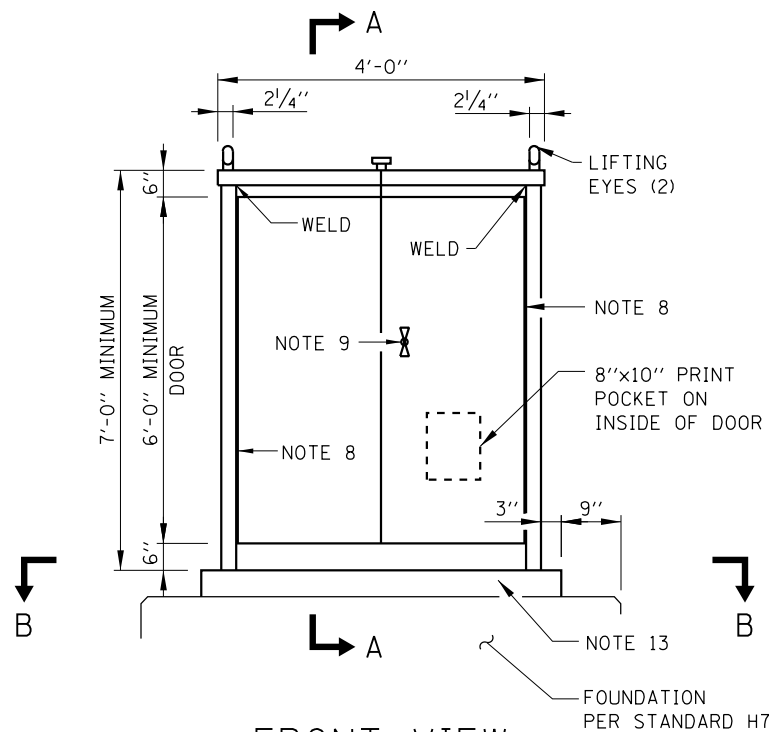
INTERIOR EQUIPMENT LAYOUT



SECTION B-B



SECTION A-A



FRONT VIEW

CONTROL CONSOLE DETAILS
(EXTERIOR INSTALLATION)

NOTES:

1. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.
2. 5'-0" MAXIMUM HEIGHT ABOVE GRADE.
3. NOT USED.
4. 3/4" PVC CONDUIT IN CONCRETE, SEE FOUNDATION DETAILS (STANDARD H7).
5. EXOTHERMIC WELD NO. 2 BARE TINNED COPPER GROUND CABLE TO GROUND ROD.
6. TO SERVICE PEDESTAL AS INDICATED ON PLANS.
7. NOT USED.
8. CONTINUOUS STAINLESS STEEL PIANO HINGES.
9. 3-POINT LATCH VAULT TYPE HANDLE WITH MASTER KEYED CHICAGO CYLINDER LOCK CATALOG NO. 60
10. SCREENED LOUVERS ON SIDES OF CABINET.
11. 10 GAUGE GALVANIZED STEEL EQUIPMENT MOUNTING PANEL (PAINTED WHITE).
12. REMOVABLE #10 GAUGE 13"x43 3/4" STAINLESS STEEL PLATE. DRILL PLATE AS REQUIRED FOR CONDUIT ENTRY.
13. 4" x 2 1/2" STAINLESS STEEL CHANNEL (2 REQUIRED-FRONT AND BACK). EXTEND CHANNEL 3" BEYOND ENCLOSURE (CONTINUOUSLY WELD CHANNEL TO ENCLOSURE).
14. TOP SLOPED 1/2" TO REAR FOR DRAINAGE.
15. FOR WIRING DIAGRAM SEE SHEET 2 OF THIS SERIES.
16. ALL EQUIPMENT WITHIN LIGHTING CONTROLLER SHALL BE SEPERATED A MINIMUM OF THREE (3) INCHES FROM EACHOTHER.
17. MAIN PANELBOARD (ITEM 3) SHALL BE POSITIONED SUCH THAT BOTH DOORS (DOOR-IN-DOOR) OF THE PANEL BOARD MAY BE FULLY OPENED WITHIN EXTERIOR ENCLOSURE (ITEM 13) WITHOUT REMOVAL

ITEM DESCRIPTION:

- ① NOT USED.
- ② SECONDARY SURGE ARRESTERS, 2 POLE, 650 VOLT.
- ③ MAIN PANELBOARD IN A NEMA 1 ENCLOSURE, 480/240 VOLT, 1 PHASE, 3 WIRE, 2 SECTION, 200 AMP, 2 POLE MAIN CIRCUIT BREAKER 65,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY WITH CIRCUIT BREAKERS PER SCHEDULE ON PLANS. DOOR HINGES ON RIGHT SIDE.
- ④ LIGHTING CONTACTOR, ELECTRICALLY HELD, 480 VOLT, 200 AMP, 2 POLE, 120 VOLT CONTROL, WITH RELAY FOR 2 WIRE CONTROL, ONE NORMALLY OPEN AND ONE NORMALLY CLOSED AUXILIARY CONTACTS, CONTROL LINE FUSE, IN A NEMA 1 ENCLOSURE.
- ⑤ SECONDARY BREAKER, 15 AMPERE TRIP, 120 VOLT, SINGLE POLE, 65,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY IN A NEMA 1 SURFACE MOUNTED ENCLOSURE.
- ⑥ STEP DOWN TRANSFORMER, 1500 VA, 480 VOLT PRIMARY, 120 VOLT SECONDARY, SINGLE PHASE, 60 HERTZ, DRY TYPE, NEMA 3R ENCLOSURE.
- ⑦ SINGLE POLE, 15 AMPERE SWITCH, IN A NEMA 1 ENCLOSURE (WITH ITEM 8), RATED AT 120-277 VAC.
- ⑧ LAMP HOLDER 660W, 600V, MOUNTED ON A NEMA 1 ENCLOSURE (WITH ITEM 7), W/LED LAMP.
- ⑨ HAND-OFF-AUTO SELECTOR SWITCH WITH LEGEND PLATE. MOUNTED IN THE COVER OF ITEM 17.
- ⑩ 5/8" DIA. x 10'-0" LONG GROUND ROD DRIVEN EXTERNAL TO THE FOUNDATION WITHIN GROUND WELL.
- ⑪ GROUND BUS MOUNTED IN PANELBOARD ENCLOSURE.
- ⑫ PHOTO ELECTRIC CONTROL SWITCH, WITH RECEPTACLE.
- ⑬ NEMA TYPE 3R STAINLESS STEEL ENCLOSURE WITH DRIP SHIELD AND STAINLESS STEEL HARDWARE. ENCLOSURE SHALL CONFORM TO J.I.C. STANDARDS WITH CELLULAR NEOPRENE GASKETED DOORS, ALL SEAMS CONTINUOUSLY WELDED, 10 GAUGE STAINLESS STEEL BODY, REMOVABLE STEEL (PAINTED WHITE) PANEL INSIDE THE BACK AND A FACTORY INSTALLED DRIP SHIELD. THE ENCLOSURE SHALL HAVE CONTINUOUS HINGED DOORS MEETING IN THE CENTER, OVERLAPPED AND GASKETED, WITH NO CENTERPOST. AN OIL TIGHT KEY LOCKING HANDLE WITH 3 POINT LATCH SHALL BE PROVIDED (FURNISH 6 KEYS). EACH END OF THE ENCLOSURE SHALL HAVE A SCREENED, GASKETED VENTILATING LOUVER AND THE TOP OF THE ENCLOSURE SHALL HAVE A VENTILATOR. INTERNAL CONDUIT SHALL HAVE LOCKNUTS, INSULATING BUSHING AND CONDULET FITTINGS AS REQUIRED. INTERNAL WIRING SHALL BE XLP INSULATED NEC TYPE RHH/RHW-2. PROVIDE A WIRING DIAGRAM IN A PRINT POCKET ON THE INSIDE OF THE CABINET DOOR.
- ⑭ INTERNAL CONTROL WIRING SHALL BE #12 AWG, STRANDED, XLP INSULATED NEC TYPE RHH/RHW-2 RATED 600 VOLT, WITH SUITABLE COLOR CODING TO BE APPROVED BY THE ENGINEER BEFORE CONSTRUCTION.
- ⑮ 200 WATT, 120 VOLT CABINET HEATER WITH INTEGRAL THERMOSTAT.
- ⑯ SERVICE SAFETY SWITCH, 200 AMP, 600 VOLT, NON-FUSED, NEMA 4X STAINLESS STEEL ENCLOSURE.
- ⑰ NEMA TYPE 1, 8"x6"x4" JUNCTION BOX & COVER WITHOUT KNOCKOUTS. ITEM 9 IS MOUNTED IN THE COVER.
- ⑱ INTERNAL CONDUIT AND FITTINGS SHALL BE 3/4" MINIMUM.
- ⑲ 8"x8" WIREWAY WITH 3-3" NIPPLES.



EXTERIOR
CONTROL CONSOLE
DETAILS

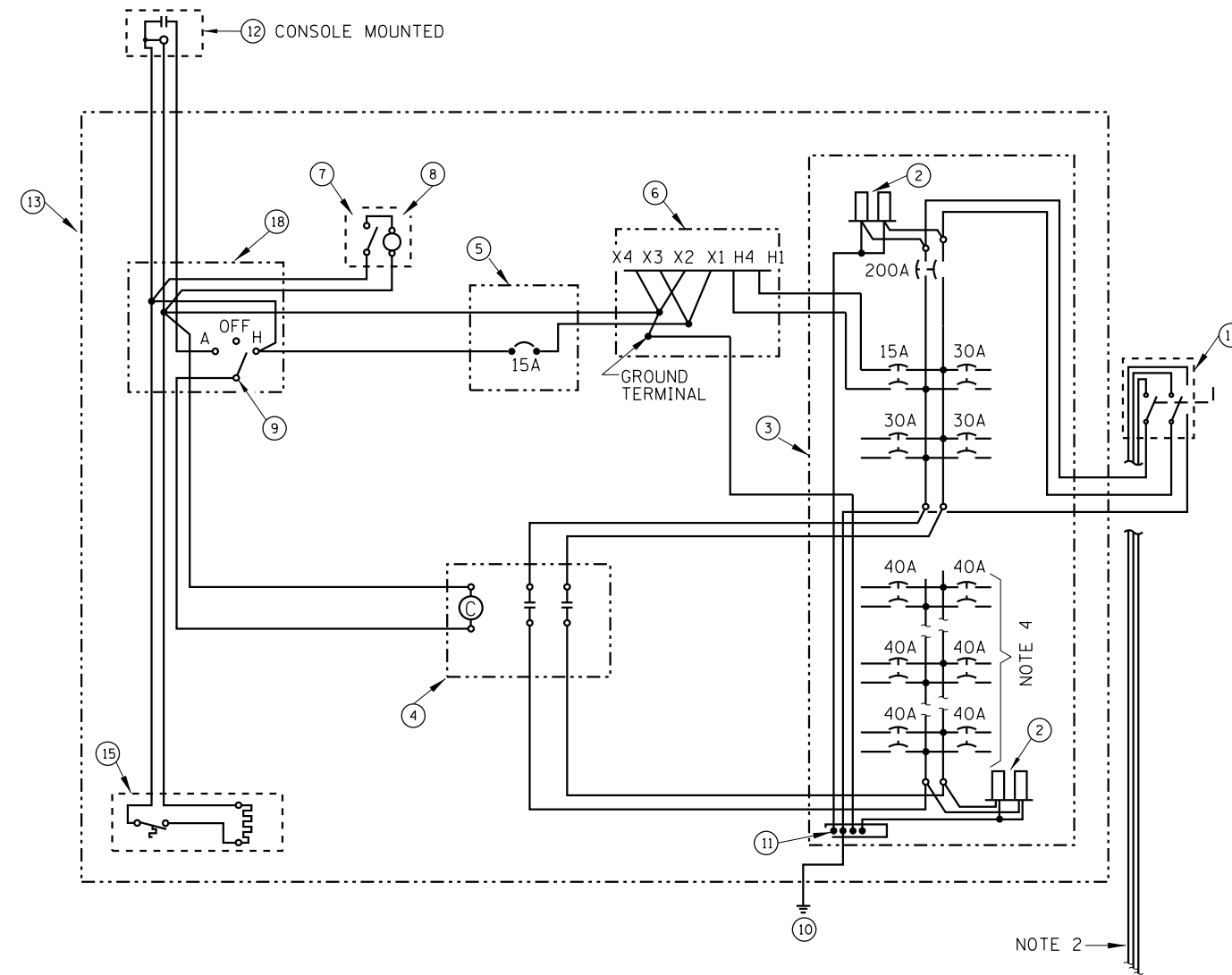
STANDARD H6-05

DATE	REVISIONS
2-07-2012	MODIFY ENCLOSURE DIMENSIONS, REVISED NOTES AND ITEM DESCRIPTIONS.
3-31-2014	REVISED NOTES AND ITEM DESCRIPTIONS.
3-11-2015	REVISED CONDUITS TO STAINLESS STEEL.
3-31-2016	REVISED NOTE 2.
3-31-2017	REMOVED METER HOUSING.

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

NOTES:

1. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.
2. TO SERVICE PEDESTAL, 480/240V, 1 PHASE, 3 WIRE, GROUNDED. SEE STANDARD H5.
3. ITEM NUMBERS REFER TO EQUIPMENT LIST ON SHEET 1 OF THIS SERIES.
4. PROVIDE CIRCUIT BREAKERS PER SCHEDULE ON THE CONTRACT PLANS (MINIMUM OF 12).
5. FOR INTERIOR EQUIPMENT LAYOUT SEE SHEET 1 OF THIS SERIES.



CONTROL CONSOLE WIRING DIAGRAM

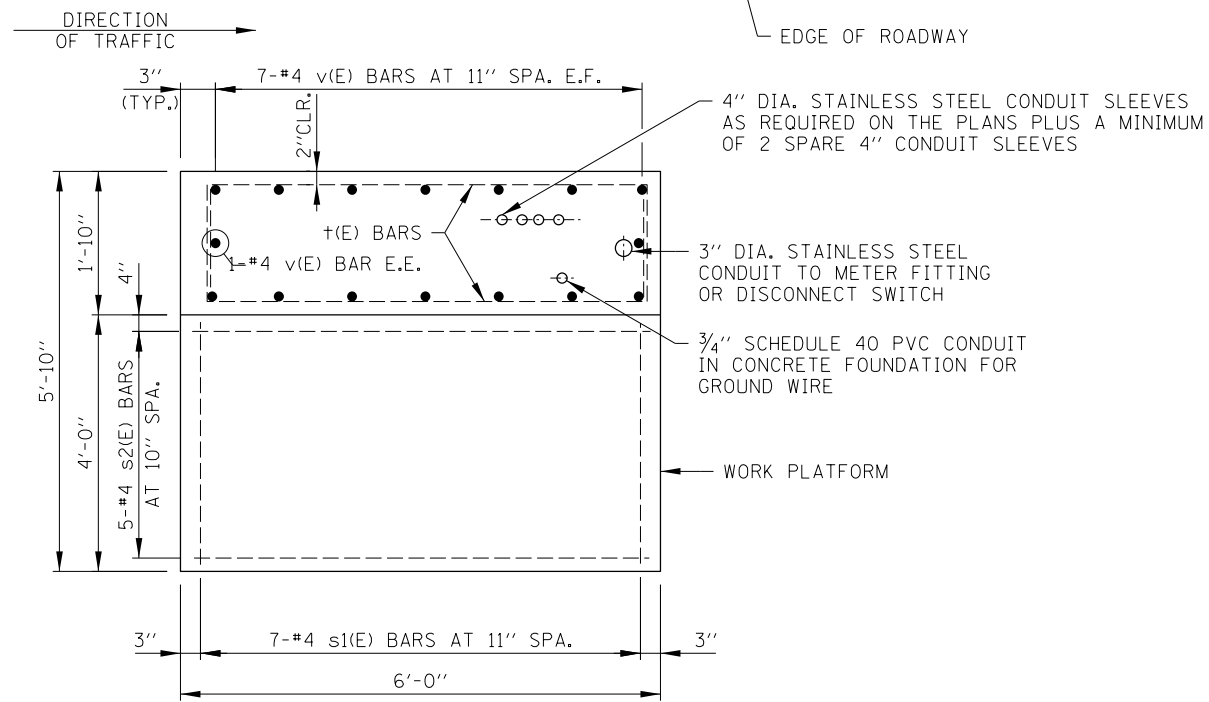
CONTROL CONSOLE DETAILS
(EXTERIOR INSTALLATION)



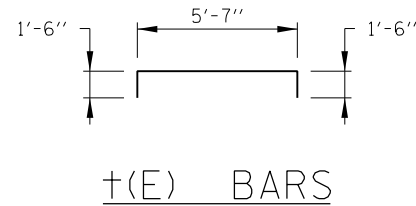
EXTERIOR
CONTROL CONSOLE
DETAILS

STANDARD H6-05

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012



PLAN

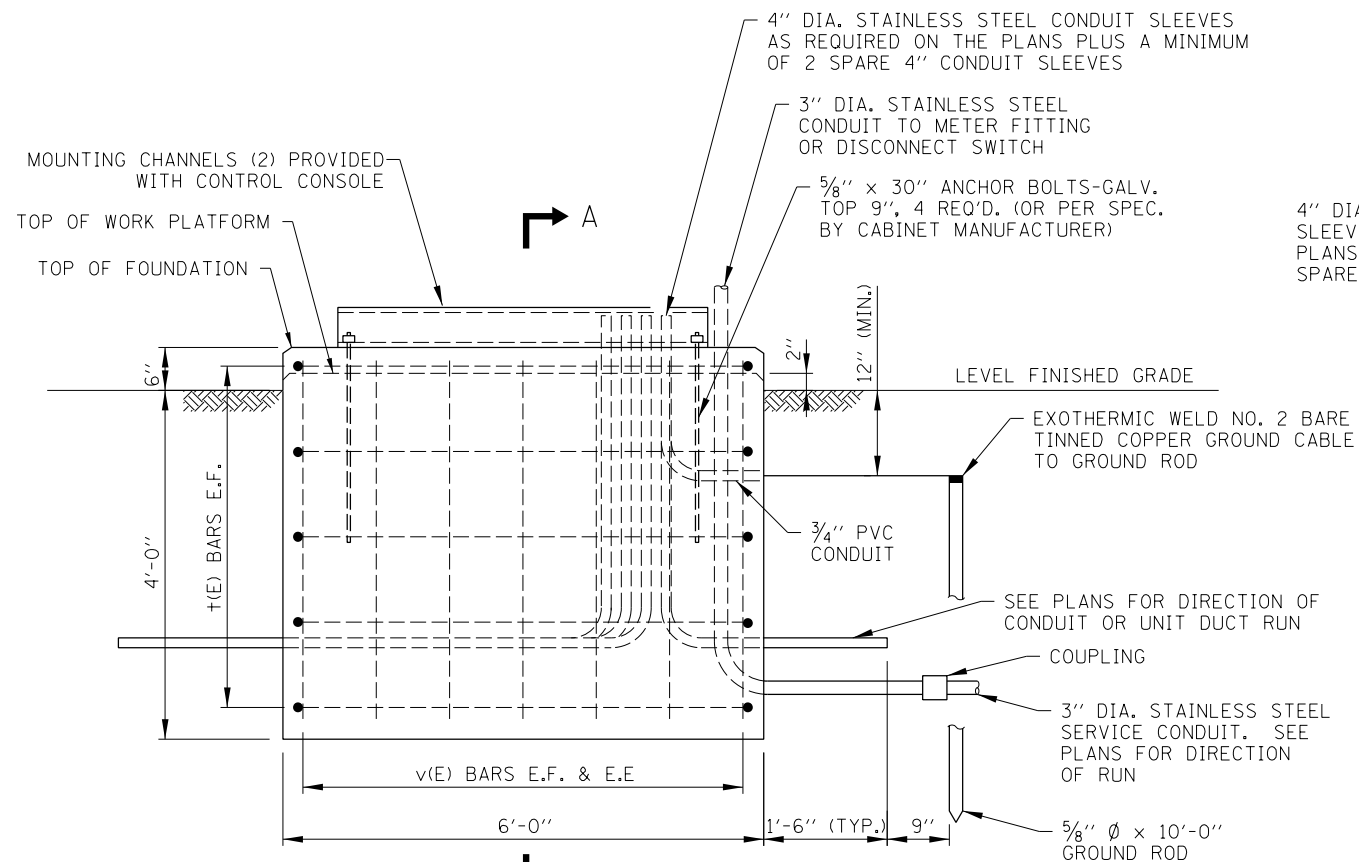


NOTES:

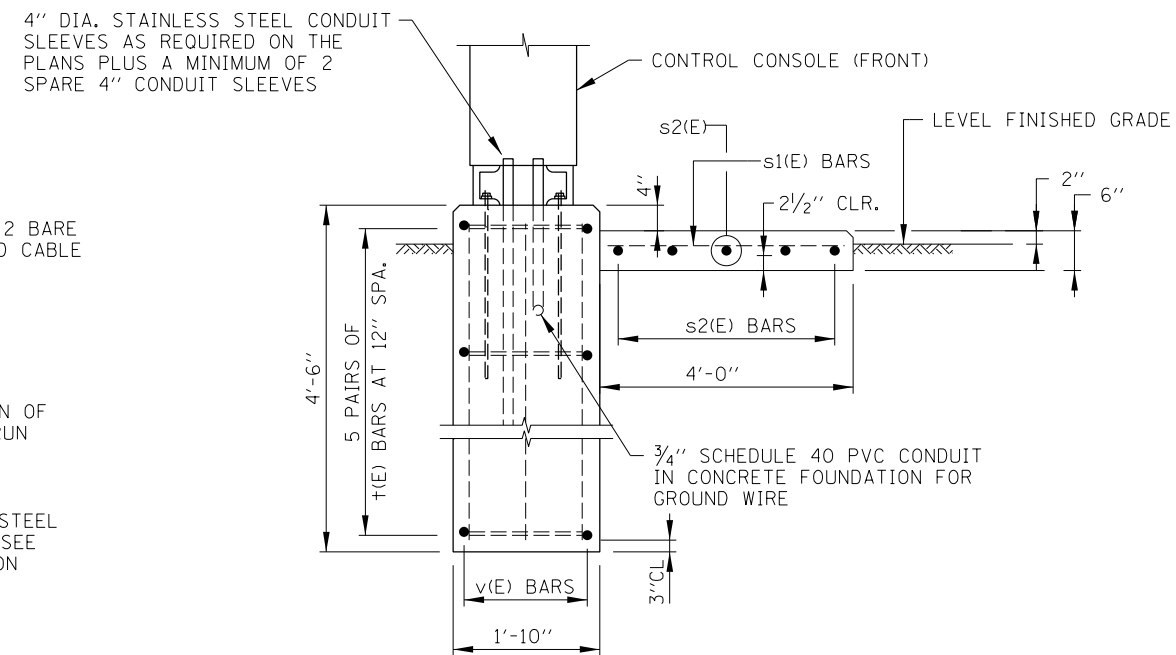
1. EXPOSED CONCRETE EDGES SHALL HAVE 3/4"x45° CHAMFERS EXCEPT WHERE SHOWN OTHERWISE. CHAMFERS ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
2. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED (E) AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A615), GRADE 60 DEFORMED BARS.
3. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
4. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
5. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR ALL SURFACES UNLESS OTHERWISE SHOWN.
6. FOR CLARITY, CONTROL CONSOLE AND RAILINGS ARE NOT SHOWN IN PLAN VIEW.
7. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.

REINFORCEMENT BARS SCHEDULE					
BARS	NO.	SIZE	LENGTH	WT. LB.	SHAPE
v(E)	16	#4	4'-0"	43	—
†(E)	10	#4	8'-7"	57	⌈
s1(E)	7	#4	3'-8"	17	—
s2(E)	5	#4	5'-8"	19	—

BILL OF MATERIAL		
DESCRIPTION	UNIT	QUANTITY
REINF. BARS, EPOXY COATED	POUND	136
CLASS "SI" CONCRETE	CU. YD.	2.3



ELEVATION



SECTION A-A



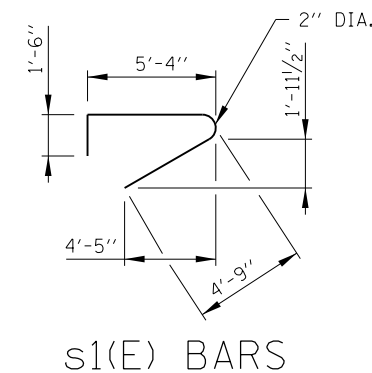
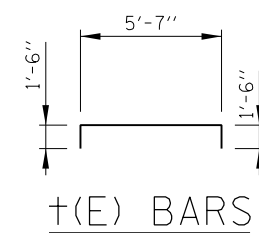
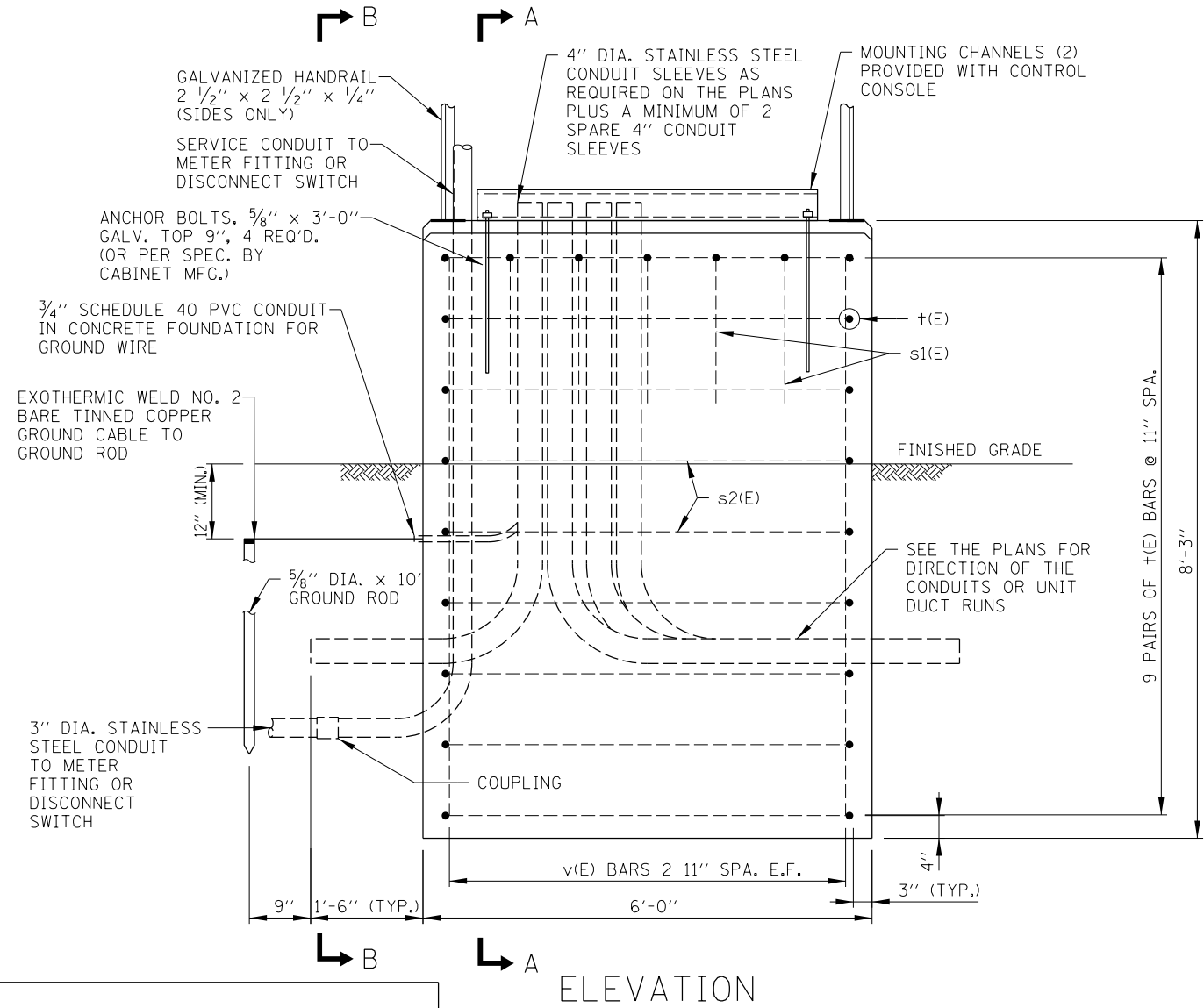
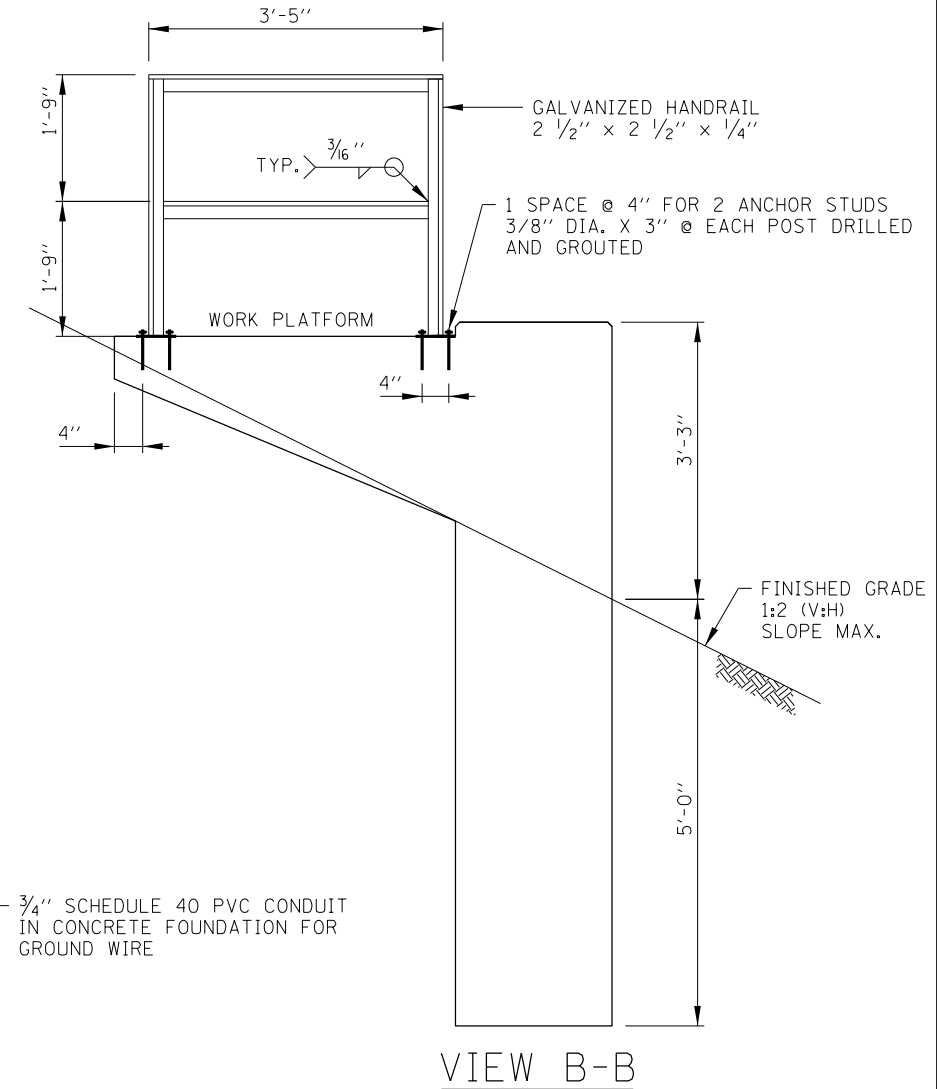
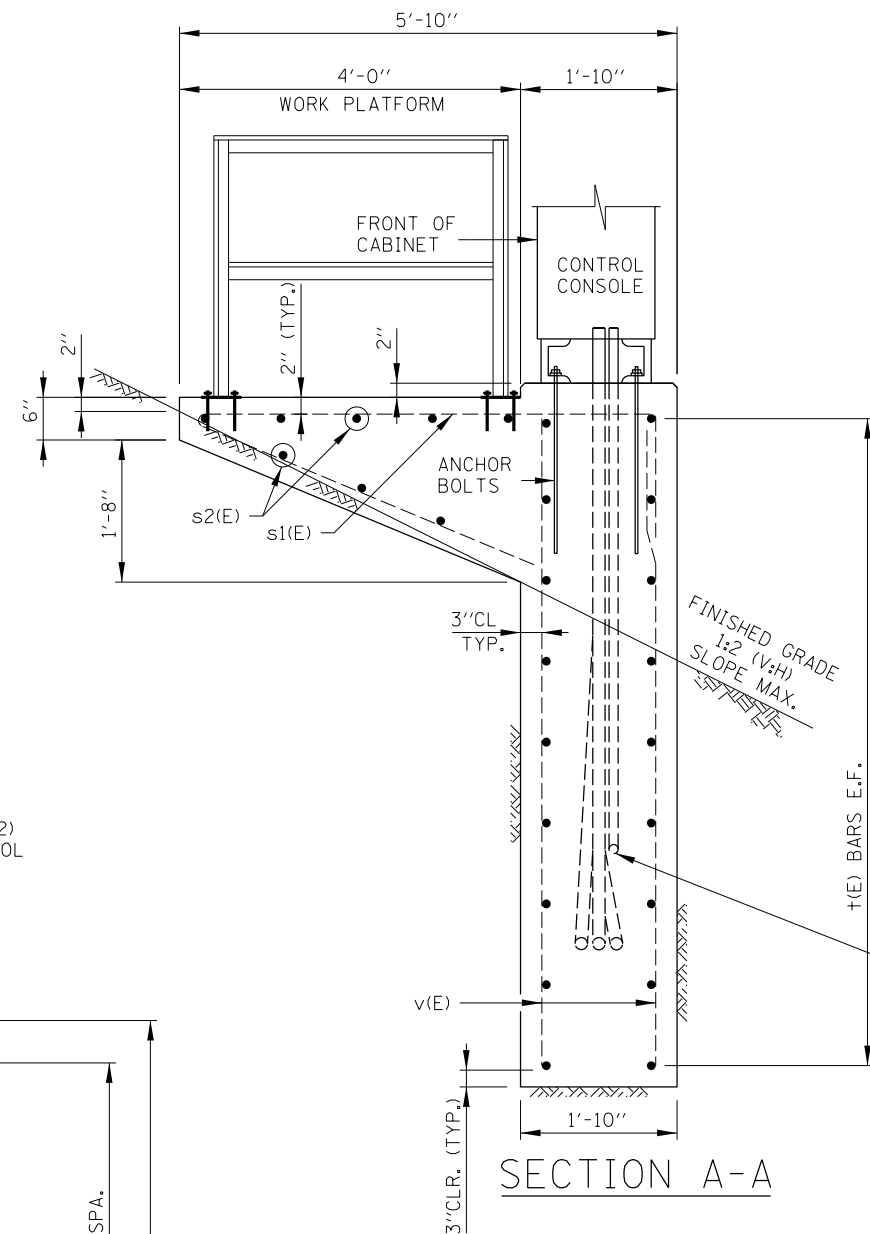
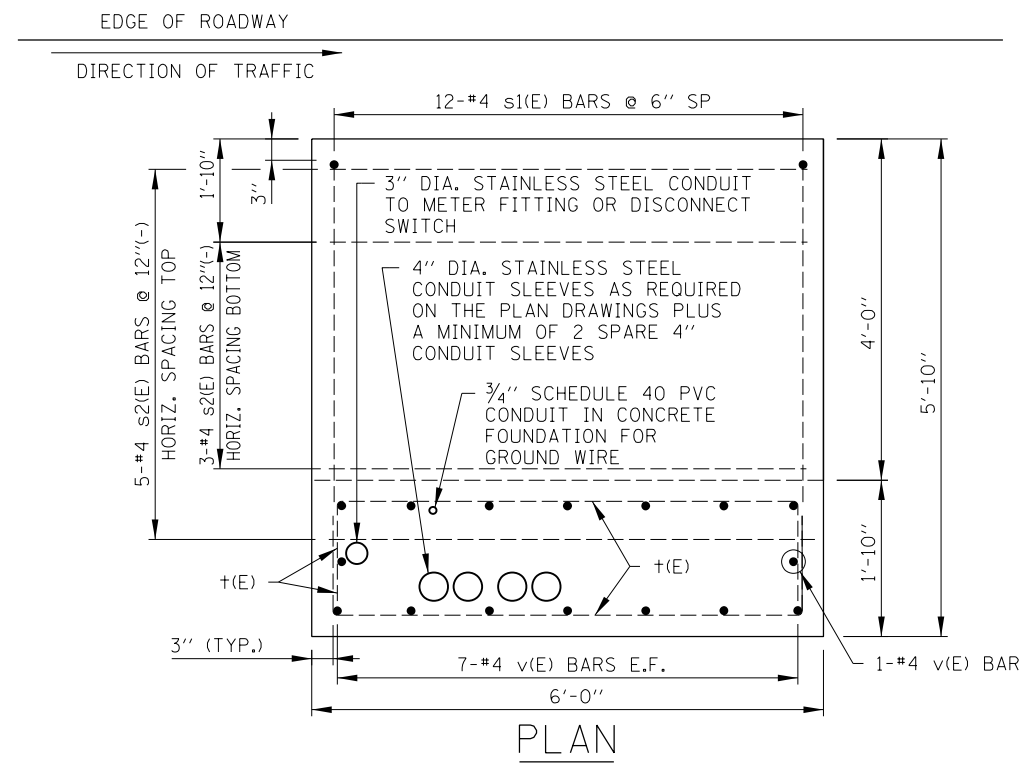
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

TYPE A CONTROL CONSOLE FOUNDATION

DATE	REVISIONS
2-07-2012	REVISED TYPE A AND TYPE B CONTROL CONSOLE FOUNDATIONS.
3-11-2015	REVISED CONDUITS TO STAINLESS STEEL.

