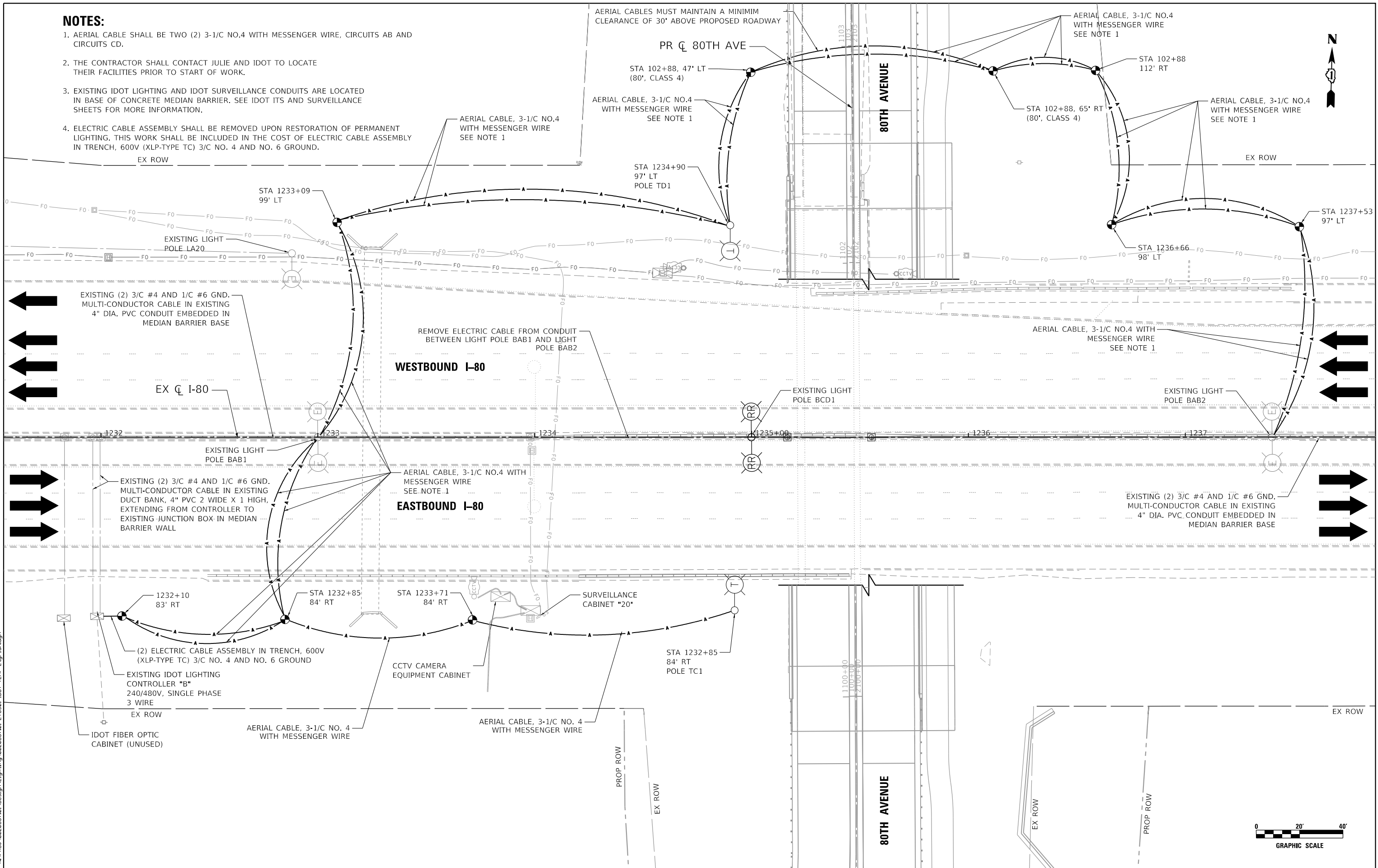


NOTES:

1. AERIAL CABLE SHALL BE TWO (2) 3-1/C NO.4 WITH MESSENGER WIRE, CIRCUITS AB AND CIRCUITS CD.
2. THE CONTRACTOR SHALL CONTACT JULIE AND IDOT TO LOCATE THEIR FACILITIES PRIOR TO START OF WORK.
3. EXISTING IDOT LIGHTING AND IDOT SURVEILLANCE CONDUITS ARE LOCATED IN BASE OF CONCRETE MEDIAN BARRIER. SEE IDOT ITS AND SURVEILLANCE SHEETS FOR MORE INFORMATION.
4. ELECTRIC CABLE ASSEMBLY SHALL BE REMOVED UPON RESTORATION OF PERMANENT LIGHTING. THIS WORK SHALL BE INCLUDED IN THE COST OF ELECTRIC CABLE ASSEMBLY IN TRENCH, 600V (XLP-TYPE TC) 3/C NO. 4 AND NO. 6 GROUND.

AERIAL CABLES MUST MAINTAIN A MINIMUM CLEARANCE OF 30' ABOVE PROPOSED ROADWAY



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

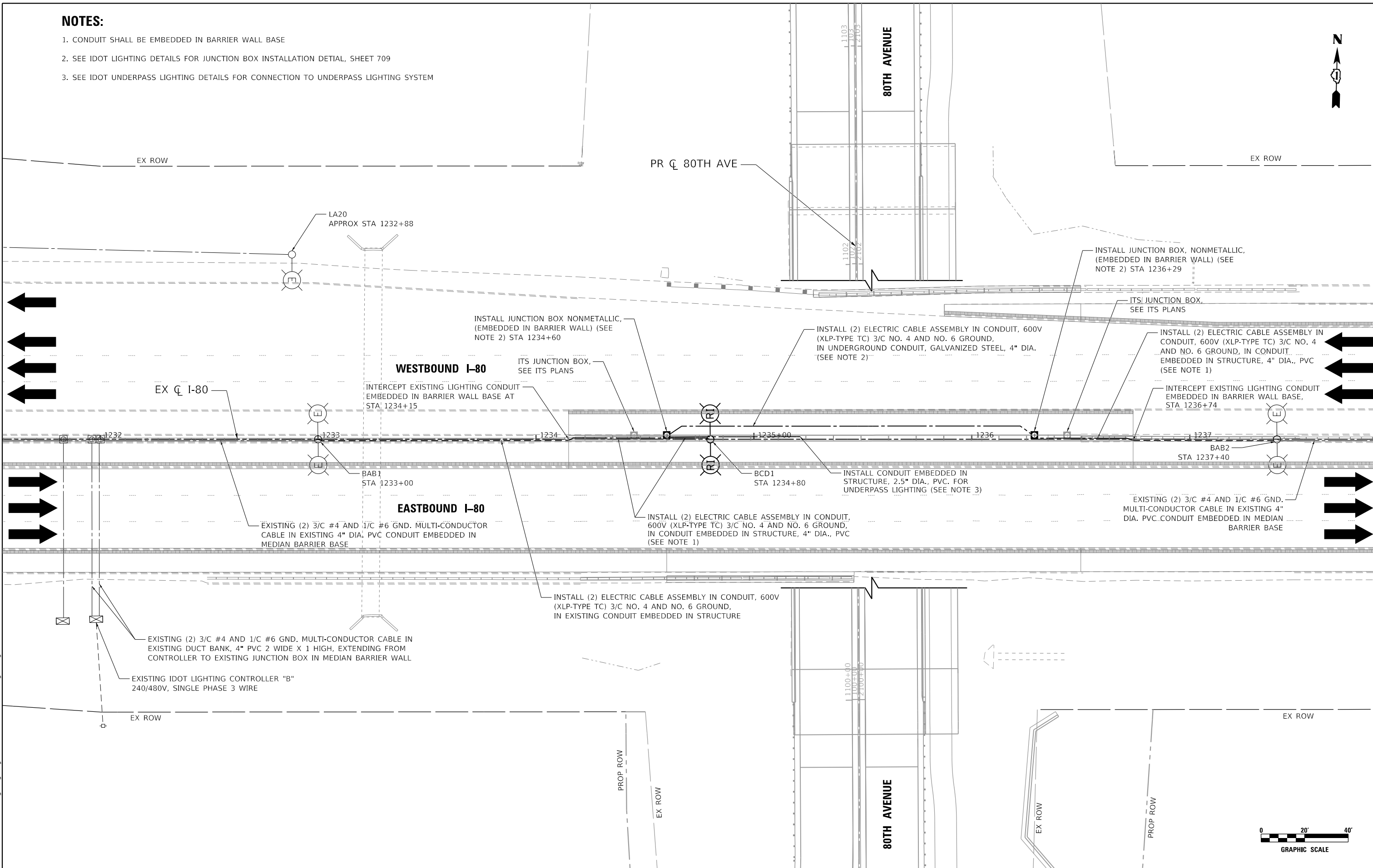
**80TH AVENUE
IDOT REMOVAL AND TEMPORARY LIGHTING PLAN
I-80**

SCALE: 1" = 20' SHEET NO. 1 OF 1 SHEETS STA. 1231+55 TO STA. 1238+00

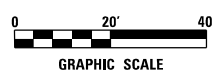
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CONTRACT NO. = 61G73			ILLINOIS FED. AID PROJECT	

NOTES:

1. CONDUIT SHALL BE EMBEDDED IN BARRIER WALL BASE
2. SEE IDOT LIGHTING DETAILS FOR JUNCTION BOX INSTALLATION DETAIL, SHEET 709
3. SEE IDOT UNDERPASS LIGHTING DETAILS FOR CONNECTION TO UNDERPASS LIGHTING SYSTEM



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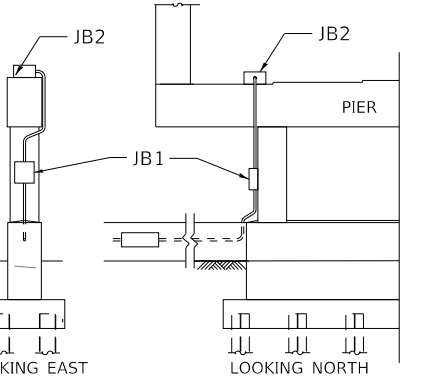
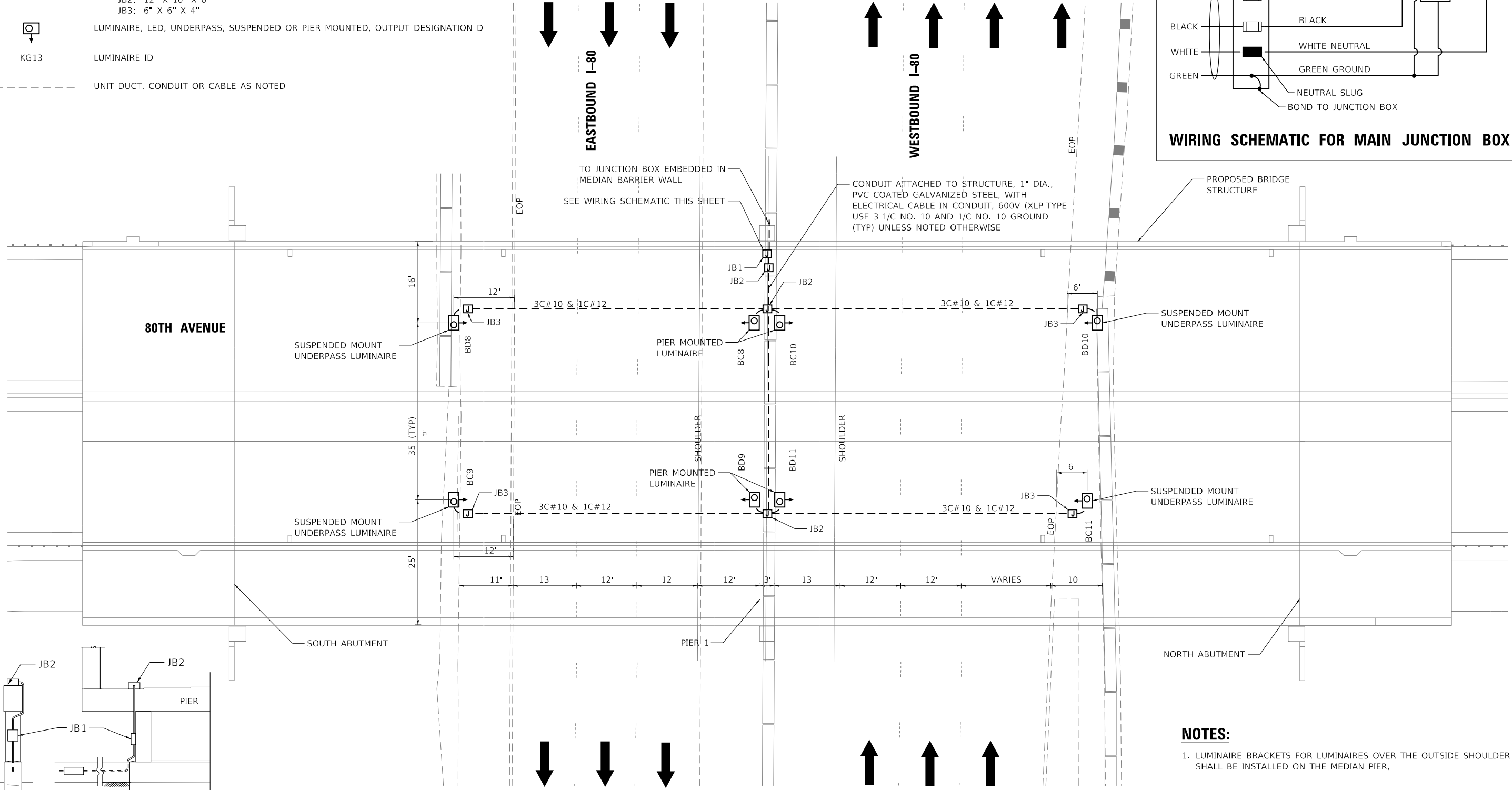
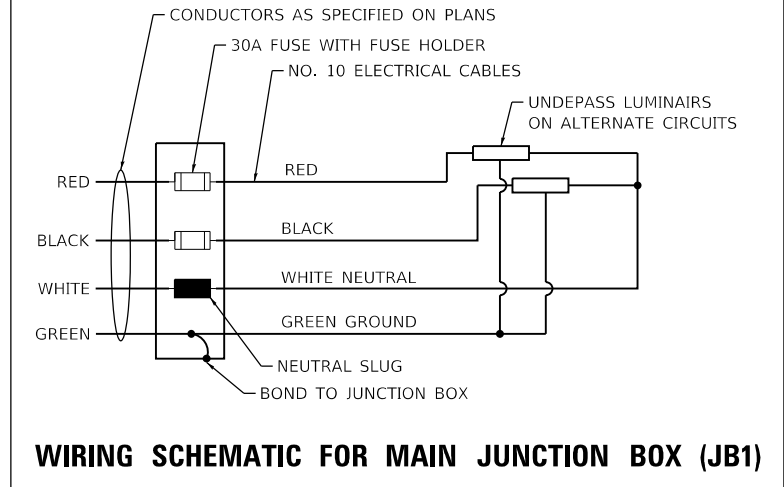
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

80TH AVENUE
IDOT PROPOSED LIGHTING PLAN
I-80
 SCALE: 1" = 20' SHEET NO. 1 OF 1 SHEETS STA. 1231+55 TO STA. 1238+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

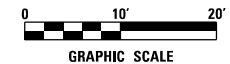
LIGHTING LEGEND

PROPOSED	DESCRIPTION
	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, SIZED AS NOTED JB1: 18" X 18" X 8" JB2: 12" X 10" X 6" JB3: 6" X 6" X 4"
	LUMINAIRE, LED, UNDERPASS, SUSPENDED OR PIER MOUNTED, OUTPUT DESIGNATION D
KG13	LUMINAIRE ID
	UNIT DUCT, CONDUIT OR CABLE AS NOTED



NOTES:

- LUMINAIRE BRACKETS FOR LUMINAIRS OVER THE OUTSIDE SHOULDER SHALL BE INSTALLED ON THE MEDIAN PIER.



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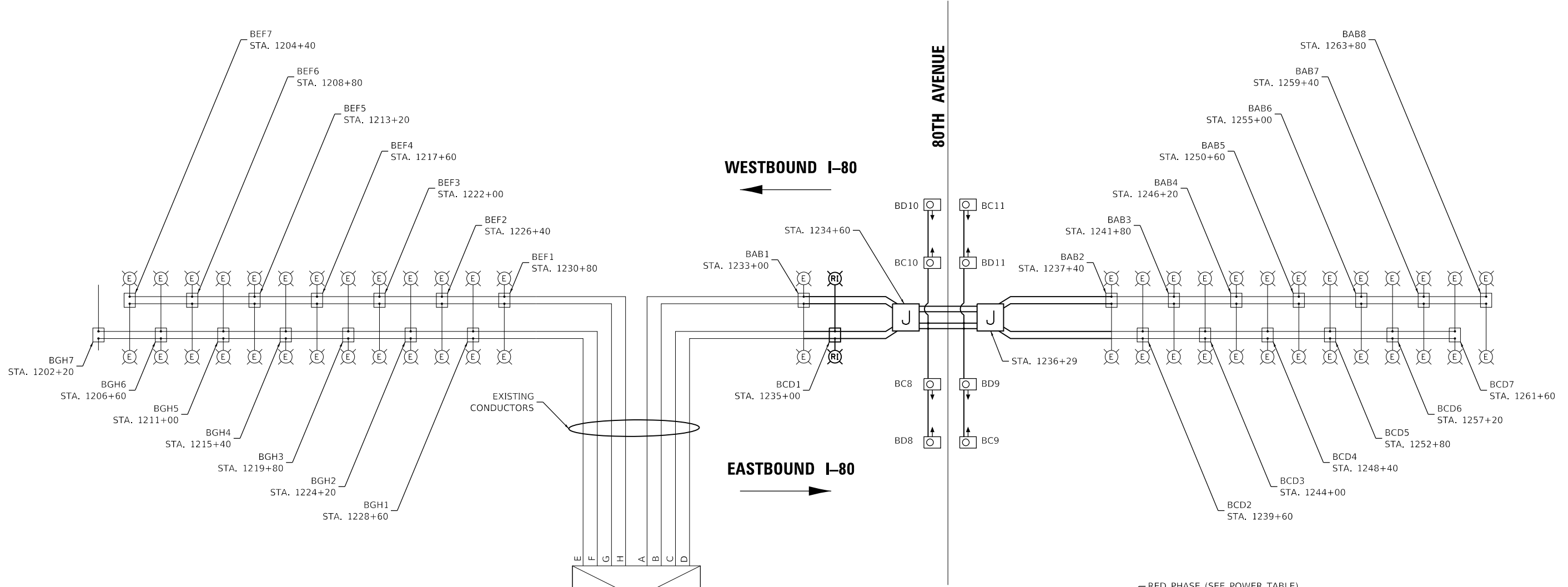
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

80TH AVENUE
 IDOT PROPOSED UNDERPASS LIGHTING PLAN
 I-80

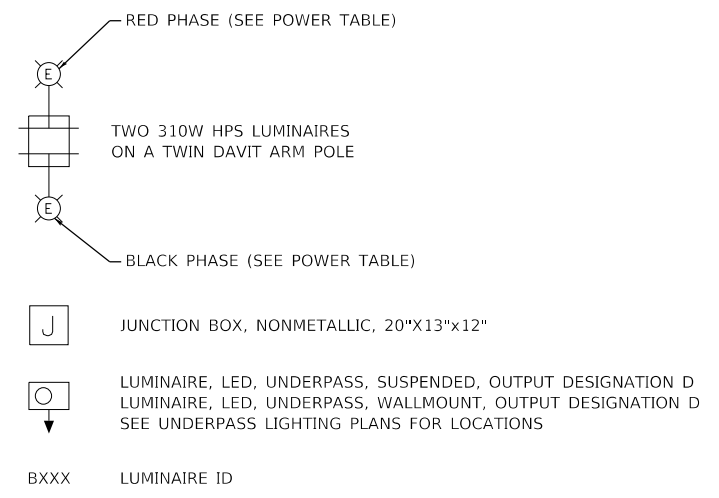
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F.A.U. RTE. 2755	SECTION 06-00122-16-FP	COUNTY WILL	TOTAL SHEETS 1113	SHEET NO. 703
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	



**POWER TABLE
POWER CENTER "B"**

PHASE	CIRCUIT	AMPS	AMPS	WATTS
RED	A	13.20		2,712
BLACK	B		13.20	2,712
RED	C	13.27		2,777
BLACK	D		13.27	2,777
RED	E	11.55		2,373
BLACK	F		11.55	2,373
RED	G	11.55		2,373
BLACK	H		11.55	2,373
	TOTAL	49.57	49.57	20,470



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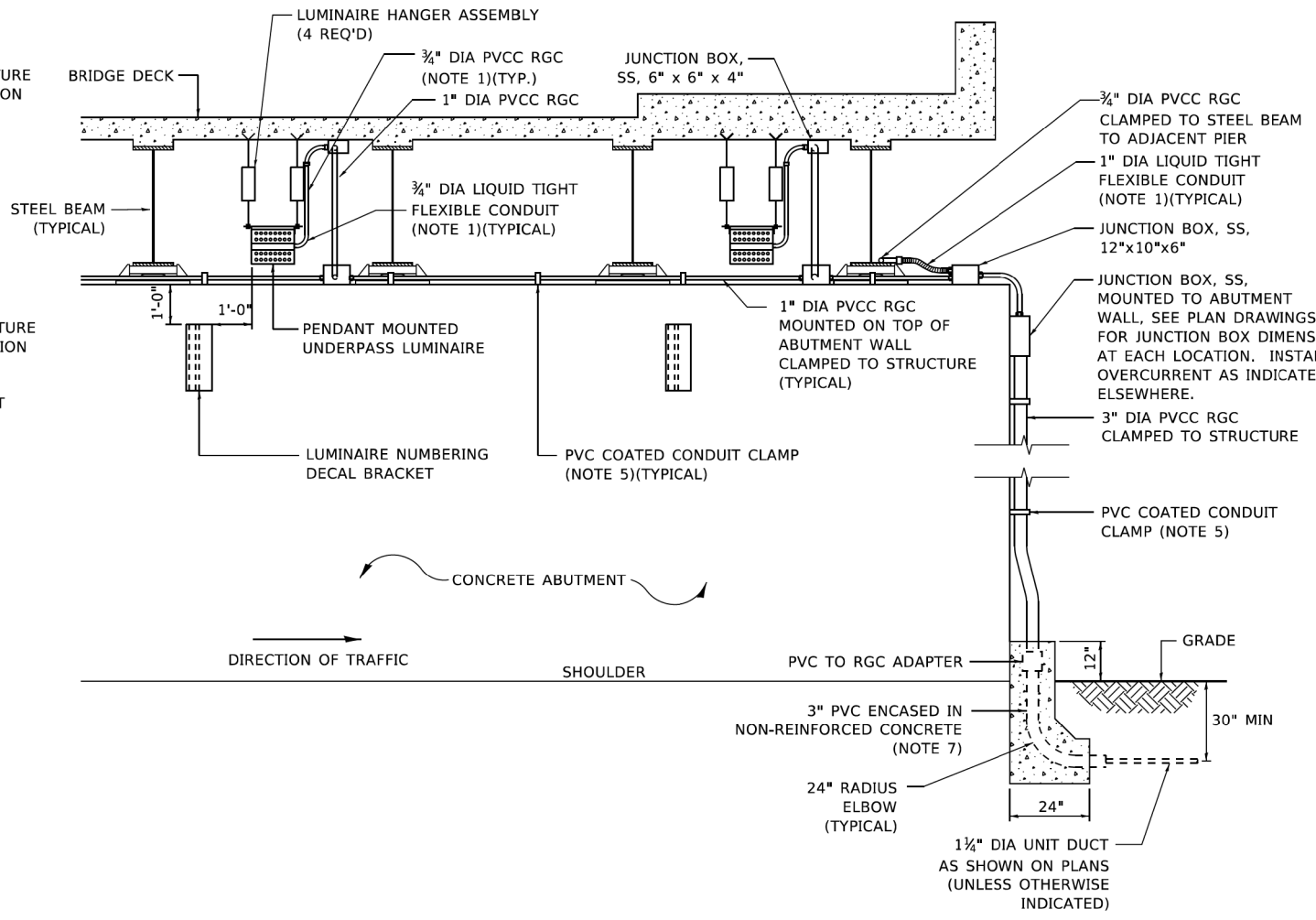
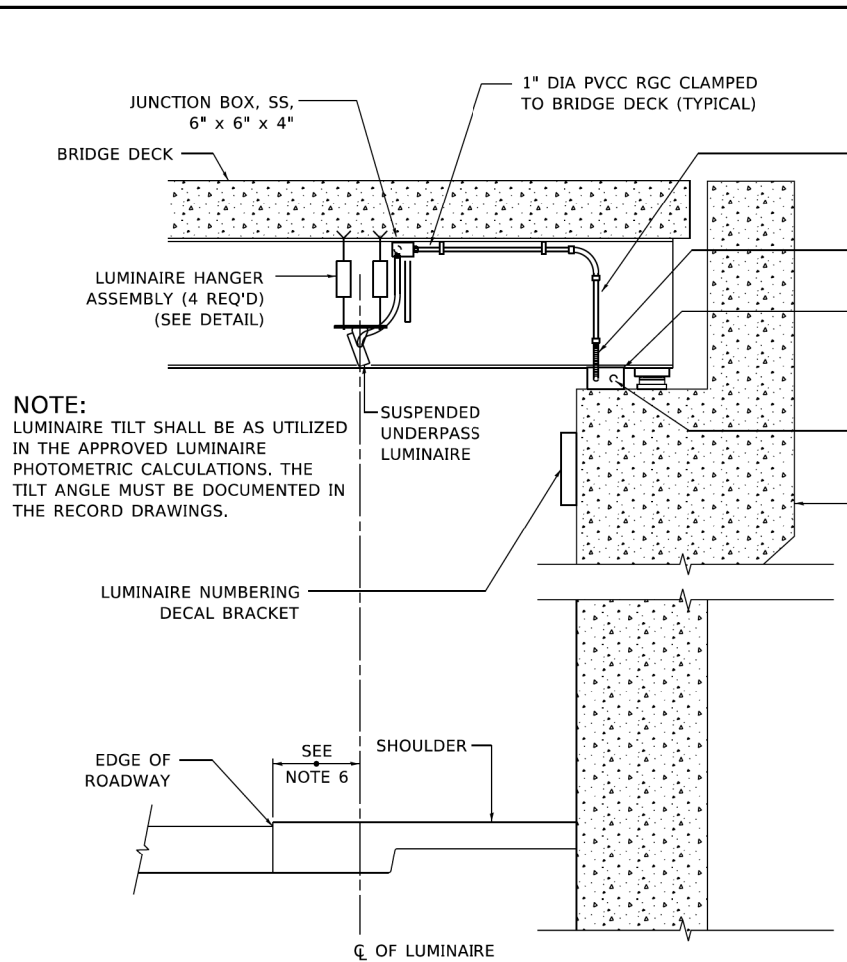


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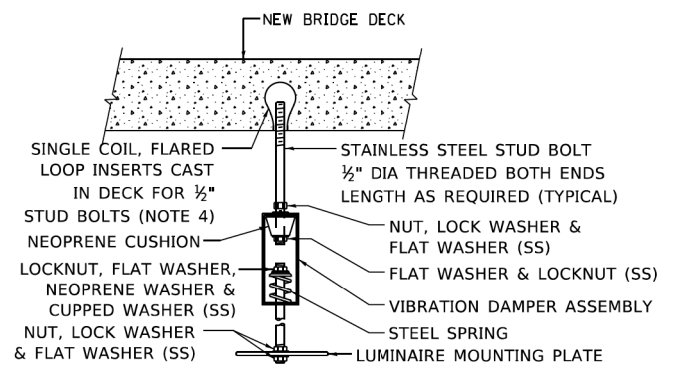
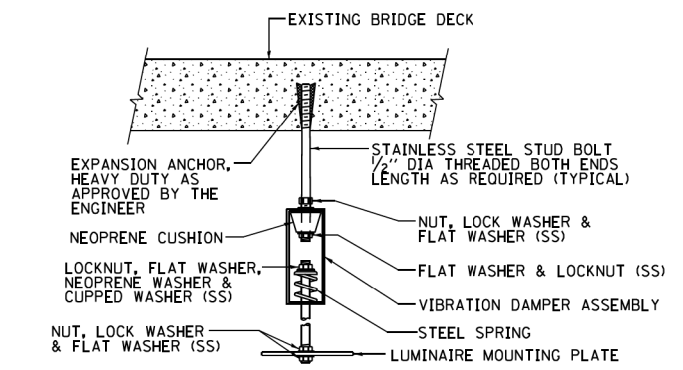
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

80TH AVENUE IDOT SINGLE LINE DIAGRAM I-80	
SCALE: N.T.S.	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

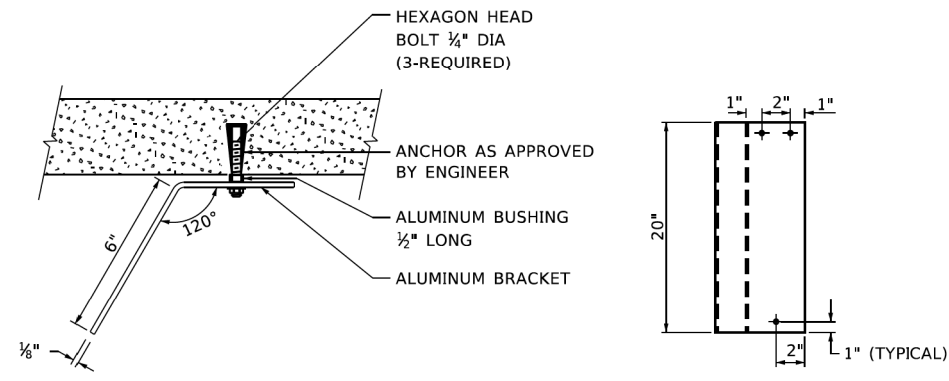
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



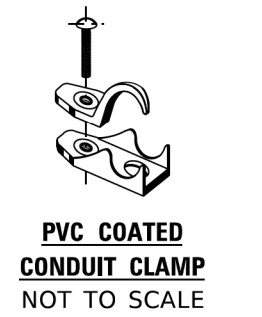
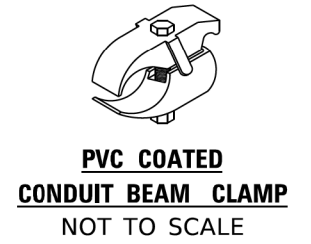
- NOTES:**
- LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT " DIA. CONDUIT AND " DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
 - SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
 - THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
 - THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
 - SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
 - ALL UNDERPASS LUMINAIRES MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS
 - THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
 - ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.
 - 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).



TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS



LUMINAIRE NUMBERING DECAL BRACKET
NOT TO SCALE



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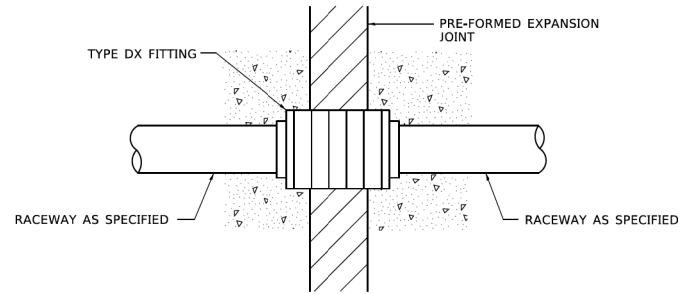
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUSPENDED MOUNT LED UNDERPASS LUMINAIRE INSTALLATION DETAILS		
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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BE-901		CONTRACT NO. 61G73		
ILLINOIS FED. AID PROJECT				

NOTES:

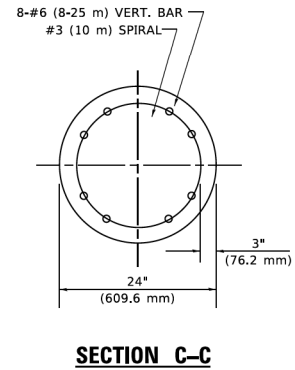
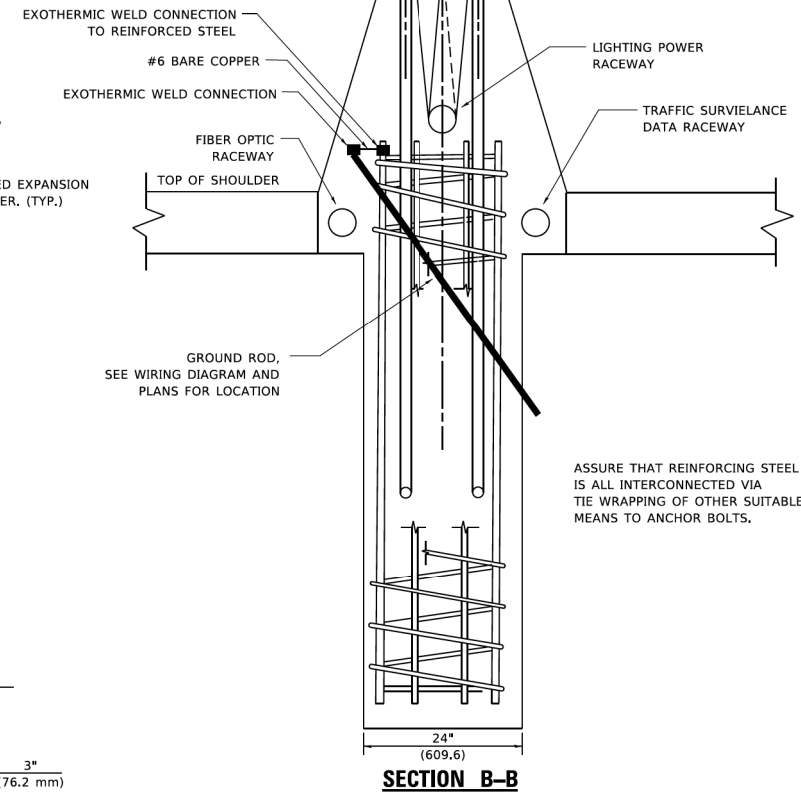
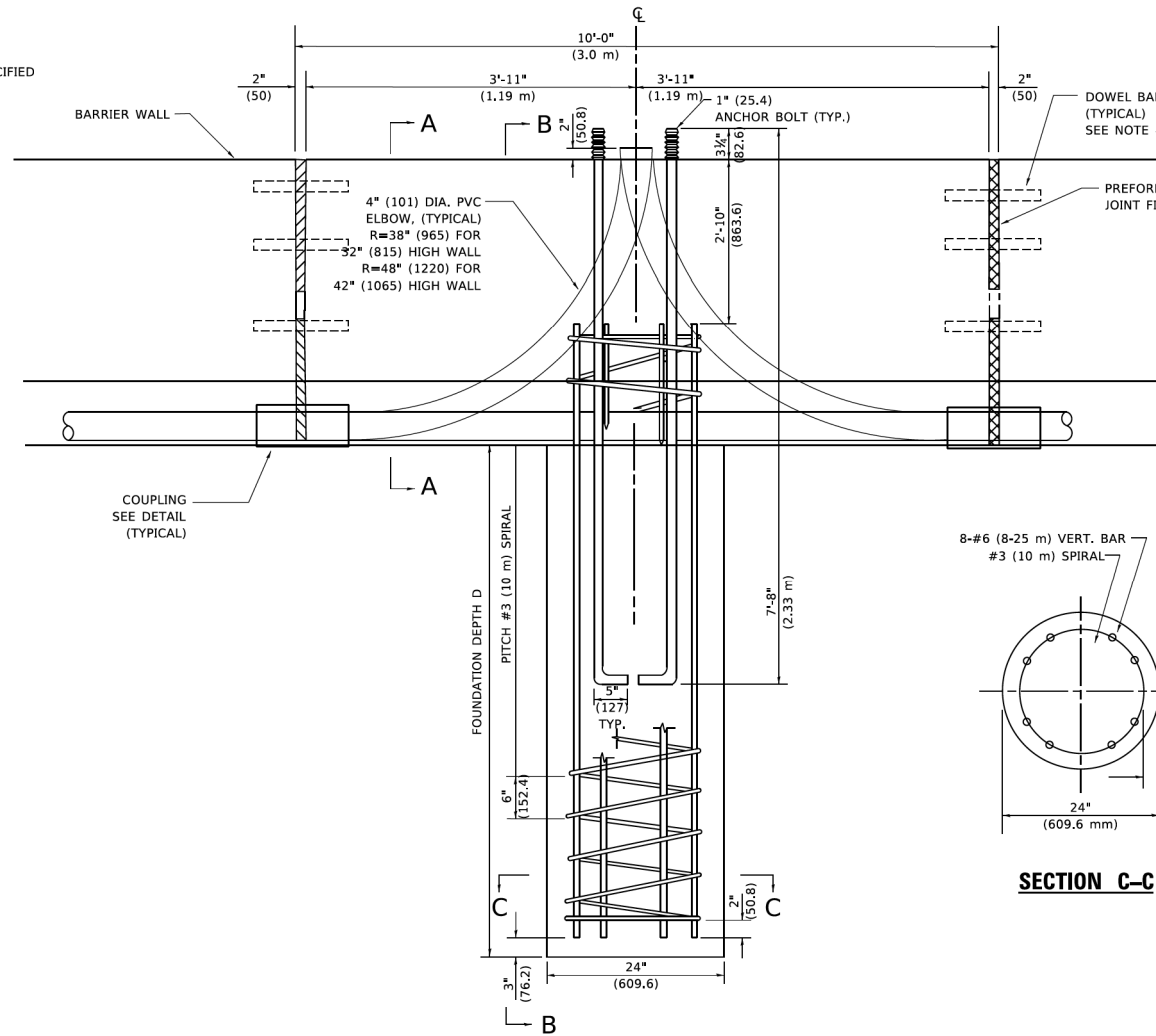
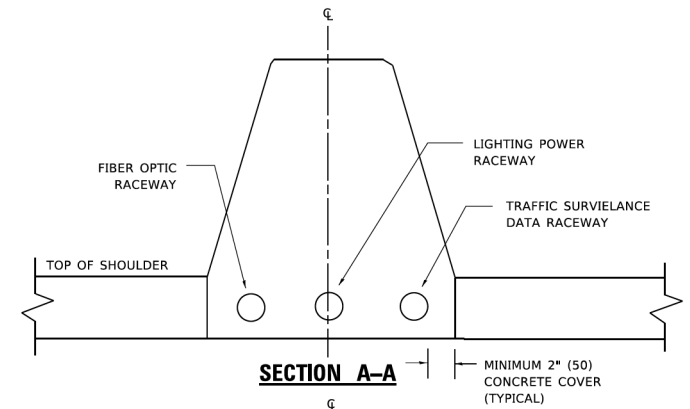
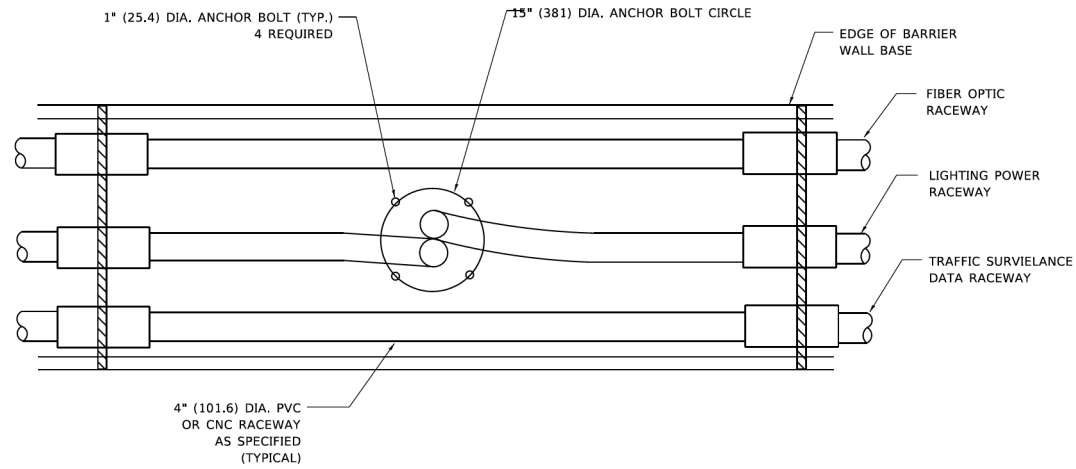
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORMS.
3. THE CONTRACTOR AT HIS OPTION MAY SUBSTITUTE #4 (15 m) TIES AT 12" (304.8 m) CTRS. FOR THE #3 (3 m) SPIRAL. TACKWELDED TYPE BOLT MAY BE SUBSTITUTED FOR THE HOOK TYPE BOLT.
4. COLD BENDING OF THE HOOK BOLT SHALL NOT BE ALLOWED.
5. EXCAVATION FOR THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER 24 INCHES (609.6 m) IN DIAMETER.
6. THE ENGINEER SHALL DETERMINE THE TYPE OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE USING THE DOMINANT CHARACTERISTIC OF THE SOIL ENCOUNTERED.
7. BARRIER WALL EXPANSION AND CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH STANDARD DETAIL 637001-02 AND 637006 AS APPLICABLE.



CONDUIT DEFLECTION FITTING DETAIL

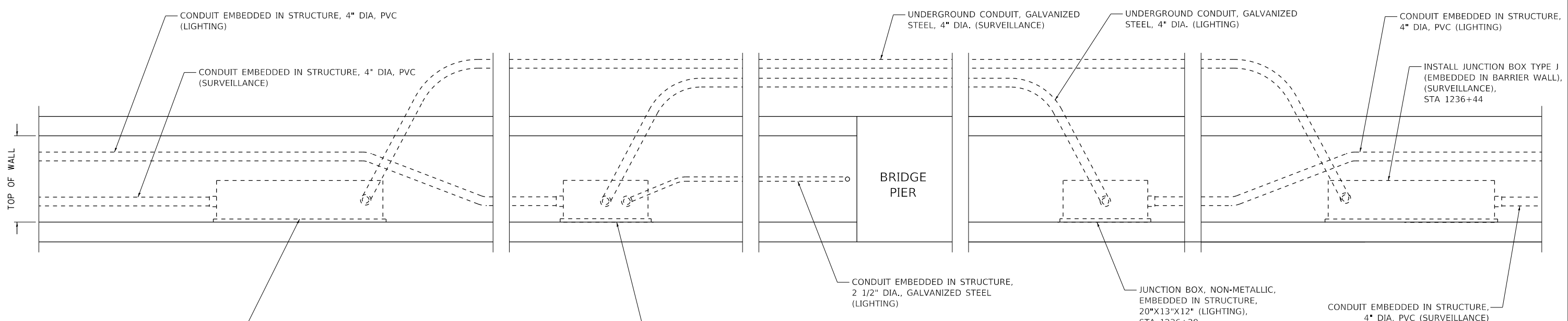
TYPE OF SOIL	FOUND FEPTH D	REINFORCEMENT IN FOUNDATION	
		VERTICAL BARS	SPIRAL
ROCK OR SOLIDIFIED SLAG	5'-0" (1.52 m)	NONE	NONE
DENSE SAND	7'-9" (2.36 m)	8-#6 x 9'-0" (8-20 m x 2.74 m)	#3 x 90' (3 m x 27.43 m)
MEDIUM SAND	8'-3" (2.51 m)	8-#6 x 9'-5" (8-20 m x 2.87 m)	#3 x 94' (3 m x 28.65 m)
LOOSE SAND	9'-0" (2.74 m)	8-#6 x 10'-2" (8-20 m x 3.09 m)	#3 x 100' (3 m x 30.48 m)
STIFF CLAY	7'-0" (2.13 m)	8-#6 x 10'-8" (8-20 m x 2.48 m)	#3 x 80' (3 m x 24.38 m)
MEDIUM CLAY	9'-6" (2.89 m)	8-#6 x 10'-8" (8-20 m x 3.25 m)	#3 x 104' (3 m x 31.69 m)
SOFT CLAY	13'-0" (3.96 m)	8-#6 x 14'-2" (8-20 m x 4.32 m)	#3 x 144' (3 m x 43.89 m)

DESIGN: 80 MPH AASHTO

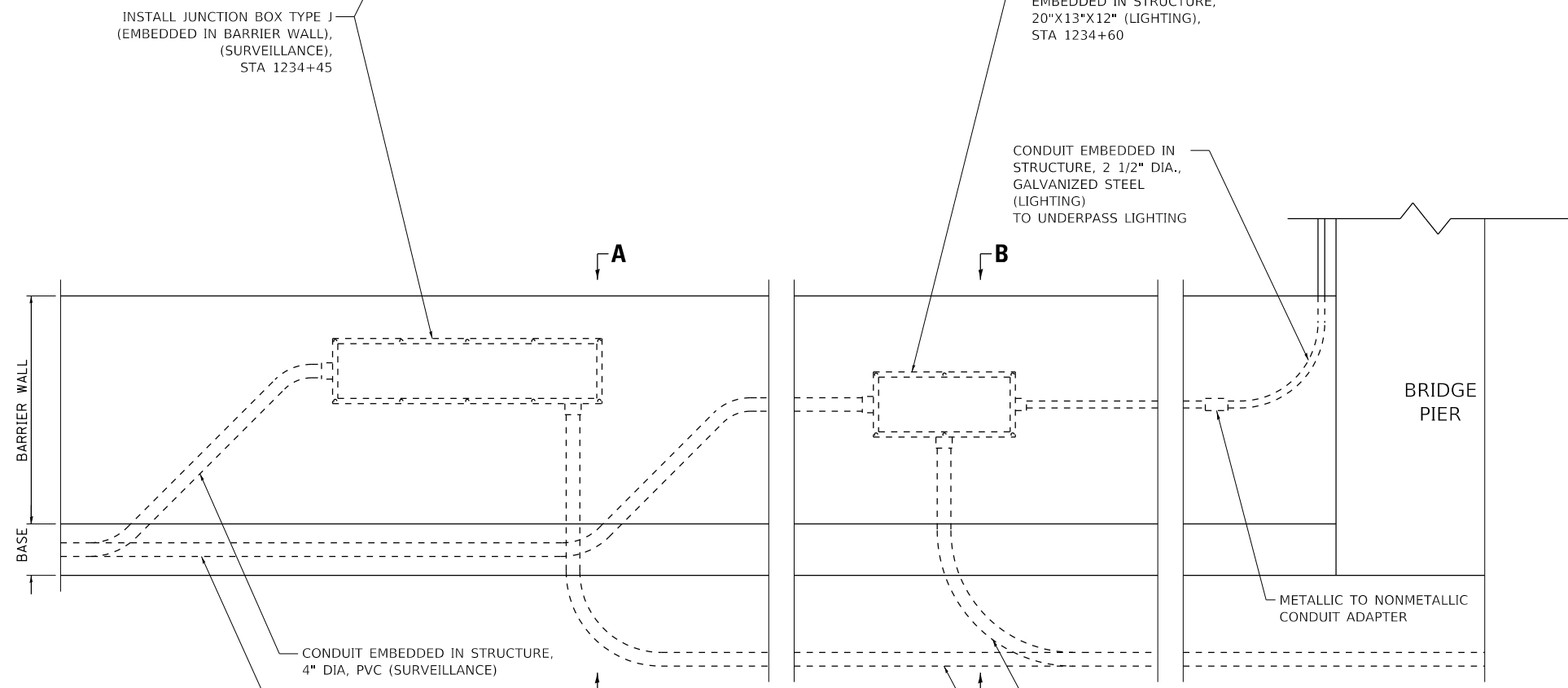


24" DIA. LIGHT POLE FOUNDATION INTEGRAL WITH DOUBLE FACE BARRIER WALL

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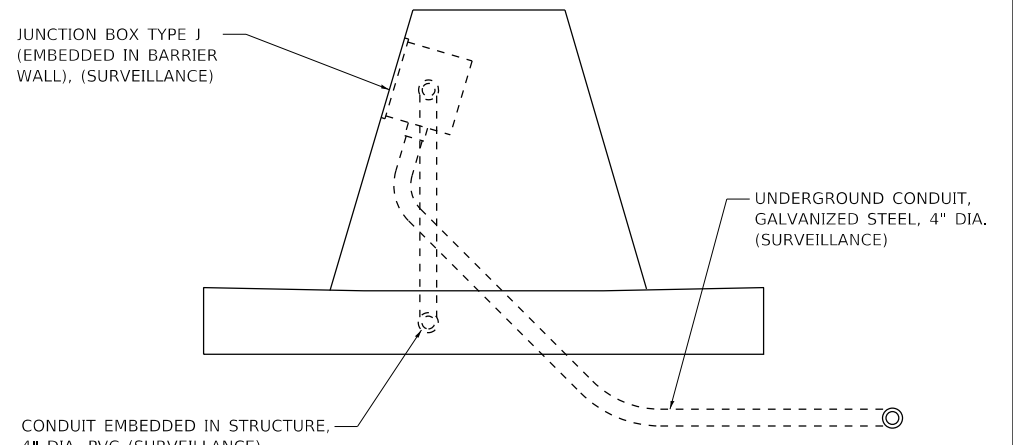


PLAN VIEW



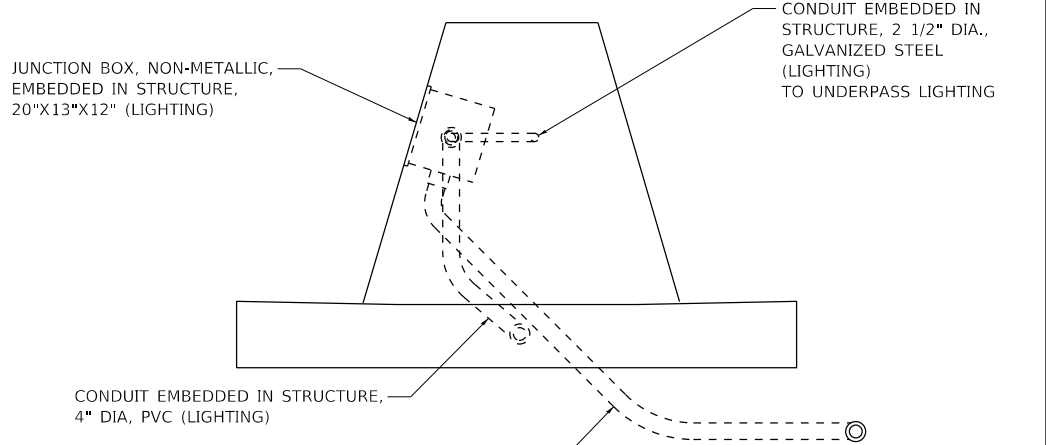
ELEVATION VIEW

(LOOKING NORTH)



SECTION A-A

(LOOKING WEST)



SECTION B-B

(LOOKING WEST)

JUNCTION BOXES, EMBEDDED IN MEDIAN BARRIER WALL (IDOT)

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**80TH AVENUE
IDOT LIGHTING AND SURVEILLANCE DETAILS**

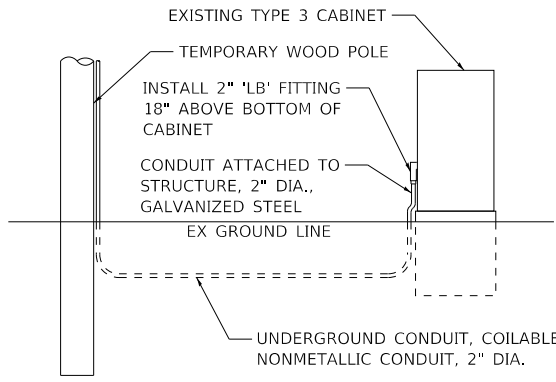
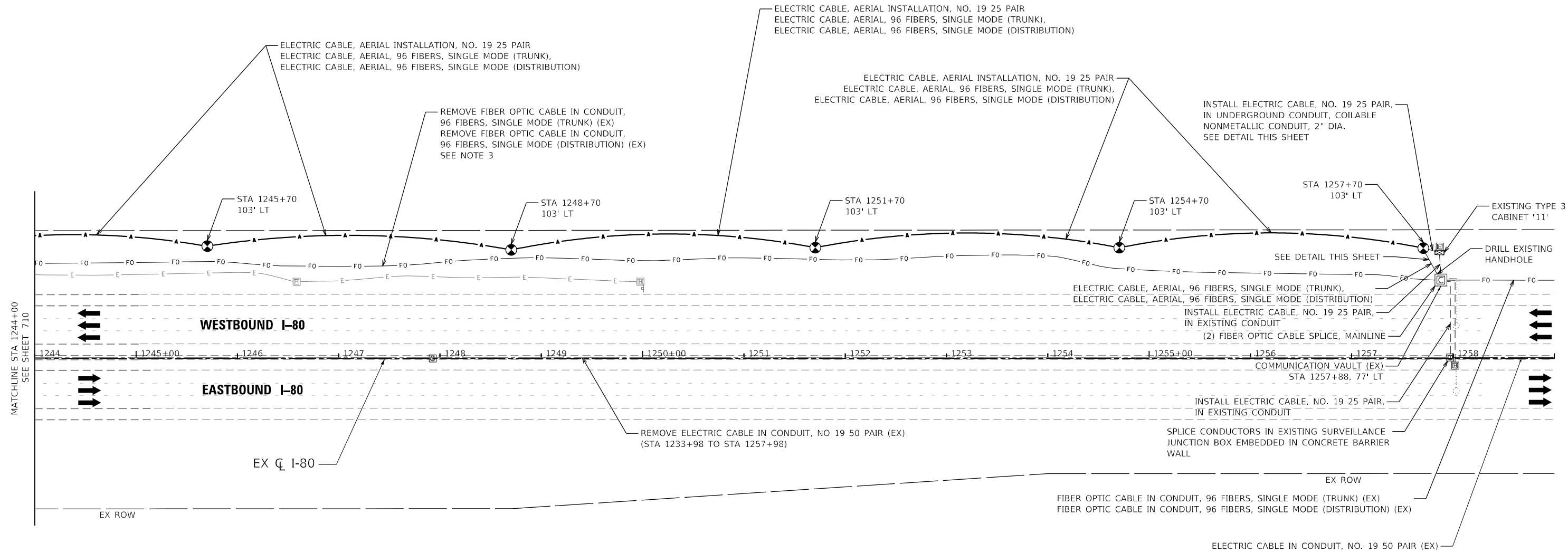
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61G73	

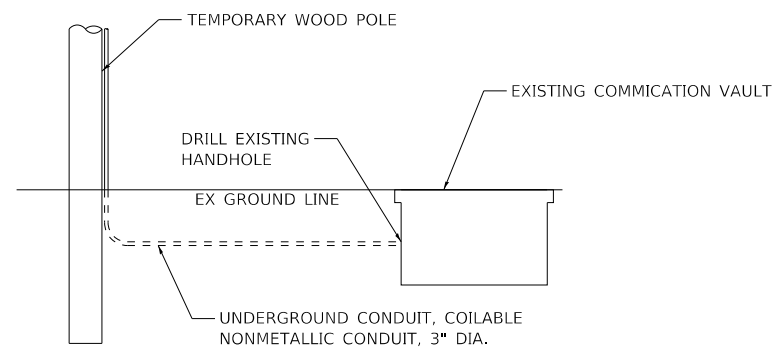
ILLINOIS FED. AID PROJECT

NOTES:

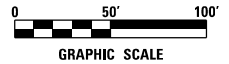
1. TEMPORARY WOOD POLE SHARED WITH TEMPORARY LIGHTING SYSTEM. SEE IDOT TEMPORARY LIGHTING PLAN
2. SEE SINGLE LINE DIAGRAM FOR CABLE ROUTING AND SPLICING DETAILS.
3. REMOVAL OF EXISTING FIBER OPTIC CABLES SHALL NOT BE BEGIN UNTIL AFTER PROPOSED FIBER OPTIC LINES ARE INSTALLED AND READY TO BE CONNECTED.



TEMPORARY TYPE 3 SURVEILLANCE CABINET CONNECTION DETAIL
NOT TO SCALE



TEMPORARY FIBER OPTIC CONNECTION TO EXISTING COMMUNICATION VAULT DETAIL
NOT TO SCALE



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

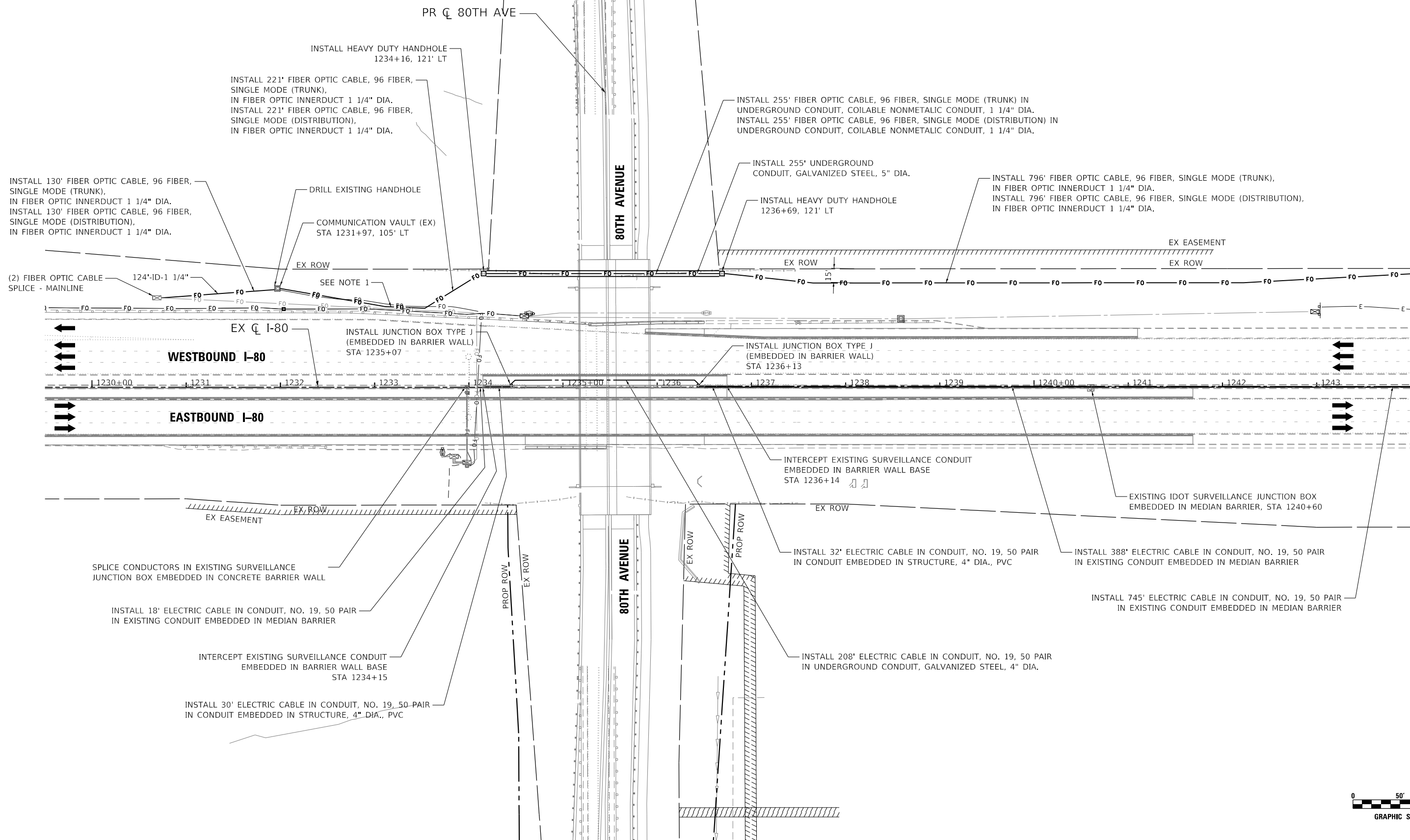
80TH AVENUE
IDOT TEMPORARY ITS AND SURVEILLANCE
I-80

SCALE: 1" = 50' SHEET NO. 2 OF 4 SHEETS STA. 1244+00 TO STA. 1259+00

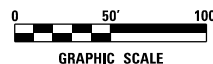
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	711
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING FIBER OPTIC CABLES PRIOR TO BEGINNING WORK.



MATCHLINE STA 1244+00
SEE SHEET 713



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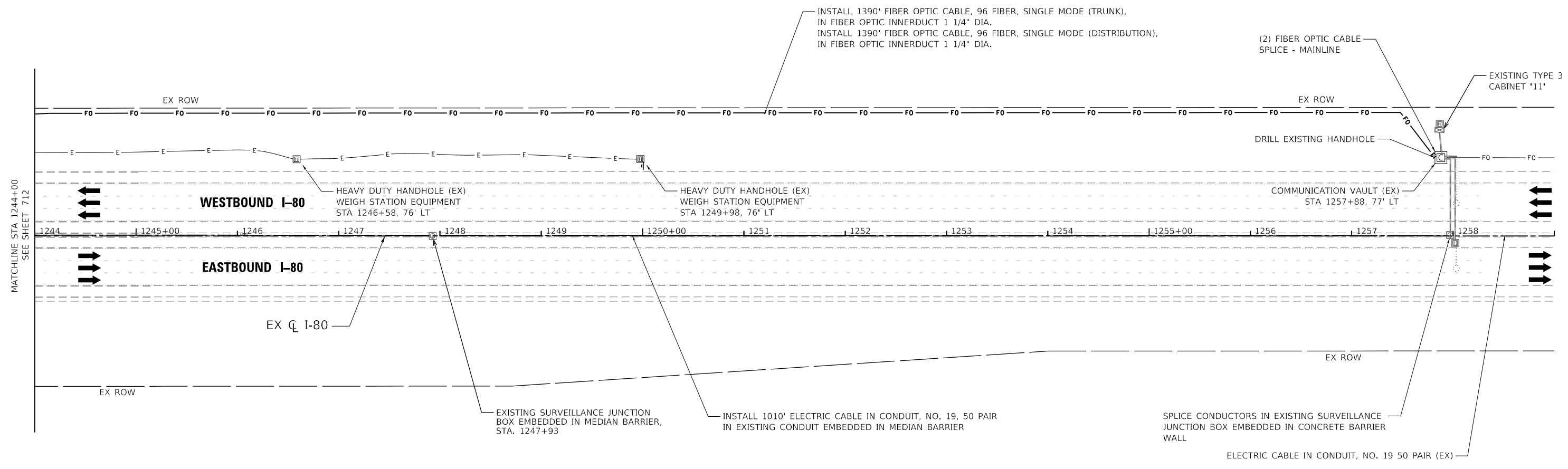
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

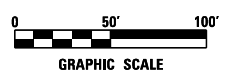
**80TH AVENUE
IDOT ITS AND SURVEILLANCE PLAN
I-80**

SCALE: 1" = 50' SHEET NO. 3 OF 4 SHEETS STA. 1229+00 TO STA. 1244+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	712
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



MATCHLINE STA 1244+00
SEE SHEET 712



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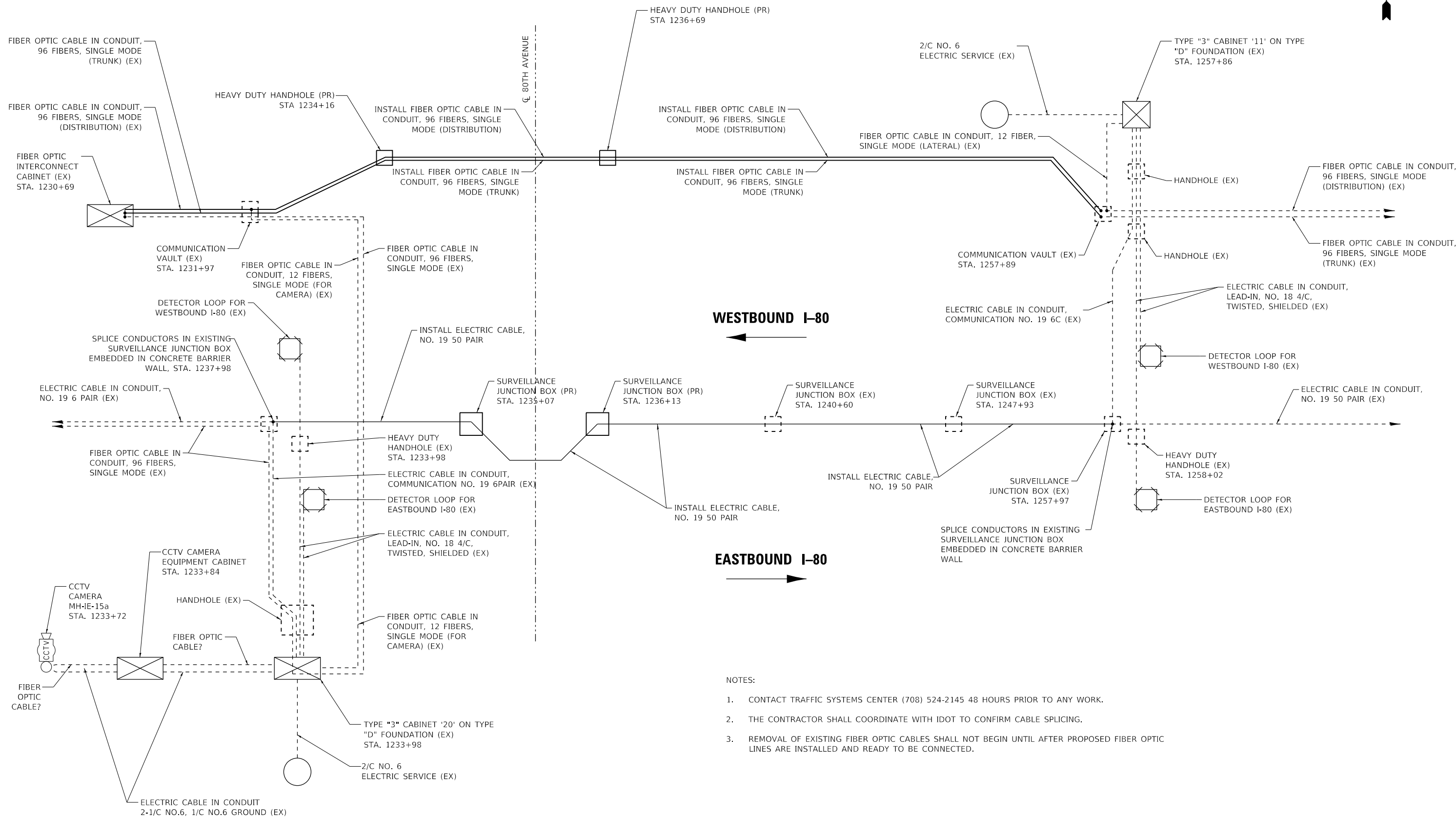
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	DRAWN - MJS	REVISED -
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PLOT DATE = 2/26/2021	DATE - 11/23/2020	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**80TH AVENUE
IDOT ITS AND SURVEILLANCE PLAN
I-80**

SCALE: 1" = 50' SHEET NO. 4 OF 4 SHEETS STA. 1244+00 TO STA. 1259+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	713
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



NOTES:

1. CONTACT TRAFFIC SYSTEMS CENTER (708) 524-2145 48 HOURS PRIOR TO ANY WORK.
2. THE CONTRACTOR SHALL COORDINATE WITH IDOT TO CONFIRM CABLE SPLICING.
3. REMOVAL OF EXISTING FIBER OPTIC CABLES SHALL NOT BEGIN UNTIL AFTER PROPOSED FIBER OPTIC LINES ARE INSTALLED AND READY TO BE CONNECTED.

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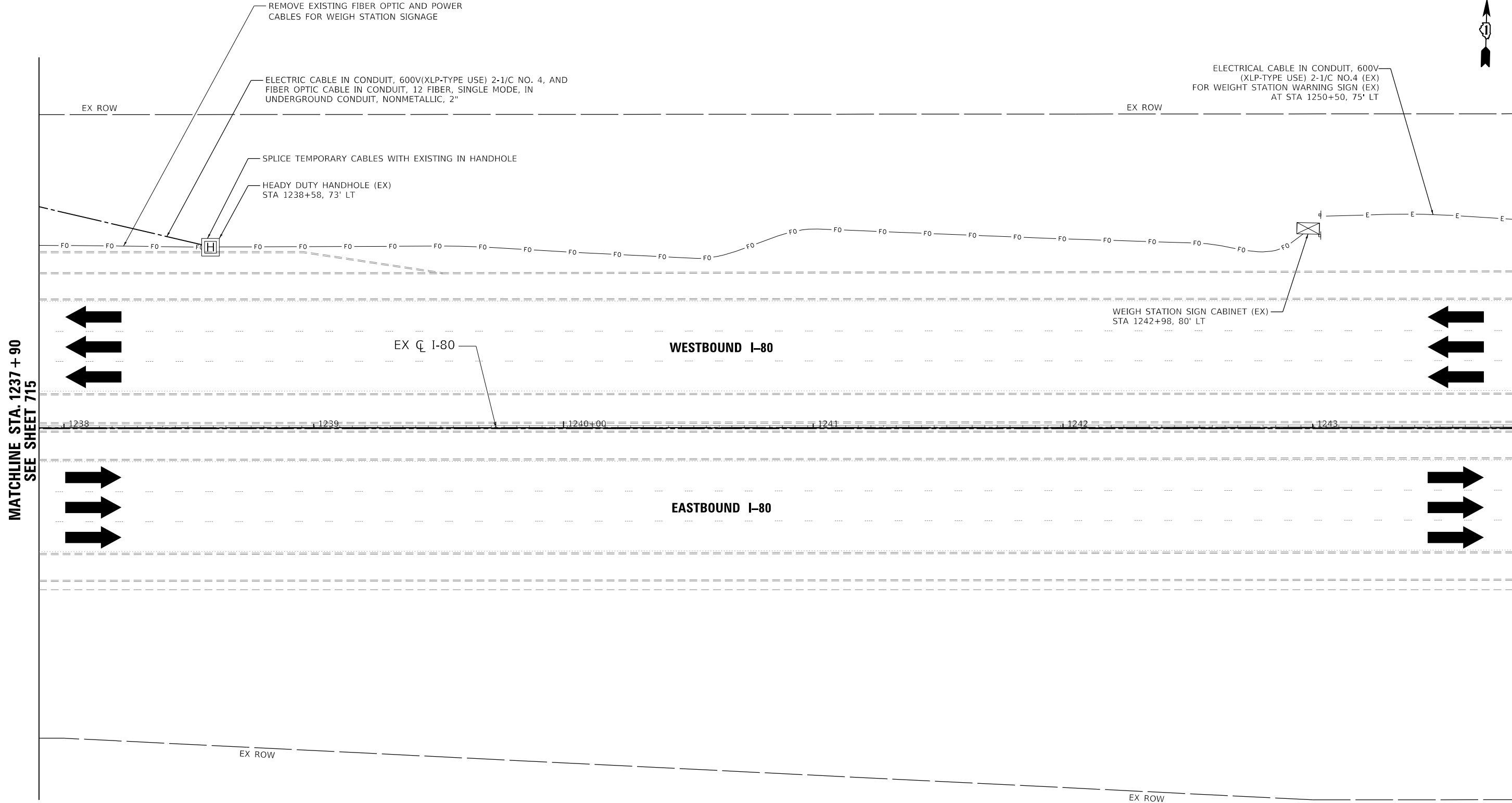


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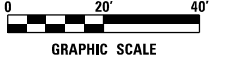
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

80TH AVENUE IDOT ITS SINGLE LINE DIAGRAM I-80	
SCALE: N.T.S.	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	714
CONTRACT NO.				61G73
ILLINOIS FED. AID PROJECT				



MATCHLINE STA. 1237 + 90
SEE SHEET 715



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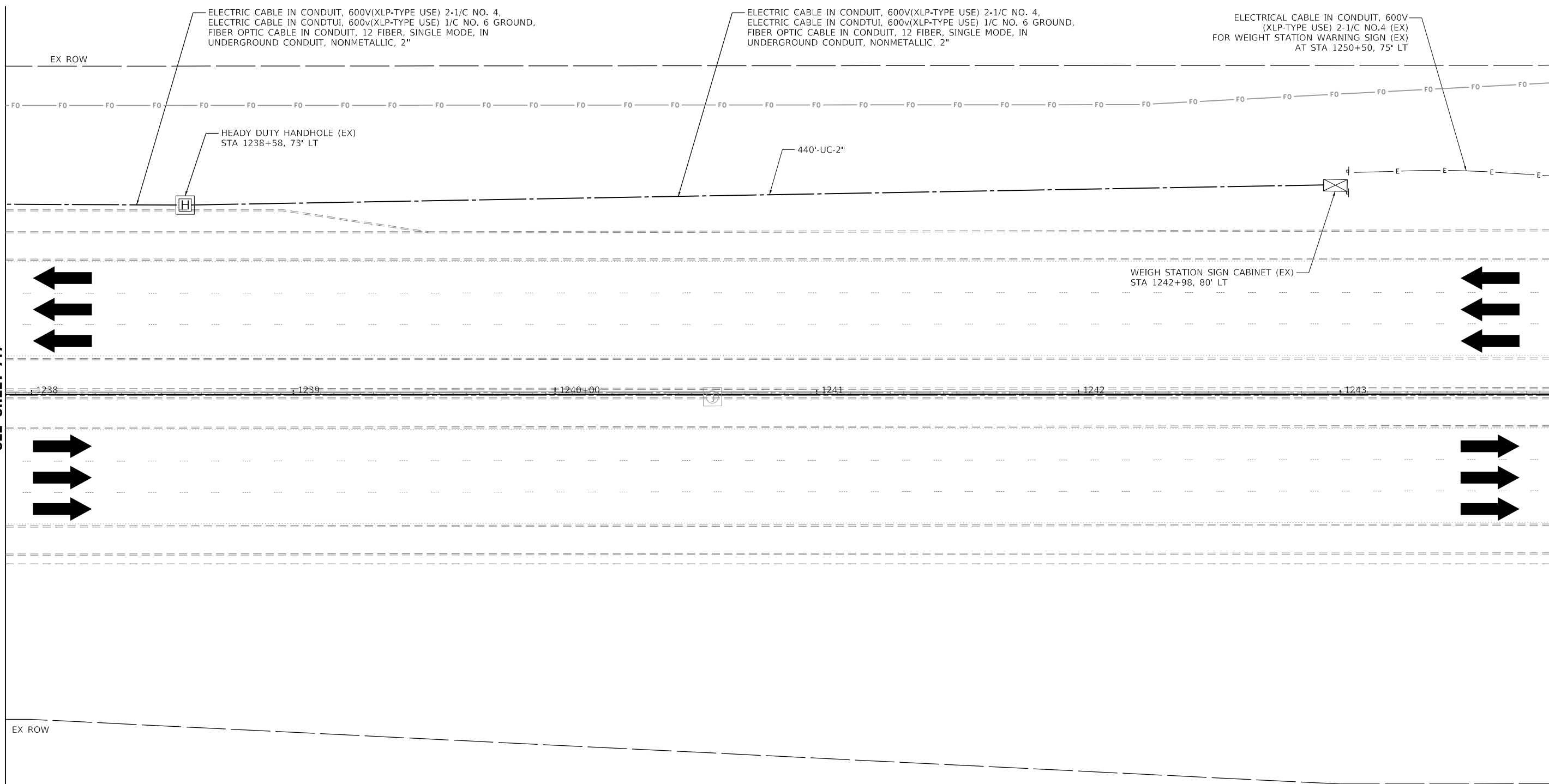
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

80TH AVENUE
IDOT WEIGH STATION TEMPORARY SITE ELECTRICAL PLAN
I-80
SCALE: 1" = 20' SHEET NO. 2 OF 2 SHEETS STA. 1237+90 TO STA. 1243+80

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	716
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

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MATCHLINE STA. 1237 + 90
 SEE SHEET 717



USER NAME = untitled	DESIGNED - DTJ	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

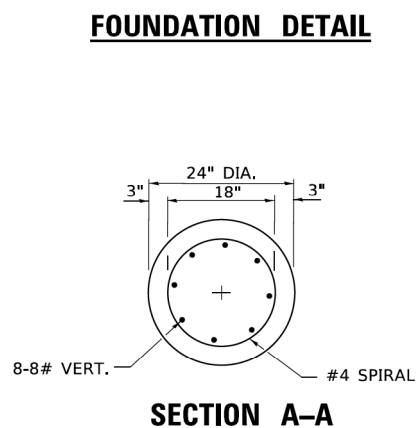
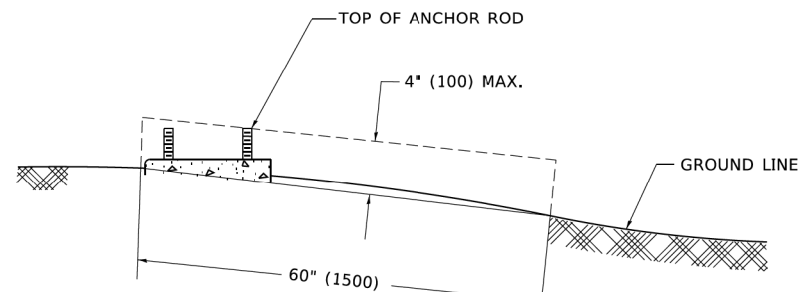
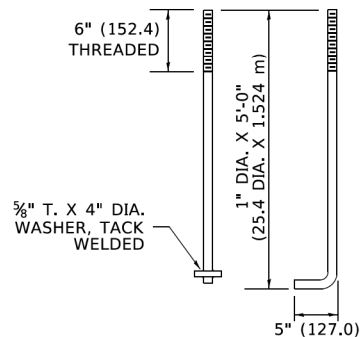
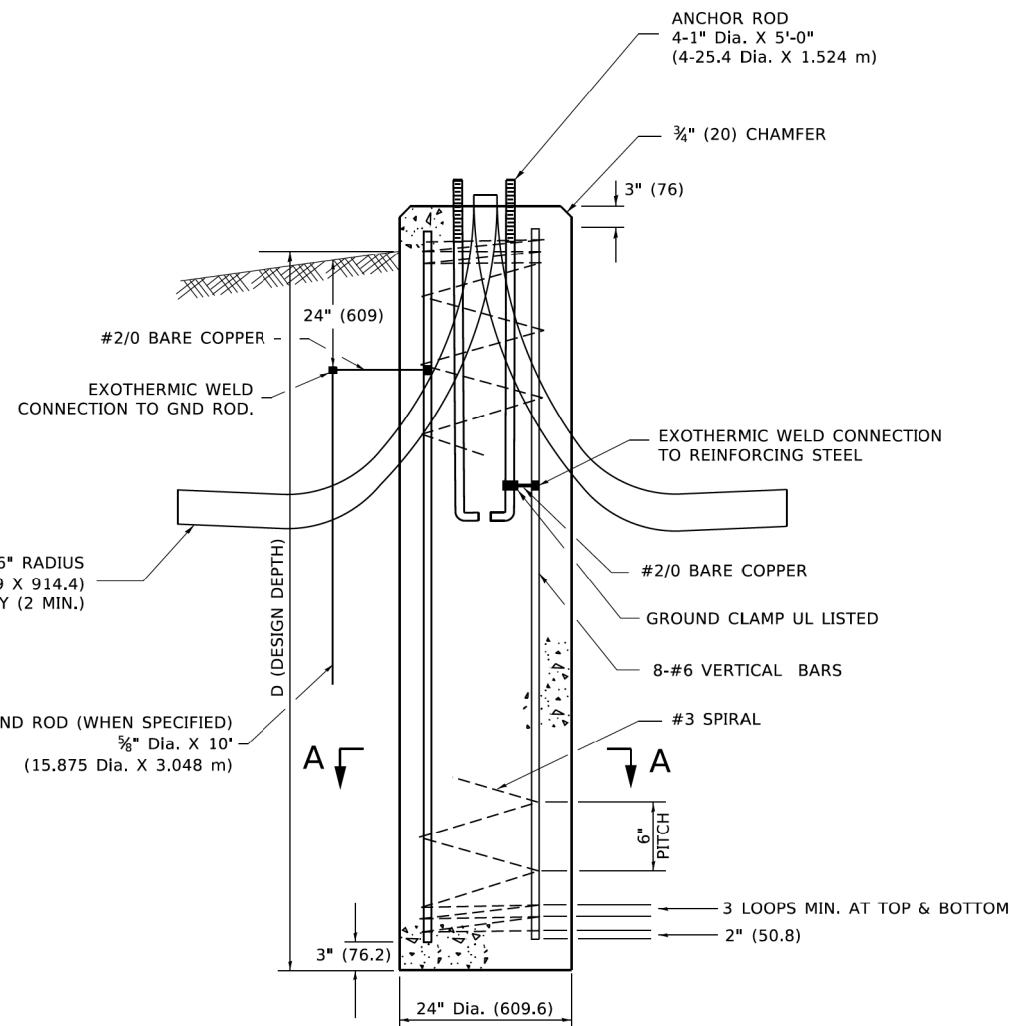
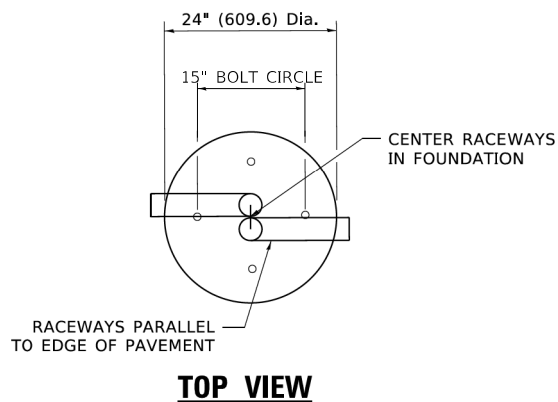
80TH AVENUE
IDOT WEIGH STATION SITE ELECTRICAL PLAN
I-80

SCALE: 1" = 20' SHEET NO. 2 OF 2 SHEETS STA. 1231+90 TO STA. 1243+80

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	718
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

LIGHT POLE FOUNDATION DEPTH TABLE
30 FT. (9.144 m) TO 35 FT. (10.668 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	11'-0" (3.35 m)	12'-8" (3.85 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT.	9'-0" (2.74 m)	14'-10" (4.52 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-6" (2.29 m)	8'-7" (2.61 m)
LOOSE SAND φ = 34°	9'-6" (2.90 m)	10'-7" (3.22 m)
MEDIUM SAND φ = 37.5°	9'-0" (2.74 m)	9'-10" (2.99 m)
DENSE SAND φ = 40°	8'-3" (2.51 m)	9'-7" (2.91 m)

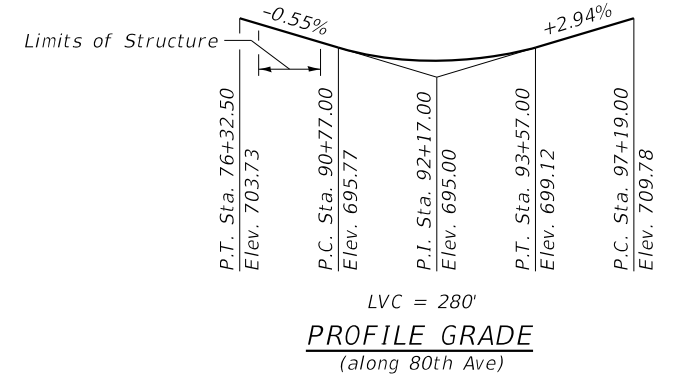
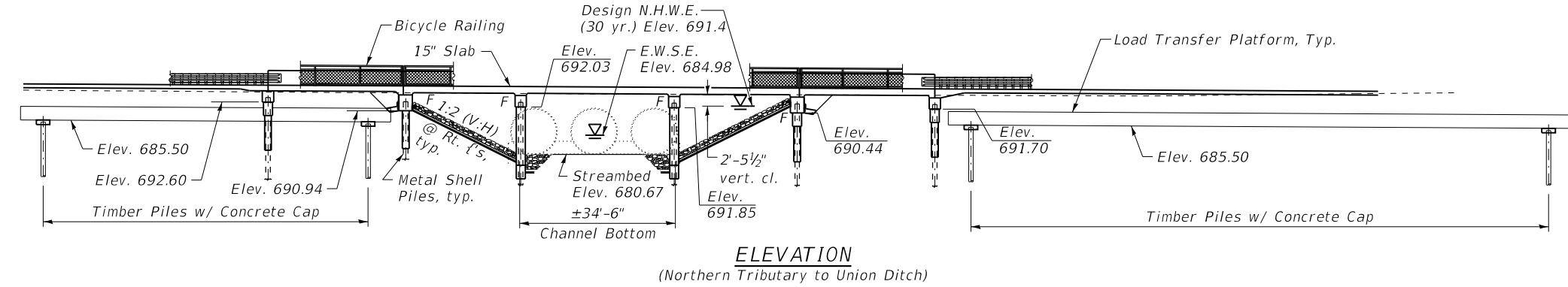


NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 4 IN. (100 mm) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3#4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 23#4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- CONTRACTOR SHALL CONFIRM THE BOLT CIRCLE OF THE EXISTING CAMERA POLE TO BE REINSTALLED PRIOR TO POURING THE FOUNDATION.

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Bench Mark: BM3 "X" cut on top of NE barrier wall on east side of 80th Ave on the lower tier of the exist. bridge over I-80, Elev 716.702 (NAVD88).
 Existing Structure: S.N. 099-3388 Built in 1967 as F.A.I. RT. 80 - SEC. 99-5-1HB-1. Structure consists of 3 steel 10' dia. CMP culverts, 102' long each.
 Structure to be removed and replaced with a three span bridge. Traffic to be maintained utilizing staged construction.
 No salvage.



DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f'_c = 4,000$ psi (Superstructure concrete)
 $f_y = 60,000$ psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.089g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.152g
 Soil Site Class = D

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

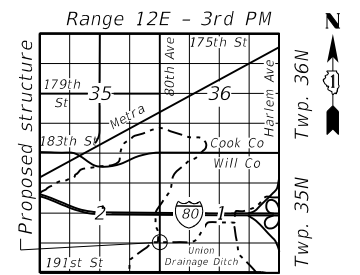
DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition



DATE: 3/4/2021
 SEAL EXPIRES: 11/30/2022

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"



LOCATION SKETCH

GENERAL PLAN

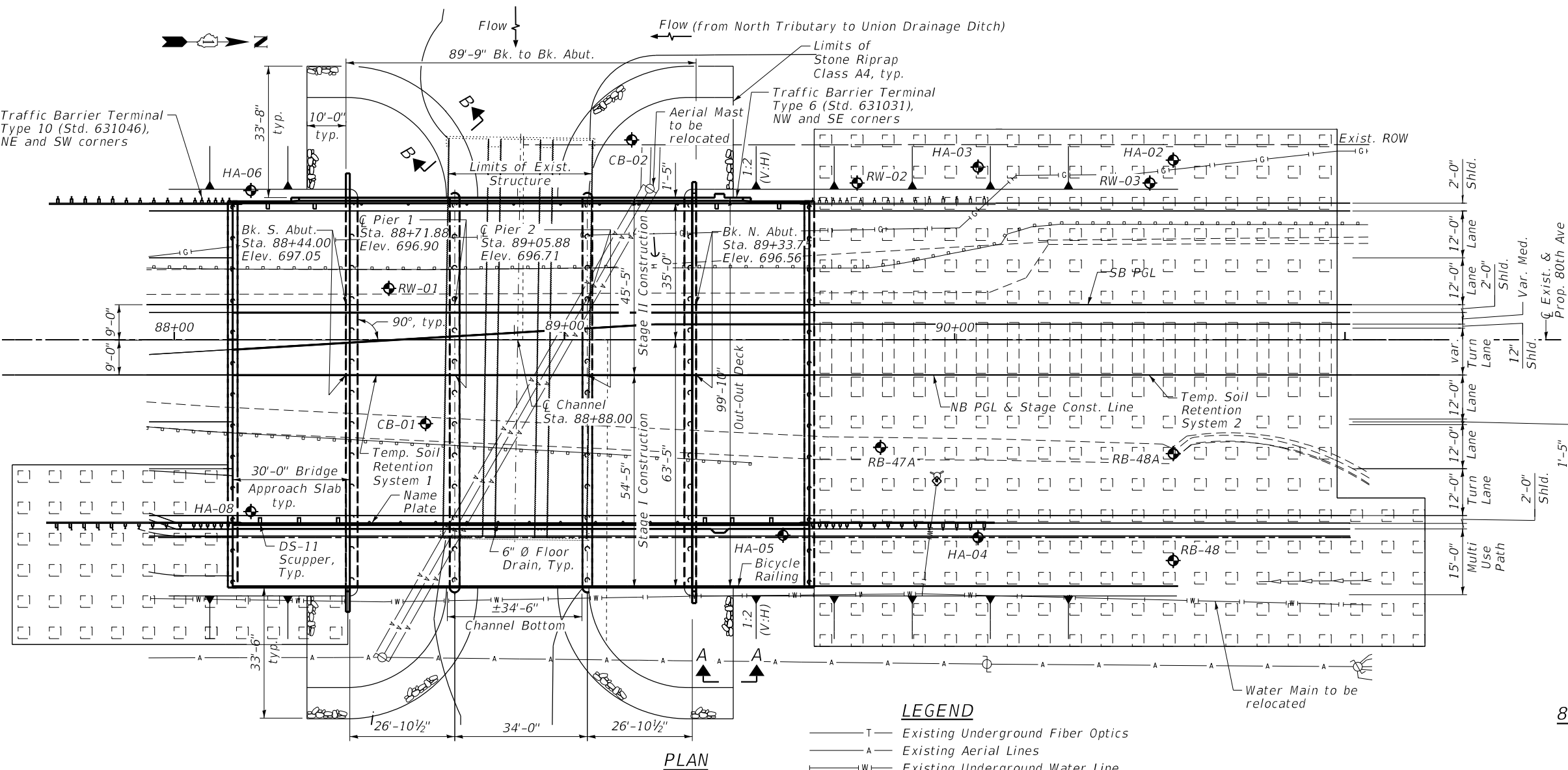
80TH AVE OVER UNION DRAINAGE DITCH

F.A.U. 2755 - SEC. 06-00122-16-FP

WILL COUNTY

STATION 88+88.00

STRUCTURE NO. 099-3405



LEGEND

- T — Existing Underground Fiber Optics
- A — Existing Aerial Lines
- W — Existing Underground Water Line
- G — Existing Gas Line
- ⊙ Soil Borings

NOTE:

1. For Sections A-A and B-B see Sheet SA-2.

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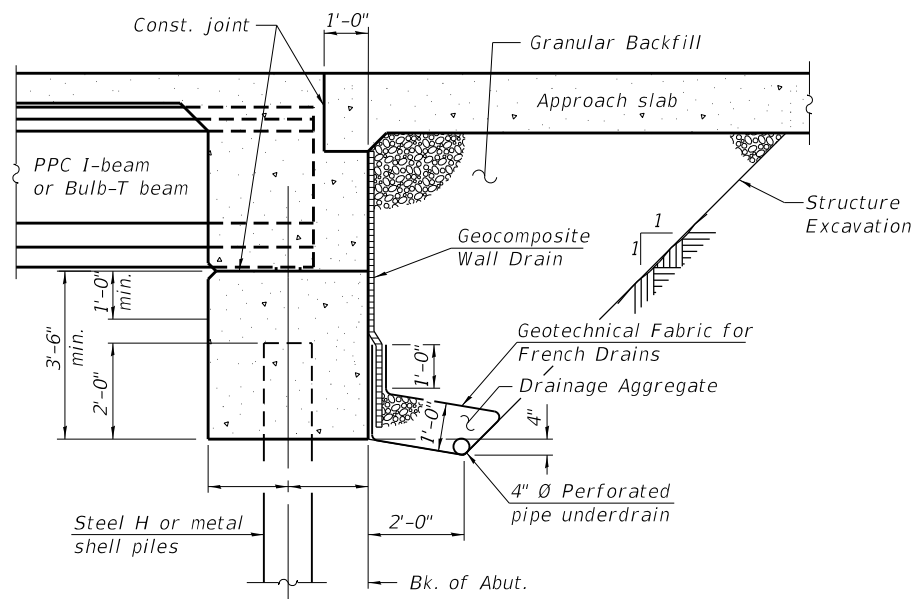
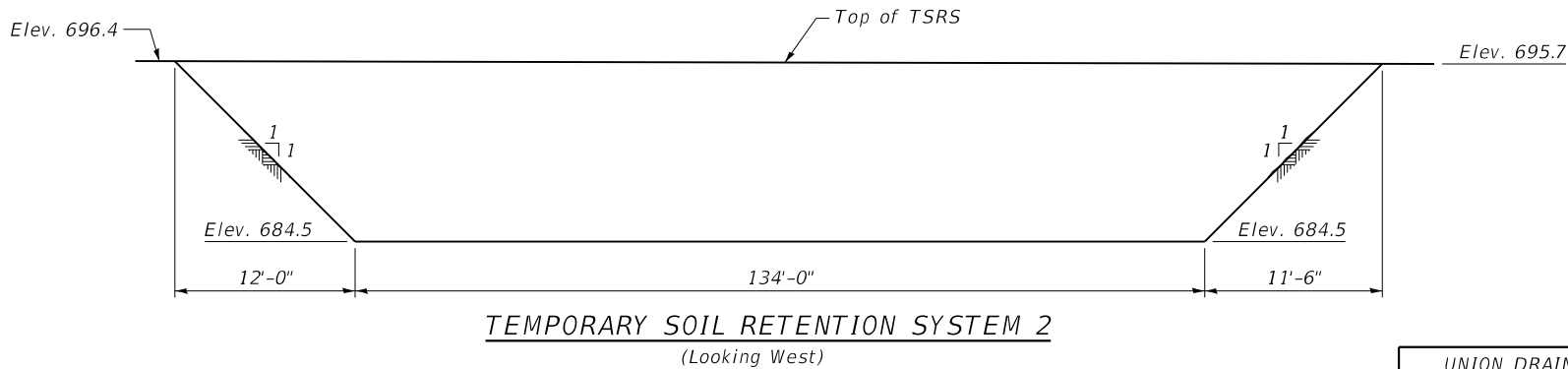
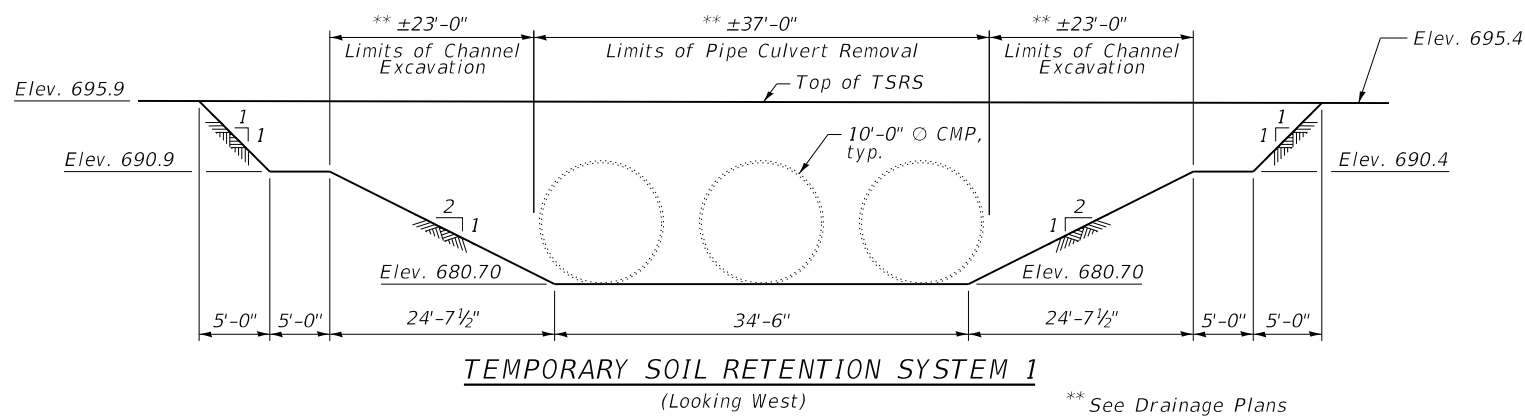


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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SHEET SA-1 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	722
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. Z's)

WATERWAY INFORMATION

Drainage Area		11.7	sq. mi.	Low Grade Elev. = 695.83 at Sta. 91+20					
Flood Event	Freq. Yr.	Discharge	Waterway Opening (sf)	Natural	Head (ft)	Headwater El.			
		C.F.S.	Exist.	Prop.	H.W.E. (ft)	Exist.	Prop.	Exist.	Prop.
Ten-Year	10	710	234	478	690.3	0.4	0.3	690.7	690.6
Design	30	978	236	561	691.4	0.8	0.3	692.2	691.8
Base	100	1,272	236	660	692.8	1.1	0.3	693.9	693.1
Overtop Existing	200	1,272	236	660	692.8	1.1	0.3	693.9	693.1
Max. Calc.	500	1,718	236	783	694.3	0.7	0.2	694.9	694.4

INDEX OF SHEETS

- SA-1 General Plan
- SA-2 General Notes, Bill of Material & Index of Sheets
- SA-3 Stage Construction Details
- SA-4 Temporary Barrier
- SA-5 Deck Plan and Cross Section
- SA-6 Superstructure Details 1
- SA-7 Superstructure Details 2
- SA-8 Bridge Approach Slab Details 1
- SA-9 Bridge Approach Slab Details 2
- SA-10 Bridge Approach Slab Details 3
- SA-11 Bridge Approach Slab Details 4
- SA-12 Bicycle Railing
- SA-13 South Abutment
- SA-14 North Abutment
- SA-15 Pier 1 & 2
- SA-16 Pier Details
- SA-17 Stabilized Embankment 1
- SA-18 Stabilized Embankment 2
- SA-19 Bar Splicer and Mechanical Splicer Details
- SA-20 Metal Shell Pile Details
- SA-21 Soil Boring Logs 1
- SA-22 Soil Boring Logs 2
- SA-23 Soil Boring Logs 3
- SA-24 Soil Boring Logs 4
- SA-25 Soil Boring Logs 5
- SA-26 Soil Boring Logs 6
- SA-27 Soil Boring Logs 7
- SA-28 Soil Boring Logs 8

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
4. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

DESIGN SCOUR ELEVATION TABLE

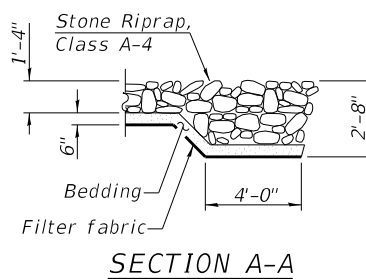
Event / Limit State	Design Scour Elevations (ft.)				Item 113
	S. Abut.	Pier 1	Pier 2	N. Abut.	
Q100	N/A	675.7	675.7	N/A	8
Q200	N/A	674.8	674.8	N/A	
Design	N/A	675.2	675.2	N/A	
Check	N/A	674.8	674.8	N/A	

TOTAL BILL OF MATERIAL

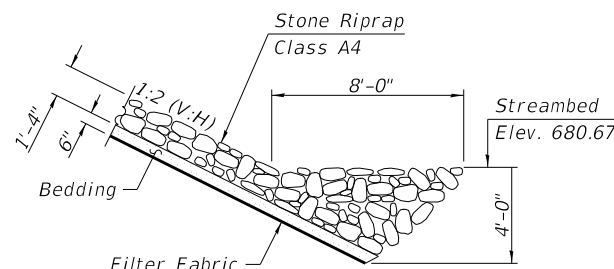
DESCRIPTION	UNIT	SP	SUB	SUPER	TOTAL
Porous Granular Embankment	Cu Yd		2,002		2,002
Stone Riprap, Class A4	Sq Yd		1,052		1,052
Filter Fabric	Sq Yd		1,052		1,052
Pipe Culvert Removal	Foot		306		306
Structure Excavation	Cu Yd		4,455		4,455
Cofferdam Excavation	Cu Yd		118		118
Floor Drains	Each			19	19
Concrete Structures	Cu Yd		538.8		538.8
Concrete Superstructure	Cu Yd			509.2	509.2
Bridge Deck Grooving	Sq Yd			1,211	1,211
Concrete Encasement	Cu Yd		28.4		28.4
Protective Coat	Sq Yd			1,735	1,735
Concrete Superstructure (Approach Slab)	Cu Yd			277.1	277.1
Reinforcement Bars, Epoxy Coated	Pound		67,250	259,950	327,200
Bar Splicers	Each		336	254	590
Bicycle Railing	Foot			148	148
Parapet Railing	Foot			143	143
Furnishing Treated Piles 20.1 To 38 Feet	Foot		11,004		11,004
Furnishing Metal Shell Piles 12" X 0.250"	Foot		900		900
Furnishing Metal Shell Piles 14" X 0.250"	Foot		3,444		3,444
Driving Piles	Foot		15,348		15,348
Test Pile Timber	Each		3		3
Test Pile Metal Shells	Each		6		6
Name Plates	Each			1	1
Temporary Soil Retention System	Sq Ft		2,901		2,901
Granular Backfill For Structures	Cu Yd		1,012		1,012
Geocomposite Wall Drain	Sq Yd		111		111
Biaxial Geogrid	Sq Yd		4,801		4,801
Cofferdam (Type 1) (In-Stream/Wetland Work)	Each		4		4
Drainage Scuppers, DS-11	Each			10	10
Pipe Underdrains For Structures 4"	Foot		237		237

UNION DRAINAGE DITCH
BUILT 20__ BY
WILL COUNTY
SECTION 06-00122-16-FP
STA. 88+88.00
LOADING HL93
STR. NO. 099-3405

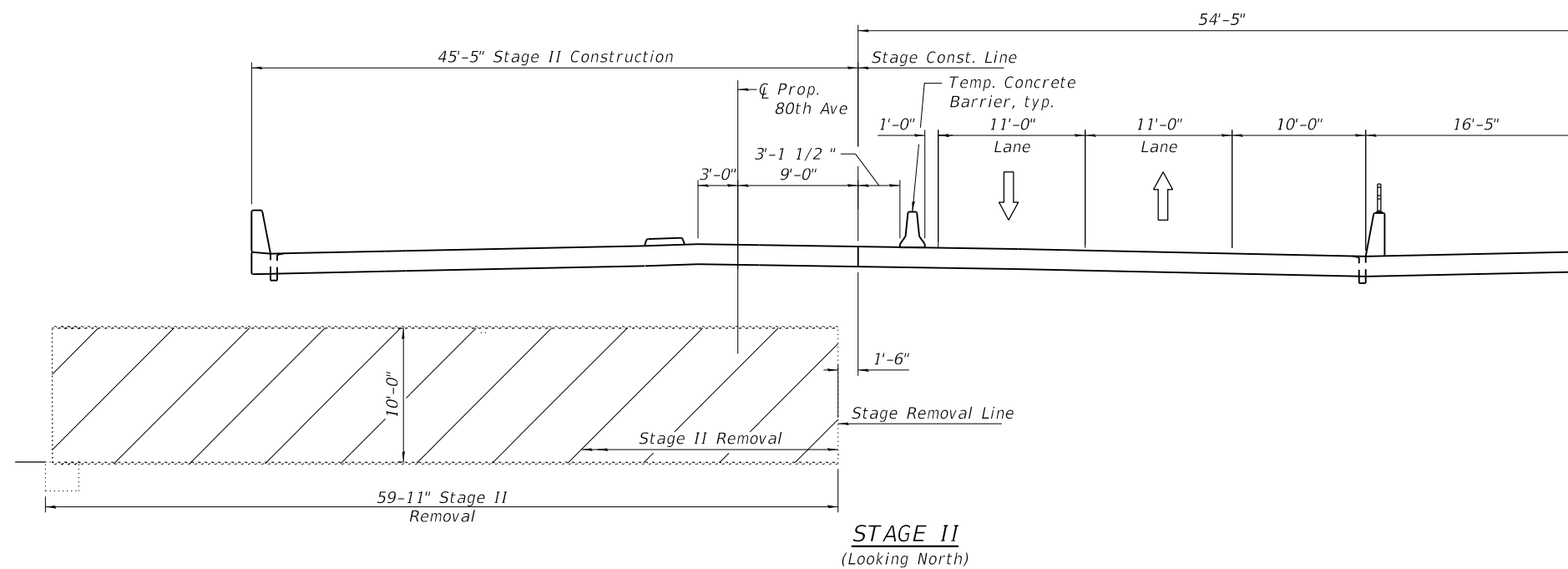
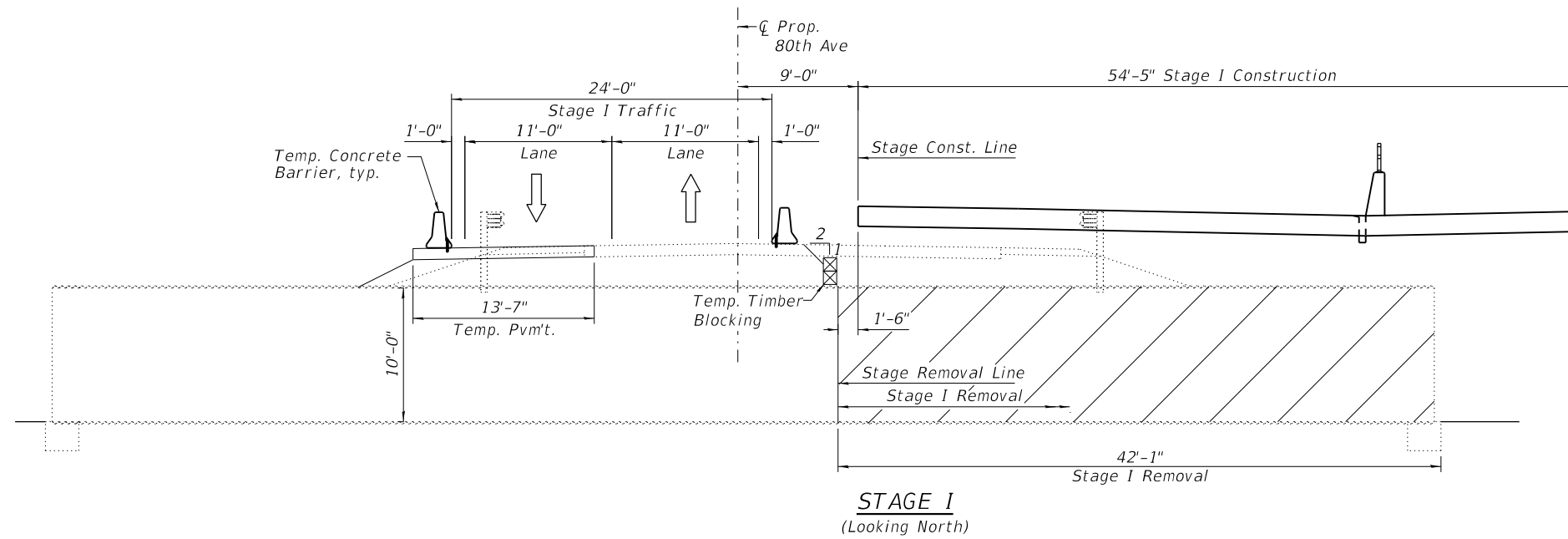
NAME PLATE
See Std. 515001



SECTION A-A



SECTION B-B



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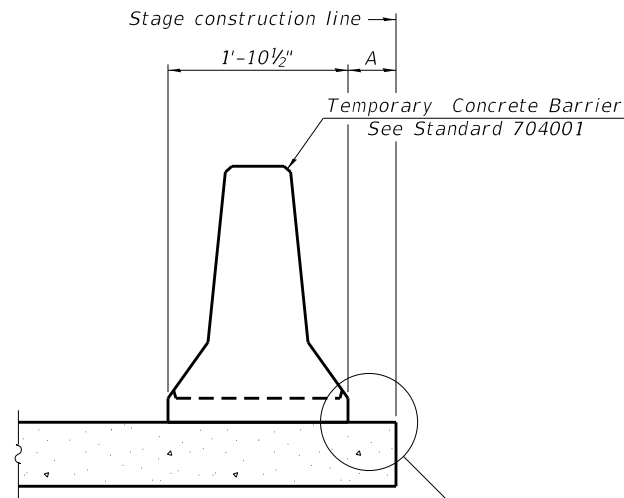
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PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 099-3405**

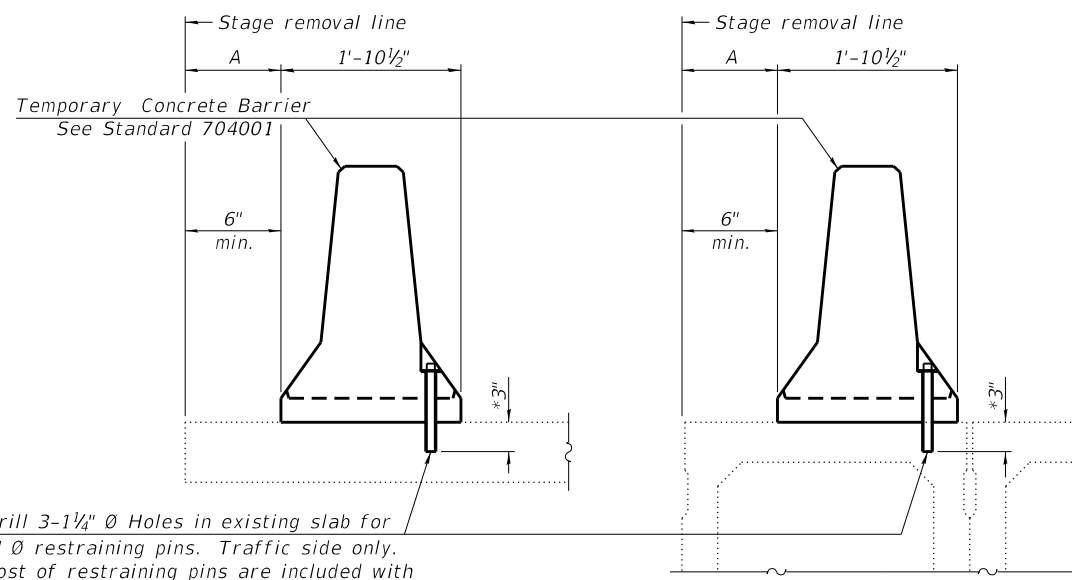
SHEET SA-3 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	724
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

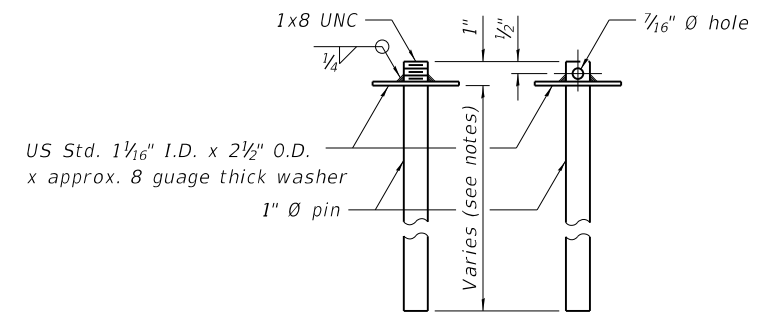


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

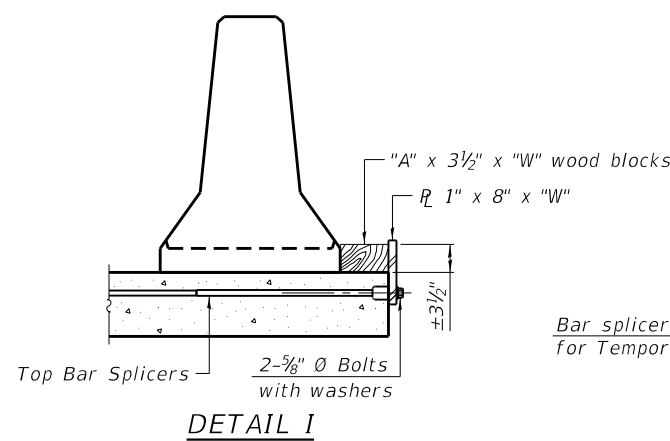
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

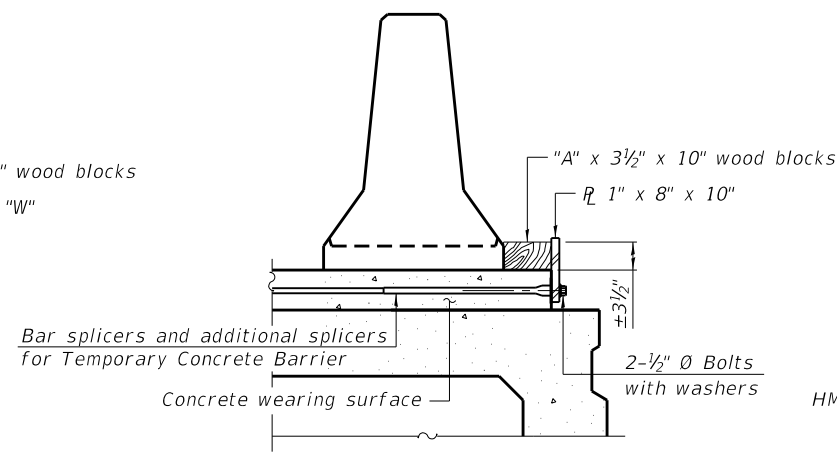


RESTRAINING PIN

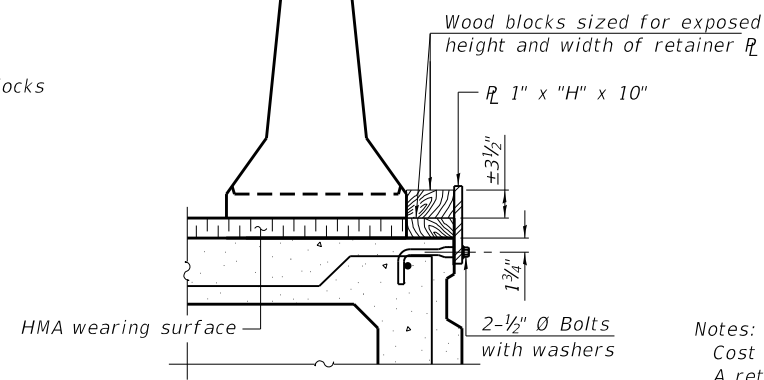
SECTIONS THRU SLAB OR DECK BEAM



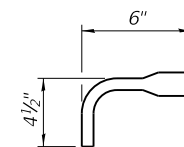
DETAIL I



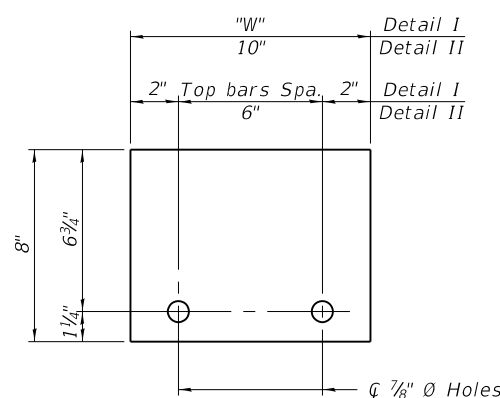
DETAIL II



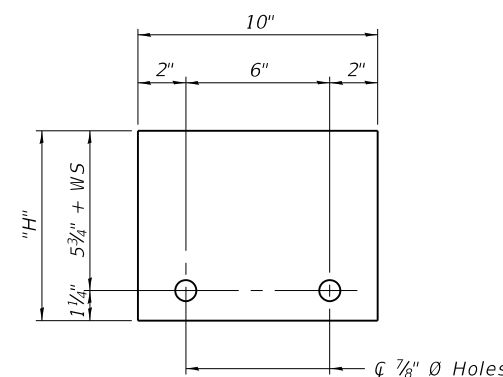
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate center of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate.
 For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch\020887_04_Union_Drain_Ditch_TemporaryBarrier.dgn

R-27
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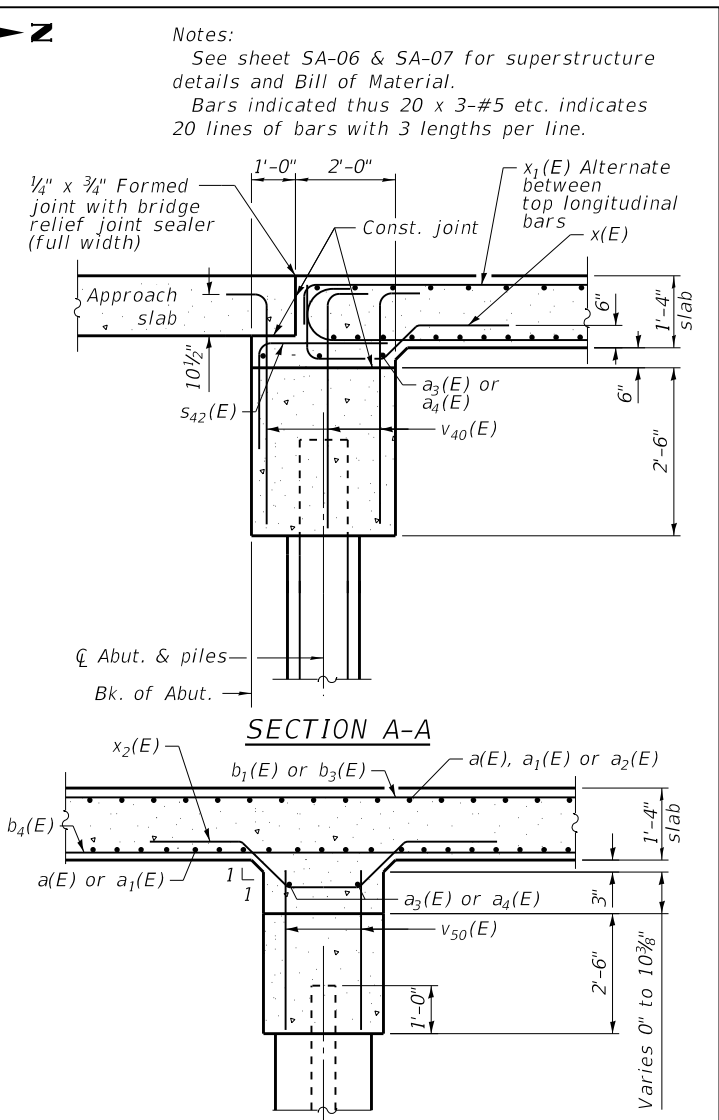
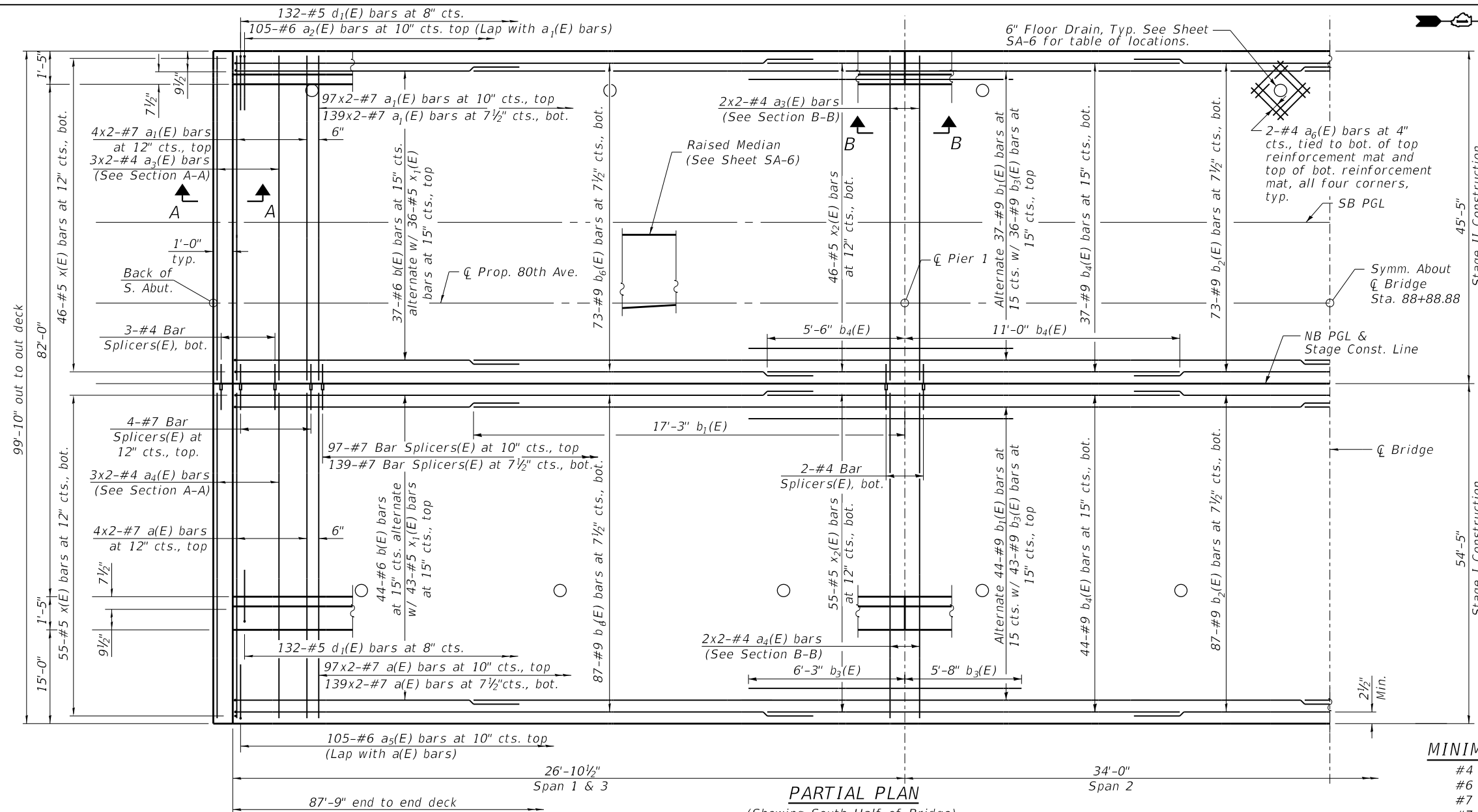
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	PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
	PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
		CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY BARRIER
STRUCTURE NO. 099-3405

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	725
CONTRACT NO.			61G73	
SHEET SA-4 OF SA-28 SHEETS		ILLINOIS FED. AID PROJECT		

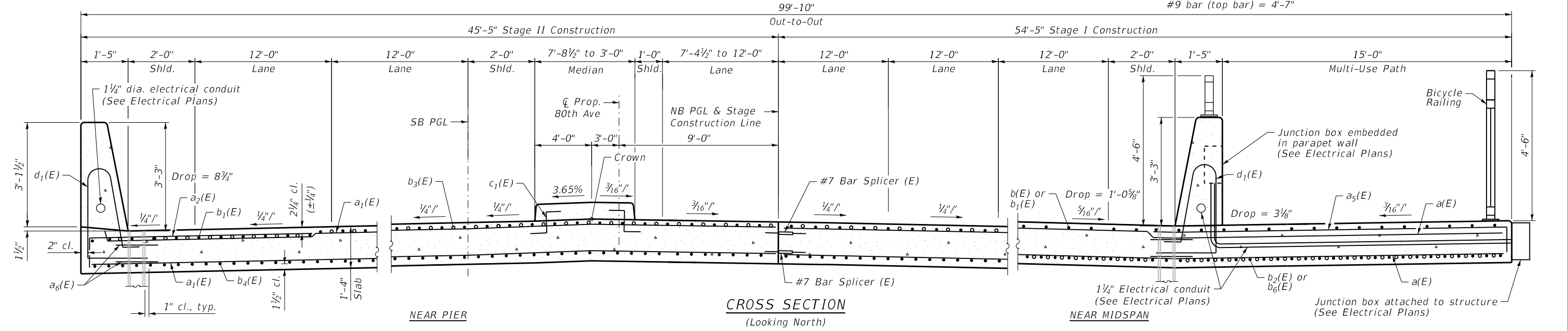
FILE NAME: N:\PROJ\1020887\01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch\DeckPlan&CrossSection1.dgn



Notes:
See sheet SA-06 & SA-07 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

MINIMUM BAR LAP

- #4 bar = 1'-7"
- #6 bar = 3'-1"
- #7 bar = 3'-7"
- #7 bar (top bar) = 3'-1"
- #9 bar = 4'-10"
- #9 bar (top bar) = 4'-7"



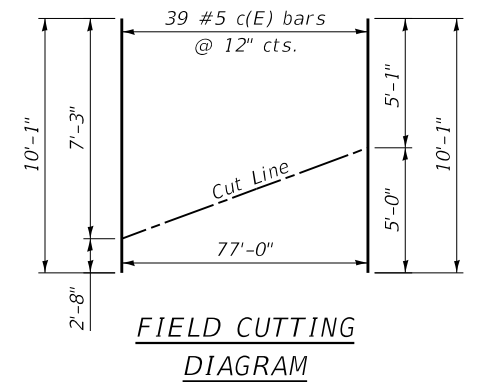
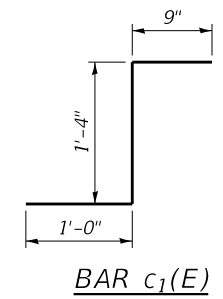
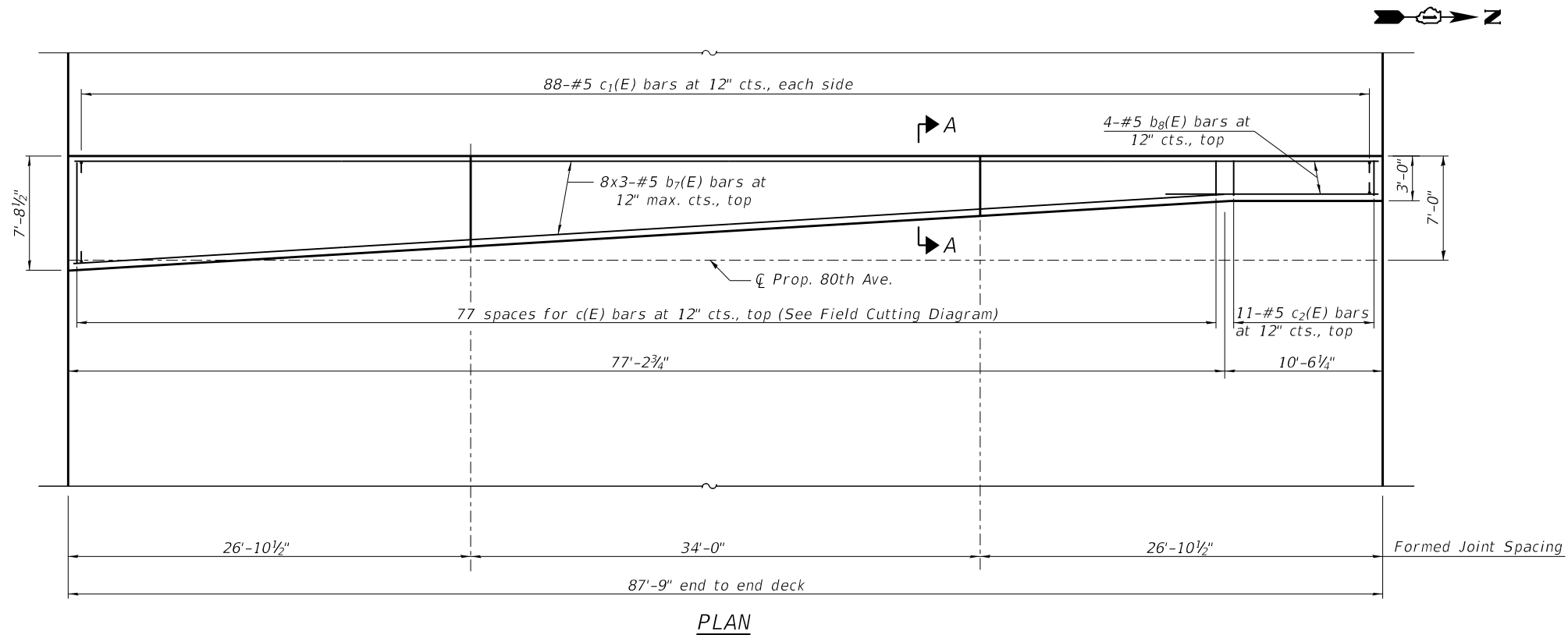
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PLOT DATE = 05/17/21	DRAWN - SBA	REVISD -
	CHECKED - BWS	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

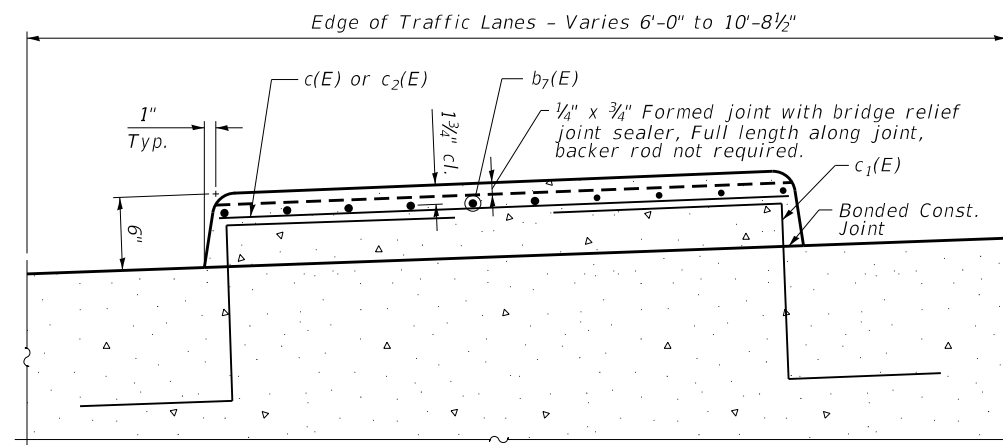
**DECK PLAN AND CROSS SECTION
STRUCTURE NO. 099-3405**

SHEET SA-5 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	726
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



MINIMUM BAR LAP
#5 bar = 2'-0"



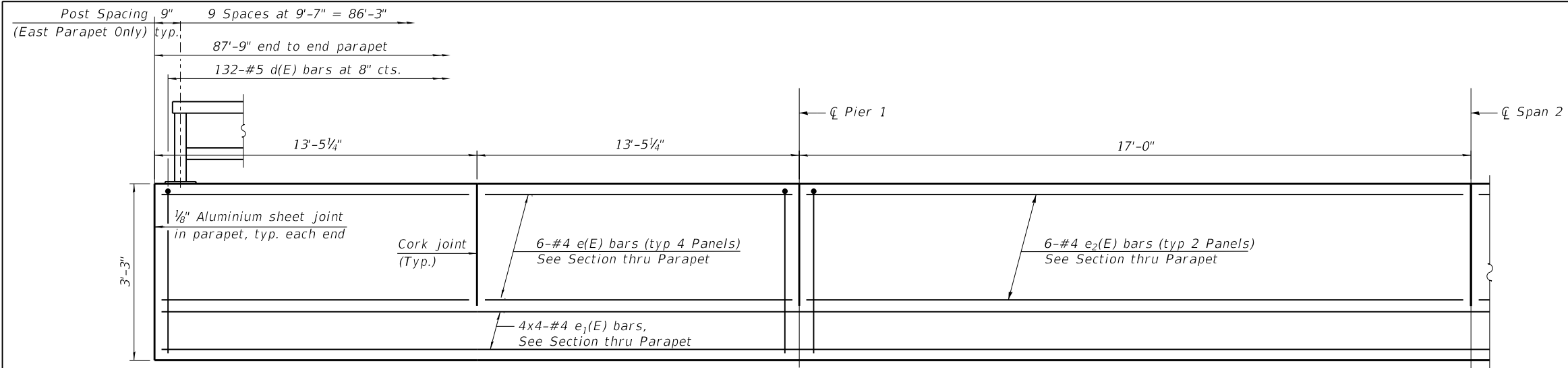
SECTION A-A
(Slab Reinforcement Not Shown For Clarity)

FLOOR DRAIN LOCATIONS

Station	
North Bound	South Bound
88+51.00	88+48.00
88+59.00	88+60.00
88+68.00	88+75.00
88+76.00	88+87.00
88+84.00	88+99.00
88+92.00	89+09.00
88+99.00	89+19.00
89+08.00	89+29.00
89+15.00	-
89+22.00	-
89+29.00	-

Notes:
See sheet SA-07 FOR additional superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

FILE NAME: N:\PROJ\020887.01\Design\Structural\CAD\SA_80th Ave. over Union Drain Ditch\020887_06_Union Drain Ditch_Superstructure.1.dgn



SUPERSTRUCTURE BILL OF MATERIAL

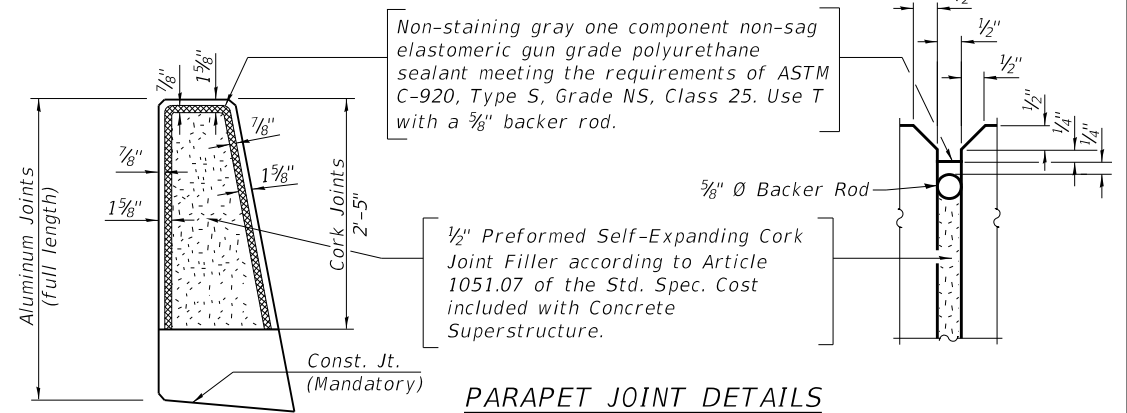
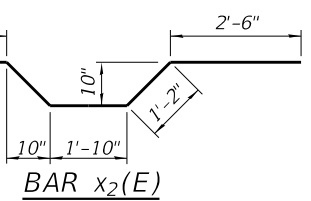
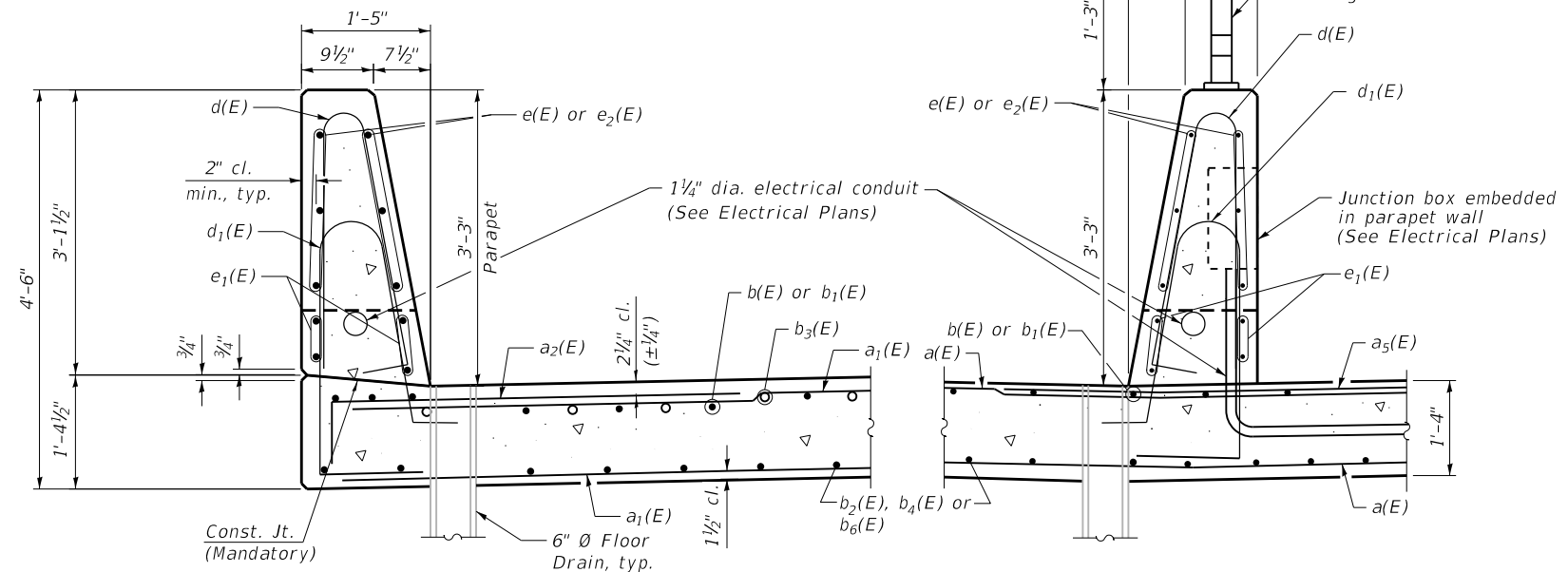
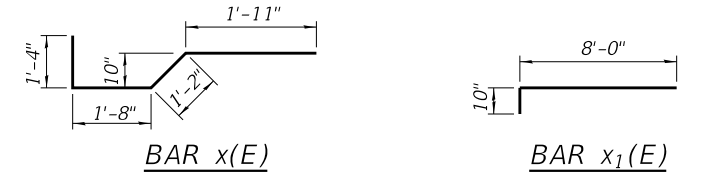
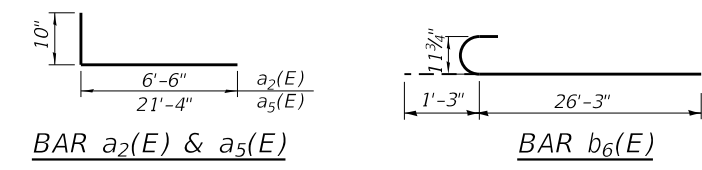
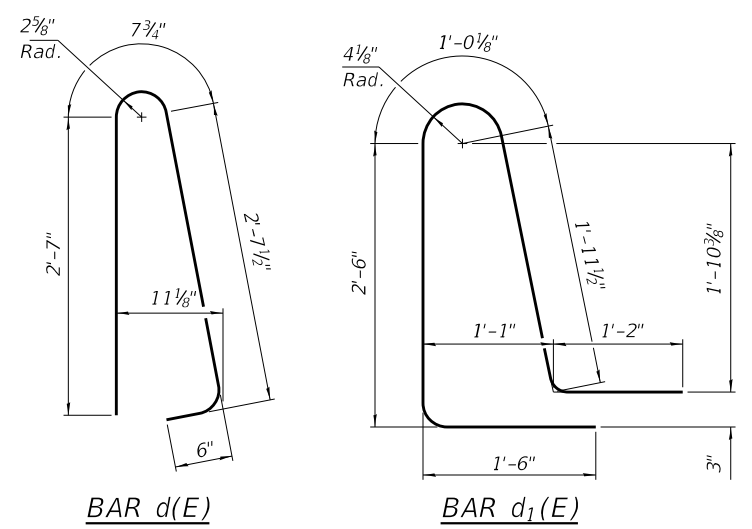
Bar	No.	Size	Length	Shape
a(E)	488	#7	28'-10"	—
a ₁ (E)	488	#7	24'-4"	—
a ₂ (E)	105	#6	7'-4"	└
a ₃ (E)	20	#4	23'-4"	—
a ₄ (E)	20	#4	27'-10"	—
a ₅ (E)	105	#6	22'-4"	└
a ₆ (E)	608	#4	1'-6"	—
b(E)	162	#6	13'-1"	—
b ₁ (E)	162	#9	36'-7"	—
b ₂ (E)	160	#9	21'-9"	—
b ₃ (E)	158	#9	11'-11"	—
b ₄ (E)	162	#9	16'-6"	—
b ₅ (E)	320	#9	27'-6"	C
b ₆ (E)	24	#5	27'-0"	—
b ₇ (E)	4	#5	12'-4"	—
c(E)	39	#5	10'-1"	—
c ₁ (E)	176	#5	3'-1"	└
c ₂ (E)	11	#5	2'-8"	—
d(E)	264	#5	6'-5"	└
d ₁ (E)	264	#5	8'-2"	└
e(E)	48	#4	13'-1"	—
e ₁ (E)	32	#4	23'-1"	—
e ₂ (E)	24	#4	16'-8"	—
x(E)	202	#5	6'-1"	└
x ₁ (E)	158	#5	8'-10"	└
x ₂ (E)	202	#5	9'-2"	└

INSIDE ELEVATION OF EAST PARAPET

(Showing South Half of Parapet)
Reinforcement and Railings are symmetric about the C of Span 2

MINIMUM LAP BAR

(Parapet)
#4 bar = 1'-7"



* Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th_Ave_Over_Union_Drain_Ditch_Superstructure2.dgn

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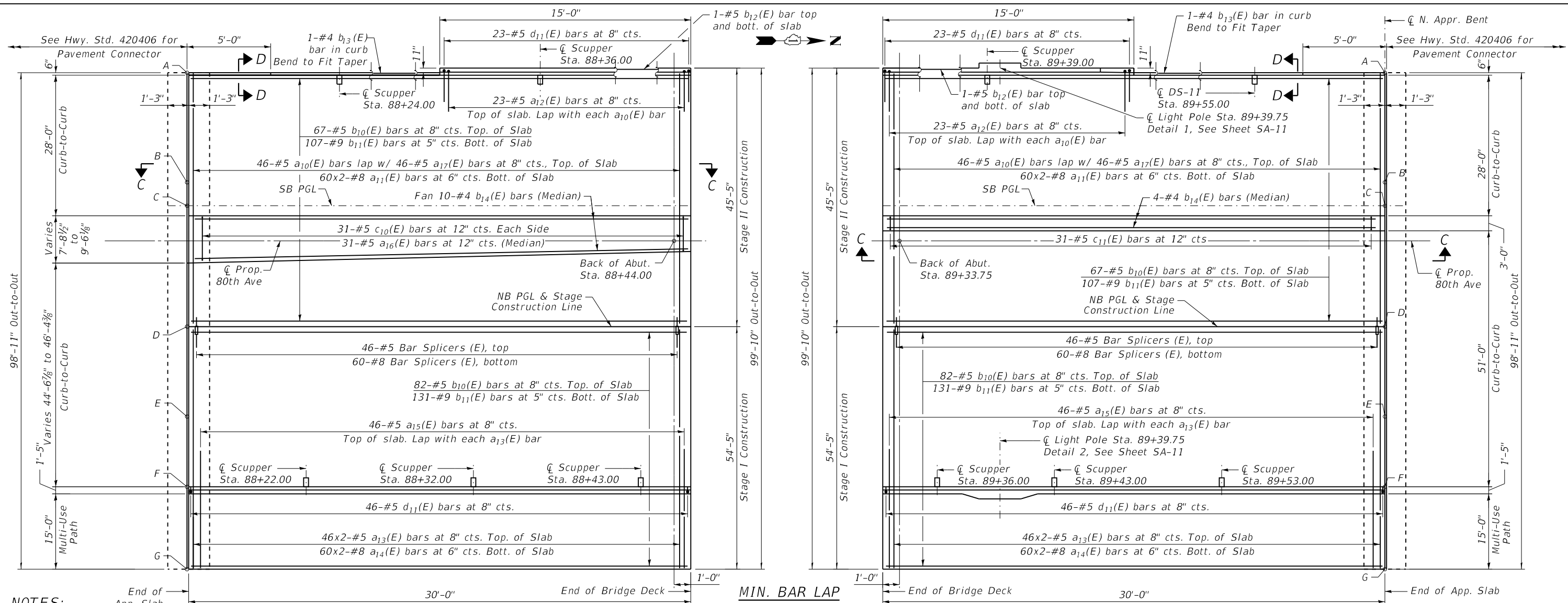
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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 05/17/21	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 2
STRUCTURE NO. 099-3405**

SHEET SA-7 OF SA-28 SHEETS

F.A.U. RTE. 2755	SECTION 06-00122-16-FP	COUNTY WILL	TOTAL SHEETS 1113	SHEET NO. 728
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	

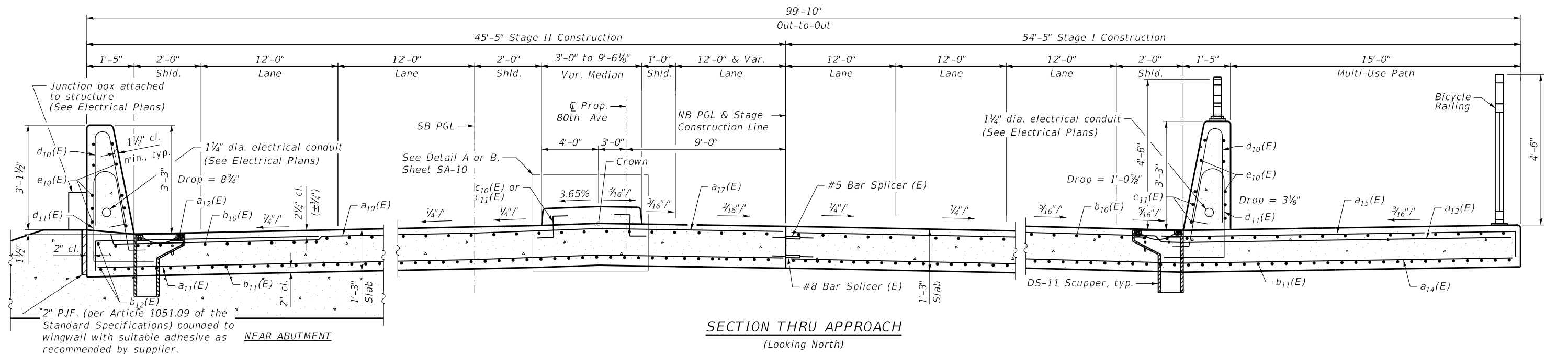


NOTES:
 1. See Sheets SA-09 for Sections C-C and D-D.
 2. For Foundation Elevation Table see Sheet SA-09.