EXTERIOR CONTROL CONSOLE FOUNDATION DETAILS

STANDARD H7-02



REINFORCEMENT BARS SCHEDULE					
BARS	NO.	SIZE	LENGTH	WT. LB.	SHAPE
v(E)	16	#4	7'-10"	84	—
+ (E)	18	#4	8'-7"	103	┌
s1(E)	12	#4	11'-9"	94	┌
s2(E)	8	#4	5'-6"	29	—

BILL OF MATERIAL		
DESCRIPTION	UNIT	QTY
REINF. BARS, EPOXY COATED	POUND	310
CLASS "SI" CONCRETE	CU. YD.	9.4
STRUCTURAL STEEL	POUND	158

SHEET 2 OF 2



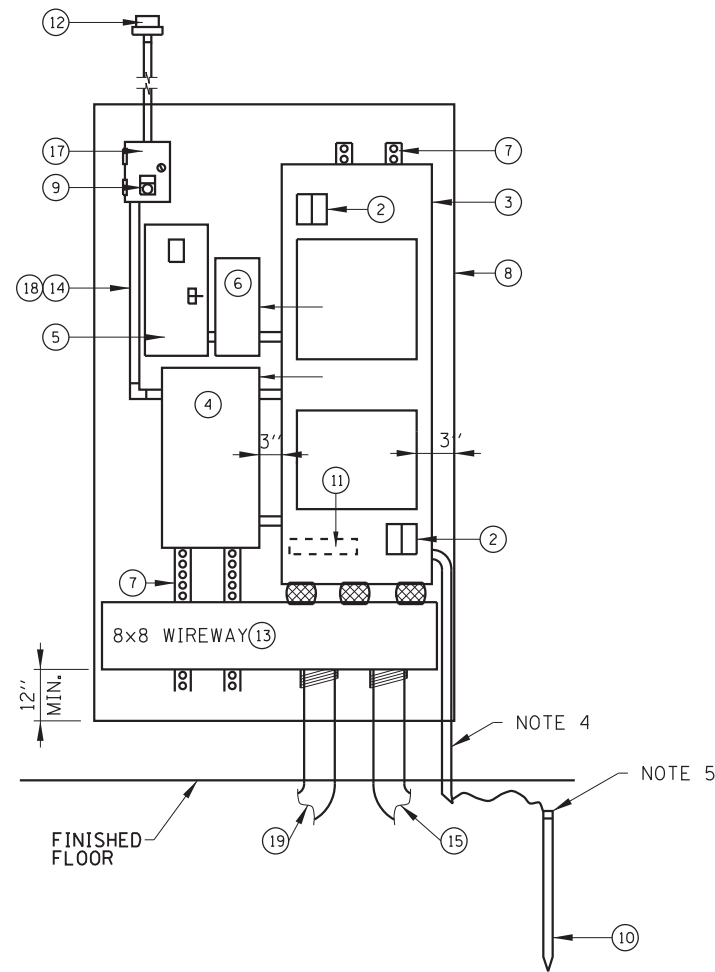
EXTERIOR CONTROL CONSOLE FOUNDATION DETAILS

STANDARD H7-02

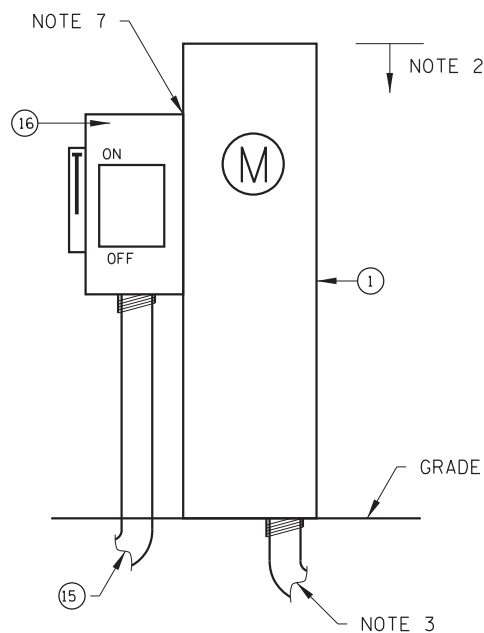
Paul Kovacs
APPROVED... CHIEF ENGINEER... DATE 2-7-2012

TYPE B CONTROL CONSOLE FOUNDATION

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



INTERIOR EQUIPMENT LAYOUT



SERVICE ENTRANCE DETAIL

NOTES:

1. PROVIDE POWER UTILITY CO. METER HOUSING AS INDICATED ON PLANS.
2. 5'-0" MAXIMUM HEIGHT ABOVE GRADE.
3. STAINLESS STEEL CONDUIT TO UTILITY SERVICE AS INDICATED ON PLANS.
4. 3/4" PVC CONDUIT.
5. EXOTHERMIC WELD NO. 2 BARE TINNED COPPER GROUND CABLE TO GROUND ROD 12"-24" BELOW GRADE.
6. TO POWER UTILITY COMPANY, SERVICE AS INDICATED ON PLANS.
7. CONDUIT AND CABLE BETWEEN METER FITTING AND DISCONNECT SWITCH. CONDUIT AND CABLE SHALL BE THE SAME AS THE SERVICE.
8. LABEL ALL EQUIPMENT AS "ROADWAY LIGHTING" + DEVICE AND BUILDING# (IF APPLICABLE).
9. FOR WIRING DIAGRAM SEE SHEET 2 OF THIS SERIES.
10. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.

ITEM

DESCRIPTION

- | | |
|--|---|
| <ol style="list-style-type: none"> ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ | <ul style="list-style-type: none"> METER HOUSING, MILBANK U8436-0. SECONDARY SURGE ARRESTERS, 2 POLE, 650 VOLT. MAIN PANELBOARD IN A NEMA 1 ENCLOSURE, 480/240 VOLT, 1 PHASE, 3 WIRE, 2 SECTION, 200 AMP, 2 POLE MAIN CIRCUIT BREAKER 65,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY WITH CIRCUIT BREAKERS PER SCHEDULE ON PLANS. DOOR HINGES ON RIGHT SIDE. LIGHTING CONTACTOR, ELECTRICALLY HELD, 480 VOLT, 200 AMP, 2 POLE, 120 VOLT CONTROL, WITH RELAY FOR 2 WIRE CONTROL, ONE NORMALLY OPEN AND ONE NORMALLY CLOSED AUXILIARY CONTACTS, CONTROL LINE FUSE, IN A NEMA 1 ENCLOSURE. SECONDARY BREAKER, 15 AMPERE TRIP, 120 VOLT, SINGLE POLE, 65,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY IN A NEMA 1 SURFACE MOUNTED ENCLOSURE. STEP DOWN TRANSFORMER, 1500 VA, 480 VOLT PRIMARY, 120 VOLT SECONDARY, SINGLE PHASE, 60 HERTZ, DRY TYPE, NEMA 3R ENCLOSURE. 1 1/4" X 3/4" C-CHANNEL (UNISTRUT) FOR ALL EQUIPMENT STANDOFF 1/2" EQUIPMENT MOUNTING PANEL (4' W X 7' H) HAND-OFF-AUTO SELECTOR SWITCH WITH LEGEND PLATE. MOUNTED IN THE COVER OF ITEM 17. ROUTED TO BUILDING GROUND SYSTEM. IF NO GROUND AVAILABLE CONTRACTOR SHALL PROVIDE 5/8" DIA. X 10'-0" LONG GROUND ROD WITHIN GROUND WELL. GROUND BUS MOUNTED IN PANELBOARD ENCLOSURE. PHOTO ELECTRIC CONTROL SWITCH MOUNTED ON SOUTH EXTERIOR SIDE OF BUILDING (VIEW UNOBSTRUCTED). 8"x8" WIREWAY WITH 3-3" NIPPLES. INTERNAL CONTROL WIRING SHALL BE #12 AWG, STRANDED, INSULATED NEC TYPE THWN/THHN RATED 600 VOLT, WITH SUITABLE COLOR CODING TO BE APPROVED BY THE ENGINEER BEFORE CONSTRUCTION. 2" STAINLESS STEEL CONDUIT FROM SERVICE SAFETY SWITCH TO LIGHTING CONTROLLER WIREWAY. SERVICE SAFETY SWITCH, 200 AMP, 600 VOLT, NON-FUSED, NEMA 4X STAINLESS STEEL ENCLOSURE. NEMA TYPE 1, 8"x6"x4" JUNCTION BOX & COVER WITHOUT KNOCKOUTS. ITEM 9 IS MOUNTED IN THE COVER. INTERNAL CONDUIT AND FITTINGS SHALL BE 3/4" MINIMUM. (2) 4" STAINLESS STEEL CONDUIT TO LIGHTING CONTROLLER HANDHOLE. REFER TO SITE PLAN FOR LOCATION. |
|--|---|

CONTROL CONSOLE DETAILS
(INTERIOR INSTALLATION)

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
3-31-2016	REVISED NOTE 2.
3-31-2017	REMOVED MFR. & PART NUMBERS

SHEET 1 OF 2

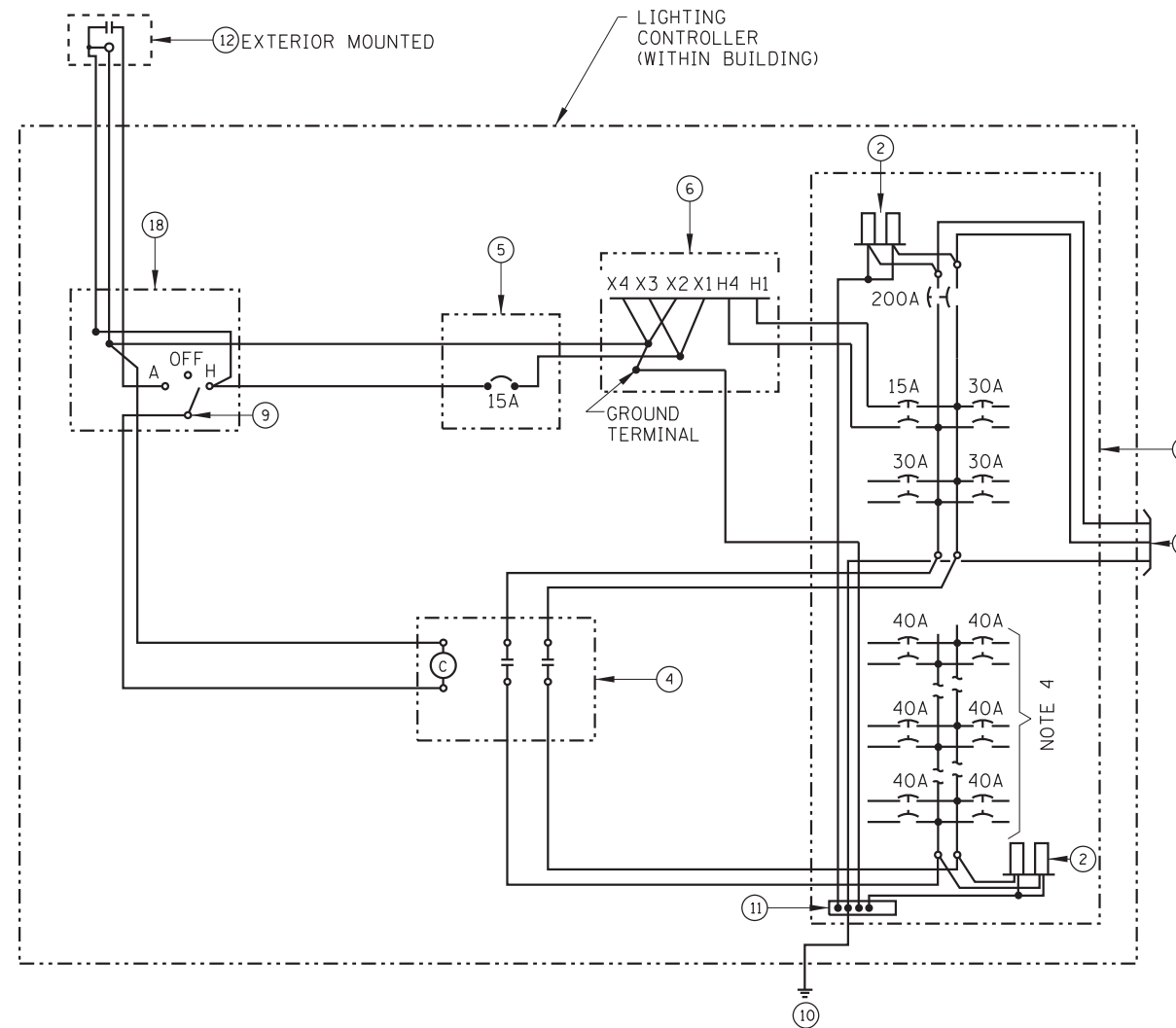


INTERIOR
CONTROL CONSOLE
DETAILS

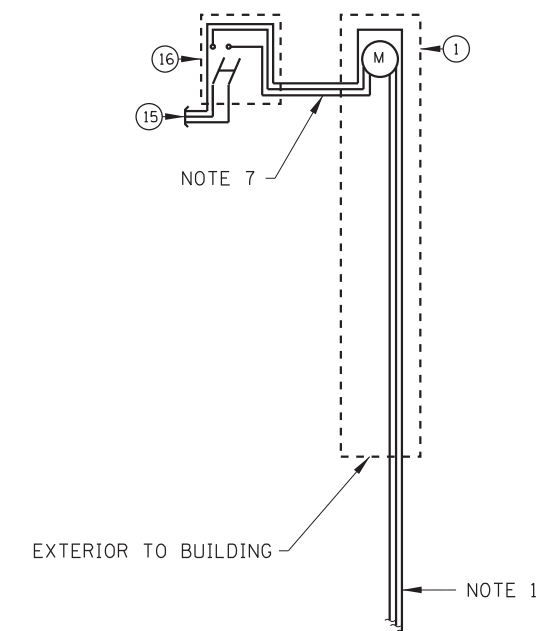
STANDARD H8-02

NOTES:

1. TO UTILITY SERVICE. 480/240V, 1 PHASE, 3 WIRE, GROUNDED, WHEN A METER HOUSING IS REQUIRED (FED FROM PAD MOUNTED UTILITY TRANSFORMER WITHIN ILLINOIS TOLLWAY RIGHT-OF-WAY).
2. TO SERVICE PEDESTAL, 480/240V, 1 PHASE, 3 WIRE, GROUNDED. SEE STANDARD H5.
3. ITEM NUMBERS REFER TO EQUIPMENT LIST ON SHEET 1 OF THIS SERIES.
4. PROVIDE CIRCUIT BREAKERS PER SCHEDULE ON THE CONTRACT PLANS (MINIMUM OF 12).
5. FOR INTERIOR EQUIPMENT LAYOUT SEE SHEET 1 OF THIS SERIES.
6. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.
7. CONDUIT AND CABLE BETWEEN METER FITTING AND DISCONNECT SWITCH ROUTED BETWEEN CONTROL CONSOLE AND CONCRETE FOUNDATION, WHEN A METER HOUSING IS REQUIRED. CONDUIT AND CABLE SHALL BE THE SAME AS THE SERVICE.



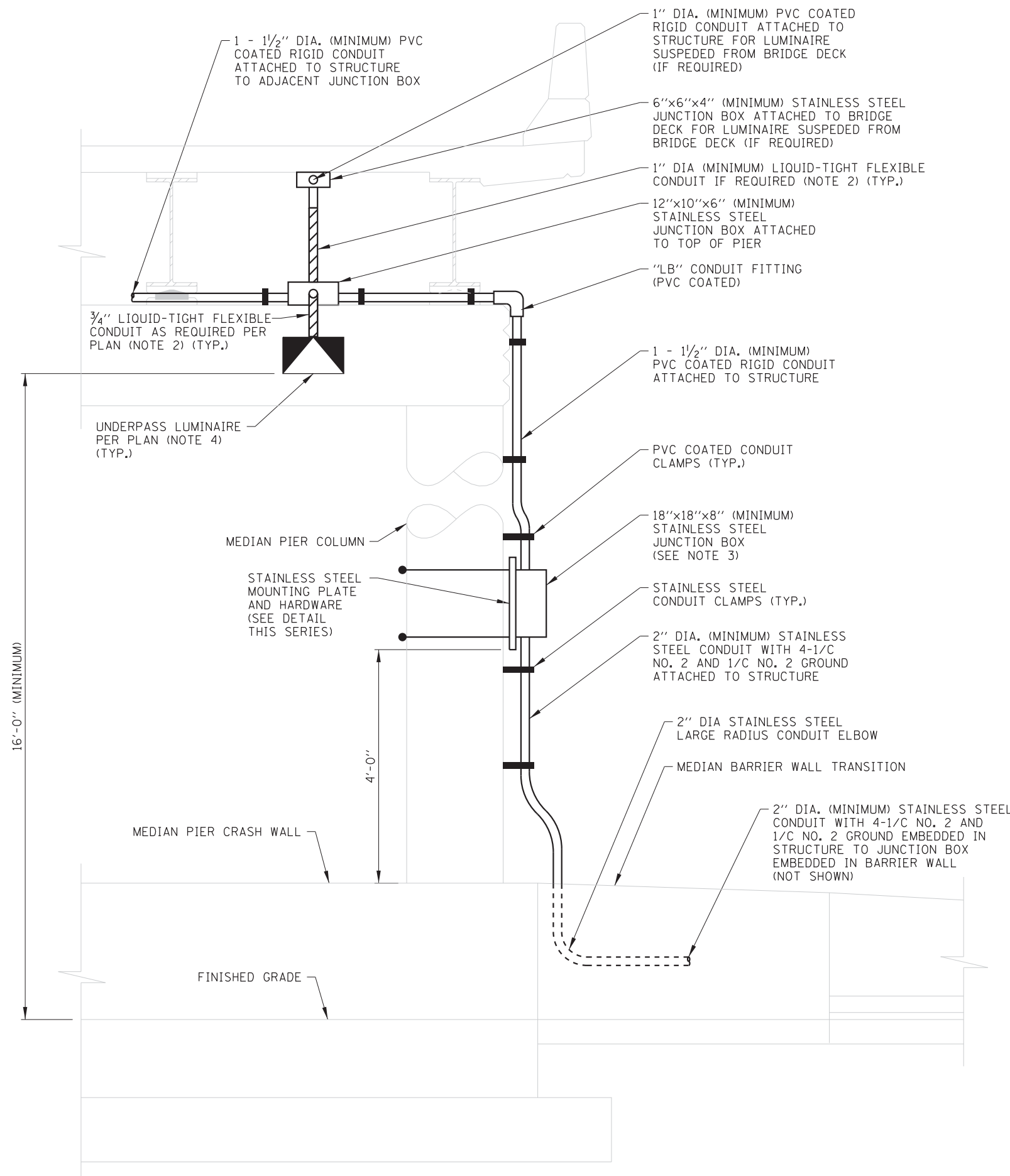
CONTROL CONSOLE WIRING DIAGRAM



CONTROL CONSOLE DETAILS
(INTERIOR INSTALLATION)

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 2-7-2012





NOTES:

1. USE OF THIS STANDARD DETAIL IS LIMITED TO THE INSTALLATION OF LIGHT EMITTING DIODE LUMINAIRES ONLY. FOR INSTALLATION OF OTHER LIGHT SOURCE TYPES, REFER TO PLAN DETAILS.
2. LIQUID-TIGHT FLEXIBLE CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE SUFFICIENT LENGTH OF PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED CONDUIT AS REQUIRED SO THE MAXIMUM LENGTH OF REQUIRED LIQUID-TIGHT DOES NOT EXCEED 6'-0". LIQUID-TIGHT FLEXIBLE CONDUIT.
3. PROVIDE TWO (2) 2-POLE 30A, 600 VOLT CIRCUIT BREAKERS (EATON HFD OR APPROVED EQUAL), TWO (2) SURGE PROTECTION DEVICES (IN ACCORDANCE WITH ARTICLE 1065.02 OF THE STANDARD SPECIFICATIONS) AND SUFFICIENT 30 AMPERE, 600 VOLT TERMINAL BLOCKS TO SPLIT 480 VOLT WIRING FROM CIRCUIT BREAKER TO TWO (2) NO. 10 WIRES FOR EACH LUMINAIRE.
4. WIRING SHALL BE 2-1/2 NO. 10 WITH 1/2 NO. 10 GROUND OR AS INDICATED ON THE PLANS TERMINATING AT EACH LUMINAIRE. SEE PLANS FOR REMAINING WIRING REQUIREMENTS.
5. THE CONTRACTOR SHALL PROVIDE EXPANSION/DEFLECTION FITTINGS (O-Z/GEDNEY TYPE AXDX) WHERE CONDUITS CROSS STRUCTURE EXPANSION JOINTS.
6. IN NEW BRIDGE DECKS, PROVIDE STAINLESS STEEL SINGLE COIL, FLARED LOOP INSERTS CAST IN THE DECK FOR 3/4" DIAMETER STAINLESS STEEL THREADED RODS. IN EXISTING BRIDGE DECKS, PROVIDE DRILLED STAINLESS STEEL EXPANSION TYPE ANCHORS FOR 3/4" DIAMETER STAINLESS STEEL THREADED RODS. EXPANSION TYPE ANCHORS SHALL HAVE A MINIMUM OF 500 POUNDS CAPACITY EACH.
7. NOT USED.
8. ALL ITEMS MOUNTED TO BRIDGE PIER SHALL BE OFFSET FROM THE STRUCTURE A MINIMUM OF ONE (1) INCH BY USE OF STAINLESS STEEL C-CHANNEL.
9. WHERE BEAM DEPTH EXCEEDS FIVE (5) FEET, THE DESIGNER SHALL PROVIDE A METHOD FOR ATTACHMENT OF THE HANGER ASSEMBLIES SUCH THAT THE LENGTH OF THE ASSEMBLIES DO NOT EXCEED FIVE (5) FEET.
10. DETAILS SHOWN ARE FOR UNDERPASS LIGHTING INSTALLATIONS FED FROM THE MEDIAN BARRIER WALL. FOR INSTALLATIONS FED FROM A BRIDGE ABUTMENT, REFER TO THE PLAN DETAILS.
11. UNDERPASS LUMINAIRES SUSPENDED FROM BRIDGE DECK SHALL BE INSTALLED CENTERED BETWEEN THE BRIDGE BEAMS. THE LUMINAIRE SHALL BE LOCATED SUCH THAT IT IS SETBACK A MINIMUM OF 1 FOOT FROM THE OUTSIDE EDGE OF THE SHOULDER PAVEMENT WITH THE TOP OF THE LUMINAIRE MOUNTING PLATE A MAXIMUM OF 1 INCH FROM THE BOTTOM OF THE BRIDGE BEAM. IN NO CASE SHALL ANY PORTION OF THE SUSPENDED LUMINAIRE OR SUPPORTING HARDWARE BE LOWER THAN 14'-6" WHEN MEASURED TO THE OUTSIDE EDGE OF THE ADJACENT SHOULDER PAVEMENT.
12. IN NO INSTANCE SHALL ANY UNDERPASS LUMINAIRE OR ANY OTHER ELECTRICAL EQUIPMENT BE INSTALLED BELOW THE ELEVATION OF THE BOTTOM OF THE BRIDGE BEAM WHEN OVER ANY PAVEMENT (ROADWAY OR SHOULDER) WITH EXCEPTION OF THOSE MOUNTED TO THE MEDIAN PIER AT WHICH CASE THE MINIMUM HEIGHT SHALL BE 16'-0" WHEN MEASURED TO THE LOWEST PORTION OF THE LUMINAIRE OR SUPPORTING HARDWARE.
13. LUMINAIRE MOUNTING PLATE FOR LUMINAIRES SUPENDED FROM BRIDGE DECK SHALL BE OF THE DIMENSIONS NECESSARY AND FIELD DRILLED TO ACCOMODATE THE SPECIFIC LUMINAIRE PROVIDED AND ASSOCIATE LUMINAIRE HANGER ASSEMBLIES.
14. SEE PLANS FOR UNDERPASS LUMINAIRE LOCATIONS AND MOUNTING HEIGHTS.
15. SEE STRUCTURAL DRAWINGS FOR SPECIFIC STRUCTURE DETAILS.
16. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.



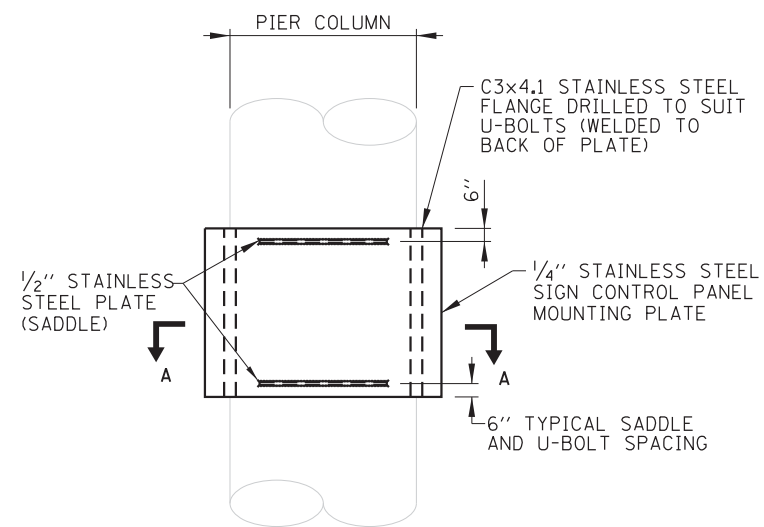
**UNDERPASS LIGHTING
(MEDIAN PIER MOUNTED LUMINAIRE & FEEDER INSTALLATION)**

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2016

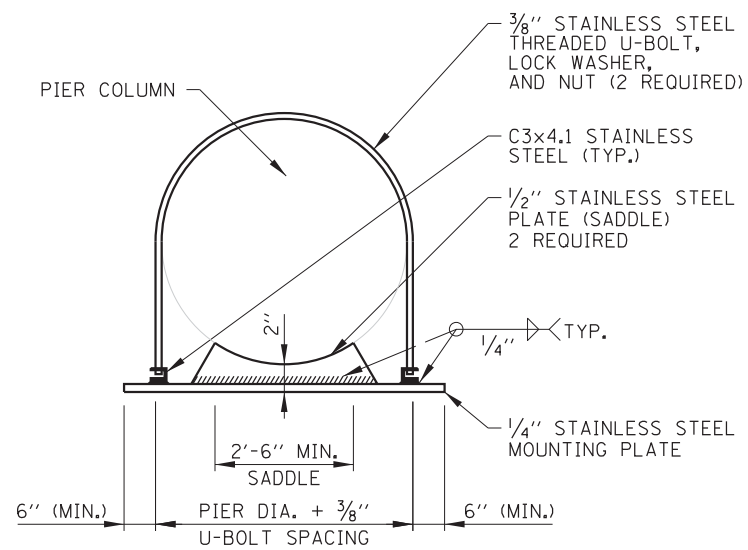
DATE	REVISIONS
03-31-17	Revised Notes to remove incidentals

UNDERPASS LIGHTING
INSTALLATION DETAILS

STANDARD H9-01

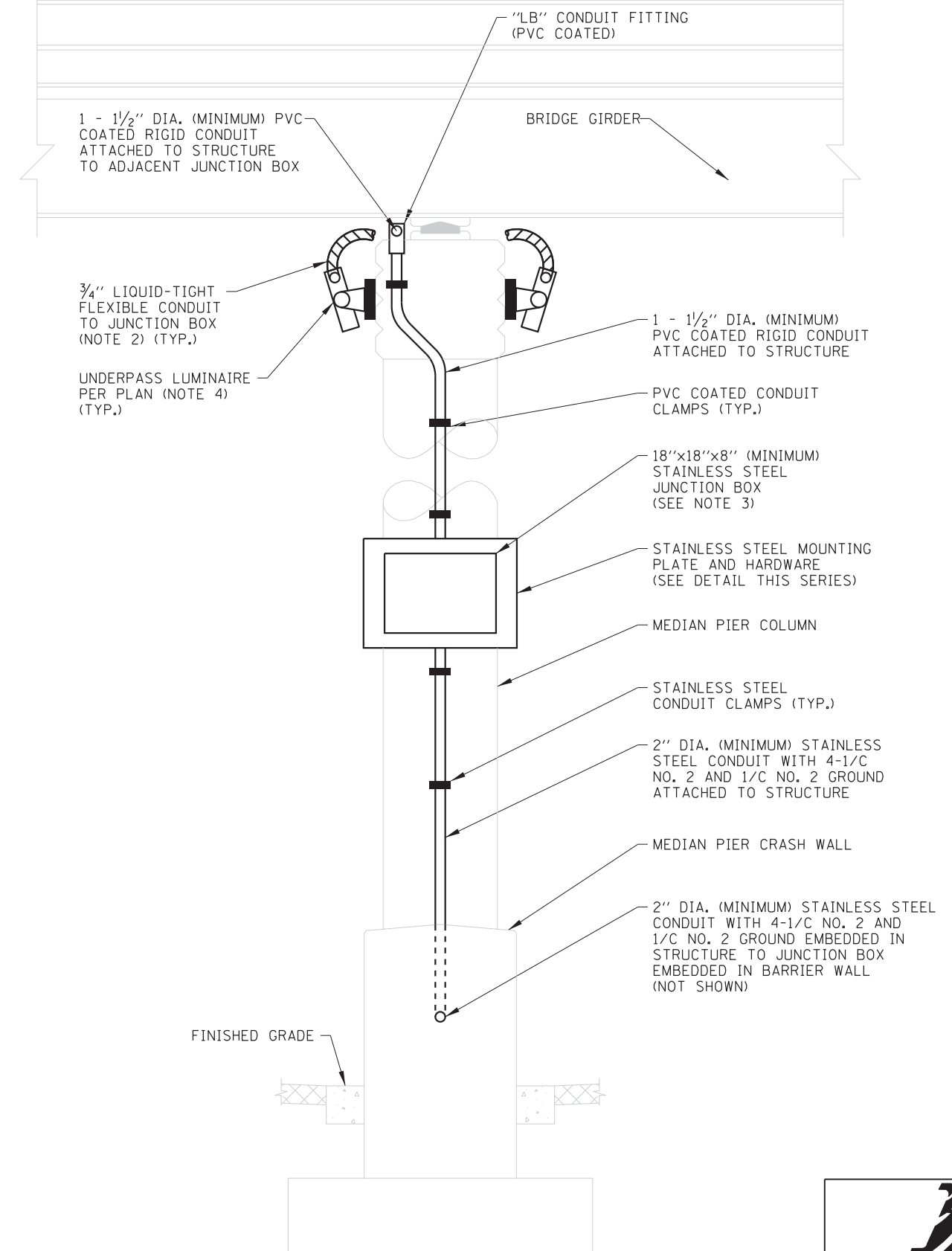


ELEVATION



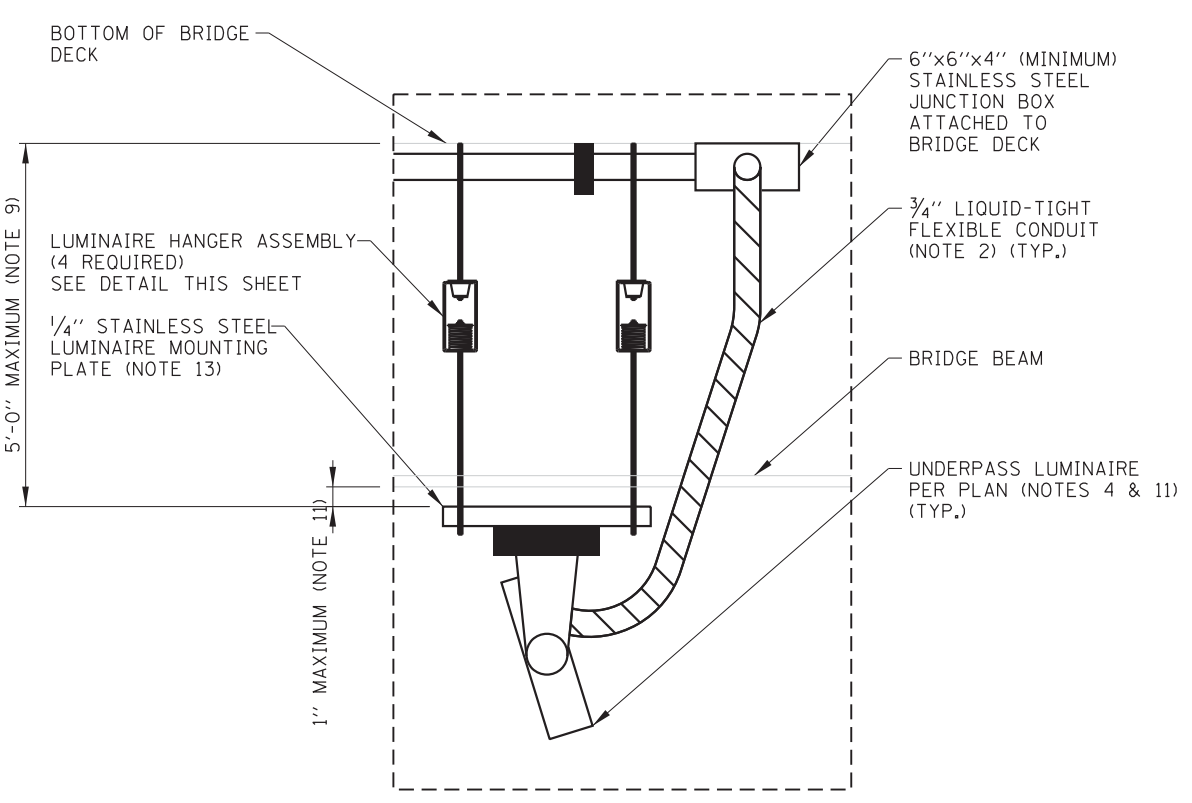
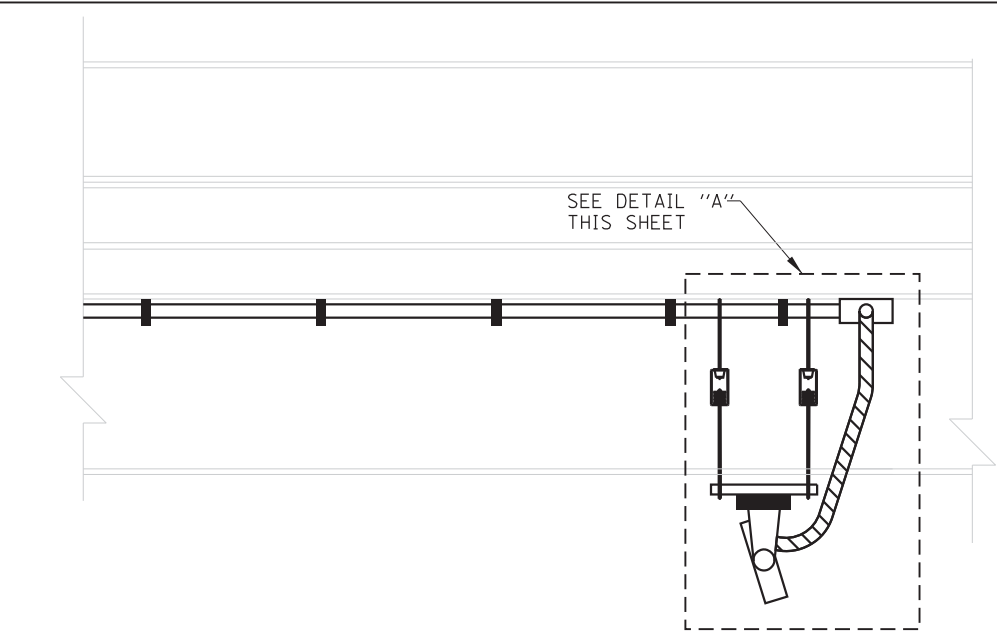
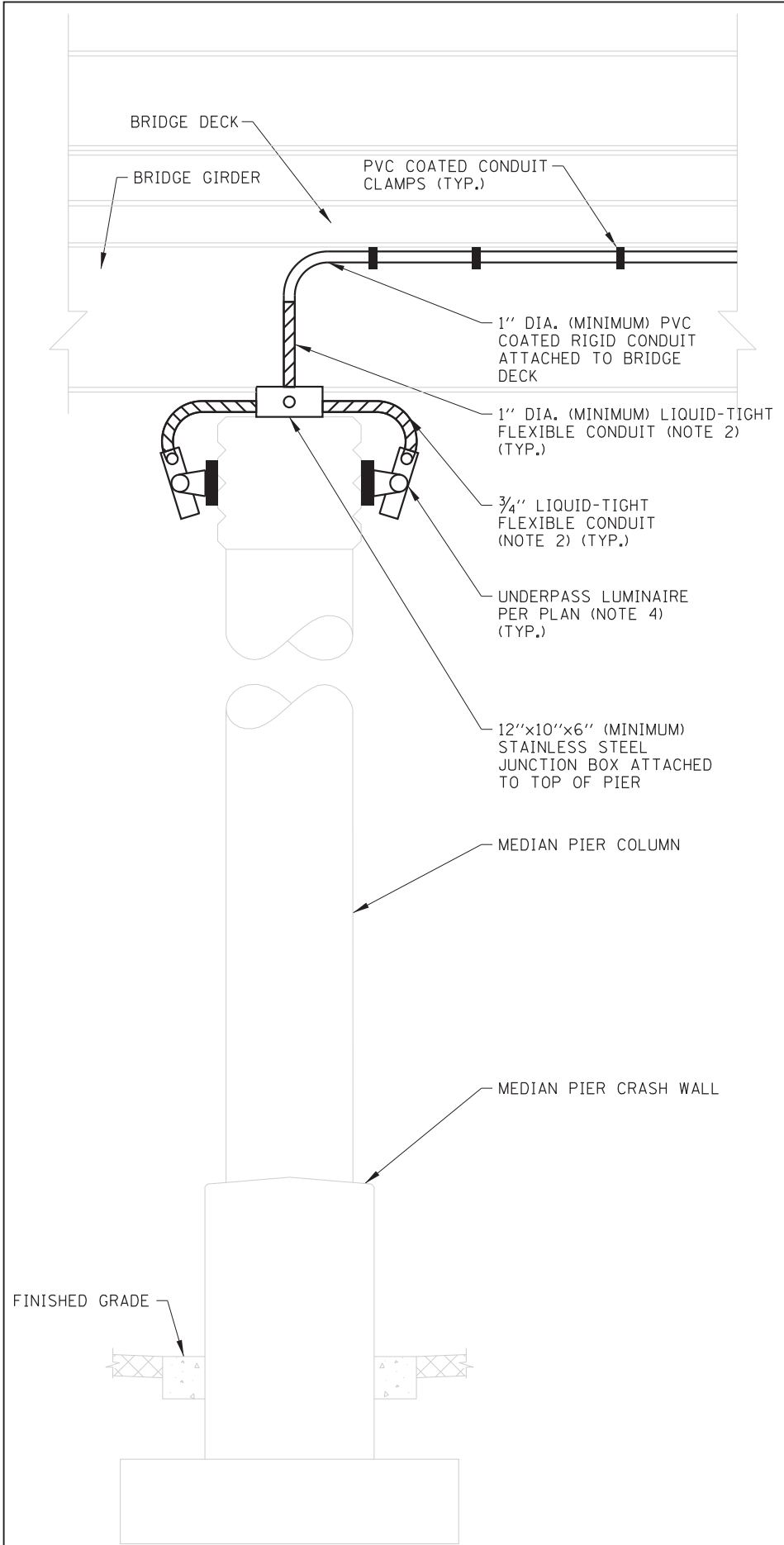
SECTION A-A

MEDIAN PIER JUNCTION BOX MOUNTING PLATE DETAIL

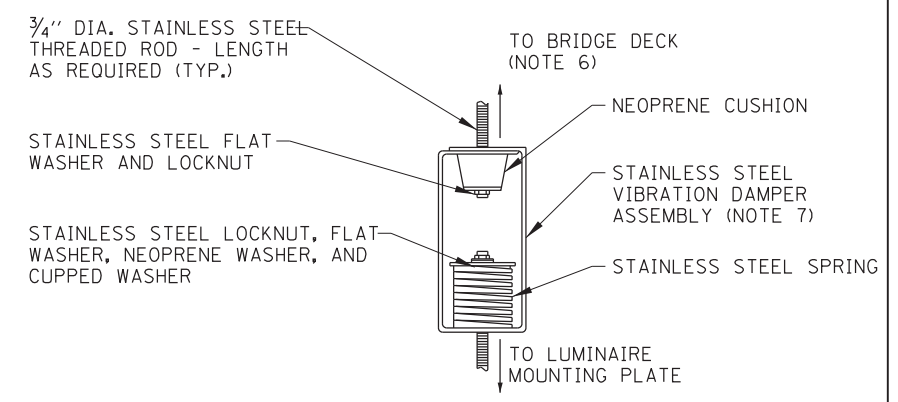
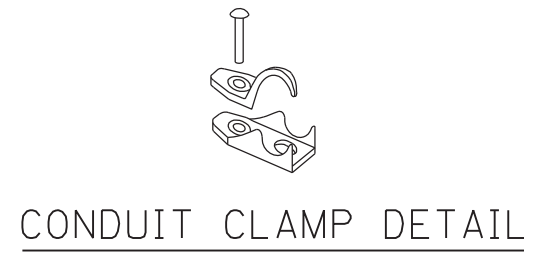


UNDERPASS LIGHTING
(MEDIAN PIER MOUNTED LUMINAIRE & FEEDER INSTALLATION)

NOTE:
FOR NOTES SEE SHEET 1 OF THIS SERIES.



DETAIL A



LUMINAIRE HANGER ASSEMBLY DETAIL

UNDERPASS LIGHTING
(BRIDGE DECK SUSPENDED LUMINAIRE & MISCELLANEOUS DETAILS)

Paul Kovacs
 APPROVED CHIEF ENGINEER DATE 3-31-2016

NOTE:
 FOR NOTES SEE SHEET 1 OF THIS SERIES.