PLAN
(South Approach)

PLAN
(North Approach)

MIN. BAR LAP
 #5 bar = 3'-4"
 #8 bar = 4'-9"



SECTION THRU APPROACH
(Looking North)



USER NAME = Roadway	DESIGNED - APD	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

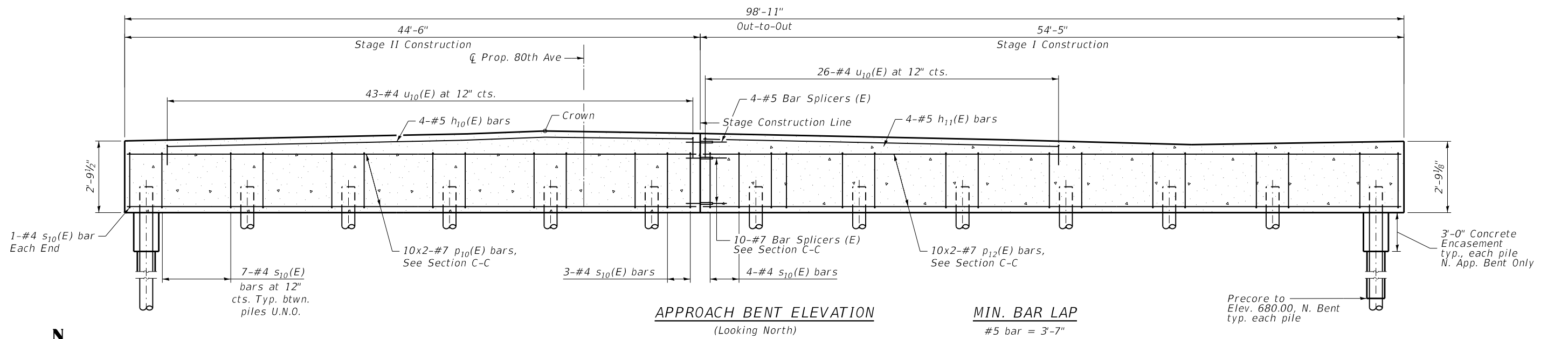
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS 1
STRUCTURE NO. 099-3405

F.A.U. RTE. 2755	SECTION 06-00122-16-FP	COUNTY WILL	TOTAL SHEETS 1113	SHEET NO. 729
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	

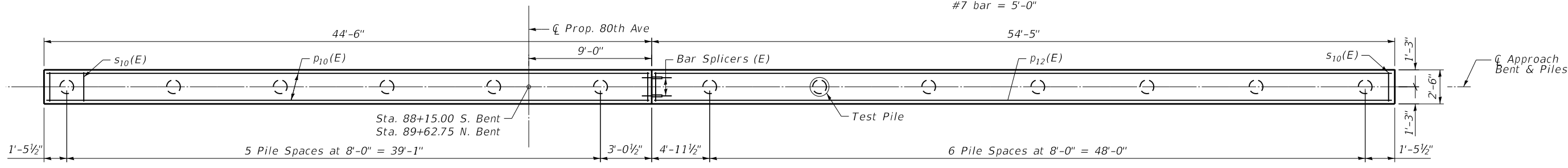
SHEET SA-8 OF SA-28 SHEETS

FILE NAME: N:\PROJ\1020887\01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch\020887_08_Union_Drain_Ditch_ApproachSlab.dgn



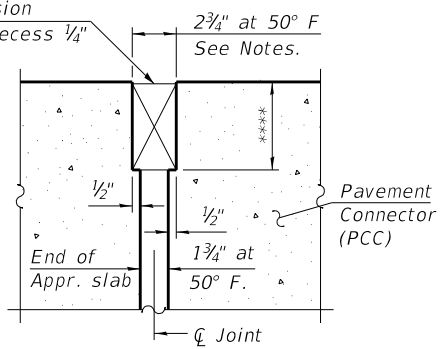
APPROACH BENT ELEVATION
(Looking North)

MIN. BAR LAP
#5 bar = 3'-7"
#7 bar = 5'-0"



PLAN

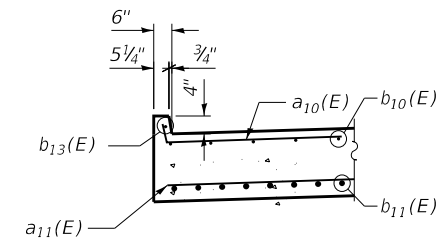
* Expansion joint. See Special Provision "Preformed Pavement Joint Seal". Recess 1/4" minimum. Run out to out of curb.



DETAIL C

* Cost included with Concrete Superstructure (Approach Slab).

**** Per manufacturer recommendations



SECTION D-D

Note:
Piles shall be driven through 24" diameter precored holes extending to elevation 680.00 for the N. App. Bent only.

MIN. BAR LAP
#5 bar = 3'-7"
#7 bar = 5'-0"

PILE DATA - S. APPROACH BENT

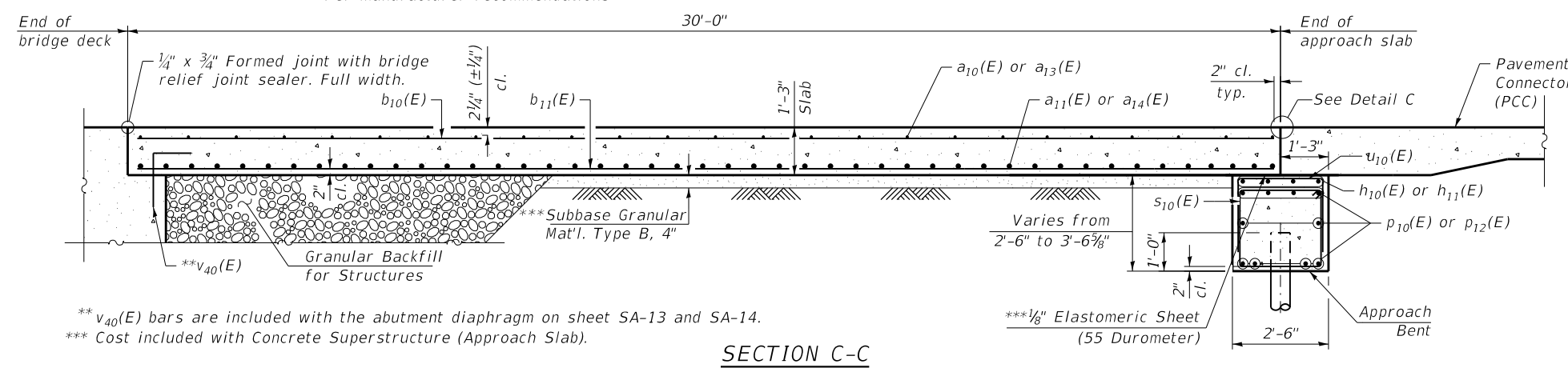
Type: Metal Shell 12" x 0.25"
Nominal Required Bearing: 145 kips
Factored Resistance Available: 80 kips
Est. Length: 22'-0"
No. Production Piles:
Stage I: 6
Stage II: 6
No. Test Piles: 1

PILE DATA - N. APPROACH BENT

Type: Metal Shell 12" x 0.25"
Nominal Required Bearing: 186 kips
Factored Resistance Available: 84 kips
Est. Length: 53'-0"
No. Production Piles:
Stage I: 6
Stage II: 6
No. Test Piles: 1

TOP AND BOTTOM ELEVATIONS FOR APPROACH BENT

Point	Offset	South Approach Top	South Approach Bottom	North Approach Top	North Approach Bottom
A	35'-6" Lt.	695.39	692.60	694.58	691.78
B	7'-0" Lt.	696.00	692.60	695.19	691.78
C	3'-0" Lt.	696.15	692.60	695.34	691.78
D	9'-0" Rt.	695.96	692.60	695.15	691.78
E	33'-0" Rt.	695.46	692.60	694.65	691.78
F	47'-0" Rt.	695.10	692.60	694.28	691.78
G	63'-5" Rt.	695.35	692.60	694.54	691.78



SECTION C-C

** v40(E) bars are included with the abutment diaphragm on sheet SA-13 and SA-14.
*** Cost included with Concrete Superstructure (Approach Slab).

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch\020887_09_Union_Drain_Ditch_ApproachSlab2.dgn



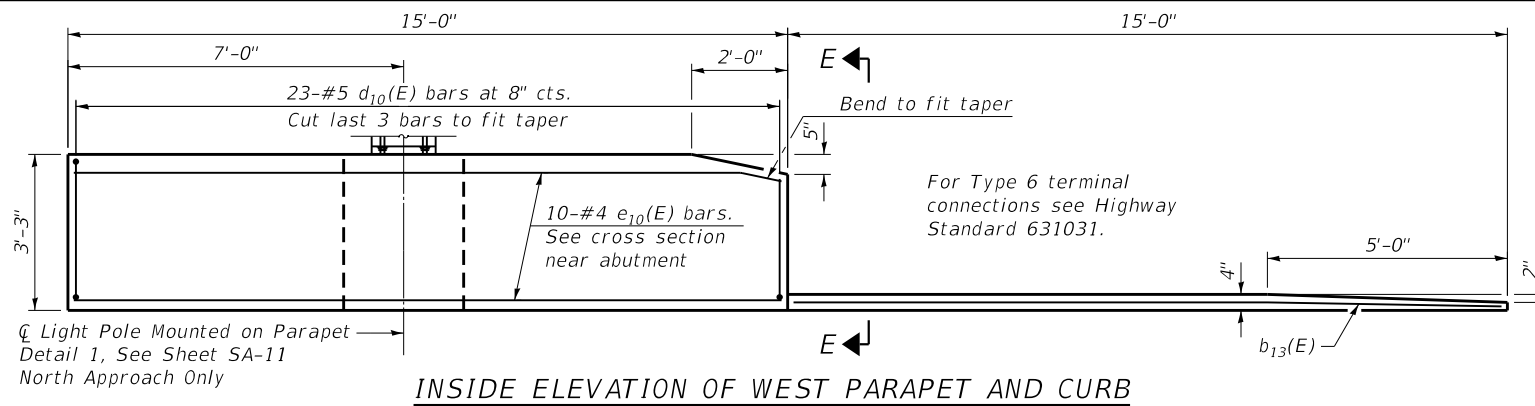
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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISD -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISD -
	CHECKED - BWS	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS 2
STRUCTURE NO. 099-3405

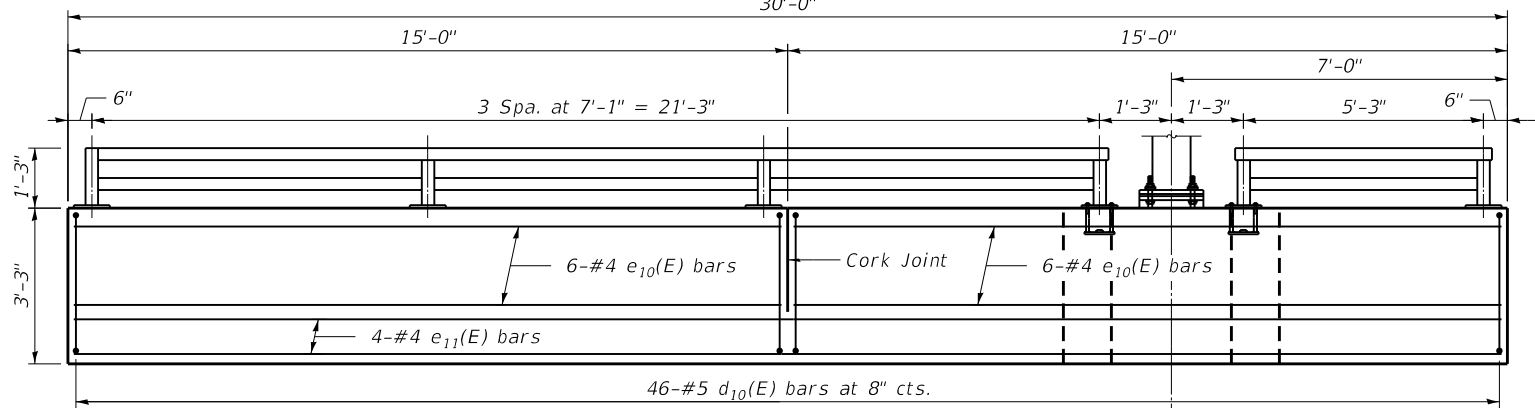
SHEET SA-9 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



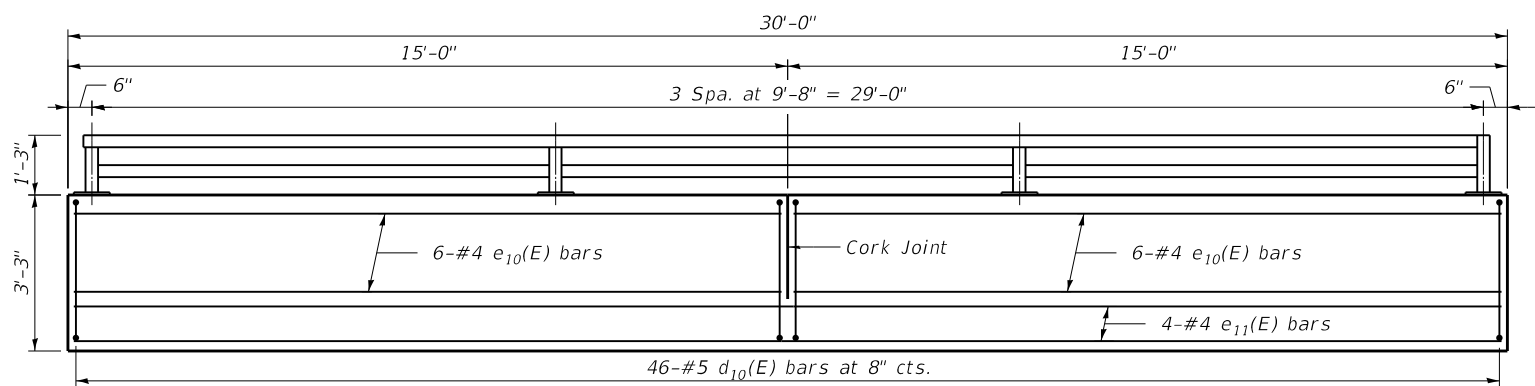
INSIDE ELEVATION OF WEST PARAPET AND CURB

North Approach shown,
South Approach similar

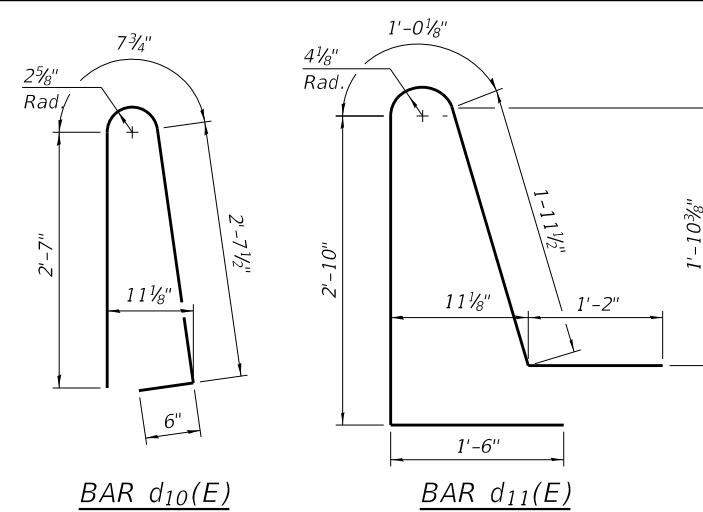


INSIDE ELEVATION OF NORTHEAST PARAPET

Light Pole Mounted on Parapet
Detail 2, See Sheet SA-11
North Approach Only

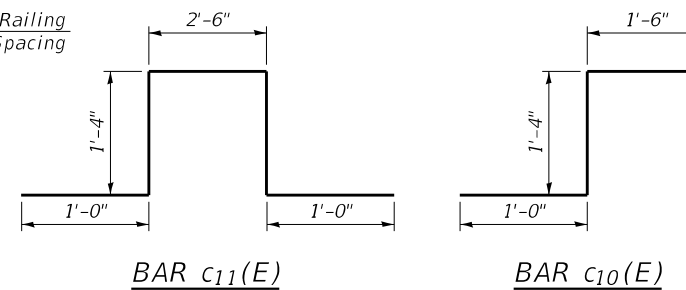


INSIDE ELEVATION OF SOUTHEAST PARAPET



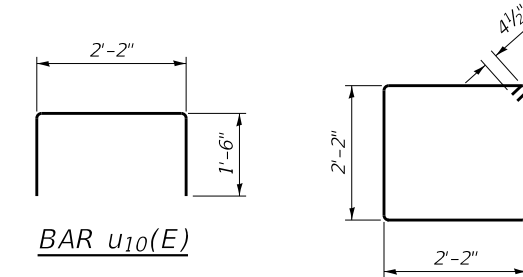
BAR d10(E)

BAR d11(E)



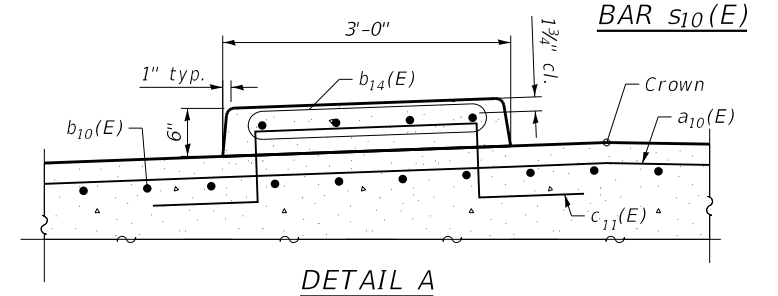
BAR c11(E)

BAR c10(E)

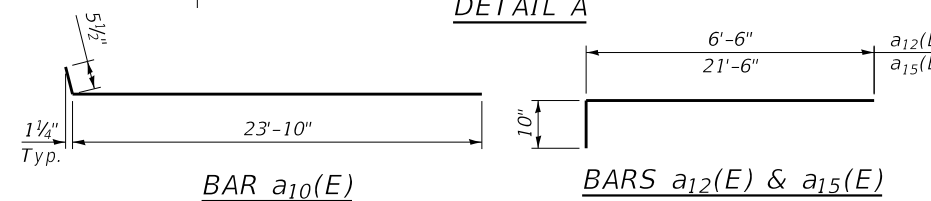


BAR u10(E)

BAR s10(E)

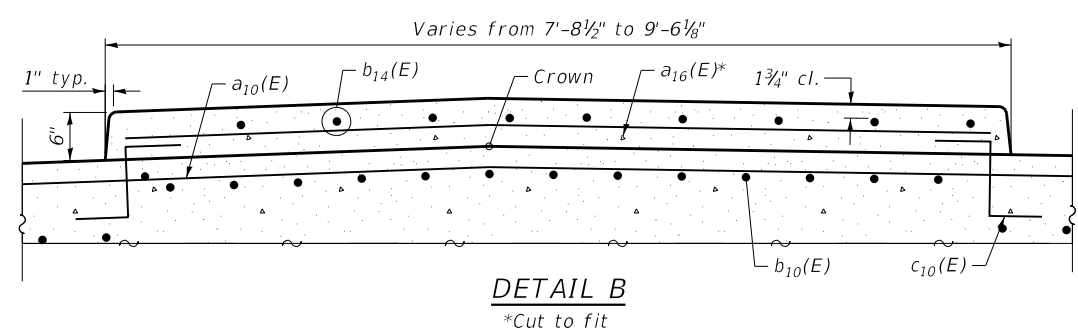


DETAIL A



BAR a10(E)

BARS a12(E) & a15(E)



DETAIL B

*Cut to fit

NOTES:

1. Parapet & median concrete shall be paid for as Concrete Superstructure.
2. Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
3. Approach bent concrete shall be paid for as Concrete Structures.
4. Cost of excavation for approach bent included with Concrete Structures.
5. For Granular Backfill for Structures and drainage treatment details, see sheet SA-2 of SA-28.

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a ₁₀ (E)	92	#5	24'-4"	—
a ₁₁ (E)	240	#8	24'-11"	—
a ₁₂ (E)	46	#5	8'-2"	—
a ₁₃ (E)	184	#5	28'-9"	—
a ₁₄ (E)	240	#8	29'-5"	—
a ₁₅ (E)	92	#5	22'-4"	—
a ₁₆ (E)	31	#5	9'-1"	—
a ₁₇ (E)	92	#5	23'-10"	—
b ₁₀ (E)	298	#5	29'-8"	—
b ₁₁ (E)	476	#9	29'-8"	—
b ₁₂ (E)	4	#5	14'-8"	—
b ₁₃ (E)	2	#4	14'-8"	—
b ₁₄ (E)	14	#4	29'-8"	—
c ₁₀ (E)	62	#5	3'-10"	┌
c ₁₁ (E)	31	#5	5'-10"	└
d ₁₀ (E)	138	#5	6'-5"	∩
d ₁₁ (E)	138	#5	8'-6"	∩
d ₁₃ (E)	6	#6	4'-10"	└
d ₁₄ (E)	6	#6	10'-1"	∩
d ₁₅ (E)	6	#6	8'-11"	└
e ₁₀ (E)	44	#4	14'-8"	—
e ₁₁ (E)	8	#4	29'-8"	—
h ₁₀ (E)	8	#5	44'-2"	—
h ₁₁ (E)	8	#5	24'-6"	—
p ₁₀ (E)	40	#7	24'-7"	—
p ₁₂ (E)	40	#7	29'-7"	—
s ₁₀ (E)	172	#4	9'-5"	□
u ₁₀ (E)	138	#4	5'-2"	└

Concrete Structures	Cu Yd	55.5
Concrete Superstructure	Cu Yd	16.0
Bridge Deck Grooving	Sq Yd	462
Protective Coat	Sq Yd	595
Concrete Encasement	Cu Yd	7.1
Concrete Superstructure (Approach Slab)	Cu Yd	282.9
Reinforcement Bars, Epoxy Coated	Each	115,330
Bar Splicers	Each	239
Furnishing Metal Shell Piles 12" X 0.250"	Foot	1,092
Driving Piles	Foot	1,092
Test Pile Metal Shells	Each	2
Drainage Scuppers, DS-11	Each	10

FILE NAME: N:\PROJ\020887_01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch_ApproachSlab3.dgn



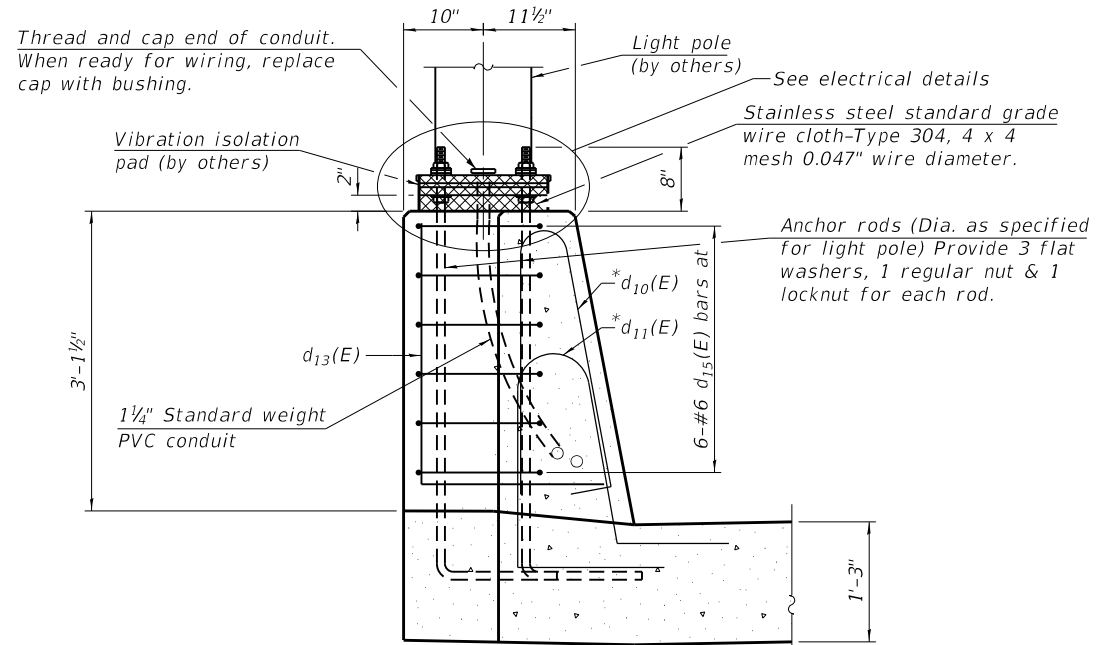
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS 3
STRUCTURE NO. 099-3405

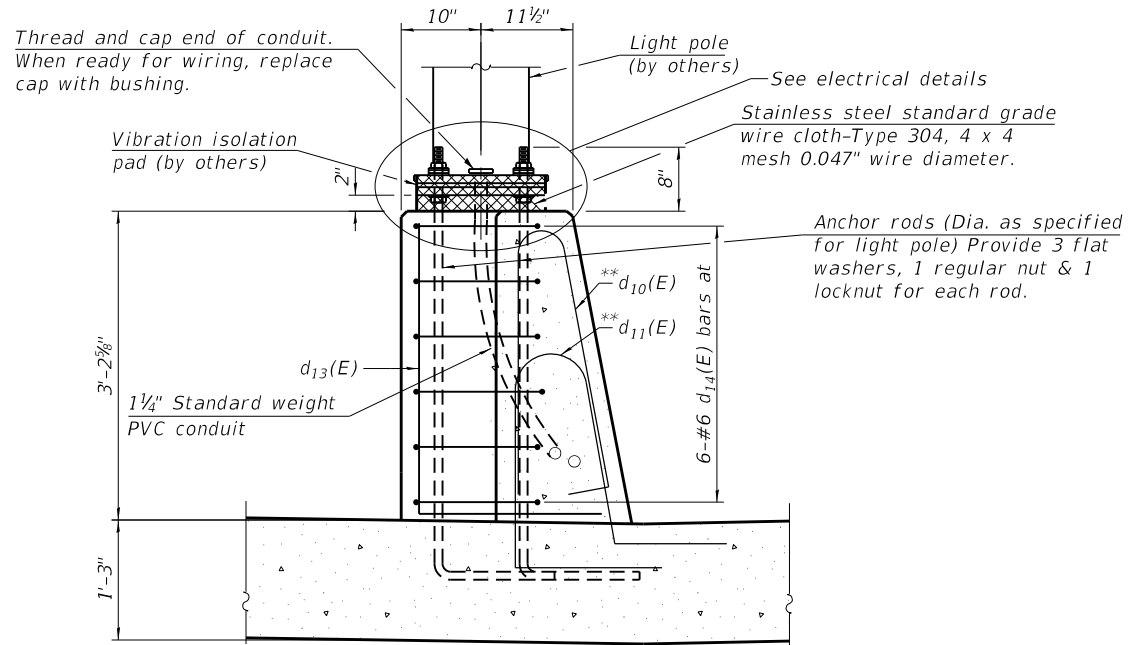
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	731
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

SHEET SA-10 OF SA-28 SHEETS



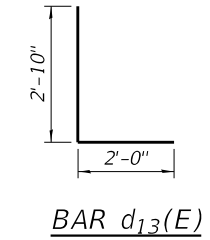
SECTION A-A

*See Sheet SA-08 and SA-10 for spacing of $d_{10}(E)$ and $d_{11}(E)$ bars. Bars are included with Approach Slab Bill of Material.

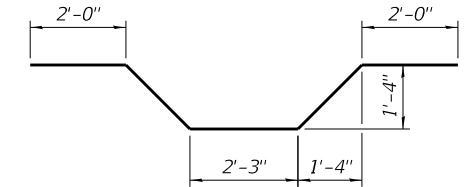


SECTION B-B

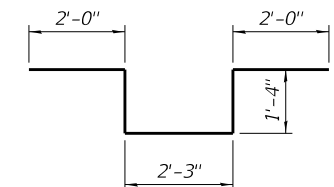
**See Sheet SA-08 and SA-10 for spacing of $d_{10}(E)$ and $d_{11}(E)$ bars. Bars are included with Approach Slab Bill of Material.



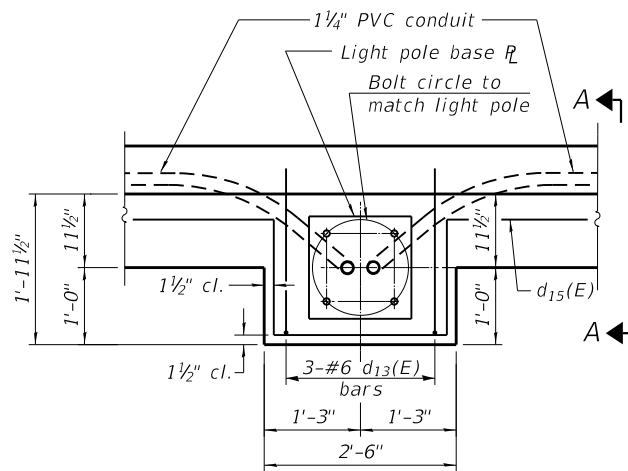
BAR $d_{13}(E)$



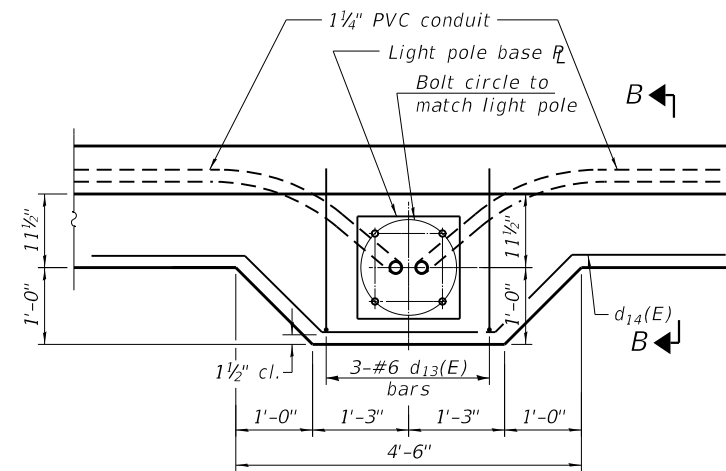
BAR $d_{14}(E)$



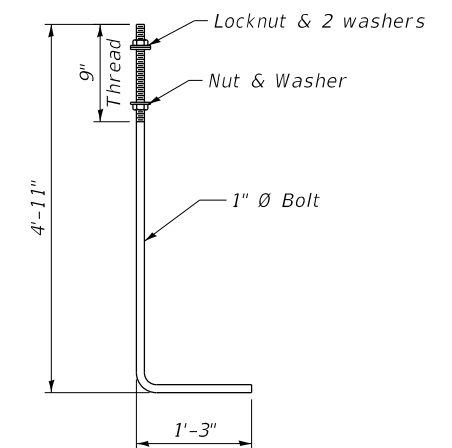
BAR $d_{15}(E)$



DETAIL 1



DETAIL 2



ANCHOR ROD

Cost of anchor rods is included with Concrete Superstructure. (ASTM F 1554 Grade 105) Full length hot dipped galvanized

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_11_Union Drain Ditch_ApproachSlab4.dgn



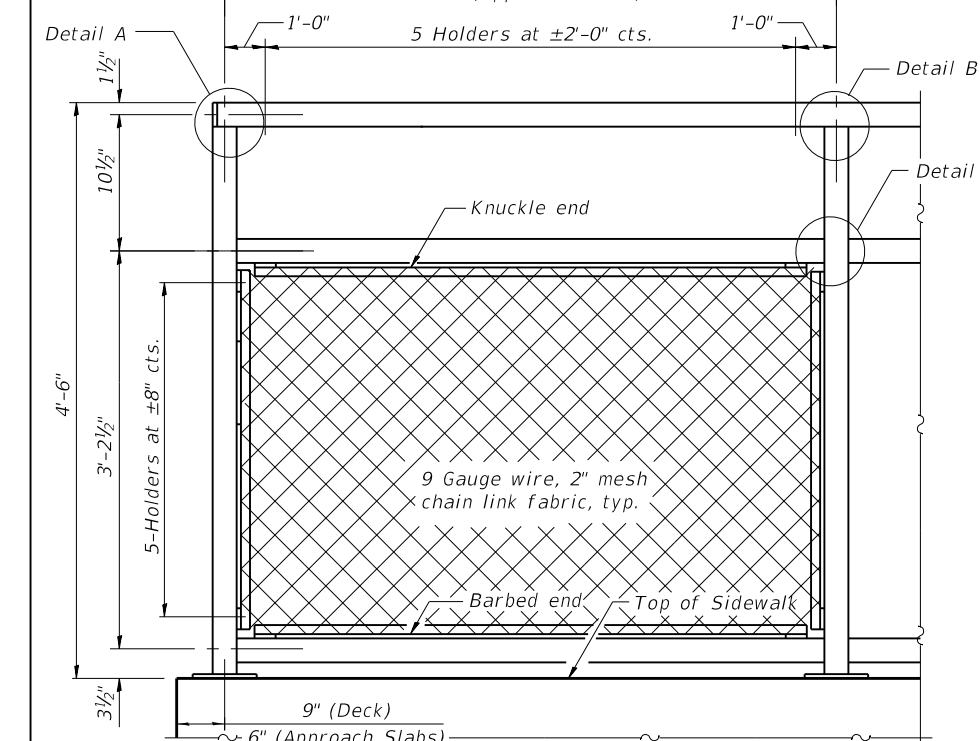
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		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

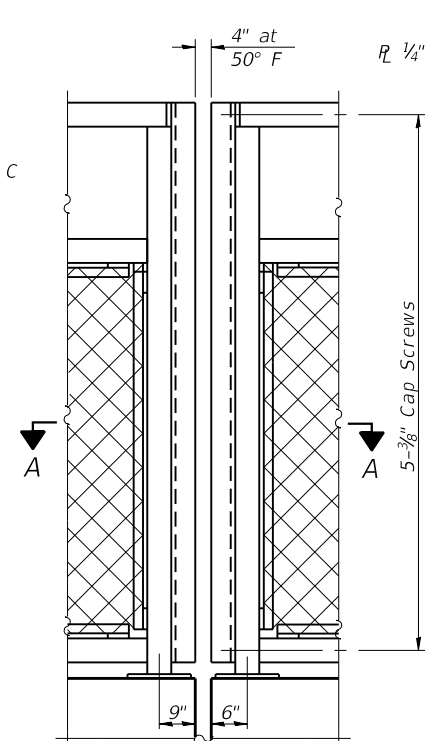
BRIDGE APPROACH SLAB DETAILS 4
STRUCTURE NO. 099-3405

SHEET SA-11 OF SA-28 SHEETS

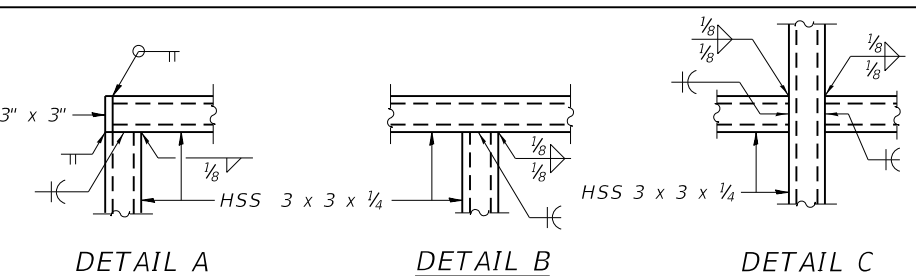
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	732
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



BICYCLE RAILING

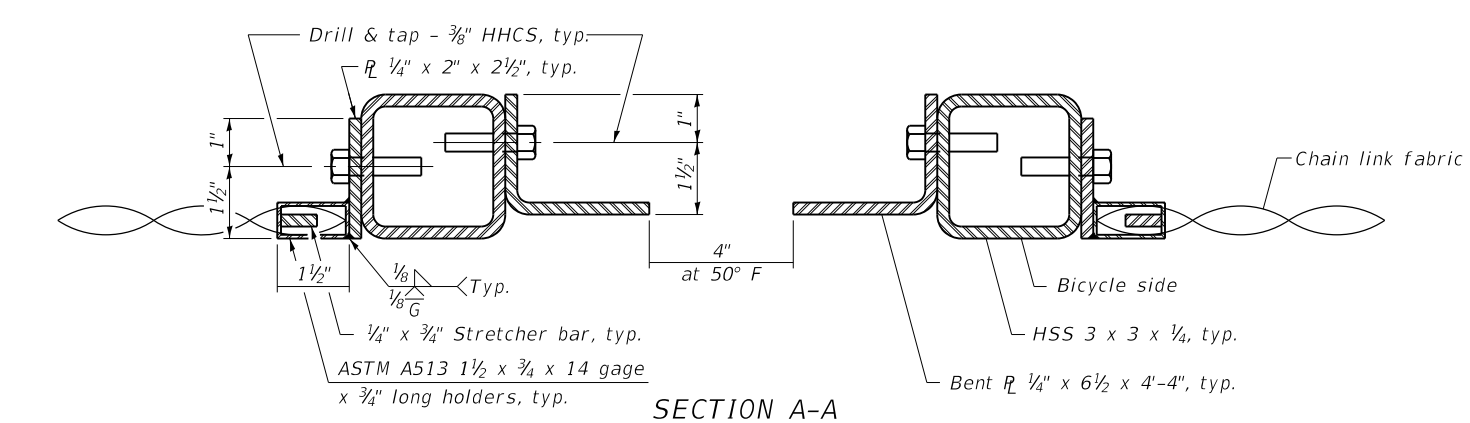


BICYCLE RAILING

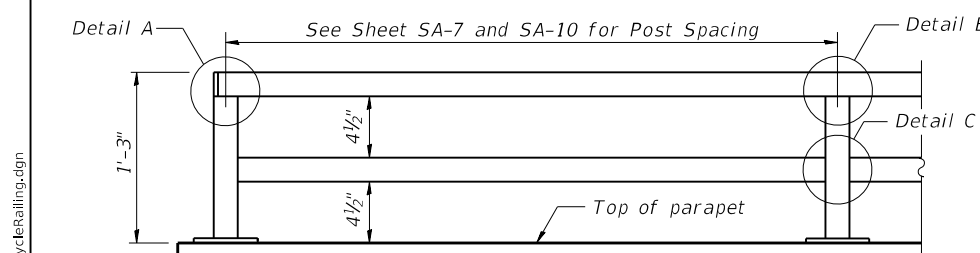


DETAIL A **DETAIL B** **DETAIL C**

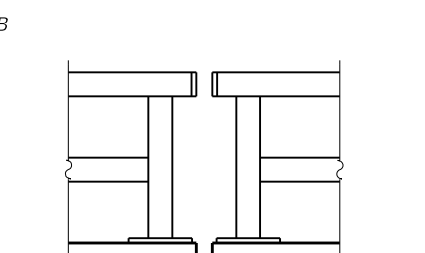
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



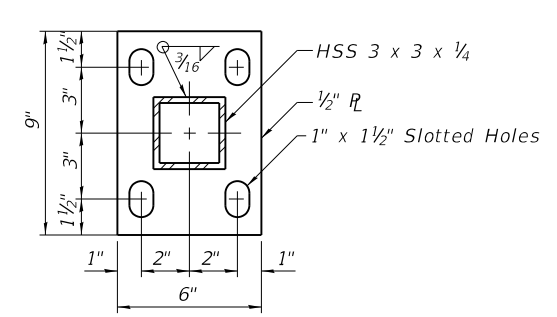
SECTION A-A



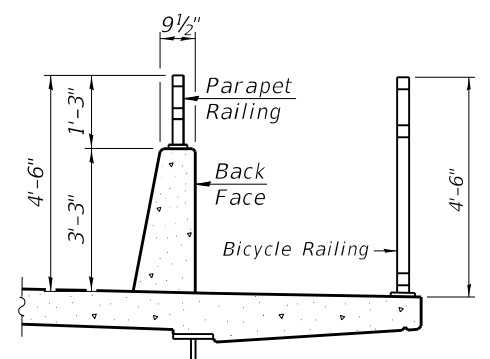
PARAPET RAILING
ELEVATION
(Inside Face of Two Element Rail)



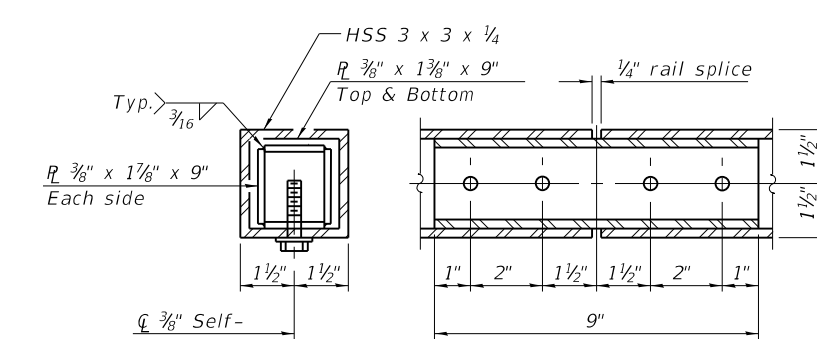
PARAPET RAILING
ELEVATION AT EXPANSION JOINT
(Two Element Rail Shown - Three Element Rail Similar)



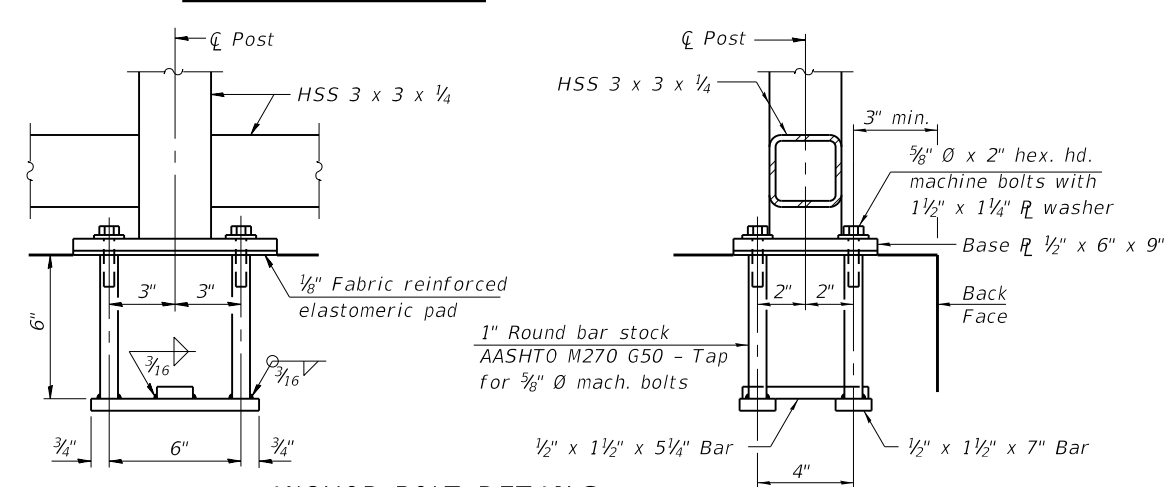
BASE R



SECTION THRU DECK



RAIL SPLICE



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	148
Parapet Railing	Foot	143

Notes:
All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.
CVN testing may be omitted for the Bicycle Railing.

R-29

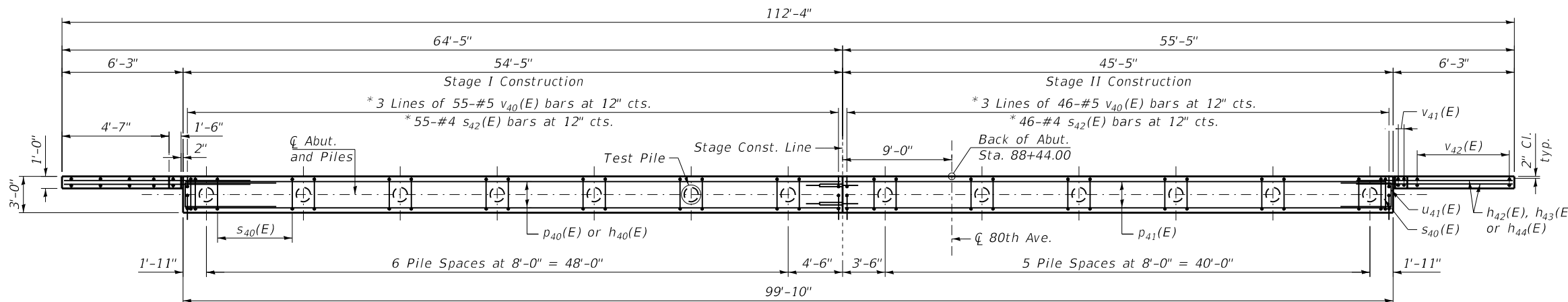
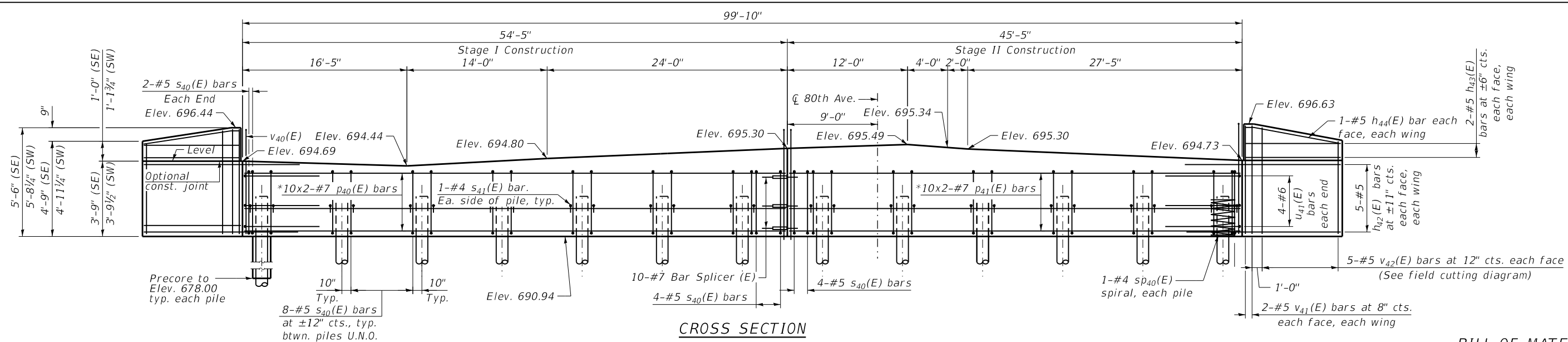
 8725 W. Higgins Rd, Ste 600, Chicago, IL 60631
 P 773.775.4009 | www.ciorba.com

USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO. 099-3405
SHEET SA-12 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	733
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₄₂ (E)	20	#5	8'-10"	—
h ₄₃ (E)	8	#5	5'-9"	—
h ₄₄ (E)	4	#5	5'-10"	—
p ₄₀ (E)	20	#7	29'-7"	—
p ₄₁ (E)	20	#7	25'-1"	—
s ₄₀ (E)	100	#5	12'-7"	□
s ₄₁ (E)	26	#4	3'-8"	┌
s ₄₂ (E)	101	#4	5'-3"	└
u ₄₁ (E)	8	#6	11'-2"	┌
v ₄₀ (E)	303	#5	5'-7"	└
v ₄₁ (E)	8	#5	5'-2"	—
v ₄₂ (E)	10	#5	9'-7"	—
*sp ₄₀ (E)	13	#4	2'-0"	W

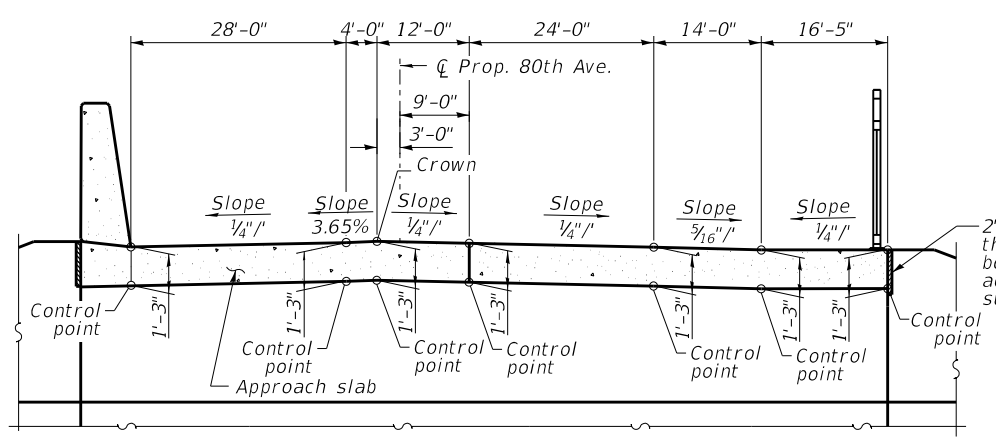
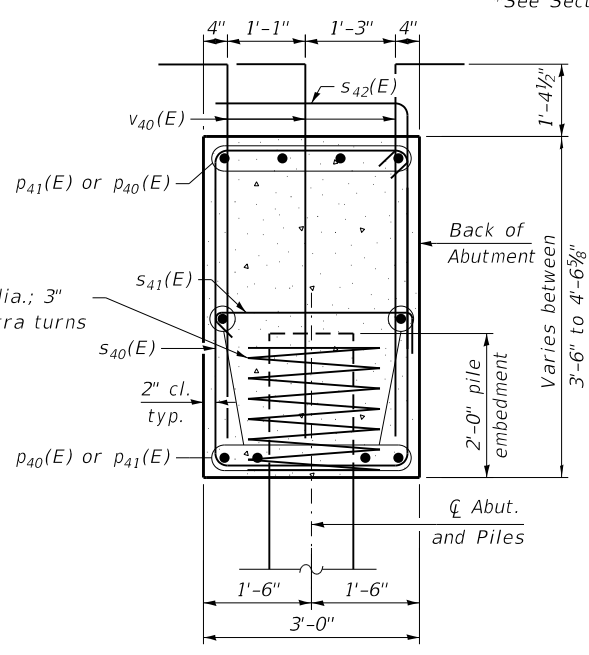
Structure Excavation	Cu Yd	42
Concrete Structures	Cu Yd	47.1
Geocomposite Wall Drain	Sq Yd	56
Granular Backfill For Structures	Cu Yd	85
Pipe Underdrains For Structures 4"	Foot	121
Furnishing Metal Shell Piles 14" X 0.250"	Foot	744
Driving Piles	Foot	744
Test Pile Metal Shells	Each	1
Reinforcement Bars, Epoxy Coated	Pound	6,870
Bar Splicers	Each	10

MINIMUM BAR LAP

- #4 bar = 2'-11"
- #5 bar = 3'-7"
- #6 bar = 4'-4"
- #7 bar = 5'-0"

PILE DATA

Type: Metal Shell Pile 14"x0.25"
 Nominal Required Bearing: 354 kips
 Factored Resistance Available: 174 kips
 Est. Length: 62'
 No. Production Piles: 12
 No. Test Piles: 1



2" PJF (per Article 1051.09 of the Standard Specifications) bonded to wingwall with suitable adhesive as recommended by supplier.

NOTES:

- For details of piles see sheet SA-20 of SA-28.
- For bar bend diagram see Sheet SA-14 of SA-28.
- Piles shall be driven through 24" diameter precored holes extending to elevation 678.00 according to Article 512.09(c) of the Standard Specifications. Cost included in driving piles.

FILE NAME: N:\PROJ\020887.01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_13_Union Drain Ditch_SouthAbutment.dgn



USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
CHECKED -	BWS	CHECKED -	BWS	REVISED -	
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

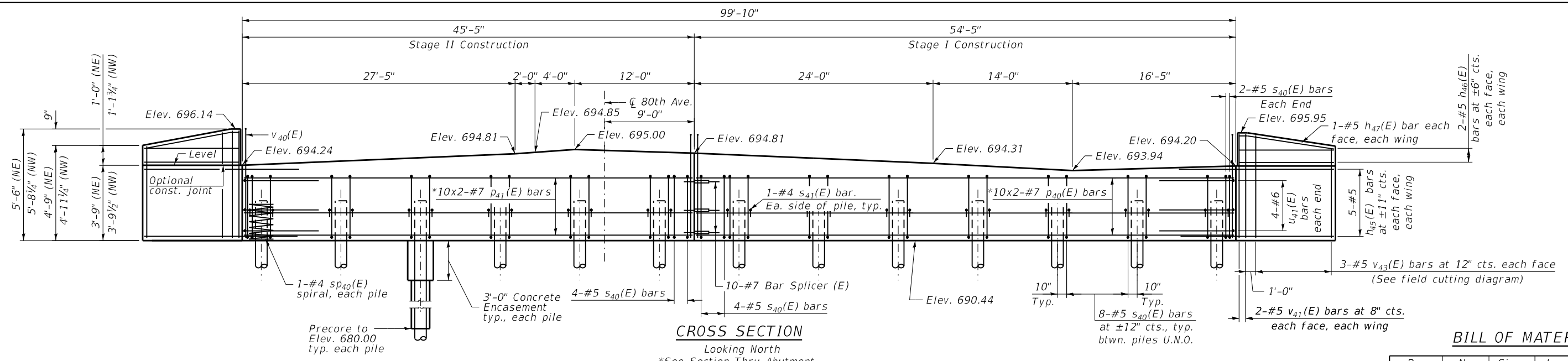
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
STRUCTURE NO. 099-3405

SHEET SA-13 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	734
CONTRACT NO.			61G73	

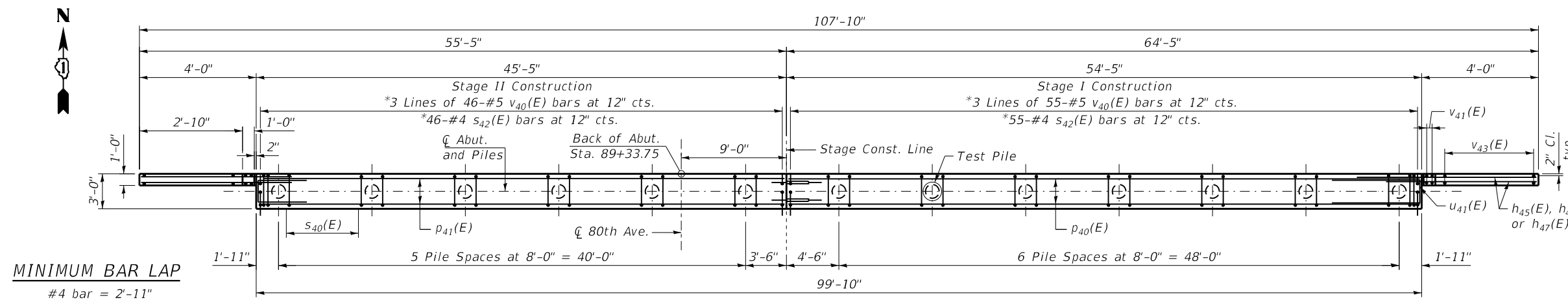
ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

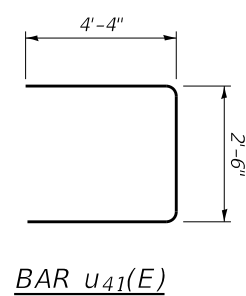
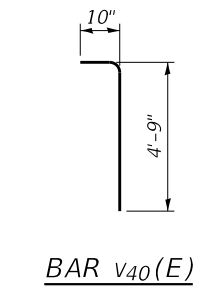
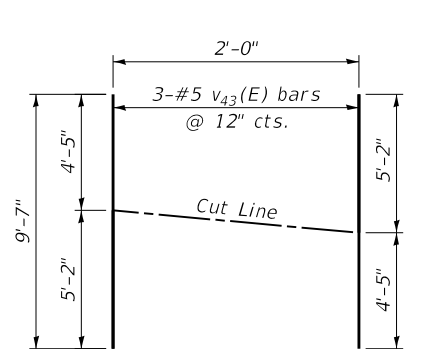
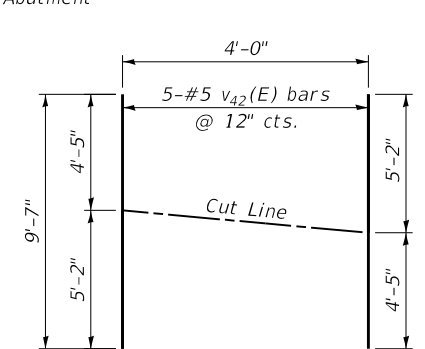
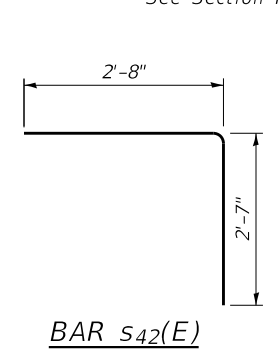
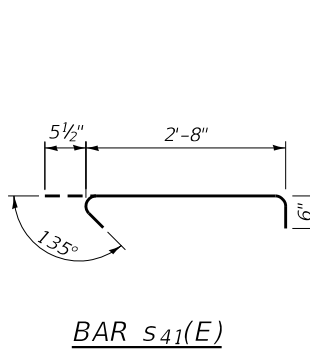
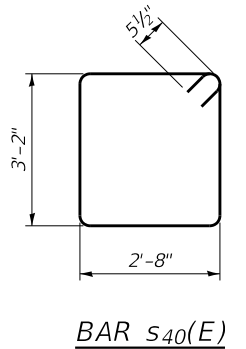
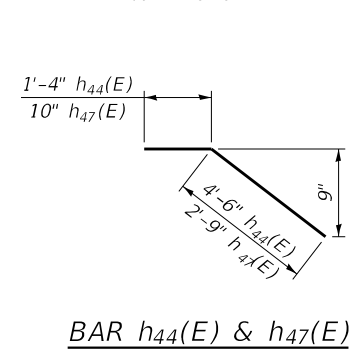
Bar	No.	Size	Length	Shape
h ₄₅ (E)	20	#5	6'-7"	—
h ₄₆ (E)	8	#5	3'-6"	—
h ₄₇ (E)	4	#5	3'-7"	—
p ₄₀ (E)	20	#7	29'-7"	—
p ₄₁ (E)	20	#7	25'-1"	—
s ₄₀ (E)	100	#5	12'-7"	□
s ₄₁ (E)	26	#4	3'-8"	┌
s ₄₂ (E)	101	#4	5'-3"	└
u ₄₁ (E)	8	#6	11'-2"	U
v ₄₀ (E)	303	#5	5'-7"	└
v ₄₁ (E)	8	#5	5'-2"	—
v ₄₃ (E)	6	#5	9'-7"	—
sp ₄₀ (E)	13	#4	2'-0"	W

Structure Excavation	Cu Yd	45
Concrete Structures	Cu Yd	46.3
Concrete Encasement	Cu Yd	7.1
Geocomposite Wall Drain	Sq Yd	55
Granular Backfill For Structures	Cu Yd	82
Pipe Underdrains For Structures 4"	Foot	116
Furnishing Metal Shell Piles 14" X 0.250"	Foot	840
Driving Piles	Foot	840
Test Pile Metal Shells	Each	1
Reinforcement Bars, Epoxy Coated	Pound	6,750
Bar Splicers	Each	10



MINIMUM BAR LAP

- #4 bar = 2'-11"
- #5 bar = 3'-7"
- #6 bar = 4'-4"
- #7 bar = 5'-0"



PILE DATA
Type: Metal Shell Pile 14"x0.25"
Nominal Required Bearing: 354 kips
Factored Resistance Available: 167 kips
Est. Length: 70'
No. Production Piles: 12
No. Test Piles: 1

- NOTES:**
- For details of piles see sheet SA-20 of SA-28.
 - For section through abutment, see Sheet SA-13 of SA-28.
 - For details of Concrete Encasement, see Sheet SA-19 of SA-28.
 - Piles shall be driven through 24" diameter precored holes extending to elevation 680.0 according to Article 512.09(c) of the Standard Specifications. Cost included in driving piles.

FILE NAME: N:\PROJ\020887.01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_14_Union Drain Ditch_NorthAbutment.dgn



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		CHECKED -	BWS	REVISED -	
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

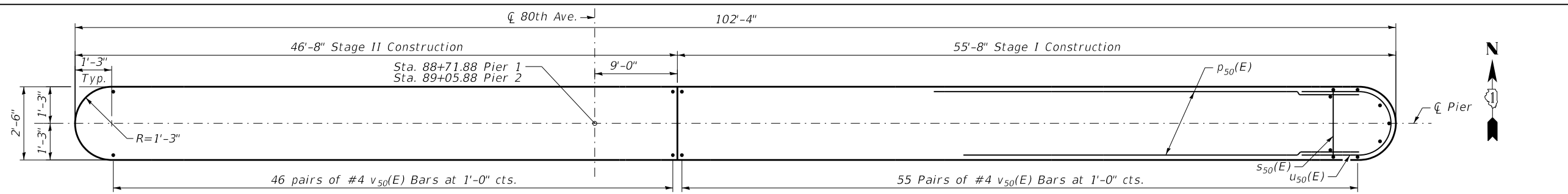
NORTH ABUTMENT
STRUCTURE NO. 099-3405

SHEET SA-14 OF SA-28 SHEETS

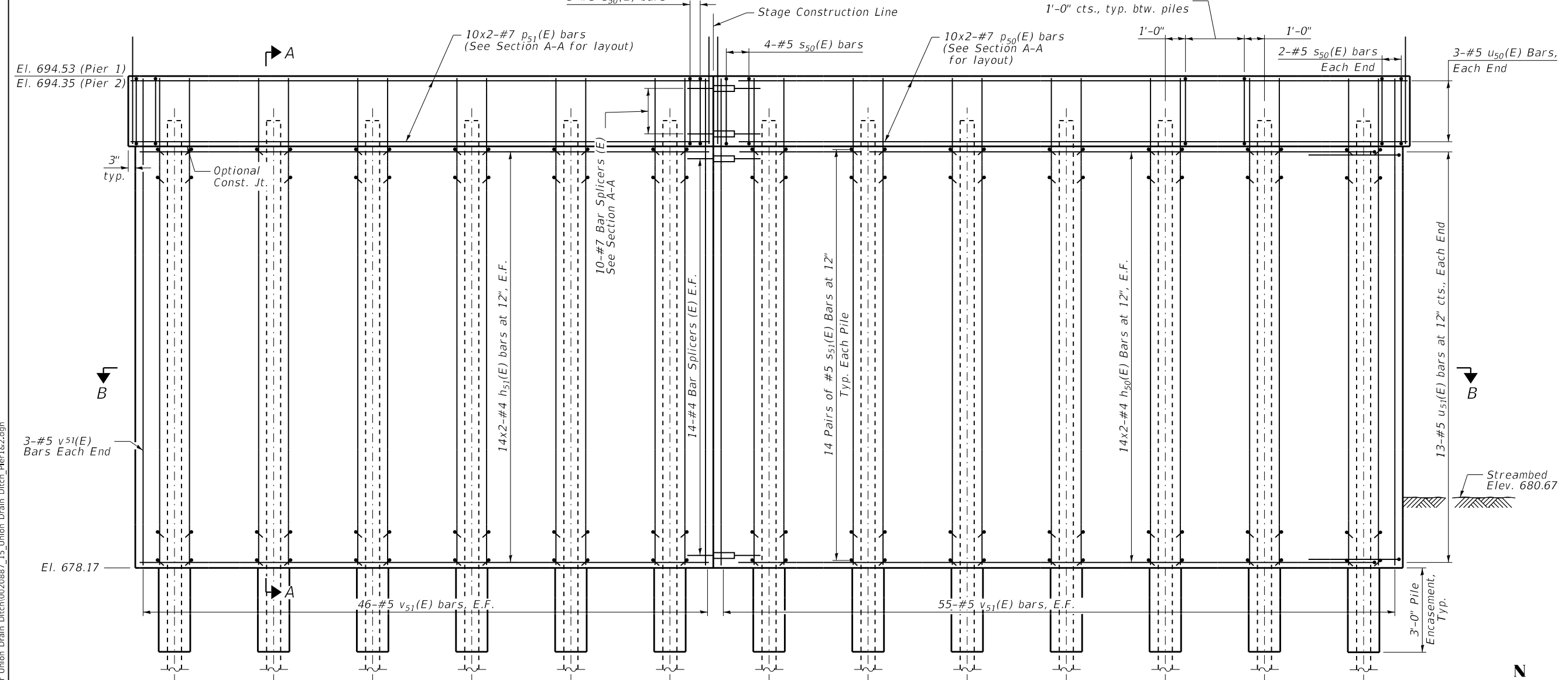
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	735
CONTRACT NO.			61673	

ILLINOIS FED. AID PROJECT

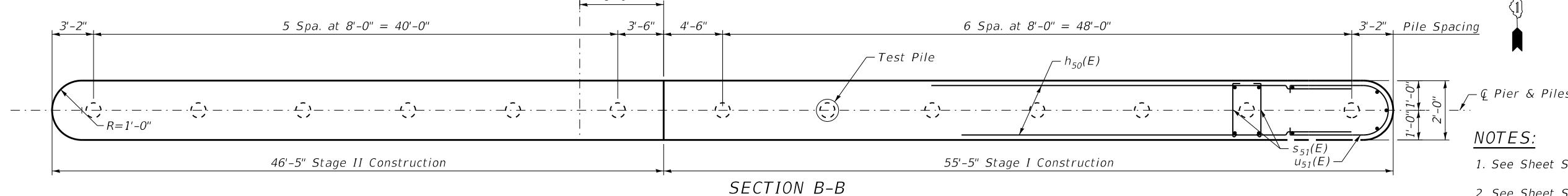
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TOP PLAN



PIERS 1 & 2
(Looking North)



SECTION B-B

MIN. BAR LAP
#4 bar = 2'-11"
#7 bar = 5'-0"

- NOTES:**
1. See Sheet SA-16 for Section A-A.
 2. See Sheet SA-20 for Pile Encasement Details.



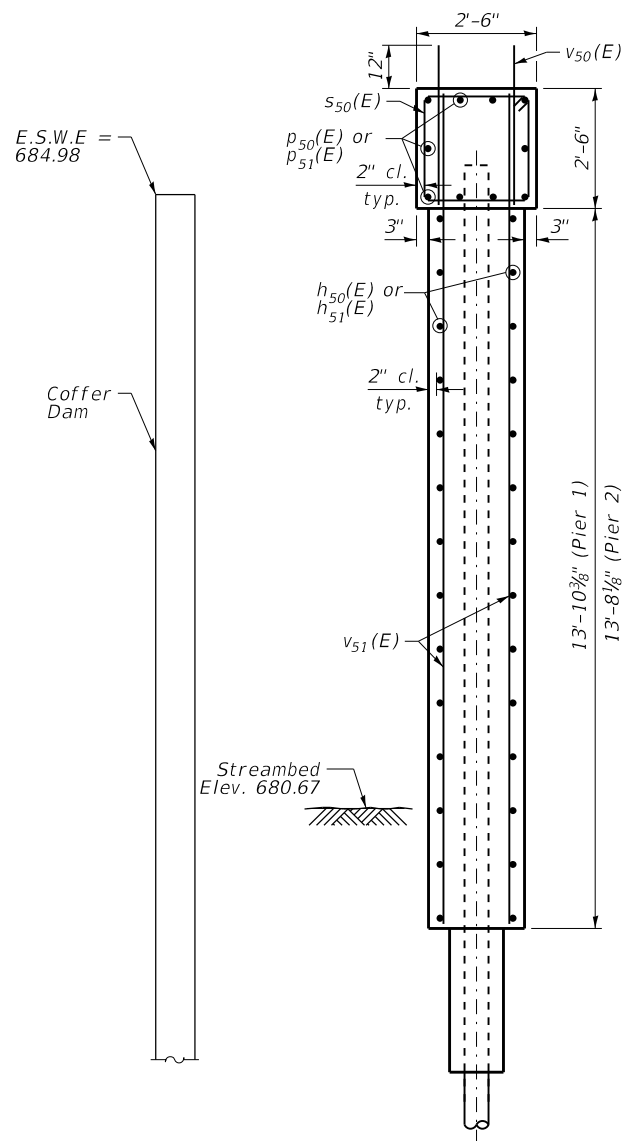
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PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

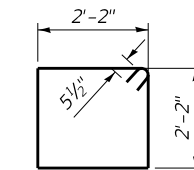
PIER 1 & 2
STRUCTURE NO. 099-3405

SHEET SA-15 OF SA-28 SHEETS

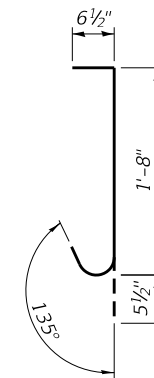
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	736
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



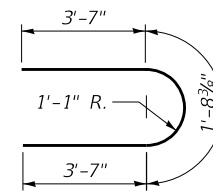
SECTION A-A



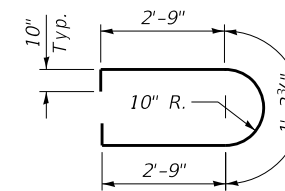
BAR S50(E)



BAR S51(E)



BAR U50(E)



BAR U51(E)

PILE DATA - PIER 1

Type: Metal Shell 14"x0.25"
 Nominal Required Bearing: 395 kips
 Factored Resistance Available: 217 kips
 Est. Length: 73'
 No. Production Piles: 6 (Stage I)
 6 (Stage II)
 No. Test Piles: 1

PILE DATA - PIER 2

Type: Metal Shell 14"x0.25"
 Nominal Required Bearing: 366 kips
 Factored Resistance Available: 201 kips
 Est. Length: 82'
 No. Production Piles: 6 (Stage I)
 6 (Stage II)
 No. Test Piles: 1

MIN. BAR LAP

#4 bar = 2'-11"

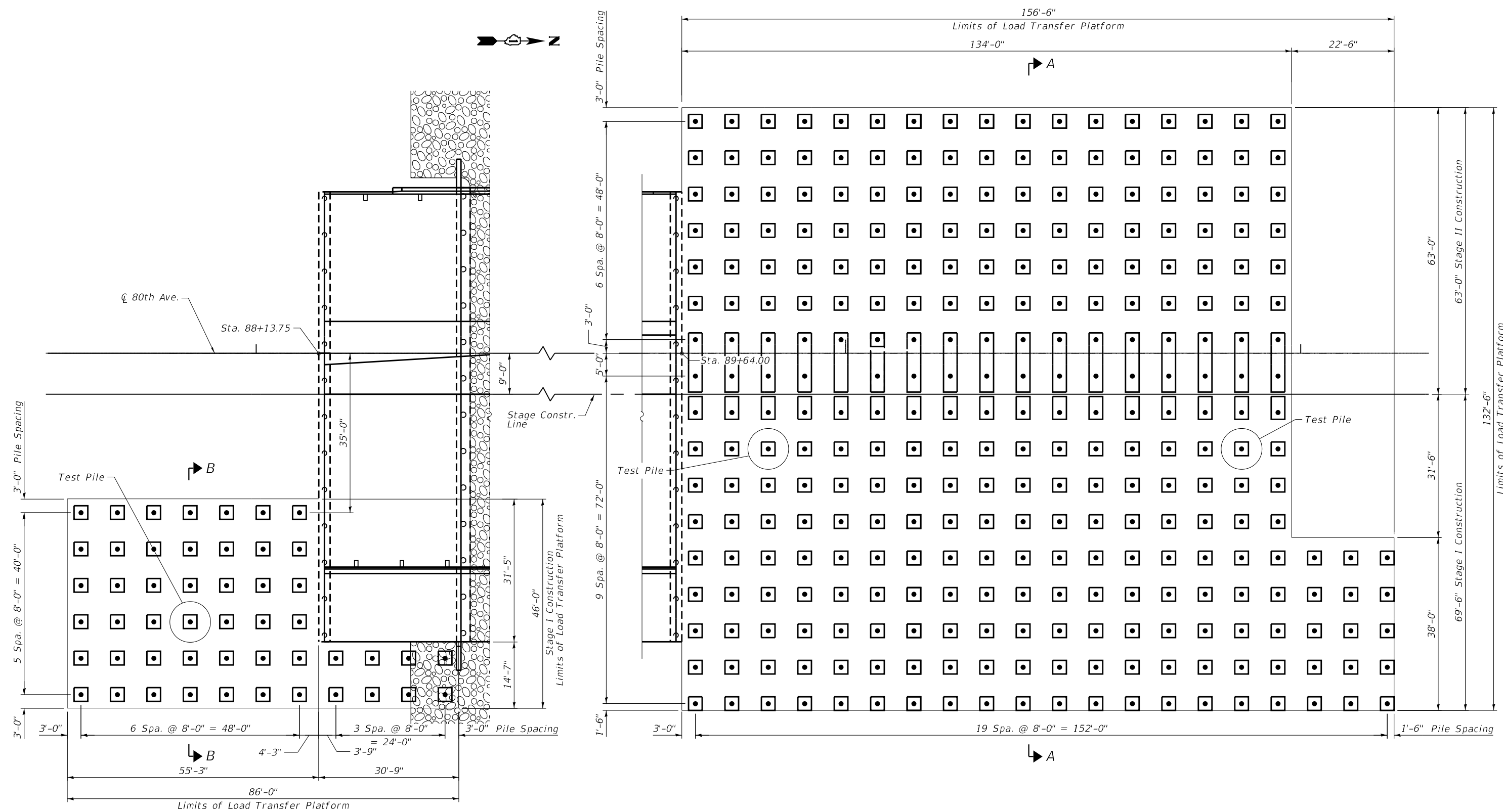
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₅₀ (E)	112	#4	29'-0"	—
h ₅₁ (E)	112	#4	24'-8"	—
p ₅₀ (E)	40	#7	30'-2"	—
p ₅₁ (E)	40	#7	25'-10"	—
s ₅₀ (E)	176	#5	9'-7"	□
s ₅₁ (E)	728	#5	2'-8"	U
u ₅₀ (E)	12	#5	8'-11"	U
u ₅₁ (E)	52	#5	8'-6"	U
v ₅₀ (E)	404	#4	3'-4"	—
v ₅₁ (E)	416	#5	16'-2"	—
Cofferdam Excavation		Cu Yd	118	
Concrete Structures		Cu Yd	249.7	
Concrete Encasement		Cu Yd	14.2	
Furnishing Metal Shell Piles 14" X 0.250"		Foot	1,860	
Driving Piles		Foot	1,860	
Test Pile Metal Shells		Each	2	
Reinforcement Bars, Epoxy Coated		Each	20,870	
Bar Splicers		Pound	76	
Cofferdam (Type 1) (In-Stream/Wetland)		Each	4	

Note:
 Cofferdam locations refer to as follows:
 Location 1 - Pier 1, Stage I
 Location 2 - Pier 1, Stage II
 Location 3 - Pier 2, Stage I
 Location 4 - Pier 2, Stage II

FILE NAME: N:\PROJ\020887.01\Design\Structural\CAD\SA_80th_Ave_over_Union_Drain_Ditch_PierDetails.dgn

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_17_Union Drain Ditch_PileEmbank1.dgn



PLAN
(Showing Pile Layout and Outline of Stabilized Embankment)

NOTE:
1. For Sections A-A & B-B, see sheet SA-18.



USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

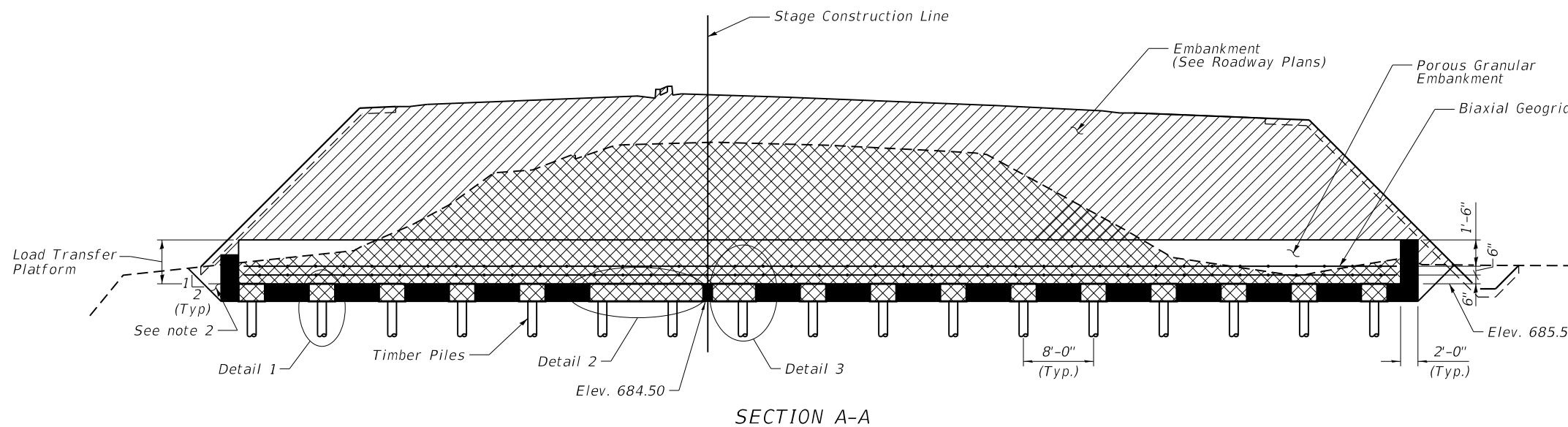
STABILIZED EMBANKMENT 1
STRUCTURE NO. 099-3405

SHEET SA-17 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	738
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₁₀₀ (E)	8088	#5	2'-8"	—
h ₁₀₁ (E)	204	#5	12'-8"	—
h ₁₀₂ (E)	204	#5	4'-8"	—
Porous Granular Embankment			Cu Yd	2,002
Structure Excavation			Cu Yd	4,368
Concrete Structures			Cu Yd	140.8
Reinforcement Bars, Epoxy Coated			Pound	26,190
Furnishing Treated Piles 20.1 To 38 Feet			Foot	11,004
Driving Piles			Foot	11,004
Test Pile Timber			Each	3
Biaxial Geogrid			Sq Yd	4,801
Granular Backfill For Structures			Cu Yd	845



SECTION A-A

PILE DATA - 87+58 to 88+45

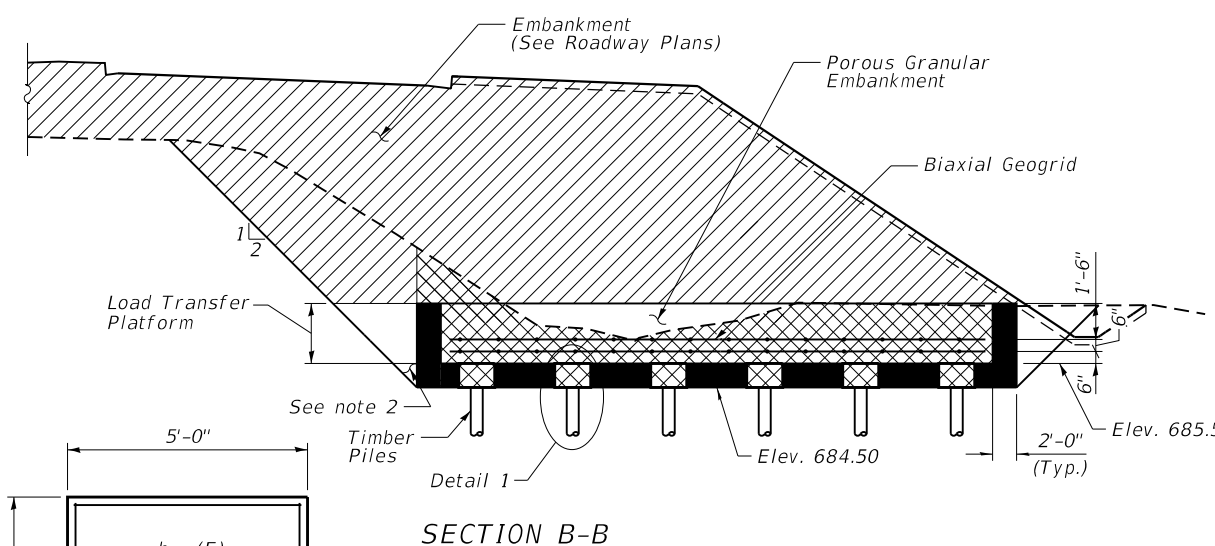
Type: Timber
 Nominal Required Bearing: 153 k
 Factored Resistance Available: 84 k
 Est. Length: 28'-0"
 No. Production Piles: 49
 No. Test Piles: 1

PILE DATA - 90+25 to 91+22

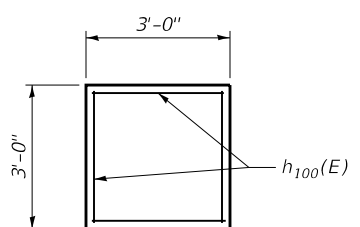
Type: Timber
 Nominal Required Bearing: 140 k
 Factored Resistance Available: 77 k
 Est. Length: 31'-0"
 No. Production Piles: 71 (Stage I) and 96 (Stage II)
 No. Test Piles: 1 (Stage I)

PILE DATA - 89+64 to 90+25

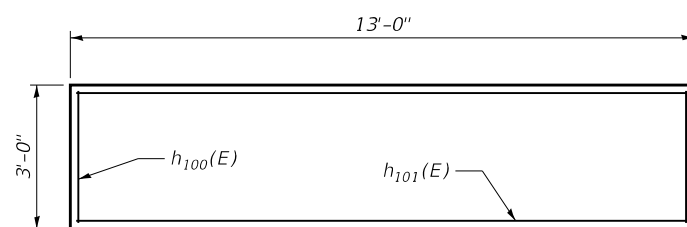
Type: Timber
 Nominal Required Bearing: 140 k
 Factored Resistance Available: 77 k
 Est. Length: 33'-0"
 No. Production Piles: 63 (Stage I) and 72 (Stage II)
 No. Test Piles: 1 (Stage II)



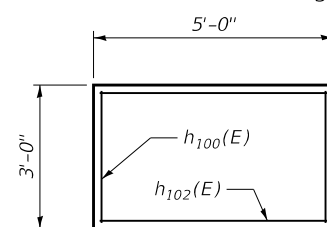
SECTION B-B



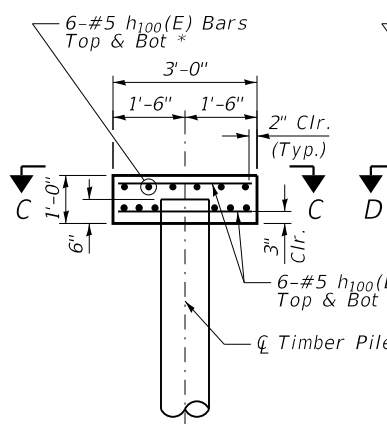
VIEW C-C



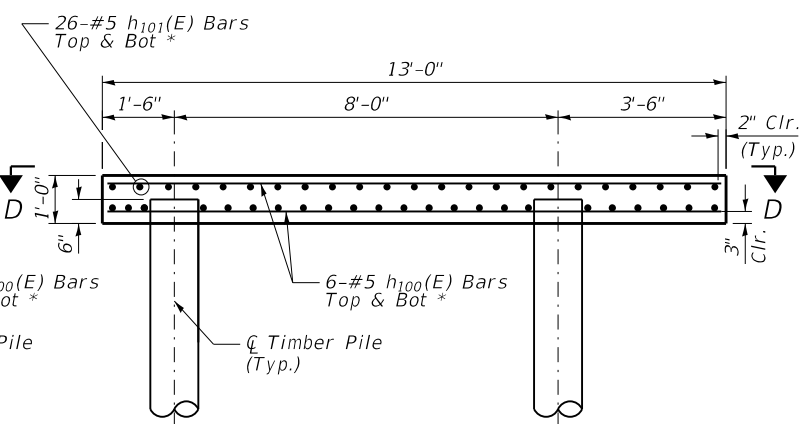
VIEW D-D



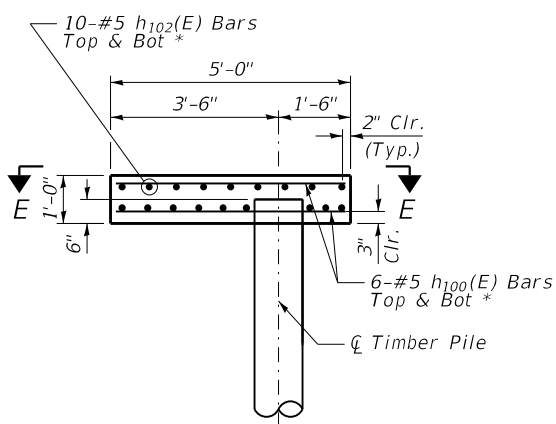
VIEW E-E



DETAIL 1



DETAIL 2



DETAIL 3

LEGEND

- Embankment
- Structure Excavation
- Granular Backfill for Structures

NOTES:

1. Install Approach Bent and Stage II S. Abut. Piles before constructing Load Transfer Platform.
2. Over excavation beyond structure excavation are not measured for payment. Backfill over excavation with same material used for Granular Backfill for Structures.

*Space bottom mat of reinforcement to miss pile.

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_18_Union Drain Ditch_PileEmbank2.dgn



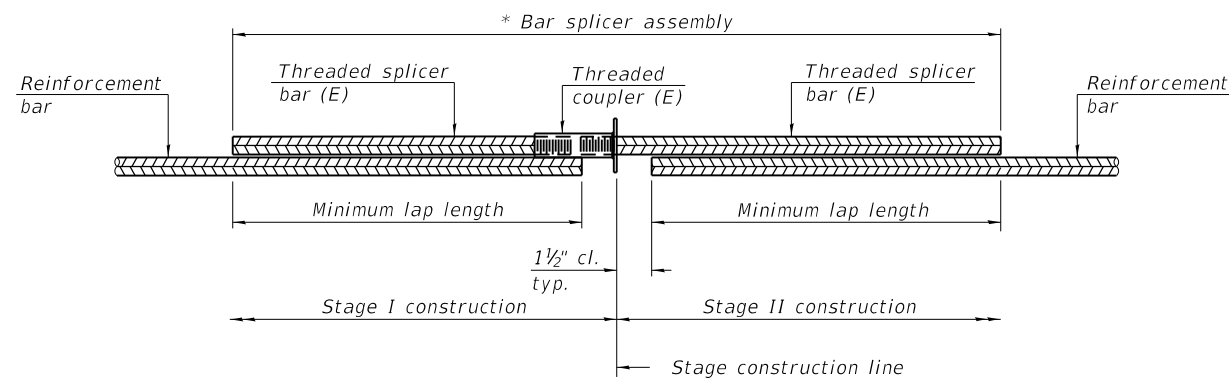
USER NAME = Roadway	DESIGNED - APD	REVISD -
PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISD -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISD -
	CHECKED - BWS	REVISD -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STABILIZED EMBANKMENT 2
 STRUCTURE NO. 099-3405**

SHEET SA-18 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	739
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

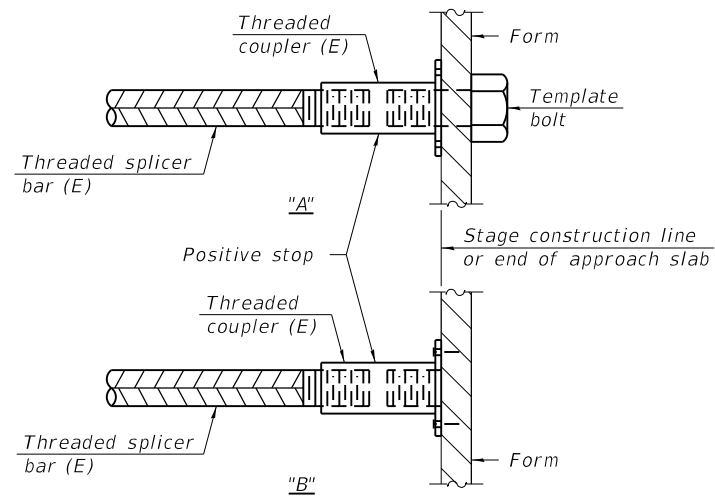


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 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
N. Abut	#7	10	5'-0"
S. Abut	#7	10	5'-0"
Pier	#7	20	5'-0"
Pier	#4	56	2'-11"
Deck	#7	244	3'-7"
S. App. Slab	#5	46	3'-4"
S. App. Slab	#8	60	4'-9"
N. App. Slab	#5	46	3'-4"
N. App. Slab	#8	60	4'-9"
S. App. Bent	#5	4	3'-7"
S. App. Bent	#7	10	5'-0"
N. App. Bent	#5	4	3'-7"
N. App. Bent	#7	10	5'-0"

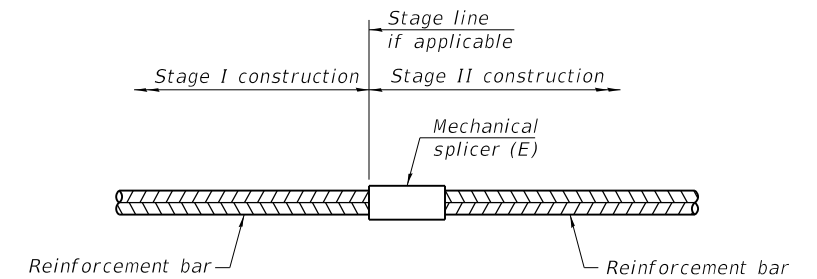


INSTALLATION AND SETTING METHODS

"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

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

1-1-2020



USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

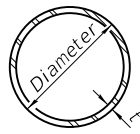
**BAR SPLICER AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 099-3405**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	740
CONTRACT NO.			61G73	

SHEET SA-19 OF SA-28 SHEETS

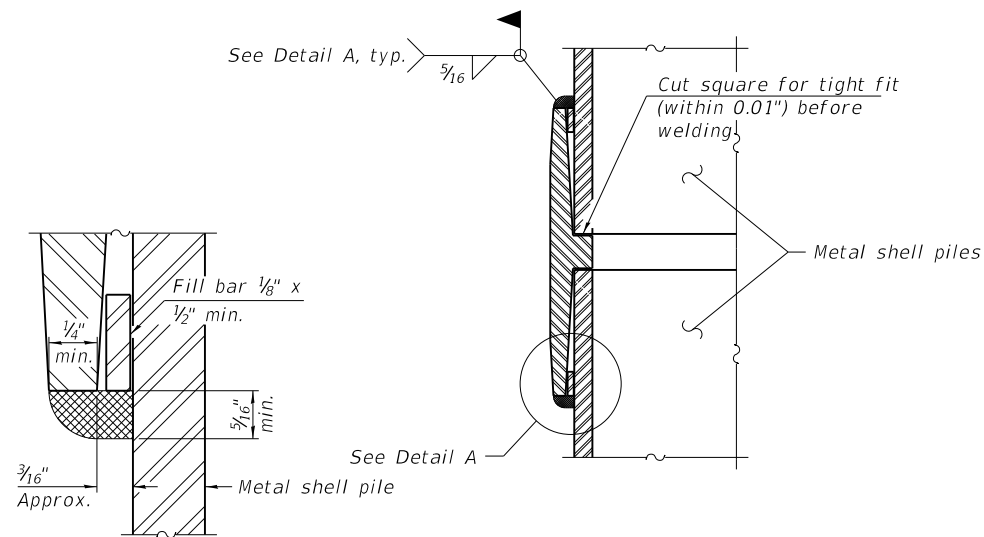
ILLINOIS FED. AID PROJECT

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\020887_19_Union Drain Ditch_BarSplicerAssembly.dgn

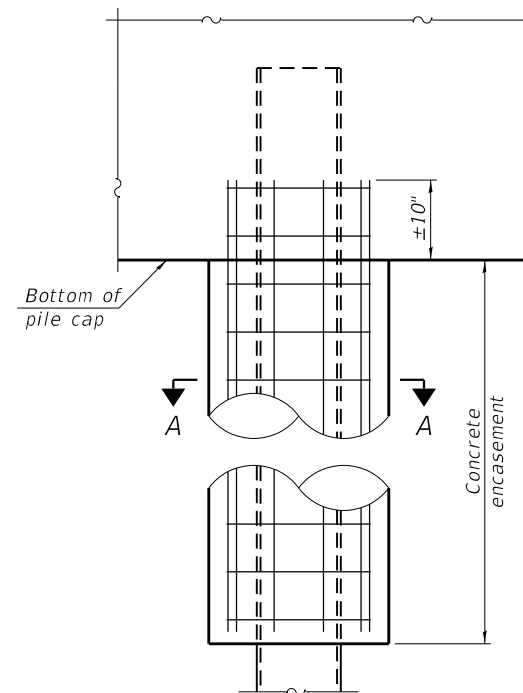


METAL SHELL PILE TABLE

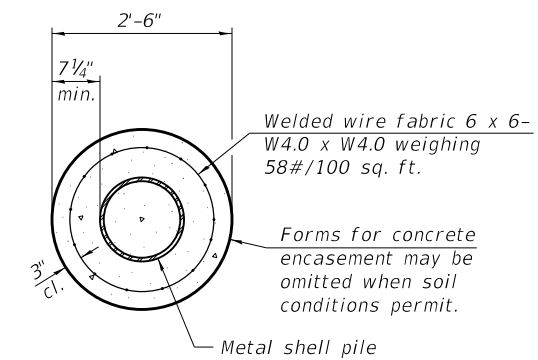
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



DETAIL A



ELEVATION

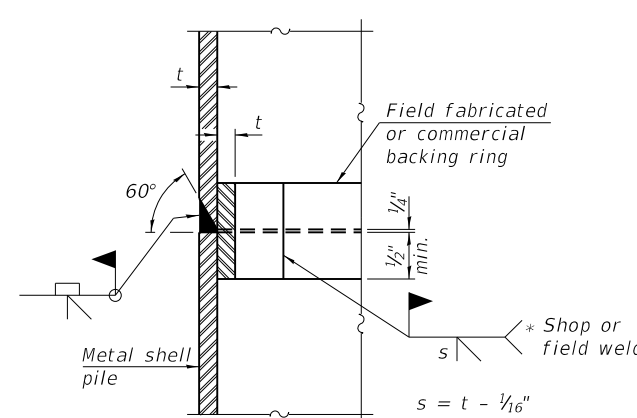


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT
(When specified)

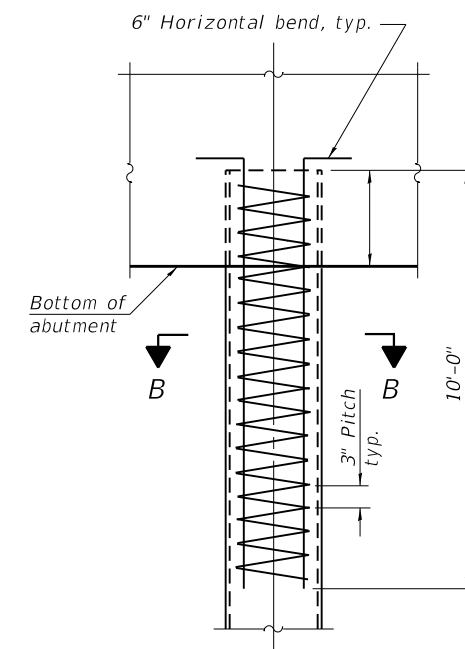
WELDED COMMERCIAL SPLICE

Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.



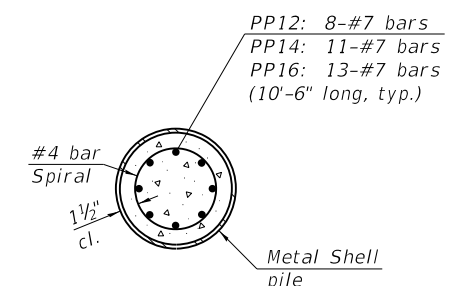
COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

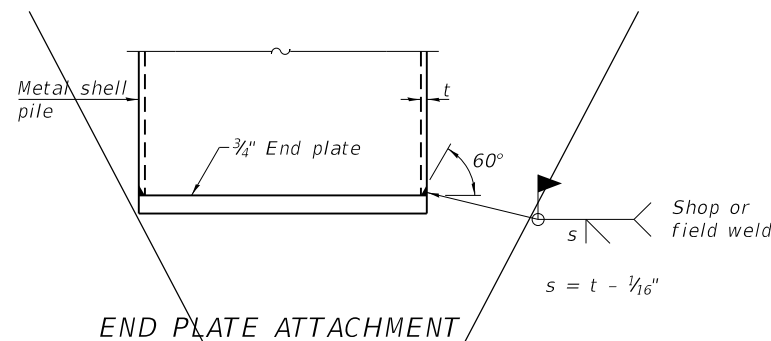


ELEVATION

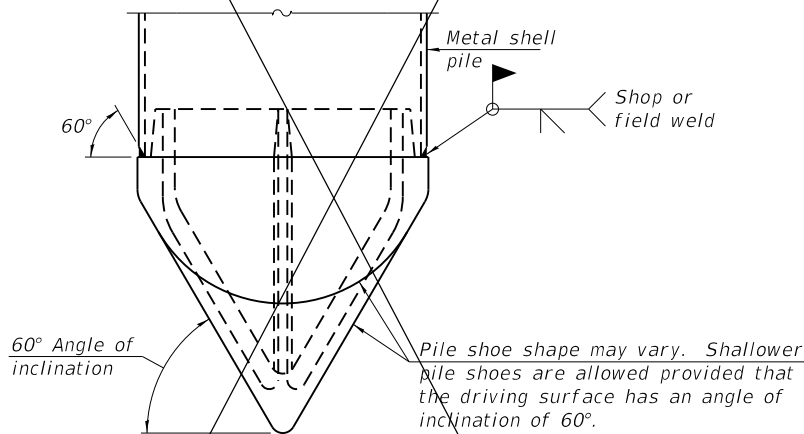
REINFORCEMENT AT ABUTMENTS
(Omit when concrete encasement is specified)



SECTION B-B



END PLATE ATTACHMENT



PILE SHOE ATTACHMENT

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

F-MS 1-1-2020



USER NAME = Roadway	DESIGNED - APD	REVISD -
PLOT SCALE = 0:2.0000" / in.	CHECKED - BWS	REVISD -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISD -
	CHECKED - BWS	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**METAL SHELL PILE DETAILS
STRUCTURE NO. 099-3405**

SHEET SA-20 OF SA-28 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	741
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



SOIL BORING LOG

GSI Job No. 12025
Page 1 of 3
Date 8/30/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY JD
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 1, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HSA/ROTARY HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	DEPTH	BLOW	UCS	MOIST
Station	H	S	Qu	T	n/a ft	H	S	Qu	T
BORING NO. CB-01					Groundwater Elev.:				
Station 88+64					First Encounter 685.2 ft				
Offset 21.60ft Right					Upon Completion n/a ft				
Ground Surface Elev. 693.20 ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	(ft)	(/6")	(tsf)	(%)
15.0" ASPHALT					672.70				
3.0" CRUSHED STONE									
	691.70	4			CLAY LOAM-gray-stiff to very stiff	4			
CLAY LOAM-brown & gray-stiff to hard (Fill)		5	4.5	13		5	3.4	19	
		4	P			5	B		
		4				4			
		4	4.3	16		5	2.3	22	
		9	B			7	B		
		2				4			
		2	1.4	34		3	1.9	15	
		2	B			5	B		
		3				4			
		4	4.2	14		5	2.4	13	
		5	B			7	B		
		4							
		5	3.8	15					
		6	B						
SILTY CLAY LOAM-brown & gray-very loose	680.20	1				6			
		2	1.0	31		5			
		2	B			5			
		1							
		1		19					
		1							
		1				4			
		2	1.5	20		4			
		2	P			6			
		-20				6	1.4	13	
						6	B		

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

GSI Job No. 12025
Page 2 of 3
Date 8/30/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY JD
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 1, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HSA/ROTARY HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	DEPTH	BLOW	UCS	MOIST
Station	H	S	Qu	T	n/a ft	H	S	Qu	T
BORING NO. CB-01					Groundwater Elev.:				
Station 88+64					First Encounter 685.2 ft				
Offset 21.60ft Right					Upon Completion n/a ft				
Ground Surface Elev. 693.20 ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	(ft)	(/6")	(tsf)	(%)
CLAY LOAM-gray-stiff to very stiff (continued)					646.20				
		3				10			
		4	1.9	14		14		19	
		5	B			14			
		-45				-50			
SANDY LOAM-gray-medium dense					641.20				
		6				6			
		8	2.8	11		8			
		8	B			8			
		-55				-75			
SANDY CLAY LOAM-gray-medium dense					621.20				
		13				13			
		8				8			
		9				9			
		-75				-80			
SILTY LOAM-gray-medium dense					635.20				
		7				7			
		5				5			
		5				5			
		-80				-80			

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

GSI Job No. 12025
Page 3 of 3
Date 8/30/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY JD
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 1, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HSA/ROTARY HAMMER TYPE CME Automatic

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	DEPTH	BLOW	UCS	MOIST
Station	H	S	Qu	T	n/a ft	H	S	Qu	T
BORING NO. CB-01					Groundwater Elev.:				
Station 88+64					First Encounter 685.2 ft				
Offset 21.60ft Right					Upon Completion n/a ft				
Ground Surface Elev. 693.20 ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	(ft)	(/6")	(tsf)	(%)
SILTY LOAM-gray-medium dense (continued)					611.20				
		8				4	0.6	16	
		7	B			7	B		
		-65				-85			
SAND & GRAVEL-gray-very dense					604.70				
		48				19		8	
		19				50/5"			
		-85				-90			
Drillers Observation - Possible Bedrock					600.70				
		50/1"							
		-90				-95			
End Of Boring @ -92.5'. Boring backfilled with cuttings.									
		-95				-100			

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)

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\BoringLog01.dgn



USER NAME = Roadway	DESIGNED - APD	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG 1
STRUCTURE NO. 099-3405

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	742
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		

SHEET SA-21 OF SA-28 SHEETS



SOIL BORING LOG

GSI Job No. 12025
Page 1 of 1
Date 4/16/13

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY AB
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 2, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HAND AUGER HAMMER TYPE Manual

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:
Station	H	S	Qu	T	n/a ft	n/a ft	First Encounter
BORING NO.	(ft)	(/6")	(tsf)	(%)			Upon Completion
Station							After
Offset							Hrs.
Ground Surface Elev.							
12.0" TOPSOIL-black	AS			50	686.30		
SILTY CLAY-brown & gray-stiff to very stiff	AS	1.5	32				
	AS	P					
	AS	1.5	28				
	AS	P					
	AS	1.0	31				
	AS	P					
	AS	0.5	29				
	AS	P					
	AS	2.5	18				
	AS	P					
	AS	2.3	17				
	AS	P					
	AS	2.3	18				
	AS	P					
	AS	1.3	19				
	AS	P					
	AS	2.8	18		677.30	-10	
End Of Boring @ -10.0'. Boring backfilled with cuttings.							

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

GSI Job No. 12025
Page 1 of 1
Date 4/16/13

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY AB
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 1, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HAND AUGER HAMMER TYPE Manual

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:
Station	H	S	Qu	T	n/a ft	n/a ft	First Encounter
BORING NO.	(ft)	(/6")	(tsf)	(%)			Upon Completion
Station							After
Offset							Hrs.
Ground Surface Elev.							
12.0" TOPSOIL-black	AS			30	686.40		
SILTY CLAY-brown & gray-stiff to very stiff (Apparent Fill)	AS	1.5	34				
	AS	P					
	AS	2.0					
	AS	P					
	AS	1.5	35				
	AS	P					
	AS	1.0	34		682.40	-5	
TOPSOIL-black	AS						
ORGANIC SILTY CLAY-dark brown & gray-medium stiff	AS	0.5	56		681.40		
	AS	P					
	AS	0.5	57				
	AS	P					
	AS	0.5	58				
	AS	P					
	AS	0.8	58		677.40	-10	
End Of Boring @ -10.0'. Boring backfilled with cuttings.							

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

GSI Job No. 12025
Page 1 of 1
Date 4/16/13

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY AB
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 1, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD HAND AUGER HAMMER TYPE Manual

STRUCT. NO.	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:
Station	H	S	Qu	T	n/a ft	n/a ft	First Encounter
BORING NO.	(ft)	(/6")	(tsf)	(%)			Upon Completion
Station							After
Offset							Hrs.
Ground Surface Elev.							
12.0" TOPSOIL-black	AS			52	686.90		
SILTY CLAY-dark gray to black-medium stiff	AS	0.8	35				
	AS	P					
	AS	0.8	35		684.90		
	AS	P					
	AS	1.8	22				
	AS	P					
	AS	2.0	20				
	AS	P					
	AS	1.5	21				
	AS	P					
	AS	2.5	19				
	AS	P					
	AS	2.3	18				
	AS	P					
	AS	2.3	19				
	AS	P					
	AS	2.0	18		677.90	-10	
End Of Boring @ -10.0'. Boring backfilled with cuttings.							

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)

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\BoringLog04.dgn



USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG 4
STRUCTURE NO. 099-3405

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	745
CONTRACT NO.			61G73	

SHEET SA-24 OF SA-28 SHEETS

ILLINOIS FED. AID PROJECT



SOIL BORING LOG

GSI Job No. 12025
Page 1 of 2
Date 8/7/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY NW
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 2, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev.	DEPTH H	BLOW S	UCS Qu	MOIST T
					n/a ft				
BORING NO. RW-02 Station 89+75 Offset 40.00ft Left Ground Surface Elev. 687.80 ft									
TOPSOIL-black					684.80				
ORGANIC SILTY CLAY-dark brown & black-medium stiff					682.30				
PEAT-dark brown & black-very loose					677.30				
ORGANIC SILTY CLAY-dark brown & gray-very loose					669.80				

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

GSI Job No. 12025
Page 2 of 2
Date 8/7/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY NW
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 2, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev.	DEPTH H	BLOW S	UCS Qu	MOIST T
					n/a ft				
BORING NO. RW-02 Station 89+75 Offset 40.00ft Left Ground Surface Elev. 687.80 ft									
CLAY LOAM-gray-medium stiff to very stiff (continued)					642.80				
End Of Boring @ -45.0'. Boring backfilled with cuttings.									

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

GSI Job No. 12025
Page 1 of 2
Date 8/6/12

ROUTE CH 83 DESCRIPTION 80th Avenue from 183rd Street to 191st Street LOGGED BY NW
SECTION 06-00122-16-FP LOCATION SE1/4, SEC. 2, TWP. T35N, RNG. R12E, 3rd PM
COUNTY Will DRILLING METHOD Hollow Stem Auger HAMMER TYPE Diedrich Automatic

STRUCT. NO. Station	DEPTH H	BLOW S	UCS Qu	MOIST T	Surface Water Elev.	DEPTH H	BLOW S	UCS Qu	MOIST T
					n/a ft				
BORING NO. RW-03 Station 90+50 Offset 40.00ft Left Ground Surface Elev. 690.90 ft									
TOPSOIL-black					687.90				
CLAY LOAM-dark brown, gray & black-hard (Fill)					685.40				
SILTY CLAY-dark gray-stiff					682.90				
TOPSOIL-black					680.40				
ORGANIC SILTY CLAY-dark brown & black-very loose					677.90				
PEAT-dark brown & black-very loose					672.90				
ORGANIC SILTY CLAY-dark brown & gray-very loose									

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)

FILE NAME: N:\PROJ\020887_01\Design\Structural\CAD\SA_80th Ave over Union Drain Ditch\BoringLog07.dgn



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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG 7
STRUCTURE NO. 099-3405

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	748
CONTRACT NO.			61G73	

SHEET SA-27 OF SA-28 SHEETS

ILLINOIS FED. AID PROJECT

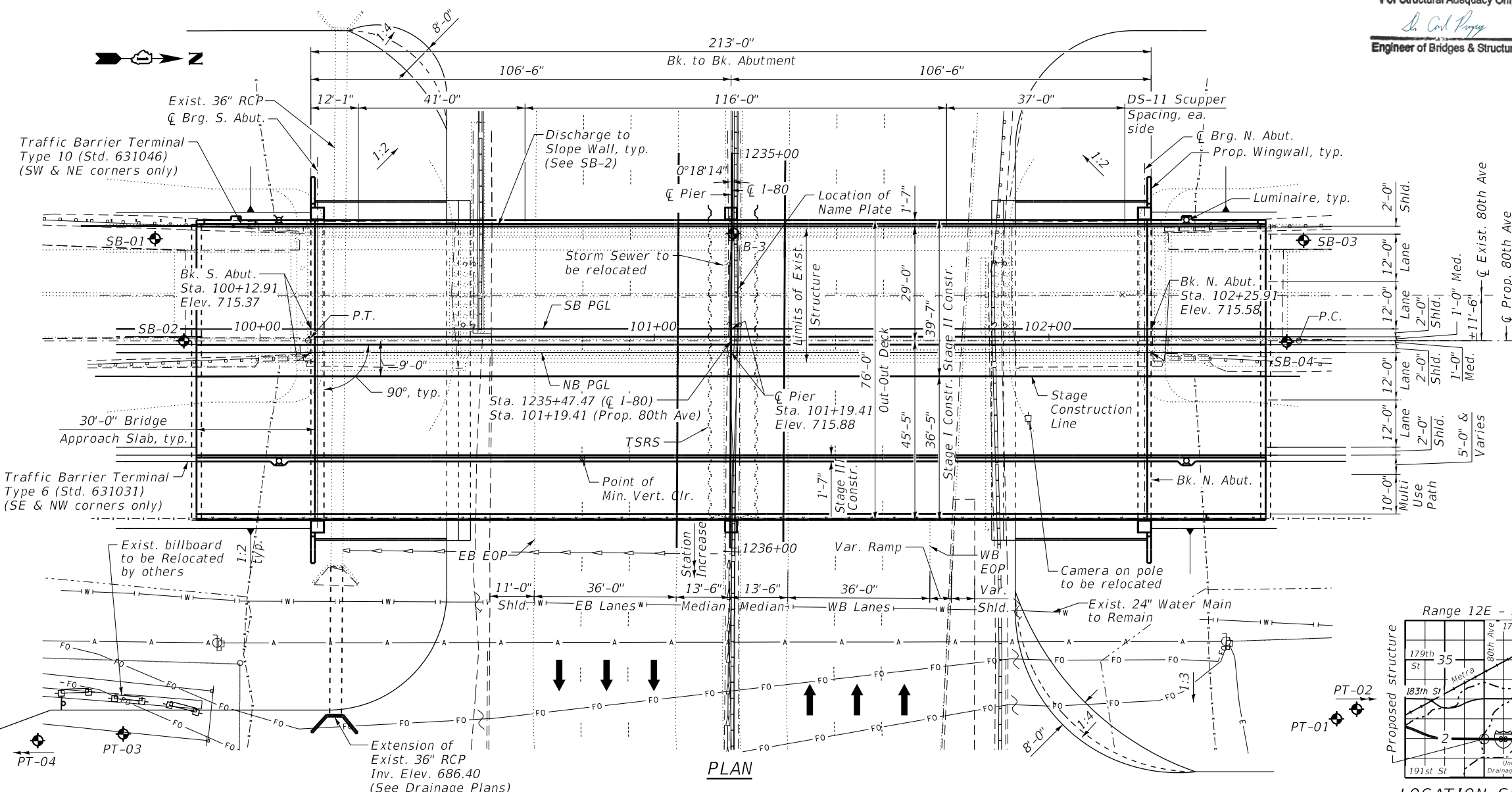
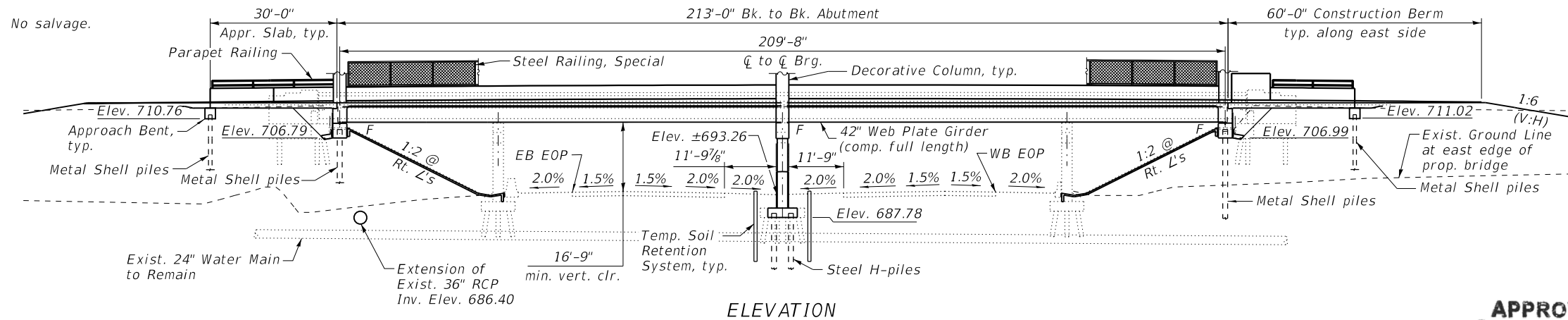
Benchmark: BM3 "X" cut on top of NE barrier wall on east side of 80th Ave on the lower tier of the exist. bridge, Elev 716.702 (NAVD88)

Existing Structure: S.N. 099-0206 Built in 1967 as F.A.I. RT. 80 - SEC. 99-5-1HB-1. Structure consists of 4-span (41'-11", 67'-4", 67'-4", 41'-11") reinforced concrete deck on steel WF beams supported by pile bent abutments and single hammerhead piers. Structure carries two lanes of traffic: 34'-0" out to out of deck, 223'-2" back to back of abutments.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"

Structure to be removed and replaced. Traffic to be maintained utilizing staged construction.

No salvage.



DESIGN STRESSES

FIELD UNITS

- f'c = 3,500 psi
- f'c = 4,000 psi (superstructure concrete)
- fy = 60,000 psi (Reinforcement)
- fy = 50,000 psi (M270 Grade 50 - Girders)
- fy = 36,000 psi (M270 Grade 36 - Diaphragms)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.089g
 Design Spectral Acceleration at 0.2 sec. (SD5) = 0.152g
 Soil Site Class = D

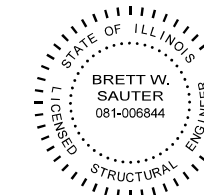
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

APPROVED
 For Structural Adequacy Only
Sh. Carl Pappas
 Engineer of Bridges & Structures



DATE: 3/16/2021
 SEAL EXPIRES: 11/30/2022

Brett Sauter

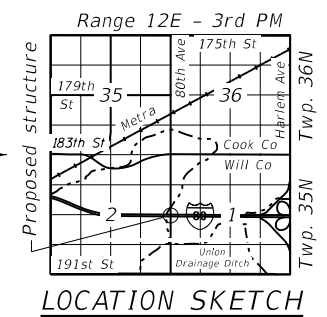
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"

LEGEND

- Existing Storm Sewer
- Existing Underground Fiber Optics
- Existing Aerial Lines
- Existing Underground Water Line
- Existing Underground Electric
- Chain Link Fence
- Temporary Sheet Piling
- Soil Borings

NOTES:

- See Sheet SB-2 for Slope Wall and Drainage Details.
- See Roadway Plans for Removal and Disposal of Unsuitable Material in the northeast and southeast quadrants.



GENERAL PLAN
 80TH AVE OVER I-80
 F.A.U. 2755 - SEC. 06-00122-16-FP
 WILL COUNTY
 STATION 101+19.41
 STRUCTURE NO. 099-0430



USER NAME =	untitled	DESIGNED -	APD	REVISED -	
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PLOT DATE =	3/16/2021	DRAWN -	SBA	REVISED -	
		CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET SB-1 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	750
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

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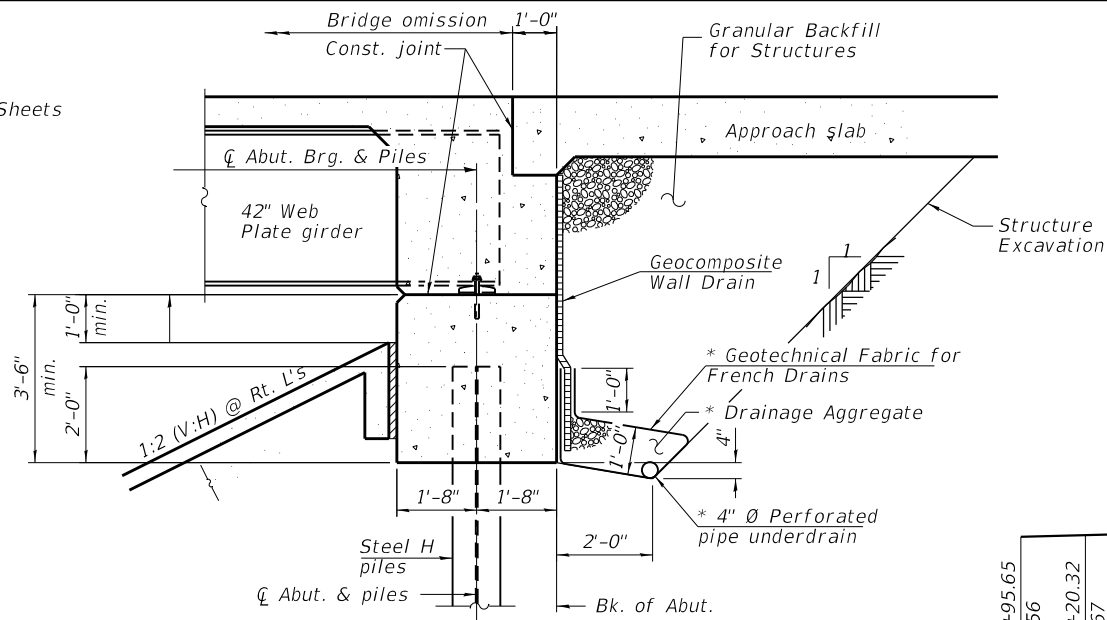
3/16/2021 10:26:03 AM

GENERAL NOTES

- Fasteners shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized bolts in metallized areas. Bolts 7/8" Ø, holes 1 1/16" Ø, unless otherwise noted.
- Calculated weight of Structural Steel:
Grade 36 = 28,640 lbs.
Grade 50 = 452,940 lbs.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to the designated areas of the Pier.
- The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- All new structural steel shall be metallized. See Special Provision for "Metallizing of Structural Steel."
- Slipforming of the parapet is not allowed.
- Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
- A cantilevered sheet piling design does not appear feasible and additional members or other retention systems maybe necessary. The CONTRACTOR shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the ENGINEER.
- The existing structural steel coating contains lead. The CONTRACTOR shall take appropriate precautions to deal with the presence of lead on this project."

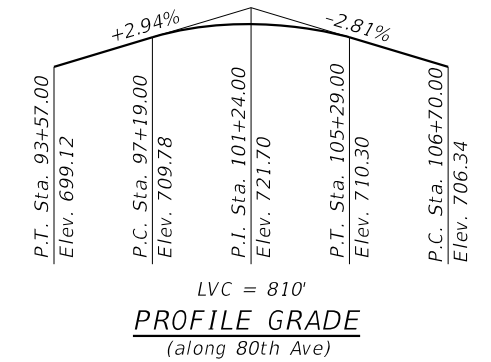
INDEX OF SHEETS

- SB-1 General Plan
- SB-2 General Notes, Bill of Material & Index of Sheets
- SB-3 Removal Plan
- SB-4 Stage Construction Details
- SB-5 Temporary Barrier
- SB-6 Top of Deck Elevations 1
- SB-7 Top of Deck Elevations 2
- SB-8 Top of Deck Elevations 3
- SB-9 Top of South Approach Slab Elevations
- SB-10 Top of North Approach Slab Elevations
- SB-11 Deck Plan and Cross Section
- SB-12 Superstructure Details 1
- SB-13 Superstructure Details 2
- SB-14 Integral Abutment Diaphragm Details
- SB-15 Bridge Approach Slab Details 1
- SB-16 Bridge Approach Slab Details 2
- SB-17 Bridge Approach Slab Details 3
- SB-18 Bridge Approach Slab Details 4
- SB-19 Bridge Approach Slab Details 5
- SB-20 Railing Details 1
- SB-21 Railing Details 2
- SB-22 Drainage Scupper, DS-11
- SB-23 Closed Drainage System Details
- SB-24 Framing Plan and Beam Elevation
- SB-25 Structural Steel Details
- SB-26 Bearing Details
- SB-27 Abutments
- SB-28 Abutment Details
- SB-29 Pier 1
- SB-30 Pier Details
- SB-31 Bar Splicer and Mechanical Splicer Details
- SB-32 Metal Shell Pile Details
- SB-33 HP Pile Details
- SB-34 Soil Boring Logs 1
- SB-35 Soil Boring Logs 2
- SB-36 Soil Boring Logs 3
- SB-37 Soil Boring Logs 4
- SB-38 Soil Boring Logs 5
- SB-39 Soil Boring Logs 6
- SB-40 Soil Boring Logs 7



SECTION THRU INTEGRAL ABUTMENT

* Included in cost of Pipe
Underdrains for Structures, 4" (See Special Provision)
All drainage components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101.)

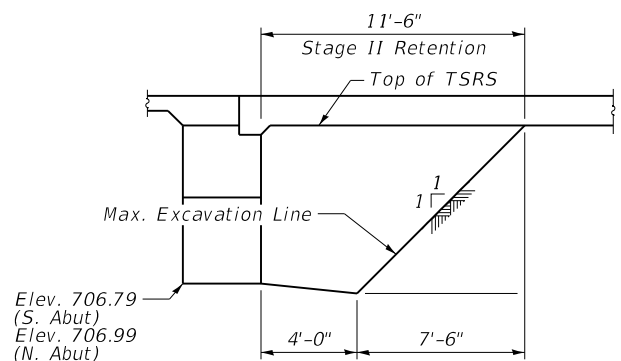


+0.44% (avg.)			+0.44% (avg.)		
Sta. 1234+95.65	Elev. 693.56	EB EOP PROFILE (along I-80)	Sta. 1234+19.16	Elev. 693.22	WB EOP PROFILE (along I-80)
Sta. 1235+20.32	Elev. 693.67		Sta. 1235+18.73	Elev. 693.68	
Sta. 1235+50.96	Elev. 693.80		Sta. 1235+53.26	Elev. 693.83	
Sta. 1235+76.25	Elev. 693.91		Sta. 1235+77.10	Elev. 693.92	
Sta. 1236+01.19	Elev. 694.02		Sta. 1236+03.17	Elev. 694.05	
Sta. 1236+25.69	Elev. 694.13		Sta. 1236+28.12	Elev. 694.14	

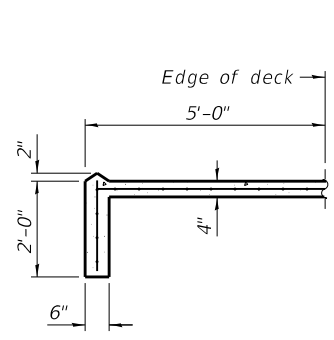
STATION 101+19.41
BUILT 20__ BY
WILL COUNTY
SEC 06-00122-16-FP
F.A.U. RT. 2755
LOADING HL-93
STR. NO. 099-0430
NAME PLATE
See Std. 515001

TOTAL BILL OF MATERIAL

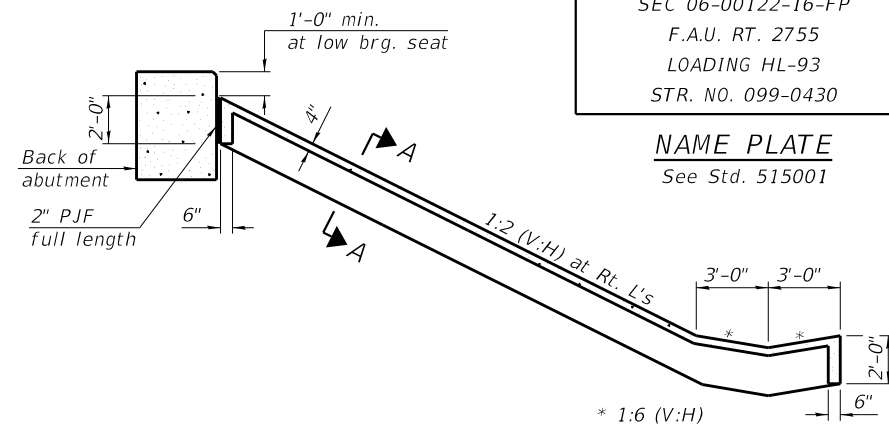
DESCRIPTION	UNIT	SP	SUB	SUPER	TOTAL
Removal Of Existing Structures	Each		0.5	0.5	1
Structure Excavation	Cu Yd		285.0		285.0
Concrete Structures	Cu Yd		301.2		301.2
Concrete Superstructure	Cu Yd			626.2	626.2
Bridge Deck Grooving	Sq Yd			1,567	1,567
Form Liner Textured Surface	Sq Ft			3,603	3,603
Protective Coat	Sq Yd			2,788	2,788
Concrete Superstructure (Approach Slab)	Cu Yd			211.6	211.6
Furnishing And Erecting Structural Steel	L Sum			1	1
Stud Shear Connectors	Each			10,480	10,480
Reinforcement Bars, Epoxy Coated	Pound		51,700	246,350	298,050
Bar Splicers	Each		104	957	1,061
Parapet Railing	Foot			327	327
Slope Wall 4 Inch	Sq Yd			261	261
Furnishing Metal Shell Piles 12" X 0.250"	Foot		368		368
Furnishing Metal Shell Piles 14" X 0.250"	Foot		1,226		1,226
Furnishing Steel Piles Hp14X73	Foot		1,533		1,533
Driving Piles	Foot		3,127		3,127
Test Pile Metal Shells	Each		4		4
Test Pile Steel Hp14X73	Each		1		1
Name Plates	Each			1	1
Anchor Bolts, 1"	Each			60	60
Temporary Soil Retention System	Sq Ft		1,051		1,051
Granular Backfill For Structures	Cu Yd		290		290
Concrete Sealer	Sq Ft		2,045		2,045
Geocomposite Wall Drain	Sq Yd		154		154
Pile Extraction	Each	Y	10		10
Staining Concrete Structures	Sq Ft	Y		5,031	5,031
Architectural Form Liner	Sq Yd	Y		13	13
Drainage Scuppers, DS-11	Each	Y		8	8
Drainage System	L Sum	Y		1	1
Pipe Underdrains For Structures 4"	Foot	Y	236		236
Steel Railing (Special)	Foot	Y	422		422



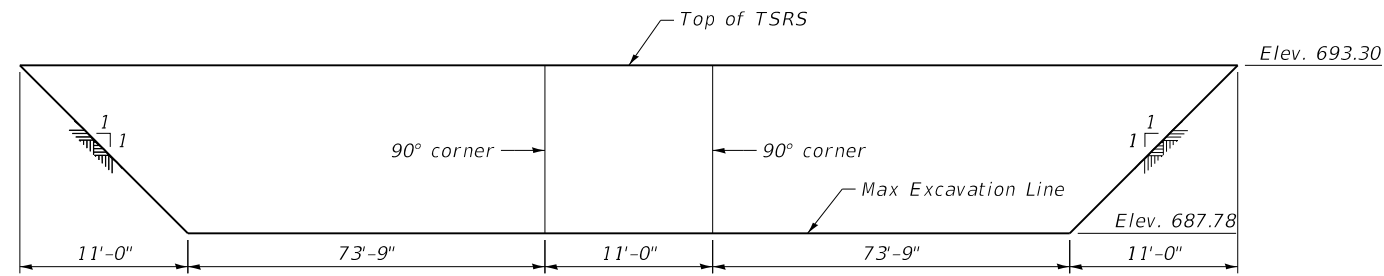
TEMPORARY SOIL RETENTION SYSTEM - ABUTMENTS
(See Note 11)



SECTION A-A



SECTION THRU CONCRETE SLOPEWALL
(See Note 10)



TEMPORARY SOIL RETENTION SYSTEM - PIER 1
(Unfolded view looking East)
(See Note 11)

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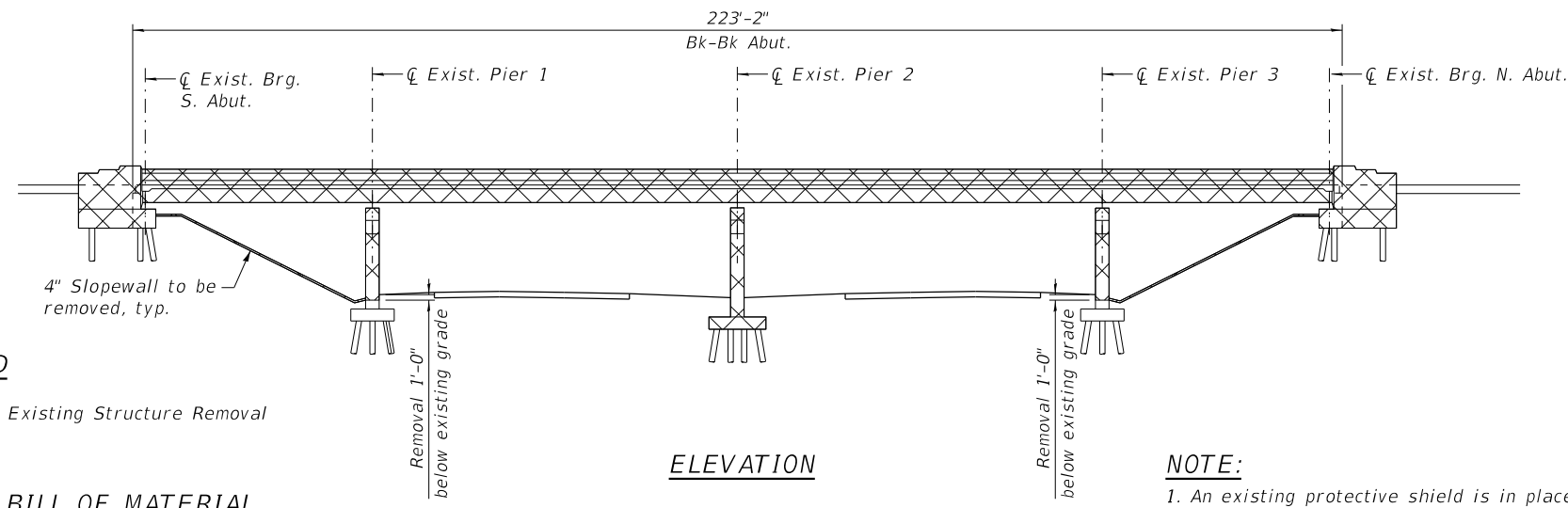
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	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, BILL OF MATERIAL & INDEX OF SHEETS
STRUCTURE NO. 099-0430**

F.A.U. RTE. 2755	SECTION 06-00122-16-FP	COUNTY WILL	TOTAL SHEETS 1113	SHEET NO. 751
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	

SHEET SB-2 OF SB-40 SHEETS



LEGEND

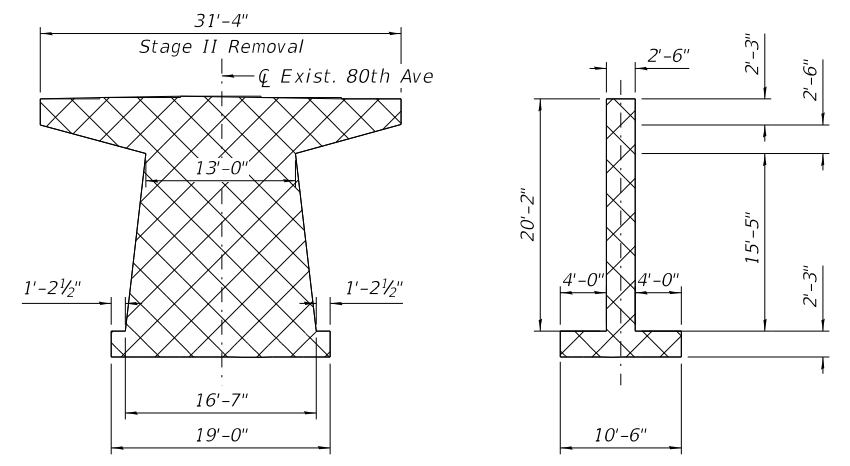
Existing Structure Removal

BILL OF MATERIAL

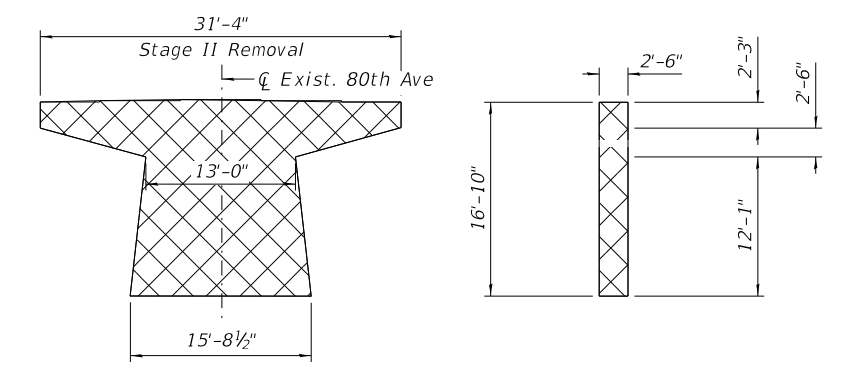
ITEM	ITEM	ITEM
Removal of Existing Structures	Each	1

NOTE:

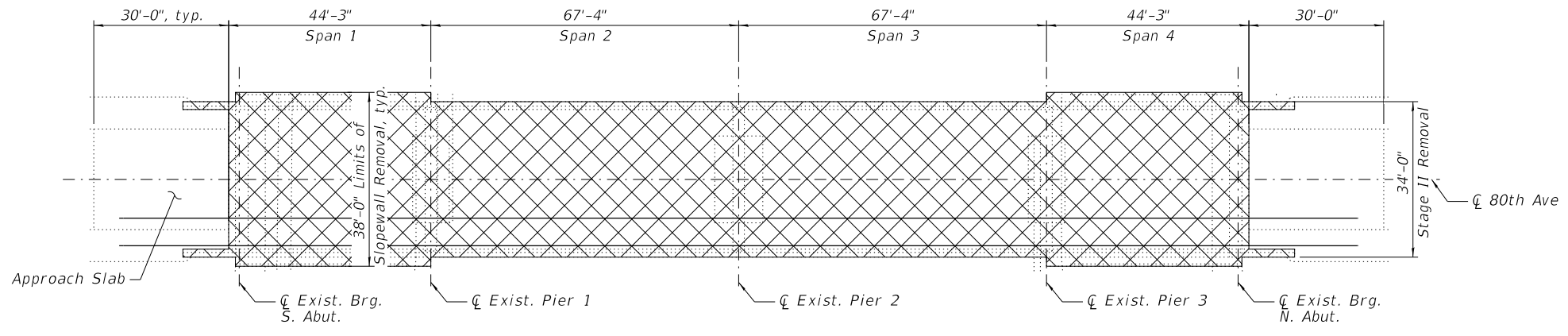
1. An existing protective shield is in place. The CONTRACTOR shall inspect the protective shield and make any needed repairs, repairs will be made before Stage I construction and require the approval of the ENGINEER. Any repairs and removal included in cost of Removal of Existing Structures.



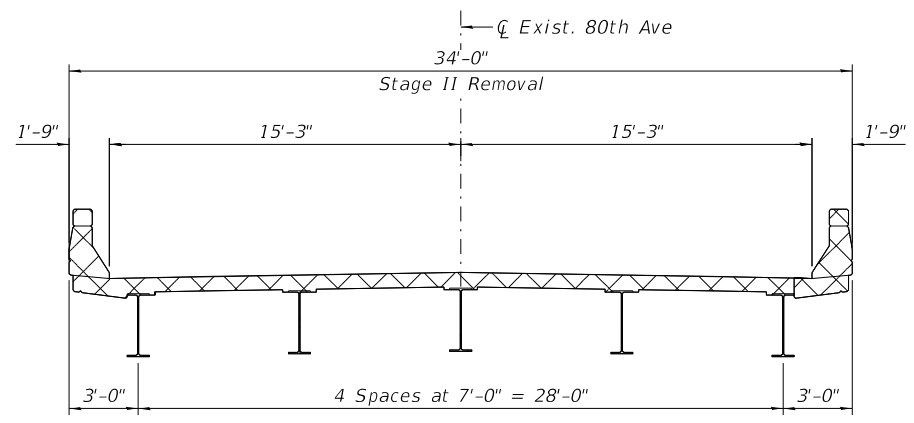
TYPICAL SECTION THRU PIER 2



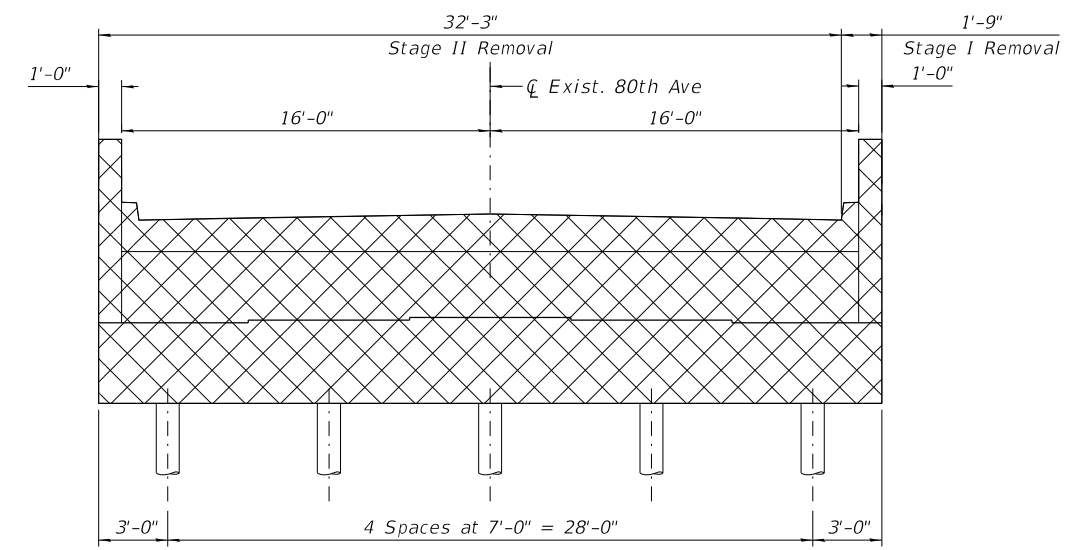
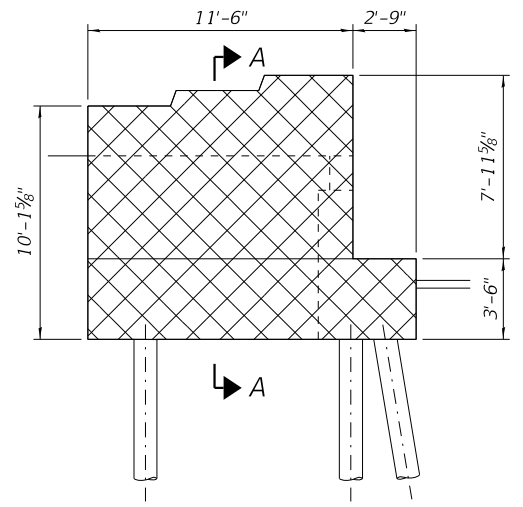
TYPICAL SECTION THRU PIERS 1 & 3



PLAN



TYPICAL BRIDGE CROSS SECTION
Looking North



TYPICAL SECTION THRU ABUTMENT
North Abutment shown. South Abutment mirrored.

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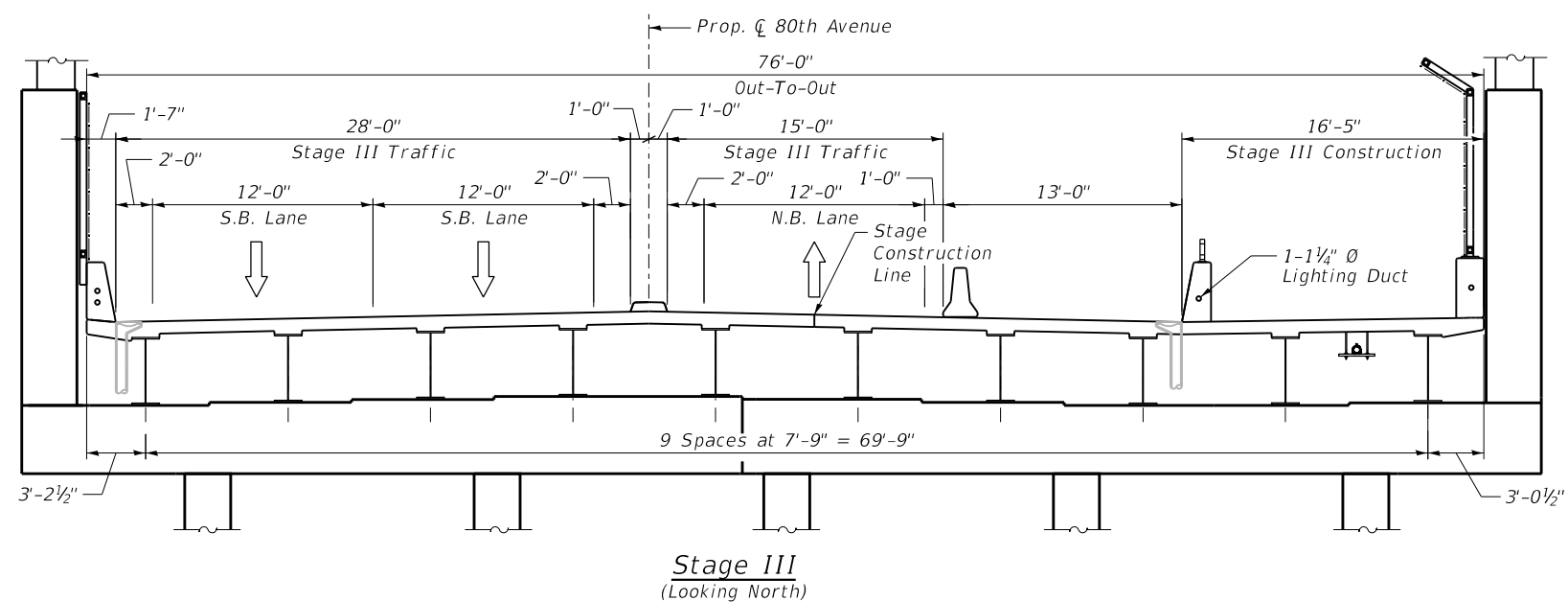
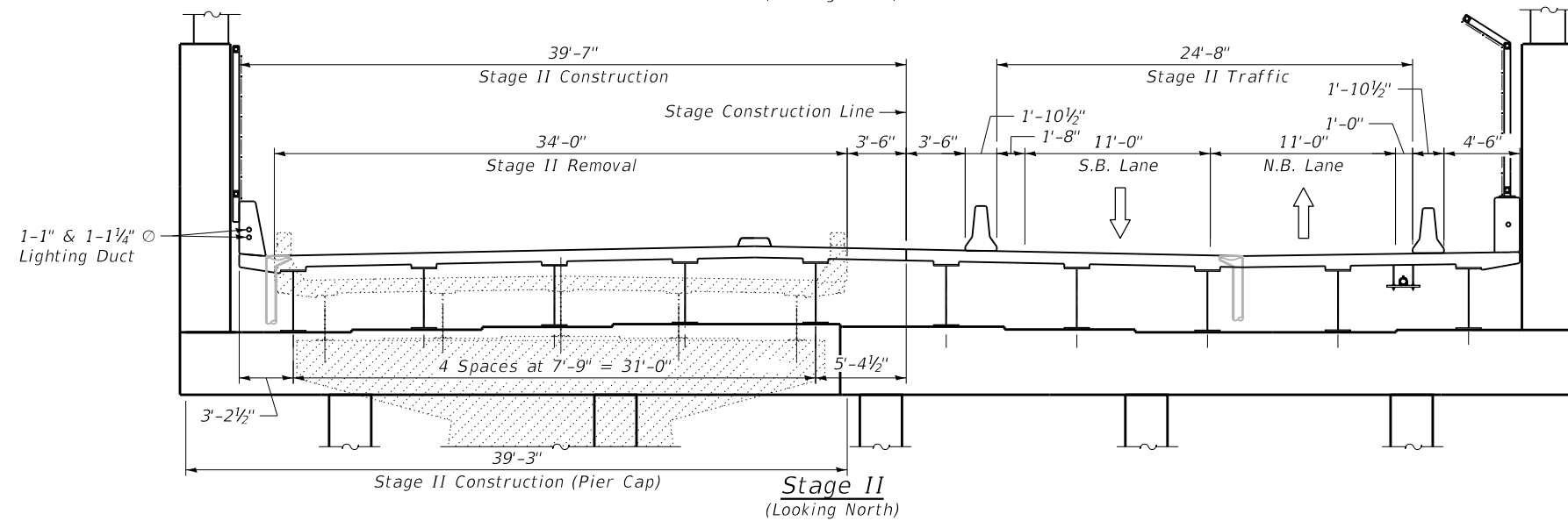
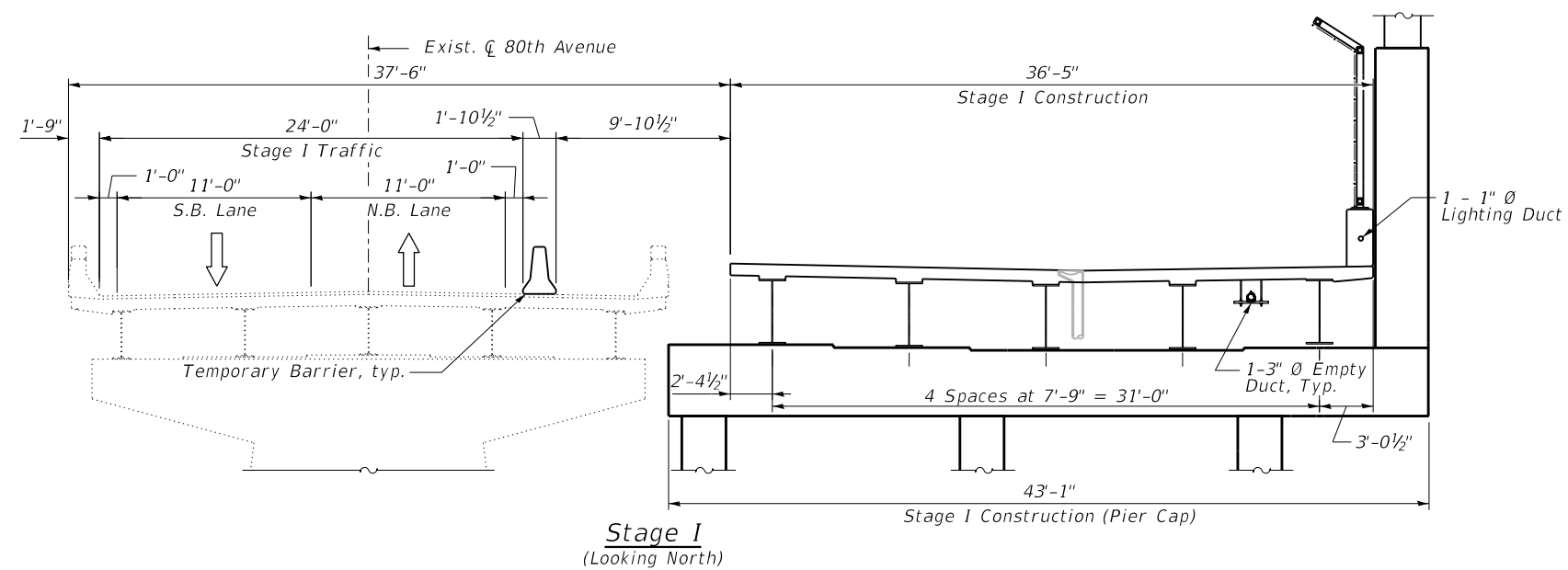
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN
STRUCTURE NO. 099-0430

SHEET SB-3 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	752
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



NOTES:

1. Empty duct and duct support system shall be installed by the Contractor. Cost of the work involved in providing and installing the duct and duct support system included with Conduit Attached to Structure, 3" DIA., PVC Coated Galvanized Steel. See Electrical Plans.

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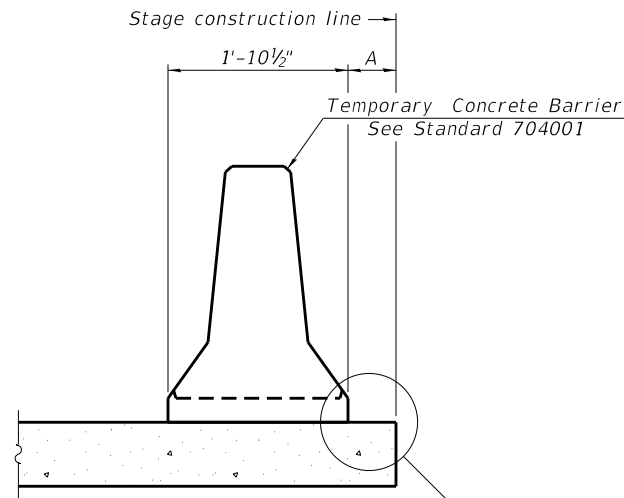
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 099-0430

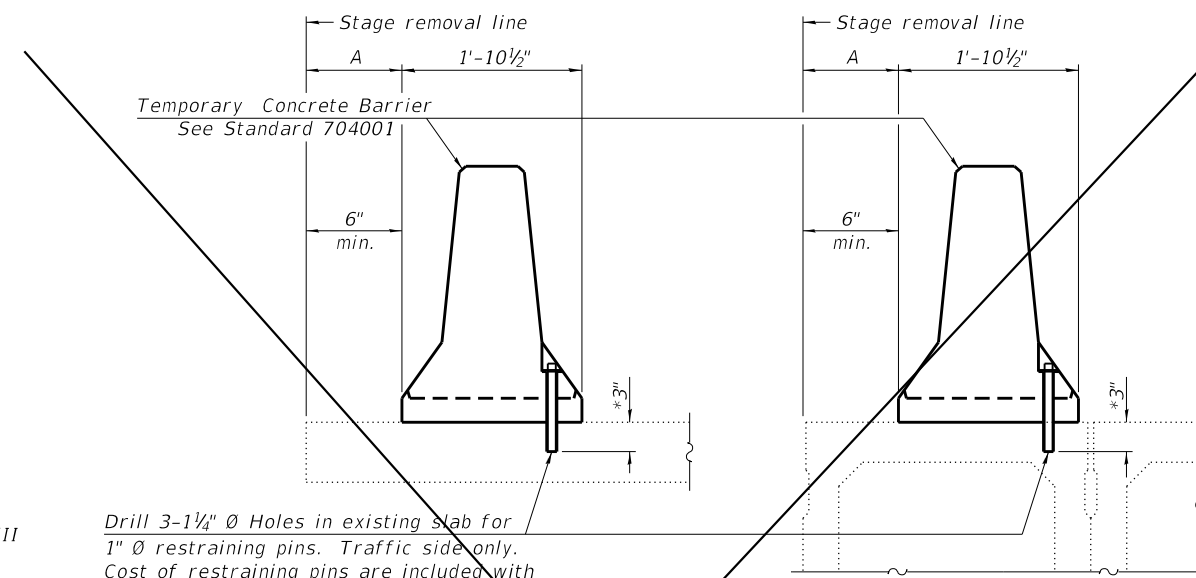
SHEET SB-4 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

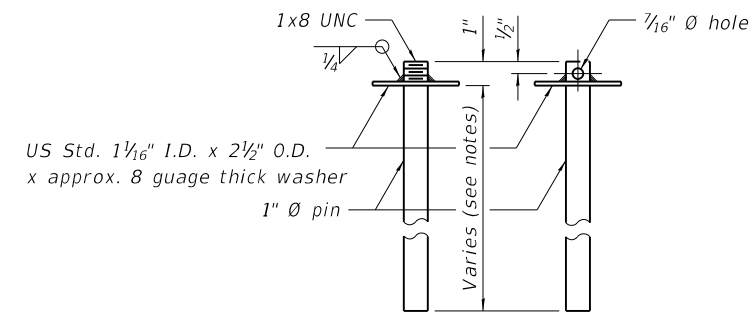
NEW SLAB OR NEW DECK BEAM



Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

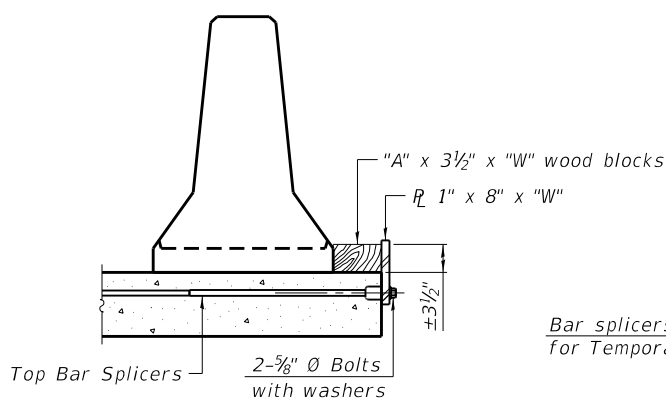
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

SECTIONS THRU SLAB OR DECK BEAM



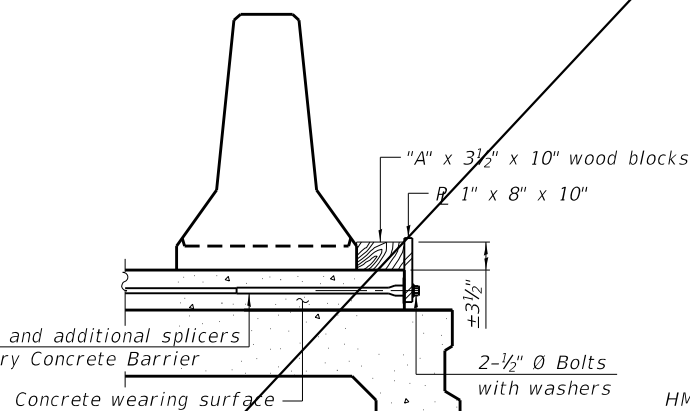
RESTRAINING PIN

US Std. 1 1/16" I.D. x 2 1/2" O.D. x approx. 8 gauge thick washer

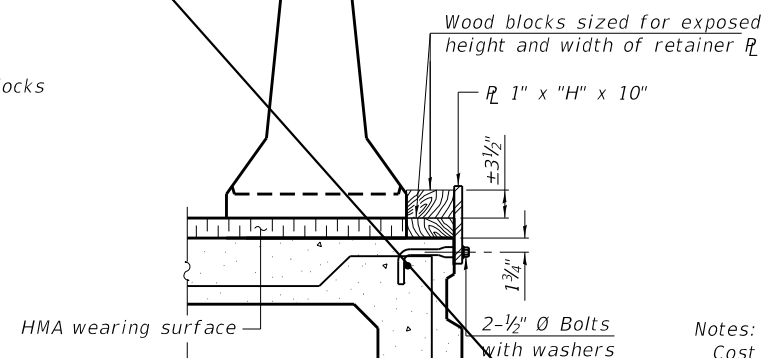


DETAIL I

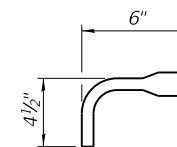
Bar splicers and additional splicers for Temporary Concrete Barrier



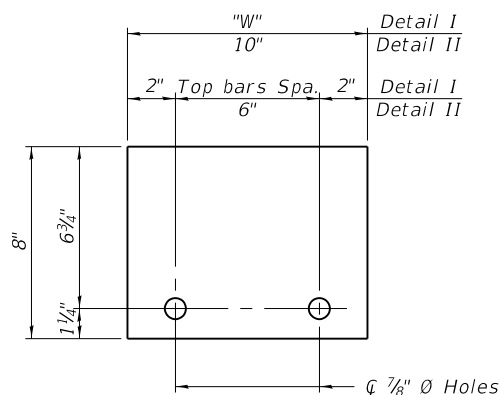
DETAIL II



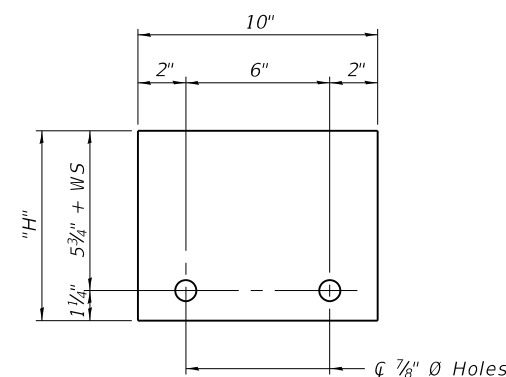
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W" (Detail I and II)



STEEL RETAINER R 1" x "H" x 10" (Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate C of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
 Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
 Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SB_80th_Ave_over_I-80\020887_05_I-80_TemporaryBarrier.dgn

R-27

8-11-2017



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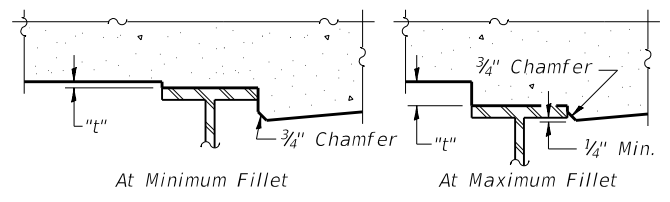
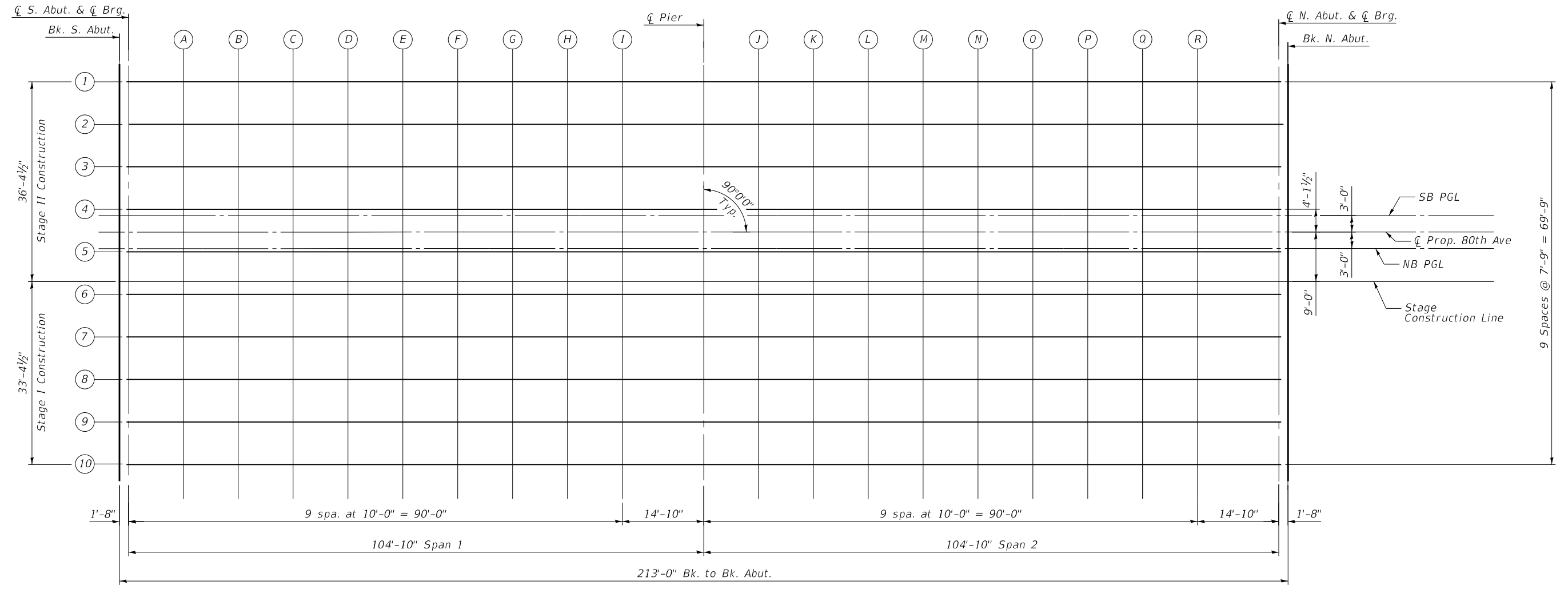
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY BARRIER
STRUCTURE NO. 099-0430

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	754
CONTRACT NO.			61G73	

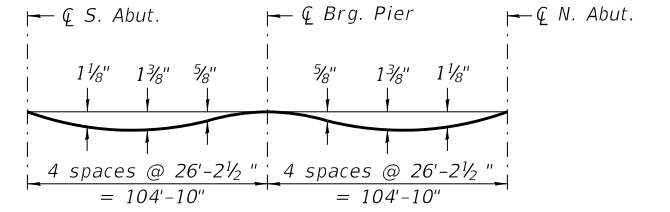
SHEET SB-5 OF SB-40 SHEETS

ILLINOIS FED. AID PROJECT



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets SB-7 and SB-8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets SB-7 and SB-8.

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SB_80th_Ave_over_I-80\020887_06_I-80_Top_of_Deck_Elevations_1.dgn



USER NAME =	Roadway	DESIGNED -	APD	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0:2.0000 " / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS 1
STRUCTURE NO. 099-0430

SHEET SB-6 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	755
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	-27.38	714.85	714.85
CL. S. Abut.	100+14.58	-27.38	714.87	714.87
A	100+24.58	-27.38	714.95	714.99
B	100+34.58	-27.38	715.02	715.10
C	100+44.58	-27.38	715.09	715.19
D	100+54.58	-27.38	715.15	715.26
E	100+64.58	-27.38	715.20	715.31
F	100+74.58	-27.38	715.24	715.34
G	100+84.58	-27.38	715.28	715.35
H	100+94.58	-27.38	715.31	715.36
I	101+04.58	-27.38	715.34	715.36
CL. Pier	101+19.41	-27.38	715.36	715.36
J	101+29.41	-27.38	715.36	715.37
K	101+39.41	-27.38	715.36	715.39
L	101+49.41	-27.38	715.36	715.41
M	101+59.41	-27.38	715.34	715.43
N	101+69.41	-27.38	715.32	715.43
O	101+79.41	-27.38	715.29	715.41
P	101+89.41	-27.38	715.25	715.37
Q	101+99.41	-27.38	715.21	715.30
R	102+09.41	-27.38	715.16	715.22
CL. N. Abut.	102+24.24	-27.38	715.07	715.07
Bk. N. Abut.	102+25.91	-27.38	715.06	715.06

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	-19.63	715.01	715.01
CL. S. Abut.	100+14.58	-19.63	715.03	715.03
A	100+24.58	-19.63	715.11	715.15
B	100+34.58	-19.63	715.18	715.26
C	100+44.58	-19.63	715.25	715.36
D	100+54.58	-19.63	715.31	715.43
E	100+64.58	-19.63	715.36	715.47
F	100+74.58	-19.63	715.41	715.50
G	100+84.58	-19.63	715.44	715.51
H	100+94.58	-19.63	715.47	715.52
I	101+04.58	-19.63	715.50	715.52
CL. Pier	101+19.41	-19.63	715.52	715.52
J	101+29.41	-19.63	715.53	715.54
K	101+39.41	-19.63	715.53	715.56
L	101+49.41	-19.63	715.52	715.57
M	101+59.41	-19.63	715.50	715.59
N	101+69.41	-19.63	715.48	715.59
O	101+79.41	-19.63	715.45	715.57
P	101+89.41	-19.63	715.41	715.53
Q	101+99.41	-19.63	715.37	715.47
R	102+09.41	-19.63	715.32	715.38
CL. N. Abut.	102+24.24	-19.63	715.23	715.23
Bk. N. Abut.	102+25.91	-19.63	715.22	715.22

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	-11.88	715.18	715.18
CL. S. Abut.	100+14.58	-11.88	715.19	715.19
A	100+24.58	-11.88	715.27	715.31
B	100+34.58	-11.88	715.34	715.43
C	100+44.58	-11.88	715.41	715.52
D	100+54.58	-11.88	715.47	715.59
E	100+64.58	-11.88	715.52	715.64
F	100+74.58	-11.88	715.57	715.66
G	100+84.58	-11.88	715.60	715.68
H	100+94.58	-11.88	715.64	715.68
I	101+04.58	-11.88	715.66	715.68
CL. Pier	101+19.41	-11.88	715.68	715.68
J	101+29.41	-11.88	715.69	715.70
K	101+39.41	-11.88	715.69	715.72
L	101+49.41	-11.88	715.68	715.74
M	101+59.41	-11.88	715.66	715.75
N	101+69.41	-11.88	715.64	715.75
O	101+79.41	-11.88	715.61	715.73
P	101+89.41	-11.88	715.58	715.69
Q	101+99.41	-11.88	715.53	715.63
R	102+09.41	-11.88	715.48	715.54
CL. N. Abut.	102+24.24	-11.88	715.39	715.39
Bk. N. Abut.	102+25.91	-11.88	715.38	715.38

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	-3.00	715.36	715.36
CL. S. Abut.	100+14.58	-3.00	715.37	715.37
A	100+24.58	-3.00	715.45	715.50
B	100+34.58	-3.00	715.53	715.61
C	100+44.58	-3.00	715.59	715.70
D	100+54.58	-3.00	715.65	715.77
E	100+64.58	-3.00	715.71	715.82
F	100+74.58	-3.00	715.75	715.85
G	100+84.58	-3.00	715.79	715.86
H	100+94.58	-3.00	715.82	715.86
I	101+04.58	-3.00	715.84	715.86
CL. Pier	101+19.41	-3.00	715.87	715.87
J	101+29.41	-3.00	715.87	715.88
K	101+39.41	-3.00	715.87	715.90
L	101+49.41	-3.00	715.86	715.92
M	101+59.41	-3.00	715.85	715.93
N	101+69.41	-3.00	715.83	715.93
O	101+79.41	-3.00	715.80	715.91
P	101+89.41	-3.00	715.76	715.87
Q	101+99.41	-3.00	715.72	715.81
R	102+09.41	-3.00	715.67	715.73
CL. N. Abut.	102+24.24	-3.00	715.58	715.58
Bk. N. Abut.	102+25.91	-3.00	715.57	715.57

SB PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	-4.13	715.34	715.34
CL. S. Abut.	100+14.58	-4.13	715.35	715.35
A	100+24.58	-4.13	715.43	715.48
B	100+34.58	-4.13	715.50	715.59
C	100+44.58	-4.13	715.57	715.68
D	100+54.58	-4.13	715.63	715.75
E	100+64.58	-4.13	715.68	715.80
F	100+74.58	-4.13	715.73	715.83
G	100+84.58	-4.13	715.77	715.84
H	100+94.58	-4.13	715.80	715.84
I	101+04.58	-4.13	715.82	715.84
CL. Pier	101+19.41	-4.13	715.84	715.84
J	101+29.41	-4.13	715.85	715.86
K	101+39.41	-4.13	715.85	715.88
L	101+49.41	-4.13	715.84	715.90
M	101+59.41	-4.13	715.82	715.91
N	101+69.41	-4.13	715.80	715.91
O	101+79.41	-4.13	715.77	715.89
P	101+89.41	-4.13	715.74	715.85
Q	101+99.41	-4.13	715.69	715.79
R	102+09.41	-4.13	715.64	715.71
CL. N. Abut.	102+24.24	-4.13	715.55	715.55
Bk. N. Abut.	102+25.91	-4.13	715.54	715.54

¢ PROP. 80TH AVE.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	0.00	715.42	715.42
CL. S. Abut.	100+14.58	0.00	715.44	715.44
A	100+24.58	0.00	715.52	715.56
B	100+34.58	0.00	715.59	715.67
C	100+44.58	0.00	715.66	715.76
D	100+54.58	0.00	715.72	715.83
E	100+64.58	0.00	715.77	715.88
F	100+74.58	0.00	715.81	715.91
G	100+84.58	0.00	715.85	715.92
H	100+94.58	0.00	715.88	715.93
I	101+04.58	0.00	715.91	715.93
CL. Pier	101+19.41	0.00	715.93	715.93
J	101+29.41	0.00	715.93	715.94
K	101+39.41	0.00	715.93	715.96
L	101+49.41	0.00	715.93	715.98
M	101+59.41	0.00	715.91	716.00
N	101+69.41	0.00	715.89	716.00
O	101+79.41	0.00	715.86	715.98
P	101+89.41	0.00	715.82	715.94
Q	101+99.41	0.00	715.78	715.87
R	102+09.41	0.00	715.73	715.79
CL. N. Abut.	102+24.24	0.00	715.64	715.64
Bk. N. Abut.	102+25.91	0.00	715.63	715.63

NB PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	3.00	715.36	715.36
CL. S. Abut.	100+14.58	3.00	715.37	715.37
A	100+24.58	3.00	715.45	715.50
B	100+34.58	3.00	715.53	715.61
C	100+44.58	3.00	715.59	715.70
D	100+54.58	3.00	715.65	715.77
E	100+64.58	3.00	715.71	715.82
F	100+74.58	3.00	715.75	715.85
G	100+84.58	3.00	715.79	715.86
H	100+94.58	3.00	715.82	715.86
I	101+04.58	3.00	715.84	715.86
CL. Pier	101+19.41	3.00	715.87	715.87
J	101+29.41	3.00	715.87	715.88
K	101+39.41	3.00	715.87	715.90
L	101+49.41	3.00	715.86	715.92
M	101+59.41	3.00	715.85	715.93
N	101+69.41	3.00	715.83	715.93
O	101+79.41	3.00	715.80	715.91
P	101+89.41	3.00	715.76	715.87
Q	101+99.41	3.00	715.72	715.81
R	102+09.41	3.00	715.67	715.73
CL. N. Abut.	102+24.24	3.00	715.58	715.58
Bk. N. Abut.	102+25.91	3.00	715.57	715.57

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	3.63	715.35	715.35
CL. S. Abut.	100+14.58	3.63	715.36	715.36
A	100+24.58	3.63	715.44	715.49
B	100+34.58	3.63	715.52	715.60
C	100+44.58	3.63	715.58	715.69
D	100+54.58	3.63	715.64	715.76
E	100+64.58	3.63	715.69	715.81
F	100+74.58	3.63	715.74	715.84
G	100+84.58	3.63	715.78	715.85
H	100+94.58	3.63	715.81	715.85
I	101+04.58	3.63	715.83	715.85
CL. Pier	101+19.41	3.63	715.85	715.85
J	101+29.41	3.63	715.86	715.87
K	101+39.41	3.63	715.86	715.89
L	101+49.41	3.63	715.85	715.91
M	101+59.41	3.63	715.84	715.92
N	101+69.41	3.63	715.81	715.92
O	101+79.41	3.63	715.78	715.90
P	101+89.41	3.63	715.75	715.86
Q	101+99.41	3.63	715.70	715.80
R	102+09.41	3.63	715.65	715.72
CL. N. Abut.	102+24.24	3.63	715.56	715.56
Bk. N. Abut.	102+25.91	3.63	715.55	715.55

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
CL. S. Abut.	100+12.91	9.00	715.24	715.24
A	100+14.58	9.00	715.25	715.25
B	100+24.58	9.00	715.33	715.37
C	100+34.58	9.00	715.40	715.49
D	100+44.58	9.00	715.47	715.58
E	100+54.58	9.00	715.53	715.65
F	100+64.58	9.00	715.58	715.70
G	100+74.58	9.00	715.63	715.72
H	100+84.58	9.00	715.66	715.74
I	100+94.58	9.00	715.70	715.74
CL. Pier	101+04			

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	11.38	715.19	715.19
CL. S. Abut.	100+14.58	11.38	715.20	715.20
A	100+24.58	11.38	715.28	715.33
B	100+34.58	11.38	715.35	715.44
C	100+44.58	11.38	715.42	715.53
D	100+54.58	11.38	715.48	715.60
E	100+64.58	11.38	715.53	715.65
F	100+74.58	11.38	715.58	715.67
G	100+84.58	11.38	715.61	715.69
H	100+94.58	11.38	715.65	715.69
I	101+04.58	11.38	715.67	715.69
CL. Pier	101+19.41	11.38	715.69	715.69
J	101+29.41	11.38	715.70	715.71
K	101+39.41	11.38	715.70	715.73
L	101+49.41	11.38	715.69	715.75
M	101+59.41	11.38	715.67	715.76
N	101+69.41	11.38	715.65	715.76
O	101+79.41	11.38	715.62	715.74
P	101+89.41	11.38	715.59	715.70
Q	101+99.41	11.38	715.54	715.64
R	102+09.41	11.38	715.49	715.55
CL. N. Abut.	102+24.24	11.38	715.40	715.40
Bk. N. Abut.	102+25.91	11.38	715.39	715.39

GIRDER 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	19.13	715.02	715.02
CL. S. Abut.	100+14.58	19.13	715.04	715.04
A	100+24.58	19.13	715.12	715.16
B	100+34.58	19.13	715.19	715.27
C	100+44.58	19.13	715.26	715.37
D	100+54.58	19.13	715.32	715.44
E	100+64.58	19.13	715.37	715.48
F	100+74.58	19.13	715.42	715.51
G	100+84.58	19.13	715.45	715.52
H	100+94.58	19.13	715.48	715.53
I	101+04.58	19.13	715.51	715.53
CL. Pier	101+19.41	19.13	715.53	715.53
J	101+29.41	19.13	715.54	715.55
K	101+39.41	19.13	715.54	715.57
L	101+49.41	19.13	715.53	715.59
M	101+59.41	19.13	715.51	715.60
N	101+69.41	19.13	715.49	715.60
O	101+79.41	19.13	715.46	715.58
P	101+89.41	19.13	715.42	715.54
Q	101+99.41	19.13	715.38	715.48
R	102+09.41	19.13	715.33	715.39
CL. N. Abut.	102+24.24	19.13	715.24	715.24
Bk. N. Abut.	102+25.91	19.13	715.23	715.23

GIRDER 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	26.88	714.86	714.86
CL. S. Abut.	100+14.58	26.88	714.88	714.88
A	100+24.58	26.88	714.96	715.00
B	100+34.58	26.88	715.03	715.11
C	100+44.58	26.88	715.10	715.20
D	100+54.58	26.88	715.16	715.28
E	100+64.58	26.88	715.21	715.32
F	100+74.58	26.88	715.25	715.35
G	100+84.58	26.88	715.29	715.36
H	100+94.58	26.88	715.32	715.37
I	101+04.58	26.88	715.35	715.37
CL. Pier	101+19.41	26.88	715.37	715.37
J	101+29.41	26.88	715.38	715.38
K	101+39.41	26.88	715.37	715.40
L	101+49.41	26.88	715.37	715.42
M	101+59.41	26.88	715.35	715.44
N	101+69.41	26.88	715.33	715.44
O	101+79.41	26.88	715.30	715.42
P	101+89.41	26.88	715.26	715.38
Q	101+99.41	26.88	715.22	715.31
R	102+09.41	26.88	715.17	715.23
CL. N. Abut.	102+24.24	26.88	715.08	715.08
Bk. N. Abut.	102+25.91	26.88	715.07	715.07

GIRDER 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	34.63	714.91	714.91
CL. S. Abut.	100+14.58	34.63	714.92	714.92
A	100+24.58	34.63	715.00	715.05
B	100+34.58	34.63	715.07	715.16
C	100+44.58	34.63	715.14	715.25
D	100+54.58	34.63	715.20	715.32
E	100+64.58	34.63	715.25	715.37
F	100+74.58	34.63	715.30	715.39
G	100+84.58	34.63	715.34	715.41
H	100+94.58	34.63	715.37	715.41
I	101+04.58	34.63	715.39	715.41
CL. Pier	101+19.41	34.63	715.41	715.41
J	101+29.41	34.63	715.42	715.43
K	101+39.41	34.63	715.42	715.45
L	101+49.41	34.63	715.41	715.47
M	101+59.41	34.63	715.39	715.48
N	101+69.41	34.63	715.37	715.48
O	101+79.41	34.63	715.34	715.46
P	101+89.41	34.63	715.31	715.42
Q	101+99.41	34.63	715.26	715.36
R	102+09.41	34.63	715.21	715.27
CL. N. Abut.	102+24.24	34.63	715.12	715.12
Bk. N. Abut.	102+25.91	34.63	715.11	715.11

GIRDER 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Local Deflection
Bk. S. Abut	100+12.91	42.38	715.03	715.03
CL. S. Abut.	100+14.58	42.38	715.04	715.04
A	100+24.58	42.38	715.12	715.17
B	100+34.58	42.38	715.20	715.28
C	100+44.58	42.38	715.26	715.37
D	100+54.58	42.38	715.32	715.44
E	100+64.58	42.38	715.37	715.49
F	100+74.58	42.38	715.42	715.52
G	100+84.58	42.38	715.46	715.53
H	100+94.58	42.38	715.49	715.53
I	101+04.58	42.38	715.51	715.53
CL. Pier	101+19.41	42.38	715.53	715.53
J	101+29.41	42.38	715.54	715.55
K	101+39.41	42.38	715.54	715.57
L	101+49.41	42.38	715.53	715.59
M	101+59.41	42.38	715.52	715.60
N	101+69.41	42.38	715.49	715.60
O	101+79.41	42.38	715.46	715.58
P	101+89.41	42.38	715.43	715.54
Q	101+99.41	42.38	715.38	715.48
R	102+09.41	42.38	715.33	715.40
CL. N. Abut.	102+24.24	42.38	715.24	715.24
Bk. N. Abut.	102+25.91	42.38	715.23	715.23

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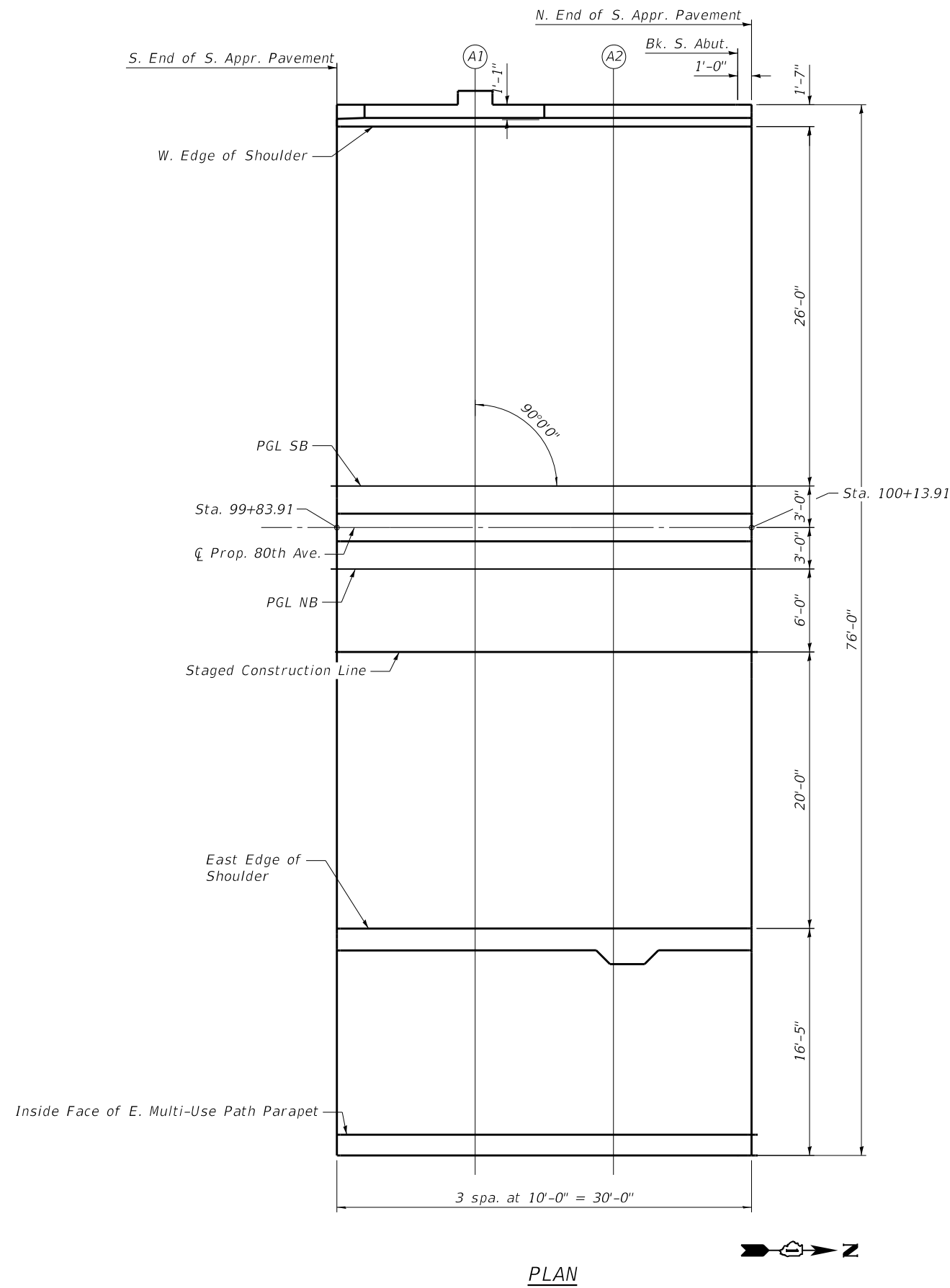


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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS 3
STRUCTURE NO. 099-0430**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	757
CONTRACT NO.			61G73	
SHEET SB-8 OF SB-40 SHEETS		ILLINOIS FED. AID PROJECT		



PLAN

W. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Pavement	99+83.91	-29.00	714.54
A1	99+93.91	-29.00	714.64
A2	100+03.91	-29.00	714.74
N. End of S. Appr. Pavement	100+13.91	-29.00	714.83

SB PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	-3.00	715.08
A1	99+93.91	-3.00	715.18
A2	100+03.91	-3.00	715.28
N. End of South Appr. Pavement	100+13.91	-3.00	715.37

CL PROP. 80TH AVE

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	0.00	715.15
A1	99+93.91	0.00	715.25
A2	100+03.91	0.00	715.34
N. End of South Appr. Pavement	100+13.91	0.00	715.43

NB PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	3.00	715.08
A1	99+93.91	3.00	715.18
A2	100+03.91	3.00	715.28
N. End of South Appr. Pavement	100+13.91	3.00	715.37

STAGED CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	9.00	714.96
A1	99+93.91	9.00	715.06
A2	100+03.91	9.00	715.16
N. End of South Appr. Pavement	100+13.91	9.00	715.24

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	29.00	714.54
A1	99+93.91	29.00	714.64
A2	100+03.91	29.00	714.74
N. End of South Appr. Pavement	100+13.91	29.00	714.83

INSIDE FACE OF E. MULTI-USE PATH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr. Pavement	99+83.91	43.92	714.77
A1	99+93.91	43.92	714.88
A2	100+03.91	43.92	714.97
N. End of South Appr. Pavement	100+13.91	43.92	715.06

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W. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	-29.00	715.03
A3	102+34.91	-29.00	714.96
A4	102+44.91	-29.00	714.89
N. End of North Appr. Pavement	102+54.91	-29.00	714.80

SB PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	-3.00	715.57
A3	102+34.91	-3.00	715.50
A4	102+44.91	-3.00	715.43
N. End of North Appr. Pavement	102+54.91	-3.00	715.34

CL PROP 80TH AVE

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	0.00	715.64
A3	102+34.91	0.00	715.57
A4	102+44.91	0.00	715.49
N. End of North Appr. Pavement	102+54.91	0.00	715.41

NB PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	3.00	715.57
A3	102+34.91	3.00	715.50
A4	102+44.91	3.00	715.43
N. End of North Appr. Pavement	102+54.91	3.00	715.34

STAGED CONSTRUCTION LINE

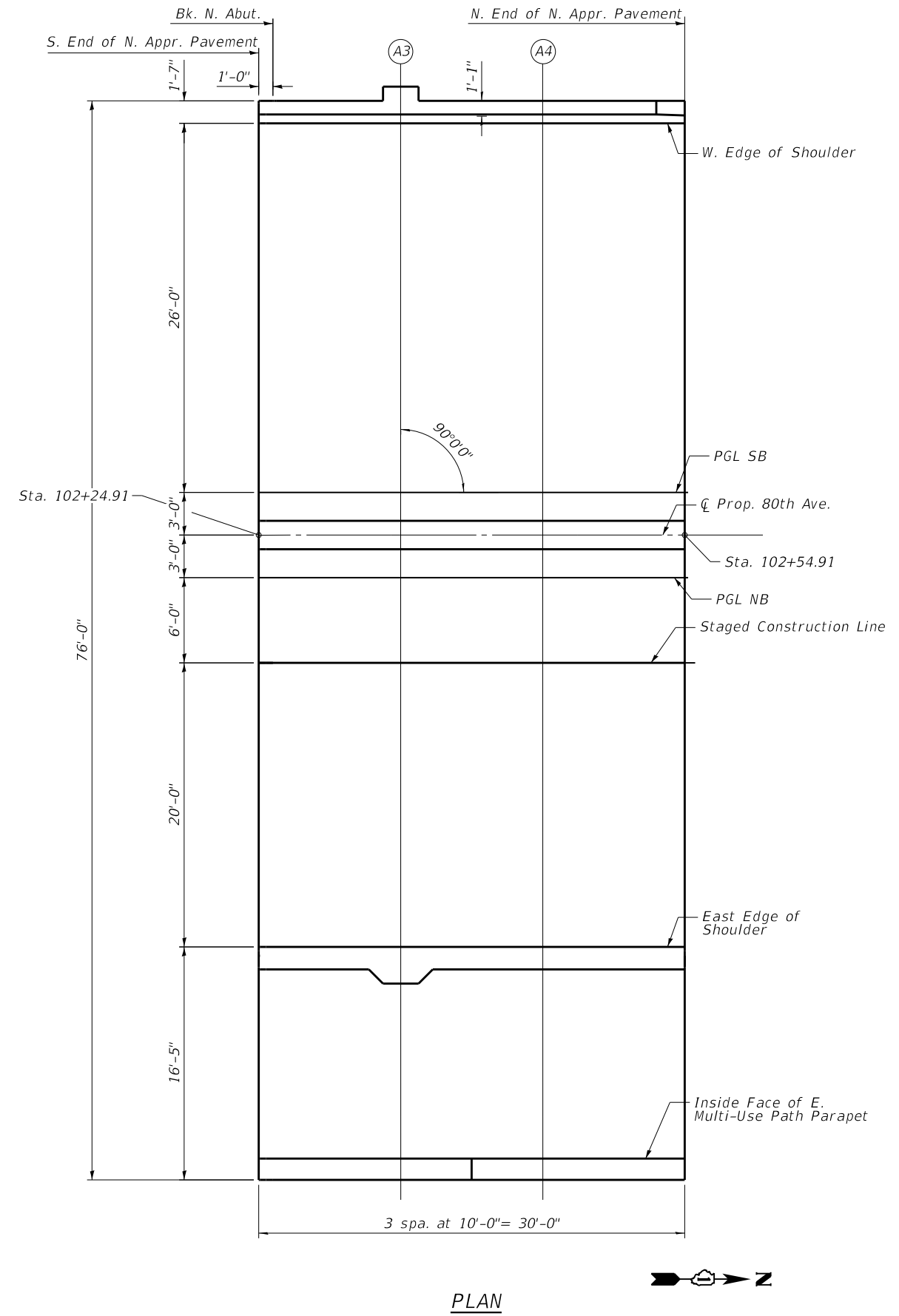
Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	9.00	715.45
A3	102+34.91	9.00	715.38
A4	102+44.91	9.00	715.30
N. End of North Appr. Pavement	102+54.91	9.00	715.22

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	29.00	715.03
A3	102+34.91	29.00	714.96
A4	102+44.91	29.00	714.89
N. End of North Appr. Pavement	102+54.91	29.00	714.80

INSIDE FACE OF E. MULTI-USE PATH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr. Pavement	102+24.91	43.92	715.26
A3	102+34.91	43.92	715.20
A4	102+44.91	43.92	715.12
N. End of North Appr. Pavement	102+54.91	43.92	715.04



PLAN

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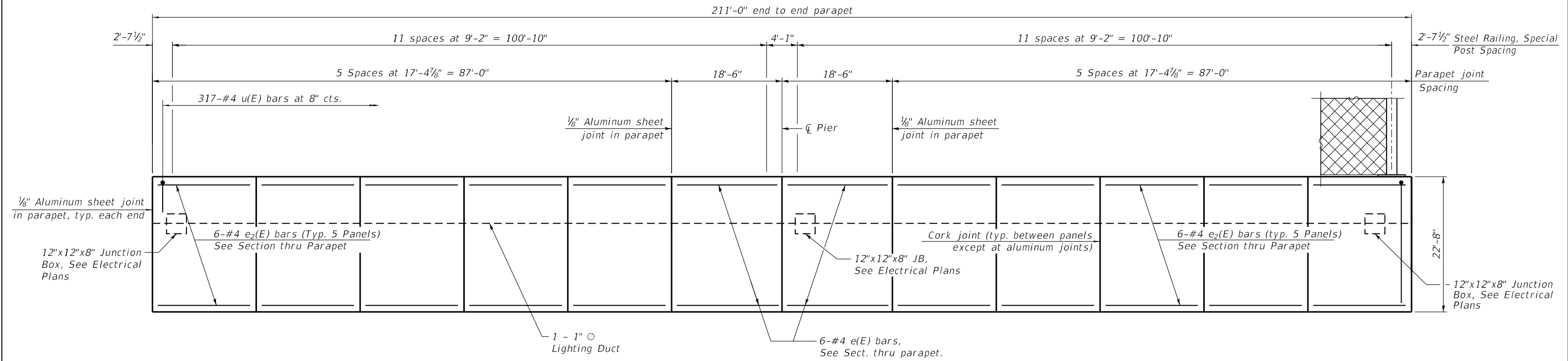
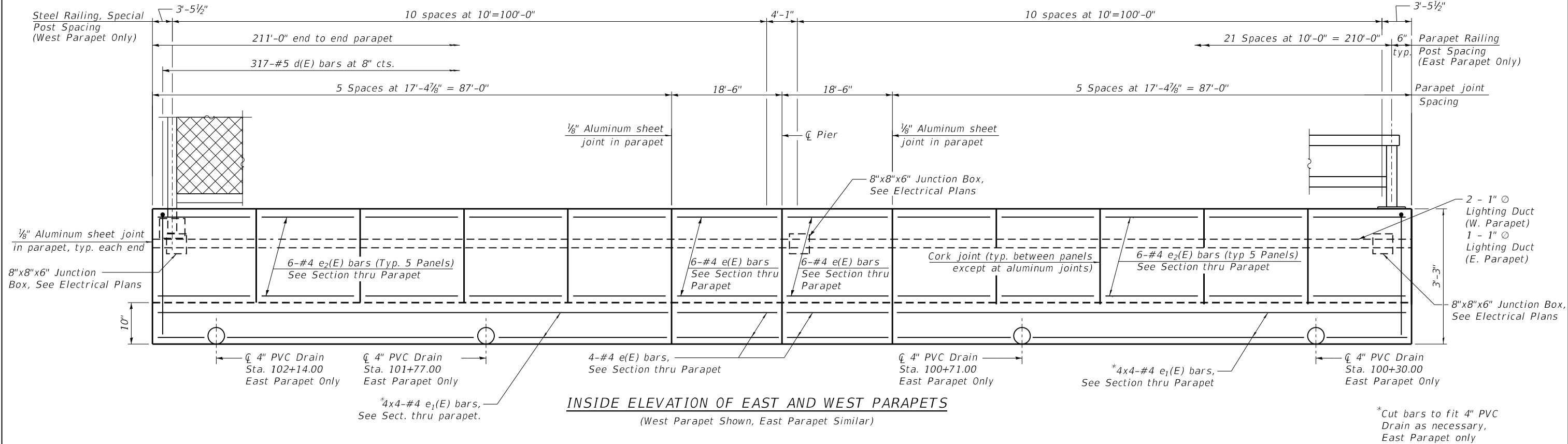
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 099-0430**

SHEET SB-10 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	759
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



MINIMUM LAP BAR
(Parapet)
#4 bar = 2'-8"

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_I-80\SuperstructureDetails1.dgn



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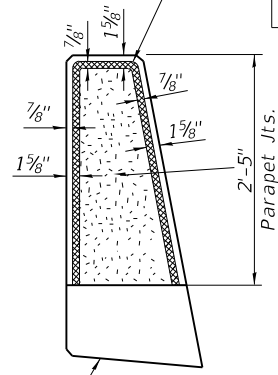
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS 1
STRUCTURE NO. 099-0430

SHEET SB-12 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	761
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

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 $\frac{5}{8}$ " backer rod.



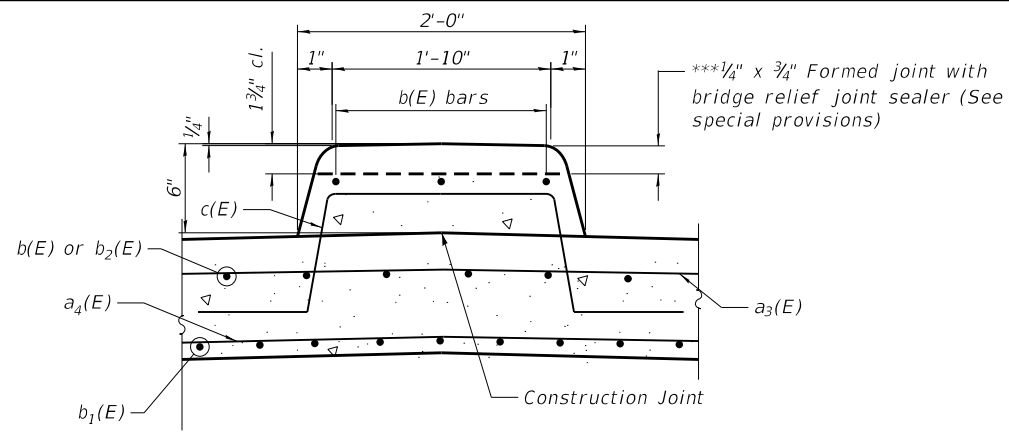
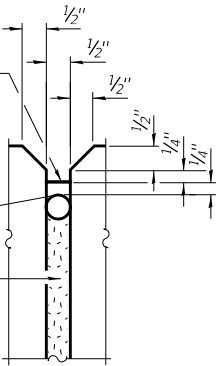
PARAPET JOINT DETAILS

NOTES:

1. See Bridge Enhancement Plans for Limits of Form Liner Textured Concrete and Staining Concrete Structures.
2. Form liner shall be applied to exterior face of West Parapet, exterior face of East Parapet, and both faces of Multi-Use Path Parapet. Cost included with Form Liner Textured Surface.
3. Concrete stain shall be applied to exterior face and top of West Parapet, exterior face and top of East Parapet, and both faces and top of Multi-Use Path Parapet. Cost included with Staining Concrete Structures.
4. Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

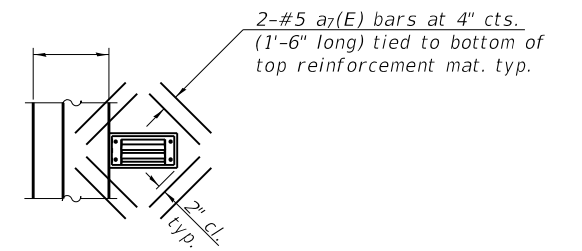
$\frac{1}{2}$ " Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

$\frac{5}{8}$ " \emptyset Backer Rod



MEDIAN DETAIL

*** Full width along joint - backer rod not required

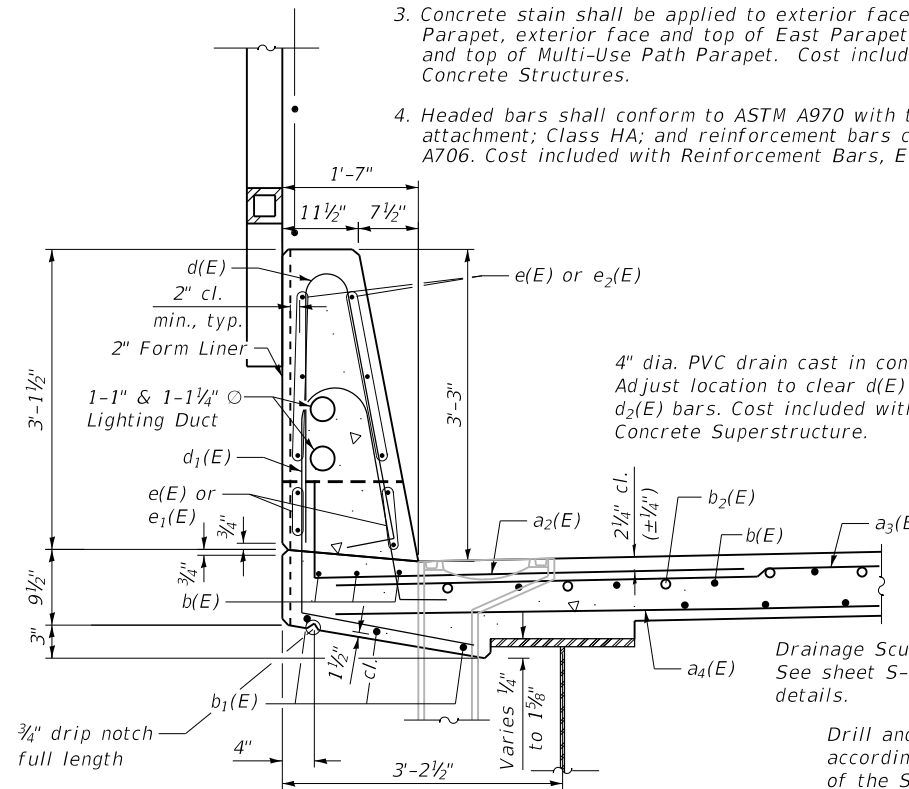


DETAIL 1
Note: Cut longitudinal reinforcement to clear drainage scuppers.

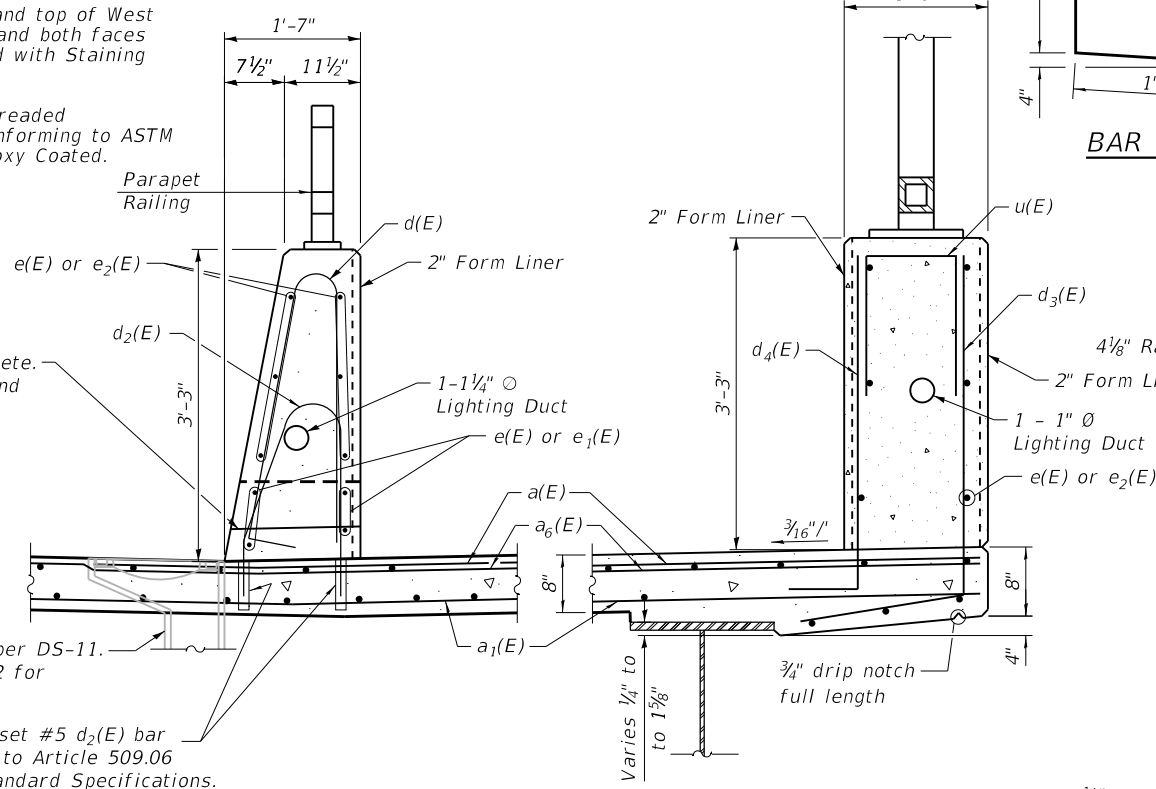
BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	453	#5	36'-1"	—
a ₁ (E)	272	#5	36'-1"	—
a ₂ (E)	445	#6	8'-4"	—
a ₃ (E)	453	#5	39'-1"	—
a ₄ (E)	272	#5	39'-1"	—
a ₆ (E)	445	#6	22'-3"	—
a ₇ (E)	64	#5	1'-6"	—
a ₁₀₀ (E)	16	#4	1'-6"	—
b(E)	648	#5	29'-6"	—
b ₂ (E)	621	#5	26'-8"	—
b ₃ (E)	225	#6	25'-5"	—
c(E)	212	#5	5'-4"	—
d(E)	634	#5	6'-5"	—
d ₁ (E)	317	#5	8'-0"	—
d ₂ (E)	317	#5	4'-11"	—
d ₃ (E)	317	#5	5'-6"	—
d ₄ (E)	317	#5	4'-8"	—
e(E)	52	#4	18'-2"	—
e ₁ (E)	64	#4	23'-8"	—
e ₂ (E)	180	#4	17'-0"	—
m ₁₀ (E)	10	#6	39'-1"	—
m ₁₁ (E)	64	#6	7'-4"	—
m ₁₂ (E)	16	#6	2'-6"	—
m ₁₃ (E)	10	#6	35'-11"	—
m ₁₅ (E)	80	#6	4'-0"	—
s ₁₀ (E)	140	#5	7'-10"	—
s ₁₁ (E)	140	#5	11'-0"	—
u(E)	317	#4	4'-0"	—
v ₁₀₀ (E)	154	#5	3'-1"	—
Concrete Superstructure	Cu Yd		591.0	
Bridge Deck Grooving	Sq Yd		1,220	
Form Liner Textured Surface	Sq Ft		2,218	
Protective Coat	Sq Yd		2,161	
Reinforcement Bars, Epoxy Coated	Pound		146,410	
Bar Splicers	Each		745	
Staining Concrete Structures	Sq Ft		3,262	
Steel Railing (Special)	Foot		422	
Architectural Form Liner	Sq Yd		4	

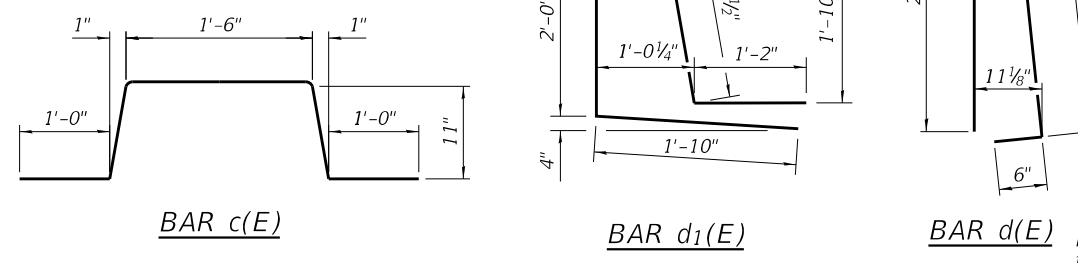
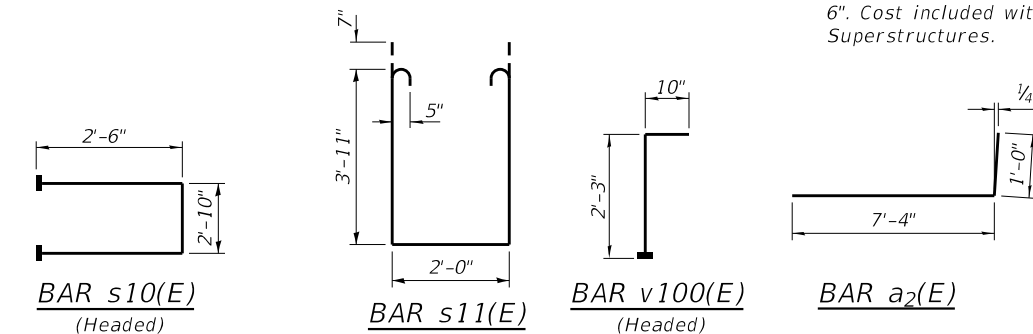


SECTION THRU WEST PARAPET



SECTION THRU EAST PARAPET AND MULTI-USE PATH

Drill and set #5 d₂(E) bar according to Article 509.06 of the Standard Specifications. Drilled holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of hole shall not exceed 6". Cost included with Concrete Superstructures.



Protective coat is applied to the top of deck, all faces of the East Parapet, and inside and top faces of the West and Multi-use path Parapets.

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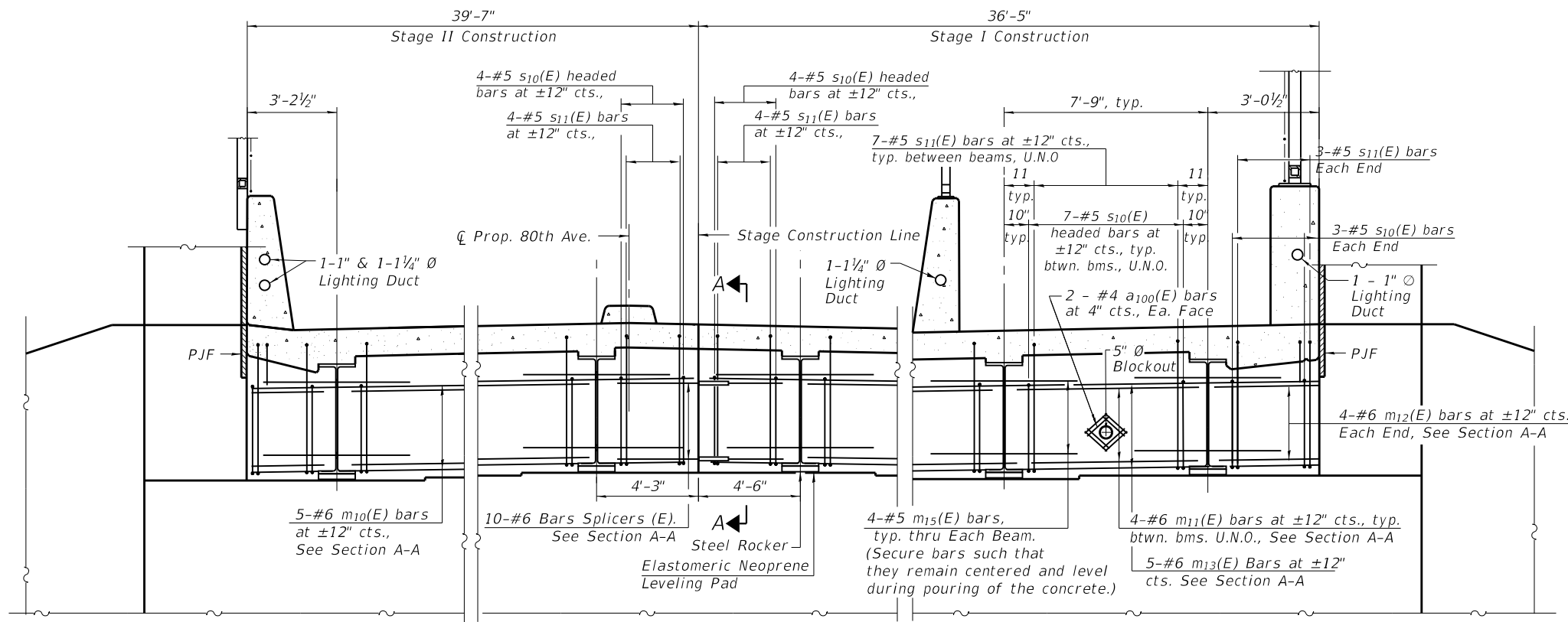
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 2
STRUCTURE NO. 099-0430**

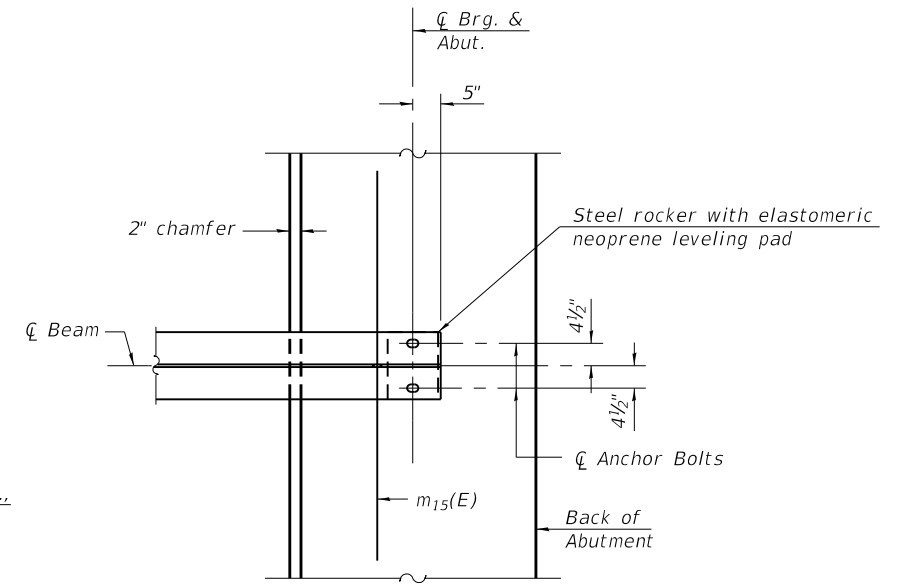
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CONTRACT NO.			61G73	

SHEET SB-13 OF SB-40 SHEETS

ILLINOIS FED. AID PROJECT

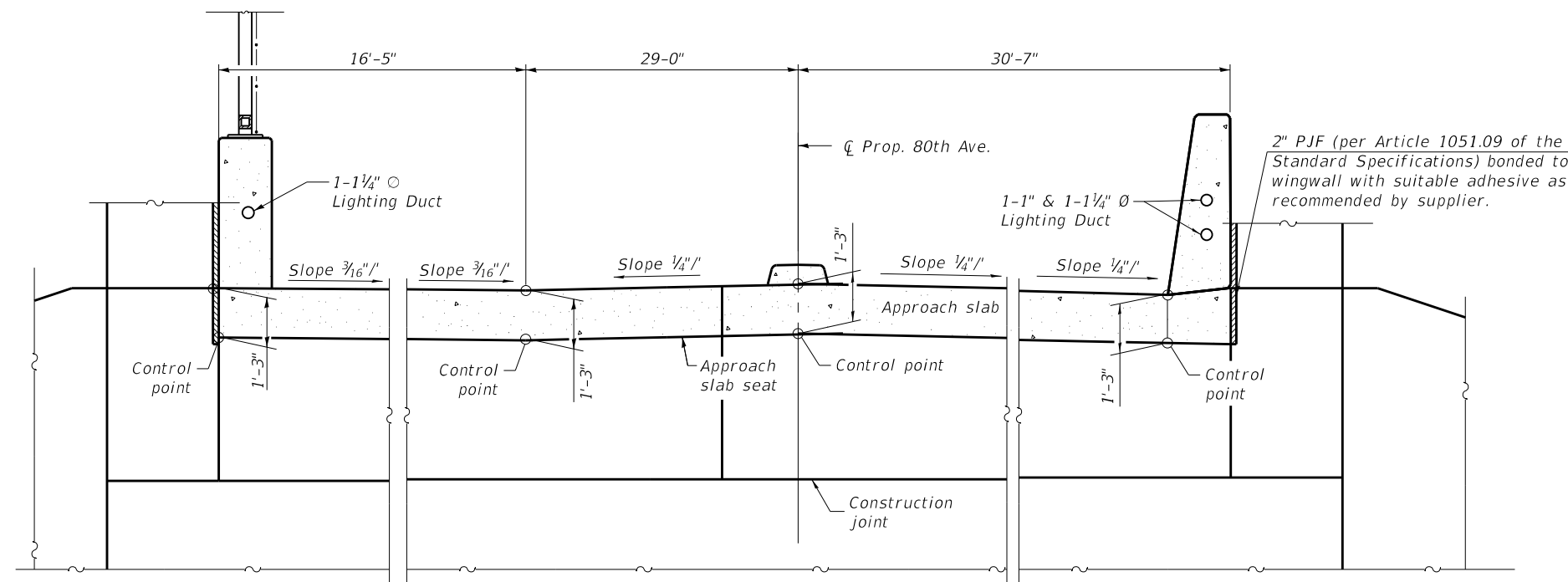


DIAPHRAGM AT ABUTMENT
(North Abutment shown, South Abutment same but mirrored)

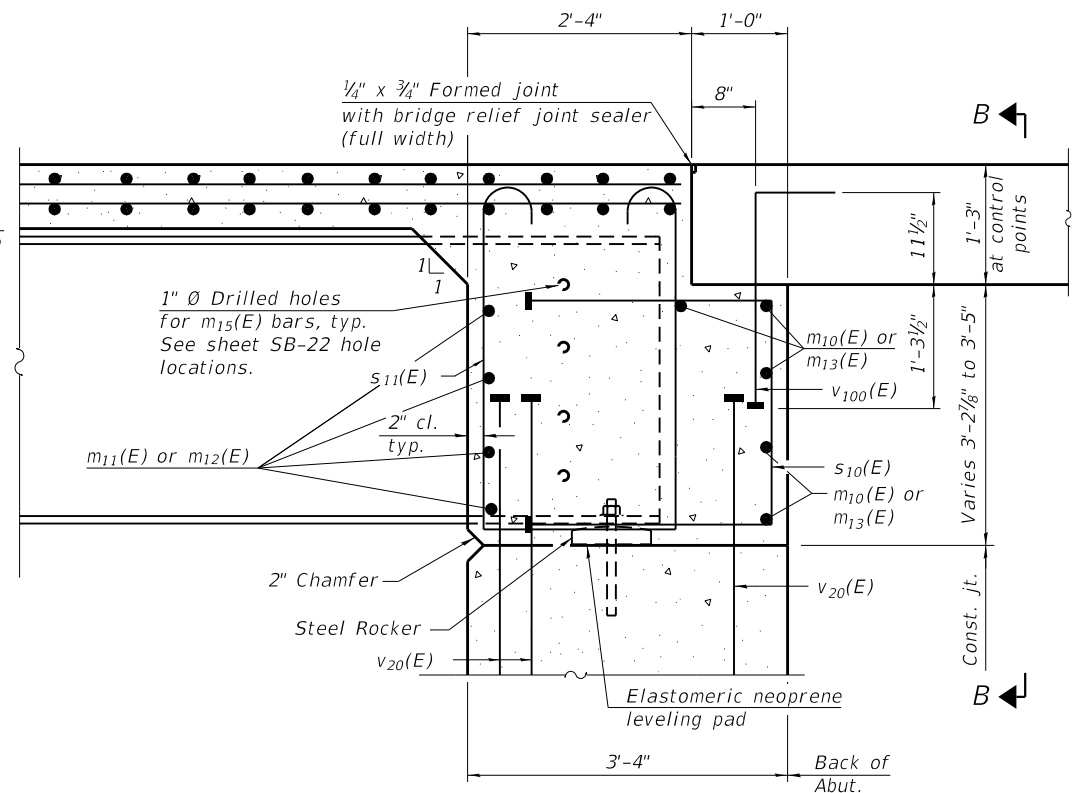


PLAN AT ABUTMENT
(Showing bottom flange of beam)

BAR LAP
#6 Bar = 4'-0"



SECTION B-B
(North Abutment looking South, South Abutment same but mirrored)



SECTION A-A

DIA-SB2448-0 2-17-2017



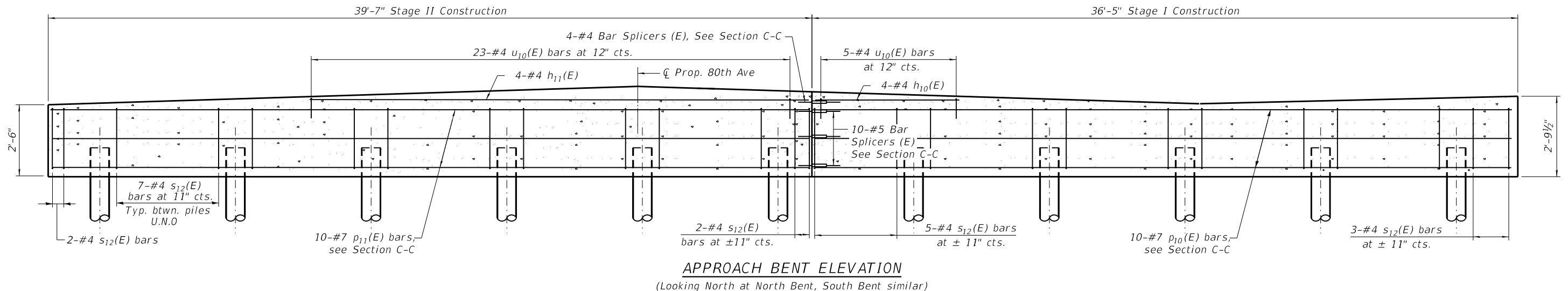
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTEGRAL ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 099-0430

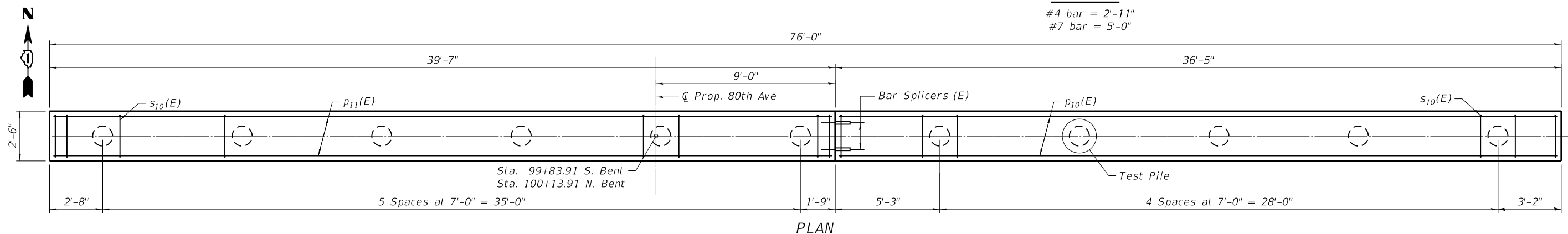
SHEET SB-14 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	763
CONTRACT NO.			61673	
ILLINOIS FED. AID PROJECT				



APPROACH BENT ELEVATION
(Looking North at North Bent, South Bent similar)

MIN. LAP
#4 bar = 2'-11"
#7 bar = 5'-0"



PLAN

PILE DATA - NORTH APPROACH BENT

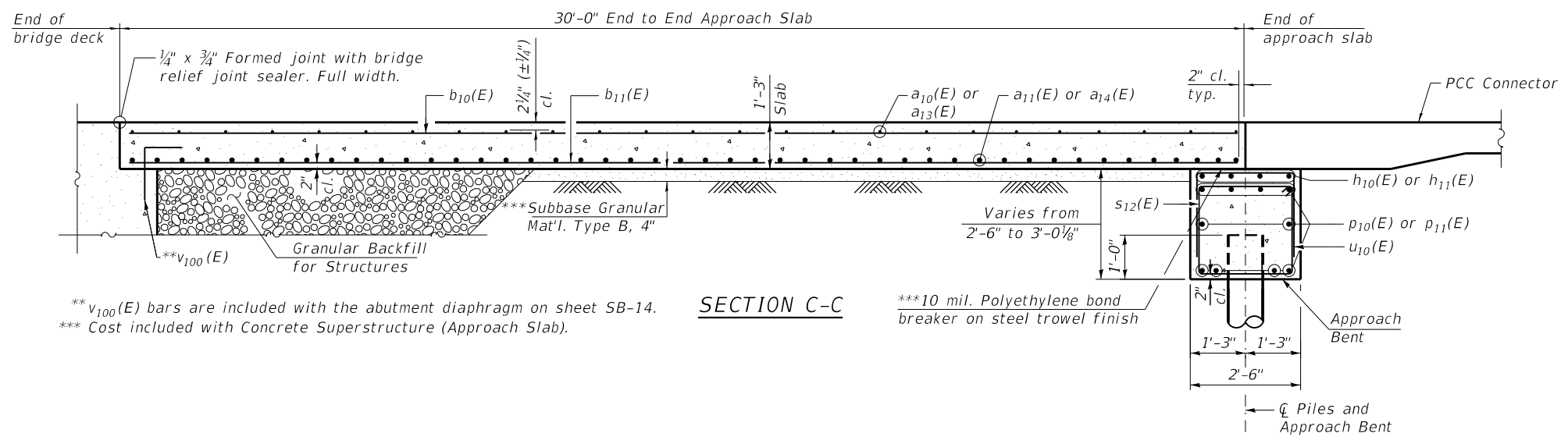
Type: Metal Shell 12"x0.25"
Nominal Required Bearing: 136k
Factored Resistance Available: 75k
Est. Length: Stage I = 32'-0"
Stage II = 12'-0"
No. Production Piles:
Stage I = 4
Stage II = 6
No. Test Piles: 1

PILE DATA - SOUTH APPROACH BENT

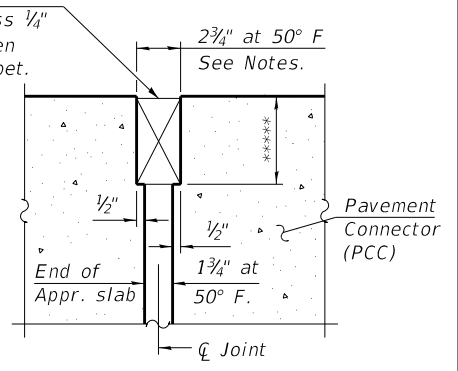
Type: Metal Shell 12"x0.25"
Nominal Required Bearing: 136k
Factored Resistance Available: 75k
Est. Length: Stage I = 24'-0"
Stage II = 12'-0"
No. Production Piles:
Stage I = 4
Stage II = 6
No. Test Piles: 1

Note:
1. The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

**** Expansion joint. See Special Provision "Preformed Pavement Joint Seal". Recess 1/4" minimum. Run out to out of curb between West Parapet and Multi-Use Path Parapet.