SHEET 3 OF 3

UNDERPASS LIGHTING
 INSTALLATION DETAILS

STANDARD H9-01

GENERAL NOTES - EROSION AND SEDIMENT CONTROLS

1. THE WORK DESCRIBED ON THESE DRAWINGS IS AN INTEGRAL PART OF THE STORM WATER POLLUTION PREVENTION PLAN USED TO OBTAIN A NPDES PERMIT FROM IEPA FOR THE CONSTRUCTION OF THIS PROJECT.
2. THE PURPOSE OF THE EROSION AND SEDIMENT CONTROL MEASURES INCLUDED FOR THIS PROJECT IS TO LIMIT THE SEDIMENT POLLUTION IMPACT OF ANY STORM WATER DISCHARGES THAT ORIGINATE ON THIS SITE OR OFF-SITE FLOWS THAT FLOW OVER THE DISTURBED AREAS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SEDIMENT TRANSPORT OFF THE SITE IS REDUCED BY A COMBINATION OF MINIMIZATION OF EROSION AT THE SOURCE AND INSTALLATION OF SPECIFIC MEASURES TO CONTROL OR REDUCE THE TRANSPORT OF SEDIMENT. A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN, NOI, SWPPP, AND INSPECTION LOG BEING IMPLEMENTED BY THE CONTRACTOR SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES.
4. TO THE MAXIMUM EXTENT POSSIBLE EROSION SHALL BE MINIMIZED AT THE SOURCE. ALL FLOWS ORIGINATING OFF THE CONSTRUCTION SITE SHALL BE DIVERTED AROUND DISTURBED AREAS OR SHALL BE CONVEYED THROUGH THE SITE IN A MANNER THAT UNTREATED ON-SITE RUNOFF, SHALL BE MINIMIZED AND DOES NOT MIX WITH THE OFF-SITE RUNOFF.
5. ALL RUNOFF ORIGINATING ON DISTURBED AREAS ASSOCIATED WITH THIS PROJECT WILL PASS THROUGH ONE OR MORE MEASURES THAT WILL MINIMIZE THE OFF-SITE SEDIMENT IMPACTS OF THE CONSTRUCTION ACTIVITY.
6. ALL PERMANENT SEDIMENT BASINS, PERMANENT STORM WATER CONTROL MEASURES, AND RUNOFF CONTROL MEASURES REQUIRED TO KEEP OFF-SITE RUNOFF FROM FLOWING OVER THE CONSTRUCTION AREA WILL BE INSTALLED BEFORE CLEARING AND STRIPPING OF THE SITE PROCEEDS. PRIOR TO PROCEEDING WITH EARTHWORK ON A PROJECT THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PROPOSED EARTHWORK AND STABILIZATION SCHEDULE FOR REVIEW AND APPROVAL.
7. A MAXIMUM OF 10 ACRES IS ALLOWED TO BE IN SOME STAGE OF GRADING AT A SINGLE TIME. ADDITIONAL AREAS (UP TO 10 ACRES) MAY BE CLEARED BUT SHALL NOT BE STRIPPED OF VEGETATION UNTIL THE GRADED AREAS HAVE BEEN PROTECTED FROM EROSION THROUGH INSTALLATION OF EITHER TEMPORARY OR PERMANENT MEASURES. WHENEVER POSSIBLE, THE GRADING SHALL BE COMPLETED TO THE DESIGN GRADE AND THE PERMANENT VEGETATION PLAN IMPLEMENTED PRIOR TO STARTING GRADING ACTIVITIES ON THE NEXT SITE.
 - A. WHEN BALANCING EARTHWORK (BORROW FROM A CUT USED AS FILL AT A LOCATION DISTANT FROM THE CUT) THE CHIEF ENGINEER WILL CONSIDER ALLOWING MORE THAN 10 ACRES OF CONSTRUCTION WORK AREAS AND STORAGE AREAS.
 - B. WHERE NEW INTERCHANGES ARE BEING CONSTRUCTED THE ALLOWABLE AREA BEING GRADED MAY BE LARGER THAN 10 ACRES WHEN THE CONTRACT DRAWINGS AND SWPPP DEFINE SUCH INCREASES.
 - C. VARIATIONS TO THE ABOVE MAY BE CONSIDERED BY THE CHIEF ENGINEER UNDER ALL THE FOLLOWING CONDITIONS:
 - IF THE CONTRACTOR FALLS BEHIND SCHEDULE THROUGH NO FAULT OF HIS OWN.
 - THE CONTRACTOR MUST PRESENT A SCHEDULE DEMONSTRATING THE NEED FOR SUCH VARIATION IN ORDER TO COMPLETE THE WORK ON TIME.
 - THE CONTRACTOR MUST COMPLY WITH ALL OTHER CONTRACT AND PERMIT REQUIREMENTS.
8. DISTURBED AREAS ARE TO BE PROTECTED FROM EROSION IN A TIMELY MANNER. UPON COMPLETION OF GRADING OR CONSTRUCTION, THE AREA SHALL BE STABILIZED (USING PERMANENT MEASURES WHEN POSSIBLE) WITHIN 7 CALENDAR

9. DAYS. TEMPORARY STABILIZATION THROUGH USE OF GROUND COVER, MULCHING, OR OTHER APPROVED MEASURES WILL BE INSTALLED WHENEVER SITE DEVELOPMENT WORK, GRADING OR OTHER EARTH DISTURBING ACTIVITIES CEASE TO BE CONTINUOUS FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE 7/14 DAY REQUIREMENT IS TAKEN TO MEAN THAT THE STABILIZATION OPERATION IS COMPLETE OR NEARING COMPLETION IN THE DEFINED TIME.
9. STABILIZATION OF CUT OR FILL SLOPES WITH TEMPORARY OR PERMANENT EROSION CONTROL MEASURES IS REQUIRED WHENEVER THE CUT OR FILL ACTIVITY REACHES 15 FEET VERTICALLY OR THE FINISHED SLOPE EQUALS 50 FEET, WHICHEVER IS MORE RESTRICTIVE. ONCE THE STABILIZATION MEASURES ARE INSTALLED, THE PLACEMENT OF FILL OR EXCAVATION ACTIVITIES ARE ALLOWED TO PROCEED.
10. THE CONTRACTOR SHALL DESIGNATE ONE OF HIS EMPLOYEES AS EROSION AND SEDIMENT CONTROL MANAGER. THIS PERSON WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN ON ALL DISTURBED AREAS. THIS PERSON SHALL POSSESS THE NECESSARY TRAINING AND CERTIFICATION ON EROSION AND SEDIMENT CONTROL MEASURES FOR ACCEPTANCE BY THE ILLINOIS TOLLWAY. THIS EMPLOYEE IS TO HAVE THE AUTHORITY TO CARRY OUT THE IMPLEMENTATION OF ANY INSTRUCTIONS CONCERNING THE EROSION AND SEDIMENT CONTROL PLAN GIVEN BY THE ENGINEER. ALL MEASURES WILL BE INSPECTED BY THIS INDIVIDUAL AND THE ENGINEER ON A REGULAR BASIS (AT LEAST ONCE EVERY 7 DAYS) AND AFTER ANY RAINFALL EVENT GREATER THAN 0.5 INCHES, OR EQUIVALENT SNOWFALL (I.E. + 5").
11. SEDIMENT TRAPS, SEDIMENT BASINS, DITCHES, SILT FENCES, FENCES, STONE OUTLET STRUCTURES, EARTH BERMS, ETC. SHALL BE MAINTAINED DURING THE CONSTRUCTION SEASON AS WELL AS THE WINTER MONTHS AND OTHER TIMES WHEN THE PROJECT IS CLOSED DOWN. TRAPS WILL BE CLEANED WHEN THEY ARE 50% FILLED. SILT FENCE AND STONE OUTLET STRUCTURES SHALL HAVE SEDIMENT REMOVED WHEN IT REACHES 50% THE HEIGHT OF THE CONTROL DEVICE. THESE SPOILS WILL BE REMOVED TO AN APPROVED SITE.
12. SALVAGED TOPSOIL SHALL BE PLACED ON WELL DRAINED LAND AWAY FROM INTERMITTENT AND LIVE STREAMS OR WETLANDS WITH THE APPROPRIATE RUNOFF CONTROL AND SEDIMENT CONTROL MEASURES INSTALLED AROUND THE STORAGE SITE. SALVAGED TOPSOIL SHALL BE STABILIZED WITH STRAW MULCH IMMEDIATELY AFTER SHAPING OF THE PILE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS. SILT FENCE SHALL BE PROVIDED AT THE PERIMETER OF THE STOCKPILE.
13. MATERIALS EXCAVATED FOR THE CONSTRUCTION OR CLEAN OUT OF SEDIMENT TRAPS SHALL NOT BE STOCKPILED IN THE VICINITY OF THE TRAP. IT SHALL BE PLACED IN AN EMBANKMENT OR WASTED AS DIRECTED BY THE ENGINEER.
14. EXCAVATION TO BE USED FOR EMBANKMENTS SHALL NOT BE STOCKPILED UNLESS PERIMETER CONTROLS ARE UTILIZED. WHEN THIS MATERIAL IS STOCKPILED FOR THE CONVENIENCE OF THE CONTRACTOR THE COST OF PROVIDING THE CONTROLS ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF THE MATERIAL IS STOCKPILED AT THE DIRECTION OF THE ENGINEER THE ILLINOIS TOLLWAY WILL ASSUME THE COSTS OF THE CONTROLS.
15. SEDIMENT LADEN DEWATERING DISCHARGE MUST BE DIRECTED TO AN APPROVED SEDIMENT TRAPPING MEASURE PRIOR TO RELEASE FROM THE SITE.
16. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSIDERED TEMPORARY. THESE MEASURES WILL BE REMOVED BY THE CONTRACTOR AS DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. DISTURBED AREAS ARE TO BE RESTORED UPON REMOVAL.


17. WHEN THE CONTRACTOR REQUESTS A CHANGE TO POSTPONE COMPLETION OF THE EXCAVATION OF A SPECIFIC AREA AS A CONTINUOUS OPERATION AND PLACING THE TOPSOIL AS DEFINED IN THE STANDARD SPECIFICATIONS, THE ENGINEER MAY ALLOW THE CONTRACTOR TO STABILIZE THE AREA USING TEMPORARY STABILIZATION WITH STRAW MULCH PROVIDING THE FOLLOWING CONDITIONS ARE MET:
 - A. ALL AREAS BEING STABILIZED ARE 1:3 (V:H) SLOPES OR FLATTER.
 - B. THE COST OF PREPARING THE SEED BED AND STABILIZING THE AREA WITH TEMPORARY STABILIZATION WITH STRAW MULCH IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - C. ALL REQUIRED SEDIMENT CONTROL MEASURES FOR THE SECTION OF ROAD IN QUESTION HAVE BEEN INSTALLED AND ARE BEING MAINTAINED.
18. THE CONTRACTOR SHALL PREPARE A SKETCH SHOWING DIMENSIONS FROM TWO ADJACENT OBJECTS TO ALL DRAINAGE STRUCTURES THAT HAVE BEEN PROTECTED. THIS IS TO LOCATE THE STRUCTURE IN CASE OF HEAVY RAINFALL AND THE STRUCTURE IS BLOCKED OR FLOODED. THE ENGINEER SHALL BE PROVIDED WITH A COPY OF THE SKETCH.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIAL PROVISION (S.P.) 111, STORM WATER POLLUTION PREVENTION PLAN INCLUDING CONTROLS AND SPILL PREVENTION-MATERIAL MANAGEMENT PRACTICES. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL SIGN THE CONTRACTOR'S CERTIFICATION STATEMENT. LIST THE MATERIALS OR SUBSTANCES EXPECTED TO BE PRESENT ON-SITE IN THE INVENTORY FOR POLLUTION PREVENTION PLAN AND SHALL NAME TWO ADDITIONAL INDIVIDUALS TO ASSIST IN SPILL PREVENTION AND CLEAN UP AT THE PRECONSTRUCTION CONFERENCE. SEE S.P. 111.
20. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS AS REQUIRED IN SPECIAL PROVISION 111. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE STORM SEWER OR DITCH SYSTEMS. WASHOUT WATER SHALL BE TAKEN TO AN APPROVED DISCHARGE LOCATION.
21. IF AN ALTERNATIVE SIZE DITCH CHECK IS PROPOSED BY THE CONTRACTOR FOR USE ON THE PROJECT, A CONTRACT DITCH CHECK SPACING WILL NEED TO BE RECALCULATED BY THE CONTRACTOR IN ACCORDANCE WITH THE ILLINOIS TOLLWAY EROSION AND SEDIMENT CONTROL, LANDSCAPE DESIGN CRITERIA MANUAL. ANY RESULTING QUANTITY CHANGES MUST BE APPROVED BY THE ENGINEER PRIOR TO START OF WORK.
22. ALL RUNOFF, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE. THE CONTRACTOR SHALL REVIEW THE LOCATIONS OF ALL MEASURES AND PERFORM A BARRIER WARRANT ANALYSIS IF NECESSARY TO ENSURE ROADSIDE OBSTACLES ARE NOT CREATED.
23. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).





TEMPORARY EROSION
AND SEDIMENT CONTROLS

STANDARD K1-06

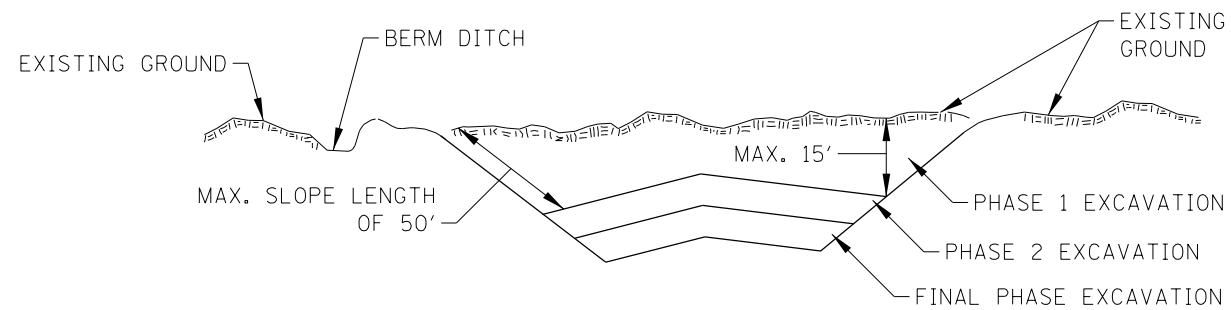
DATE	REVISIONS
3-31-2014	REVISED GENERAL NOTES.
3-11-2015	REVISED NOTES.
3-31-2016	REMOVED TEMPORARY DITCH CHECKS


 APPROVED CHIEF ENGINEER DATE 2-7-2012

STANDARD SYMBOLS

	CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)		SILT FENCE
	CULVERT INLET PROTECTION-FENCE		STABILIZED CONSTRUCTION ENTRANCE
	CULVERT INLET PROTECTION-STONE		STONE OUTLET STRUCTURE SEDIMENT TRAP
	CIP		STREAM DIVERSION
	DB		SSF
	DIVERSION DIKE		TEMPORARY DITCH CHECK
	DRAINAGE DIVIDE		TEMPORARY PIPE SLOPE DRAIN
	EXISTING DRAINAGE PATH		TEMPORARY RIPRAP
	FIPC		TEMPORARY ROCK CHECK DAM
	FILTER FABRIC INLET PROTECTION, COVER TYPE		TEMPORARY STREAM CROSSING
	FIPB		TS
	FILTER FABRIC INLET PROTECTION, BASKET TYPE		TP
	FB		
	IC		
	PROPOSED DRAINAGE PATH		
	RIP		
	RECTANGULAR INLET PROTECTION		
	SEDIMENT BASIN AGGREGATE BERM		
	SEDIMENT BASIN		

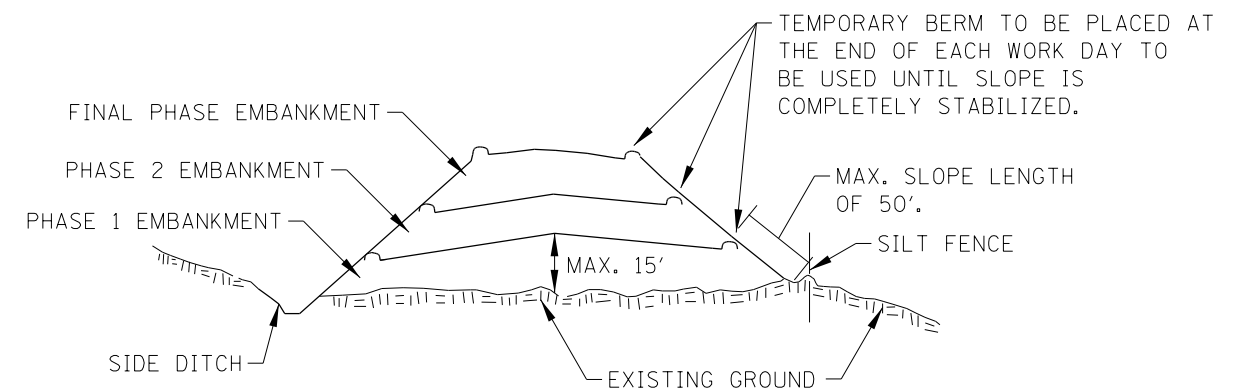




NOTES:

1. ALL CUT SLOPES SHALL BE EXCAVATED AND STABILIZED (PLACE TOPSOIL, PREPARE SEEDBED, APPLY SEED, PROTECT SLOPE WITH MULCH OR EROSION BLANKET) AS THE WORK PROGRESSES.
2. CONSTRUCTION SEQUENCE:
 - A) EXCAVATE AND STABILIZE BERM, SIDE AND OUTLET DITCHES, PROVIDE SEDIMENT TRAPS FOR DITCHES.
 - B) PERFORM PHASE 1 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING.
 - C) PERFORM PHASE 2 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING. OVER SEED PHASE 1 SLOPES, IF REQUIRED.
 - D) PERFORM FINAL PHASE EXCAVATION, DRESS, SEED AND MULCH SLOPES WITH PERMANENT SEEDING. STABILIZE SURFACE DRAIN DITCHES. OVER SEED PHASE 1 & 2 SLOPES, IF REQUIRED, AS DETERMINED BY THE ENGINEER.
3. IF PERMANENT SEEDING CANNOT BE PLACED DUE TO CONTRACT REQUIREMENTS REGARDING PLANTING SEASONS, THE CUT SLOPE IS TO HAVE TOPSOIL PLACED AND SEEDING PREPARED PRIOR TO USING TEMPORARY STABILIZATION WITH STRAW MULCH OR TEMPORARY SEEDING WITH EROSION BLANKET.
4. THE CONTRACTOR HAS THE OPTION OF DELAYING TOPSOIL SEEDING BEYOND THE 15 FOOT LIMITATION. IF THIS OPTION IS CHOSEN, THE CUT SLOPE MUST BE "TEMPORARY STABILIZED" AT NO COST TO THE ILLINOIS TOLLWAY.
5. ONCE THE EXCAVATION WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF SLOPE STABILIZATION MEASURES. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

EXCAVATION PHASING PLAN - CUT SECTION



NOTES:

1. THE EMBANKMENT WILL BE MADE IN STAGES NOT TO EXCEED 15' IN HEIGHT OR 50' IN SLOPE LENGTH. THE EMBANKMENT SLOPES WILL BE STABILIZED USING TEMPORARY MEASURES BEFORE BEGINNING NEXT STAGE.
2. AT THE END OF EACH WORK DAY TEMPORARY BERMS (EARTH) AND TEMPORARY PIPE SLOPE DRAINS WILL BE CONSTRUCTED ALONG THE TOP EDGE(S) OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF.
3. CONSTRUCTION SEQUENCE:
 - A) EXCAVATE AND STABILIZE SIDE DITCH AND/OR INSTALL PROPOSED PERIMETER CONTROLS AT THE TOE OF SLOPE.
 - B) PLACE PHASE 1 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
 - C) PLACE PHASE 2 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
 - D) PLACE FINAL PHASE EMBANKMENT AND STABILIZE WITH PERMANENT VEGETATIVE PLAN ON THE ENTIRE SLOPE.
4. ONCE THE PLACEMENT OF FILL WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF PERMANENT VEGETATIVE PLAN. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

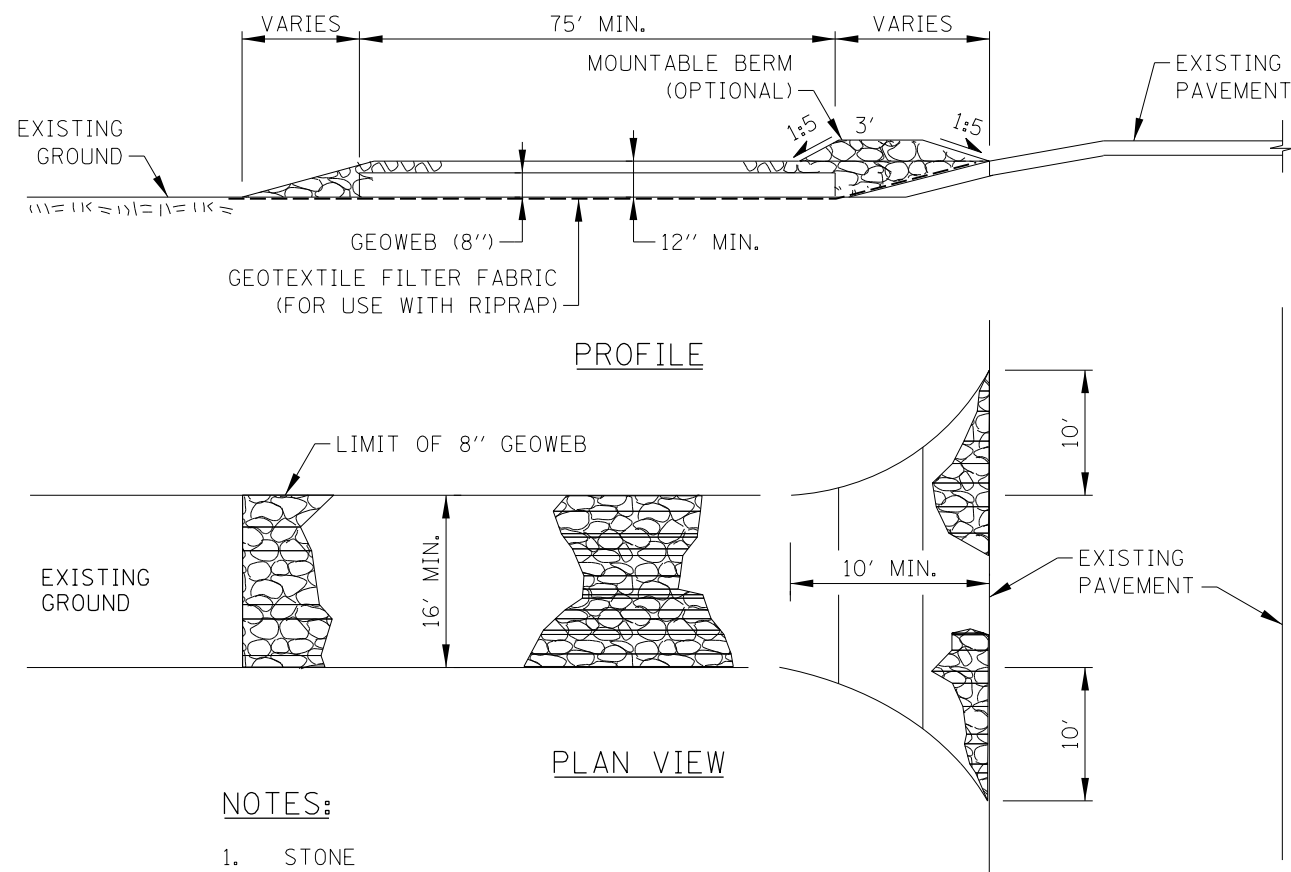
EMBANKMENT PHASING PLAN - FILL SECTION



TEMPORARY EROSION AND SEDIMENT CONTROLS

STANDARD K1-06

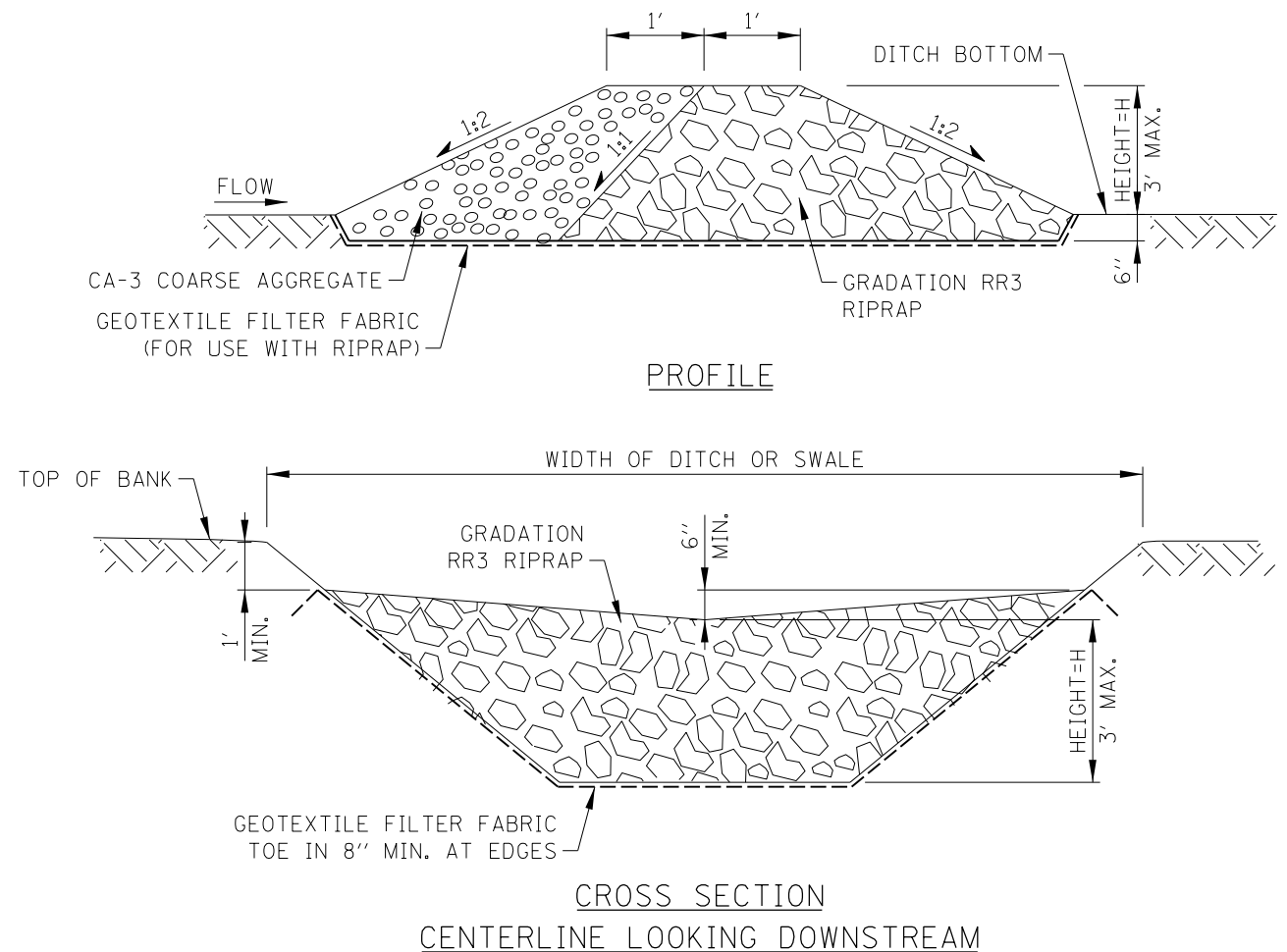
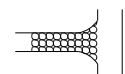
APPROVED: *Paul Kovacs* DATE 2-7-2012
CHIEF ENGINEER



NOTES:

1. STONE
 - A. STONE SIZE - CA-3
 - B. LENGTH - AS REQUIRED, BUT NOT LESS THAN 75'.
 - C. THICKNESS - NOT LESS THAN 4" ABOVE TOP OF GEOWEB.
2. WIDTH - 16' MINIMUM FOR ONE WAY TRAFFIC; 24' MINIMUM FOR TWO-WAY TRAFFIC; BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
3. GEOWEB NOT LESS THAN 8" IN DEPTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 1:5 SLOPES WILL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER HEAVY USE AND EACH RAINFALL EVENT.
7. TO BE USED TO REDUCE OR ELIMINATE TRACKING OF SEDIMENT ONTO PUBLIC STREETS. PLACE AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS. DISTURBED AREAS TO BE RESTORED UPON REMOVAL.

STABILIZED CONSTRUCTION ENTRANCE
STANDARD SYMBOL

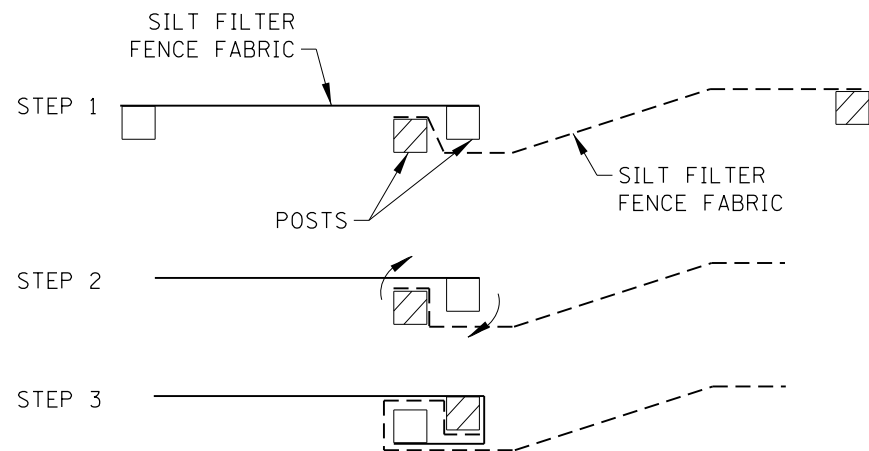


NOTES:

1. FOR LOCATIONS AND HEIGHTS OF ROCK CHECK DAMS REFER TO CONSTRUCTION DRAWINGS.
2. TEMPORARY ROCK CHECK DAMS SHALL BE REPLACED WHEN THEY CEASE TO FUNCTION AS INTENDED DUE TO WASHOUT OR CONSTRUCTION TRAFFIC DAMAGE.
3. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF DAM HEIGHT. THIS PRACTICE IS NOT A SUBSTITUTE FOR MAJOR PERIMETER TRAPPING SUCH AS A TEMPORARY SEDIMENT TRAP OR BASIN.
4. SPACING BETWEEN DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS TOP OF RIPRAP AT THE CENTER OF THE DOWNSTREAM DAM.
5. WHEN A TEMPORARY ROCK CHECK DAM IS IN THE CLEAR ZONE, IT MUST BE MADE TRAVERSABLE TO AN ERRANT VEHICLE. THE MAXIMUM UNSHIELDED TRANSVERSE SLOPE ALLOWED TO FACE TRAFFIC SHALL BE 1:10 (V:H) AND THE MAXIMUM TRANSVERSE FACING AWAY FROM TRAFFIC SHALL BE 1:4 (V:H). AN UNSHIELDED TEMPORARY ROCK CHECK DAM SHALL HAVE AN ADDITIONAL LAYER OF CA-3 COURSE AGGREGATE (6" MIN.) PLACED ON THE DOWNSTREAM SIDE OF THE ROCK CHECK DAM. THE GEOTEXTILE FILTER FABRIC SHALL BE PLACED ALONG THE ENTIRE BASE OF THE TEMPORARY ROCK CHECK DAM.

TEMPORARY ROCK CHECK DAM
STANDARD SYMBOL

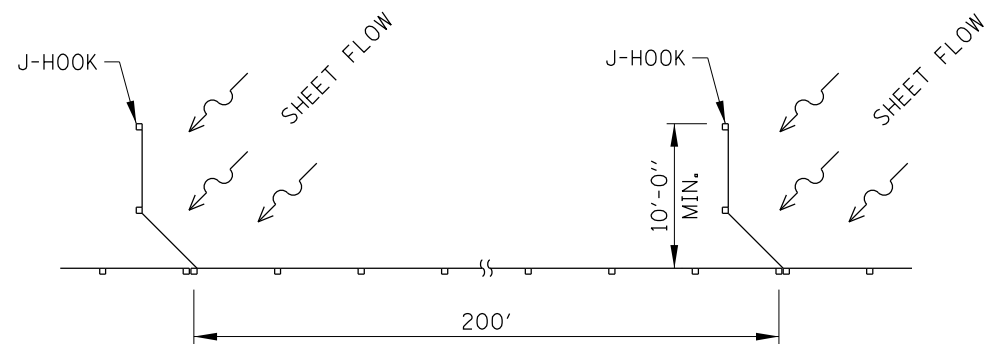




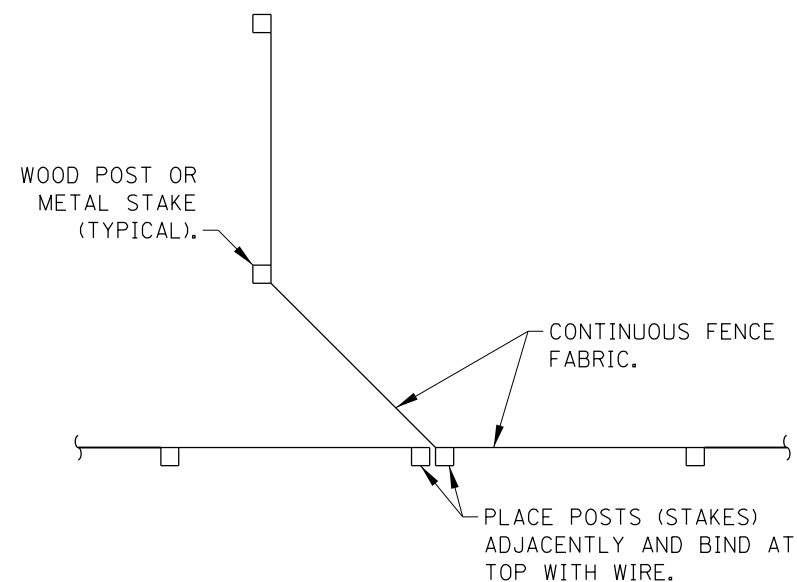
NOTES:

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 24" INTO THE GROUND.

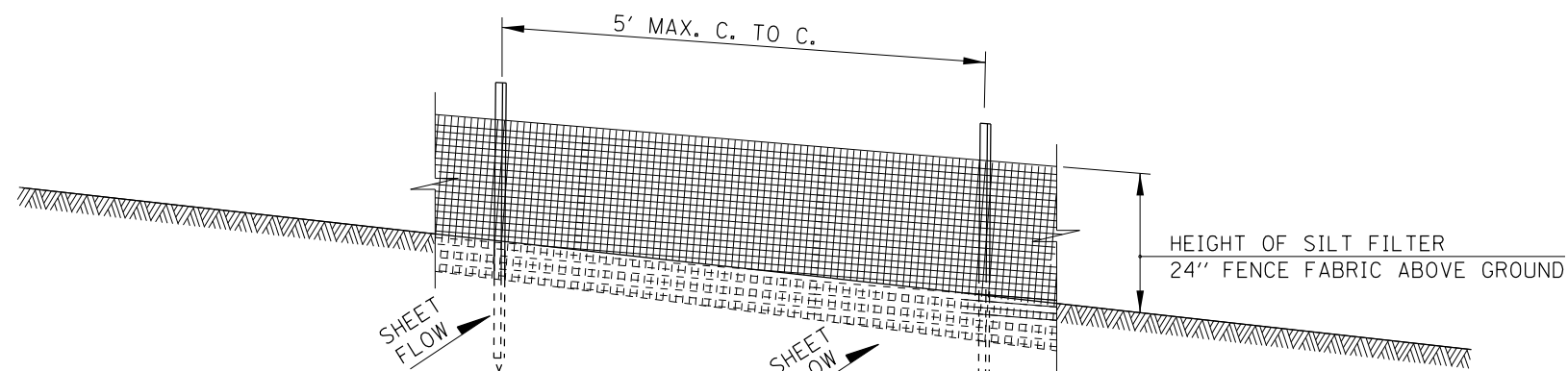
ATTACHING TWO SILT FENCES



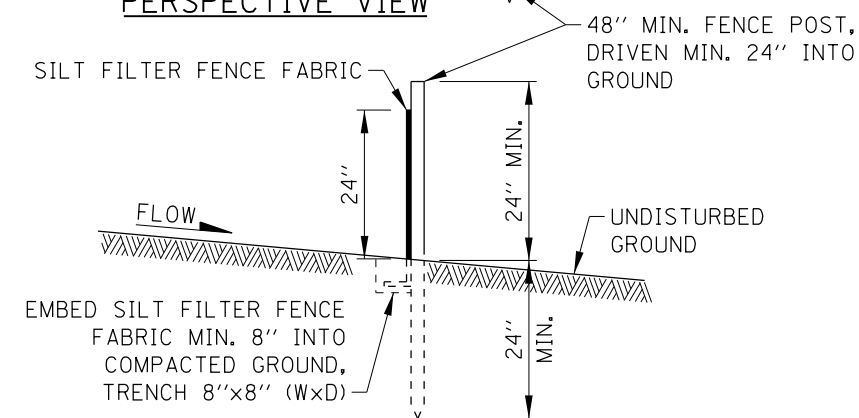
SILT FILTER J-HOOK PLACEMENT



J-HOOK



PERSPECTIVE VIEW



SECTION

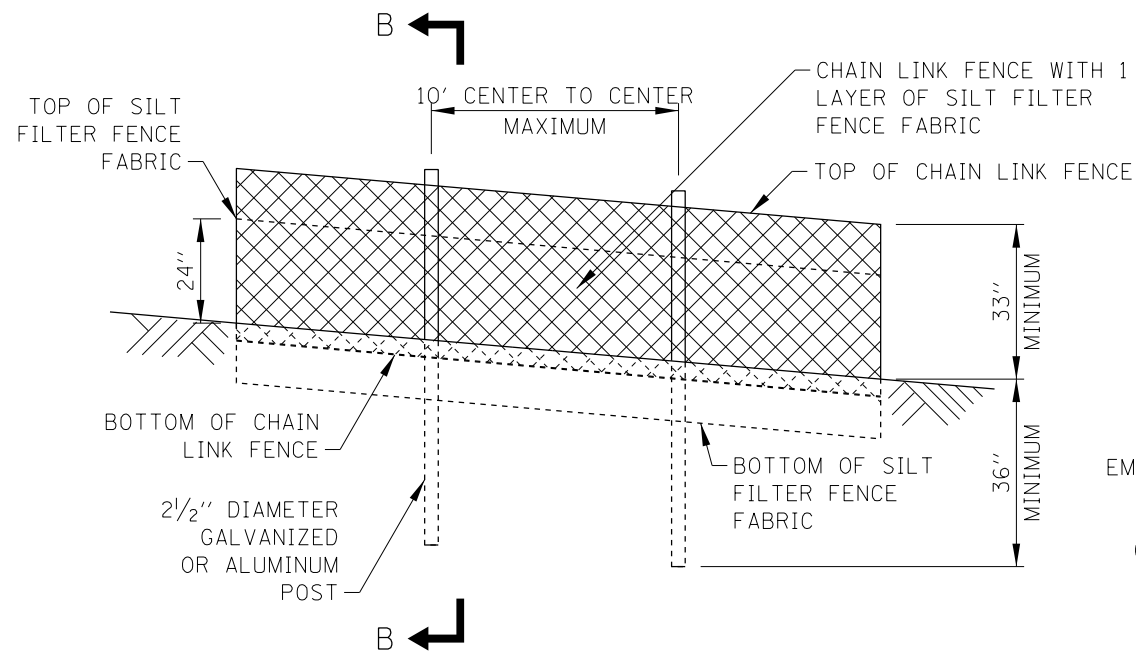
NOTES:

1. SILT FILTER FENCE FABRIC TO BE FASTENED SECURELY TO FENCE POSTS.
2. WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE SECURELY FASTENED PER THE DETAIL ATTACHING TWO SILT FENCES.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD UP AGAINST FENCE SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.
4. FENCE POSTS: 2"x2" (NOMINAL) HARDWOOD OR SCHEDULE 40 METAL PIPE OR 1.33 LB/FT MIN. STANDARD T OR U SECTION STEEL POSTS.
5. THIS DEVICE IS TO CONTROL SHEET FLOW ONLY. DO NOT USE FOR CONCENTRATED FLOWS, DRAINAGE CHANNELS, ABOVE OR BELOW DRAINAGE PIPES.