SECTION C-C

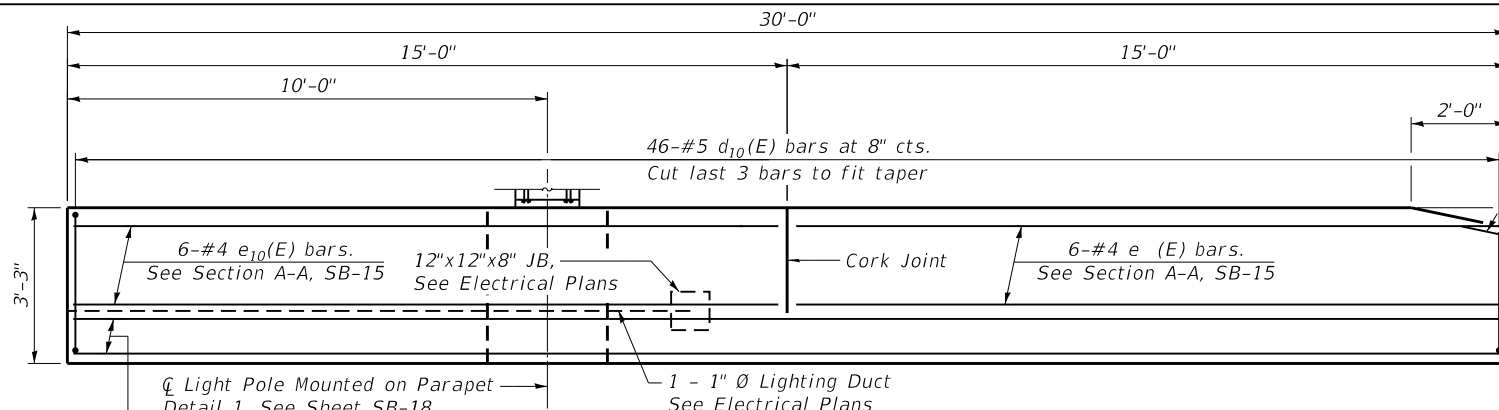


DETAIL B

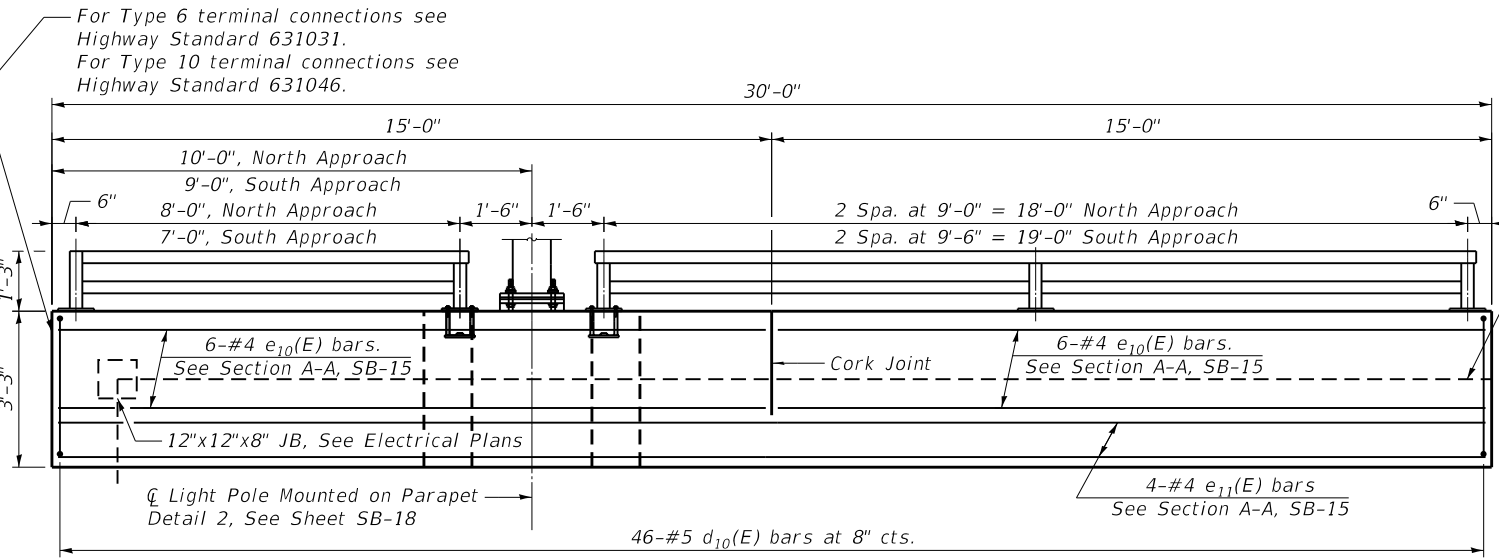
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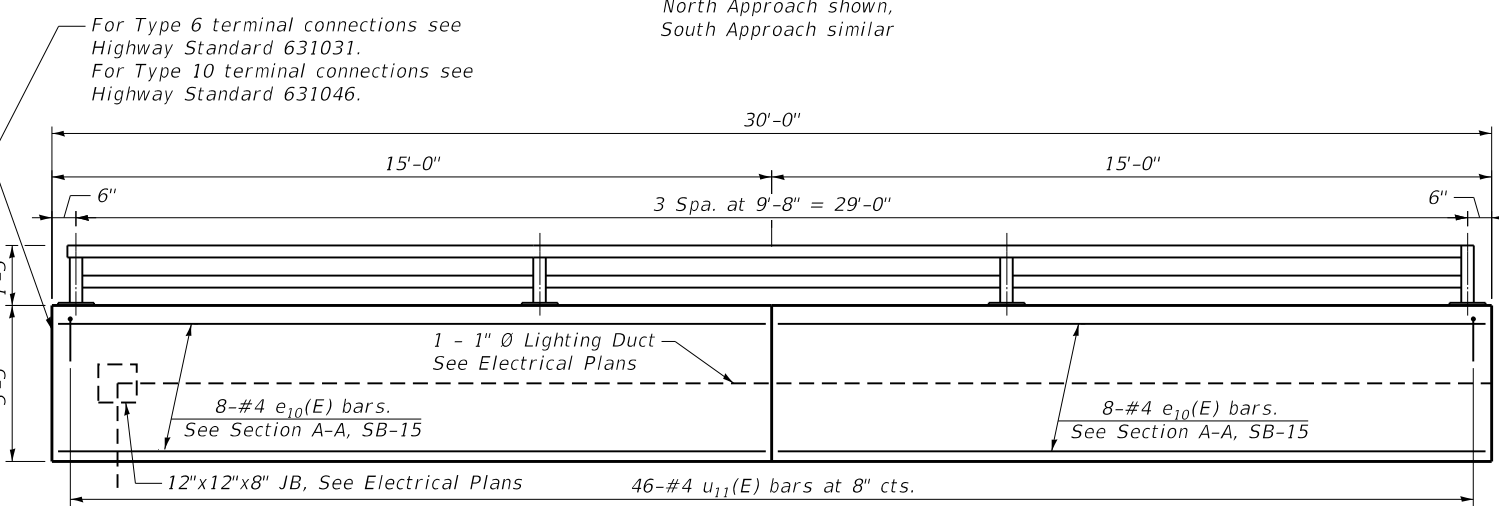
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CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



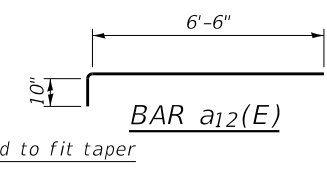
INSIDE ELEVATION OF NORTHWEST PARAPET



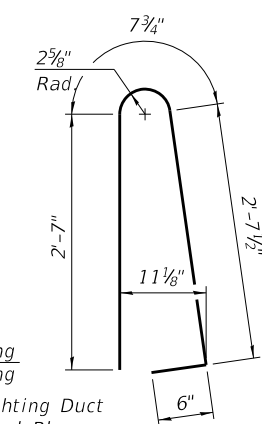
INSIDE ELEVATION OF EAST PARAPET



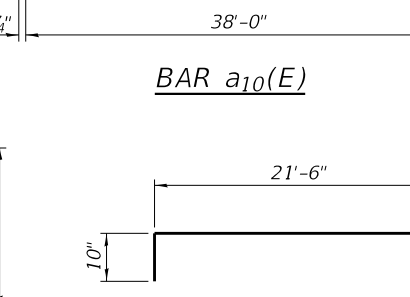
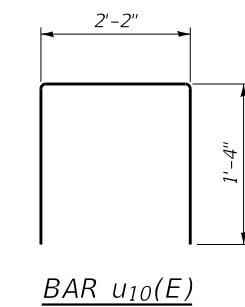
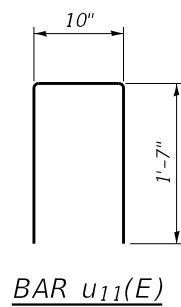
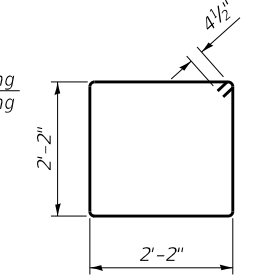
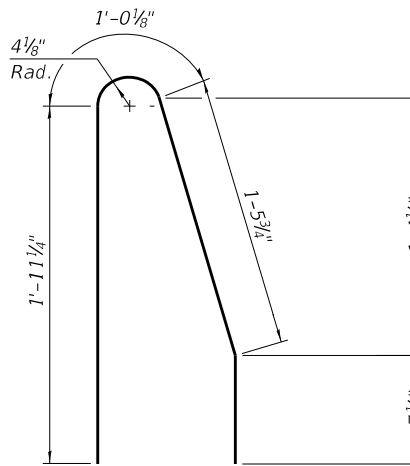
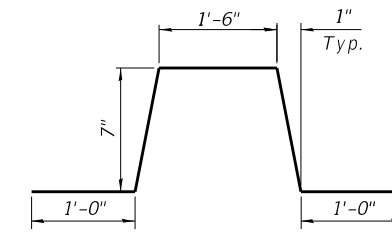
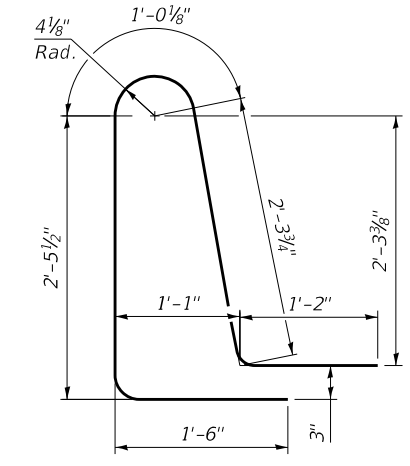
INSIDE ELEVATION OF SOUTH MULTI-USE PATH PARAPET



Bend to fit taper
For Type 6 terminal connections see Highway Standard 631031.
For Type 10 terminal connections see Highway Standard 631046.



Parapet Railing Post Spacing
1 - 1" Ø Lighting Duct See Electrical Plans



NOTES:

1. Parapet concrete shall be paid for as Concrete Superstructure.
2. Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
3. Approach bent concrete shall be paid for as Concrete Structures.
4. Cost of excavation for approach bent included with Concrete Structures.
5. For additional bar bend details see sheet SB-18 of SB-38.

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	38'-6"	U
a11(E)	120	#8	39'-3"	U
a12(E)	184	#5	7'-4"	U
a13(E)	92	#5	36'-3"	U
a14(E)	120	#8	36'-3"	U
a15(E)	92	#5	22'-4"	U
b10(E)	228	#5	29'-8"	U
b11(E)	364	#9	29'-8"	U
b14(E)	6	#5	29'-8"	U
c10(E)	62	#5	4'-8"	T
d10(E)	184	#5	6'-5"	U
d11(E)	92	#5	8'-6"	U
d12(E)	92	#5	5'-1"	U
d13(E)	12	#6	4'-10"	U
d14(E)	12	#6	10'-0"	U
d15(E)	12	#6	8'-11"	U
d16(E)	92	#5	5'-6"	U
d17(E)	92	#5	4'-8"	U
e10(E)	56	#4	14'-8"	U
e11(E)	16	#4	29'-8"	U
e12(E)	26	#4	9'-8"	U
e13(E)	14	#4	19'-8"	U
h10(E)	8	#4	4'-0"	U
h11(E)	8	#4	22'-8"	U
s12(E)	150	#4	9'-5"	S
p10(E)	20	#7	36'-1"	U
p11(E)	20	#7	39'-3"	U
u10(E)	56	#4	4'-10"	U
u11(E)	92	#4	4'-0"	U
v10(E)	60	#5	5'-8"	U

Concrete Superstructure (Approach Slab)	Cu Yd	211.6
Bridge Deck Grooving	Sq Yd	347
Form Liner Textured Surface	Sq Ft	652
Concrete Structures	Cu Yd	38.9
Concrete Superstructure	Cu Yd	35.2
Furnishing Metal Shell Piles 12" X 0.250"	Foot	368
Driving Piles	Foot	368
Test Pile Metal Shells	Each	2
Protective Coat	Sq Yd	627
Reinforcement Bars, Epoxy Coated	Pound	105,420
Bar Splicers	Each	240
Staining Concrete Structures	Sq Ft	1,019
Architectural Form Liner	Sq Yd	8

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_I-80\020887_17_I-80_ApprDetails-003.dgn



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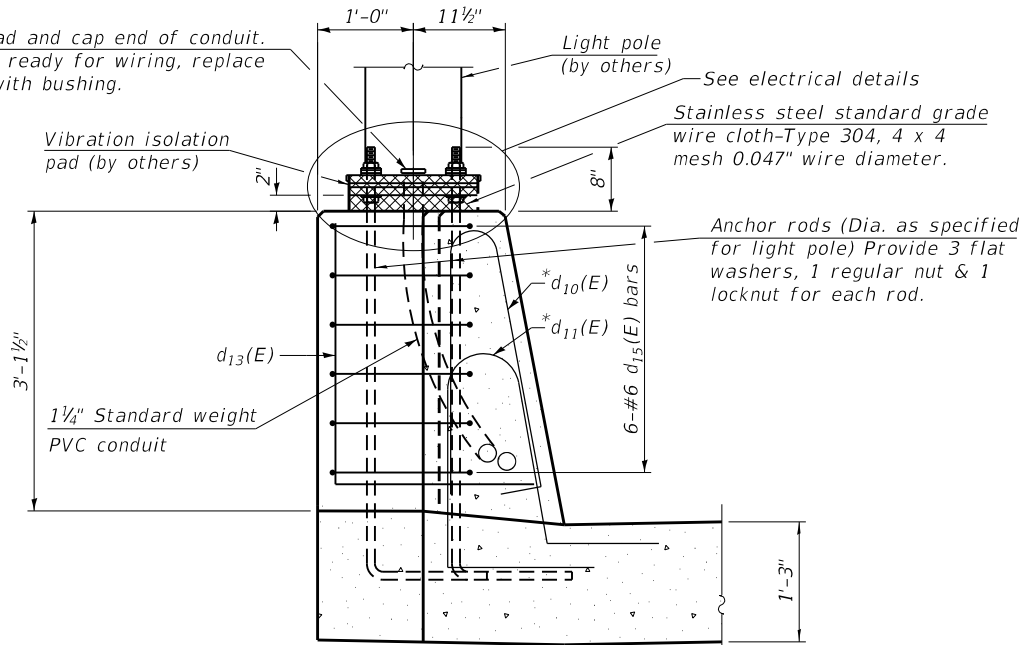
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS 3
STRUCTURE NO. 099-0430

SHEET SB-17 OF SB-40 SHEETS

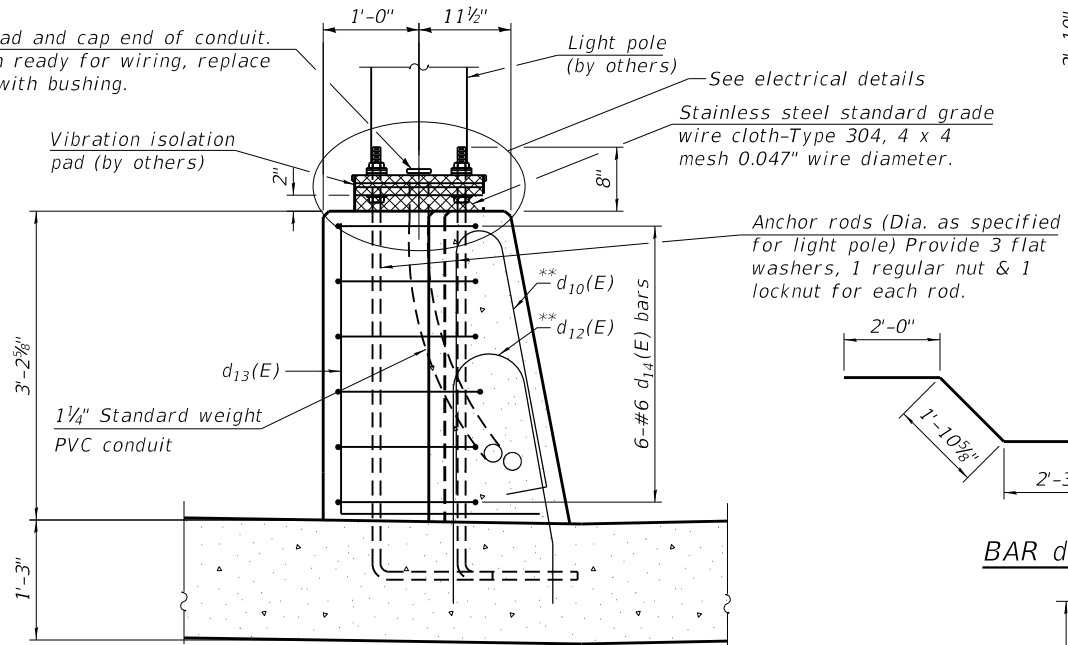
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	766
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		

Thread and cap end of conduit.
When ready for wiring, replace
cap with bushing.



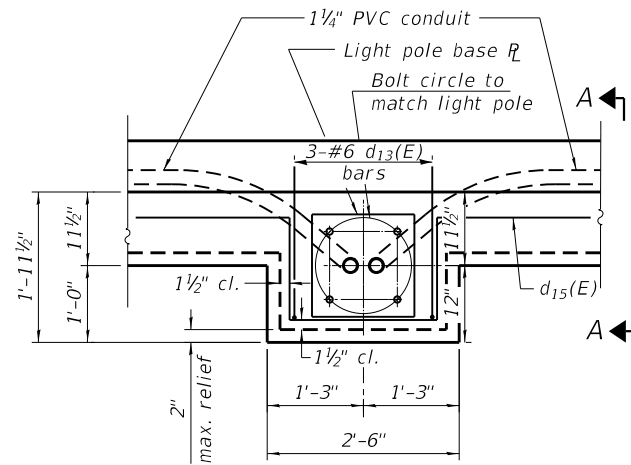
SECTION A-A

Thread and cap end of conduit.
When ready for wiring, replace
cap with bushing.



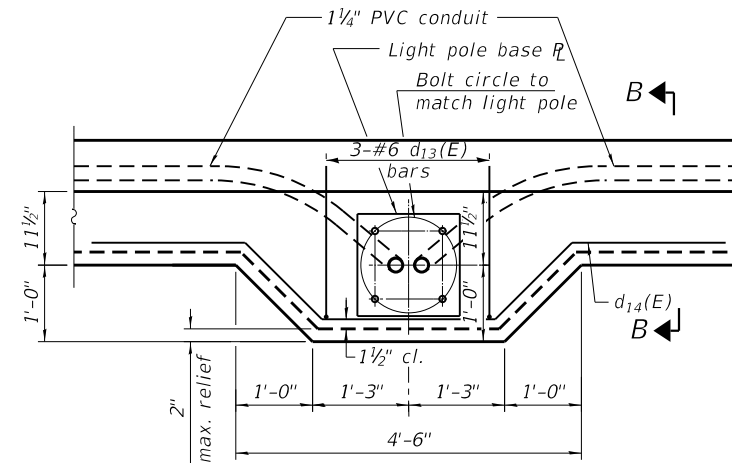
SECTION B-B

*See Sheet SB-15 and SB-17 for spacing of
 $d_{10}(E)$ and $d_{11}(E)$ bars. Bars are included
with Approach Slab Bill of Material.



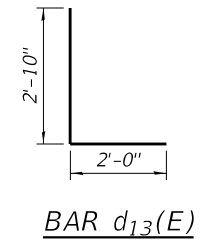
DETAIL 1

**See Sheet SB-15 and SB-17 for spacing of
 $d_{10}(E)$ and $d_{12}(E)$ bars. Bars are included
with Approach Slab Bill of Material.

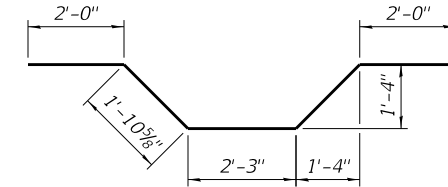


DETAIL 2

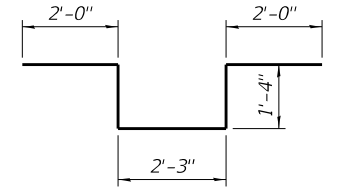
Notes:
For the location of Detail 1 and 2, see Sheet SB-15.
For Bill of Materials, see Sheet SB-17.



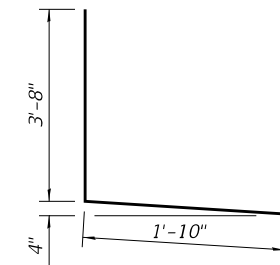
BAR $d_{13}(E)$



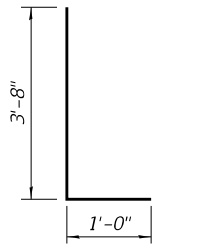
BAR $d_{14}(E)$



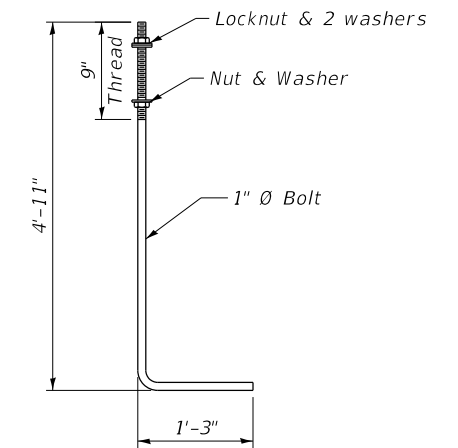
BAR $d_{15}(E)$



BAR $d_{16}(E)$



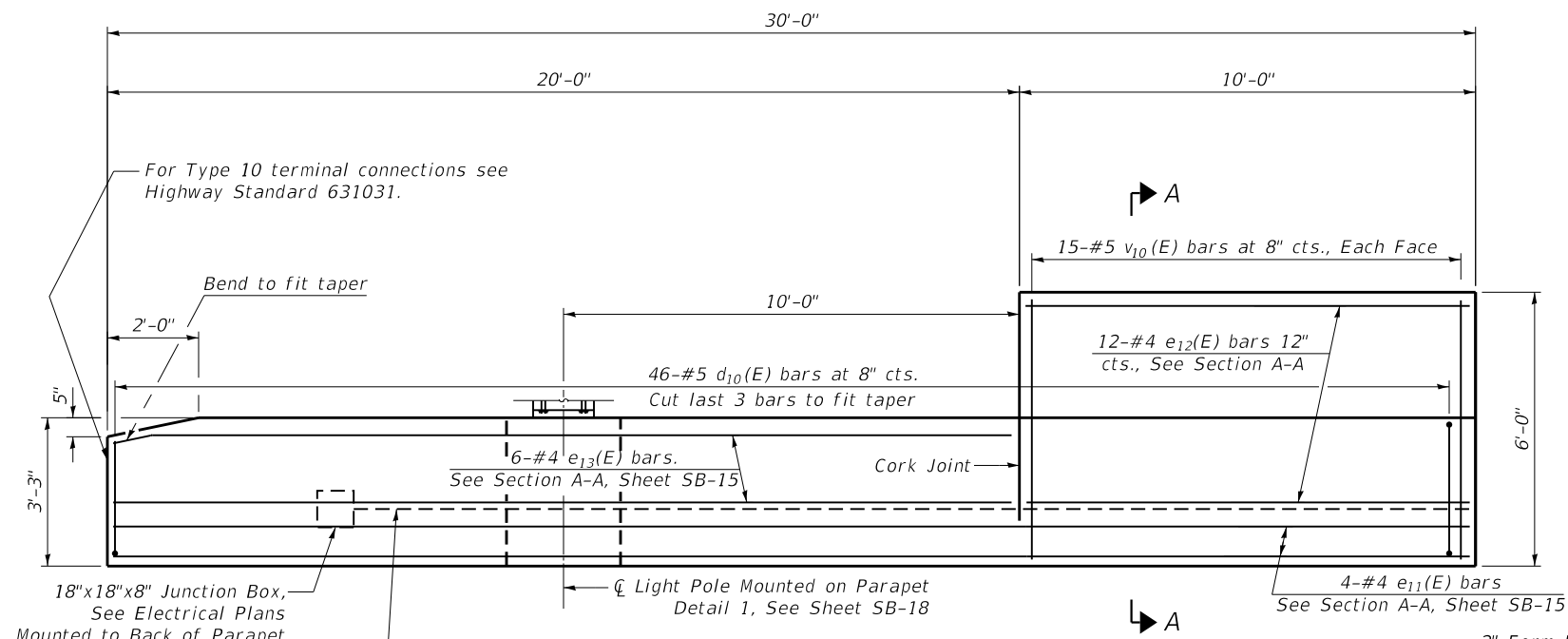
BAR $d_{17}(E)$



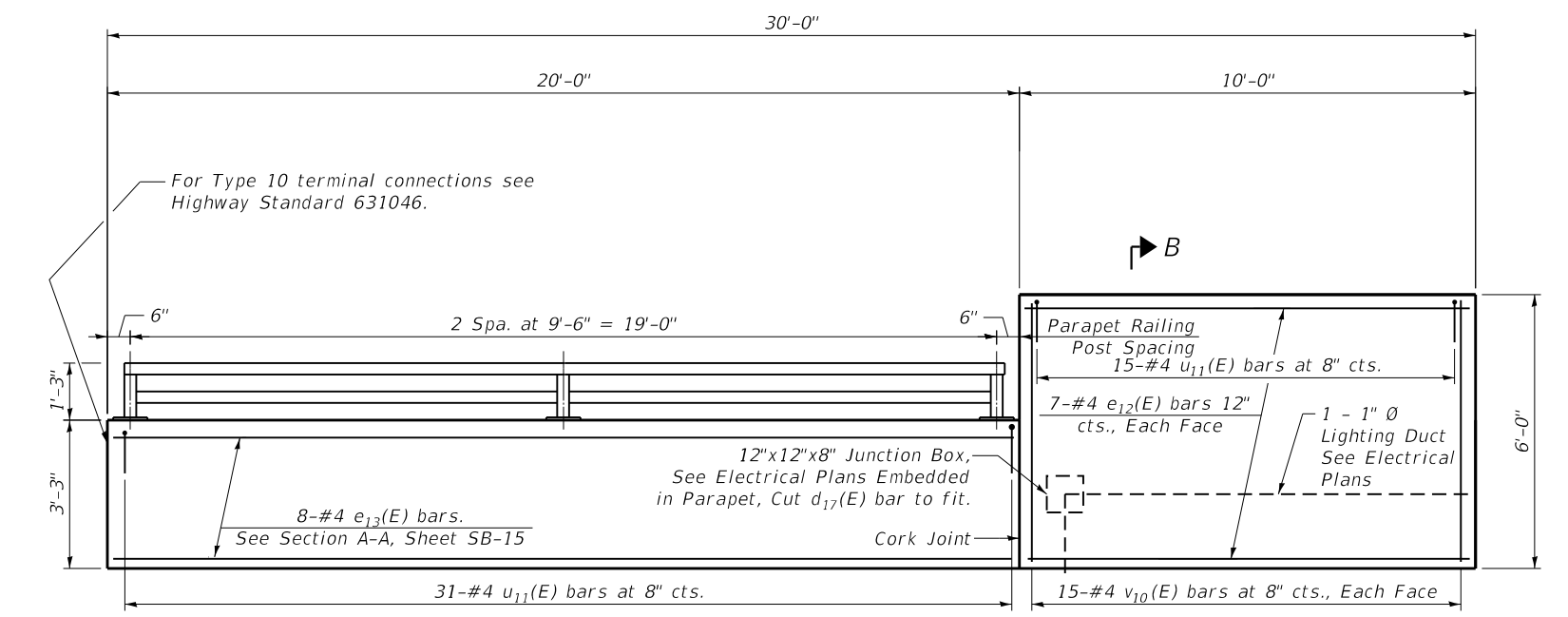
ANCHOR ROD

Cost of anchor rods is included
with Concrete Superstructure.
(ASTM F 1554 Grade 105) Full length
hot dipped galvanized

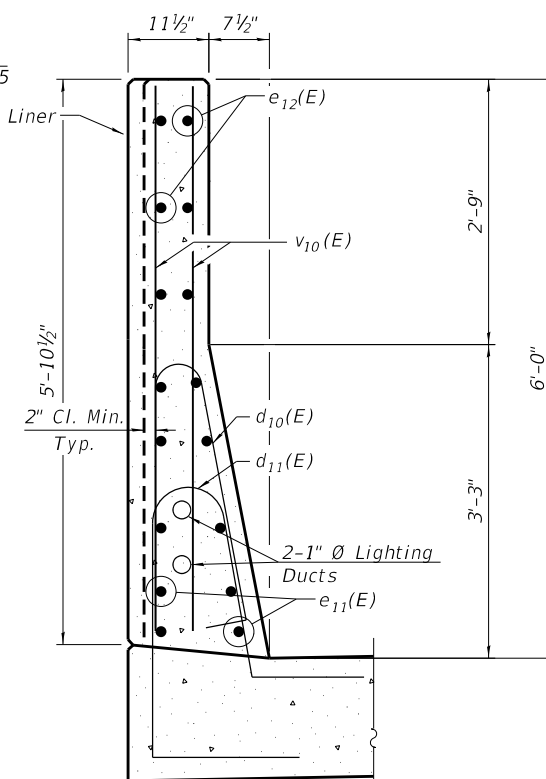
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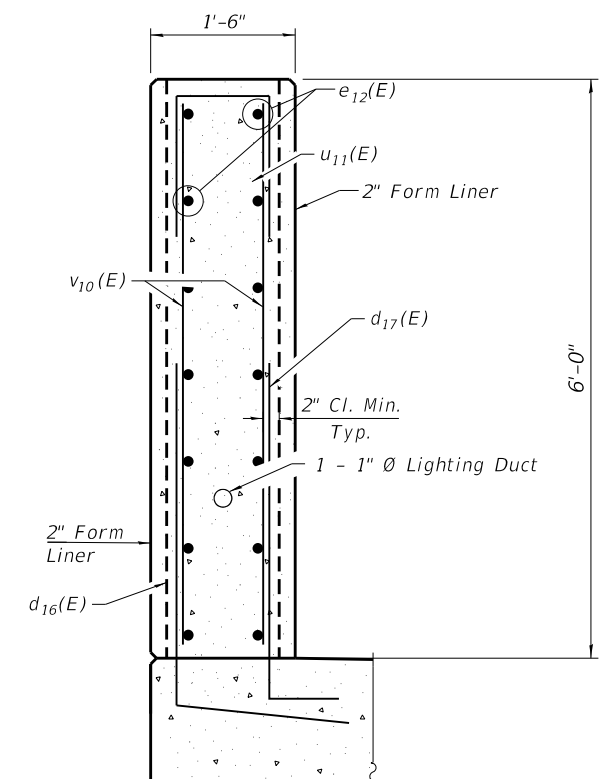
INSIDE ELEVATION OF SOUTHWEST PARAPET



INSIDE ELEVATION OF NORTHEAST MULTI-USE PATH PARAPET



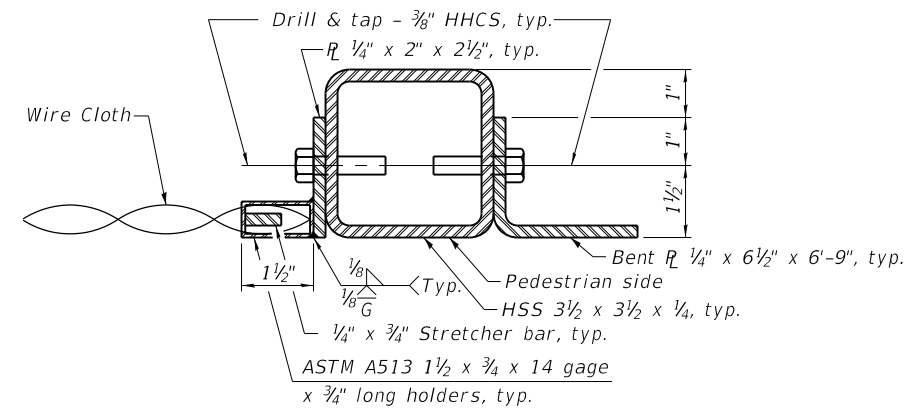
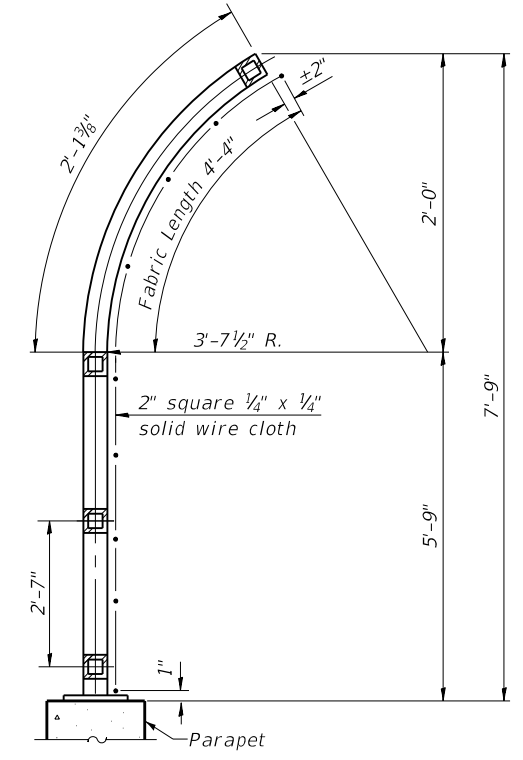
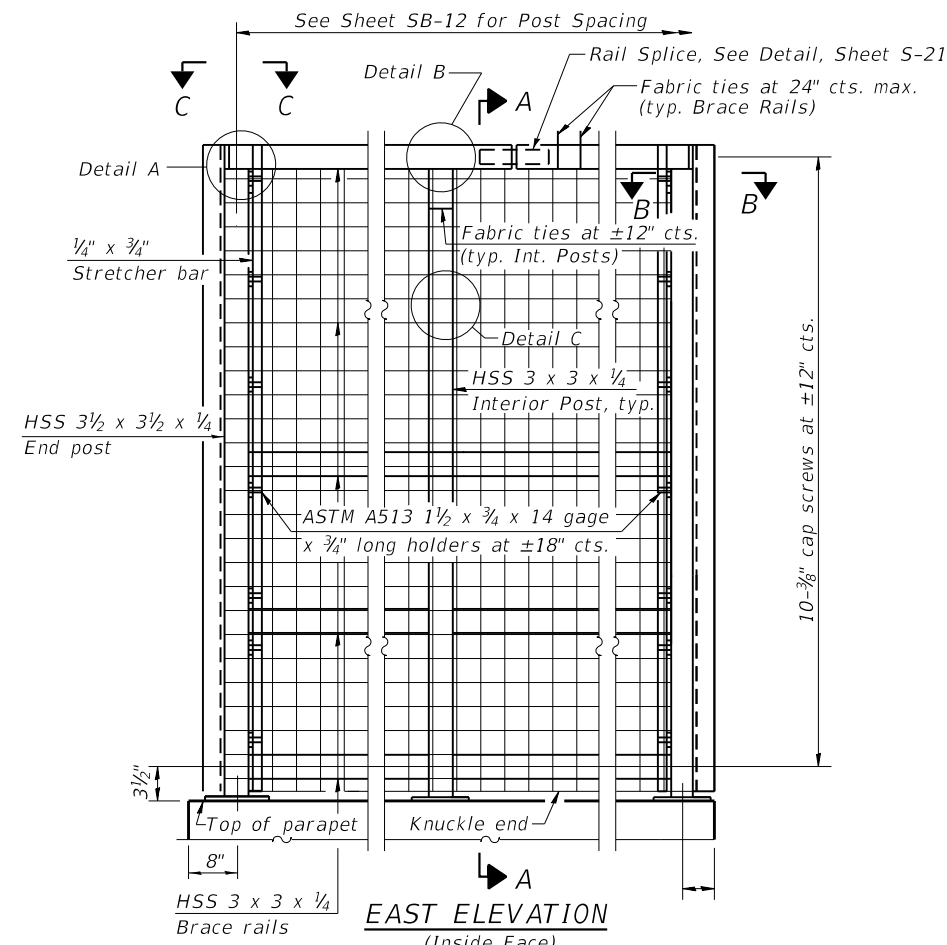
SECTION A-A



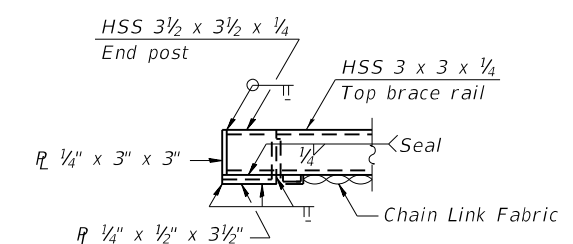
SECTION B-B

Notes:
For Bill of Materials, see Sheet SB-17.

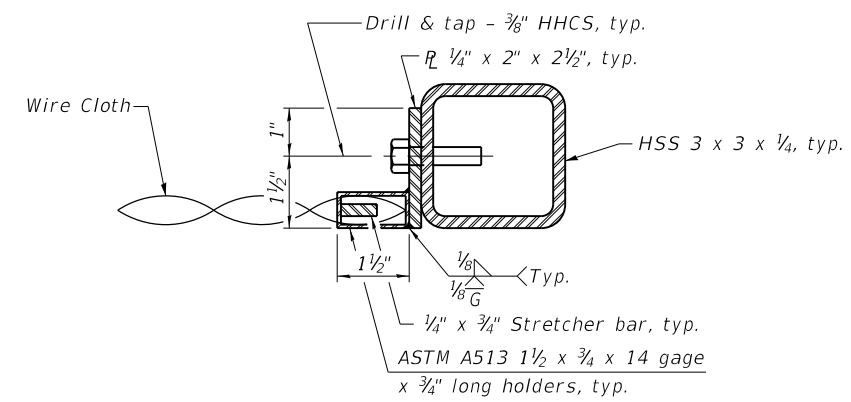
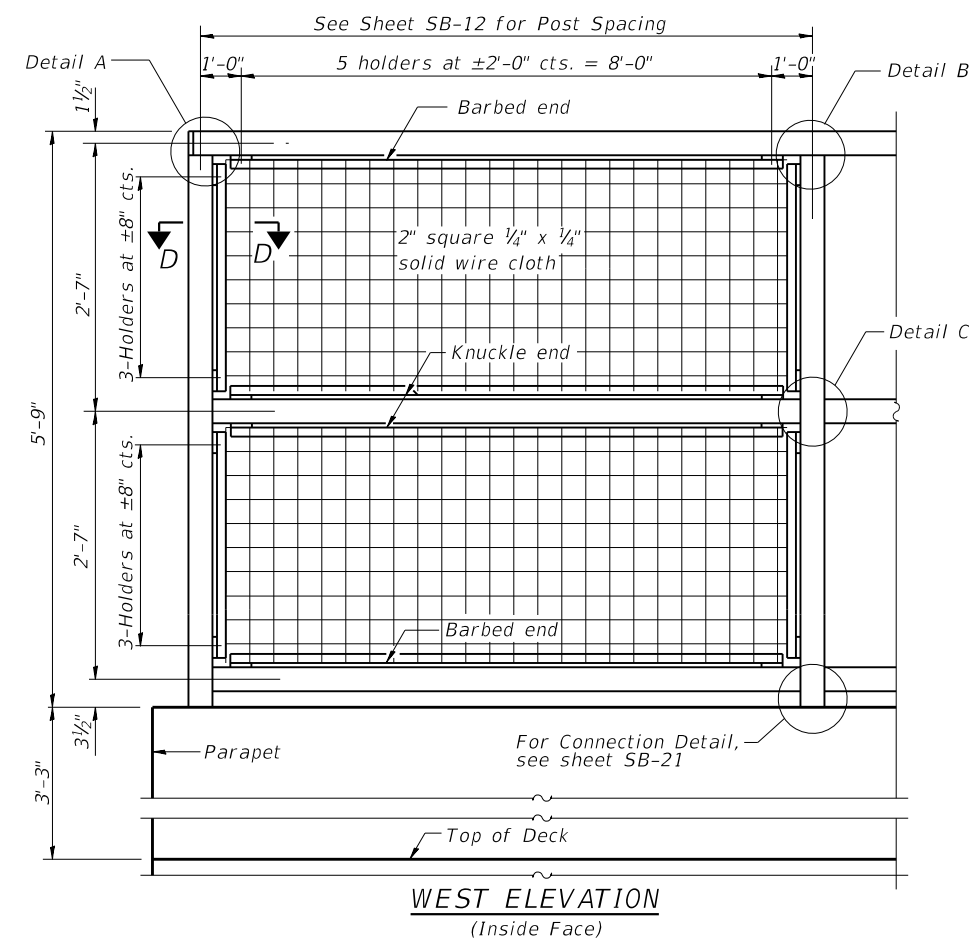
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SECTION B-B
(At Expansion Joint)



VIEW C-C



SECTION D-D

- NOTES:**
1. For Detail A thru Detail C, see sheet SB-21.
 2. For Base Plate and Anchor Bolt details see Sheet SB-21, for access panel detail, see Bridge Enhancement Plans.

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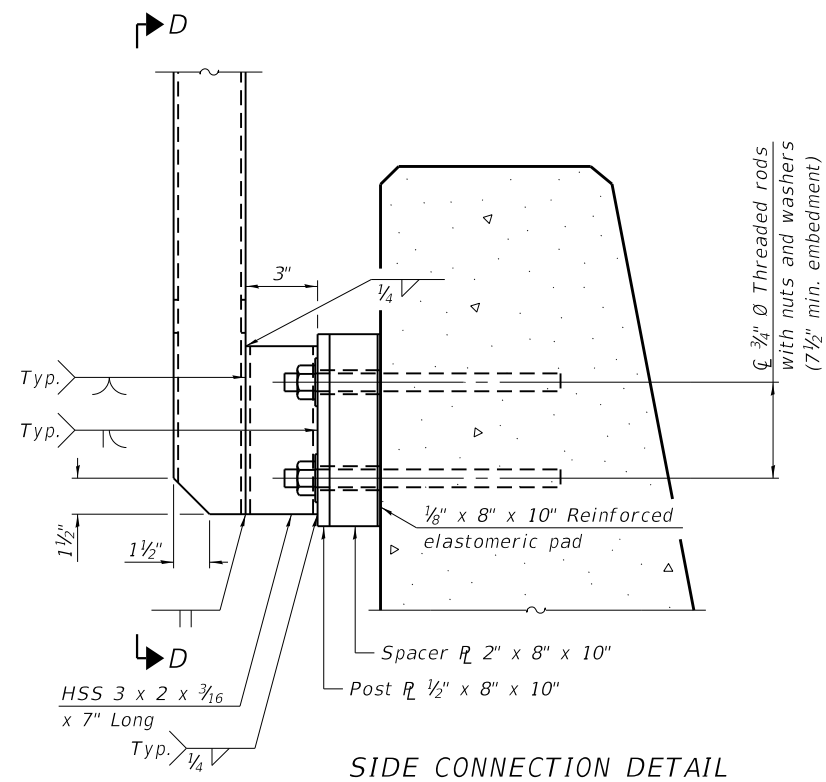
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

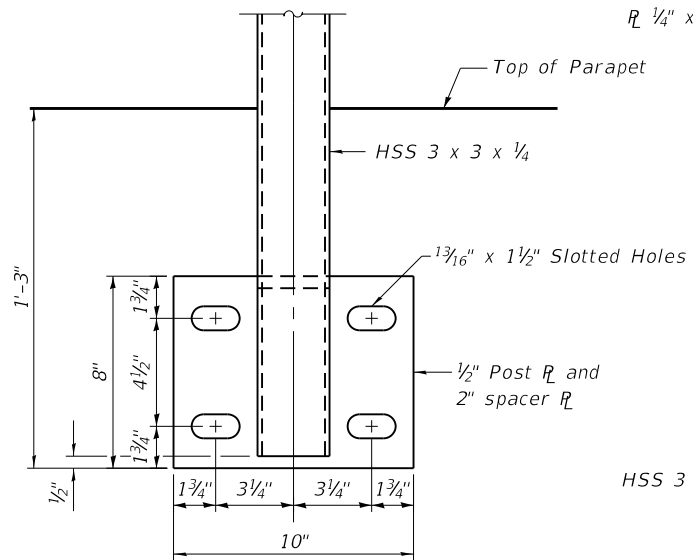
RAILING DETAILS 1
STRUCTURE NO. 099-0430

SHEET SB-20 OF SB-40 SHEETS

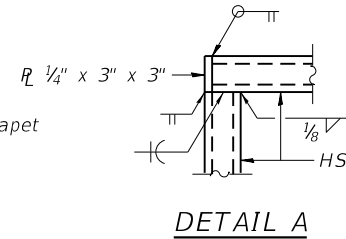
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	769
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



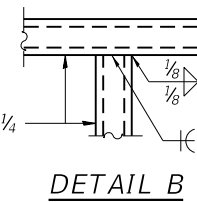
SIDE CONNECTION DETAIL



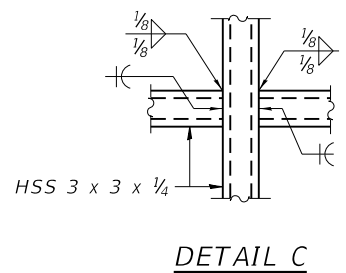
VIEW D-D
(Bolts omitted for clarity)



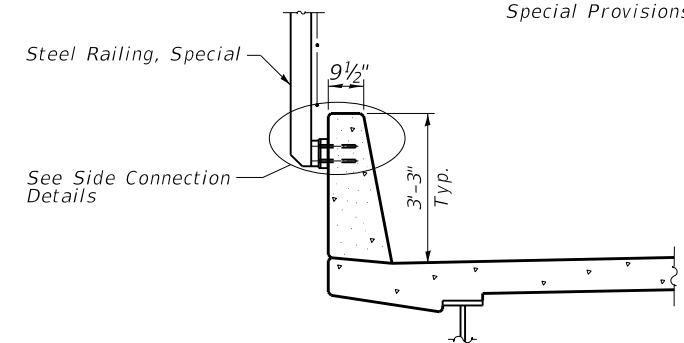
DETAIL A



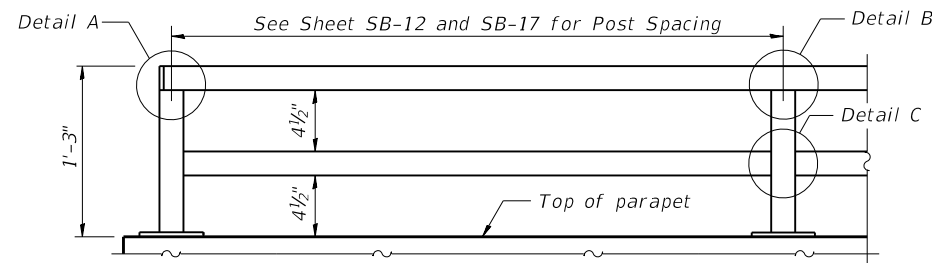
DETAIL B



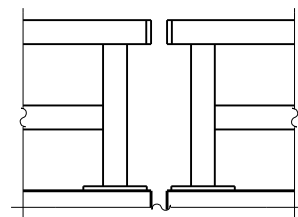
DETAIL C



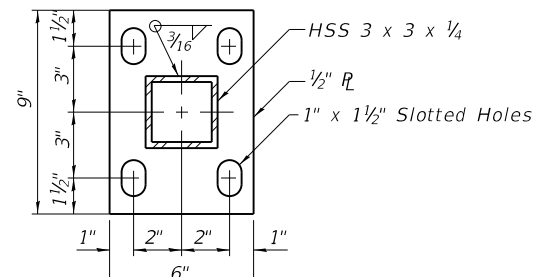
SECTION THRU DECK - WEST SIDE



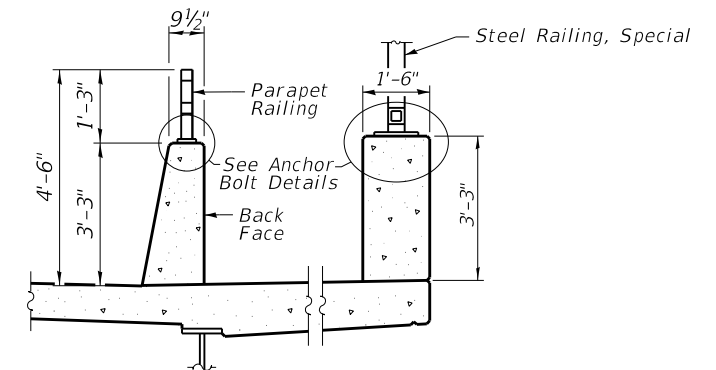
PARAPET RAILING
ELEVATION
(Inside Face of Two Element Rail)



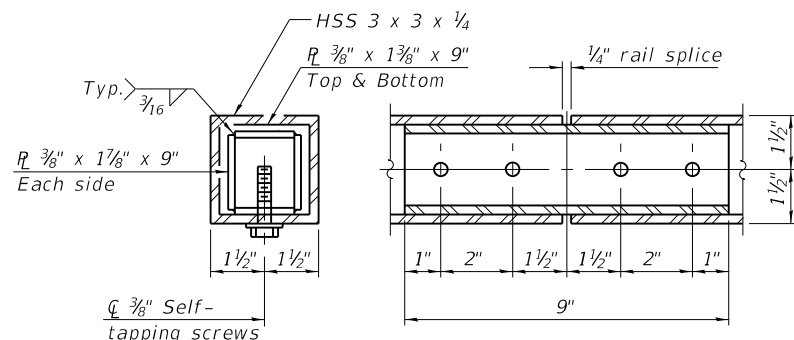
PARAPET RAILING
ELEVATION AT EXPANSION JOINT
(Two Element Rail Shown - Three Element Rail Similar)



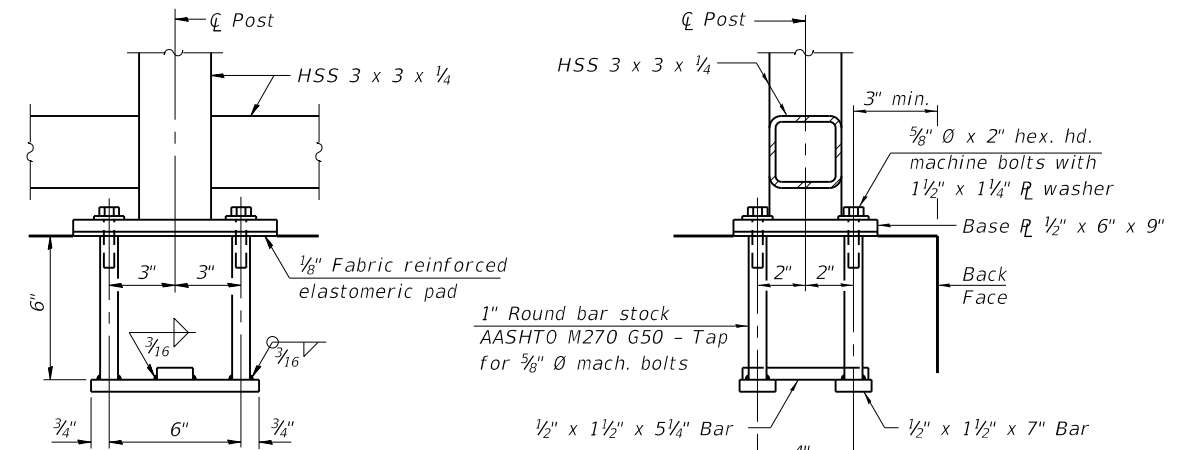
BASE R



SECTION THRU DECK - EAST SIDE



RAIL SPLICE



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the CONTRACTOR has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing	Foot	310
Steel Railing, Special	Foot	422

NOTES:

- All parapet railing post, railing, splices, anchor devices, plates and aesthetic railing elements shall be painted using the Inorganic Zinc-Rich Primer/Acrylic/Acrylic Paint System. The color of the final finish coat shall be black.
- For Steel Railing, Special details, see Bridge Enhancement Plans.
- For Steel Railing, Special coating, see Special Provisions.

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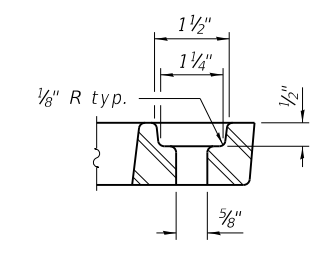
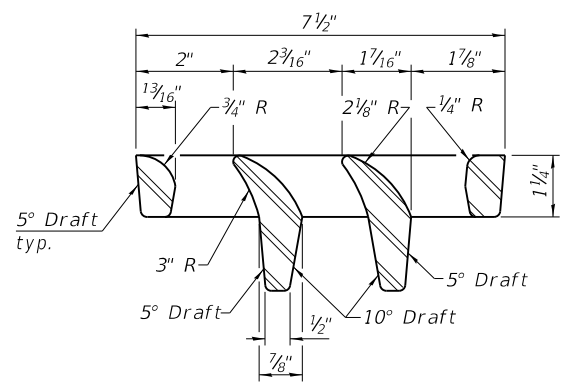
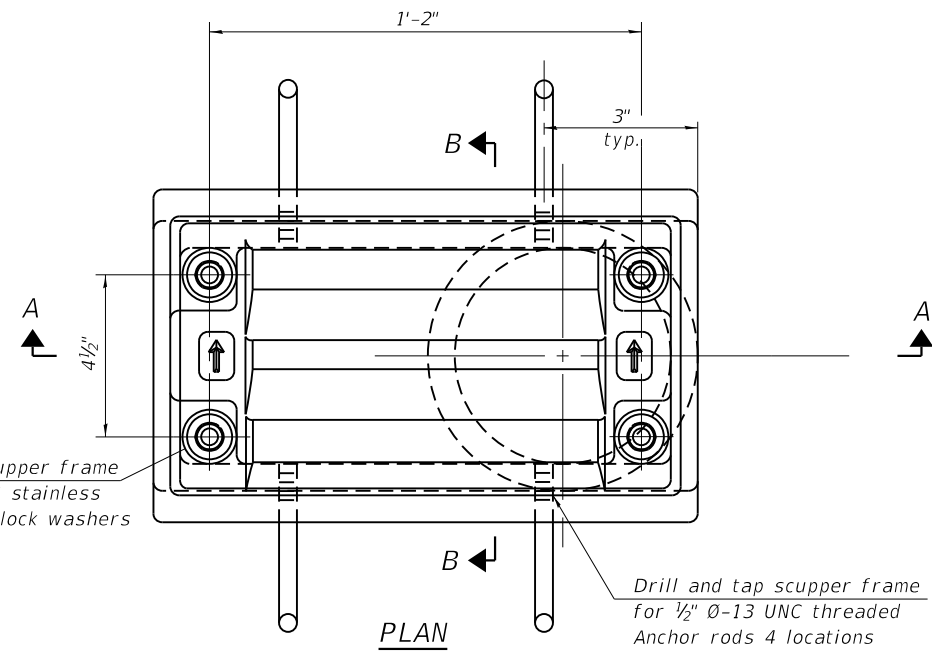
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

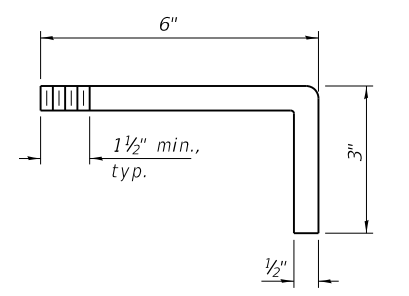
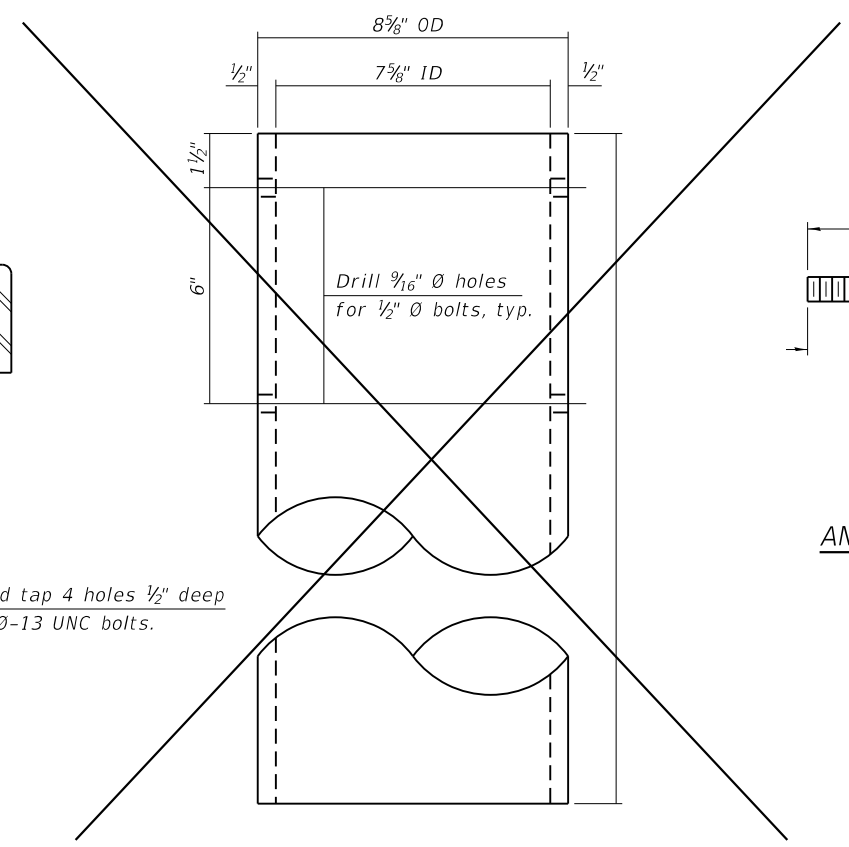
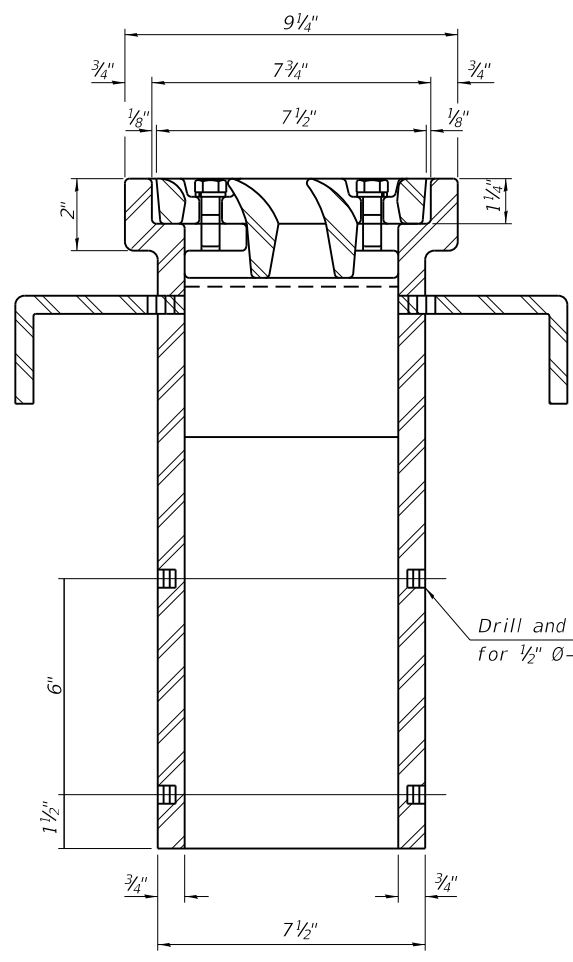
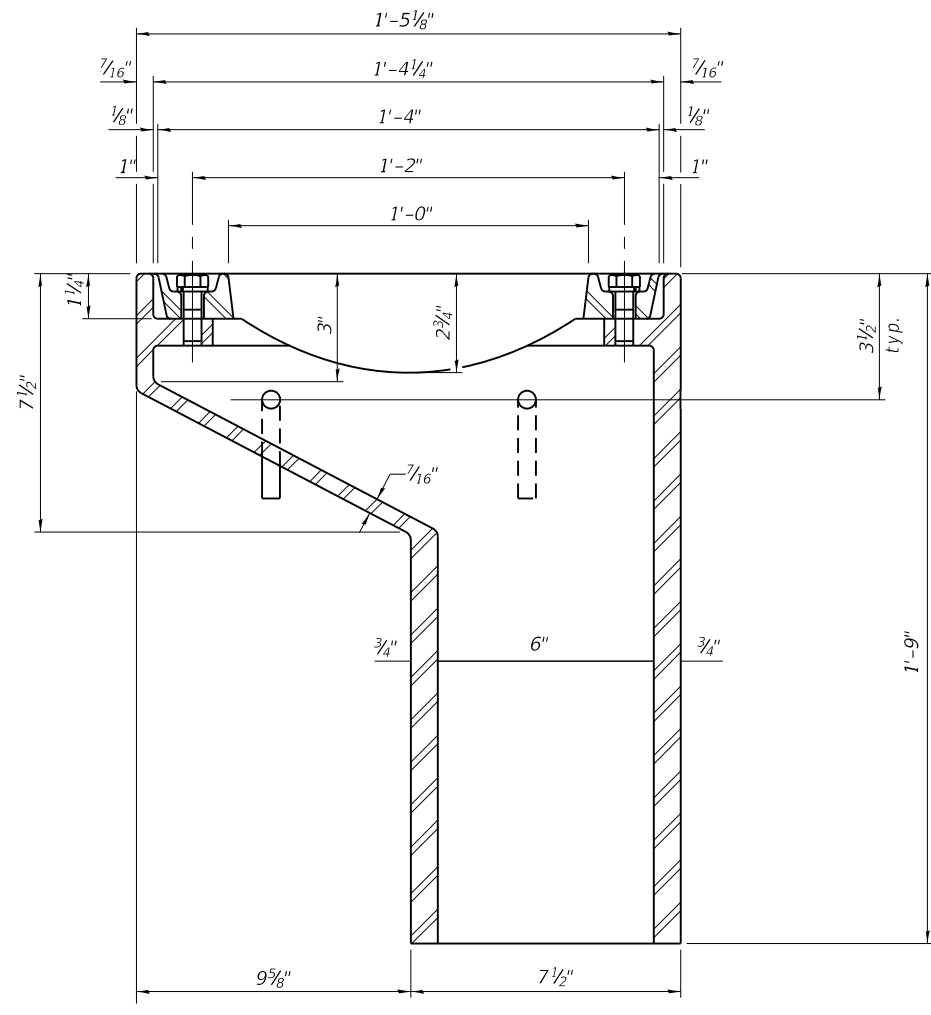
RAILING DETAILS 2
STRUCTURE NO. 099-0430

SHEET SB-21 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	770
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.
 Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet of .
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	8

FILE NAME: N:\PROJ\0020887\01\Design\Structural\CAD\SB_80th Ave over I-80\0020887_22_I-80_Drainage_Scupper_DS-11.dgn

DS-11
 1-1-2020

CiorbaGroup
 8725 W. Higgins Rd, Ste 600, Chicago, IL 60631
 P 773.775.4009 | www.ciorba.com

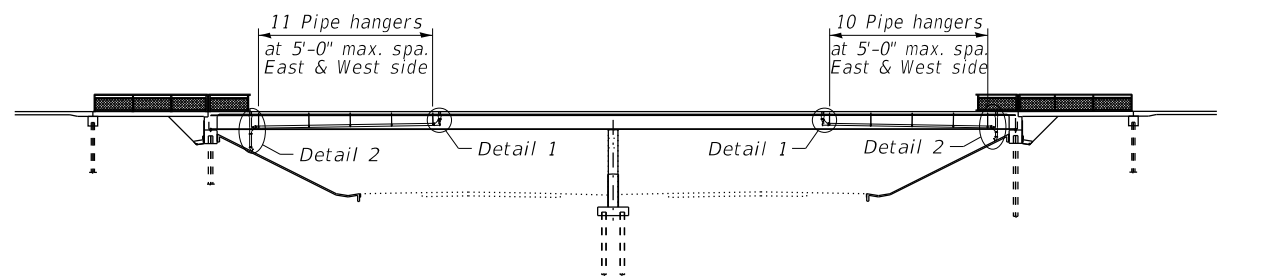
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

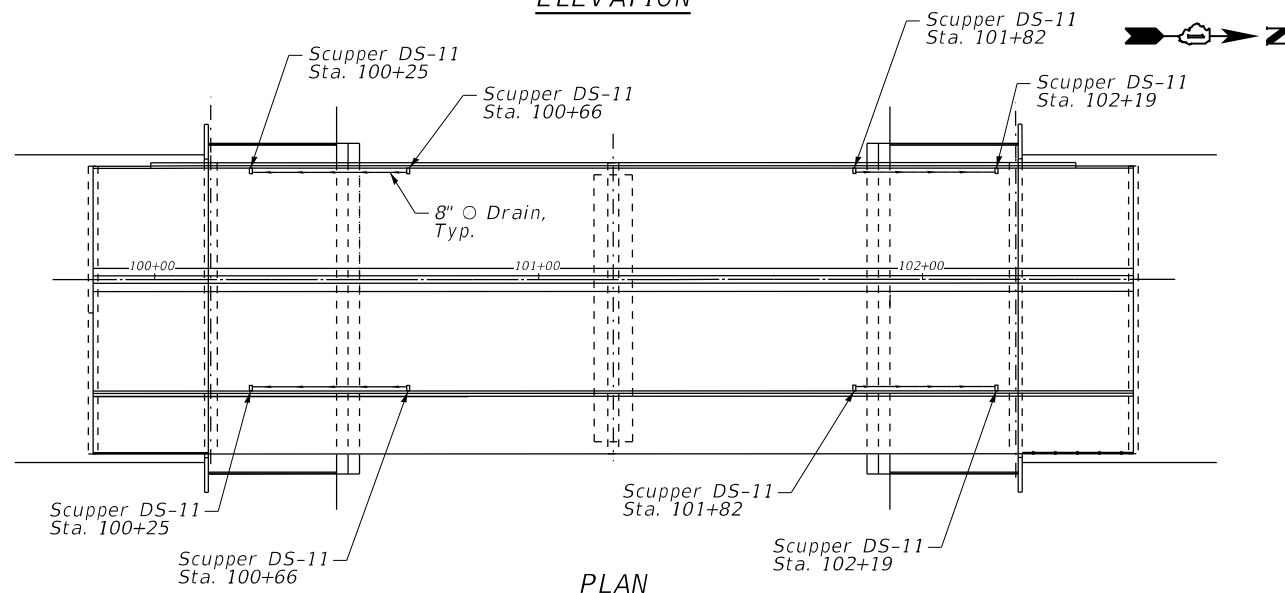
DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 099-0430

SHEET SB-22 OF SB-40 SHEETS

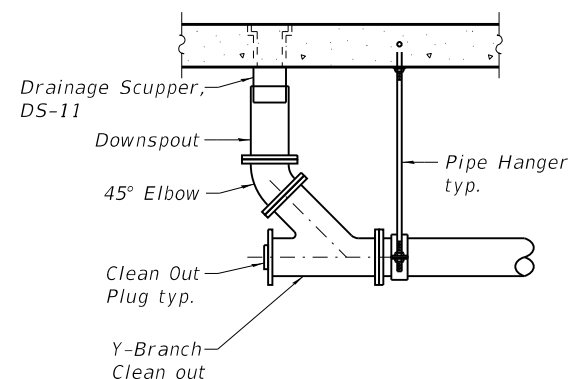
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CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



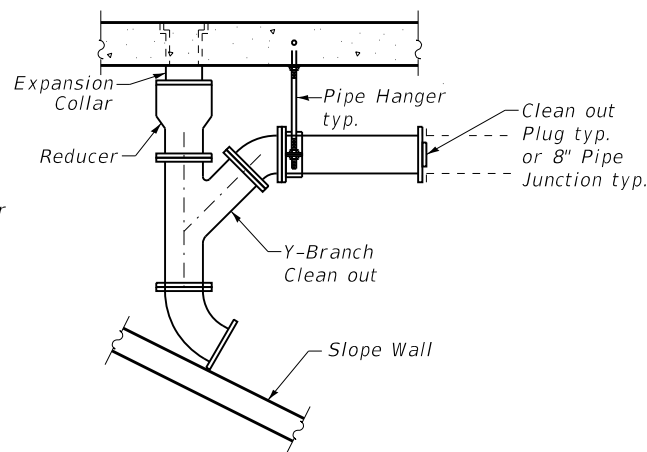
ELEVATION



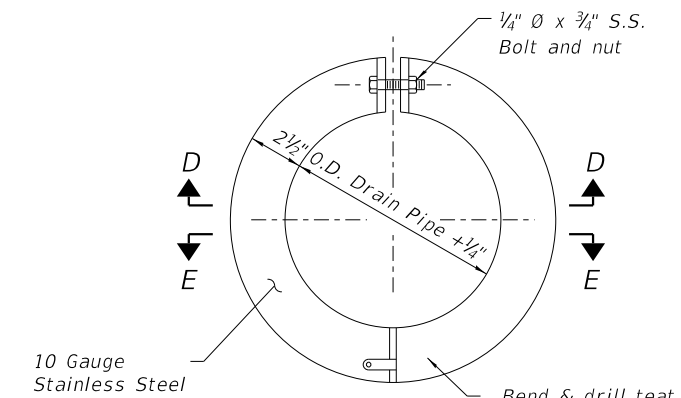
PLAN



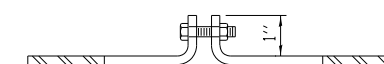
DETAIL 1



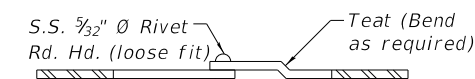
DETAIL 2



DETAIL OF EXPANSION COLLAR

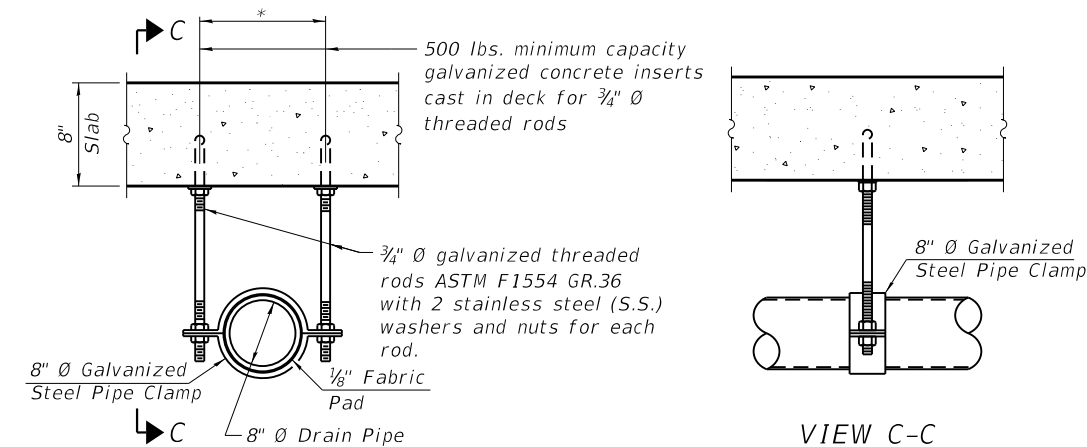


SECTION D-D



SECTION E-E

* Dimension as required by Pipe Clamp



COLLECTOR PIPE HANGER DETAIL

VIEW C-C

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Drainage System	L Sum	1

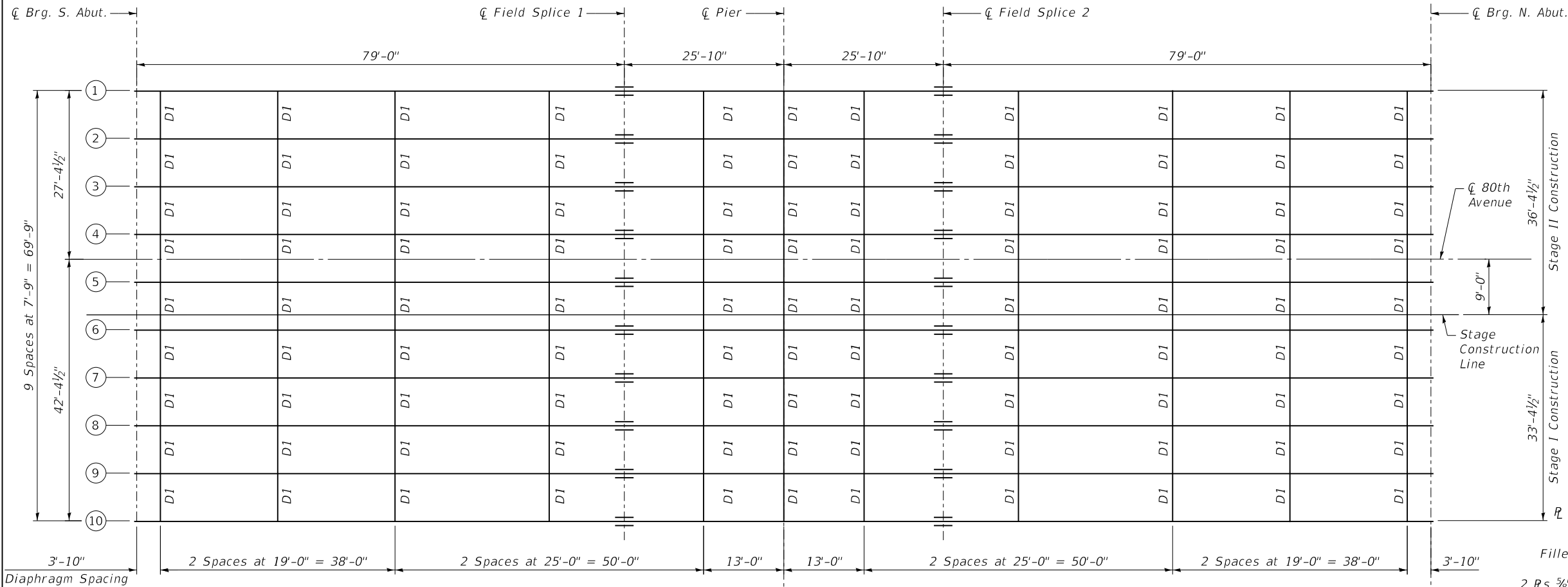
LEGEND

→ Indicates Direction of Flow

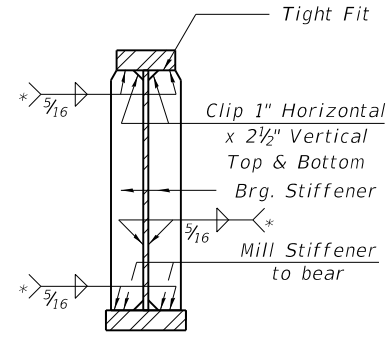
NOTES:

1. Provide structural support from proposed deck slab for drain pipe per manufacturer's recommendation, not to exceed 5' cts. Cost included with "Drainage System".
2. Steel straps, bars and plates shall meet the requirements of AASHTO M270, Grade 36 or 50.
3. All pipes, pipe fittings and brackets needed shall be included with cost of "Drainage System" unless noted otherwise on this sheet.
4. Color of fiberglass pipe shall be grey.