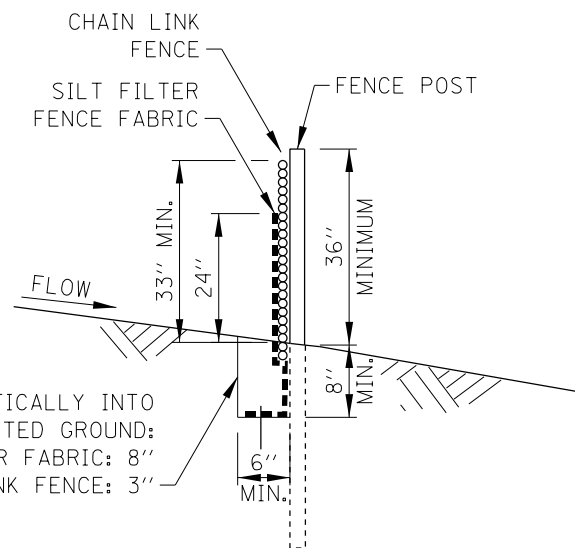
**SILT FENCE (SF)
STANDARD SYMBOL**



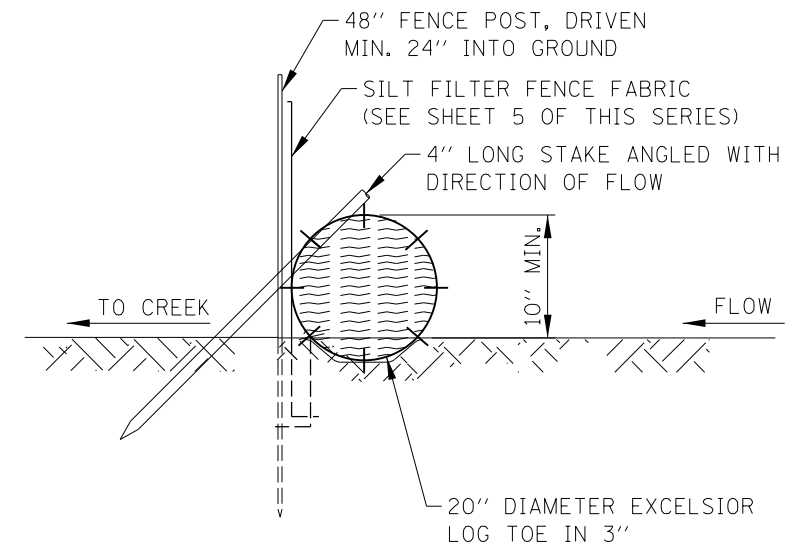
Paul Kovacs
APPROVED... CHIEF ENGINEER... DATE 2-7-2012



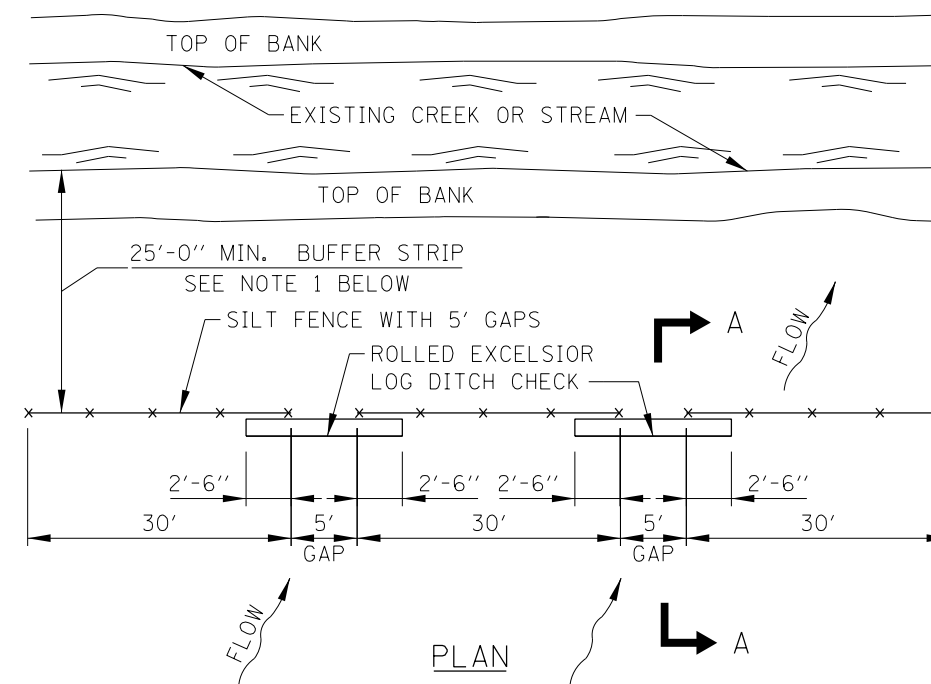
ELEVATION



SECTION B-B



SECTION A-A



PLAN

NOTES:

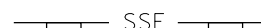
1. FENCING SHALL BE 36" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD DRAWING D1, RIGHT-OF-WAY FENCE, TYPE 1. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 36" FABRIC AND 6' LENGTH POSTS.
2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED. PULL POSTS, CORNER POSTS, HORIZONTAL BRACING AND TIE RODS ARE NOT REQUIRED.
3. SILT FILTER FENCE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
4. WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED 2' HORIZONTALLY.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD-UP AGAINST FENCE SHALL BE REMOVED WHEN SILT REACHES 50% OF FENCE HEIGHT.
6. SUPER SILT FENCE IS TO BE USED TO PROTECT ENVIRONMENTALLY SENSITIVE AREAS AND CONTROL SEDIMENT RUNOFF FROM CONSTRUCTION SITES WHEN ADDITIONAL REINFORCEMENT IS REQUIRED DUE TO SLOPE OF SITE OR VOLUME OF STORM WATER RUNOFF.

NOTES:

1. A MINIMUM 25' WIDE VEGETATED BUFFER STRIP SHALL BE PRESERVED AND/OR RE-ESTABLISHED WHERE POSSIBLE ALONG EXISTING CHANNELS.
2. THE 5' GAPS IN THE SILT FENCE AND THE 20" DIAMETER TEMPORARY DITCH CHECKS ARE TO ALLOW FLOODWATER FLOW INTO THE CREEK FROM THE SITE WITHOUT DAMAGE TO THE SILT FENCE.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF ROLL HEIGHT. WHEN ROLLED EXCELSIOR LOG BECOMES LESS THAN 10" IT SHALL BE REPLACED.

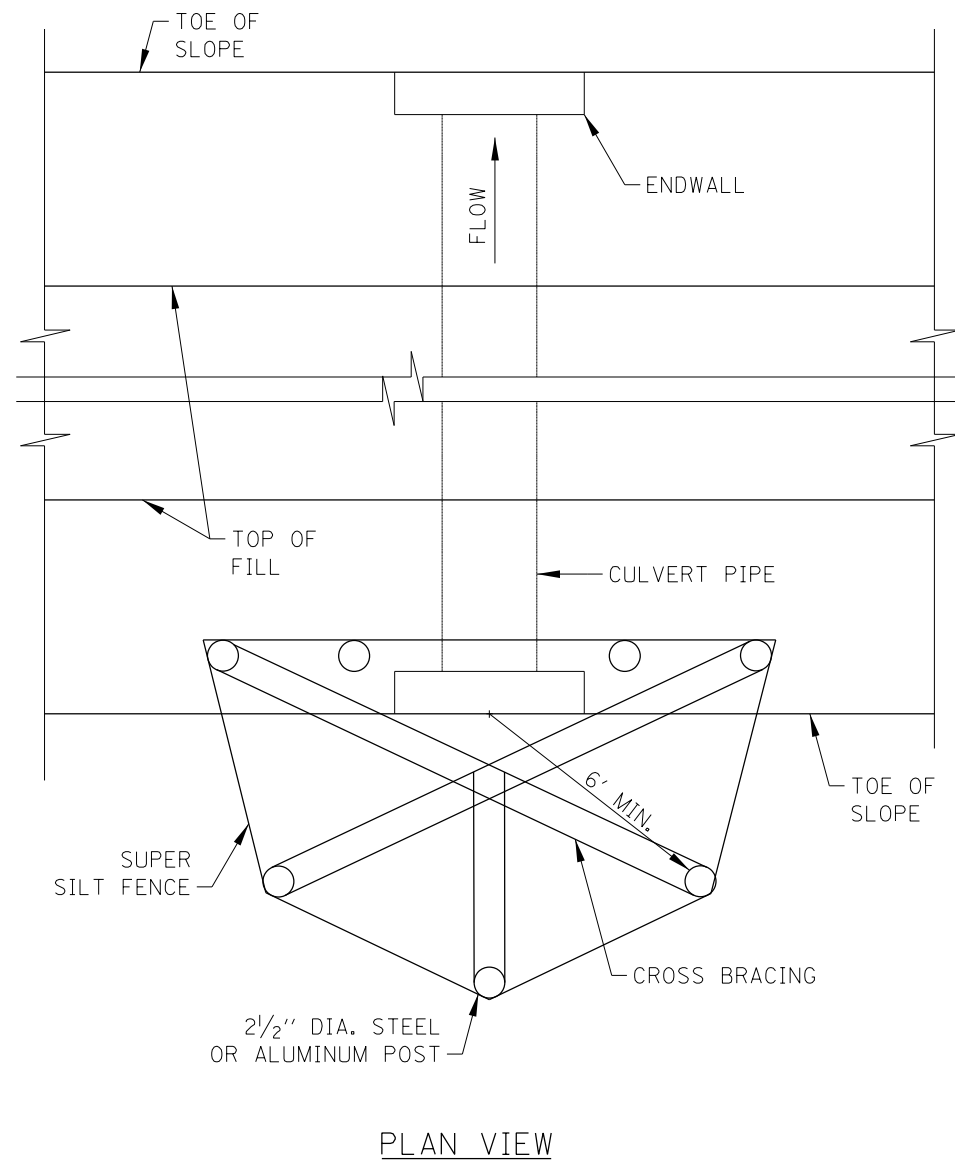
SUPER SILT FENCE (SSF)

STANDARD SYMBOL



APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



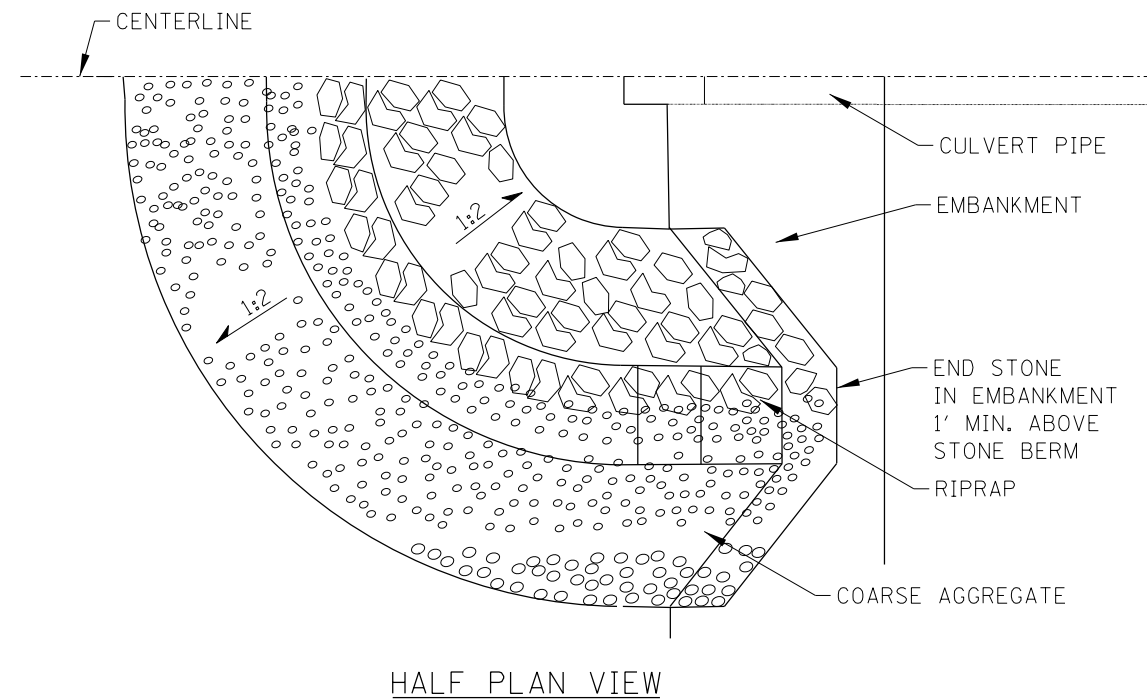


PLAN VIEW

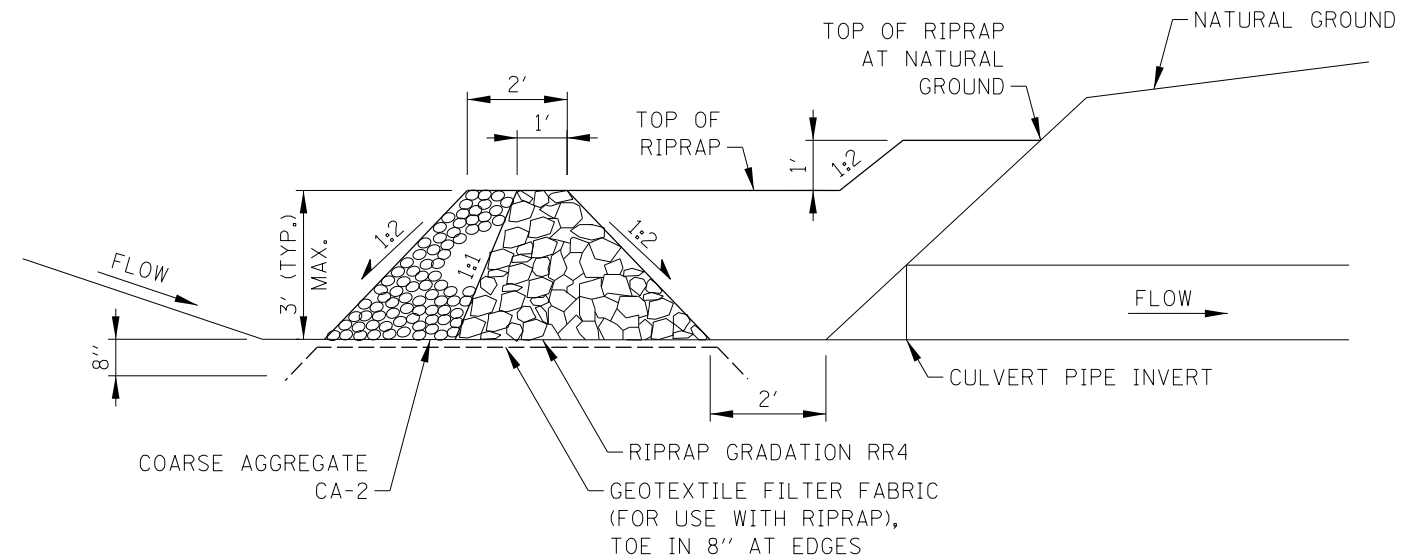
NOTES:

1. CONSTRUCT SUPER SILT FENCE PER SHEET 6 IN THIS SERIES, EXCEPT THE MAXIMUM POST SPACING SHALL BE 3 FEET AND THE TOPS OF POSTS SHALL BE CROSSED BRACED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE FENCE HEIGHT.
3. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
4. THE CULVERT INLET PROTECTION - FENCE TO BE MEASURED AND PAID FOR AS SUPER SILT FENCE.

CULVERT INLET PROTECTION - FENCE
STANDARD SYMBOL



HALF PLAN VIEW



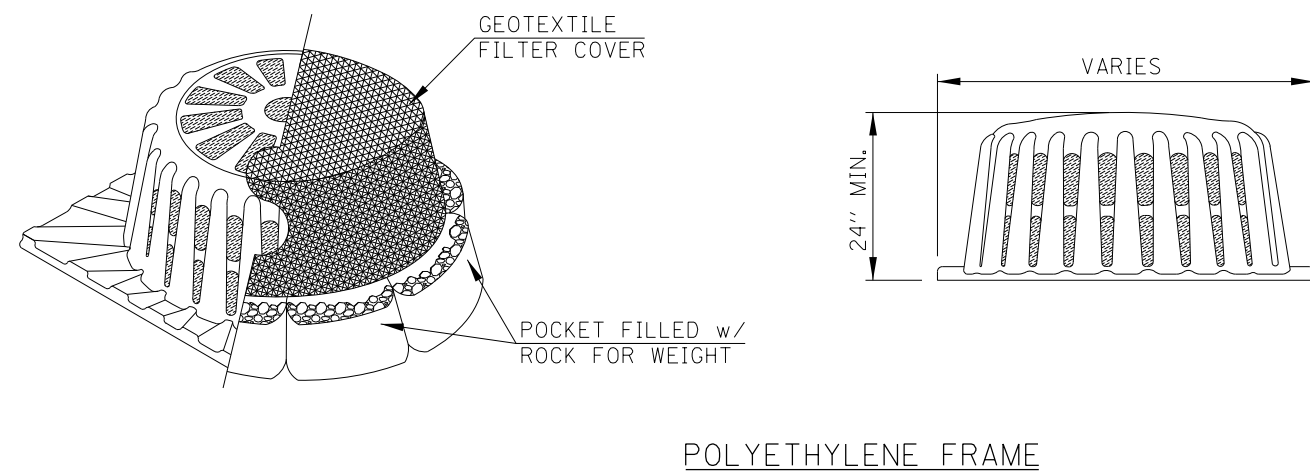
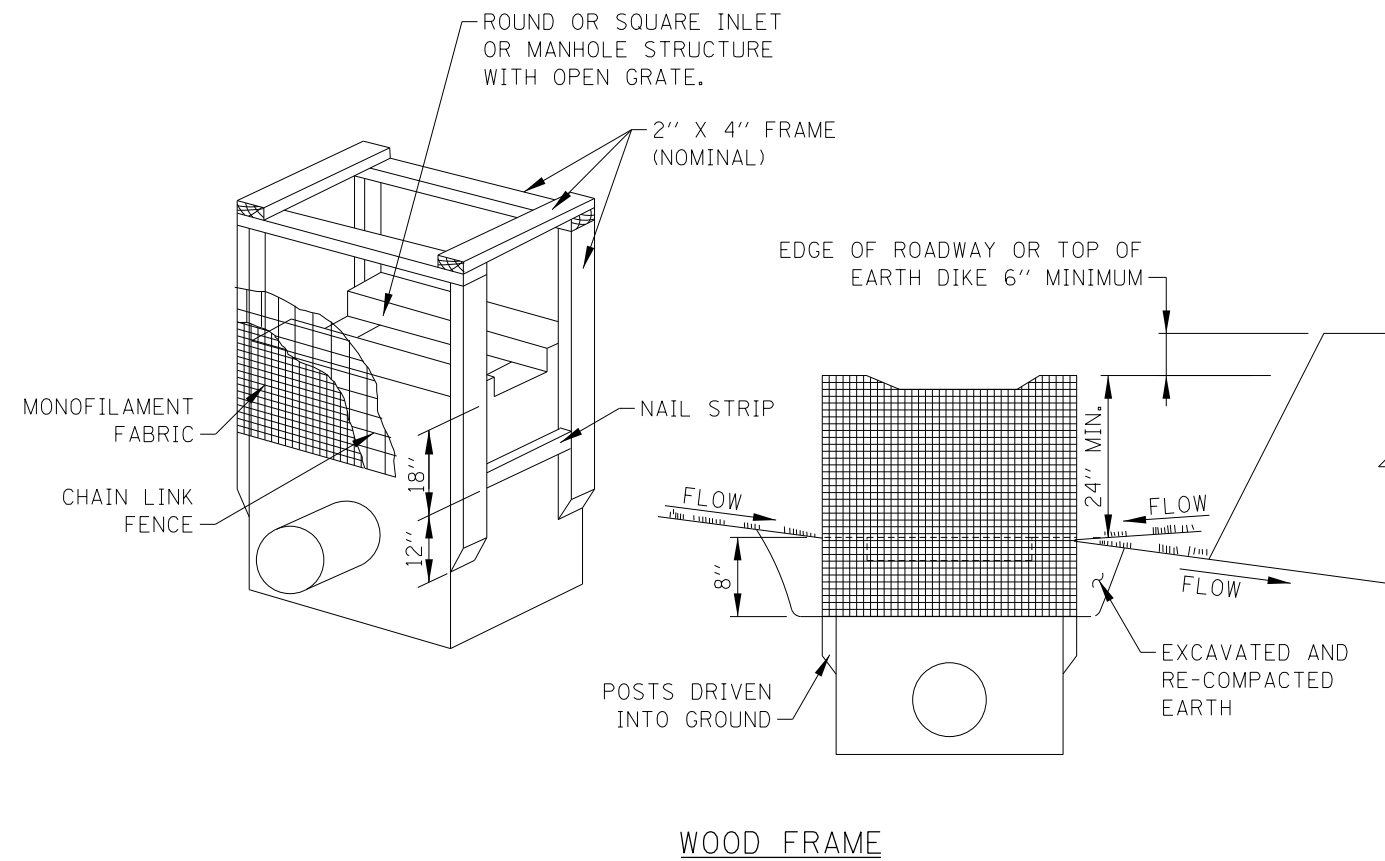
CENTERLINE CROSS SECTION

NOTES:

1. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE STONE HEIGHT.
2. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
3. THE CULVERT INLET PROTECTION - STONE TO BE MEASURED AND PAID FOR AS TEMPORARY RIPRAP.

CULVERT INLET PROTECTION - STONE
STANDARD SYMBOL

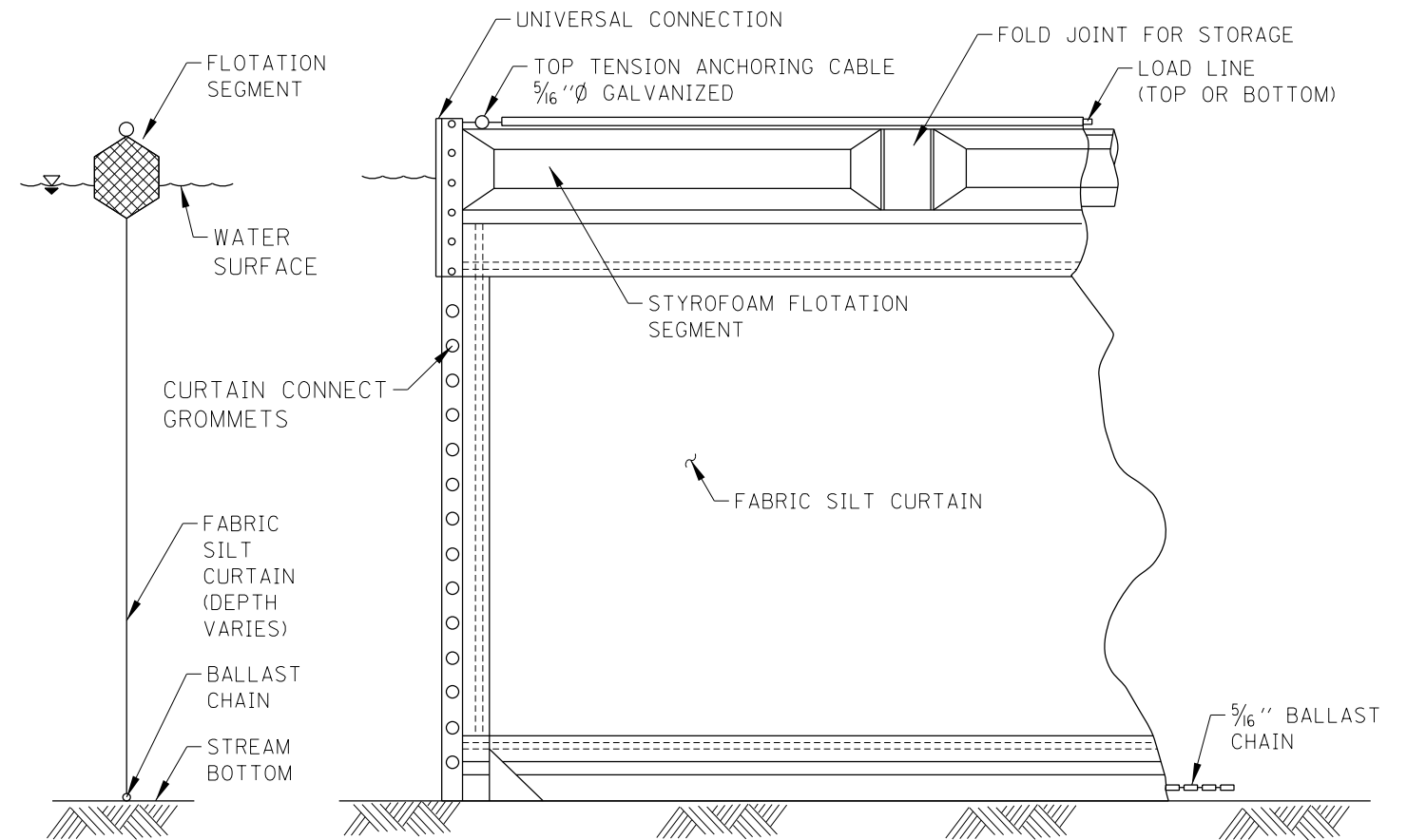




NOTES:

1. WOODEN FRAME IS TO BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER. IF CONTRACTOR PREFERENCES, SUPER SILT FENCE CAN BE CONSTRUCTED AROUND THE INLET PER SHEET 6 IN THIS SERIES.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT REMOVED WHEN IT REACHES 50% OF FENCE HEIGHT.
3. TO BE USED TO PROTECT EXISTING AND NEW INLETS, CATCH BASINS AND MANHOLES WITH OPEN LIDS IN NON-PAVED AREAS.

RECTANGULAR INLET PROTECTION
STANDARD SYMBOL



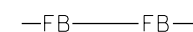
SECTION

ELEVATION

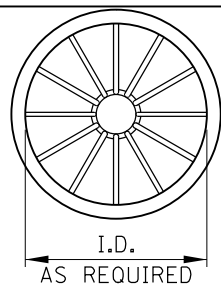
NOTES:

1. FLOTATION BOOM FOR USE IN MOVING WATER SHALL BE ANCHORED TO PREVENT DRIFT SHOREWARD OR DOWNSTREAM. ANCHORAGES SHALL BE INSTALLED ON BOTH SHORE AND STREAM SIDE. BOOMS ARE NOT TO BE INSTALLED ACROSS FLOWING BODY OF WATER.
2. SHORE ANCHORS SHALL CONSIST OF A POST WITH DEADMAN OR APPROVED EQUAL. STREAM ANCHORS SHALL BE OF SUFFICIENT SIZE TO STABILIZE THE BARRIER WITH NUMBER AND SPACING DEPENDENT ON WATERWAY VELOCITIES.
3. FABRIC SECTIONS SHALL BE CONNECTED END TO END WITH MINIMUM 5/8" DIAMETER POLYPROPYLENE ROPE.
4. DESIGN OF BOOM AND ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BOTTOM OF BOOM SHALL REACH BOTTOM OF WATERWAY USING ONE VERTICAL SECTION AS REQUIRED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED. CONTRACTOR SHALL REMOVE THE BOOM AT COMPLETION OF WORK IN A MANNER THAT WILL PREVENT SILTATION OF THE WATERWAY.
6. CONSTRUCTION DEBRIS/MATERIALS SHALL BE REMOVED IMMEDIATELY TO PREVENT DAMAGE TO THE CURTAIN AND ENTRY INTO THE WATERWAY.
7. FLOTATION BOOMS TO BE USED TO CONTROL TURBIDITY WHEN WORKING IN WATERWAYS.

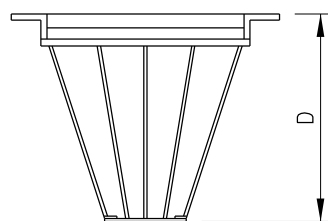
FLOTATION BOOM
STANDARD SYMBOL



CIRCULAR
SPECIFY INSIDE
DIMENSION



I.D.
AS REQUIRED

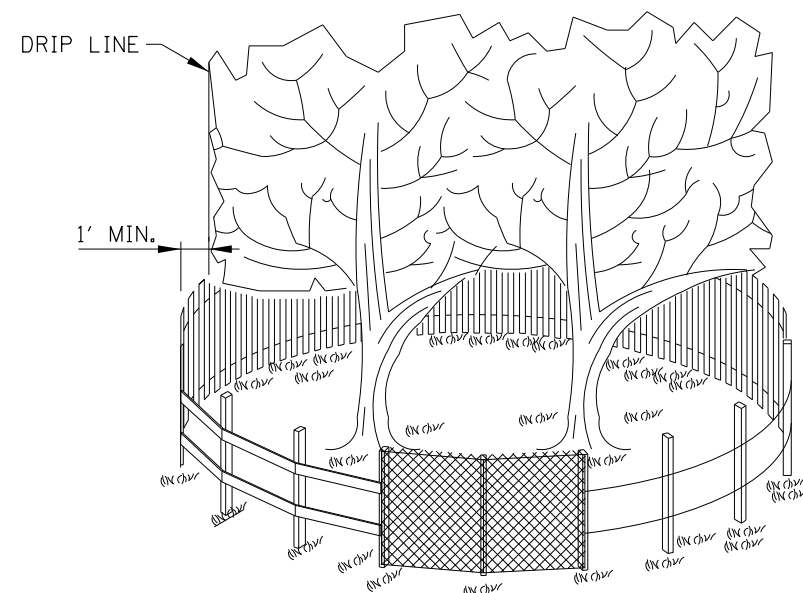


FRONT VIEW

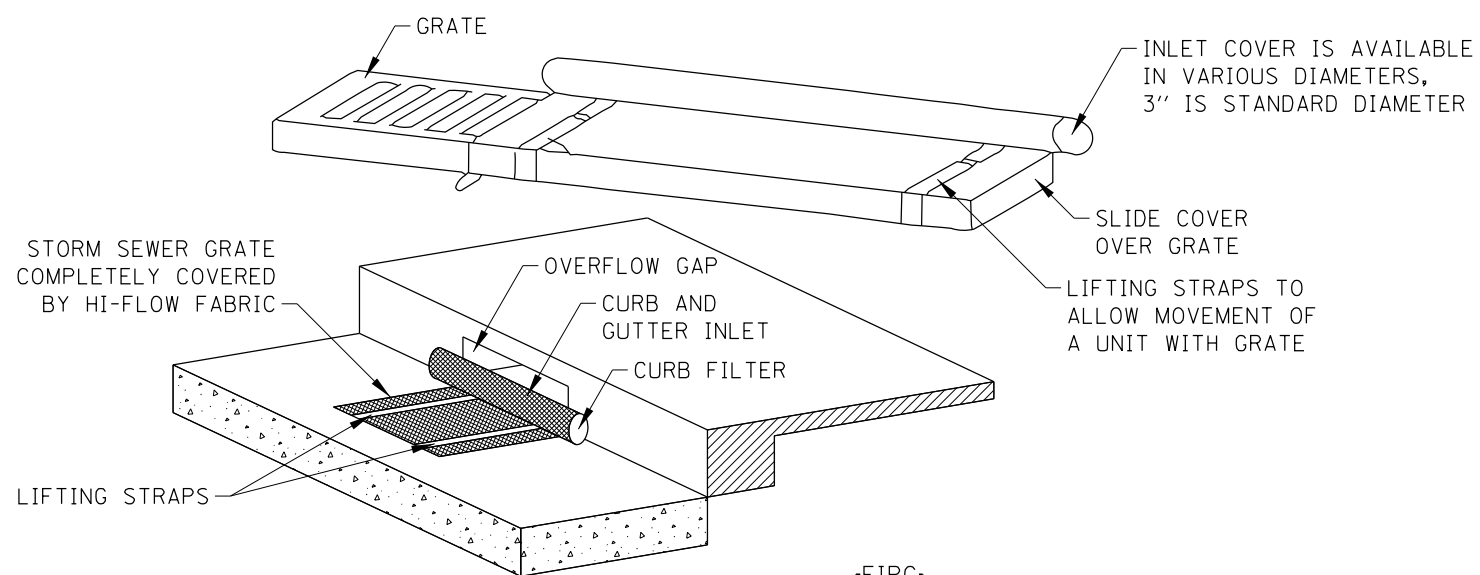
STEEL FRAME
OVERFLOW FEATURE


POLYESTER REINFORCING MESH (OUTER LAYER)
STAINLESS STEEL BAND AND LOCKING CLAMP
MONOFILAMENT FABRIC

INLET BASKET
(SEE NOTE 3 BELOW)  STANDARD SYMBOL



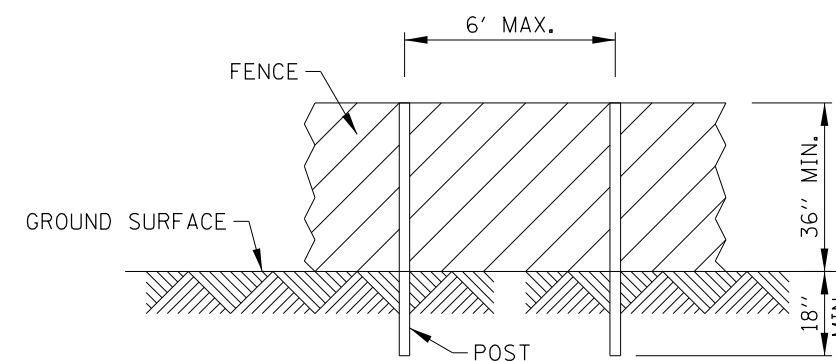
SIDE VIEW



INLET COVER
 STANDARD SYMBOL

NOTES:

1. MONOFILAMENT FABRIC INLET PROTECTION SHALL CONSIST OF INLET BASKET, FRAME AND FABRIC INSERT.
2. DEVICE SHALL BE EQUIPPED WITH AN OVERFLOW FEATURE SO DRAINAGE TO INLET IS NOT COMPLETELY BLOCKED IF DEVICE IS FULL OF SILT.
3. INLET BASKET IS AVAILABLE TO FIT ROUND, RECTANGULAR, BEEHIVE OR CURB INLET CASTINGS.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED. REMOVE SILT FROM FABRIC INSERT WHEN 50% OF CAPACITY IS REACHED. REMOVE SILT FROM INTERIOR AND EXTERIOR OF INLET COVER WHEN 50% OF COVER HEIGHT IS REACHED.

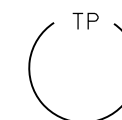


POST AND FENCE DETAIL


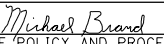
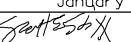
NOTES:

1. THE FENCE SHALL BE LOCATED 1 FOOT MINIMUM OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED AND IN NO CASE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE.
2. THE FENCE SHALL BE HIGH VISIBILITY PLASTIC OR WOOD LATH SNOW FENCE TO CLEARLY DELINEATE THE PROTECTION AREA.
3. USED TO PROTECT TREES FROM DISTURBANCE AND FROM EQUIPMENT TRAVELING OVER THE ROOT ZONE.

TREE PROTECTION
STANDARD SYMBOL



ABV	ABOVE	CU YD	CUBIC YARD	HD	HEAD	PED	PEDESTAL	STD	STANDARD
A/C	ACCESS CONTROL	CULV	CULVERT	HDW	HEADWALL	PNT	POINT	SBI	STATE BOND ISSUE
AC	ACRE	C&G	CURB & GUTTER	HDUTY	HEAVY DUTY	PC	POINT OF CURVATURE	SR	STATE ROUTE
ADJ	ADJUST	D	DEGREE OF CURVE	ha	HECTARE	PI	POINT OF INTERSECTION OF HORIZONTAL CURVE	STA	STATION
AS	AERIAL SURVEYS	DC	DEPRESSED CURVE	HMA	HOT MIX ASPHALT			SPBGR	STEEL PLATE BEAM GUARDRAIL
AGG	AGGREGATE	DET	DETECTOR	HWY	HIGHWAY	PRC	POINT OF REVERSE CURVE	SS	STORM SEWER
AH	AHEAD	DIA	DIAMETER	HORIZ	HORIZONTAL	PT	POINT OF TANGENCY	STY	STORY
APT	APARTMENT	DIST	DISTRICT	HSE	HOUSE	POT	POINT ON TANGENT	ST	STREET
ASPH	ASPHALT	DOM	DOMESTIC	IL	ILLINOIS	POLYETH	POLYETHYLENE	STR	STRUCTURE
AUX	AUXILIARY	DBL	DOUBLE	IMP	IMPROVEMENT	PCC	PORTLAND CEMENT CONCRETE	e	SUPERELEVATION RATE
AGS	AUXILIARY GAS VALVE (SERVICE)	DSEL	DOWNSTREAM ELEVATION	IN DIA	INCH DIAMETER	PP	POWER POLE OR PRINCIPAL POINT	S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
AVE	AVENUE	DSFL	DOWNSTREAM FLOWLINE	INL	INLET	PRM	PRIME	SURF	SURFACE
AX	AXIS OF ROTATION	DR	DRAINAGE OR DRIVE	INST	INSTALLATION	PE	PRIVATE ENTRANCE	SMK	SURVEY MARKER
BK	BACK	DI	DRAINAGE INLET OR DROP INLET	IDS	INTERSECTION DESIGN STUDY	PROF	PROFILE	T	TANGENT DISTANCE
B-B	BACK TO BACK	DRV	DRIVEWAY	INV	INVERT	PGL	PROFILE GRADELINE	T.R.	TANGENT RUNOUT DISTANCE
BKPL	BACKPLATE	DCT	DUCT	IP	IRON PIPE	PROJ	PROJECT	TEL	TELEPHONE
B	BARN	EA	EACH	IR	IRON ROD	P.C.	PROPERTY CORNER	TB	TELEPHONE BOX
BARR	BARRICADE	EB	EASTBOUND	JT	JOINT	PL	PROPERTY LINE	TP	TELEPHONE POLE
BGN	BEGIN	EOP	EDGE OF PAVEMENT	kg	KILOGRAM	PR	PROPOSED	TEMP	TEMPORARY
BM	BENCHMARK	E-CL	EDGE TO CENTERLINE	km	KILOMETER	R	RADIUS	TBM	TEMPORARY BENCH MARK
BIND	BINDER	E-E	EDGE TO EDGE	LS	LANDSCAPING	RR	RAILROAD	TD	TILE DRAIN
BIT	BITUMINOUS	EL	ELEVATION	LN	LANE	RRS	RAILROAD SPIKE	TBE	TO BE EXTENDED
BTM	BOTTOM	ENTR	ENTRANCE	LT	LEFT	RPS	REFERENCE POINT STAKE	TBR	TO BE REMOVED
BLVD	BOULEVARD	EXC	EXCAVATION	LP	LIGHT POLE	REF	REFLECTIVE	TBS	TO BE SAVED
BRK	BRICK	EX	EXISTING	LGT	LIGHTING	RCCP	REINFORCED CONCRETE CULVERT PIPE	TWP	TOWNSHIP
BBOX	BUFFALO BOX	EXPWAY	EXPRESSWAY	LF	LINEAL FEET OR LINEAR FEET	REINF	REINFORCEMENT	TR	TOWNSHIP ROAD
BLDG	BUILDING	E	EXTERNAL DISTANCE OF HORIZONTAL CURVE	L	LITER OR CURVE LENGTH	REM	REMOVAL	TS	TRAFFIC SIGNAL
CIP	CAST IRON PIPE	E	OFFSET DISTANCE TO VERTICAL CURVE	LC	LONG CHORD	RC	REMOVE CROWN	TSCB	TRAFFIC SIGNAL CONTROL BOX
CB	CATCH BASIN	F-F	FACE TO FACE	LNG	LONGITUDINAL	REP	REPLACEMENT	TSC	TRAFFIC SYSTEMS CENTER
C-C	CENTER TO CENTER	FA	FEDERAL AID	L SUM	LUMP SUM	REST	RESTAURANT	TRVS	TRANSVERSE
CL	CENTERLINE OR CLEARANCE	FAI	FEDERAL AID INTERSTATE	MACH	MACHINE	RESURF	RESURFACING	TRVL	TRAVEL
CL-E	CENTERLINE TO EDGE	FAP	FEDERAL AID PRIMARY	MB	MAIL BOX	RET	RETAINING	TRN	TURN
CL-F	CENTERLINE TO FACE	FAS	FEDERAL AID SECONDARY	MH	MANHOLE	RT	RIGHT	TY	TYPE
CTS	CENTERS	FAUS	FEDERAL AID URBAN SECONDARY	MATL	MATERIAL	ROW	RIGHT-OF-WAY	T-A	TYPE A
CERT	CERTIFIED	FP	FENCE POST	MED	MATERIAL	RD	ROAD	TYP	TYPICAL
CHSLD	CHISELED	FE	FIELD ENTRANCE	m	METER	RDWY	ROADWAY	UNDGND	UNDERGROUND
CS	CITY STREET	FH	FIRE HYDRANT	METH	METHOD	RTE	ROUTE	USGS	U.S. GEOLOGICAL SURVEY
CP	CLAY PIPE	FL	FLOW LINE	M	MID-ORDINATE	SAN	SANITARY	USEL	UPSTREAM ELEVATION
CLSD	CLOSED	FB	FOOT BRIDGE	mm	MILLIMETER	SANS	SANITARY SEWER	USFL	UPSTREAM FLOWLINE
CLID	CLOSED LID	FDN	FOUNDATION	mm DIA	MILLIMETER DIAMETER	SEC	SECTION	UTIL	UTILITY
CT	COAT OR COURT	FR	FRAME	MIX	MIXTURE	SEED	SEEDING	VBOX	VALVE BOX
COMB	COMBINATION	F&G	FRAME & GRATE	MBH	MOBILE HOME	SHAP	SHAPING	VV	VALVE VAULT
C	COMMERCIAL BUILDING	FRWAY	FREEWAY	MOD	MODIFIED	S	SHED	VLV	VAULT
CE	COMMERCIAL ENTRANCE	GAL	GALLON	MFT	MOTOR FUEL TAX	SH	SHEET	VEH	VEHICLE
CONC	CONCRETE	GALV	GALVANIZED	N & BC	NAIL & BOTTLE CAP	SHLD	SHOULDER	VP	VENT PIPE
CONST	CONSTRUCT	G	GARAGE	N & C	NAIL & CAP	SW	SIDEWALK OR SOUTHWEST	VERT	VERTICAL
CONTD	CONTINUED	GM	GAS METER	N & W	NAIL & WASHER	SIG	SIGNAL	VC	VERTICAL CURVE
CONT	CONTINUOUS	GV	GAS VALVE	NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION	SOD	SODDING	VPC	VERTICAL POINT OF CURVATURE
COR	CORNER	GRAN	GRANULAR	NC	NORMAL CROWN	SM	SOLID MEDIUM	VPI	VERTICAL POINT OF INTERSECTION
CORR	CORRUGATED	GR	GRATE	NB	NORTHBOUND	SB	SOUTHBOUND	VPT	VERTICAL POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	GRVL	GRAVEL	NE	NORTHEAST	SE	SOUTHEAST	WM	WATER METER
CNTY	COUNTY	GND	GROUND	NW	NORTHWEST	SPL	SPECIAL	WV	WATER VALVE
CH	COUNTY HIGHWAY	GUT	GUTTER	OLID	OPEN LID	SD	SPECIAL DITCH	WMAIN	WATER MAIN
CSE	COURSE	GP	GUY POLE	PAT	PATTERN	SQ FT	SQUARE FEET	WB	WESTBOUND
XSECT	CROSS SECTION	GW	GUY WIRE	PVD	PAVED	m ²	SQUARE METER	WILDFL	WILDFLOWERS
m ³	CUBIC METER	HH	HANDHOLE	PVMT	PAVEMENT	mm ²	SQUARE MILLIMETER	W	WITH
mm ³	CUBIC MILLIMETER	HATCH	HATCHING	PM	PAVEMENT MARKING	SQ YD	SQUARE YARD	WO	WITHOUT

 Illinois Department of Transportation	
PASSED	January 1, 2011
 ENGINEER OF POLICY AND PROCEDURES	
APPROVED	January 1, 2011
 ENGINEER OF DESIGN AND ENVIRONMENT	

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Updated abbreviations and symbols.
1-1-08	Updated abbreviations and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 1 of 8)

STANDARD 000001-06

<u>ADJUSTMENT ITEMS</u>			<u>ALIGNMENT ITEMS</u>			<u>CONTOUR ITEMS</u>		
	<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>
Structure To Be Adjusted		ADJ	Baseline			Approx. Index Line		
Structure To Be Cleaned		C	Centerline			Approx. Intermediate Line		
Main Structure To Be Filled		FM	Centerline Break Circle			Index Contour		
Structure To Be Filled		F	Baseline Symbol			Intermediate Contour		
Structure To Be Filled Special		FSP	Centerline Symbol			<u>DRAINAGE ITEMS</u>		
Structure To Be Removed		R	PI Indicator			Channel or Stream Line		
Structure To Be Reconstructed		REC	Point Indicator			Culvert Line		
Structure To Be Reconstructed Special		RSP	Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	Grading & Shaping Ditches		
Frame and Grate To Be Adjusted		A	<u>BOUNDARIES ITEMS</u>					
Frame and Lid To Be Adjusted		A	Dashed Property Line			Drainage Boundary Line		
Domestic Service Box To Be Adjusted		A	Solid Property/Lot Line			Paved Ditch		
Valve Vault To Be Adjusted		A	Section/Grant Line			Aggregate Ditch		
Special Adjustment		SP	Quarter Section Line			Pipe Underdrain		
Item To Be Abandoned		AB	Quarter/Quarter Section Line			Storm Sewer		
Item To Be Moved		M	County/Township Line			Flowline		
Item To Be Relocated		REL	State Line			Ditch Check		
Pavement Removal and Replacement			Iron Pipe Found			Headwall		
			Iron Pipe Set			Inlet		
			Survey Marker			Manhole		
			Property Line Symbol			Summit		
			Same Ownership Symbol (Half Size)			Roadway Ditch Flow		
			Northwest Quarter Corner (Half Size)			Swale		
			Section Corner (Half Size)			Catch Basin		
			Southeast Quarter Corner (Half Size)			Culvert End Section		
						Water Surface Indicator		
						Riprap		

Illinois Department of Transportation
 PASSED January 1, 2011
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2011
Scott Schick
 ENGINEER OF DESIGN AND ENVIRONMENT

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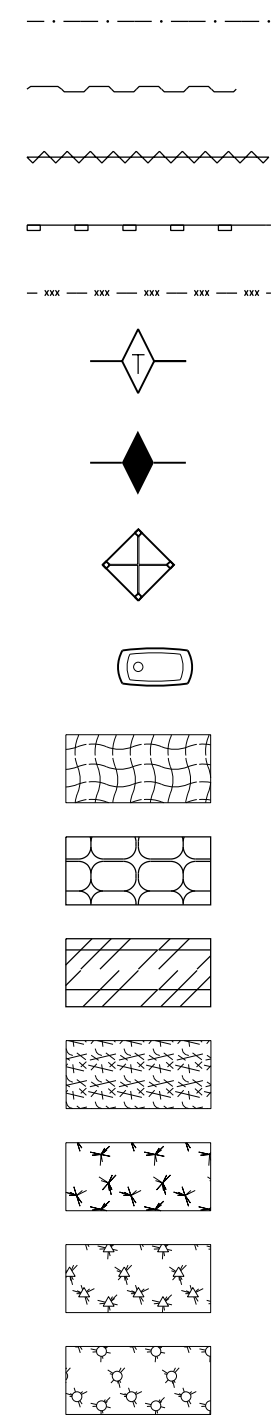
**STANDARD SYMBOLS,
 ABBREVIATIONS
 AND PATTERNS**
 (Sheet 2 of 8)
STANDARD 000001-06

EROSION & SEDIMENT CONTROL ITEMS

EX

PR

- Cleaning & Grading Limits
- Dike
- Erosion Control Fence
- Perimeter Erosion Barrier
- Temporary Fence
- Ditch Check Temporary
- Ditch Check Permanent
- Inlet & Pipe Protection
- Sediment Basin
- Erosion Control Blanket
- Fabric Formed Concrete Revetment Mat
- Turf Reinforcement Mat
- Mulch Temporary
- Mulch Method 1
- Mulch Method 2 Stabilized
- Mulch Method 3 Hydraulic

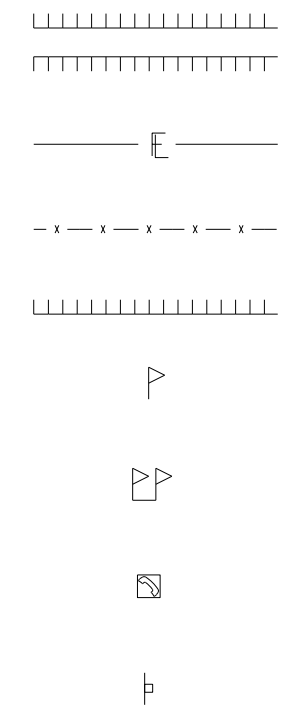


NON-HIGHWAY IMPROVEMENT ITEMS

EX

PR

- Noise Attn./Levee
- Field Line
- Fence
- Base of Levee
- Mailbox
- Multiple Mailboxes
- Pay Telephone
- Advertising Sign

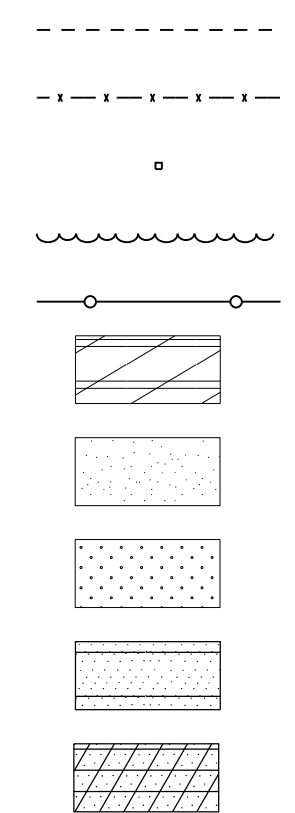


LANDSCAPING ITEMS

EX

PR

- Contour Mounding Line
- Fence
- Fence Post
- Shrubs
- Mowline
- Perennial Plants
- Seeding Class 2
- Seeding Class 2A
- Seeding Class 4
- Seeding Class 4 & 5 Combined

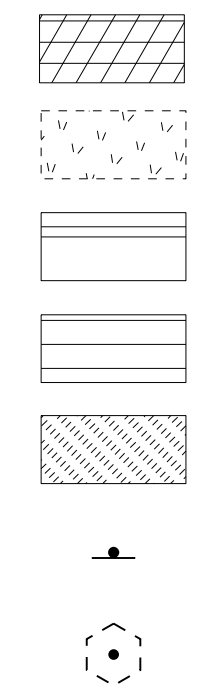


EXISTING LANDSCAPING ITEMS (contd.)

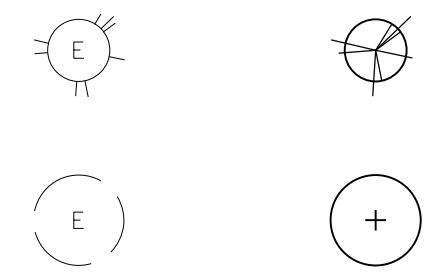
EX

PR

- Seeding Class 5
- Seeding Class 7
- Seedlings Type 1
- Seedlings Type 2
- Sodding
- Mowstake w/Sign
- Tree Trunk Protection



- Evergreen Tree
- Shade Tree

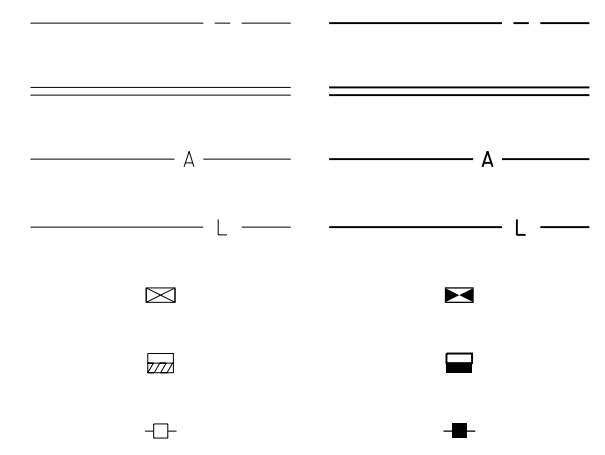


LIGHTING

EX

PR

- Duct
- Conduit
- Electrical Aerial Cable
- Electrical Buried Cable
- Controller
- Underpass Luminaire
- Power Pole



STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 3 of 8)

STANDARD 000001-06

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**LIGHTING
(contd.)**

	EX	PR
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

PAVEMENT (MISC.)

	EX	PR
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

PAVEMENT MARKINGS

	EX	PR
Bike Lane Symbol		
Bike Lane Text		
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		

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 (Sheet 4 of 8)

STANDARD 000001-06

PAVEMENT MARKINGS

(contd.)

Urban Combination Left

EX



PR



Urban Combination Right



Urban Left Turn Arrow



Urban Right Turn Arrow



Urban Left Turn Only



ONLY ONLY ONLY



Urban Right Turn Only



Urban Thru Only



Urban U-Turn



Urban Combined U-Turn



Rural Combination Left



Rural Combination Right



Rural Left Turn Arrow



Rural Right Turn Arrow



Rural Left Turn Only



ONLY ONLY ONLY



Rural Right Turn Only



ONLY ONLY ONLY



Rural Thru Only



ONLY ONLY ONLY

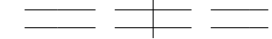


RAILROAD ITEMS

EX

PR

Abandoned Railroad



Railroad



Railroad Point



Control Box



Crossing Gate



Flashing Signal



Railroad Cant. Mast Arm



Crossbuck

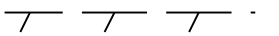


REMOVAL ITEMS

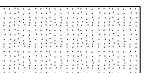
EX

PR

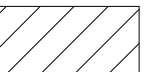
Removal Tic



Bituminous Removal



Hatch Pattern



Tree Removal Single



RIGHT OF WAY ITEMS

EX

PR

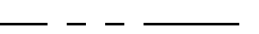
Future ROW Corner Monument



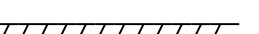
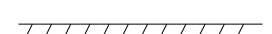
ROW Marker



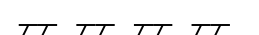
ROW Line



Easement



Temporary Easement



**STANDARD SYMBOLS,
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STANDARD 000001-06

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RIGHT OF WAY ITEMS
(contd.)

	EX	PR
Access Control Line	— AC —————	— AC —————
Access Control Line & ROW	— AC —————	— AC —————
Access Control Line & ROW with Fence	— x ————— AR —	— x — AC — x —
Excess ROW Line		— XS —————

ROADWAY PLAN
ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement	-----	-----
Bit Shoulders, Medians and C&G Line	-----	-----
Aggregate Shoulder	-----	-----
Sidewalks, Driveways	-----	-----
Guardrail		
Guardrail Post	□	
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)		
Match Line		STA. 45+00
Slope Limit Line	-----	
Typical Cross-Section Line	-----	-----

ROADWAY PROFILES

	EX	PR
P.I. Indicator	△	△
Point Indicator	○	○
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV = L = E =	VPI = ELEV = L = E =
Ditch Profile Left Side	-----	-----
Ditch Profile Right Side	-----	-----
Roadway Profile Line	-----	-----
Storm Sewer Profile Left Side	-----	-----
Storm Sewer Profile Right Side	-----	-----

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		○
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		○
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS
(contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(0) (Half Size)		
Left Lane Closed Ahead W20-5L(0) (Half Size)		
Right Lane Closed Ahead W20-5R(0) (Half Size)		
Road Closed Ahead W20-3(0) (Half Size)		
Road Construction Ahead W20-1(0) (Half Size)		
Single Lane Ahead (Half Size)		
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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**STANDARD SYMBOLS,
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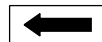
STANDARD 000001-06

SIGNING ITEMS
(contd.)

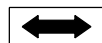
EX

PR

One Way Arrow Lrg. W1-6-(0)
(Half Size)



Two Way Arrow Large W1-7-(0)
(Half Size)



Detour M4-10L-(0)
(Half Size)



Detour M4-10R-(0)
(Half Size)



One Way Left R6-1L
(Half Size)



One Way Right R6-1R
(Half Size)



Left Turn Lane R3-I100L
(Half Size)



Keep Left R4-7AL
(Half Size)



Keep Left R4-7BL
(Half Size)



Keep Right R4-7AR
(Half Size)



Keep Right R4-7BR
(Half Size)



Stop Here On Red R10-6-AL
(Half Size)



Stop Here On Red R10-6-AR
(Half Size)



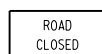
No Left Turn R3-2
(Half Size)



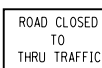
No Right Turn R3-1
(Half Size)



Road Closed R11-2
(Half Size)



Road Closed Thru Traffic R11-2
(Half Size)



STRUCTURES ITEMS

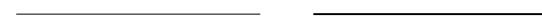
EX

PR

Box Culvert Barrel



Box Culvert Headwall



Bridge Pier



Bridge



Retaining Wall



Temporary Sheet Piling



TRAFFIC SHEET
ITEMS

EX

PR

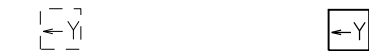
Cable Number



Left Turn Green



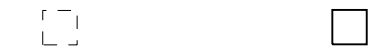
Left Turn Yellow



Signal Backplate



Signal Section 8" (200 mm)



Signal Section 12" (300 mm)



Walk/Don't Walk Letters



Walk/Don't Walk Symbols



TRAFFIC SIGNAL
ITEMS

EX

PR

Galv. Steel Conduit



Underground Cable



Detector Loop Line



Detector Loop Large



Detector Loop Small



Detector Loop Quadrapole



STANDARD SYMBOLS,
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TRAFFIC SIGNAL ITEMS (contd.)

	EX	PR
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

UNDERGROUND UTILITY ITEMS

	EX	PR	ABANDONED
Cable TV			
Electric Cable			
Fiber Optic			
Gas Pipe			
Oil Pipe			
Sanitary Sewer			
Telephone Cable			
Water Pipe			

UTILITIES ITEMS

	EX	PR
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	EX	PR
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line		

VEGETATION ITEMS

	EX	PR
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		


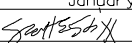
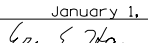
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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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STANDARD 000001-06

REINFORCEMENT BARS - ENGLISH (METRIC)																	
Bar Size English (metric)	Dia. in. mm	Cross- Sectional Area sq. in. (sq. mm)	Weight lbs./ft. kg/m	SPACING, in. (mm)													
				4 (100)	4½ (115)	5 (125)	5½ (140)	6 (150)	6½ (165)	7 (175)	7½ (190)	8 (200)	8½ (215)	9 (225)	10 (250)	11 (275)	12 (300)
				AREA OF STEEL PER FOOT (METER), sq. in. (sq. mm)													
3 (10)	0.375 (9.5)	0.110 (71)	0.376 (0.560)	0.330 (710)	0.293 (617)	0.264 (568)	0.240 (507)	0.220 (473)	0.203 (430)	0.189 (406)	0.176 (374)	0.165 (355)	0.155 (330)	0.147 (316)	0.132 (284)	0.120 (258)	0.110 (237)
4 (13)	0.500 (12.7)	0.196 (129)	0.668 (0.944)	0.588 (1290)	0.523 (1122)	0.470 (1032)	0.428 (921)	0.392 (860)	0.362 (782)	0.336 (737)	0.314 (679)	0.294 (645)	0.277 (600)	0.261 (573)	0.235 (516)	0.214 (469)	0.196 (430)
5 (16)	0.625 (15.9)	0.307 (199)	1.043 (1.552)	0.921 (1990)	0.819 (1730)	0.737 (1592)	0.670 (1421)	0.614 (1327)	0.567 (1206)	0.526 (1137)	0.491 (1047)	0.461 (995)	0.433 (926)	0.409 (884)	0.368 (796)	0.335 (724)	0.307 (663)
6 (19)	0.750 (19.1)	0.442 (284)	1.502 (2.235)	1.326 (2840)	1.179 (2470)	1.061 (2272)	0.964 (2029)	0.884 (1893)	0.816 (1721)	0.758 (1623)	0.707 (1495)	0.663 (1420)	0.624 (1321)	0.589 (1262)	0.530 (1136)	0.482 (1033)	0.442 (947)
7 (22)	0.875 (22.2)	0.601 (387)	2.044 (3.042)	1.803 (3870)	1.603 (3365)	1.442 (3096)	1.311 (2764)	1.202 (2580)	1.110 (2345)	1.030 (2211)	0.962 (2037)	0.902 (1935)	0.848 (1800)	0.801 (1720)	0.721 (1548)	0.656 (1407)	0.601 (1290)
8 (25)	1.000 (25.4)	0.785 (510)	2.670 (3.973)	2.355 (5100)	2.093 (4435)	1.884 (4080)	1.713 (3543)	1.570 (3400)	1.449 (3091)	1.346 (2914)	1.256 (2684)	1.178 (2550)	1.108 (2372)	1.047 (2267)	0.942 (2040)	0.856 (1855)	0.785 (1700)
9 (29)	1.128 (28.7)	1.000 (645)	3.400 (5.060)	3.000 (6450)	2.667 (5609)	2.400 (5160)	2.182 (4607)	2.000 (4300)	1.846 (3909)	1.714 (3686)	1.600 (3395)	1.500 (3225)	1.412 (3000)	1.333 (2867)	1.200 (2580)	1.091 (2345)	1.000 (2150)
10 (32)	1.270 (32.3)	1.267 (819)	4.303 (6.404)	3.801 (8190)	3.379 (7122)	3.041 (6552)	2.764 (5850)	2.534 (5460)	2.339 (4964)	2.172 (4680)	2.027 (4311)	1.901 (4095)	1.789 (3809)	1.689 (3640)	1.520 (3276)	1.382 (2978)	1.267 (2730)
11 (36)	1.410 (35.8)	1.561 (1006)	5.313 (7.907)	4.683 (10060)	4.163 (8748)	3.746 (8048)	3.406 (7186)	3.122 (6707)	2.882 (6097)	2.676 (5749)	2.498 (5295)	2.342 (5030)	2.204 (4679)	2.081 (4471)	1.873 (4024)	1.703 (3658)	1.561 (3353)

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DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Deleted metric table. Soft converted English table.

AREAS OF REINFORCEMENT BARS

STANDARD 001001-02

DECIMAL OF AN INCH AND OF A FOOT

A		B	A		B	A		B	A		B	A		B	A		B
1/64	0.0052	1/16	11/64	0.171875	2 1/16	11/32	0.3385	4 1/16	33/64	0.5052	6 1/16	43/64	0.671875	8 1/16	27/32	0.8385	10 1/16
	0.0104	1/8		0.1771	2 1/8		0.34375	4 1/8		0.5104	6 1/8		0.6771	8 1/8		0.84375	10 1/8
	0.015625	3/16		0.1823	2 3/16		0.3490	4 3/16		0.515625	6 3/16		0.6823	8 3/16		0.8490	10 3/16
	0.0208	1/4		0.1875	2 1/4		0.3542	4 1/4		0.5208	6 1/4		0.6875	8 1/4		0.8542	10 1/4
1/32	0.0260	5/16	13/64	0.1927	2 5/16	23/64	0.359375	4 5/16	17/32	0.5260	6 5/16	45/64	0.6927	8 5/16	55/64	0.859375	10 5/16
	0.03125	3/8		0.1979	2 3/8		0.3646	4 3/8		0.53125	6 3/8		0.6979	8 3/8		0.8646	10 3/8
	0.0365	7/16		0.203125	2 7/16		0.3698	4 7/16		0.5365	6 7/16		0.703125	8 7/16		0.8698	10 7/16
	0.0417	1/2		0.2083	2 1/2		0.3750	4 1/2		0.5417	6 1/2		0.7083	8 1/2		0.8750	10 1/2
3/64	0.046875	9/16	7/32	0.2135	2 9/16	25/64	0.3802	4 9/16	35/64	0.546875	6 9/16	23/32	0.7135	8 9/16	57/64	0.8802	10 9/16
	0.0521	5/8		0.21875	2 5/8		0.3854	4 5/8		0.5521	6 5/8		0.71875	8 5/8		0.8854	10 5/8
	0.0573	11/16		0.2240	2 11/16		0.390625	4 11/16		0.5573	6 11/16		0.7240	8 11/16		0.890625	10 11/16
	0.0625	3/4		0.2292	2 3/4		0.3958	4 3/4		0.5625	6 3/4		0.7292	8 3/4		0.8958	10 3/4
5/64	0.0677	13/16	5/64	0.234375	2 13/16	13/32	0.4010	4 13/16	37/64	0.5677	6 13/16	47/64	0.734375	8 13/16	29/32	0.9010	10 13/16
	0.0729	7/8		0.2396	2 7/8		0.40625	4 7/8		0.5729	6 7/8		0.7396	8 7/8		0.90625	10 7/8
	0.078125	15/16		0.2448	2 15/16		0.4115	4 15/16		0.578125	6 15/16		0.7448	8 15/16		0.9115	10 15/16
	0.0833	1		0.2500	3		0.4167	5		0.5833	7		0.7500	9		0.9167	11
3/32	0.0885	1 1/16	11/64	0.2552	3 1/16	27/64	0.421875	5 1/16	19/32	0.5885	7 1/16	49/64	0.7552	9 1/16	59/64	0.921875	11 1/16
	0.09375	1 1/8		0.2604	3 1/8		0.4271	5 1/8		0.59375	7 1/8		0.7604	9 1/8		0.9271	11 1/8
	0.0990	1 3/16		0.265625	3 3/16		0.4323	5 3/16		0.5990	7 3/16		0.765625	9 3/16		0.9323	11 3/16
	0.1042	1 1/4		0.2708	3 1/4		0.4375	5 1/4		0.6042	7 1/4		0.7708	9 1/4		0.9375	11 1/4
7/64	0.109375	1 5/16	9/32	0.2760	3 5/16	29/64	0.4427	5 5/16	39/64	0.609375	7 5/16	25/32	0.7760	9 5/16	61/64	0.9427	11 5/16
	0.1146	1 3/8		0.28125	3 3/8		0.4479	5 3/8		0.6146	7 3/8		0.78125	9 3/8		0.9479	11 3/8
	0.1198	1 7/16		0.2865	3 7/16		0.453125	5 7/16		0.6198	7 7/16		0.7865	9 7/16		0.953125	11 7/16
	0.1250	1 1/2		0.2917	3 1/2		0.4583	5 1/2		0.6250	7 1/2		0.7917	9 1/2		0.9583	11 1/2
9/64	0.1302	1 9/16	5/16	0.296875	3 9/16	15/32	0.4635	5 9/16	41/64	0.6302	7 9/16	13/16	0.796875	9 9/16	31/32	0.9635	11 9/16
	0.1354	1 5/8		0.3021	3 5/8		0.46875	5 5/8		0.6354	7 5/8		0.8021	9 5/8		0.96875	11 5/8
	0.140625	1 11/16		0.3073	3 11/16		0.4740	5 11/16		0.640625	7 11/16		0.8073	9 11/16		0.9740	11 11/16
	0.1458	1 3/4		0.3125	3 3/4		0.4792	5 3/4		0.6458	7 3/4		0.8125	9 3/4		0.9792	11 3/4
5/32	0.1510	1 13/16	21/64	0.3177	3 13/16	31/64	0.484375	5 13/16	23/32	0.6510	7 13/16	53/64	0.8177	9 13/16	63/64	0.984375	11 13/16
	0.15625	1 7/8		0.3229	3 7/8		0.4896	5 7/8		0.65625	7 7/8		0.8229	9 7/8		0.9896	11 7/8
	0.1615	1 15/16		0.328125	3 15/16		0.4948	5 15/16		0.6615	7 15/16		0.828125	9 15/16		0.9948	11 15/16
	0.1667	2		0.3333	4		0.5000	6		0.6667	8		0.8333	10		1.0000	12

A = Fractions of Inch or Foot
 B = Inch Equivalents to Foot Fractions

DATE	REVISIONS
1-1-97	New Standard.

**DECIMAL OF AN INCH
AND OF A FOOT**

STANDARD 001006

Illinois Department of Transportation

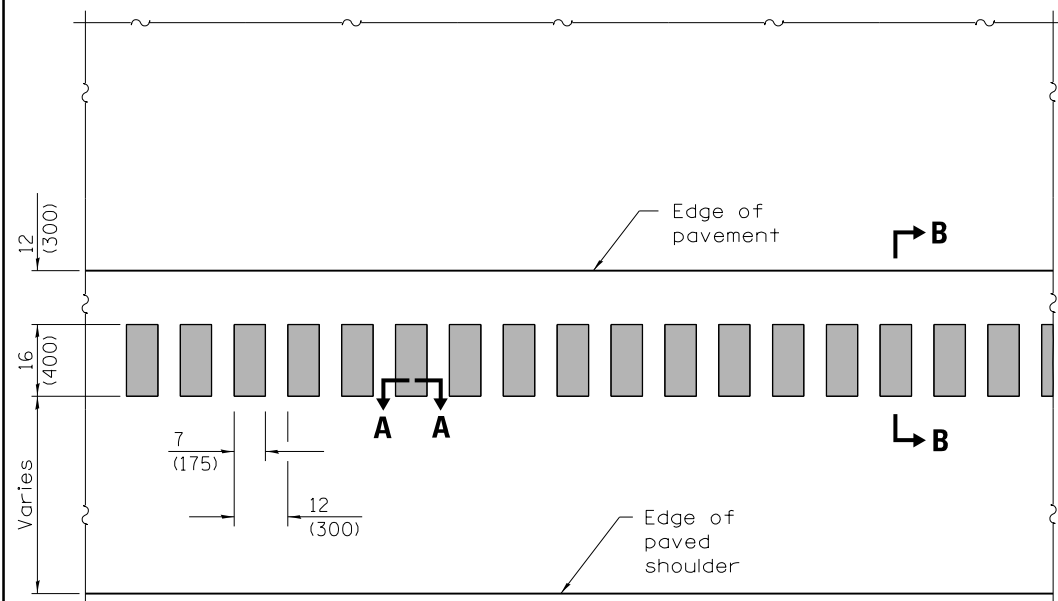
PASSED January 1, 1997

ENGINEER OF POLICY AND PROCEDURES

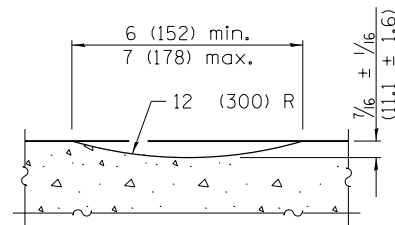
APPROVED January 1, 1997

ENGINEER OF DESIGN AND ENVIRONMENT

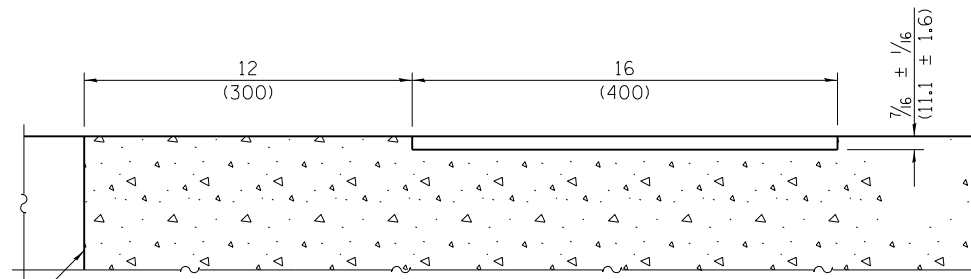
ISSUED 1-1-97



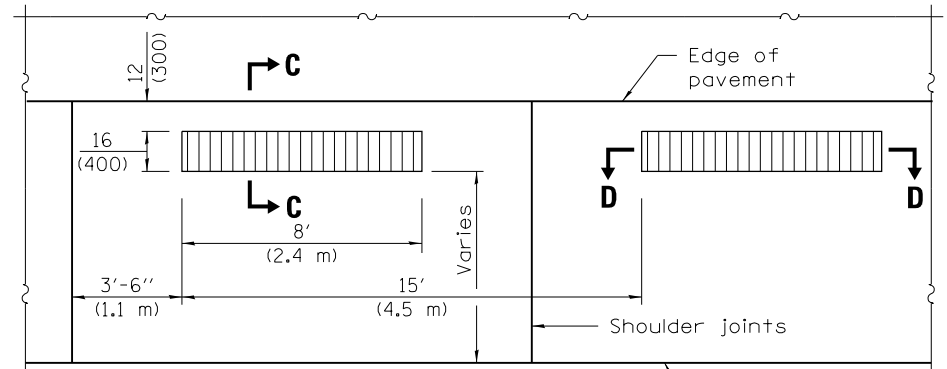
PLAN



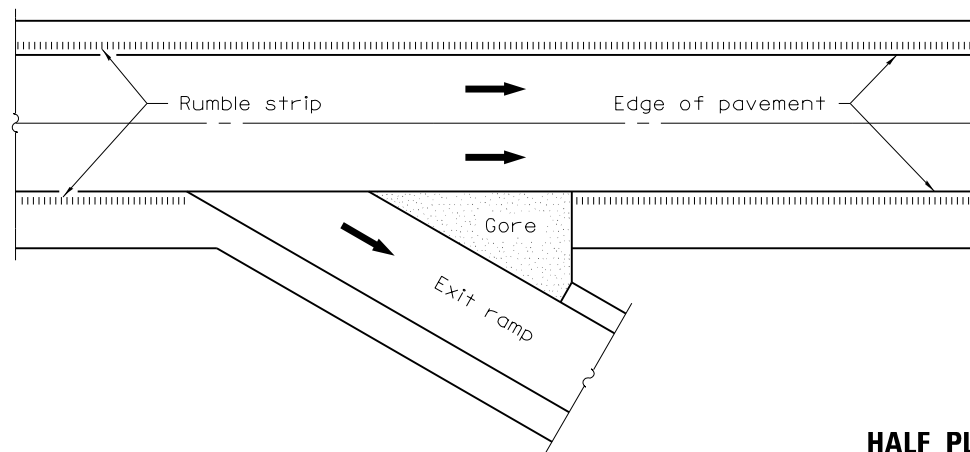
SECTION A-A



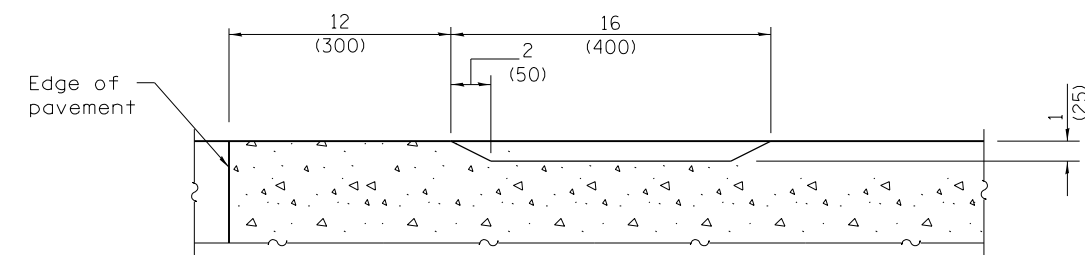
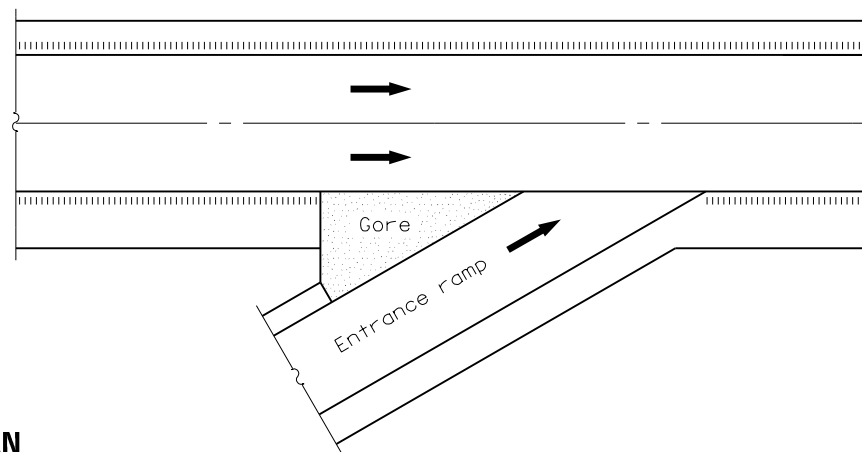
SECTION B-B



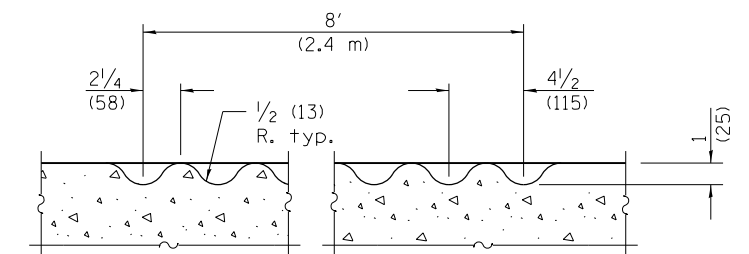
PLAN
(Formed Alternate for PCC Shoulders)



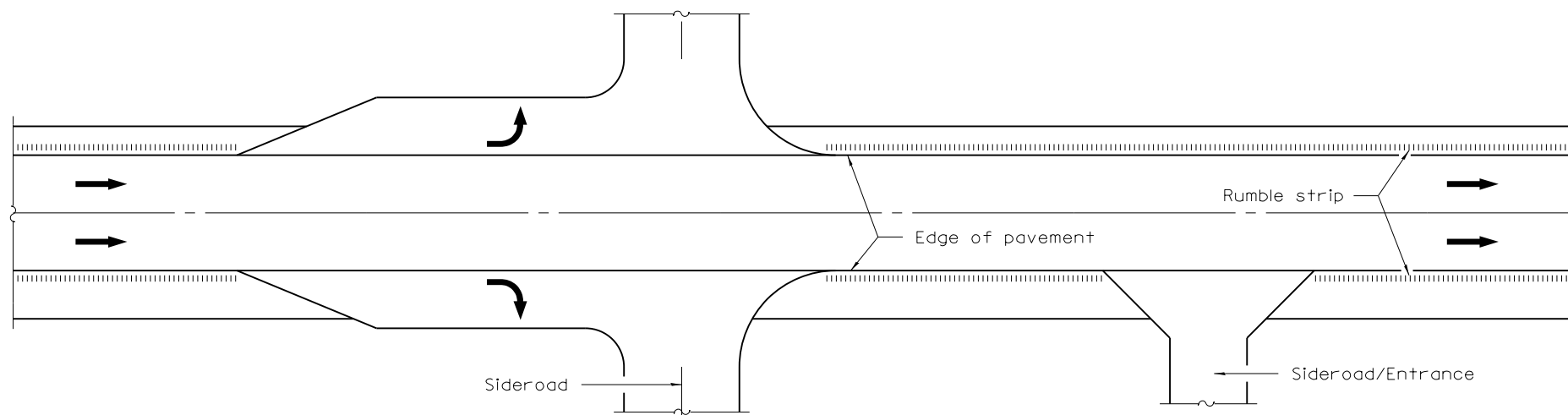
HALF PLAN
TYPICAL APPLICATION AT AN INTERCHANGE



SECTION C-C



SECTION D-D



HALF PLAN
TYPICAL APPLICATION AT AN INTERSECTION OR ENTRANCE

GENERAL NOTES

On Portland cement concrete shoulders, no shoulder rumble strip shall be located closer than 6 (150) to a transverse joint.

Omit shoulder rumble strips across structures.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-12	Changed formed rumble strip to 16 (400) wide. Rev'd milled strip. Renamed standard.
1-1-09	Switched units to English (metric).

SHOULDER RUMBLE STRIPS, 16 in.