FILE NAME: N:\PROJ\020887.01\Design\Structural\CAD\SB_80th Ave over I-80\Closed Drainage System details.dgn

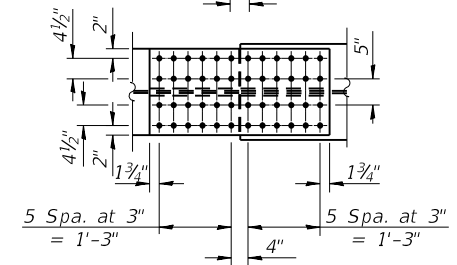
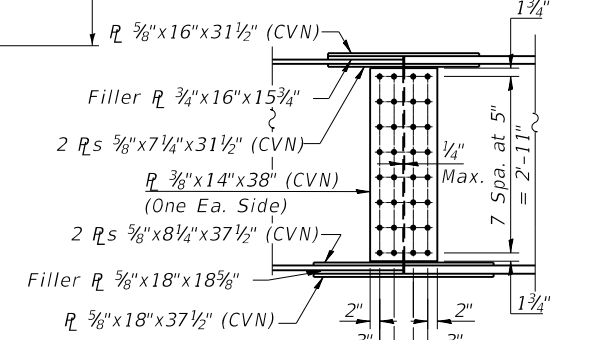
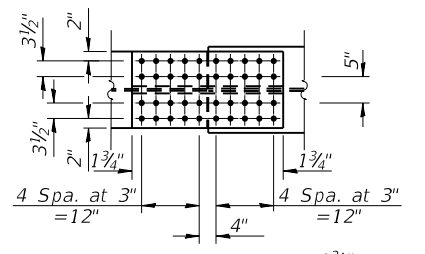


GIRDER FRAMING PLAN



SECTION AT PIER

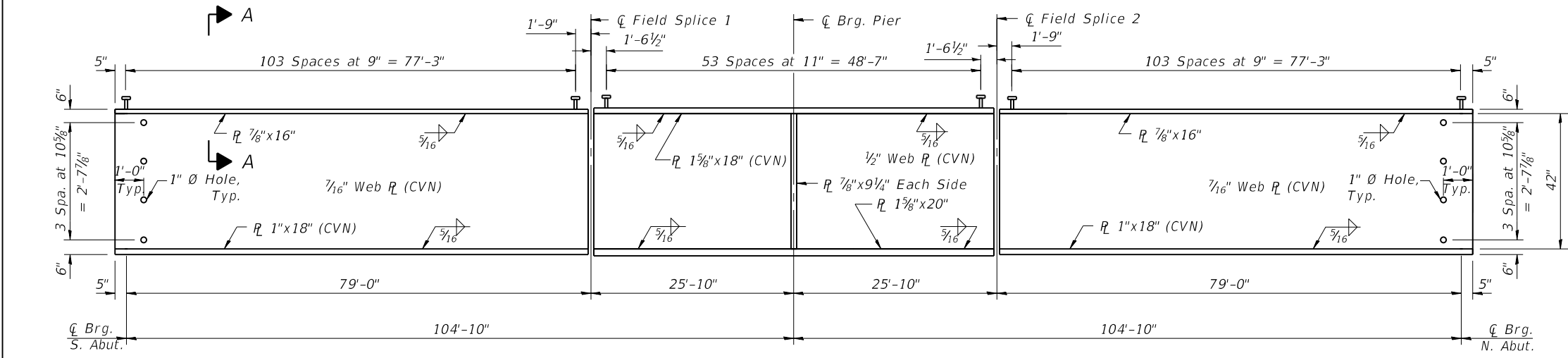
* Terminate 1/4" (±1/8") from the end of plate intersects.



FIELD SPLICE DETAIL

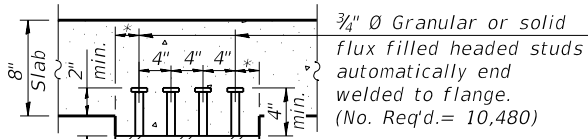
NOTES:

- All girder & splice plates (excluding fillers) shall be AASHTO M270, Grade 50.
- All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.



GIRDER ELEVATION

"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.



SECTION A-A

* 2" for 16" Flange, 3" for 18" Flange

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_I-80\FramingPlanandBeamElevation.dgn



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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND BEAM ELEVATION
STRUCTURE NO. 099-0430

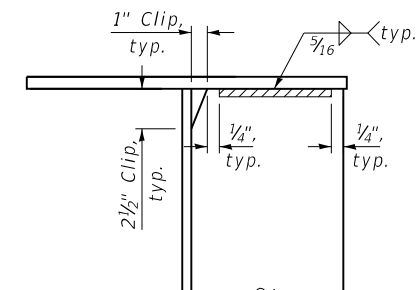
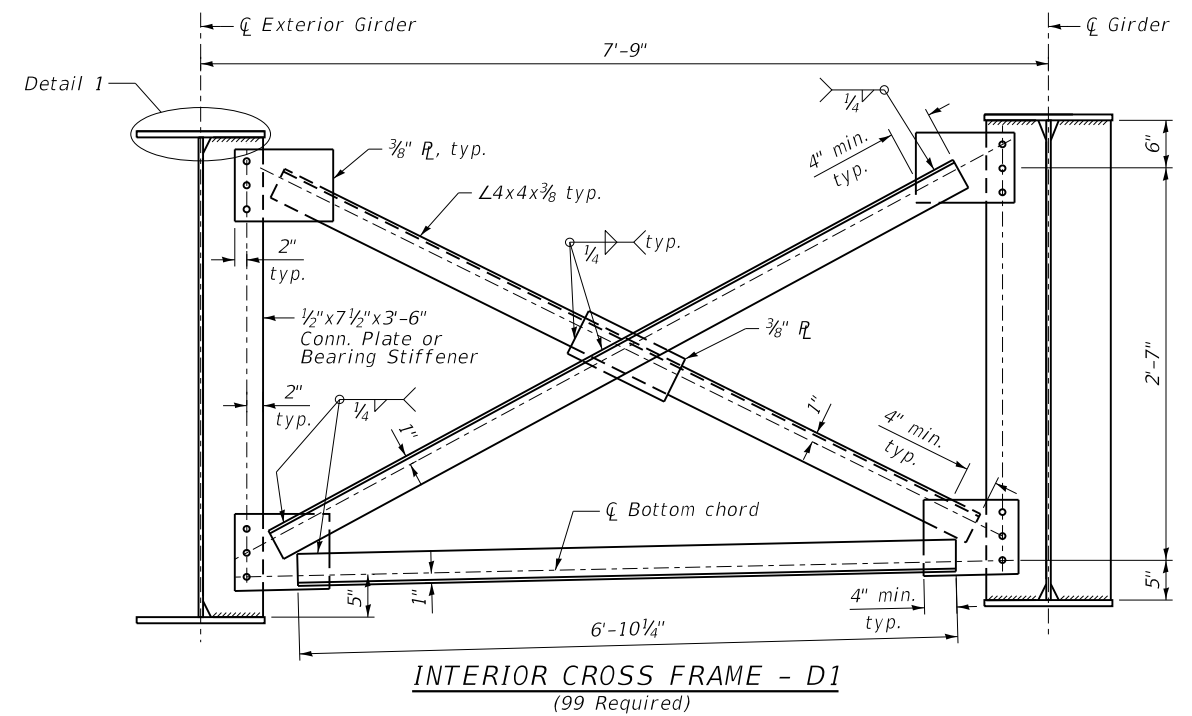
SHEET SB-24 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	773
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in ⁴)	17,308	32,420
$I_c(n)$	(in ⁴)	43,210	66,887
$I_c(3n)$	(in ⁴)	32,612	50,331
$I_c(cr)$	(in ⁴)	---	35,560
S_s	(in ³)	853	1,489
$S_c(n)$	(in ³)	1,121	1,823
$S_c(3n)$	(in ³)	1,047	1,702
$S_c(cr)$	(in ³)	---	1,534
DC1	(k/')	0.99	1.11
M_{DC1}	(k-ft)	667	1,635
DC2	(k/')	0.23	0.23
M_{DC2}	(k-ft)	158	351
DW	(k/')	0.29	0.29
M_{DW}	(k-ft)	202	451
LLDF		0.583	0.610
M_{LL+IM}	(k)	1,357	1,704
f_t (Strength I)	(ksi)	0	0
$M_u + 1/3f_t S_{fc}$	(k)	3,709	6,141
ϕM_n	(k)	5,597	6,714
f_s DC1	(ksi)	9.4	13.2
f_s DC2	(ksi)	2.0	2.7
f_s DW	(ksi)	2.3	3.5
f_s LL+I	(ksi)	14.5	13.3
$f_s + f_t/2$ (Service II)	(ksi)	32.6	36.8
0.95R _n F _y f	(ksi)	47.5	47.5
$f_s + f_t/3$ (Total) (Strength I)	(ksi)	---	---
ϕF_u	(ksi)	---	---
V_r	(k)	59.7	---

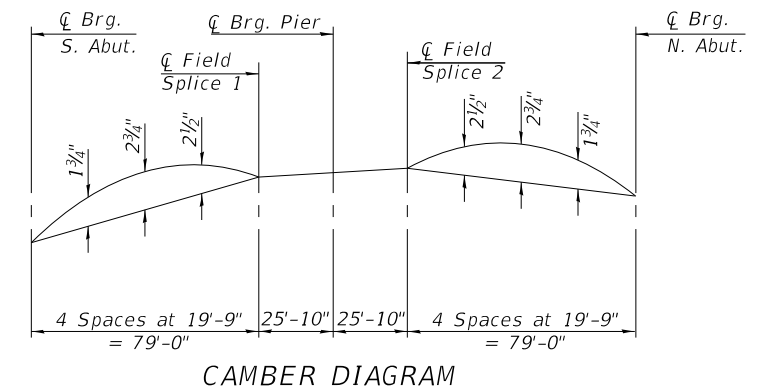
GIRDER REACTION TABLE				
	Abut.		Pier	
	Interior	Exterior	Interior	Exterior
LLDF	0.797	0.677	0.797	0.677
OCF	---	---	---	---
R_{DC1} (k)	37.6	36.5	140.5	136.7
R_{DC2} (k)	8.5	8.5	30.4	30.4
R_{DW} (k)	10.9	10.9	39.0	39.0
R_{LL} (k)	73.8	62.8	147.3	125.2
R_{Im} (k)	16.8	14.3	28.3	24.0
R_{Total} (k)	147.6	133.0	385.5	355.3

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to short-term composite live loads (in⁴ and in³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).
- $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
 M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
 M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
 M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 M_{LL+IM} : Un-factored live load moment plus dynamic load allowance (impact) ((kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{LL+IM}$
 f_t : Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or or Strength II as applicable (kip-ft.).
 ϕM_n : Compact composite moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article 6.10.8.1.
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s (LL+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
 $M_{LL+IM} / S_c(n)$ or $M_{LL+IM} / S_c(cr)$ as applicable.
 $f_s + f_t/2$ (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(LL+IM) + f_t/2$
0.95R_nF_yf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 $f_s + f_t/3$ (Total) (Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s(LL+IM) + f_t$



TOP OF WEB ELEVATIONS
(For Fabrication Only)

	☐ Brg. S. Abut.	☐ Field Splice 1	☐ Pier	☐ Field Splice 2	☐ Brg. N. Abut.
Girder 1	714.05	714.42	714.44	714.47	714.25
Girder 2	714.21	714.58	714.61	714.63	714.41
Girder 3	714.37	714.74	714.77	714.79	714.58
Girder 4	714.53	714.90	714.93	714.95	714.74
Girder 5	714.55	714.91	714.94	714.96	714.75
Girder 6	714.38	714.75	714.78	714.80	714.59
Girder 7	714.22	714.59	714.62	714.64	714.43
Girder 8	714.06	714.43	714.46	714.48	714.26
Girder 9	714.10	714.47	714.50	714.52	714.31
Girder 10	714.34	714.49	714.51	714.68	714.63



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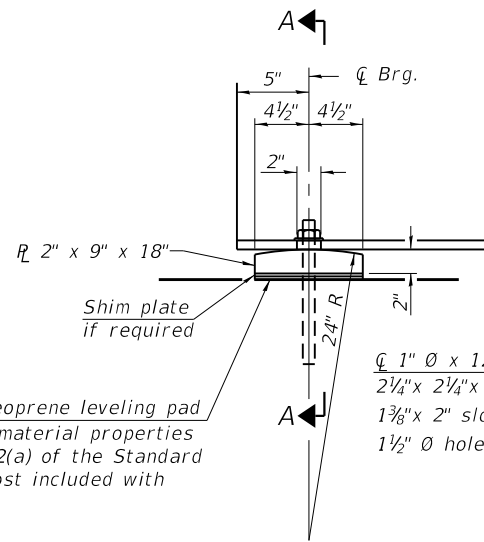
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PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

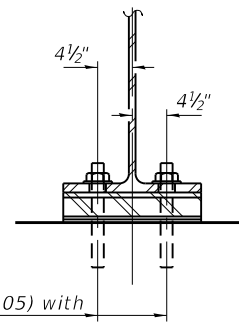
STRUCTURAL STEEL DETAILS
STRUCTURE NO. 099-0430

SHEET SB-25 OF SB-40 SHEETS

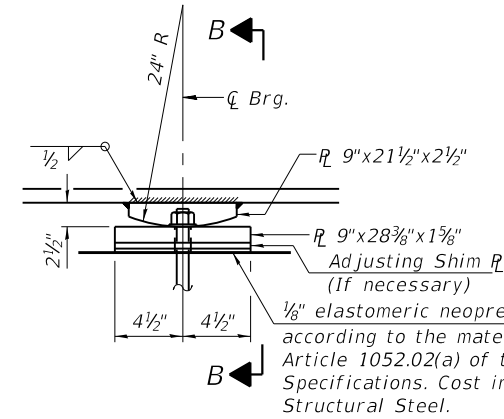
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	774
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				



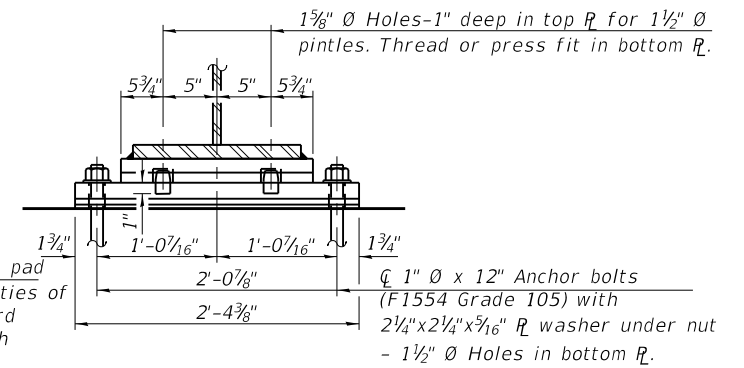
ELEVATION AT ABUTMENT



SECTION A-A

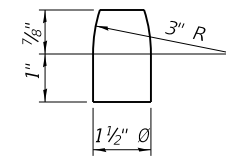


ELEVATION AT PIER



SECTION B-B

FIXED BEARING



PINTLE

FIXED BEARING

SHIM PLATE TABLE

Girder No.	Total Thickness		
	S. Abut.	Pier 1	N. Abut.
5	1/8"	1/8"	1/8"
9	1/2"	1/2"	1/2"

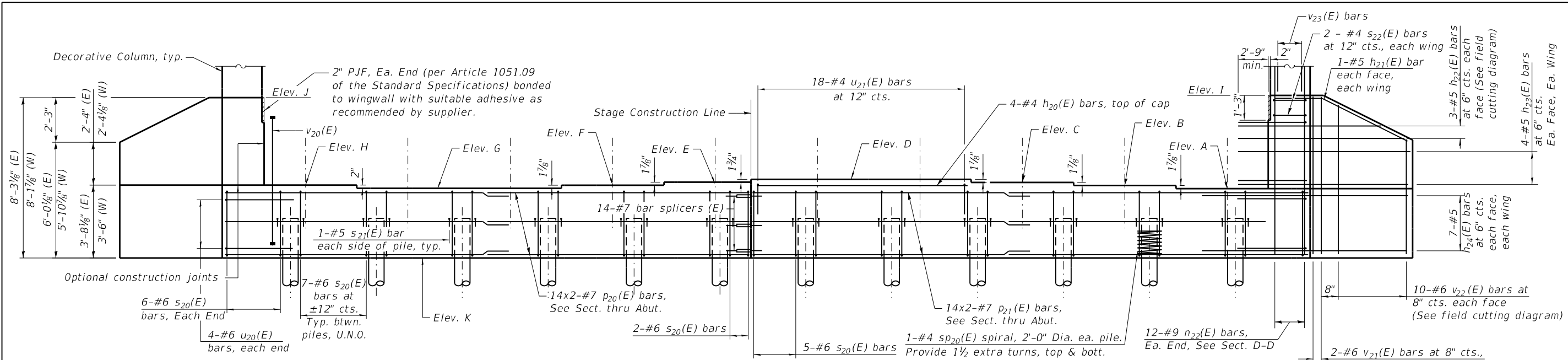
Notes:

- Anchor bolts shall be according to Article 521.06 of the Standard Specifications.
- Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
- Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
- All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

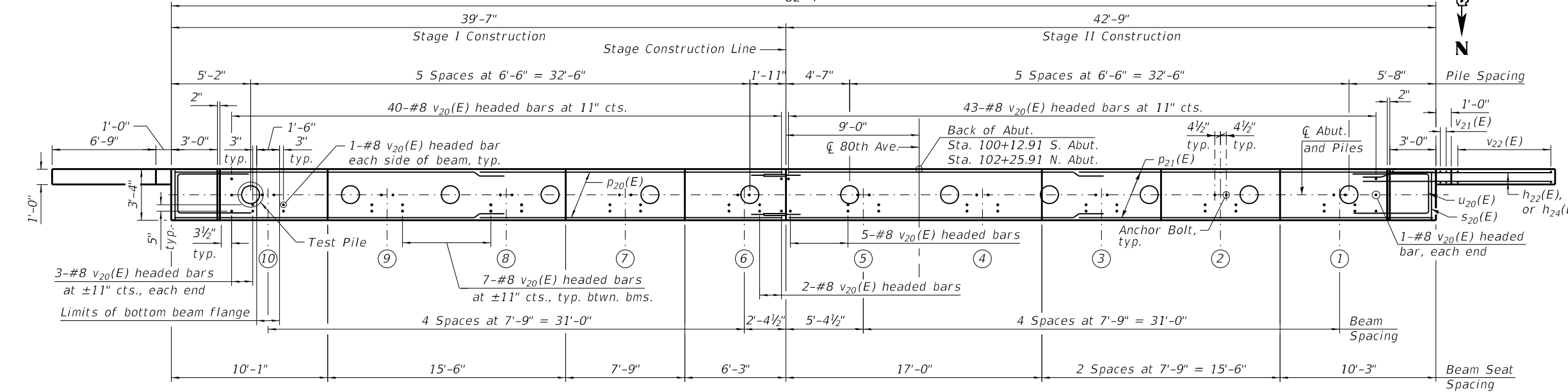
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	60

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ELEVATION
(South Abut. looking south.
North Abut. similar)



PLAN

MINIMUM BAR LAP
#5 Bar = 3'-8"
#7 Bar = 5'-10"

S. ABUT. PILE DATA - STAGE I

Type: Metal Shell 14"x0.25"
Nominal Required Bearing: 316 kips
Factored Resistance Available: 174 kips
Est. Length: 52'-0"
No. Production Piles: 5
No. Test Piles: 1

N. ABUT. PILE DATA - STAGE I

Type: Metal Shell 14"x0.25"
Nominal Required Bearing: 413 kips
Factored Resistance Available: 171 kips
Est. Length: 78'-0"
No. Production Piles: 5
No. Test Piles: 1

S. ABUT. PILE DATA - STAGE II

Type: Metal Shell 14"x0.25"
Nominal Required Bearing: 290 kips
Factored Resistance Available: 159 kips
Est. Length: 53'-0"
No. Production Piles: 6
No. Test Piles: 0

N. ABUT. PILE DATA - STAGE II

Type: Metal Shell 14"x0.25"
Nominal Required Bearing: 306 kips
Factored Resistance Available: 168 kips
Est. Length: 43'-0"
No. Production Piles: 6
No. Test Piles: 0

TABLE OF ELEVATIONS

Point	S. Abut. Elev.	N. Abut. Elev.
A	710.29	710.49
B	710.45	710.65
C	710.61	710.82
D	710.77	710.98
E	710.62	710.83
F	710.46	710.66
G	710.30	710.50
H	710.47	710.67
I	714.94	715.15
J	715.05	715.26
K	706.79	706.99

NOTES:

1. Pour steps monolithically with cap.
2. Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
3. For details of piles see sheet SB-32 of SB-40.
4. For bill of materials, bar bending details, section thru abutment, Section C-C, Section D-D, and decorative column details see Sheet SB-28 of SB-40.
5. Piles shall be driven through 24" diameter precored holes extending to elevations as follows:
685.0 (S. Abut. Stage I Piles)
696.6 (S. Abut. Stage II Piles)
681.8 (N. Abut. Stage I Piles)
696.8 (N. Abut. Stage II Piles)
according to Article 512.09(c) of the Standard Specifications. Cost included with Driving Piles.

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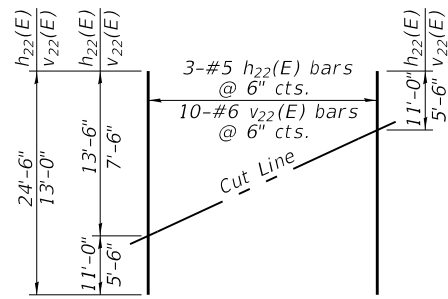
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PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENTS
STRUCTURE NO. 099-0430**

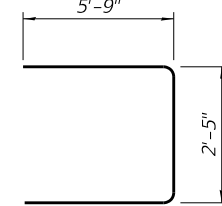
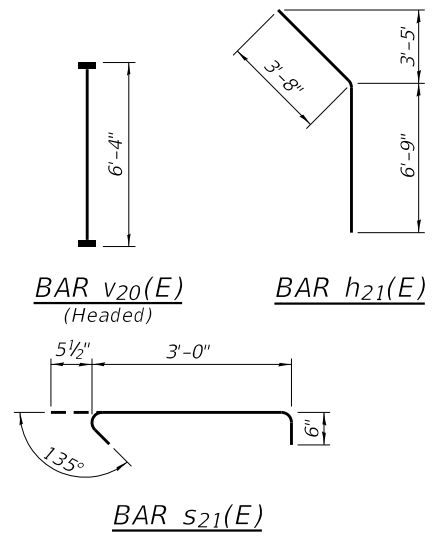
SHEET SB-27 OF SB-40 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	776
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

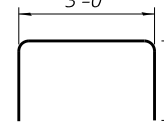


FIELD CUTTING DIAGRAM

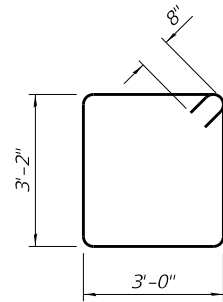
Order $h_{22}(E)$ and $v_{22}(E)$ full length. Cut as shown and use remainder of bars in opposite wing.



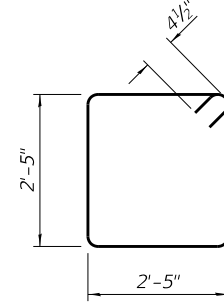
BAR $u_{20}(E)$



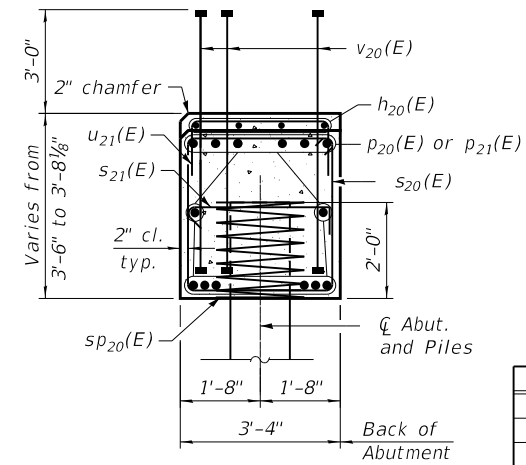
BAR $u_{21}(E)$



BAR $s_{20}(E)$



BAR $s_{22}(E)$



SECTION THRU ABUT.

**ABUTMENTS
BILL OF MATERIAL**

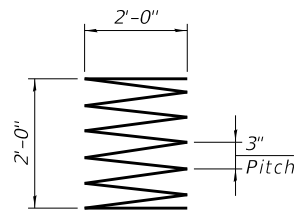
Bar	No.	Size	Length	Shape
$h_{20}(E)$	8	#4	16'-8"	—
$h_{21}(E)$	8	#5	10'-5"	—
$h_{22}(E)$	12	#5	24'-6"	—
$h_{23}(E)$	32	#5	13'-6"	—
$h_{24}(E)$	56	#5	14'-5"	—
$n_{22}(E)$	48	#9	11'-1"	—
$p_{20}(E)$	56	#7	22'-3"	—
$p_{21}(E)$	56	#7	24'-1"	—
$s_{20}(E)$	178	#6	13'-8"	□
$s_{21}(E)$	48	#5	4'-0"	┌
$s_{22}(E)$	48	#4	10'-5"	└
* $sp_{20}(E)$	24	#4	2'-0"	≡
$u_{20}(E)$	16	#6	13'-11"	┌
$u_{21}(E)$	36	#4	6'-0"	└
$v_{20}(E)$	348	#8	6'-4"	—
$v_{21}(E)$	16	#6	7'-9"	—
$v_{22}(E)$	40	#6	13'-0"	—
$v_{23}(E)$	48	#9	8'-8"	—

Structure Excavation	Cu Yd	122
Form Liner Textured Surface	Sq Ft	416
Concrete Structures	Cu Yd	102.9
Pipe Underdrains For Structures 4"	Foot	236
Furnishing Metal Shell Piles 14" X 0.250"	Foot	1,191
Driving Piles	Foot	1,191
Test Pile Metal Shells	Each	2
Granular Backfill For Structures	Cu Yd	131
Geocomposite Wall Drain	Sq Yd	154
Reinforcement Bars, Epoxy Coated	Pound	22,860
Bar Splicers	Each	28
Staining Concrete Structures	Sq Ft	416

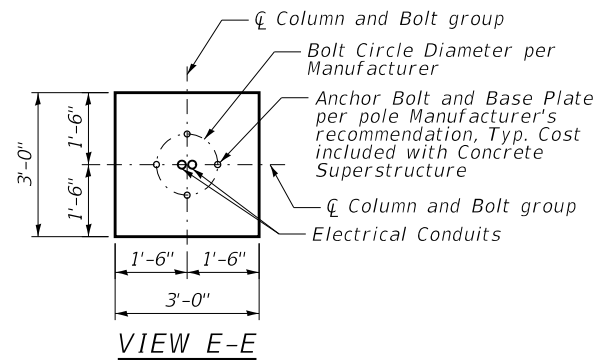
* Length is height of spiral.

NOTES:

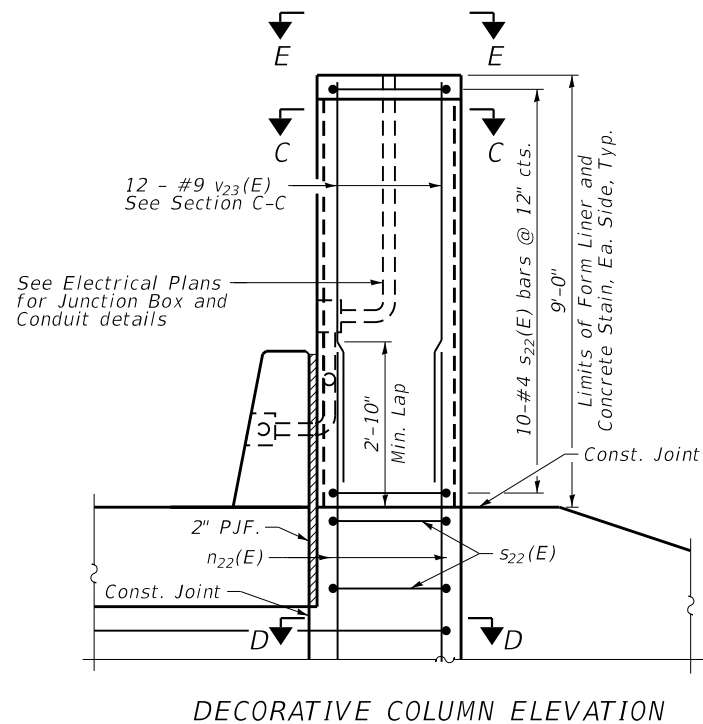
- Contractor shall coordinate base plate and anchor bolt details with luminaire manufacturer. See Electrical Plans.
- For Form Liner details, see Architectural Plans.
- See Bridge Enhancement Plans for Limits of Former Liner Textured Concrete and Staining Concrete Structures.



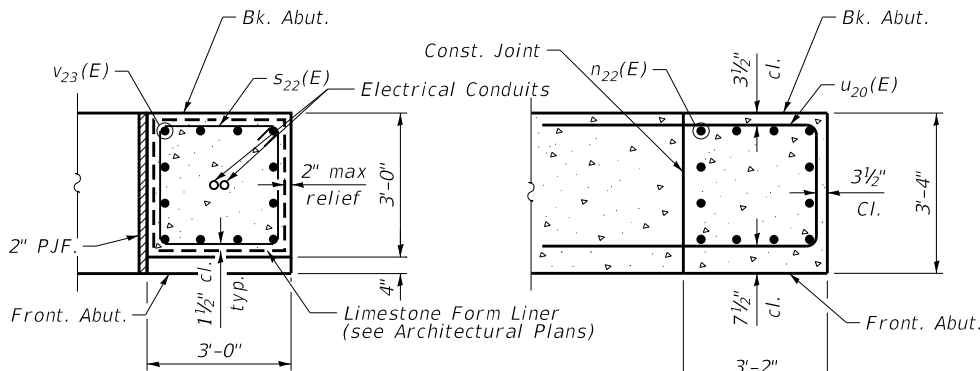
BAR $sp_{20}(E)$



VIEW E-E



DECORATIVE COLUMN ELEVATION

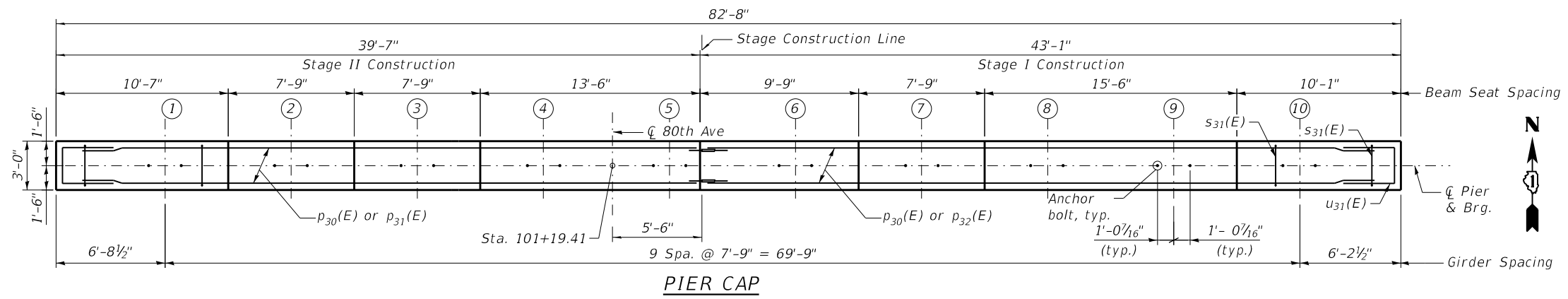


SECTION C-C

SECTION D-D

Abutment reinforcement not shown for clarity.

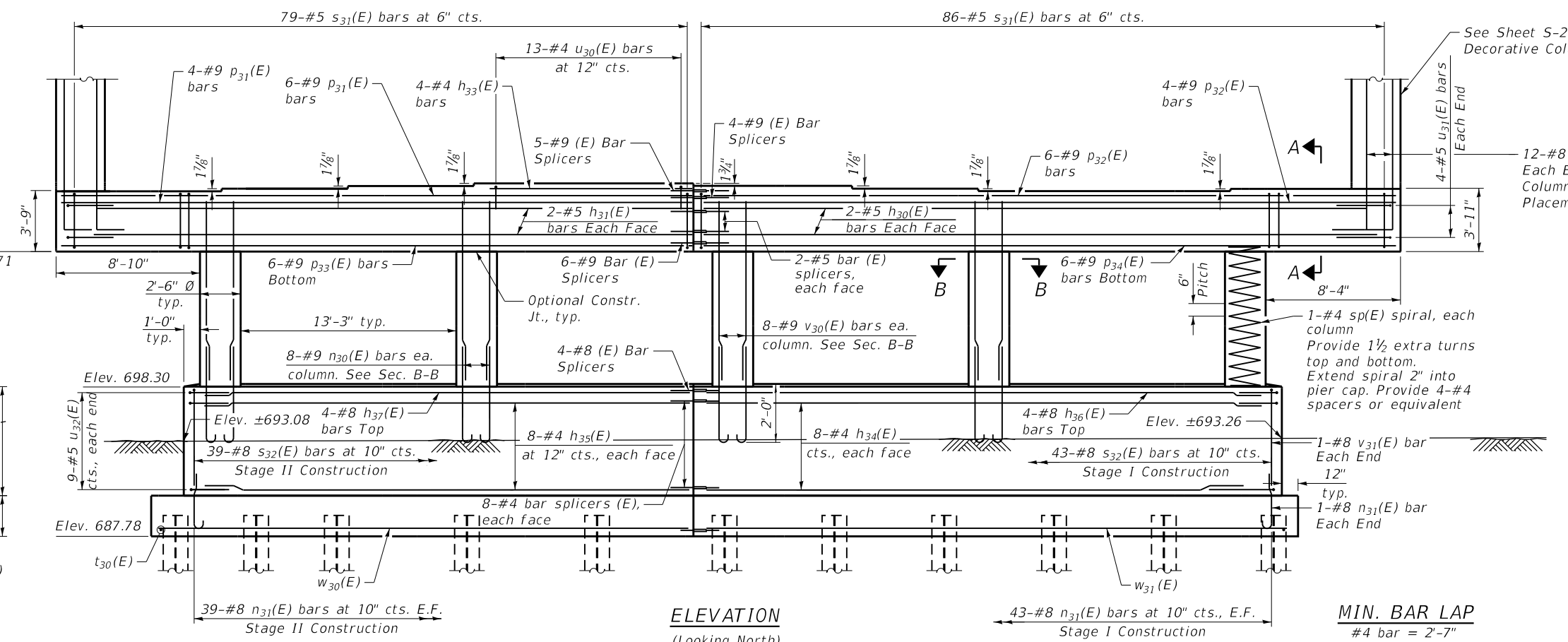
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SEAT ELEVATIONS

Girder	Elevation
1	710.46
2	710.62
3	710.78
4 & 5	710.94
6	710.79
7	710.63
8 & 9	710.47
10	710.63

PIER CAP

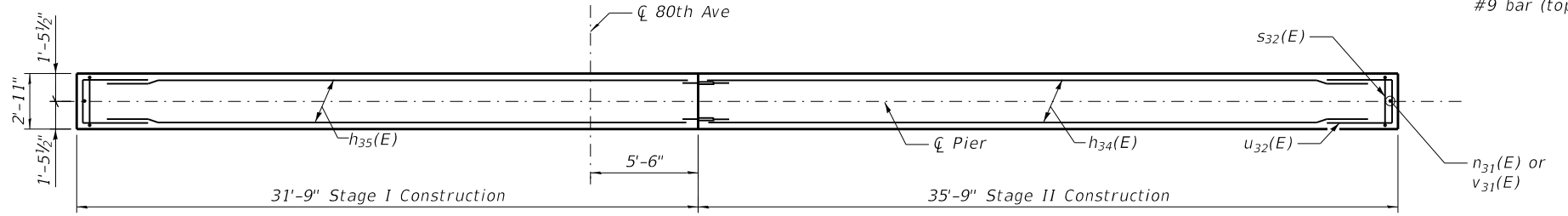
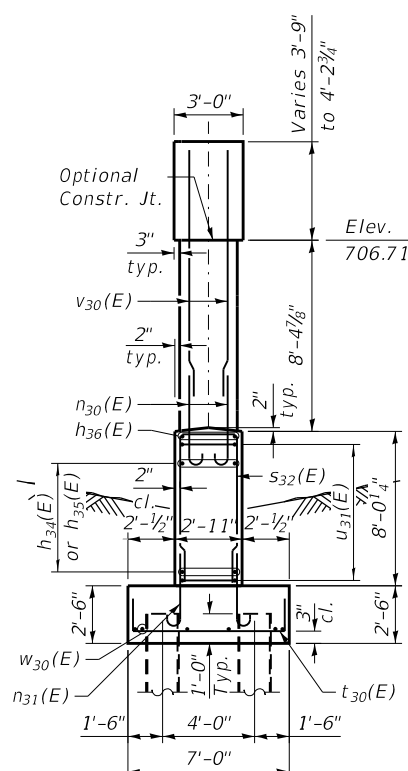


ELEVATION
(Looking North)

MIN. BAR LAP

#4 bar	= 2'-7"
#5 bar	= 3'-2"
#8 bar	= 5'-1"
#9 bar	= 6'-3"
#9 bar (top)	= 7'-4"

END VIEW



SECTION THRU CRASH WALL

NOTES:

- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- For details of piles, see sheet SB-33.
- For Sections A-A and B-B, see sheet SB-30.
- Concrete Sealer shall be applied to the exposed surface of the crashwall, columns, and pier cap. Do not apply to decorative columns.

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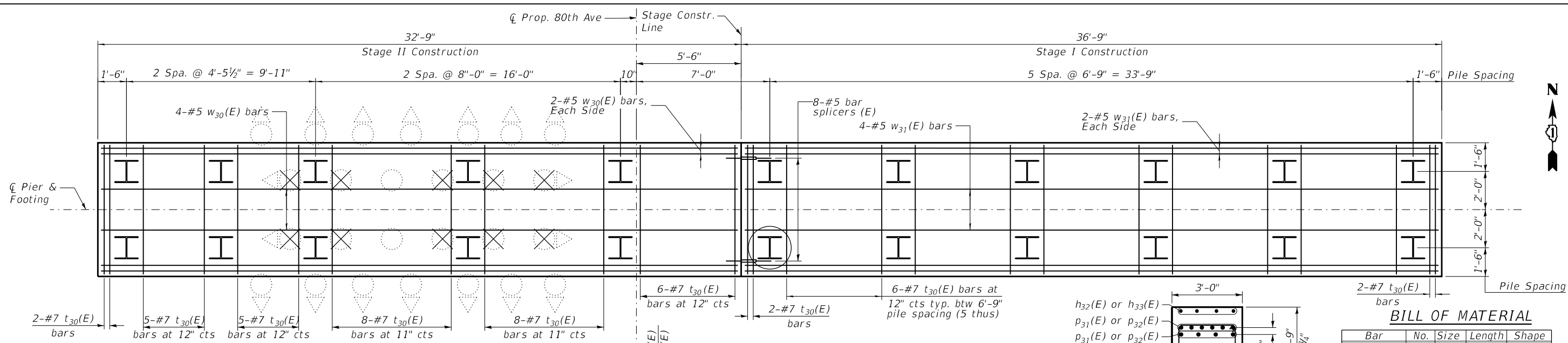
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PLOT DATE =	10/07/21	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1
STRUCTURE NO. 099-0430**

SHEET SB-29 OF SB-40 SHEETS

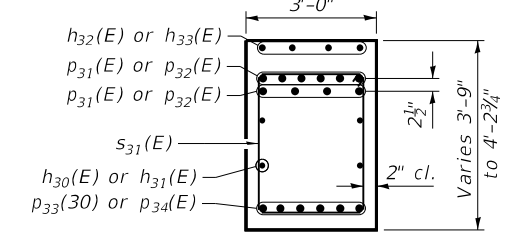
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	778
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



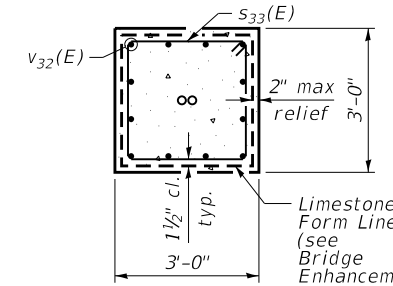
FOOTING PLAN

A & B DIMENSIONS

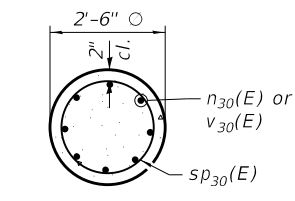
Bar	A	B
s32(E)	2'-7"	7'-8"
u30(E)	2'-6"	1'-4"
u31(E)	2'-6"	3'-2"
u32(E)	2'-7"	3'-2"



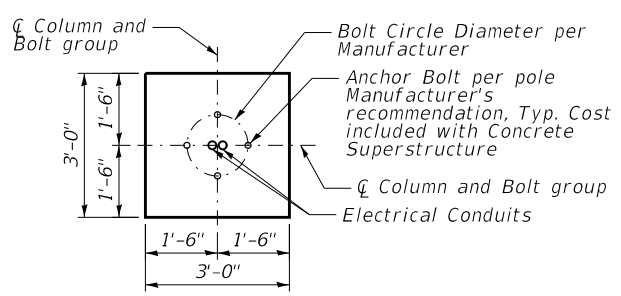
SECTION A-A



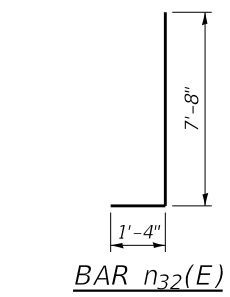
SECTION C-C



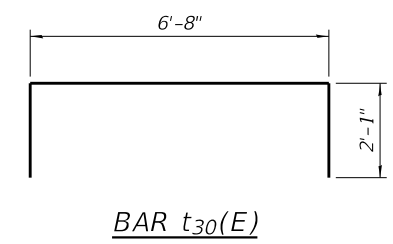
SECTION B-B



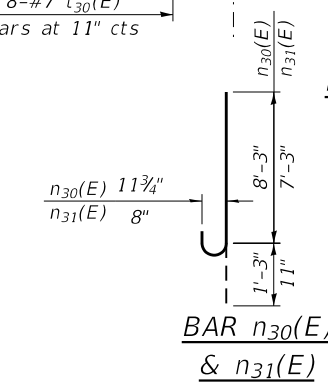
VIEW D-D



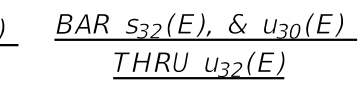
BAR n32(E)



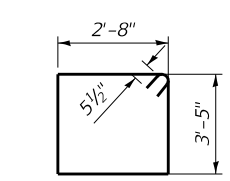
BAR t30(E)



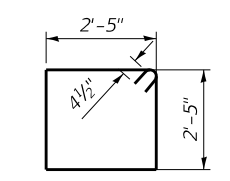
BAR n30(E) & n31(E)



BAR s32(E), & u30(E) THRU u32(E)



BAR s31(E)



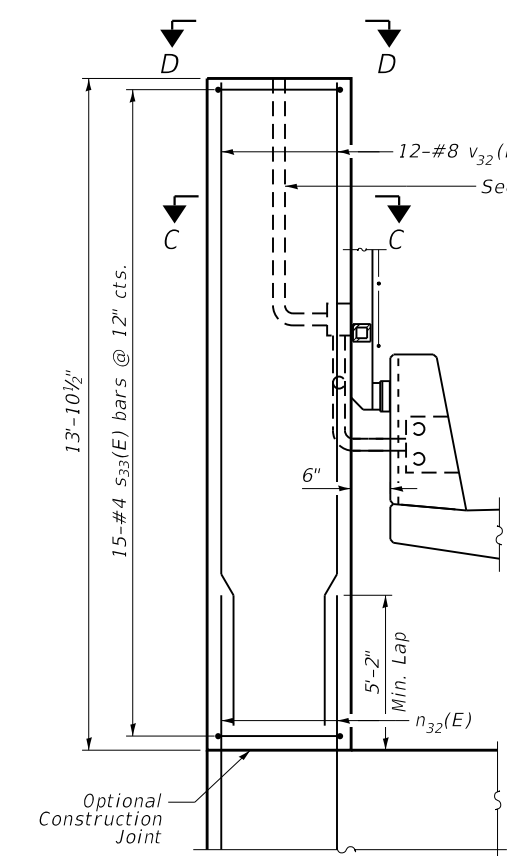
BAR s33(E)

BILL OF MATERIAL

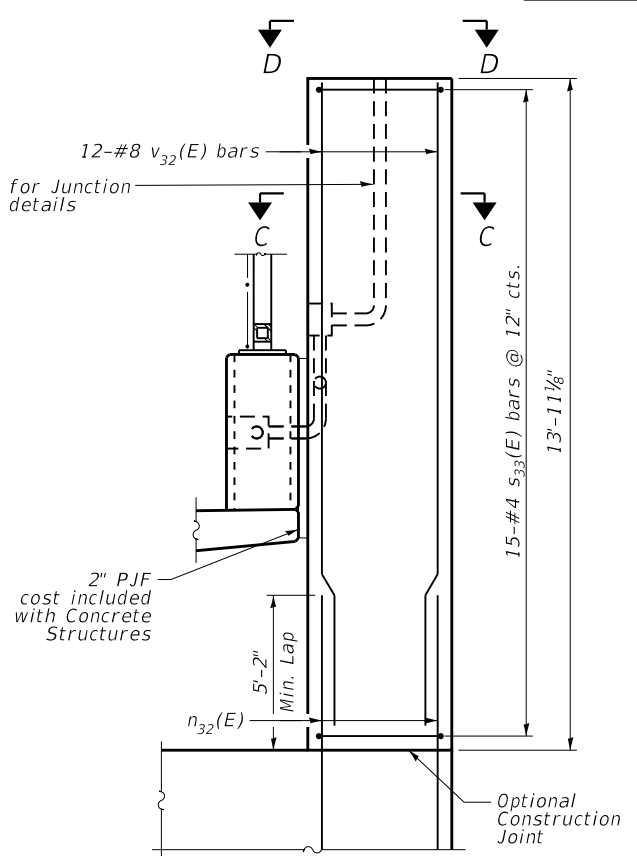
Bar	No.	Size	Length	Shape
h30(E)	4	#5	42'-9"	—
h31(E)	4	#5	39'-3"	—
h33(E)	4	#4	13'-2"	—
h34(E)	16	#4	35'-5"	—
h35(E)	16	#4	31'-5"	—
h36(E)	4	#8	35'-5"	—
h37(E)	4	#8	31'-5"	—
p31(E)	10	#9	39'-3"	—
p32(E)	10	#9	42'-9"	—
p33(E)	6	#9	39'-3"	—
p34(E)	6	#9	42'-9"	—
s31(E)	165	#5	13'-1"	□
s32(E)	82	#8	17'-11"	□
s33(E)	30	#4	10'-5"	□
n30(E)	40	#9	9'-6"	U
n31(E)	166	#8	8'-2"	U
n32(E)	24	#8	9'-0"	U
t30(E)	68	#7	10'-10"	□
u30(E)	13	#4	5'-2"	□
u31(E)	8	#5	8'-10"	□
u32(E)	18	#5	8'-11"	□
v30(E)	40	#9	11'-0"	—
v31(E)	2	#8	7'-8"	—
v32(E)	24	#8	13'-6"	—
w30(E)	8	#5	32'-5"	—
w31(E)	8	#5	36'-5"	—
sp(E)	5	#4	8'-5"	MMM

Structure Excavation	Cu Yd	163
Concrete Structures	Cu Yd	159
Form Liner Textured Surface	Sq Ft	317
Reinforcement Bars, Epoxy Coated	Pound	23,360
Bar Splicers	Each	48
Furnishing Steel Piles HP14X73	Foot	1,533
Driving Piles	Foot	1,533
Test Pile Steel HP14X73	Each	1
Concrete Sealer	Sq Ft	2,045
Pile Extraction	Each	10
Staining Concrete Structures	Sq Ft	334
Architectural Form Liner	Sq Ft	1

*Length is height of spiral



DECORATIVE COLUMN ELEVATION
(West Side Looking North)



DECORATIVE COLUMN ELEVATION
(East Side Looking North)

NOTES:

- For details of piles, see sheet SB-33.
- See Bridge Enhancement Plans for Limits of Form Liner Textured Surface and Staining Concrete Structures.

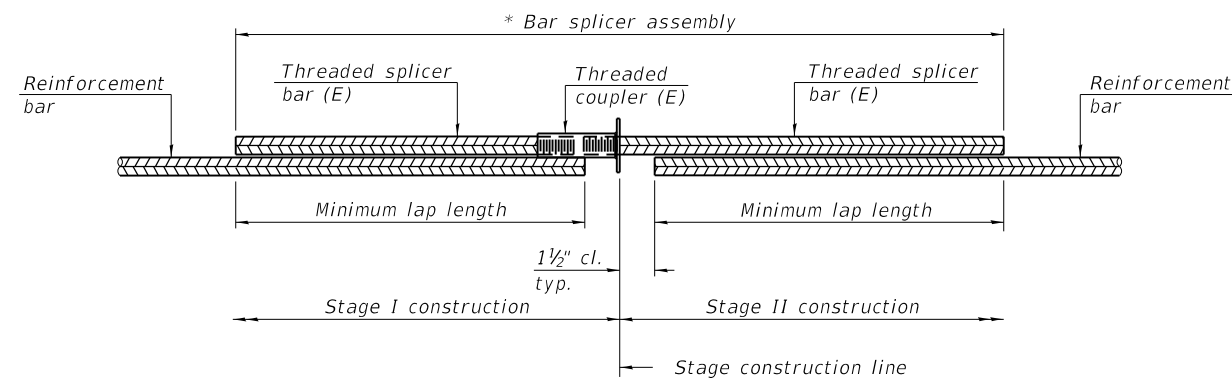
PILE DATA

Type: HP14x73
 Nominal Required Bearing: 578 k
 Factored Resistance Available: 318 k
 Est. Length: 73 ft
 No. Production Piles: Stage I = 11
 Stage II = 10
 No. Test Piles: 1

LEGEND

- ✕ = Exist. Timber Pile to be Extracted
- = Test Pile
- = Existing Timber Pile
- = Existing Battered Timber Pile

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_I-80\020887_30_L80_PierDetails.dgn

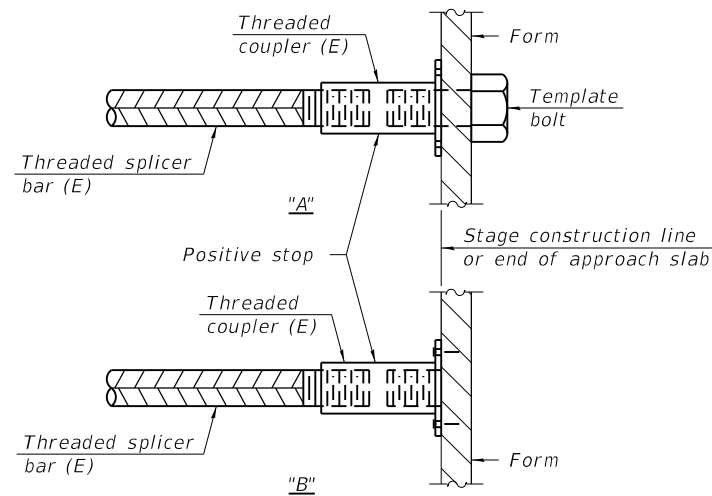


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 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
N. Abut	#7	14	5'-10"
S. Abut	#7	14	5'-10"
Pier	#4	16	2'-7"
Pier	#5	12	3'-2"
Pier	#8	4	5'-1"
Pier	#9	6	6'-3"
Pier	#9	10	7'-4"
Deck	#5	725	3'-6"
Diaphragm	#6	20	4'-0"
Apprch. Slab	#5	92	3'-4"
Apprch. Slab	#8	120	4'-9"
N. Apprch. Bent	#4	4	2'-11"
N. Apprch. Bent	#7	10	5'-0"
S. Apprch. Bent	#4	4	2'-11"
S. Apprch. Bent	#7	10	5'-0"

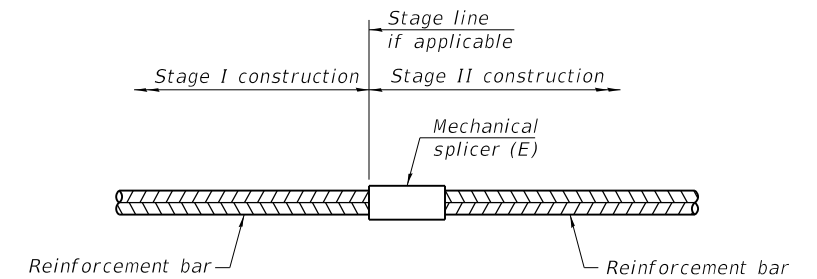


INSTALLATION AND SETTING METHODS

"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

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

1-1-2020



USER NAME = Structural	DESIGNED - APD	REVISED -
PLOT SCALE = 0:2.0000 "/ in.	CHECKED - BWS	REVISED -
PLOT DATE = 10/07/21	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

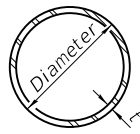
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 099-0430**

SHEET SB-31 OF SB-40 SHEETS

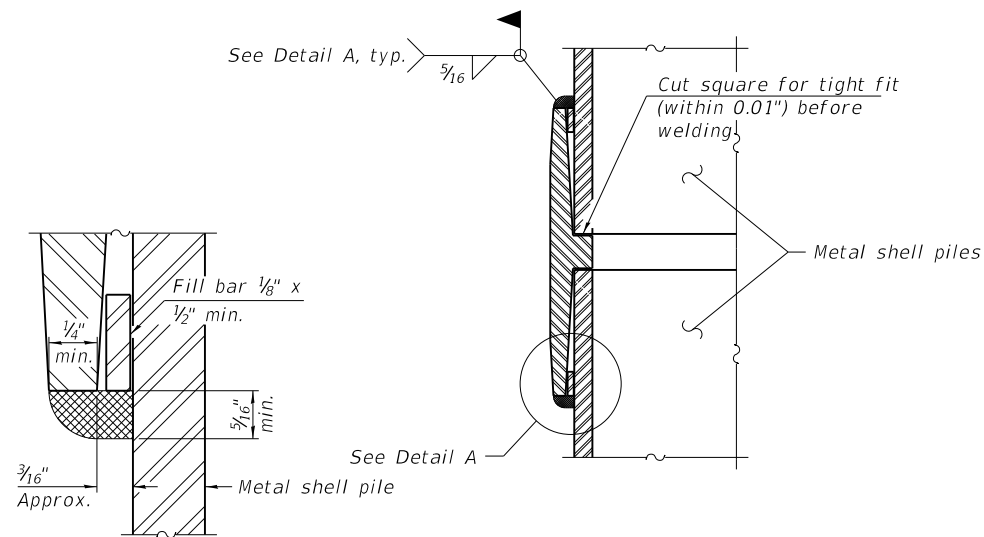
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	780
CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_I-80\020887_31_I-80_Bar_Splicer_and_Mechanical_Splicer_Details.dgn

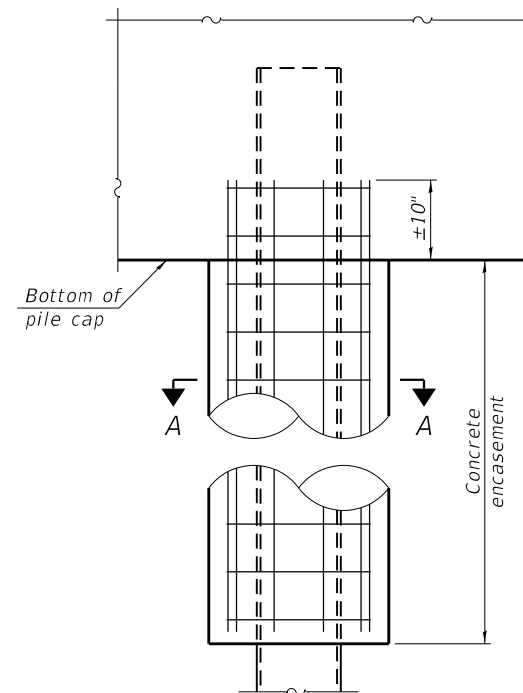


METAL SHELL PILE TABLE

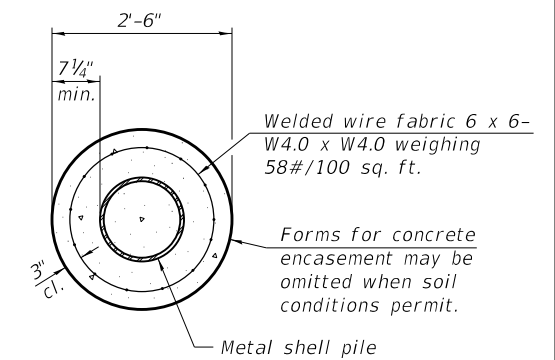
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



DETAIL A



ELEVATION

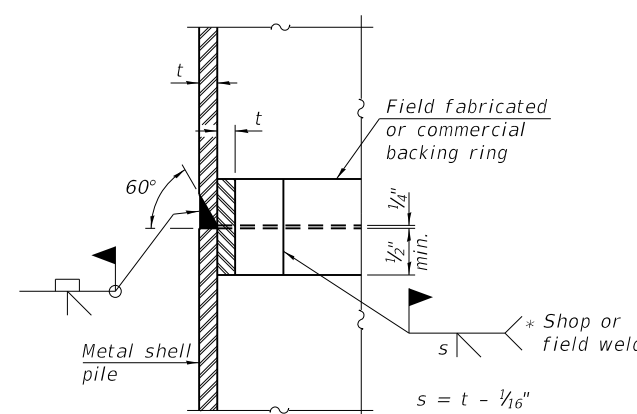


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT
(When specified)

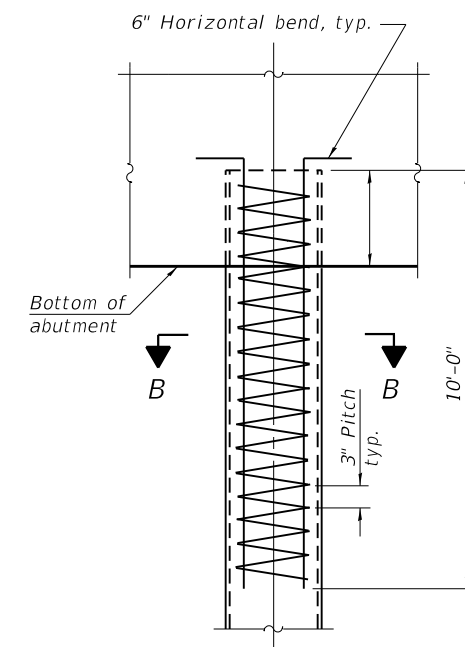
WELDED COMMERCIAL SPLICE

Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.