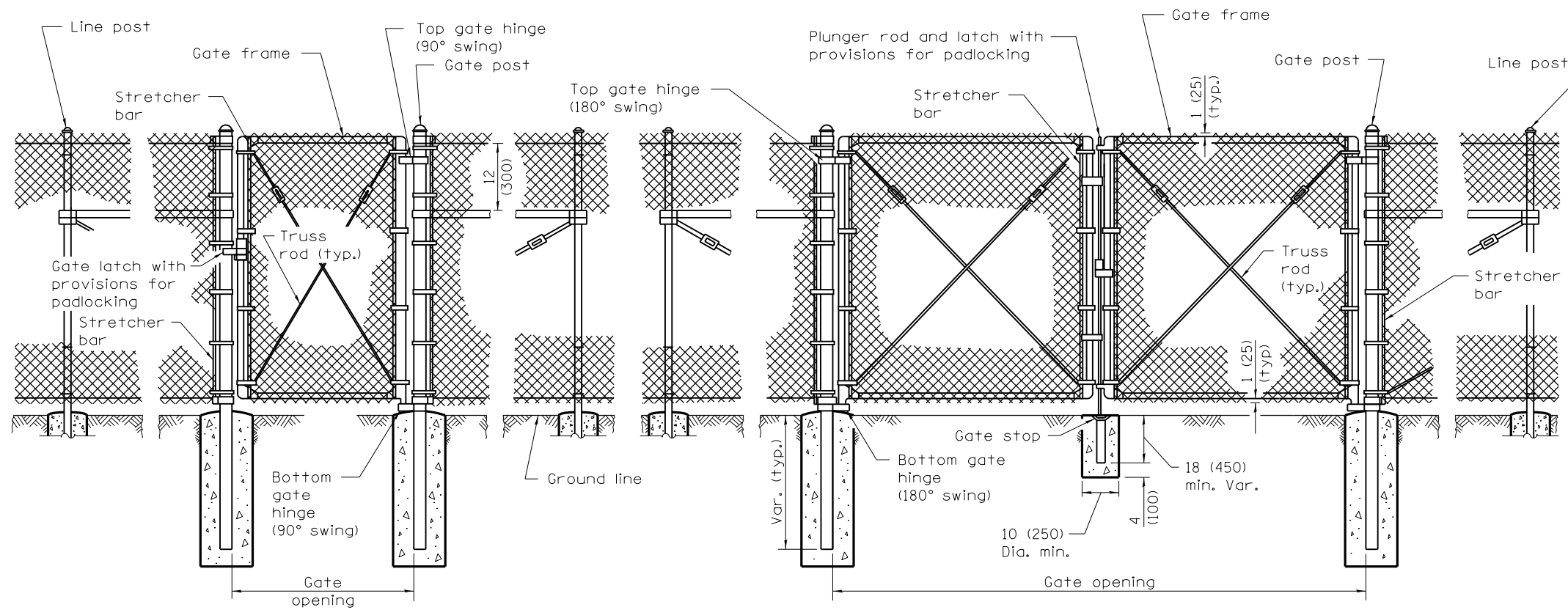
STANDARD 642001-02

Illinois Department of Transportation

PASSED January 1, 2012
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES

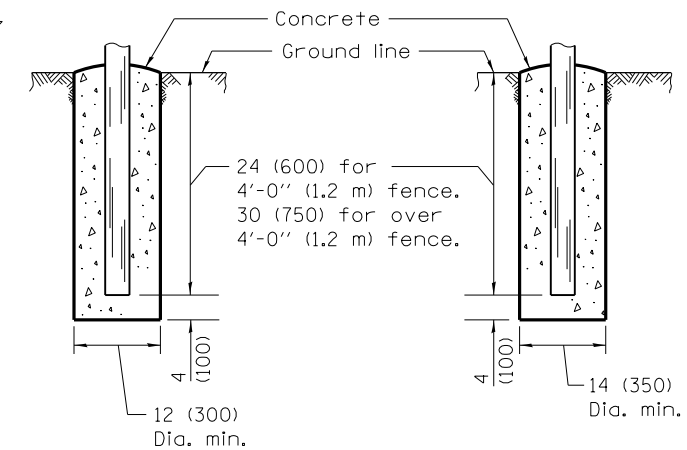
APPROVED January 1, 2012
Scott Esch
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-03



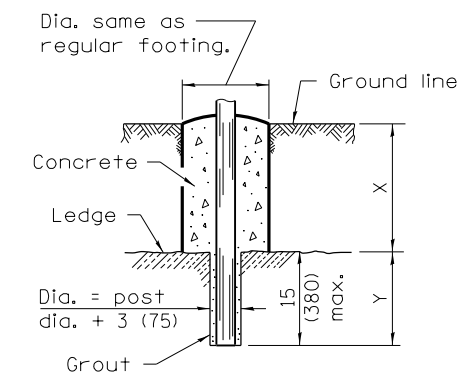
PEDESTRIAN GATE ARRANGEMENT

VEHICLE GATE ARRANGEMENT

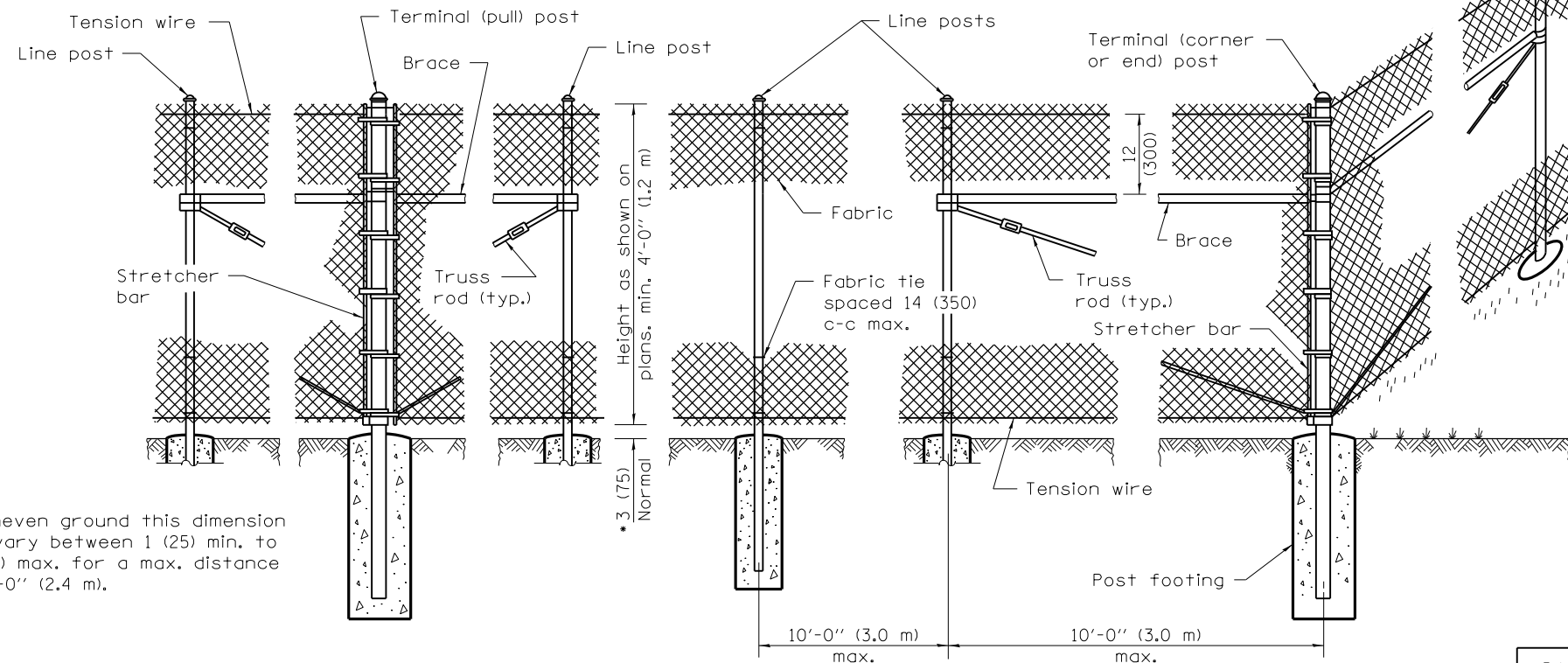


FOOTING FOR LINE POST

FOOTING FOR GATE & TERMINAL POST



FOOTING FOR POST IN ROCK LEDGE



PULL POST ARRANGEMENT

LINE POST ARRANGEMENT

CORNER OR END POST ARRANGEMENT

* On uneven ground this dimension may vary between 1 (25) min. to 5 (125) max. for a max. distance of 8'-0" (2.4 m).

GENERAL NOTES
 Pull posts shall be placed at locations determined by the Engineer. They shall be placed at 660' (200 m) intervals between posts to which the ends of the fabric are clamped or midway between such posts when the distance is less than 1320' (400 m) and greater than 660' (200 m).

X + Y shall not exceed 24 (600), 30 (750), or 36 (900), as applicable. When X is 0 - 9 (0 - 225), 15 (380), or 21 (525), then Y = 15 (375) and the post shall be shortened as required. When X exceeds 9 (225), 15 (380), or 21 (525), then Y shall be decreased correspondingly.

All dimensions are in inches (millimeters) unless otherwise shown.

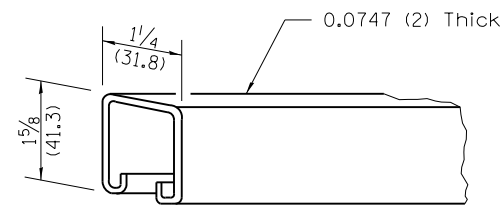
Illinois Department of Transportation	
PASSED	January 1, 2009
ENGINEER OF POLICY AND PROCEDURES	
APPROVED	January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	
ISSUED	1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-99	Rev. "pans" to "plans" in LINE POST ARRANGEMENT.

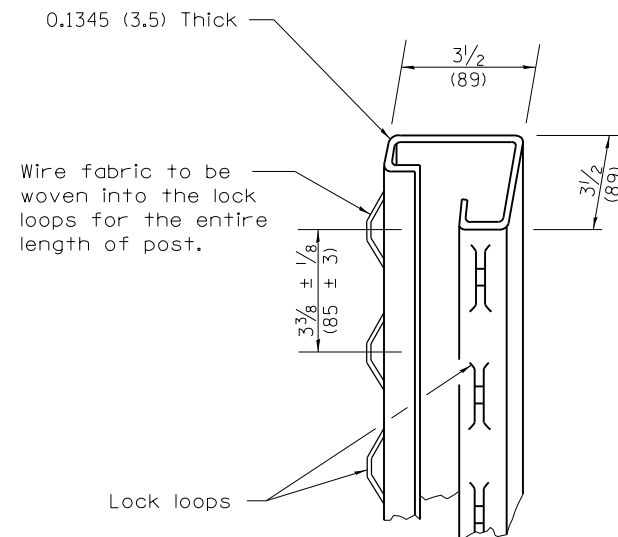
CHAIN LINK FENCE

(Sheet 1 of 3)

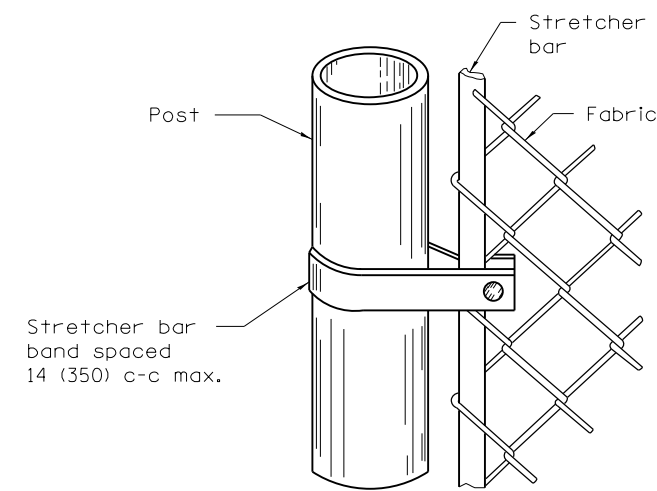
STANDARD 664001-02



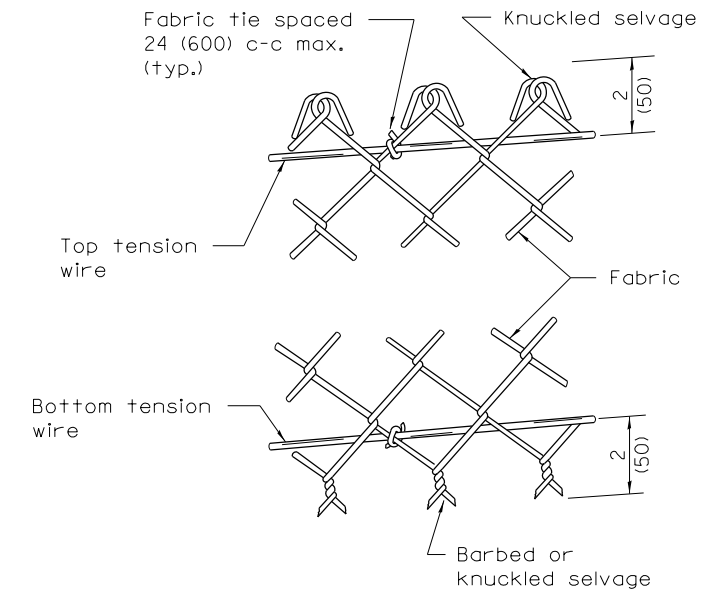
ROLL FORMED SECTION OF BRACE



ROLL FORMED SECTION OF TERMINAL & GATE POST



METHOD OF FASTENING STRETCHER BAR TO POST



METHOD OF TYING FABRIC TO TENSION WIRES

LINE POST	
Section	lbs./ft. (kg/m)
Pipe Type A 1.90 (48.3) O.D.	2.72 (4.05)
Pipe Type B 1.90 (48.3) O.D.	2.28 (3.39)
Pipe Type C 1.90 (48.3) O.D.	2.26 (3.36)
H 1.875x1.625 (47.6x41.3)	2.72 (4.05)
□	1.60 (2.38)
I	2.30 (3.42)

TERMINAL POST	
Section	lbs./ft. (kg/m)
Pipe Type A 2.375 (60.3) O.D.	3.65 (5.43)
Pipe Type B 2.375 (60.3) O.D.	3.11 (4.63)
Pipe Type C 2.375 (60.3) O.D.	3.09 (4.60)
Roll Formed 3 1/2 x 3 1/2 (89.0 x 89.0)	See detail
Sq. Tubing 2 1/2 x 2 1/2 (63.5 x 63.5)	4.32 (6.43)

HORIZONTAL BRACES	
Section	lbs./ft. (kg/m)
Pipe Type A 1.66 (42.2) O.D.	2.27 (3.38)
Pipe Type B 1.66 (42.2) O.D.	1.83 (2.72)
Pipe Type C 1.66 (42.2) O.D.	1.82 (2.71)
H 1.31x1.5 (33.3x38.1)	2.25 (3.35)
Roll Formed 1 5/8 x 1 1/4 (41.3 x 31.8)	See detail

GATE FRAMES	
Section	lbs./ft. (kg/m)
Pipe Type A 1.66 (42.2) O.D.	2.27 (3.38)
Pipe Type B 1.66 (42.2) O.D.	1.83 (2.72)
Pipe Type C 1.66 (42.2) O.D.	1.82 (2.71)

GATE POSTS *							
Gate Opening * ft. (m)		Pipe Type A		Sq. Tubing		Pipe Type B	
Single	Double	Size (O.D.)	lbs./ft. (kg/m)	Size	lbs./ft. (kg/m)	Size (O.D.)	kg/m (lbs./ft.)
Up to 4 (1.2)	Up to 8 (2.5)	2.375 (60.3)	3.65 (5.43)	2 1/2 (63.5)	4.32 (6.43)	2.375 (60.3)	3.11 (4.63)
Over 4 (1.2) to 8 (2.5)	Over 8 (2.5) to 16 (5.0)	2.875 (73.0)	5.79 (8.62)	3 (76.2)	5.78 (8.60)	2.875 (73.0)	4.64 (6.91)
Over 8 (2.5) to 12 (3.6)	Over 16 (5.0) to 24 (7.4)	3.5 (89.0)	7.58 (11.28)	3 (76.2)	8.80 (13.10)	3.5 (89)	5.707 (8.49)

* The 3 1/2 x 3 1/2 (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).

Illinois Department of Transportation

PASSED January 1, 2009

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2009

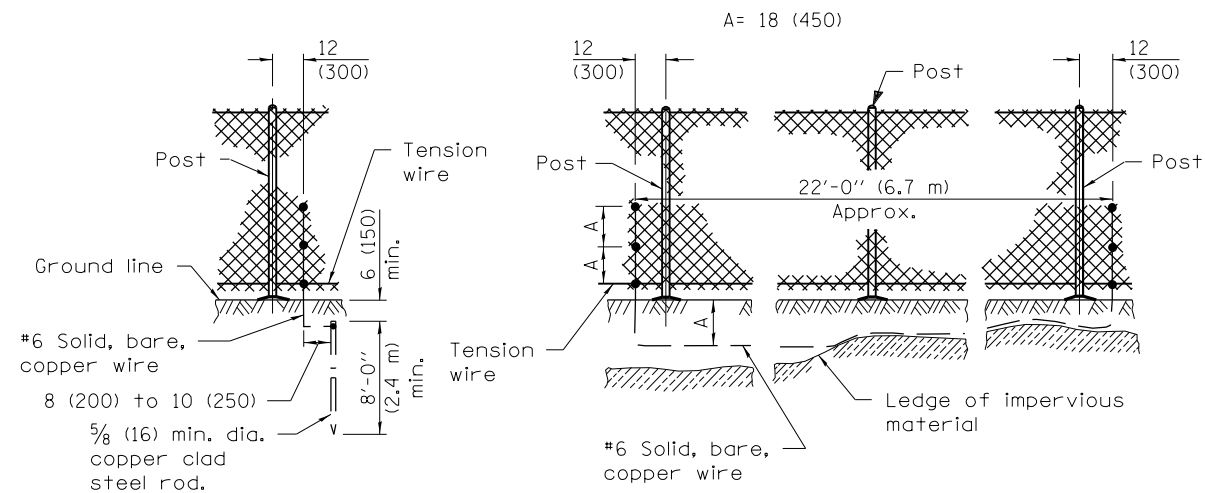
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

CHAIN LINK FENCE

(Sheet 2 of 3)

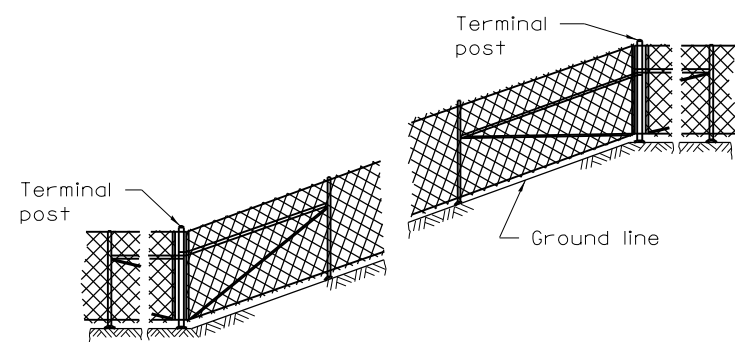
STANDARD 664001-02



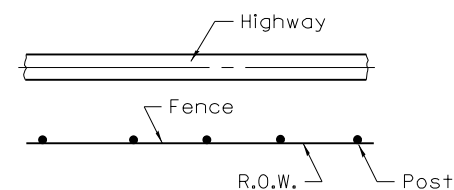
STANDARD GROUND

COUNTERPOISE GROUND (ALTERNATE)

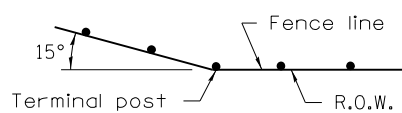
PROTECTIVE ELECTRICAL GROUNDS



INSTALLATION ON SLOPES



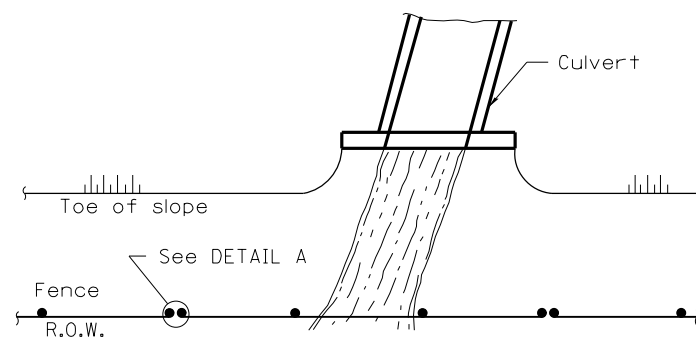
PLAN



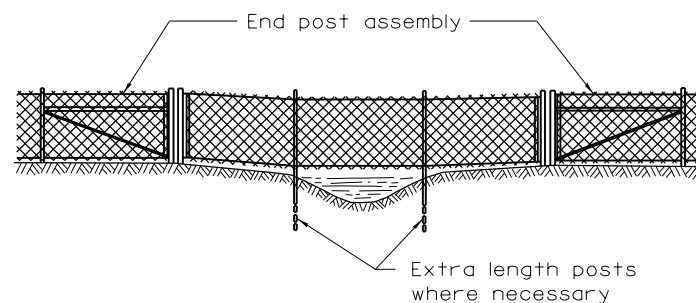
When fence line has a change in direction of 15° or more, a terminal post shall be placed as shown above.

Where angle is less than 15° and existing conditions require a terminal post, they shall be placed as directed by the Engineer.

INSTALLATION AT CORNERS

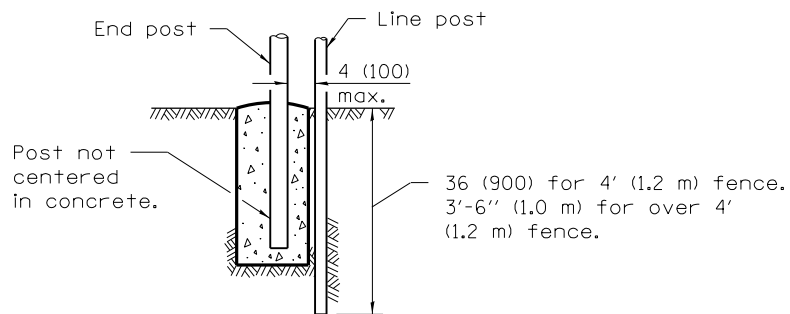


PLAN AT STREAM CROSSING

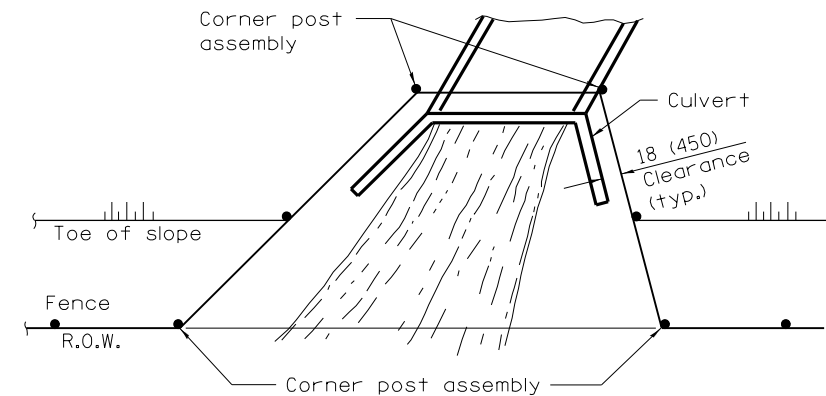


ELEVATION INSTALLATION OVER STREAM

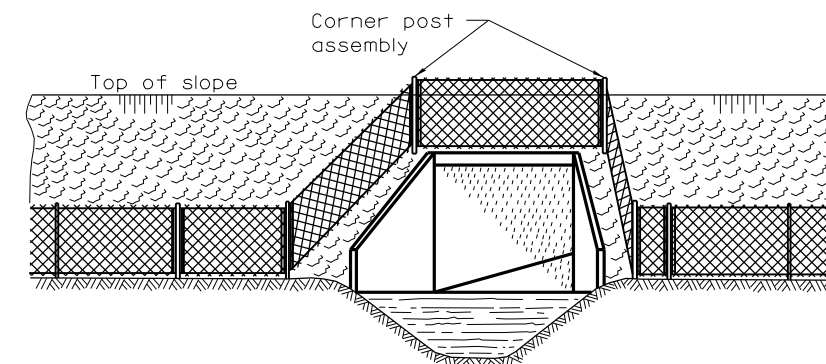
The chain link fabric shall be replaced by barbed wire strands at 12 (300) maximum centers between the double posts shown on DETAIL A when shown on the plans.



DETAIL A



PLAN AT HEADWALL



ELEVATION INSTALLATION AROUND HEADWALL

When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.

Illinois Department of Transportation

PASSED January 1, 2009

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT

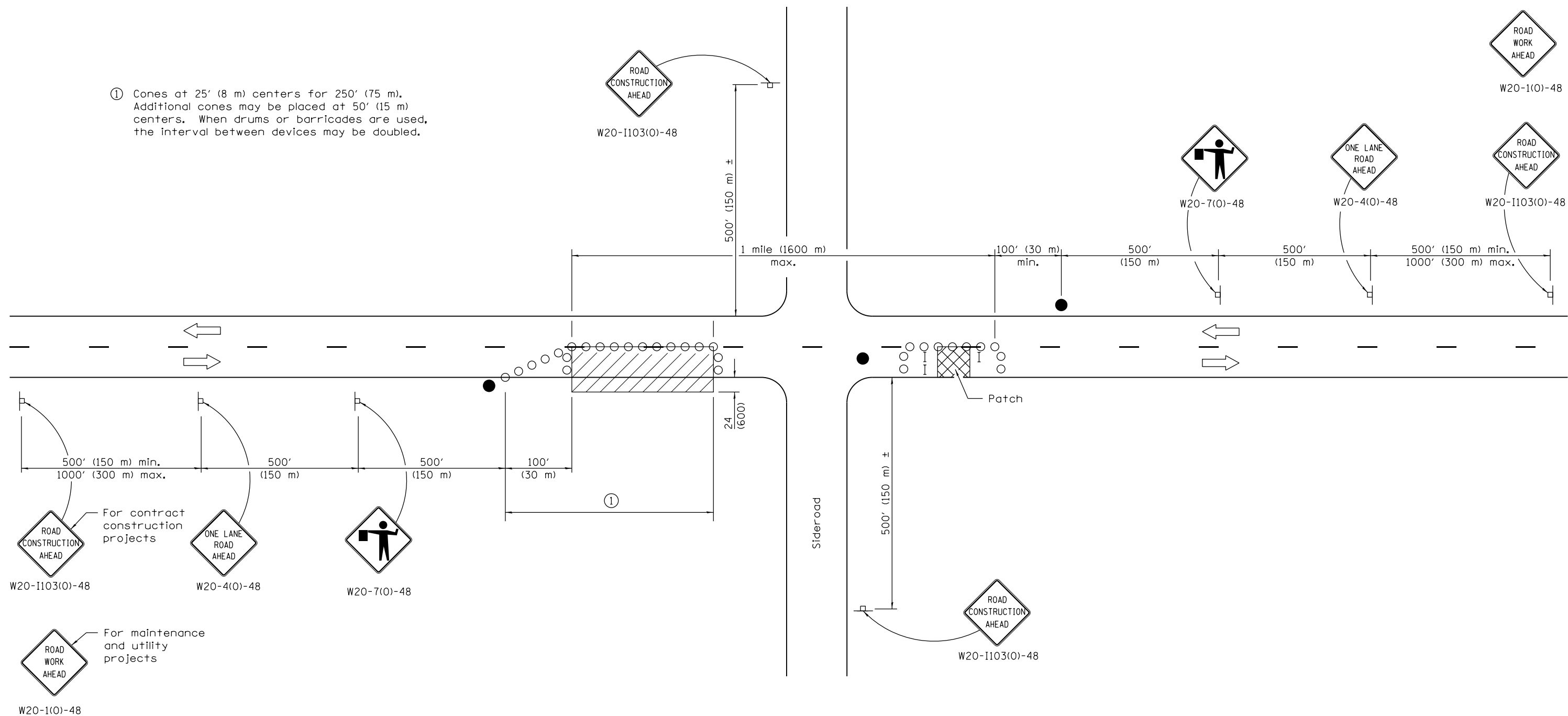
ISSUED 1-1-97

CHAIN LINK FENCE

(Sheet 3 of 3)

STANDARD 664001-02

① Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or barricades are used, the interval between devices may be doubled.



For contract construction projects
 W20-1103(O)-48
 W20-4(O)-48
 W20-7(O)-48

For maintenance and utility projects
 W20-1(O)-48

SYMBOLS

- Work area
- Sign
- Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

TYPICAL APPLICATIONS

- Isolated patching
- Utility operations
- Storm sewer
- Culverts
- Cable placement

GENERAL NOTES

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 2000' (600 m), additional warning signs, flaggers, and taper shall be placed as shown.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

**LANE CLOSURE, 2L, 2W,
DAY ONLY,
FOR SPEEDS ≥ 45 MPH**

STANDARD 701201-04

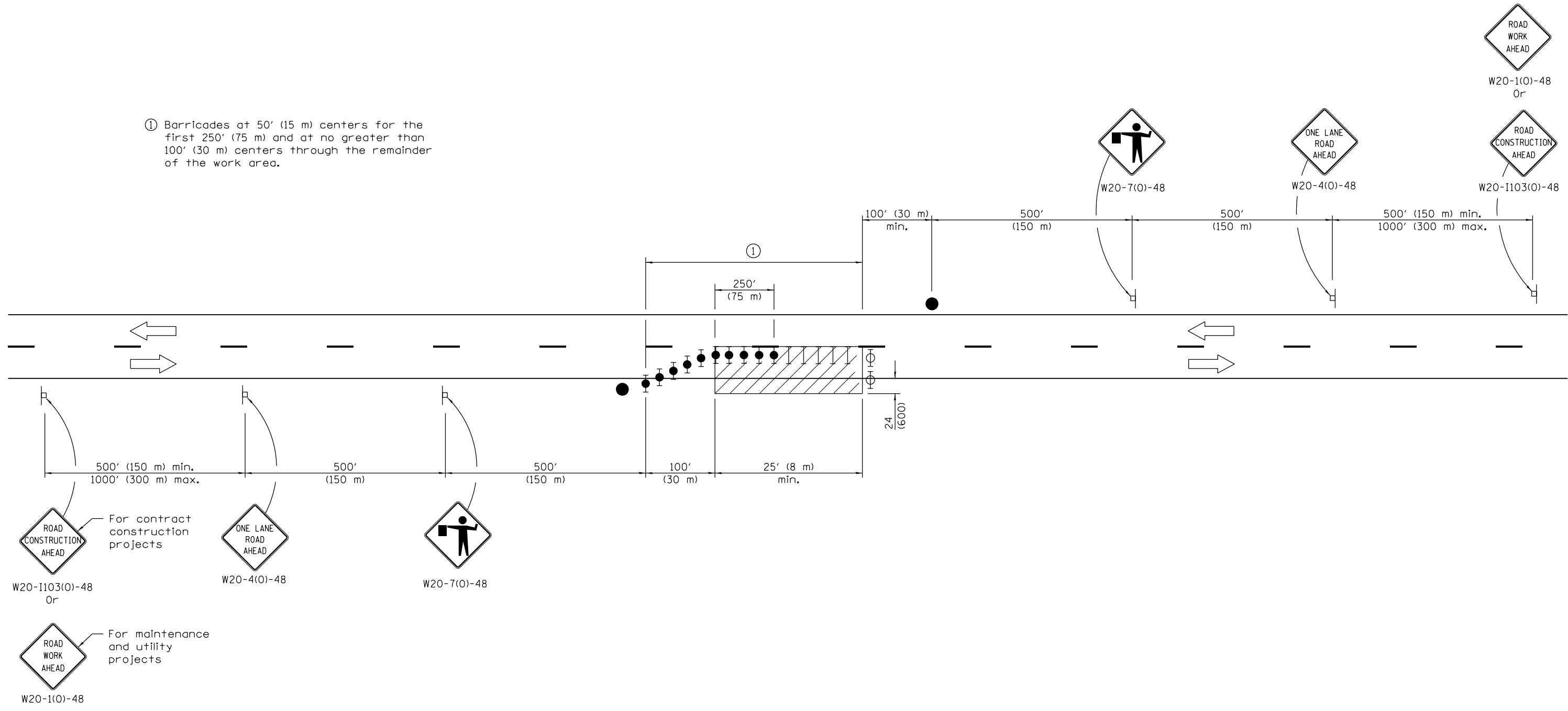
Illinois Department of Transportation

APPROVED January 1, 2011
 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2011
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

① Barricades at 50' (15 m) centers for the first 250' (75 m) and at no greater than 100' (30 m) centers through the remainder of the work area.



TYPICAL APPLICATIONS

Isolated patch
 Installation of drainage structure
 Utility operations

SYMBOLS

- Work area
- Sign
- Flagger with traffic control sign
- Barricade or drum
- Barricade or drum with flashing light
- Barricade or drum with steady burning light

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) from the edge of pavement for nighttime operation.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

**LANE CLOSURE, 2L, 2W,
 NIGHT ONLY,
 FOR SPEEDS ≥ 45 MPH**

STANDARD 701206-03

Illinois Department of Transportation

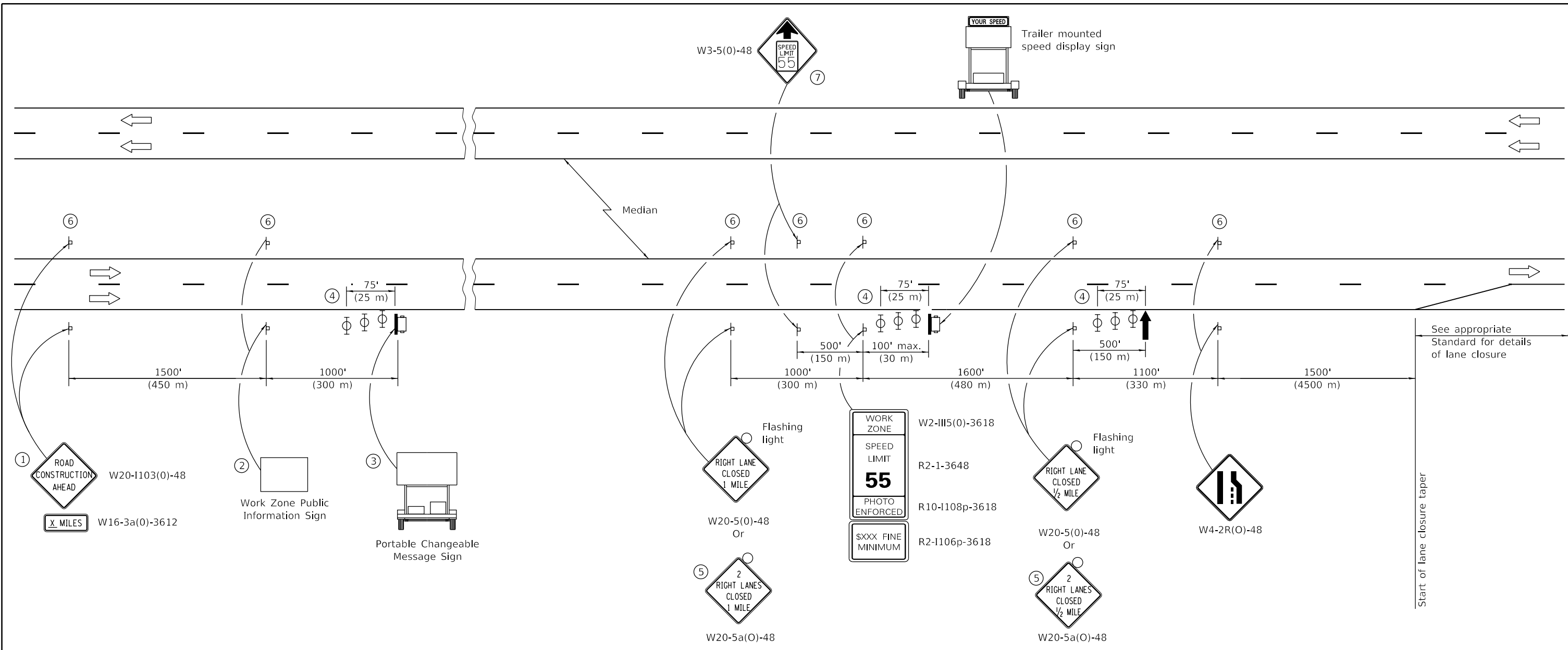
APPROVED January 1, 2011

 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2011

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



See appropriate Standard for details of lane closure

Start of lane closure taper

SYMBOLS

- ↑ Arrow board
- ☐ Trailer mounted sign
- ⊥ Sign
- ⊕ Type II barricade, drum, or vertical barricade with monodirectional flashing light

- ① The Road Construction Ahead sign shall be located 3 to 5 miles in advance of the project limits.
- ② The message and size of the Work Zone Public Information Sign shall be as specified by the Department.
- ③ The message board shall be used to display status of lanes within the project. The primary messages shall be:
 "Right Lane Closed" / " x Miles Ahead"
 "Left Lane Closed" / " x Miles Ahead"
 "All Lanes Open"
- ④ Three, Type II barricades, drums, or vertical barricades at 25' (8 m) centers.
- ⑤ This sign shall be used when 2 lanes are closed.
- ⑥ This sign shall be omitted when median width is less than 10' (3 m).
- ⑦ This sign shall only be used if the existing speed limit is greater than 65 mph.

GENERAL NOTES

This standard is used where at any time a lane is closed on a freeway/expressway. When the left lane is closed, LEFT LANE CLOSED signs shall be substituted for the RIGHT LANE CLOSED signs.

The first two signs and the message board are stationary.

The last four signs and arrow board shall be moved as necessary to maintain the required distance from the start of the lane closure taper(s).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2017
Paul L. ...
 ENGINEER OF SAFETY PROG. AND ENGINEERING

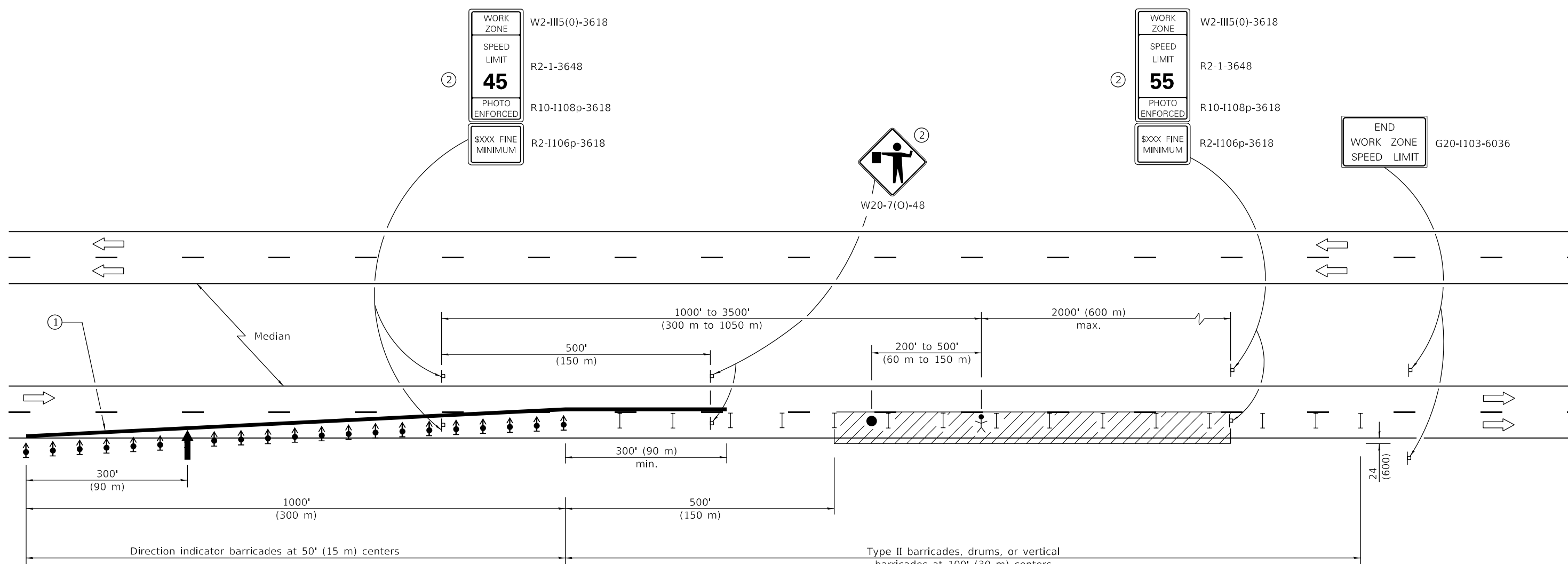
APPROVED January 1, 2017
Maureen M. ...
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-04

DATE	REVISIONS
1-1-17	Added trailer mounted speed display sign. Changed device spacing and note ④.
1-1-15	Revised '2 RIGHT LANES CLOSED X MILE' sign number.








**APPROACH TO
LANE CLOSURE,
FREEWAY/EXPRESSWAY**

STANDARD 701400-09



See Standard 701400 for approach
Start of lane closure taper

SYMBOLS

-  Arrow board
-  Work area
-  Worker
-  Sign
-  Direction indicator barricade with steady burn monodirectional light
-  Type II barricade, drum, or vertical barricade
-  Flagger with traffic control sign

- ① ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and for 300' (90 m) along-side the work area when the closure time is greater than fourteen days. The edge line shall be white for right lane closure and yellow for left lane closures.
- ② Work Zone speed limit signs and FLAGGER signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity. Work Zone Speed Limit 55 Photo Enforced sign shall be omitted when the work area dictates placement of the sign array within 500' (150 m) of the End Work Zone Speed Limit Sign.

GENERAL NOTES

This Standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24 (600) of the edge of pavement.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the setup would be a mirror image to what is shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 1000' (300 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
Paul L. ...
ENGINEER OF SAFETY PROG. AND ENGINEERING

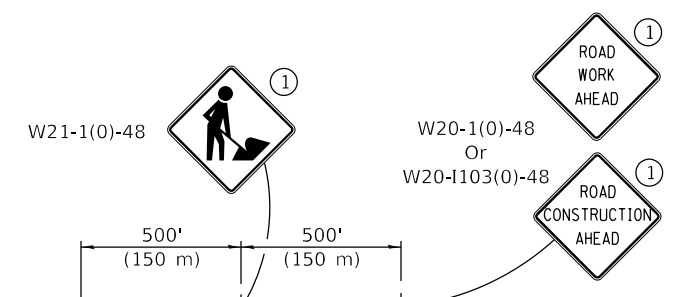
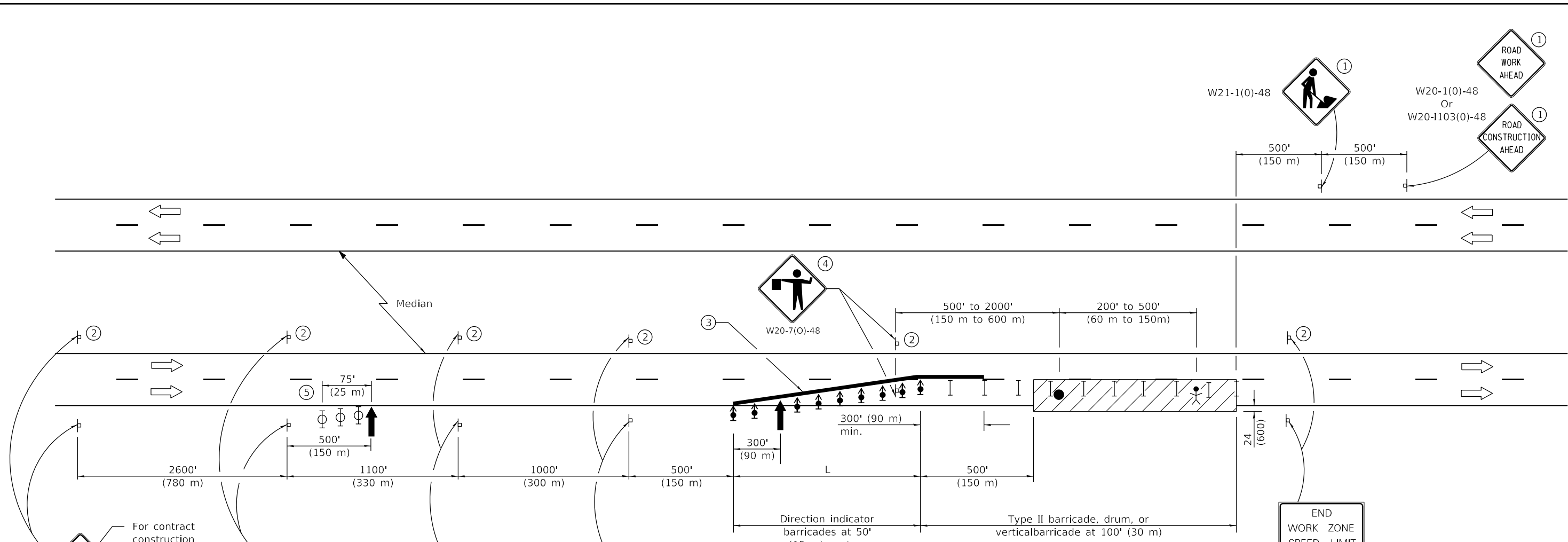
APPROVED January 1, 2018
Maureen M. ...
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-18	Omitted lights in tangent.
1-1-17	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

**LANE CLOSURE,
FREEWAY / EXPRESSWAY**

STANDARD 701401-11



For contract construction projects

ROAD CONSTRUCTION 1 MILE
W20-1103(0)-48

RIGHT LANE CLOSED 1/2 MILE
W20-5(0)-48

W4-2R(0)-48

For maintenance and utility projects

ROAD WORK 1 MILE
W20-1(0)-48

L = lane width X taper ratio	
Normal Posted Speed	Taper Ratio
mph	
55	55/1
45	45/1

WORK ZONE
W21-III5(0)-3618

SPEED LIMIT
R2-1-3648

45

PHOTO ENFORCED
R10-1108p-3618

SXXX FINE MINIMUM
R2-1106p-3618

SYMBOLS

- Arrow board
- Work area
- Sign
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade, drum, or vertical barricade
- Flagger with traffic control sign
- Worker
- Type II barricade, drum, or vertical barricade with monodirectional flashing light

- ① Undivided roadway only with left lane closure in opposite direction.
- ② Omitted when median is less than 10' (3 m).
- ③ ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and for 300' (90 m) along-side the work area where the closure time is greater than fourteen days. The edge line shall be white for right lane closures and yellow for left lane closures.
- ④ FLAGGER signs shall be moved as necessary to maintain the required spacing between the sign and each separate work activity.
- ⑤ Three Type II barricades, drums, or vertical barricades at 25' (8 m) centers.

GENERAL NOTES

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24 (600) of the edge of pavement for daylight operation exceeding one day.

This standard also applies when work is being performed in the left lane. Under these conditions LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 1000' (300 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Omitted lights in tangent.
1-1-17	Rev. END WORK ZONE SPEED LIMIT sign. Changed device spacing at first arr. brd.

**LANE CLOSURE,
MULTILANE, FOR
SPEEDS ≥ 45 MPH TO 55 MPH**

STANDARD 701422-10

Illinois Department of Transportation

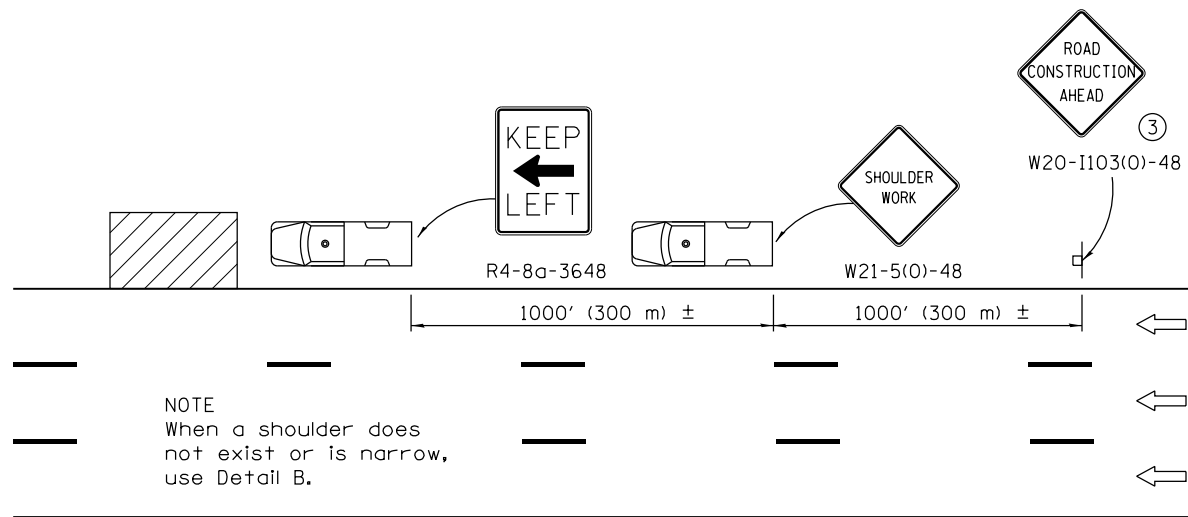
PASSED January 1, 2018

ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2018

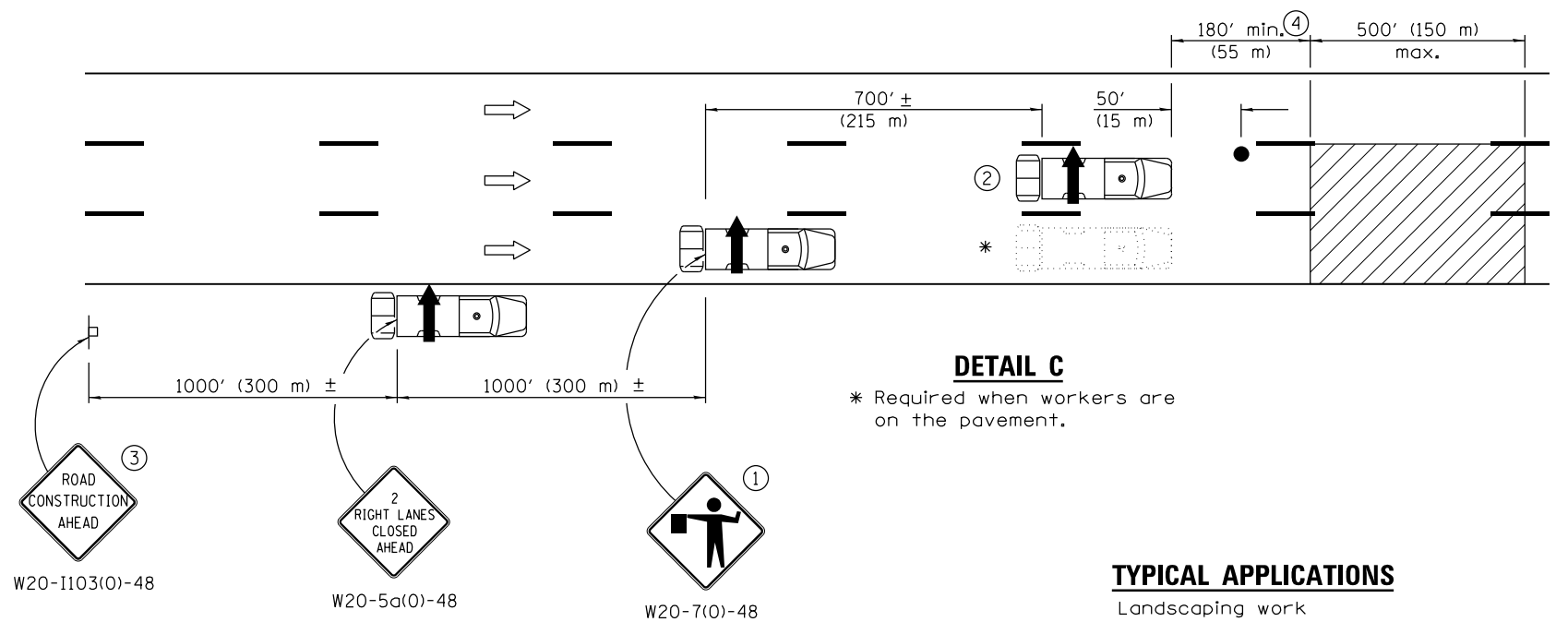
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-04



DETAIL A

NOTE
When a shoulder does not exist or is narrow, use Detail B.

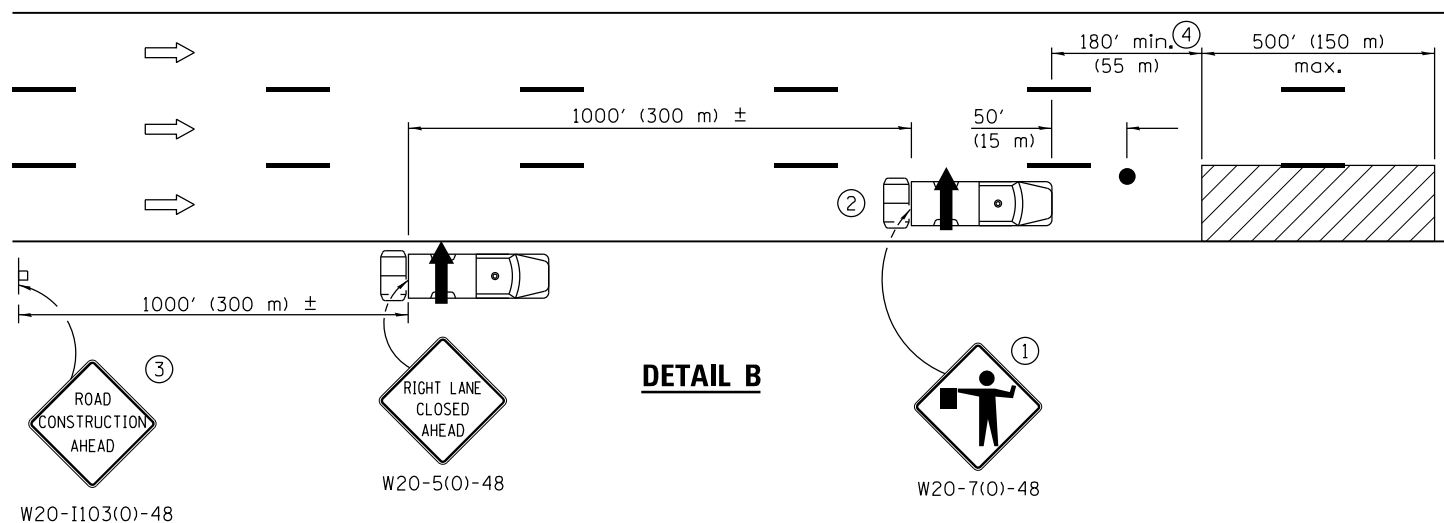


DETAIL C

* Required when workers are on the pavement.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Pavement marking
- Weed spraying
- Roadometer measurements
- Debris cleanup
- Crack pouring



DETAIL B

- Flaggers are required when workers are on the pavement.
- For striping operations only. See sign arrow detail on this standard.
- For stationary operations which are on the roadway or shoulder, greater than 15 minutes and up to 1 hour.
- The distance between the work and the lead truck may vary according to terrain or paint/crack sealing drying time.



G20-I101-2430
(appropriate arrow)
② (when striping only)

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require: 1) stationary operations up to 1 hour, or 2) a continuous or intermittent moving operation where the average speed of movement is greater than 1 mph (2 km/h).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions, KEEP RIGHT signs shall be substituted for KEEP LEFT signs and arrow board indications shall be directed to the right.

All dimensions are in inches (millimeter) unless otherwise shown.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- Truck with flashing amber light
- Truck/Trailer mounted attenuator
- Flagger with traffic control sign
- Sign

DATE	REVISIONS
1-1-17	Revised 'NOTE' on DETAIL A to use DETAIL B in lieu of DETAIL C.
4-1-16	Added trailer option for attenuator symbol. Added note ④. Revised gen. notes.

LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH

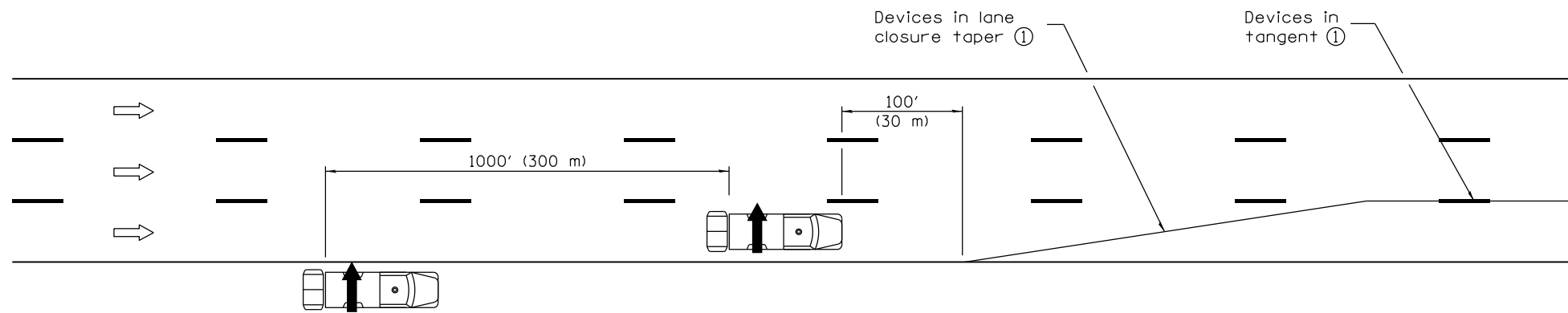
STANDARD 701426-09

Illinois Department of Transportation

APPROVED January 1, 2017
Bruce L. ...
ENGINEER OF SAFETY, PROG. AND ENGINEERING

APPROVED January 1, 2017
Matthew M. ...
ENGINEER OF DESIGN AND ENVIRONMENT

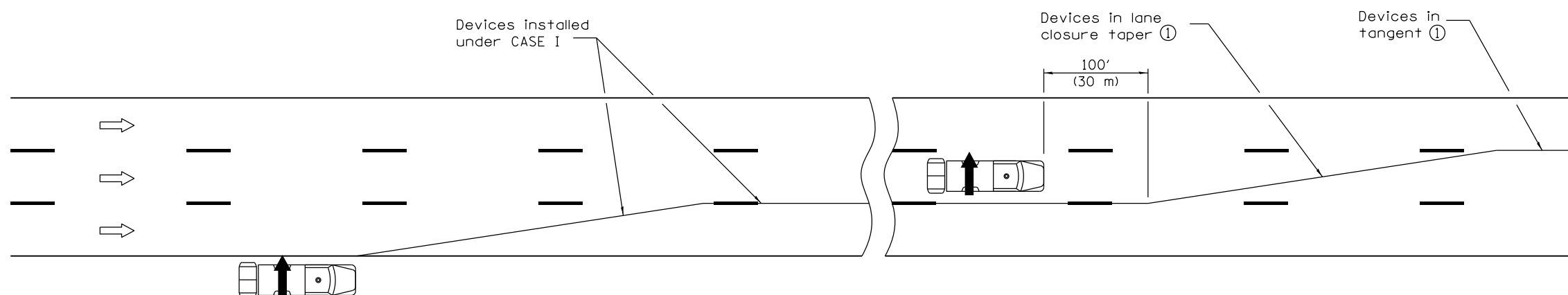
ISSUED 1-1-97



① See plans or appropriate Standard for delineating devices, spacing and length of taper/tangent.

CASE I


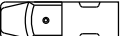

CASE I depicts the setup of delineating devices for a single outside lane closure.



CASE II

CASE II depicts the setup of delineating devices for a two lane closure. The single lane closure device setup as depicted in CASE I shall be performed prior to the setup for the second lane closure.

SYMBOLS

-  Arrow board
-  Truck with flashing amber light
-  Truck/Trailer mounted attenuator

GENERAL NOTES

This Standard is used for setup and removal of lane closures on freeways/expressways having ADT greater than 25,000.

Trucks with arrow boards and truck-mounted-attenuators shall be in place as shown for the setup and removal of the lane closure taper(s) and the first 100' (30 m) of channelizing devices in the tangent(s).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions arrow board indications shall be directed to the right.


All dimensions are in inches (millimeter) unless otherwise shown.

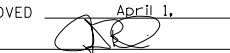
DATE	REVISIONS
4-1-16	Added trailer option for attenuator symbol.
1-1-14	New Standard.

TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY

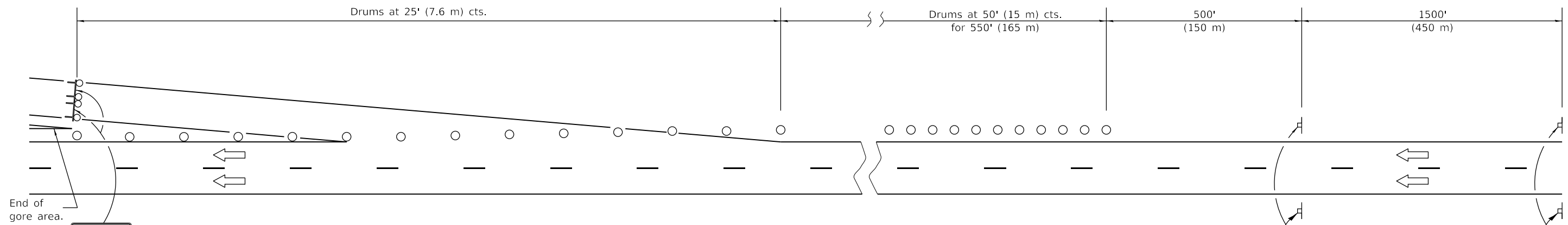
STANDARD 701428-01

Illinois Department of Transportation

APPROVED April 1, 2016

 ENGINEER OF SAFETY ENGINEERING

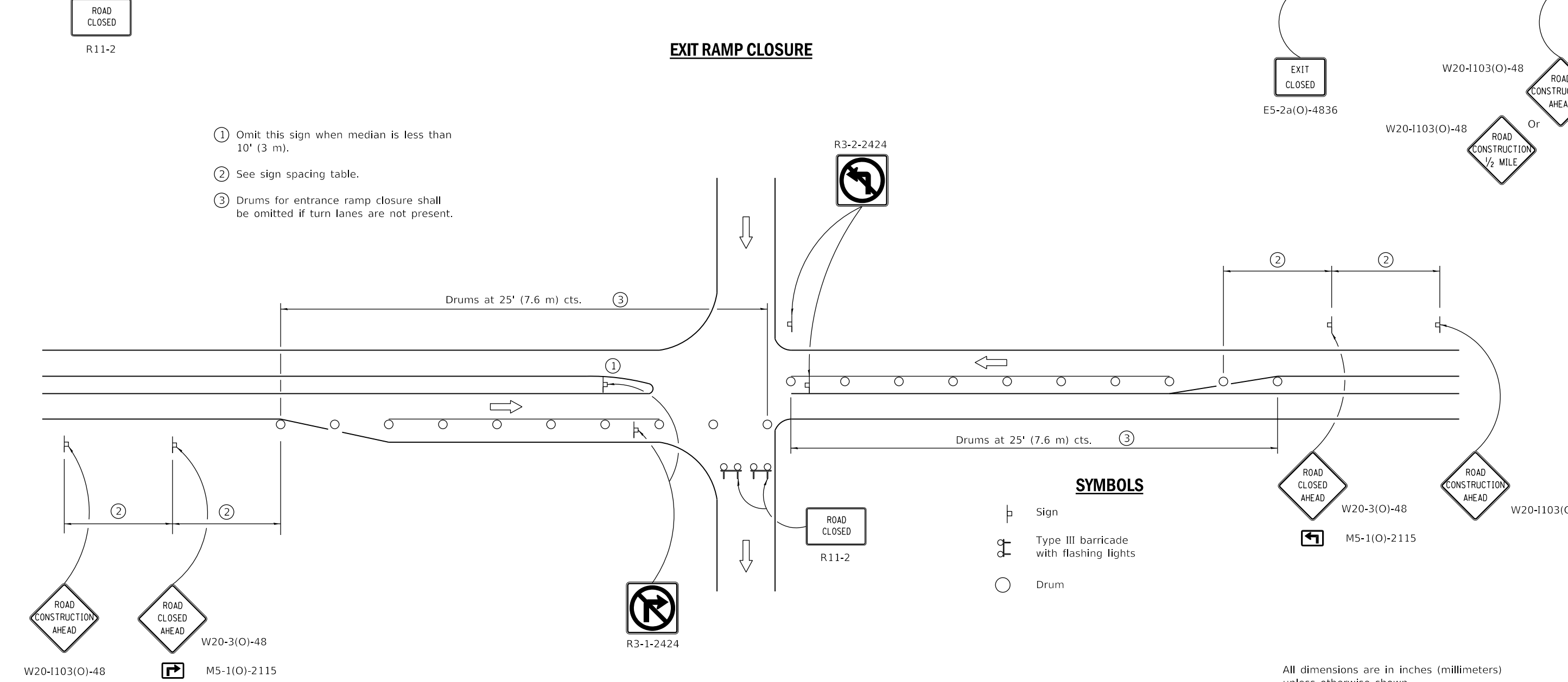
APPROVED April 1, 2016

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



EXIT RAMP CLOSURE

- ① Omit this sign when median is less than 10' (3 m).
- ② See sign spacing table.
- ③ Drums for entrance ramp closure shall be omitted if turn lanes are not present.



ENTRANCE RAMP CLOSURE

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

DATE	REVISIONS
1-1-18	Omitted lights from drums.
1-1-17	Added flashing lights to Type III barricade.

All dimensions are in inches (millimeters) unless otherwise shown.

**RAMP CLOSURE
FREEWAY/EXPRESSWAY**

STANDARD 701451-05

Illinois Department of Transportation

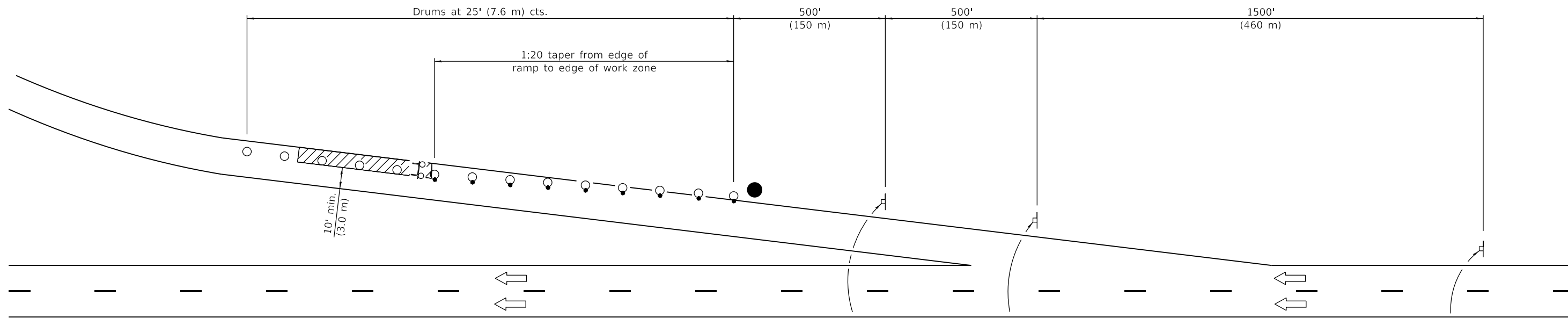
PASSED January 1, 2018

APPROVED January 1, 2018

ENGINEER OF SAFETY PROG. AND ENGINEERING

ENGINEER OF DESIGN AND ENVIRONMENT







ISSUED 1-1-09



PARTIAL EXIT RAMP CLOSURE



SYMBOLS

-  Sign
-  Type III barricade with flashing lights
-  Drum with steady burning light
-  Work area
-  Flagger with traffic control sign
-  Drum

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
Paul L. ...
 ENGINEER OF SAFETY PROG. AND ENGINEERING

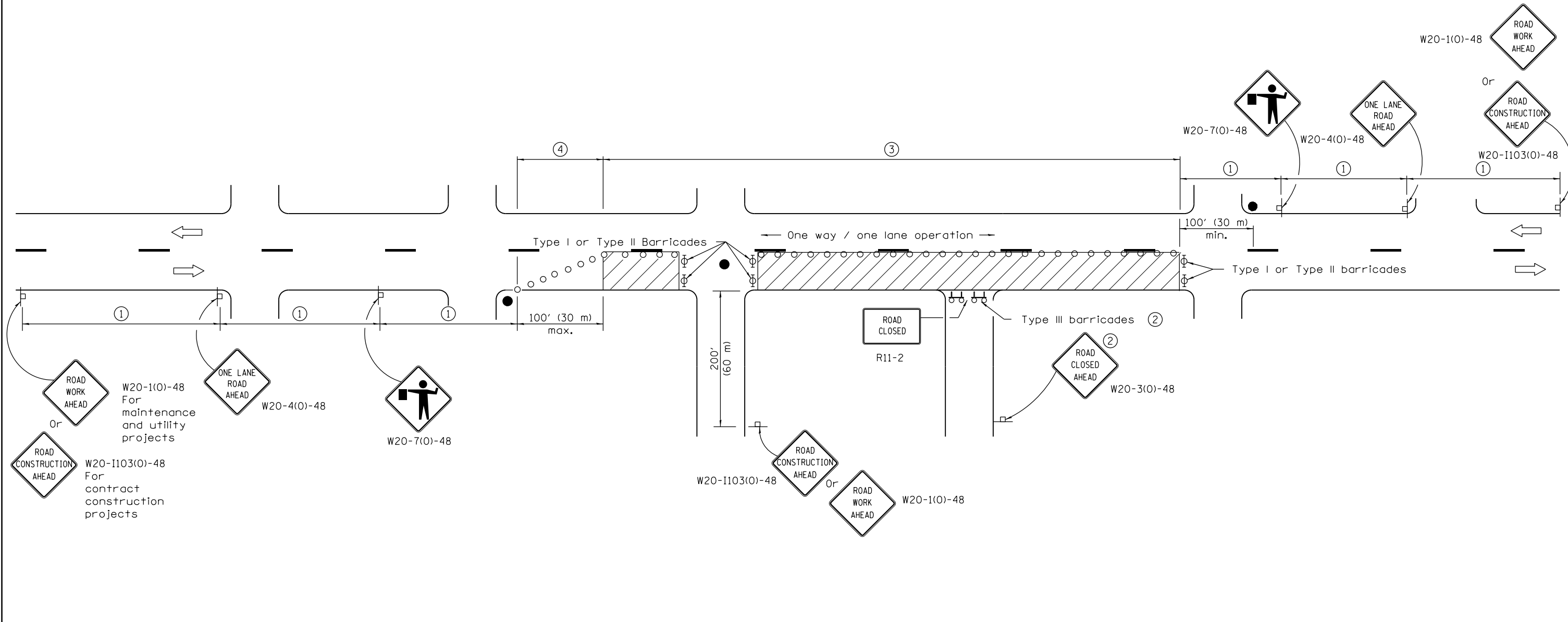
APPROVED January 1, 2018
Maureen M. ...
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-09

DATE	REVISIONS
1-1-18	Omitted lights on drums in tangent.
1-1-17	Added flashing lights to Type III barricade.

**PARTIAL EXIT RAMP CLOSURE
 FREEWAY / EXPRESSWAY**

STANDARD 701456-05



ROAD WORK AHEAD W20-1(0)-48
 For maintenance and utility projects
 Or
 ROAD CONSTRUCTION AHEAD W20-1103(0)-48
 For contract construction projects

ONE LANE ROAD AHEAD W20-4(0)-48







W20-7(0)-48

ROAD CLOSED R11-2
 ROAD CONSTRUCTION AHEAD W20-1103(0)-48
 Or
 ROAD WORK AHEAD W20-1(0)-48

ROAD CLOSED AHEAD W20-3(0)-48

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

-  Work area
-  Cone, drum or barricade (not required for moving operations)
-  Sign on portable or permanent support
-  Flagger with traffic control sign
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights

- ① Refer to SIGN SPACING TABLE for distances.
- ② For approved sideroad closures.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES


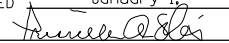
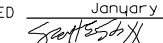
This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

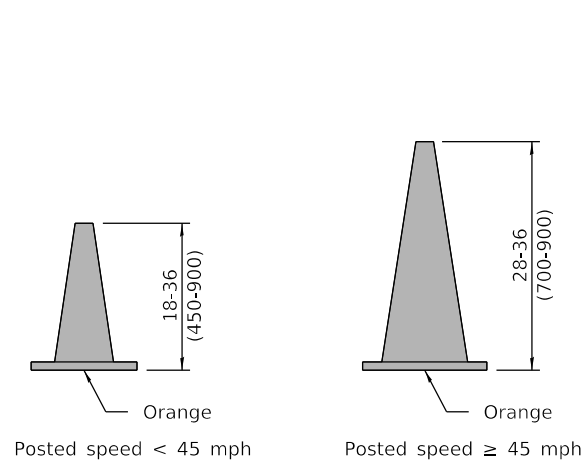
DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

**URBAN LANE CLOSURE,
2L, 2W, UNDIVIDED**

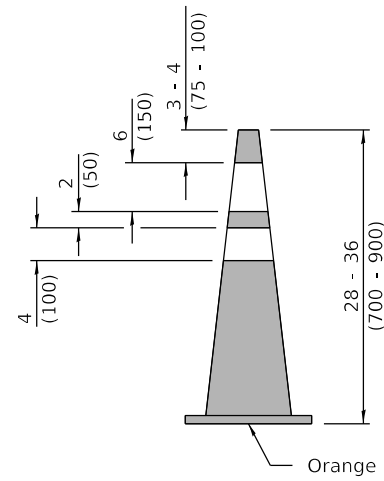
STANDARD 701501-06

 Illinois Department of Transportation
 APPROVED January 1, 2011

 ENGINEER OF SAFETY ENGINEERING
 APPROVED January 1, 2011

 ENGINEER OF DESIGN AND ENVIRONMENT

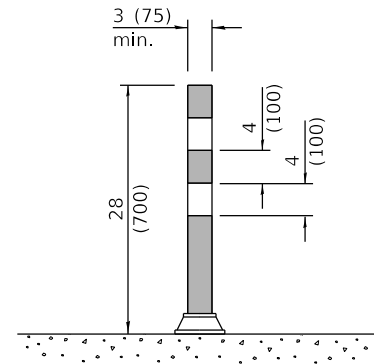
ISSUED 1-1-97



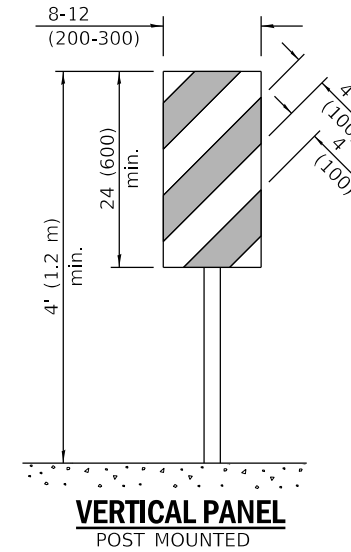
CONE FOR DAYTIME



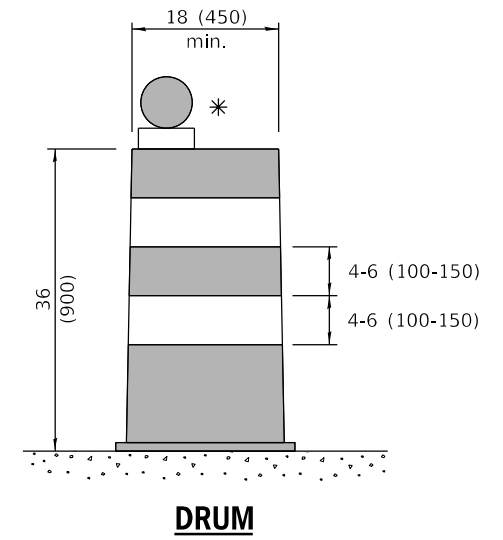
REFLECTORIZED CONE FOR NIGHTTIME



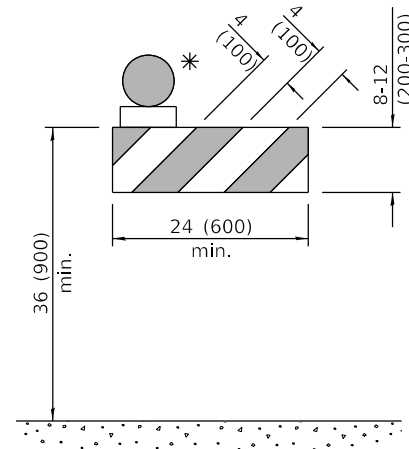
TUBULAR MARKER



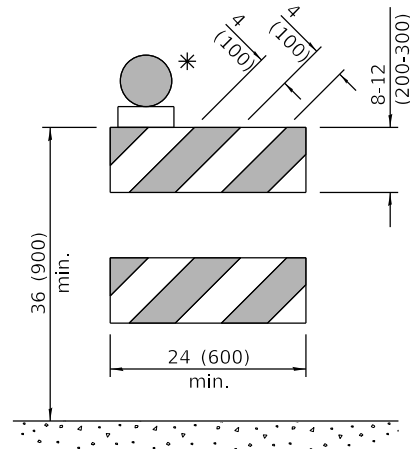
VERTICAL PANEL POST MOUNTED



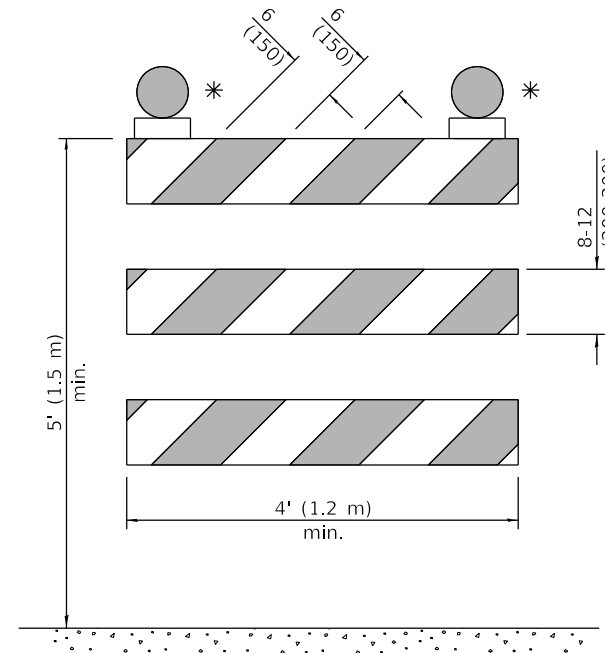
DRUM



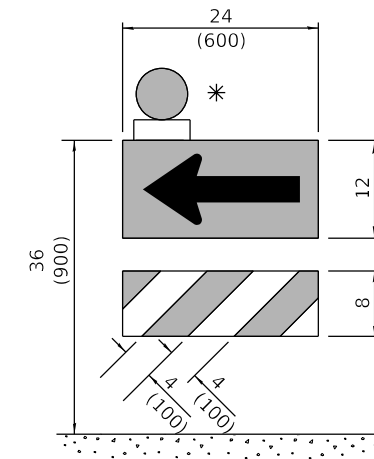
TYPE I BARRICADE



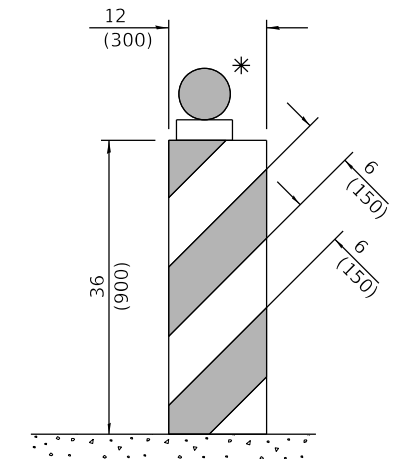
TYPE II BARRICADE



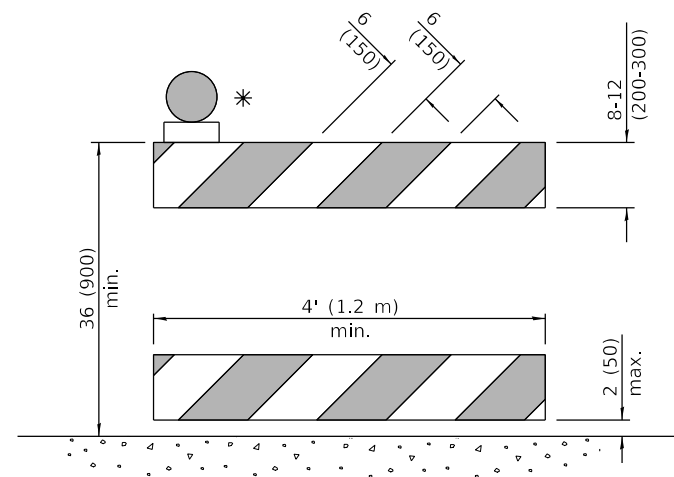
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Revised END WORK ZONE
	SPEED LIMIT sign from orange to white background.
1-1-17	Changed FLEXIBLE DELINEATOR to TUBULAR MARKER.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

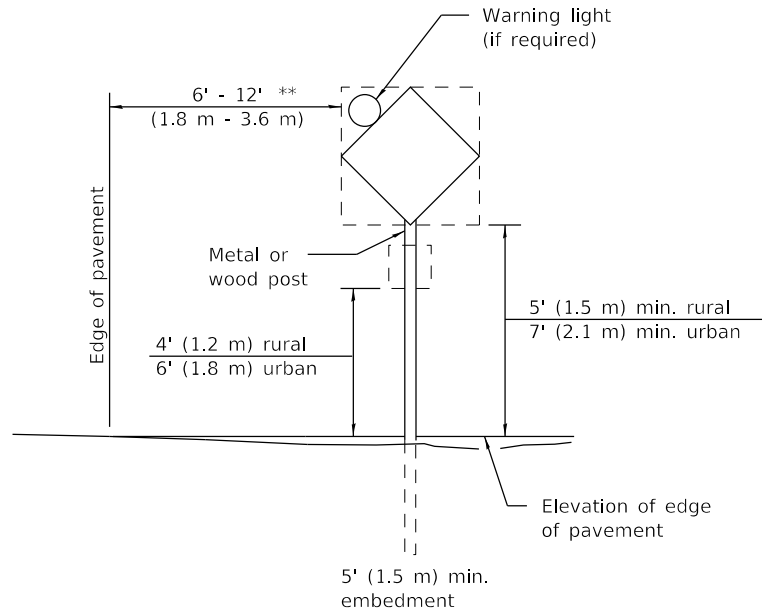
STANDARD 701901-07

Illinois Department of Transportation

PASSED January 1, 2018
Amy Allen
 ENGINEER OF OPERATIONS

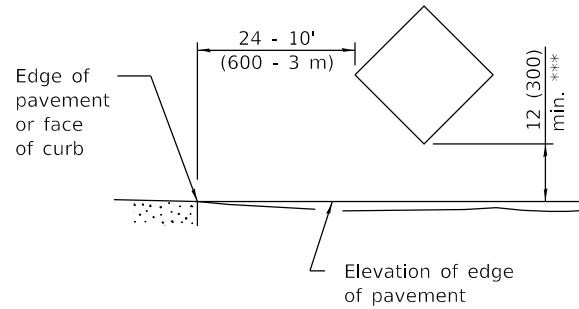
APPROVED January 1, 2018
Marcus M. Beck
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-18



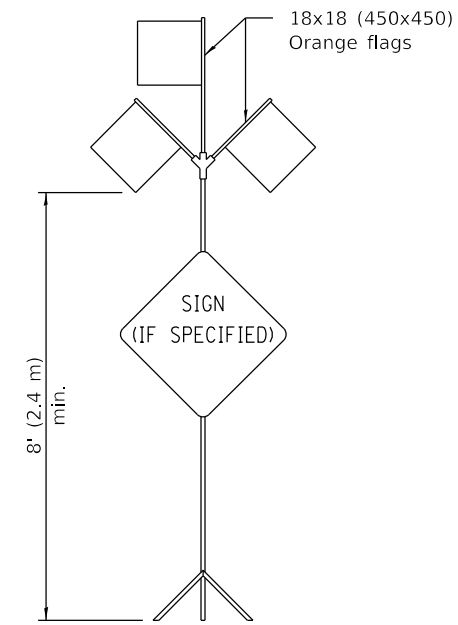
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES	END CONSTRUCTION
G20-1104(0)-6036	G20-1105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.
 ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.
 END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).
 Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE	W21-III5(0)-3618
SPEED LIMIT XX	R2-1-3648
PHOTO ENFORCED	R10-1108p-3618 ****
\$XXX FINE MINIMUM	R2-1106p-3618

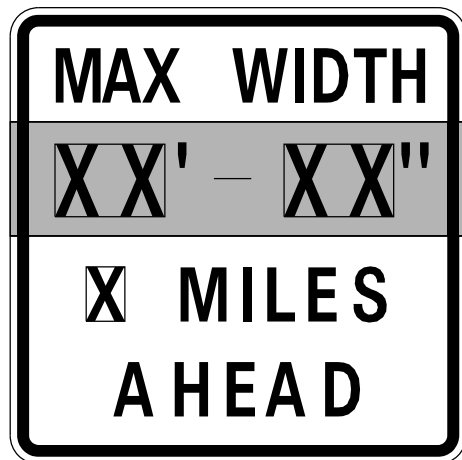
Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT	G20-1103-6036
---------------------------	---------------

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

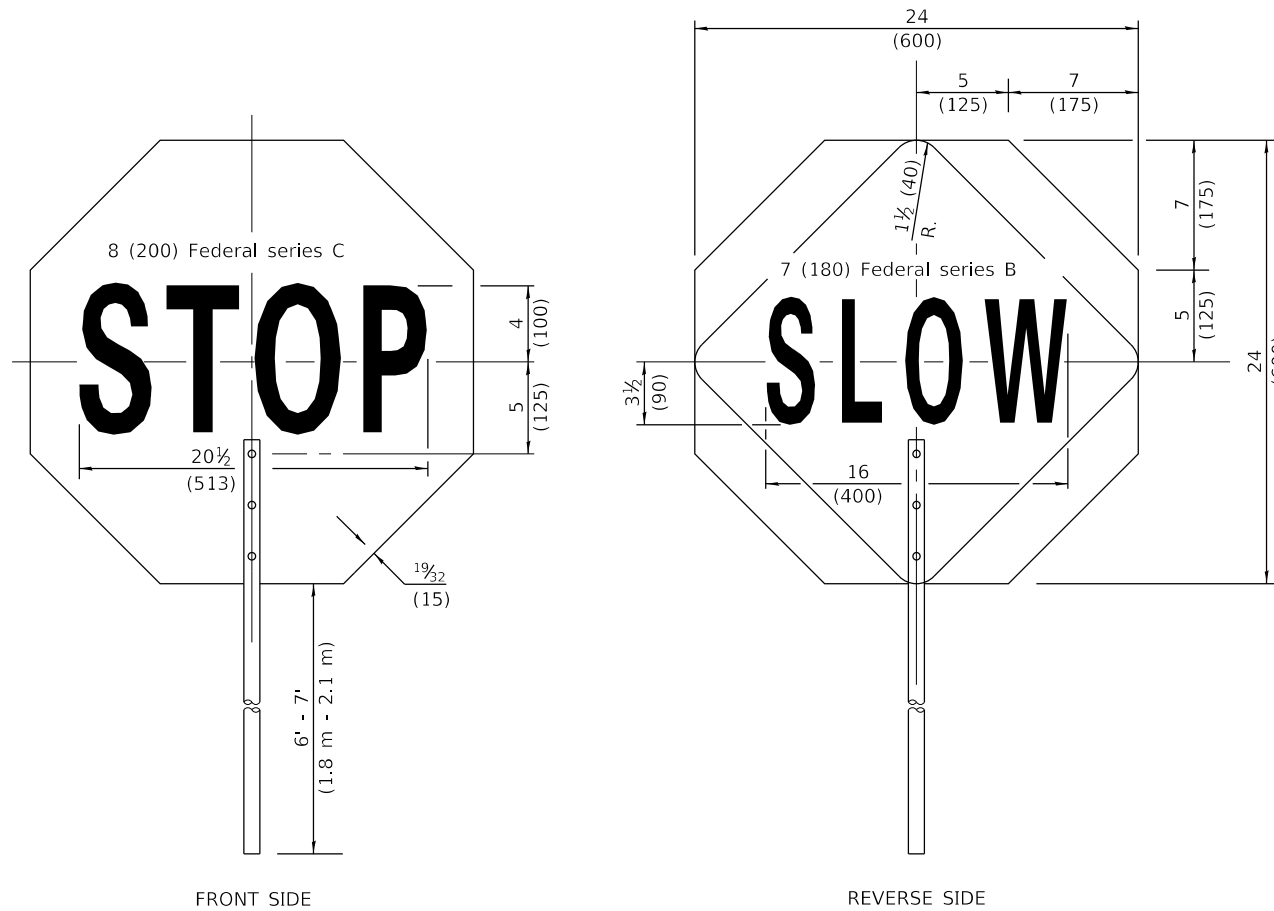
**** R10-1108p shall only be used along roadways under the jurisdiction of the State.



W12-1103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation

PASSED January 1, 2018
Amy Allen
 ENGINEER OF OPERATIONS

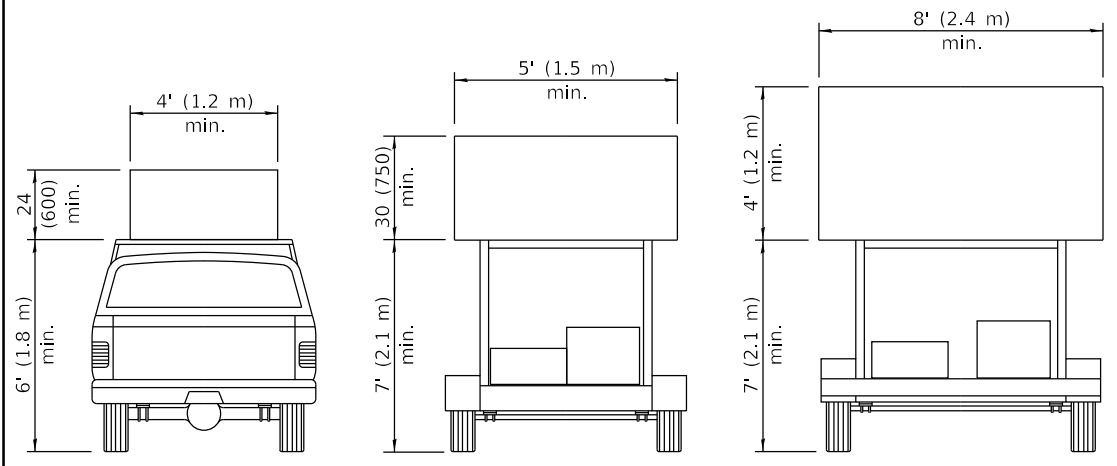
APPROVED January 1, 2018
Maureen M. Adams
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

STANDARD 701901-07

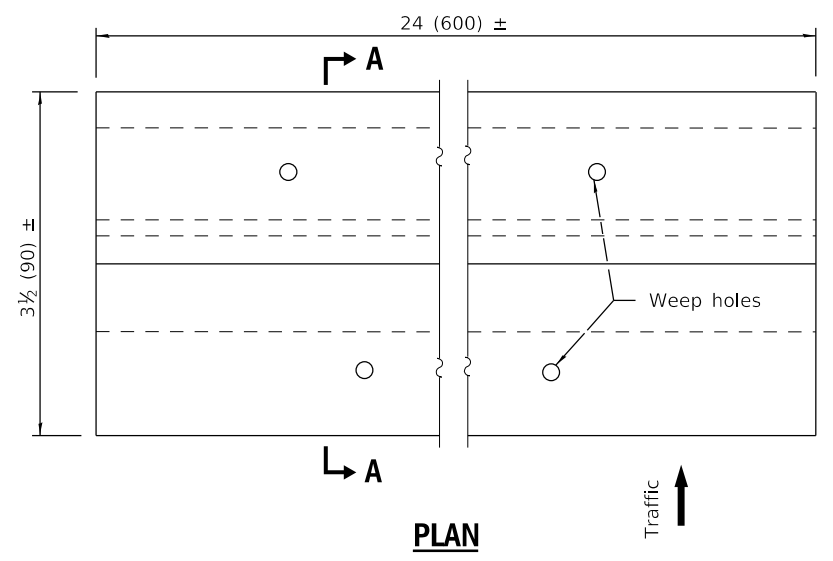


**TYPE A
ROOF
MOUNTED**

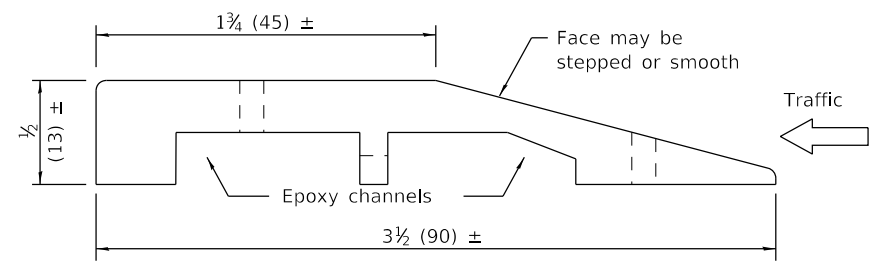
**TYPE B
ROOF OR TRAILER
MOUNTED**

**TYPE C
TRAILER
MOUNTED**

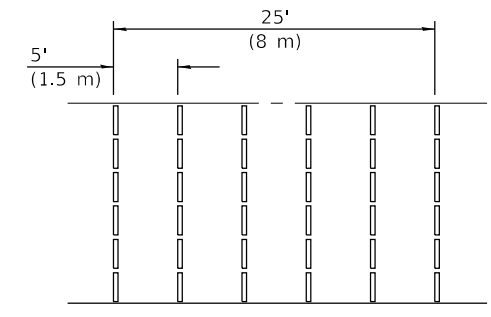
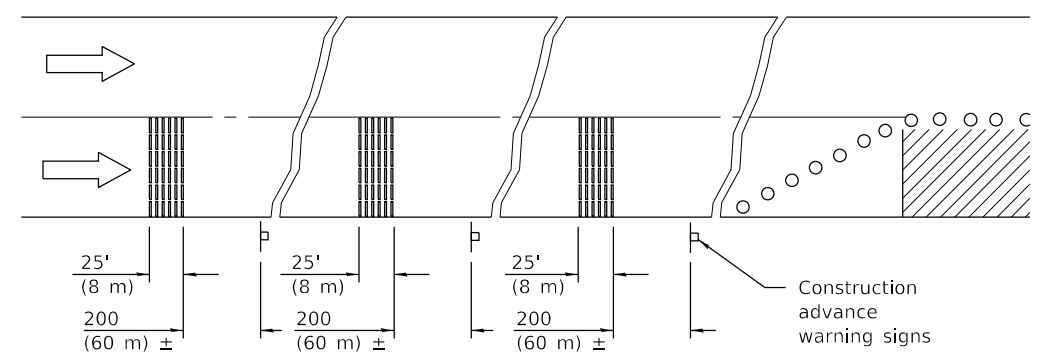
ARROW BOARDS



PLAN

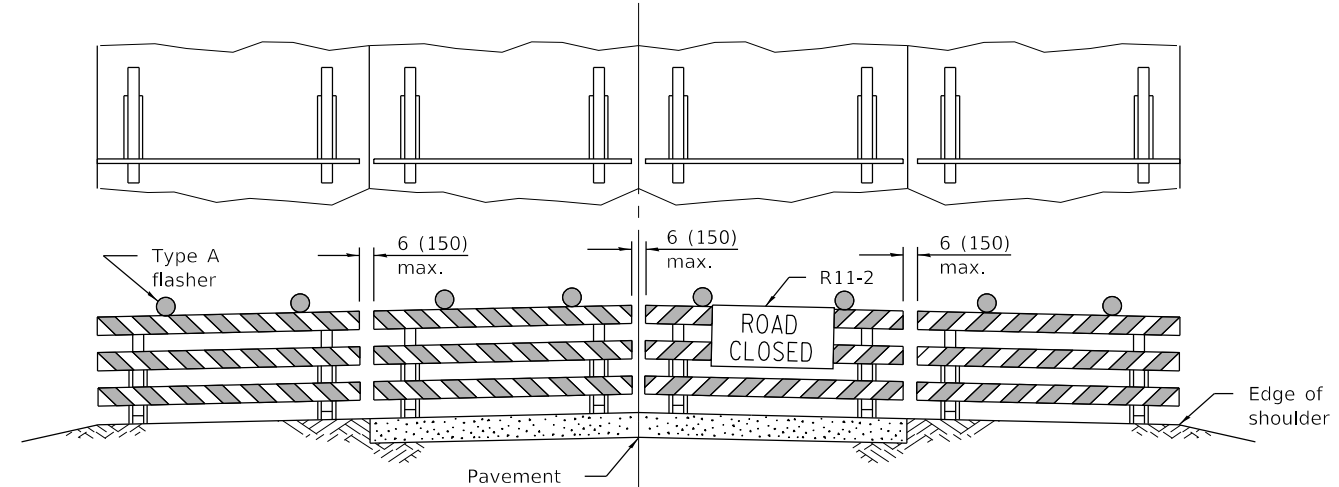


SECTION A-A



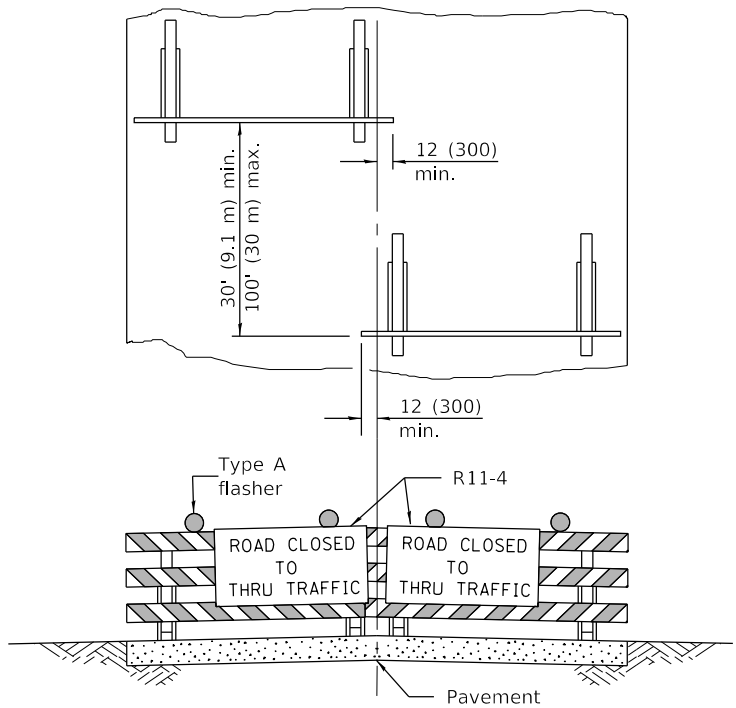
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

**TYPICAL APPLICATIONS OF
TYPE III BARRICADES CLOSING A ROAD**

Illinois Department of Transportation

PASSED January 1, 2018
Amy Allen
 ENGINEER OF OPERATIONS

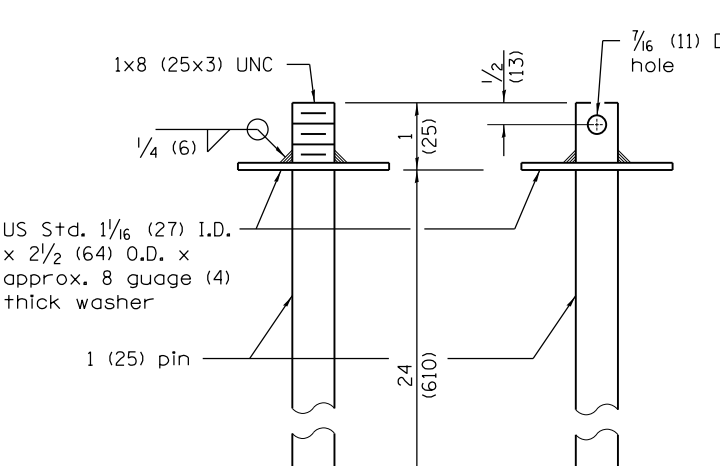
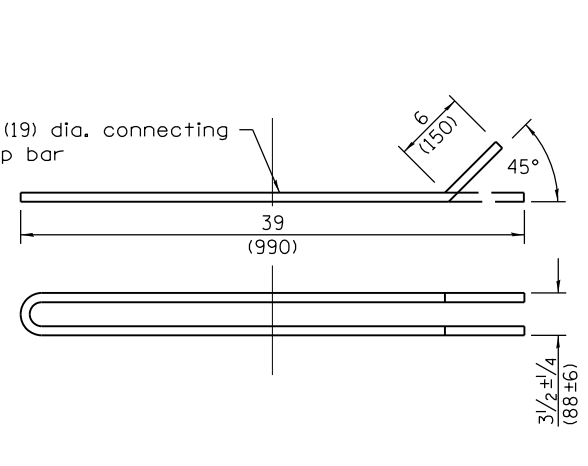
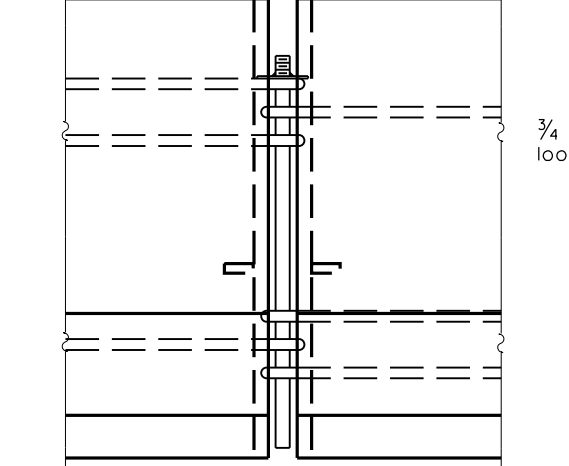
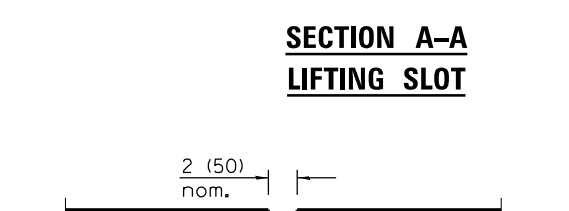
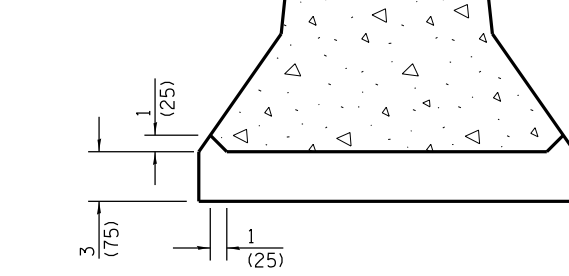
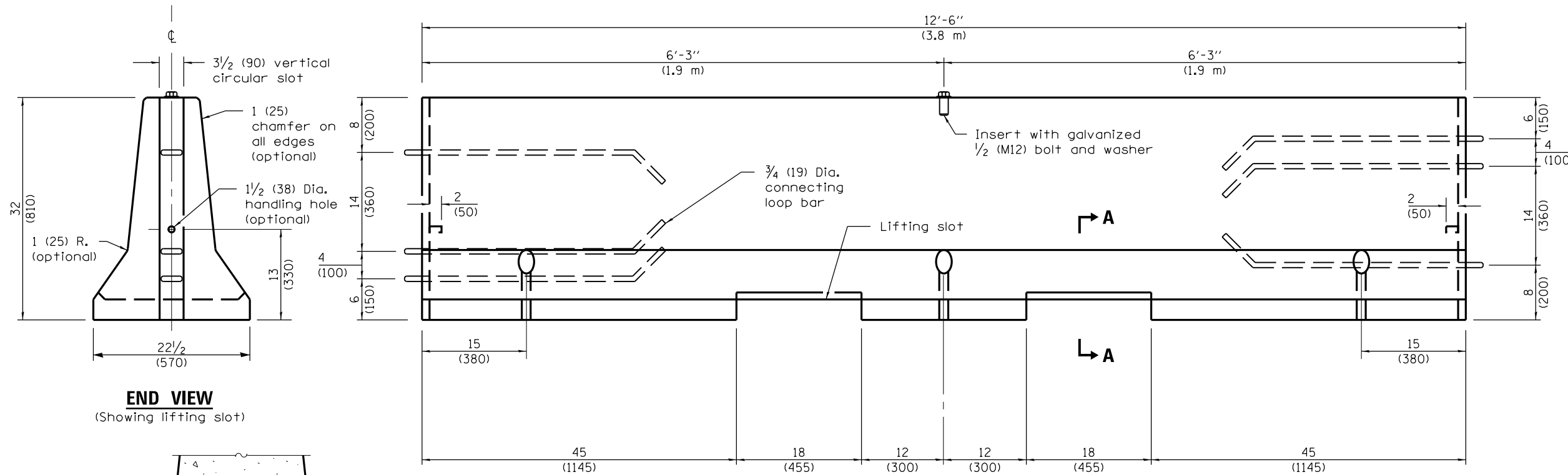
APPROVED January 1, 2018
Maureen M. Beck
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

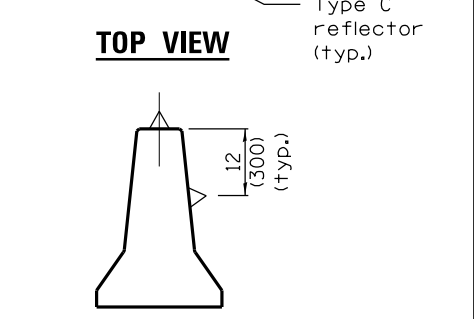
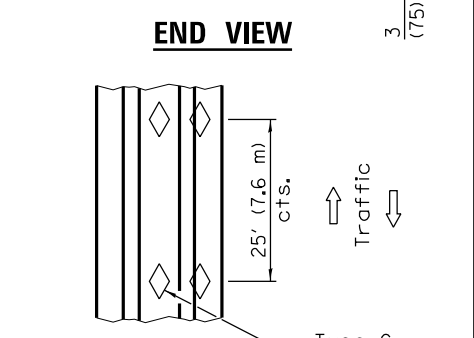
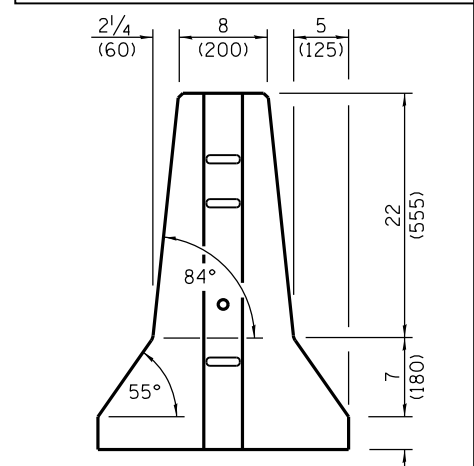
**TRAFFIC CONTROL
DEVICES**

(Sheet 3 of 3)

STANDARD 701901-07



F SHAPE DESIGN



GENERAL NOTES

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or painted thereon with waterproof paint/ink.

The insert for the 1/2" (M12) bolt shall be capable of 3,000 lb (13 kN) pull-out strength.

When barrier separates opposing flows of traffic markers shall be on both sides of barrier.

See Standard 782006 for dimensions of Type C reflector.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Rev. opt. chamfer on all edges to 1 (25). Reference to Std. 635011 now 782006.
1-1-12	Omitted 'ALTERNATE' from connecting and anchoring pins detail.

TEMPORARY CONCRETE BARRIER

(Sheet 1 of 2)

STANDARD 704001-08

Illinois Department of Transportation

PASSED April 1, 2016

Michael Beard
ENGINEER OF POLICY AND PROCEDURES

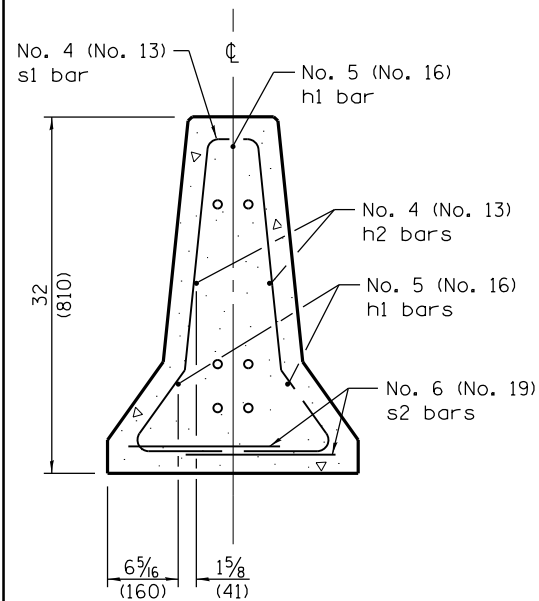
APPROVED April 1, 2016

ENGINEER OF DESIGN AND ENVIRONMENT

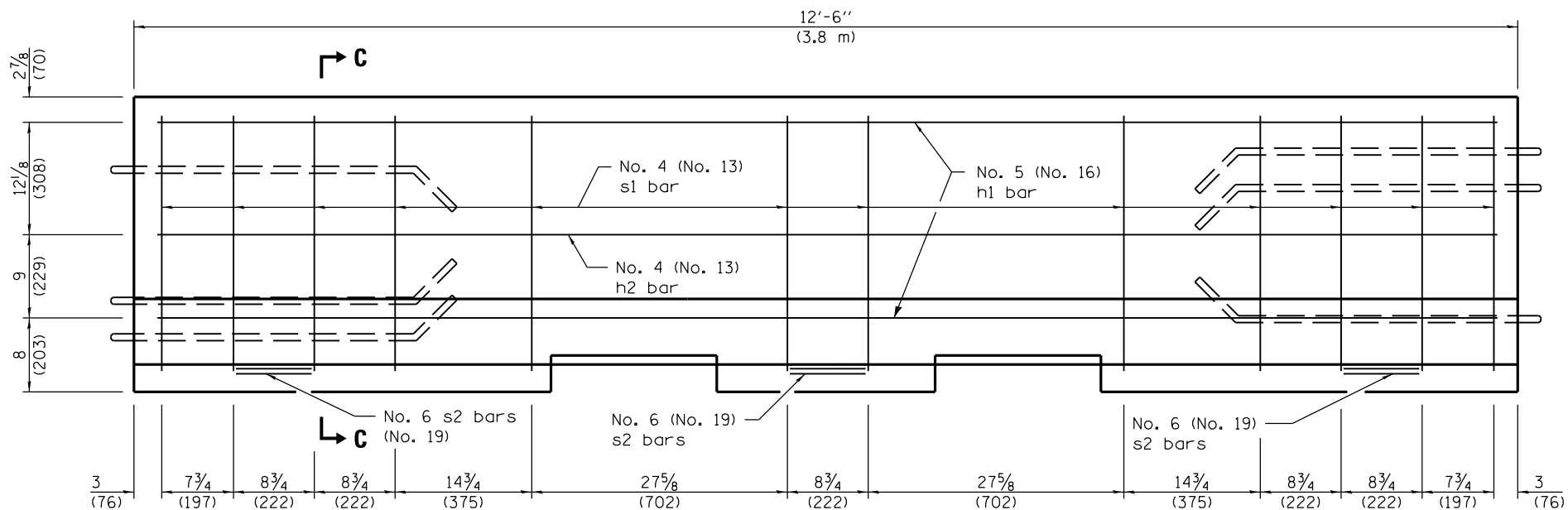
ISSUED 10-1-12

20-1-01 03/15

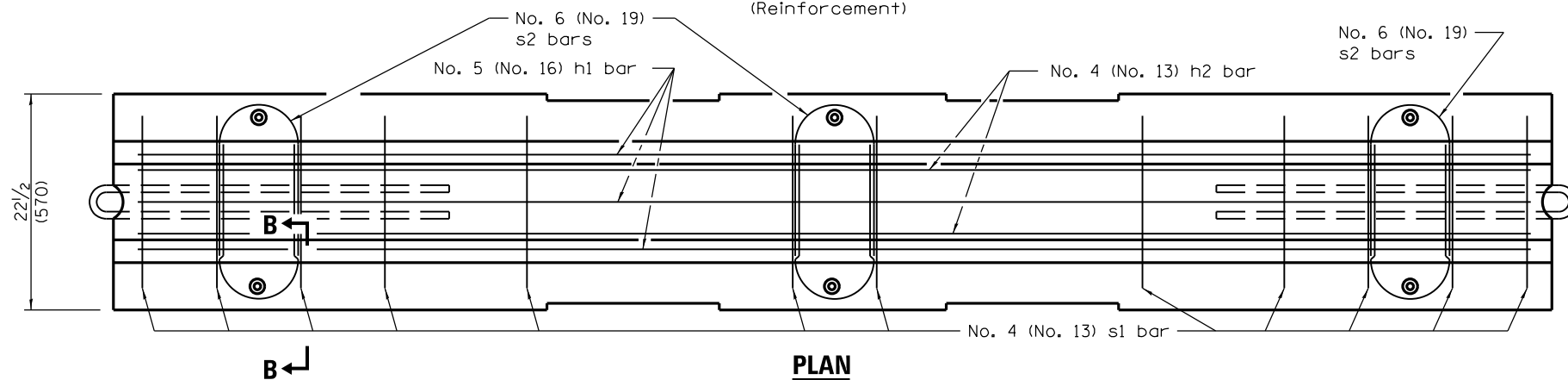
F SHAPE DESIGN



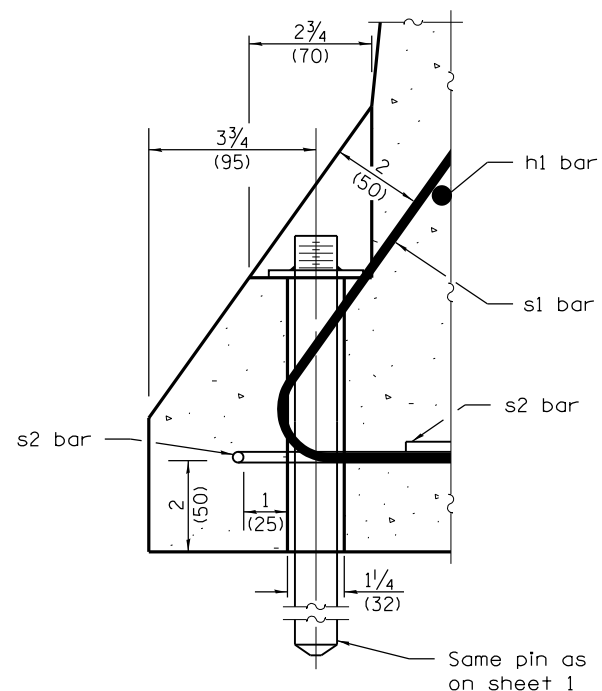
SECTION C-C



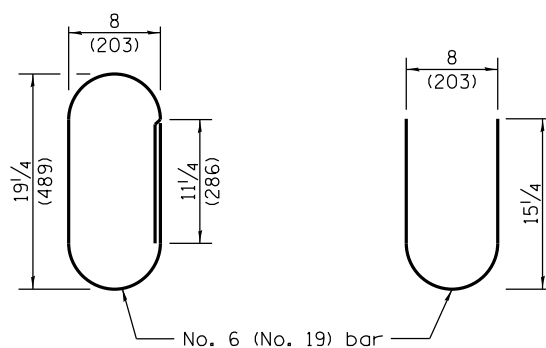
ELEVATION
(Reinforcement)



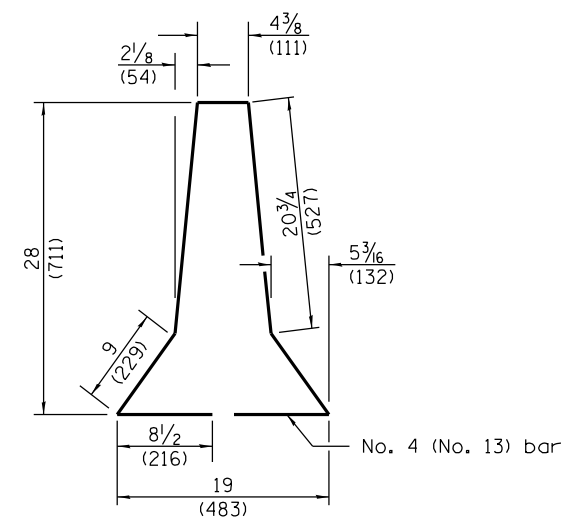
PLAN



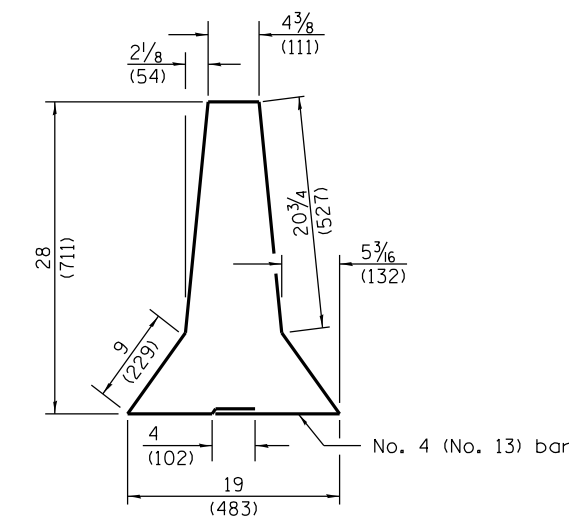
SECTION B-B
ANCHORING DETAIL



ALTERNATE s2 BARS



s1 BAR



ALTERNATE s1 BAR

Illinois Department of Transportation

PASSED April 1, 2016
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES

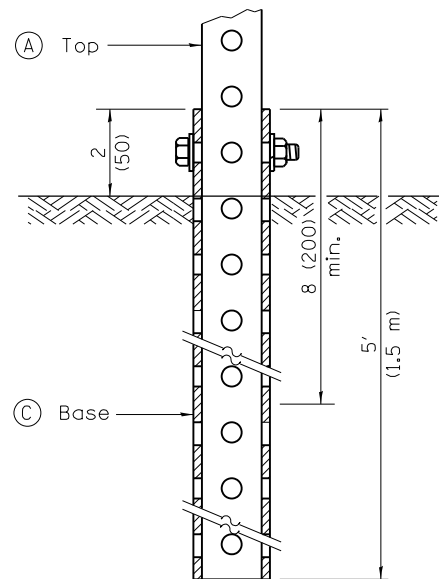
APPROVED April 1, 2016
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 10-1-20
 20-1-01

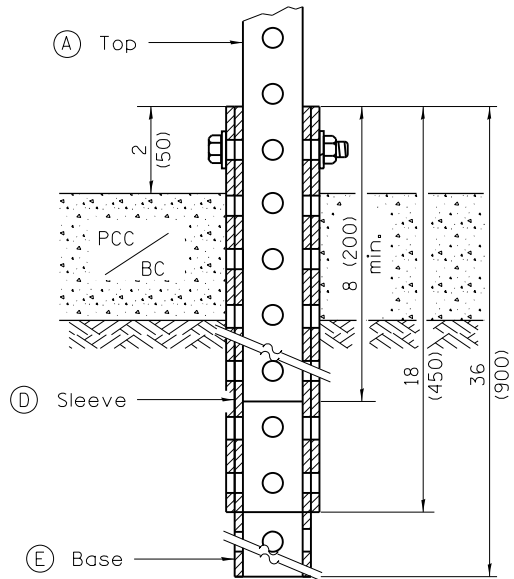
TEMPORARY CONCRETE BARRIER

(Sheet 2 of 2)

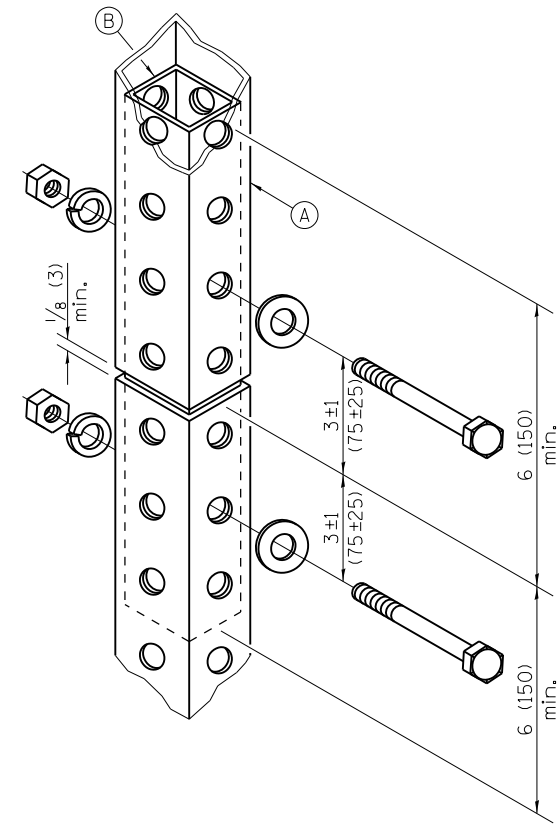
STANDARD 704001-08



GROUND MOUNT DETAIL



PAVEMENT MOUNT DETAIL



SPLICE DETAIL

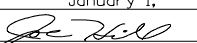
(A)	2 x 2 x var. (51 x 51 var.)
(B)	1 3/4 x 1 3/4 x 12 (44 x 44 x 300)
(C)	2 1/4 x 2 1/4 x 60 (57 x 57 x 1500)
(D)	2 1/2 x 2 1/2 x 18 (64 x 64 x 450)
(E)	2 1/4 x 2 1/4 x 36 (57 x 57 x 900)

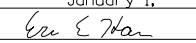
GENERAL NOTES

All bolts 3/8 (M10) hex head zinc or cadmium plated.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2009

 ENGINEER OF OPERATIONS

APPROVED January 1, 2009

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	New Standard. Used to be part of Standard 720006.

TELESCOPING STEEL SIGN SUPPORT

STANDARD 728001-01