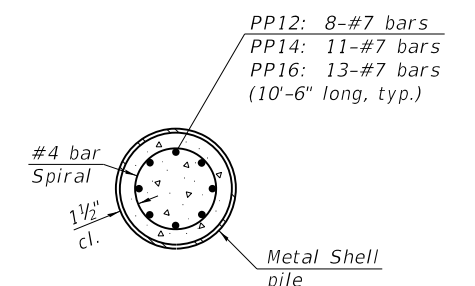
COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

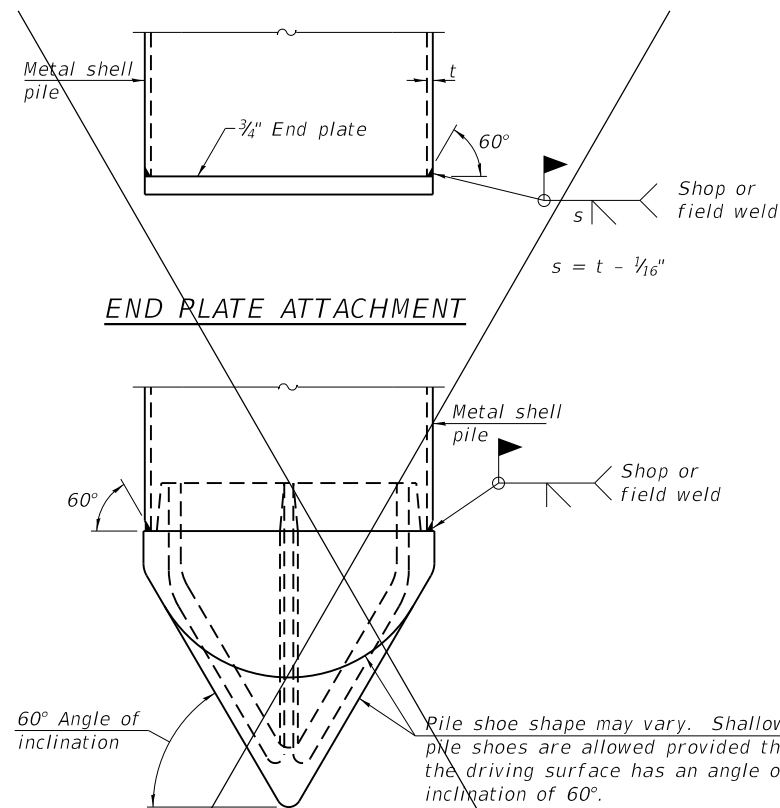


ELEVATION

REINFORCEMENT AT ABUTMENTS
(Omit when concrete encasement is specified)



SECTION B-B



END PLATE ATTACHMENT

PILE SHOE ATTACHMENT

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

F-MS 1-1-2020



USER NAME = Roadway	DESIGNED - APD	REVISD -
PLOT SCALE = 0:2.0000" / in.	CHECKED - BWS	REVISD -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISD -
	CHECKED - BWS	REVISD -

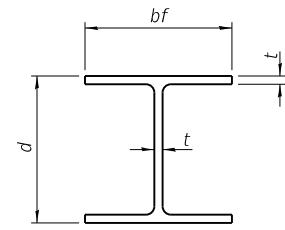
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**METAL SHELL PILE DETAILS
STRUCTURE NO. 099-0430**

SHEET SB-32 OF SB-40 SHEETS

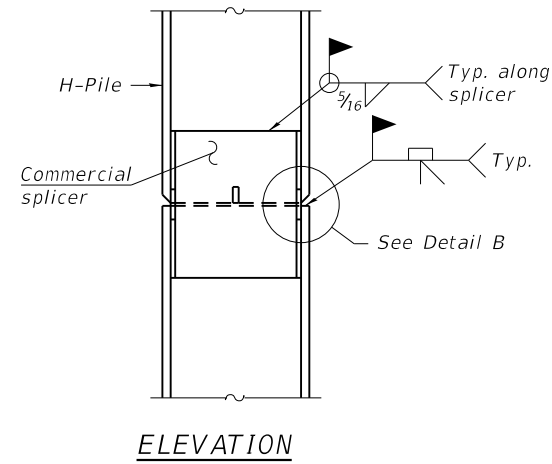
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	781
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th Ave. over I-80\020887_32_I-80_Metal Shell Pile_Details.dgn

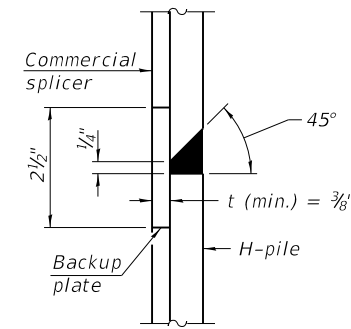


STEEL PILE TABLE

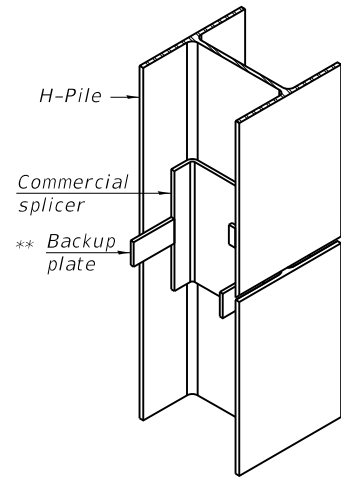
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

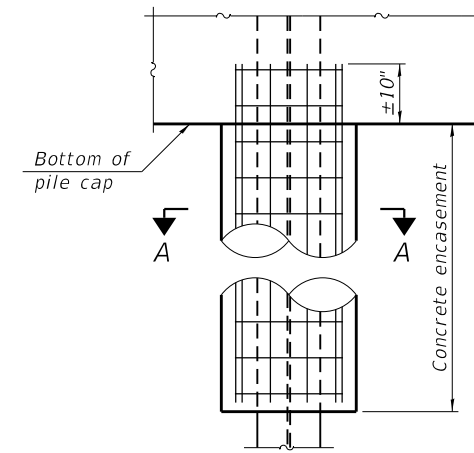


DETAIL "B"

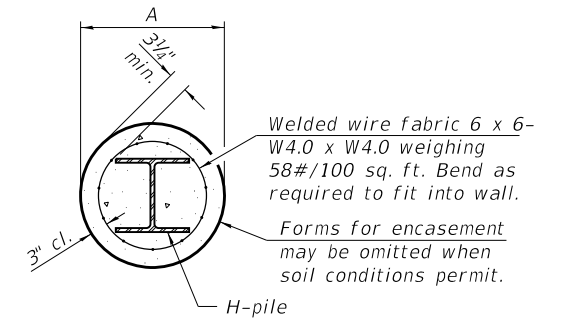


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

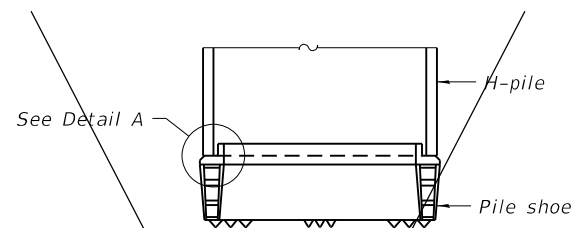


ELEVATION

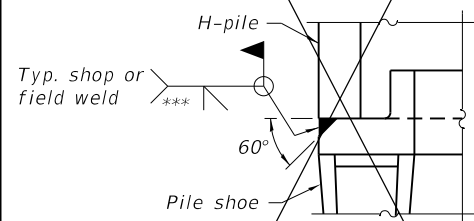


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT
(when specified)



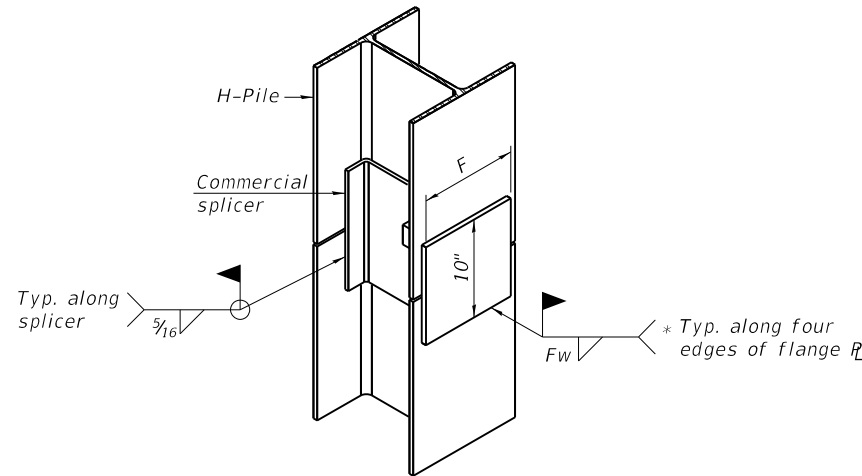
ELEVATION



DETAIL A

SHOE ATTACHMENT

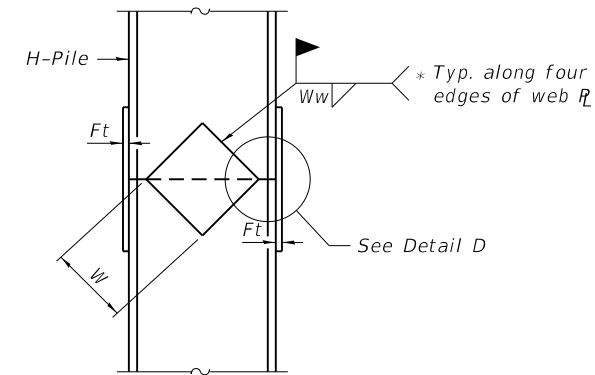
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



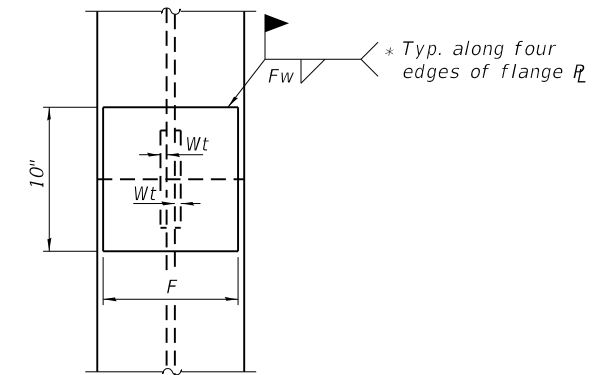
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

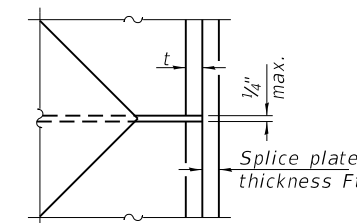
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SB_80th Ave over I-80\020887_33_1-80_HP_Pile_Details.dgn

F-HP 1-1-2020

8725 W. Higgins Rd, Ste 600, Chicago, IL 60631
P 773.775.4009 | www.ciorba.com

USER NAME = Roadway	DESIGNED - APD	REVISED -
PLOT SCALE = 0:2.0000 "/in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HP PILE DETAILS
STRUCTURE NO. 099-0430**

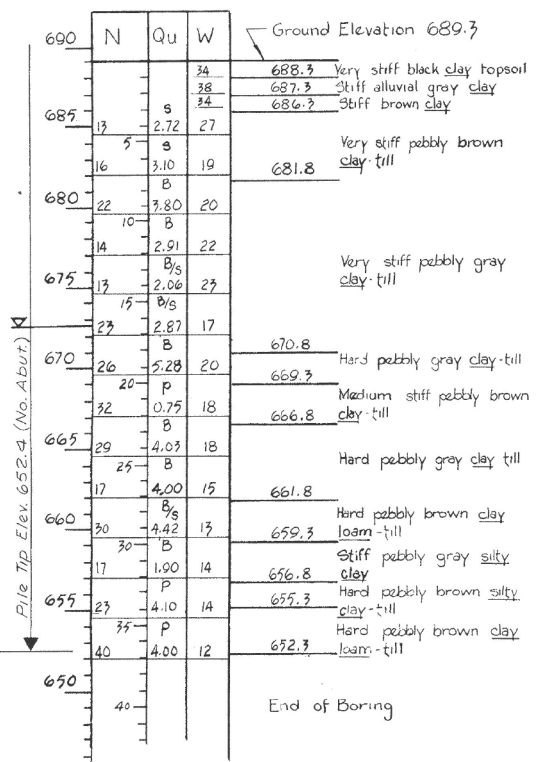
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	782
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

SHEET SB-33 OF SB-40 SHEETS

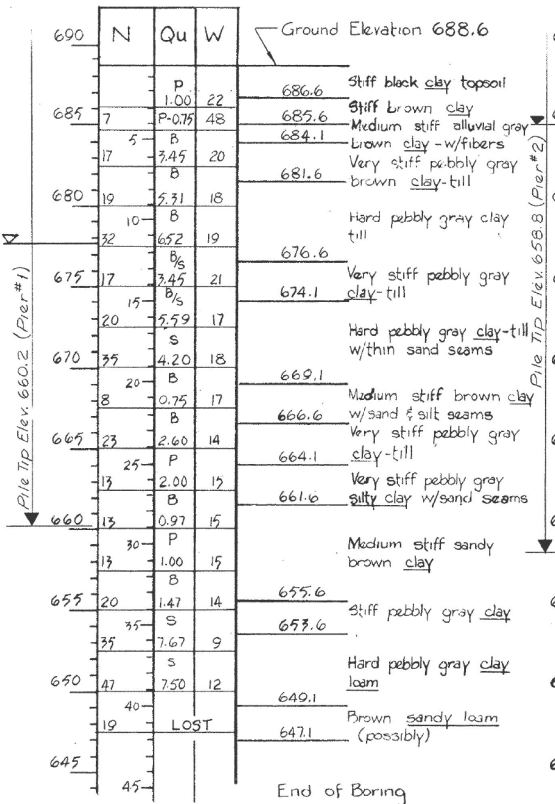
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99-5	11B-1	WILL	35	12
SHEETS				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT: 1-80-4(73)-184				

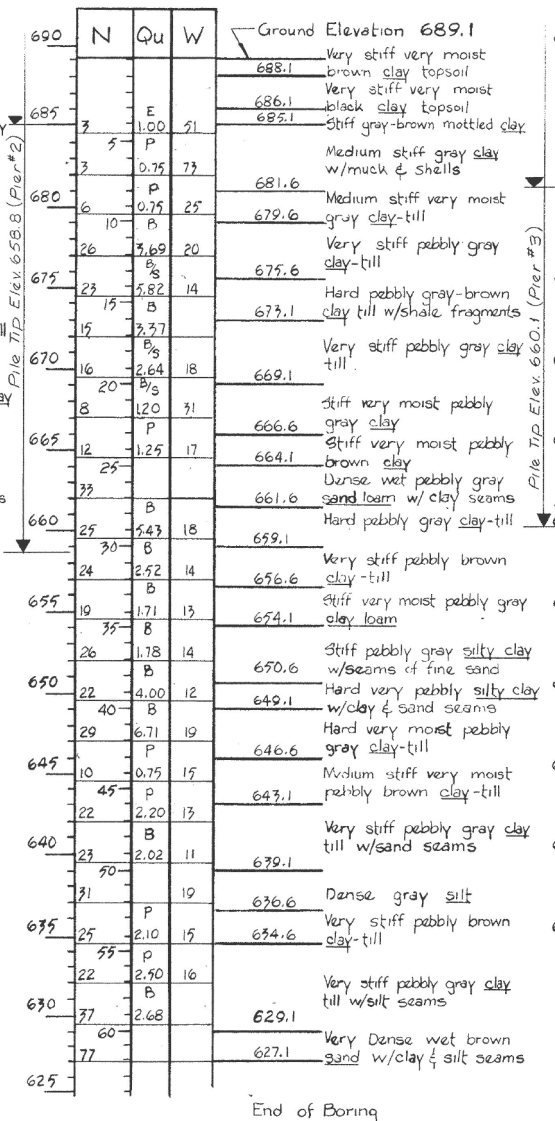
BORING No.1



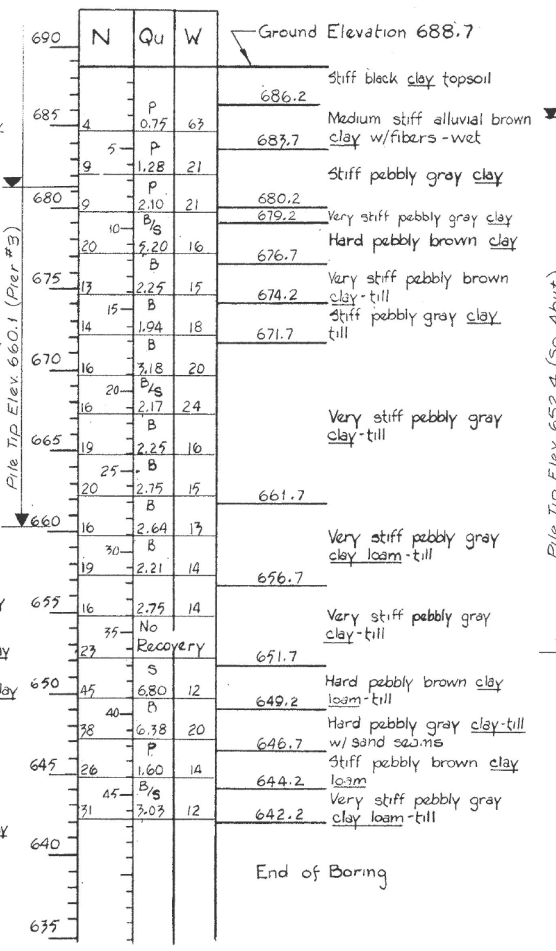
BORING No.2



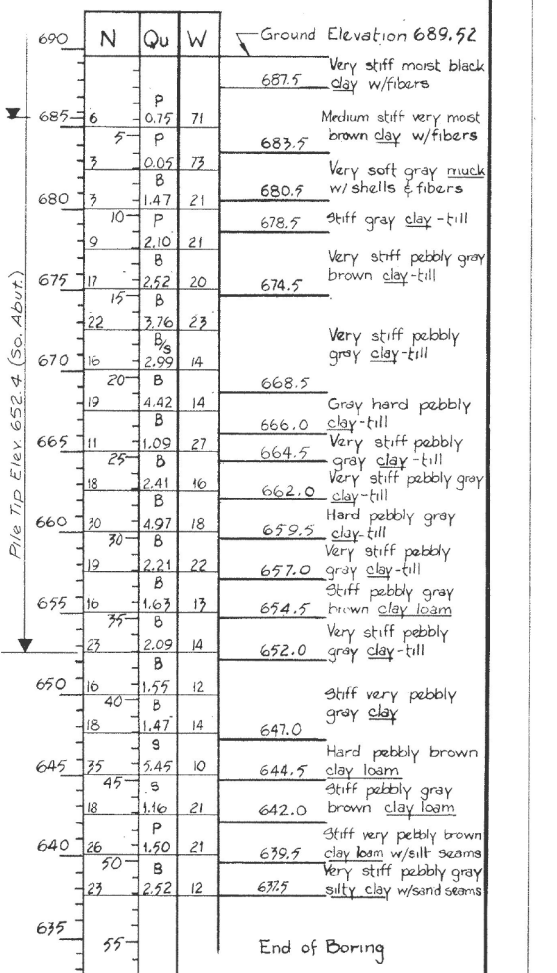
BORING No.3



BORING No.4



BORING No.5



TYPE FAILURE:
B-Bulge failure
S-Shear failure
E-Estimated value
P-Penetrometer

NOTE:
W = Water content - percentage
N = Blows per foot of penetration of sampling spoon
Hammer weight = 140 lb., drop = 30 inches
Qu = Unconfined compressive strength in tons per square foot
See Art. 2.3 of specifications regarding test pit data
* Based on pocket penetrometer measurements, maximum range of penetrometer = 5.0
▽ = Water level at end of boring
▼ = Water level after elapsed time interval

BORING DATA
SECTION 99-5-1-HB-1
80th AVENUE OVER FAI-80

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SB_80th_Ave_over_FA1-80_BoringLog5.dgn



USER NAME = Roadway	DESIGNED - APD	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG 5
STRUCTURE NO. 099-0430

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	787
CONTRACT NO. 61G73				
ILLINOIS FED. AID PROJECT				

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: (630) 953-9928
 Fax:

BORING LOG PT-01 Page 1 of 1
 WEI Job No.: 775-21-01
 Client: **Ciorba Group**
 Project: **80th Avenue and Interstate 80**
 Location: **Will County, IL**

Datum: NGVD
 Elevation: 689.93 ft
 North: 1779463.35 ft
 East: 1127049.49 ft
 Station: 102+66.04
 Offset: 96.28 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
689.9	Stiff, black to brown SILTY CLAY with concrete debris --FILL--	1	6	4	1.00	36		689.4	Very stiff, gray SILTY CLAY --RDR 2--	9	6	7	3.53	18	
686.9	Stiff, brown CLAY LOAM to LOAM --FILL-- --RDR 2--	2	3	3	1.64	28		685.0	Stiff, brown SILTY CLAY	10	5	7	3.03	20	
684.4	Stiff to very stiff, gray SILTY CLAY --RDR 2--	3	3	4	3.64	18		684.4	Medium dense, gray, saturated SAND --RDR 2--	11	3	3	1.50	18	
		4	4	4	2.71	22		682.7	Stiff to very stiff, gray SILTY CLAY to SILTY CLAY LOAM --RDR 2--	12	6	8	3.64	13	
		5	4	3	1.23	25		684.0	Stiff to hard, gray SILTY CLAY	13	3	4	1.89	22	
		6	6	5	2.30	17		682.2	Stiff, brown LOAM --3-inches saturated sand--	14	5	7	2.46	21	
		7	2	2	0.50	23		689.0	Hard, gray SILTY CLAY to SILTY CLAY LOAM	15	5	6	3.44	19	
		8	4	6	0.90	17		684.0	--some gravel--	16	6	7	2.95	21	
674.4	Medium stiff, gray SILTY CLAY, with saturated sand interbeds --RDR 2--	9	8	12	1.00	14		652.0	--6-inches saturated sand--	17	8	13	4.26	13	
	--3-inches, saturated sandy gravel-- --RDR 2--	10	6	8	2.13	11									

GENERAL NOTES
 Begin Drilling: 03-28-2019 Complete Drilling: 03-28-2019
 Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
 Driller: R&K Logger: I. Nenn Checked by: NSB
 Drilling Method: 2.25" ID HSA; boring backfilled upon completion

WATER LEVEL DATA
 While Drilling: 16.00 ft
 At Completion of Drilling: 30.00 ft
 Time After Drilling: NA
 Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: (630) 953-9928
 Fax:

BORING LOG PT-02 Page 1 of 1
 WEI Job No.: 775-21-01
 Client: **Ciorba Group**
 Project: **80th Avenue and Interstate 80**
 Location: **Will County, IL**

Datum: NGVD
 Elevation: 692.00 ft
 North: 1779536.17 ft
 East: 1127037.81 ft
 Station: 103+39.43
 Offset: 87.13 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
	Very stiff, black SILTY CLAY, trace organics	1	4	6	2.05	30									
689.0	Stiff, brown SILTY CLAY	2	2	2	1.15	34									
686.5	Stiff, gray SILTY CLAY LOAM, trace organics and bioclasts	3	2	1	1.23	49									
	Stiff to hard, gray SILTY CLAY	4	3	4	3.03	19									
		5	3	4	1.89	22									
		6	3	5	2.46	21									
		7	5	6	3.44	19									
		8	6	7	2.95	21									
		9	6	6	1.97	23									
		10	3	4	1.23	25									
		11	5	7	5.90	20									
		12	6	8	6.15	22									
		13	4	5	1.39	11									
		14	7	10	4.92	18									
		15	5	8	5.58	19									
		16	8	13	4.26	13									

GENERAL NOTES
 Begin Drilling: 03-28-2019 Complete Drilling: 03-28-2019
 Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
 Driller: R&K Logger: I. Nenn Checked by: NSB
 Drilling Method: 2.25" ID HSA; boring backfilled upon completion

WATER LEVEL DATA
 While Drilling: 30.00 ft
 At Completion of Drilling: 20.00 ft
 Time After Drilling: NA
 Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: (630) 953-9928
 Fax:

BORING LOG PT-03 Page 1 of 1
 WEI Job No.: 775-21-01
 Client: **Ciorba Group**
 Project: **80th Avenue and Interstate 80**
 Location: **Will County, IL**

Datum: NGVD
 Elevation: 692.72 ft
 North: 1779163.11 ft
 East: 1127065.49 ft
 Station: 99+69.92
 Offset: 103.15 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
	Very stiff, brown gray, SILTY CLAY to SILTY CLAY LOAM --FILL--	1	3	4	2.30	22									
689.7	Stiff, black SILTY CLAY	2	3	4	1.48	33		689.7	Stiff, gray LOAM to SANDY LOAM; moist	10	2	5	1.00	12	
		3	1	1	0.41	27		687.2	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace to little gravel	11	5	8	4.76	16	
	Soft, brown to gray CLAY LOAM, with wood fragments --3-inches sand--	4	2	2	1.80	22									
	Stiff to hard, gray SILTY CLAY	5	3	4	1.72	20									
		6	6	6	4.10	18									
		7	5	8	5.58	19									
		8	4	5	2.38	15									
		9	8	10	6.48	20									
		10	9	13	5.99	12									
		11	7	7	1.31	14									
		12	9	13	5.99	12									
		13	7	10	NR										
		14	5	6	1.31	14									
		15	8	7	1.39	14									
		16	3	7	1.97	13									

GENERAL NOTES
 Begin Drilling: 03-29-2019 Complete Drilling: 03-29-2019
 Drilling Contractor: Wang Testing Services Drill Rig: D25 ATV [93%]
 Driller: R&K Logger: I. Nenn Checked by: NSB
 Drilling Method: 2.25" ID HSA; boring backfilled upon completion

WATER LEVEL DATA
 While Drilling: 23.00 ft
 At Completion of Drilling: 19.00 ft
 Time After Drilling: NA
 Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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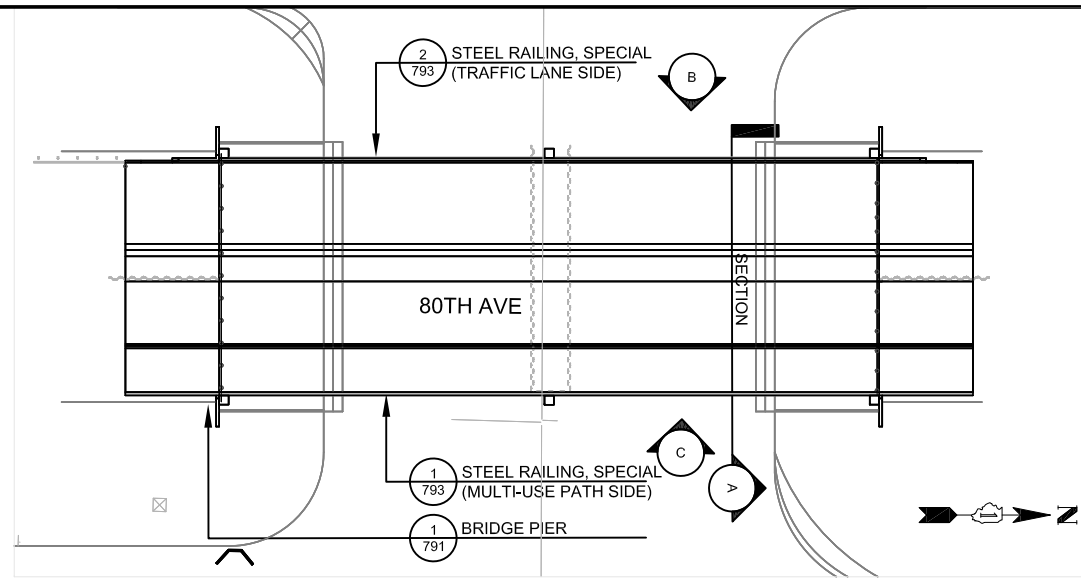
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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

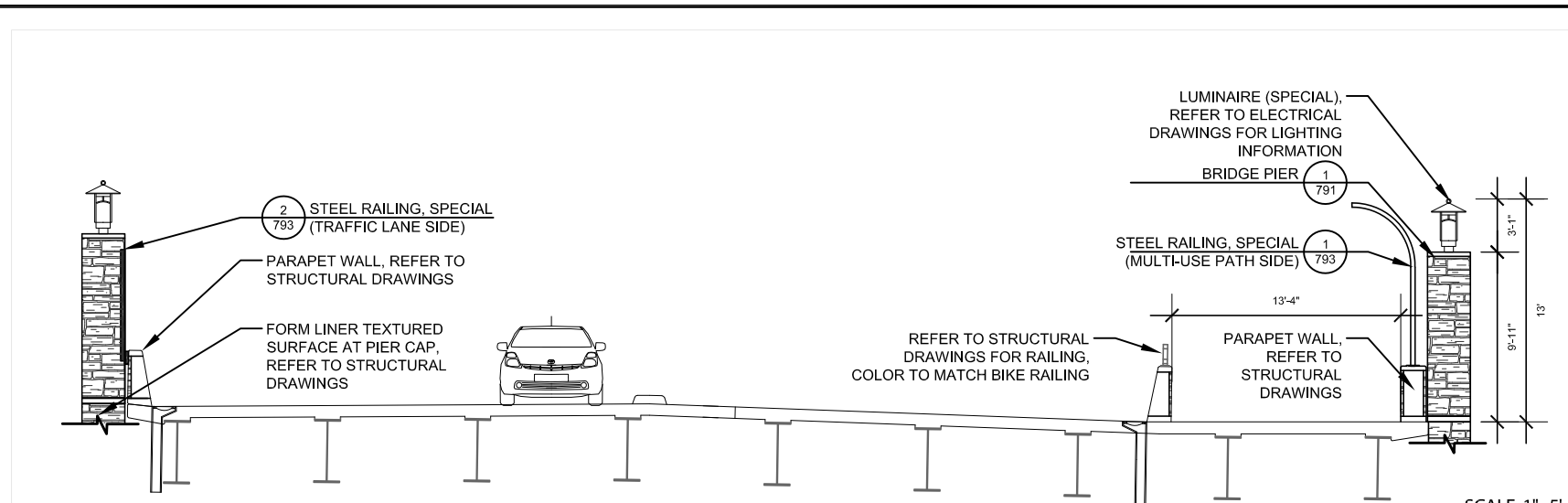
SOIL BORING LOG 6
 STRUCTURE NO. 099-0430

SHEET SB-39 OF SB-40 SHEETS

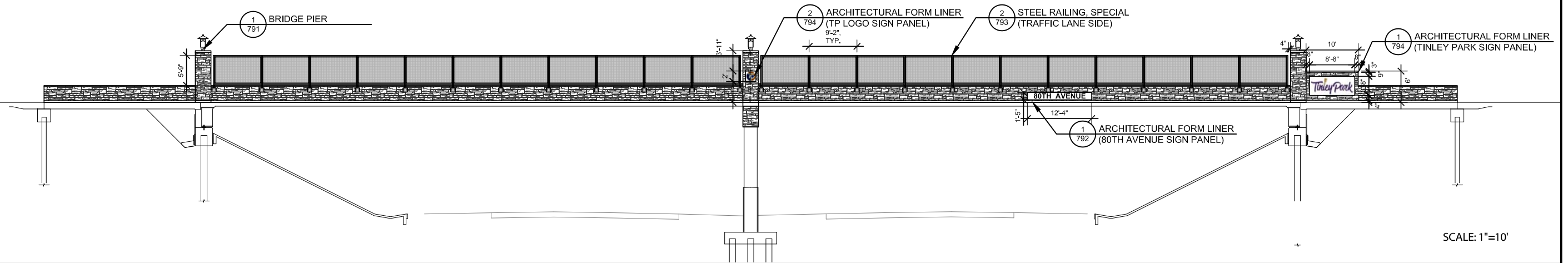
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CONTRACT NO.			61G73	
ILLINOIS		FED. AID PROJECT		



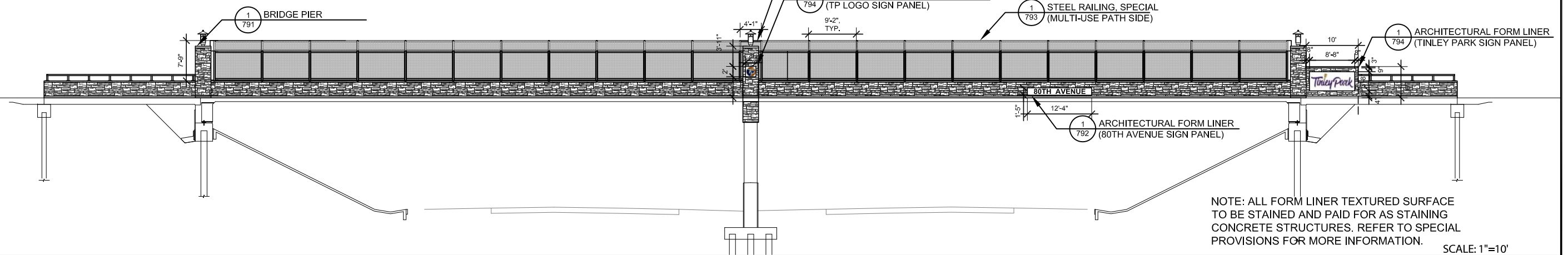
PLAN



SECTION - A



ELEVATION - B (WEST SIDE)



ELEVATION - C (EAST SIDE)

J:\PROJECTS\ALPHA\CORBA GROUP\WOODOT 80TH AVENUE\09 GRAPHICS\02 DD-CD\01 - PLAN.DWG 4-Bridge -elev
 Plotted: 26.02.2021 By: XSUN



USER NAME =	DESIGNED - XS	REVISED -
PLOT SCALE =	DRAWN - XS	REVISED -
PLOT DATE =	CHECKED - TCK	REVISED -
	DATE - 03/01/2021	REVISED -

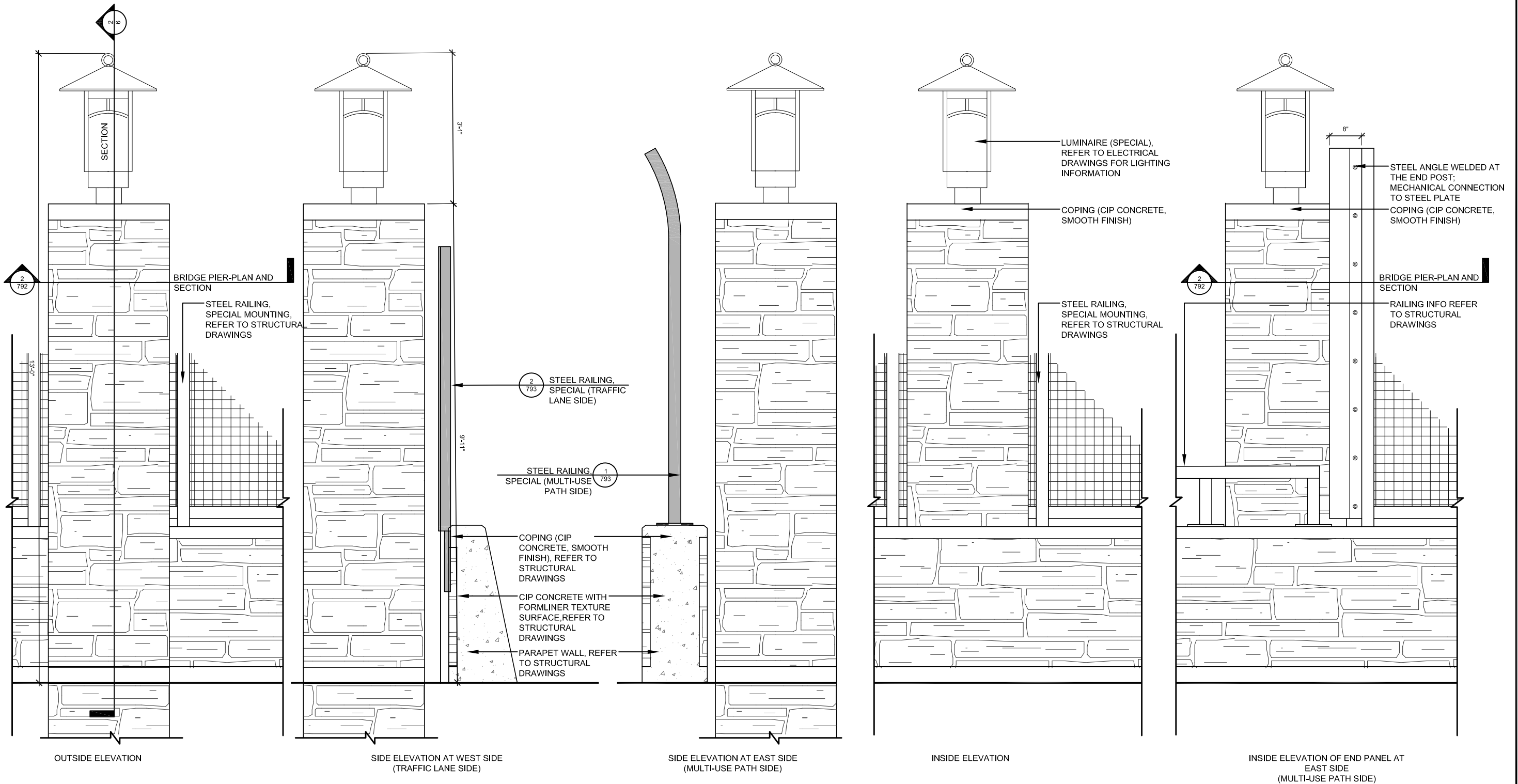
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE ENHANCEMENT PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	06-00122-16-FP	WILL	1113	790
CONTRACT NO. -				
ILLINOIS FED. AID PROJECT				

J:\PROJECTS\ALPHA\CORBA GROUP\WOOD\02 DD-CD\02 DETAILS.DWG 05 Details
 Plotted: 26.02.2021 By: XSUN



1 BRIDGE PIER
 Scale: 1" = 1'-0"

NOTE: ALL ARCHITECTURAL FORM LINER TEXTURED SURFACE TO BE STAINED AND PAID FOR AS STAINING CONCRETE STRUCTURES. REFER TO SPECIAL PROVISIONS FOR MORE INFORMATION.

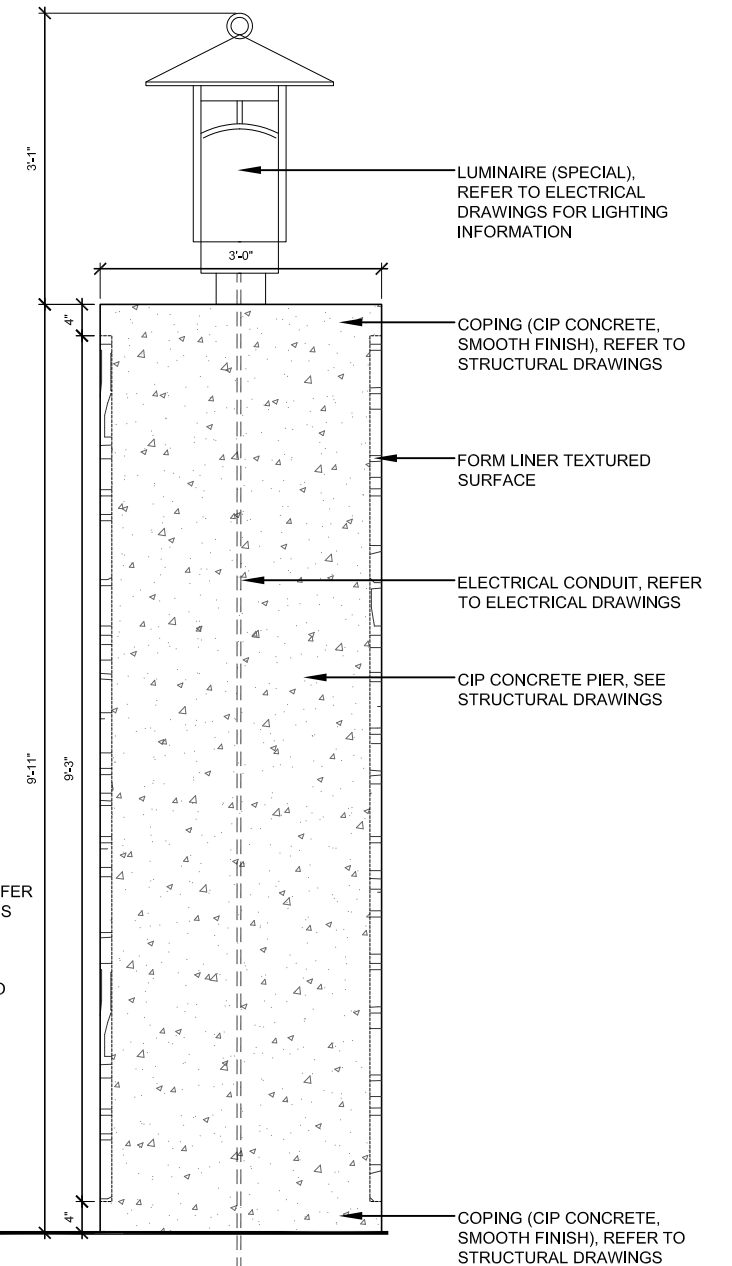
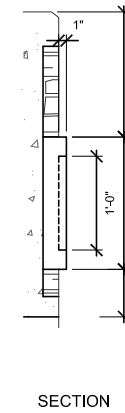
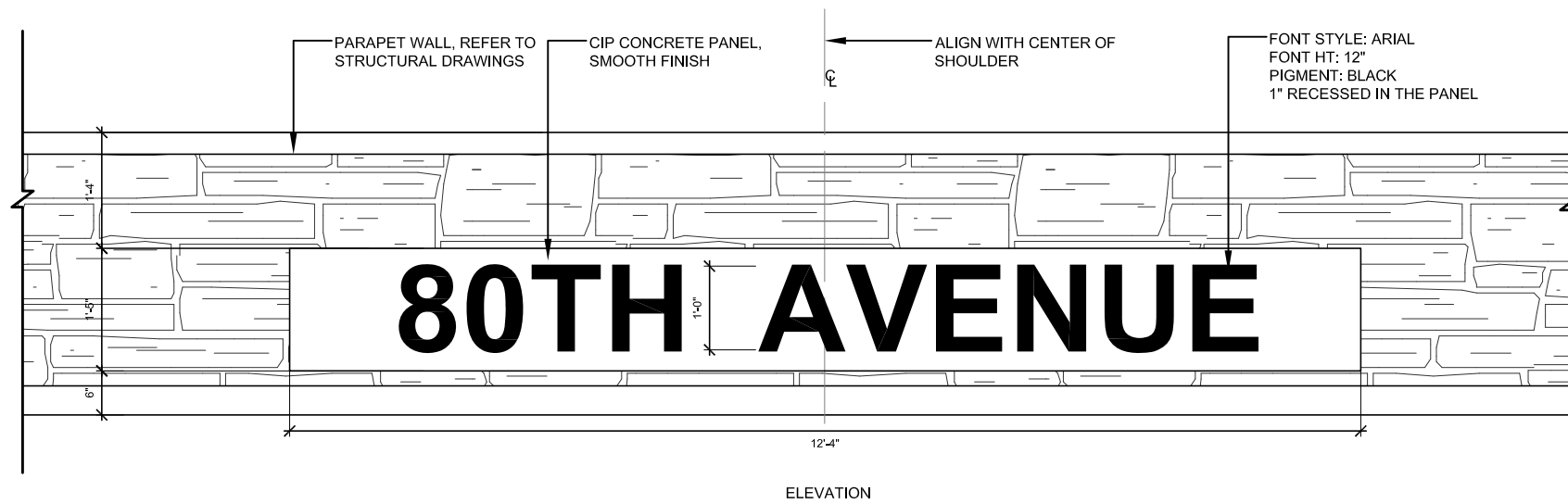


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PLOT DATE =	CHECKED — TCK	REVISED -
	DATE — 03/01/2021	REVISED -

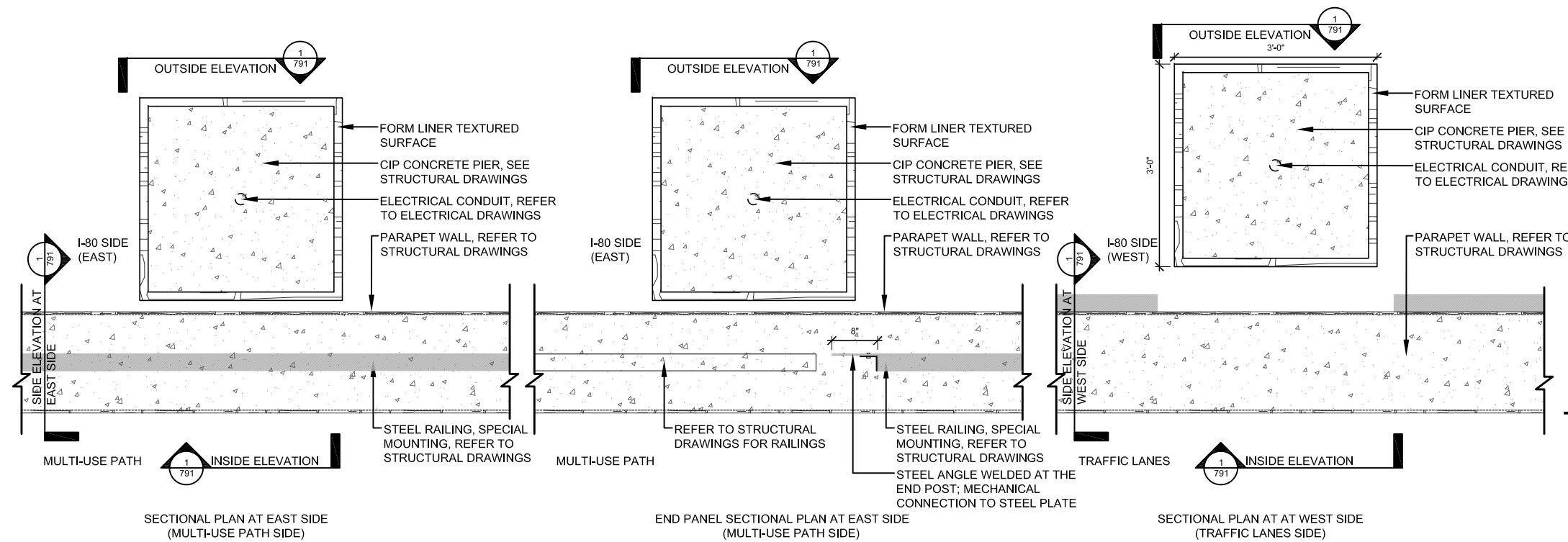
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

BRIDGE ENHANCEMENT DETAILS				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	06-00122-16-FP	WILL	1113	791
CONTRACT NO. -				
ILLINOIS FED. AID PROJECT				



1 ARCHITECTURAL FORM LINER (80TH AVENUE SIGN PANEL)
Scale: 1" = 1'-0"



2 BRIDGE PIER - PLAN AND SECTION
Scale: 1" = 1'-0"

J:\PROJECTS\ALPHA\CORBA GROUP\WCDOT_80TH AVENUE\02 DD-CD\02 DETAILS.DWG 06 Details
Plotted: 26.02.2021 By: XSUN



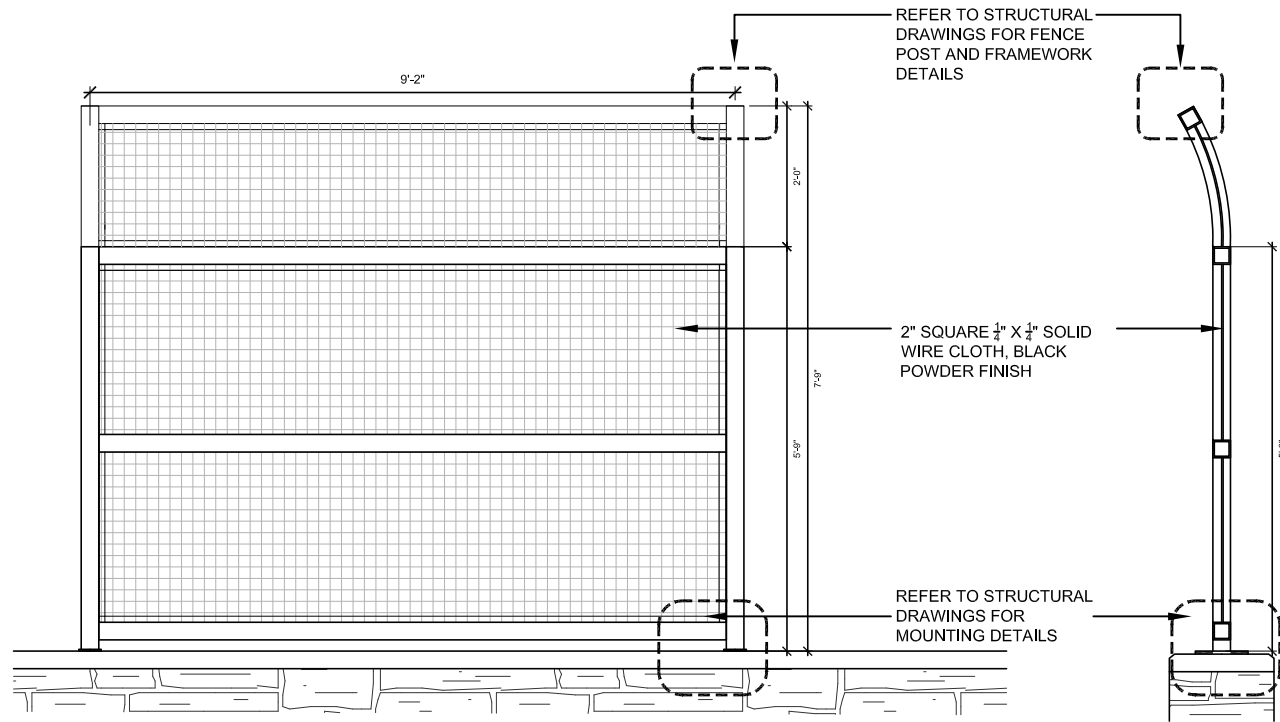
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PLOT DATE =	CHECKED - TCK	REVISED -
	DATE - 03/01/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

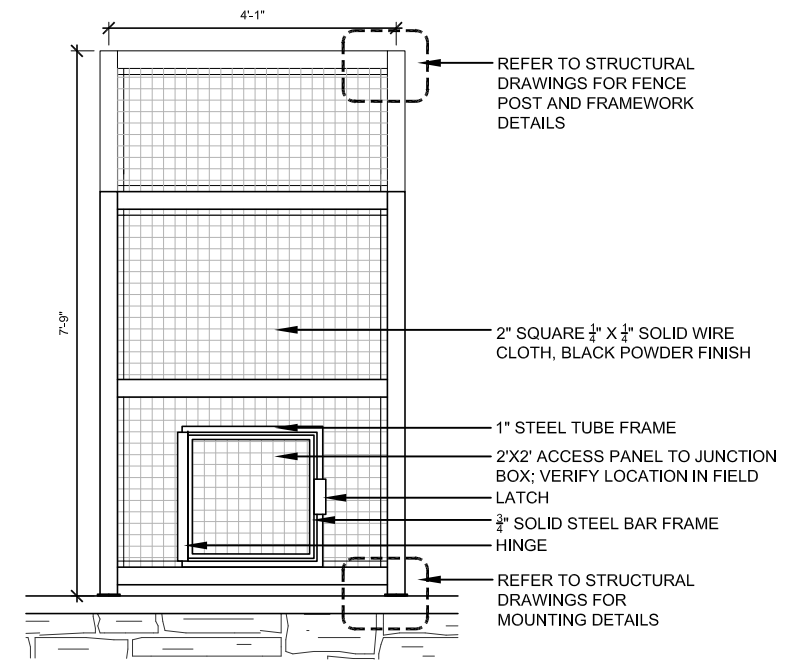
BRIDGE ENHANCEMENT DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

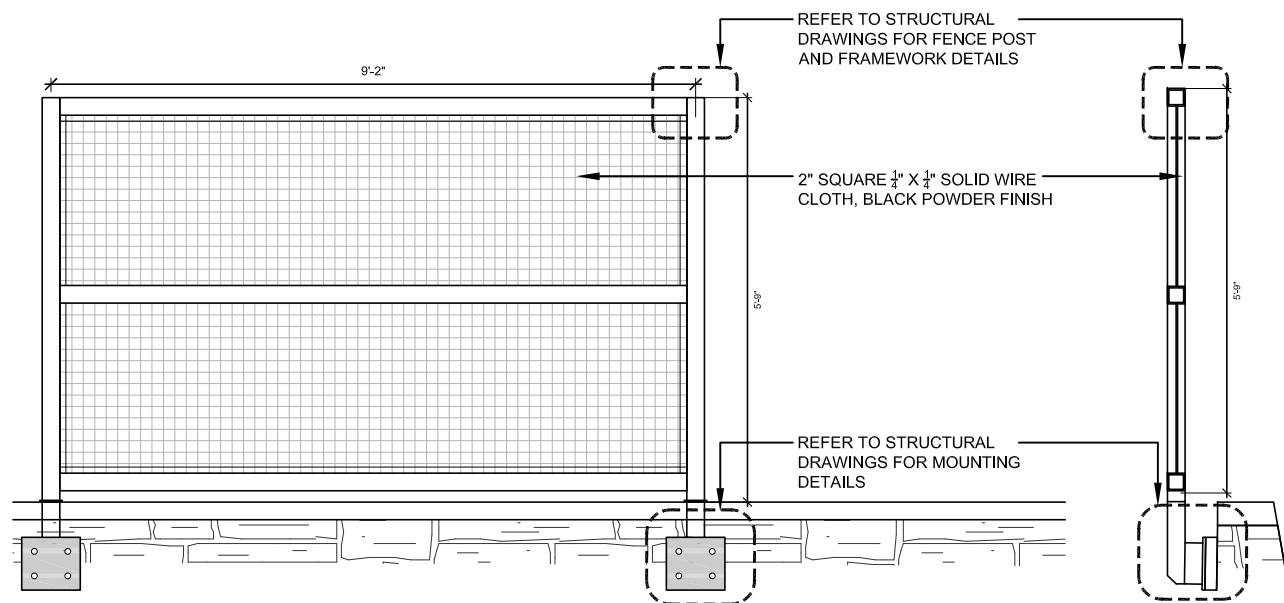
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2552	06-00122-16-FP	WILL	1113	792
CONTRACT NO. -				
ILLINOIS FED. AID PROJECT				



1 STEEL RAILING, SPECIAL (MULTI-USE PATH SIDE)
SCALE: 3/4" = 1'-0"



3 STEEL RAILING, SPECIAL (MULTI-USE PATH SIDE - CENTER SECTION WITH ACCESS PANEL)
SCALE: 3/4" = 1'-0"



2 STEEL RAILING, SPECIAL (TRAFFIC LANE SIDE)
SCALE: 3/4" = 1'-0"

J:\PROJECTS\ALPHA\CORBA GROUP\WOODOT 80TH AVENUE\09 GRAPHICS\02 DD-CD\04-05 RAILING DETAILS.DWG 08 Details
Plotted: 26.02.2021 By: XSUN



USER NAME =	DESIGNED - XS	REVISED -
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PLOT DATE =	CHECKED - TCK	REVISED -
	DATE - 03/01/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE ENHANCEMENT RAILING DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. -				
ILLINOIS FED. AID PROJECT				

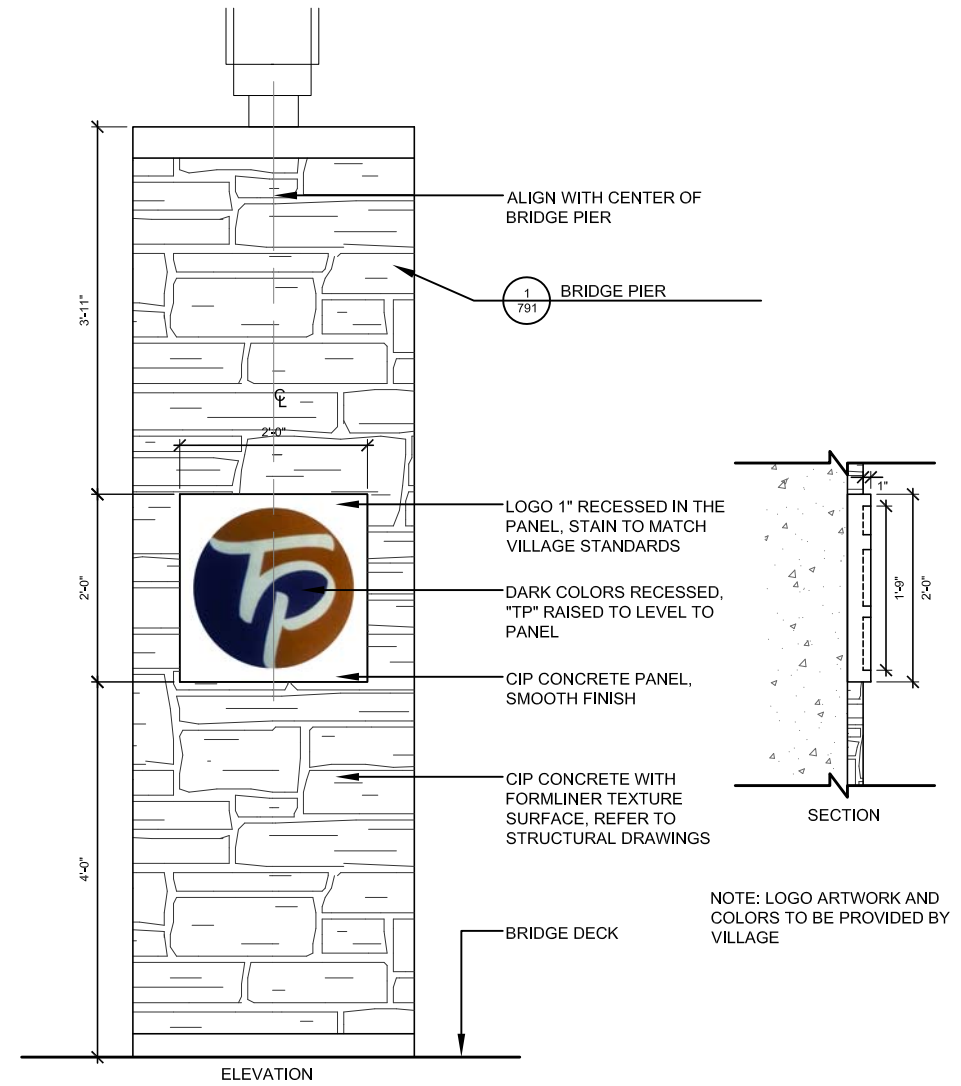


ELEVATION

SECTION

NOTE: LOGO ARTWORK AND COLORS TO BE PROVIDED BY VILLAGE

1 ARCHITECTURAL FORM LINER (TINLEY PARK SIGN PANEL)
Scale: 1" = 1'-0"



ELEVATION

SECTION

NOTE: LOGO ARTWORK AND COLORS TO BE PROVIDED BY VILLAGE

2 ARCHITECTURAL FORM LINER (TP LOGO SIGN PANEL)
Scale: 1" = 1'-0"

J:\PROJECTS\ALPHA\CORBA GROUP\WOOD 80TH AVENUE\09 GRAPHICS\02 DD-CD\02 DETAILS.DWG 07 Details
Plotted: 26.02.2021 By: XSUN



USER NAME =	DESIGNED — XS	REVISED -
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PLOT DATE =	CHECKED — TCK	REVISED -
	DATE — 03/01/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL FORM LINER DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

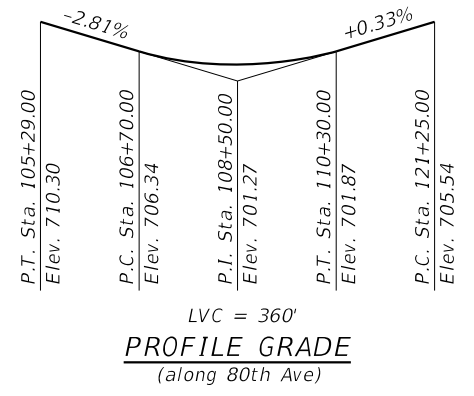
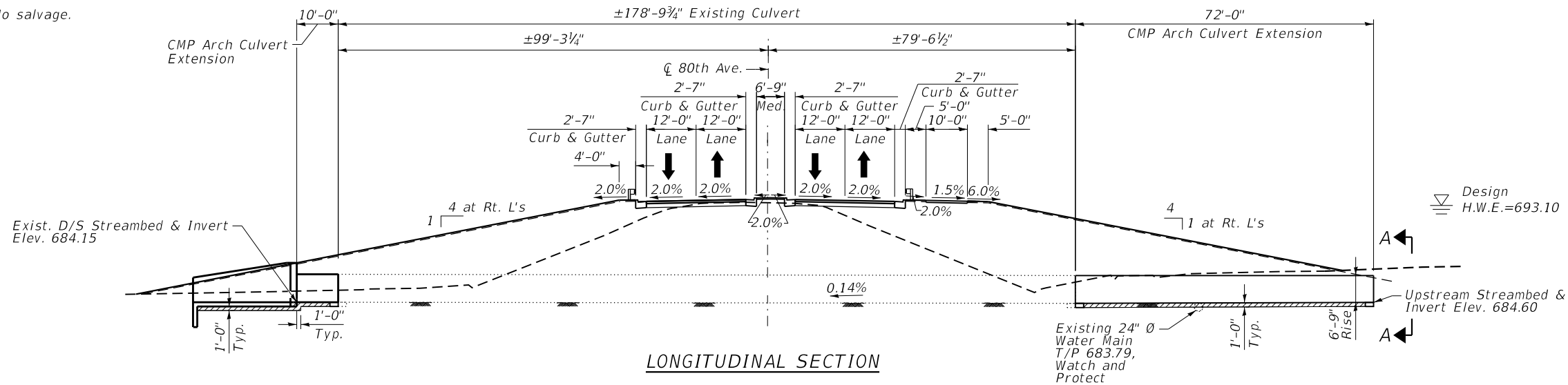
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	06-00122-16-FP	WILL	1113	794
CONTRACT NO. -			ILLINOIS FED. AID PROJECT	

Bench Mark: BM3 "X" cut on top of NE barrier wall on east side of 80th Ave on the lower tier of the exist. bridge, Elev 716.702 (NAVD88).

Existing Structure: Built in 1967, 123' span x 81" rise Corrugated Metal Pipe Arch Culvert, 178'-0" end to end.

Existing culvert will be lined and extended in-kind 10'-0" on west side and 72'-0" on the east side of 80th Ave. See Drainage Plans.

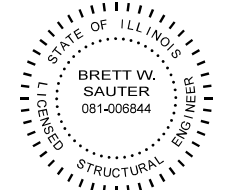
No salvage.



TOTAL BILL OF MATERIAL

DESCRIPTION	UNIT	TOTAL
Stone Riprap, Class A4	Sq Yd	465
Filter Fabric	Sq Yd	465
Aggregate Subgrade Improvement 12"	Sq Yd	190
Removal And Disposal Of Unsuitable Material For Structures	Cu Yd	62
Reinforcement Bars, Epoxy Coated	Pound	5,500
Concrete Structures	Cu Yd	28.9

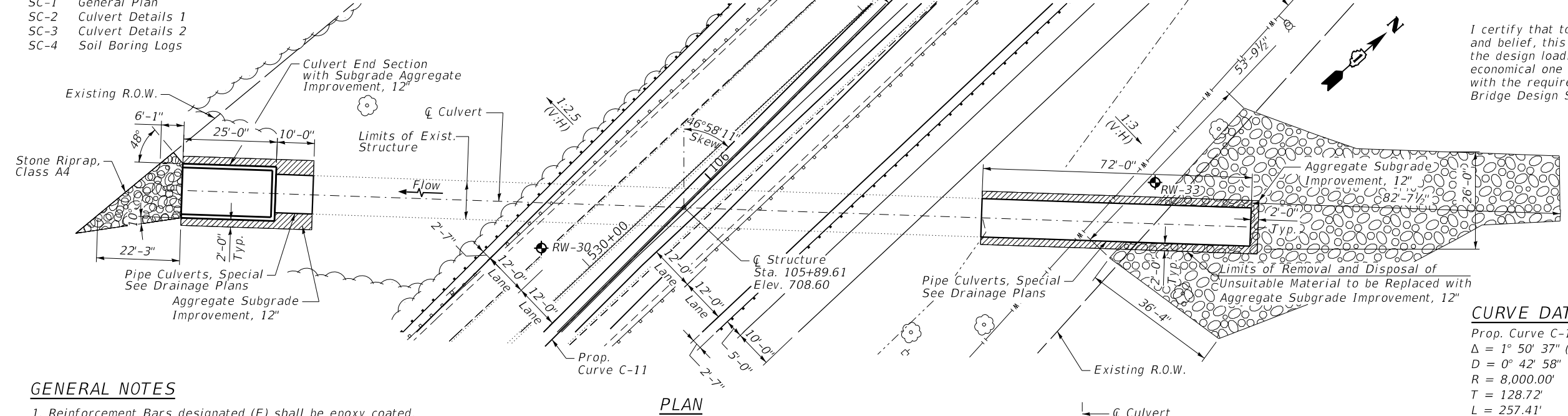
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"



DATE: 3/4/2021
SEAL EXPIRES: 11/30/2022
Brett W. Sauter

INDEX OF SHEETS

- SC-1 General Plan
- SC-2 Culvert Details 1
- SC-3 Culvert Details 2
- SC-4 Soil Boring Logs



CURVE DATA

Prop. Curve C-11
 $\Delta = 1^\circ 50' 37''$ (LT)
 $D = 0^\circ 42' 58''$
 $R = 8,000.00'$
 $T = 128.72'$
 $L = 257.41'$
 $E = 1.04'$
 $e = NC$
 $T.R. = N/A$
 $S.E. RUN = N/A$
 $P.C. STA = 102+71.13$
 $P.T. STA = 105+28.56$
 $PI STA = 103+99.85$

CURVE DATA

Prop. Curve C-14
 $\Delta = 1^\circ 50' 37''$ (RT)
 $D = 0^\circ 42' 58''$
 $R = 8,000.00'$
 $T = 128.72'$
 $L = 257.41'$
 $E = 1.04'$
 $e = NC$
 $T.R. = N/A$
 $S.E. RUN = N/A$
 $P.C. STA = 106+28.56$
 $P.T. STA = 108+85.98$
 $PI STA = 107+57.28$

GENERAL NOTES

1. Reinforcement Bars designated (E) shall be epoxy coated.
2. Precast alternate not allowed.
3. For Corrugated Steel Arch Liner and Pipe Culvert, Special pay items see Drainage Plans.

WATERWAY INFORMATION

Drainage Area = 1.7 sq. mi. Exist. Overtopping Elev. 701.83 @ Sta. 110+00
 Prop. Overtopping Elev. 701.82 @ Sta. 110+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	183	54	53	691.1	0.7	0.0	691.8	691.1
Base	30	270	54	53	693.0	1.4	0.1	694.4	693.1
Max. Calc.	100	365	54	53	693.4	2.4	2.0	695.7	695.3
	200	430	54	53	693.4	3.4	2.8	696.8	696.2
	500	513	54	53	694.3	4.7	3.9	699.0	698.2

2-Year Flow = 128 C.F.S.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

LOADING HL-93

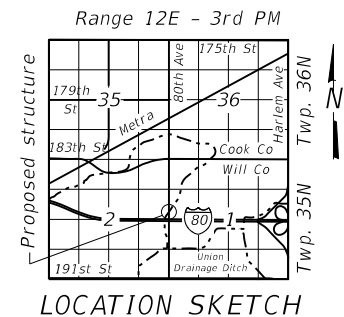
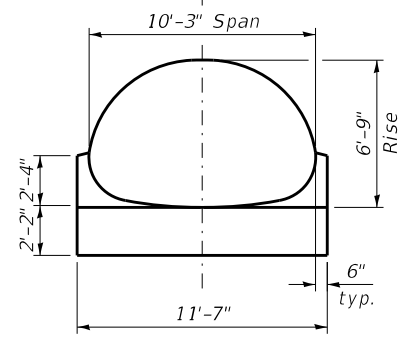
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS
 $f'c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.089g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.152g
 Soil Site Class = D



GENERAL PLAN
80TH AVE OVER NORTHERN TRIBUTARY TO UNION DRAINAGE DITCH
F.A.U. 2755 - SEC. 06-00122-16-FP
WILL COUNTY
STATION 105+89.61
STRUCTURE NO. 099-3269

CiorbaGroup
 8725 W. Higgins Rd, Ste 600, Chicago, IL 60631
 P 773.775.4009 | www.ciorba.com

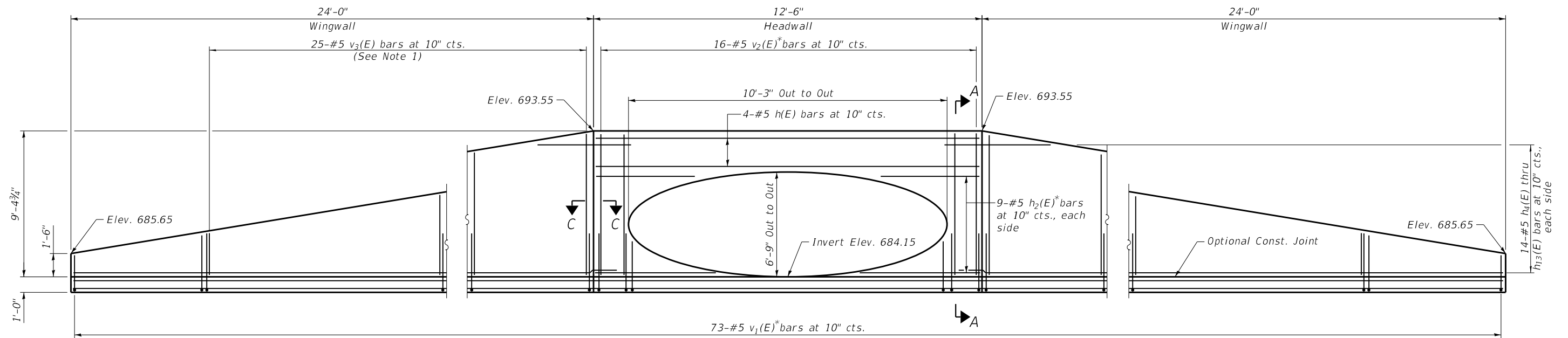
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PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET SC-1 OF SC-4 SHEETS

F.A.U. RTE. 2755	SECTION 06-00122-16-FP	COUNTY WILL	TOTAL SHEETS 1113	SHEET NO. 795
CONTRACT NO. 61G73			ILLINOIS FED. AID PROJECT	

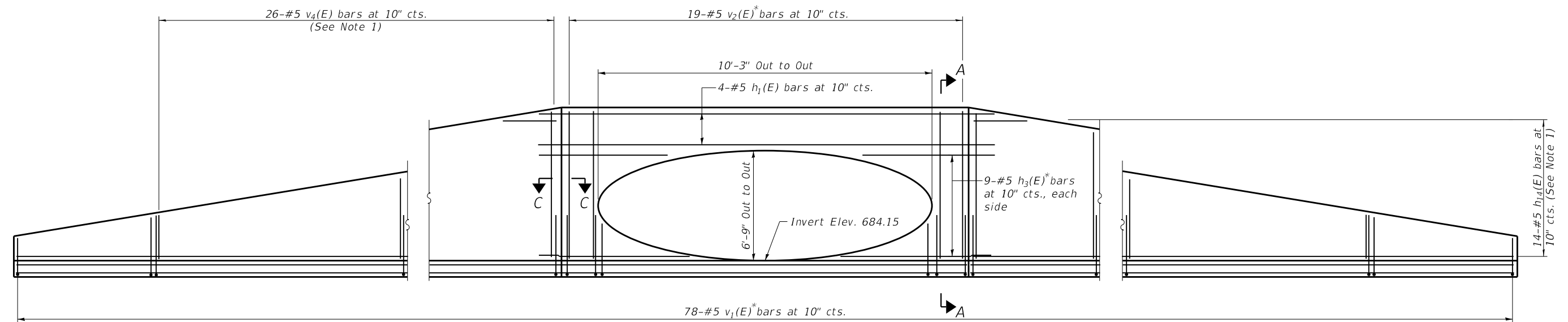
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WEST WALL FRONT FACE REINFORCEMENT

(Looking East, Measured Along Front Face of Wall)

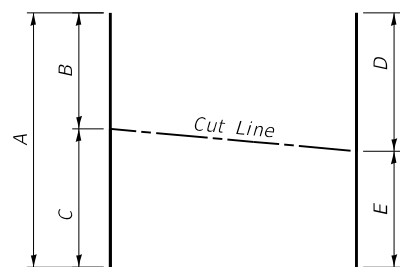
*Cut to fit



WEST WALL BACK FACE REINFORCEMENT

(Looking East)

*Cut to fit



FIELD CUTTING DIAGRAM

Order bars full length. Cut to fit as shown and place where called out in details

Bar	No.	A	B	C	D	E
v ₃ (E)	25	12'-6"	3'-6"	9'-0"	9'-0"	3'-6"
v ₄ (E)	26	12'-6"	3'-6"	9'-0"	9'-0"	3'-6"
h ₁₄ (E)	14	26'-8"	2'-0"	24'-8"	24'-8"	2'-0"

NOTES:

- Order v₃(E), v₄(E) and h₁₄(E) bars full length. Cut to fit wingwall slope and use remainder of bars on other wingwall.
- For Section A-A and Section C-C see Sheet SC-3.

FILE NAME: N:\PROJ\020887-01\Design\Structural\CAD\SC_80th Ave over N Tributary Union Drain Ditch\020887_02_N_Trib_Union_Drain_Ditch_Details1.dgn



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 PLOT DATE = 3/4/2021

DESIGNED - MLK
 CHECKED - BWS
 DRAWN - SBA
 CHECKED - BWS

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

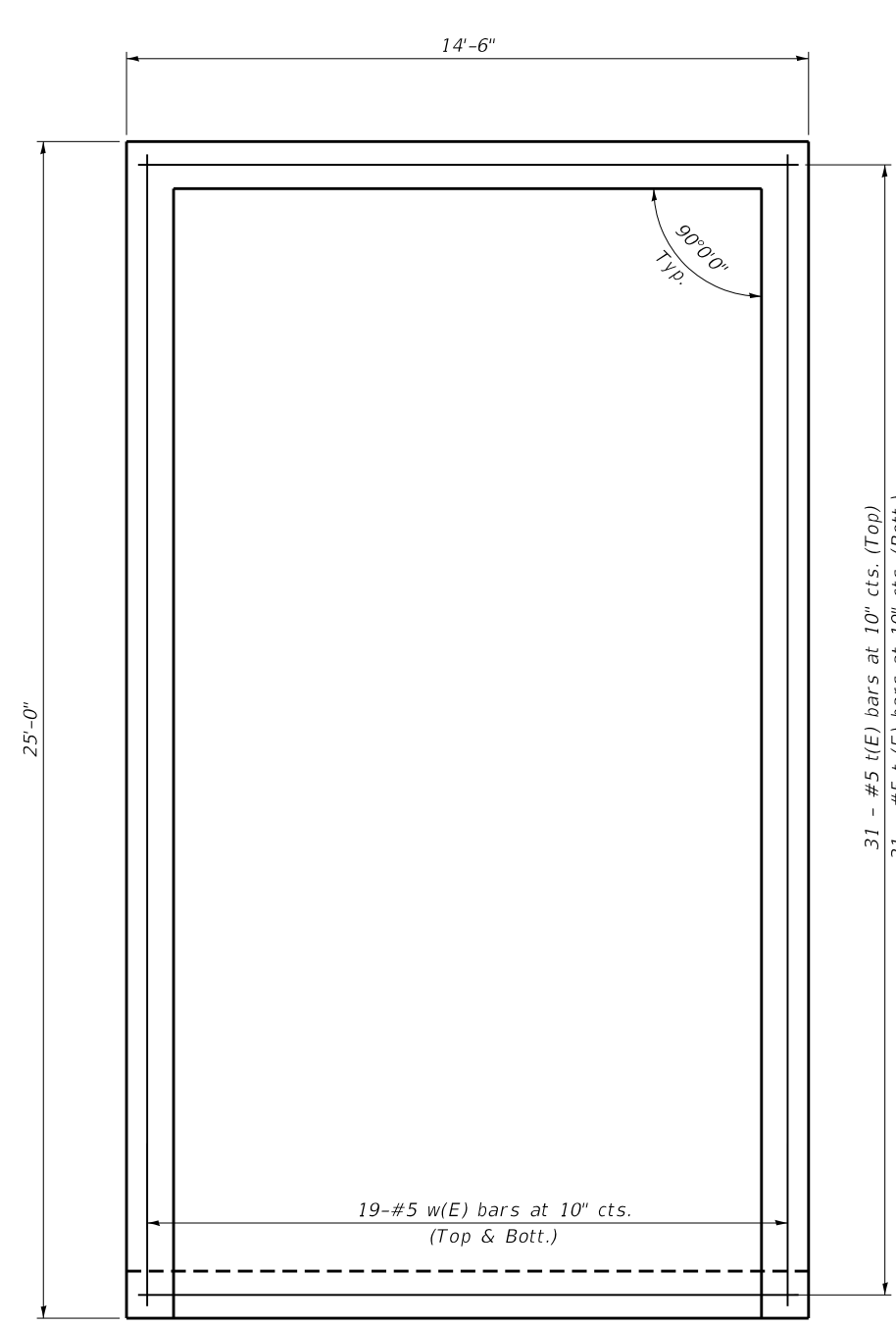
**CULVERT DETAILS 1
 STRUCTURE NO. 099-3269**

SHEET SC-2 OF SC-4 SHEETS

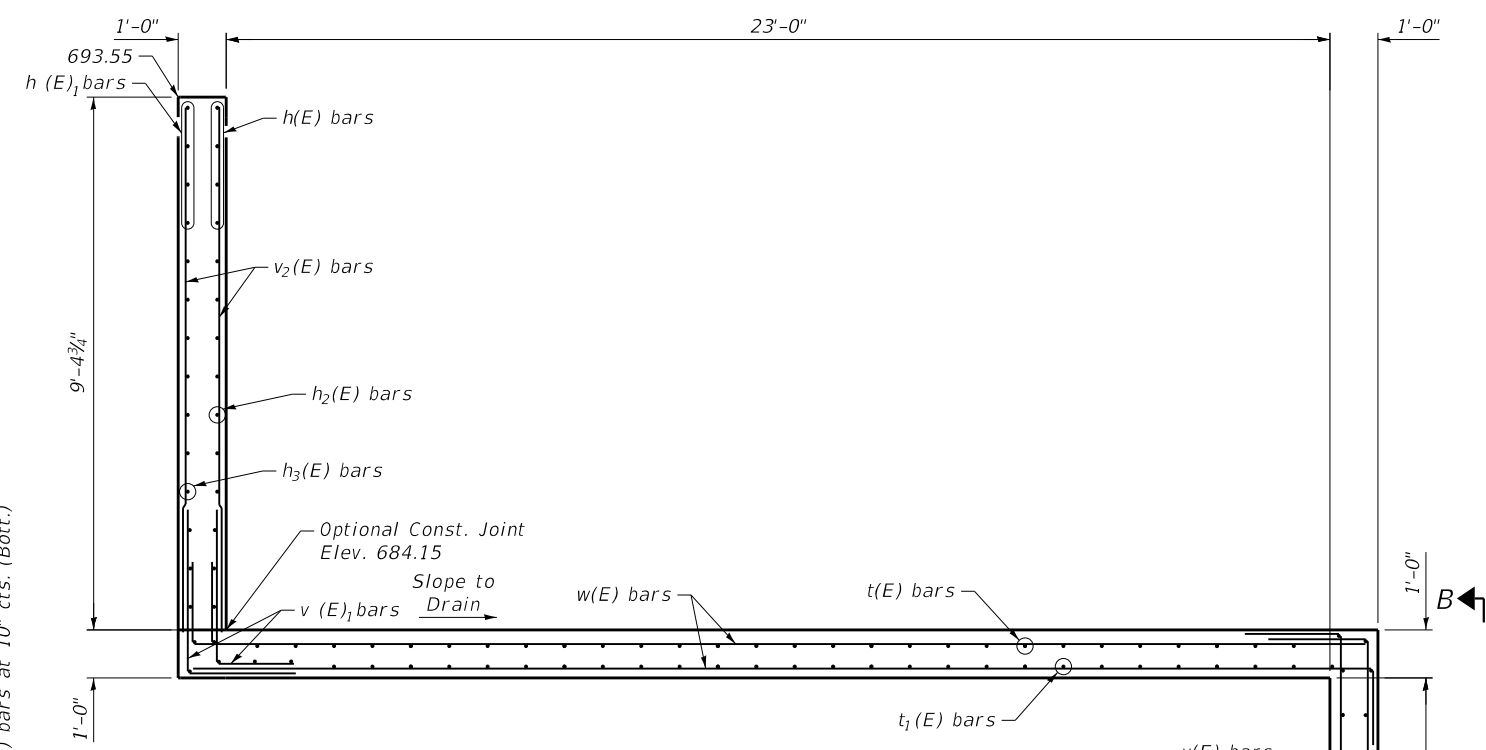
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	796
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

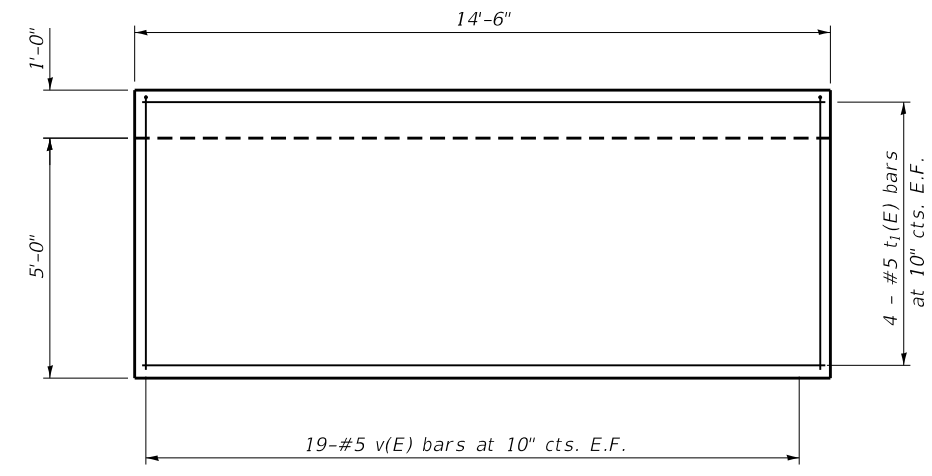
Bar	No.	Size	Length	Shape
h(E)	4	#5	12'-0"	—
h ₁ (E)	4	#5	18'-2"	┌┐
h ₂ (E)	9	#5	3'-0"	—
h ₃ (E)	9	#5	5'-0"	—
h ₄ (E)	2	#5	4'-0"	┌┐
h ₅ (E)	2	#5	6'-2"	┌┐
h ₆ (E)	2	#5	8'-4"	┌┐
h ₇ (E)	2	#5	10'-6"	┌┐
h ₈ (E)	2	#5	12'-8"	┌┐
h ₉ (E)	2	#5	14'-10"	┌┐
h ₁₀ (E)	2	#5	17'-0"	┌┐
h ₁₁ (E)	2	#5	19'-2"	┌┐
h ₁₂ (E)	2	#5	21'-4"	┌┐
h ₁₃ (E)	2	#5	23'-6"	—
h ₁₄ (E)	14	#5	26'-8"	—
t(E)	31	#5	18'-2"	┌┐
t ₁ (E)	39	#5	14'-2"	—
v(E)	38	#5	7'-7"	┌┐
v ₁ (E)	151	#5	7'-0"	┌┐
v ₂ (E)	35	#5	9'-2"	—
v ₃ (E)	25	#5	12'-6"	—
v ₄ (E)	26	#5	12'-6"	—
w(E)	38	#5	26'-6"	┌┐
Concrete Structures		Cu Yd	28.9	
Reinforcement Bars, Epoxy Coated		Pound	5,500	



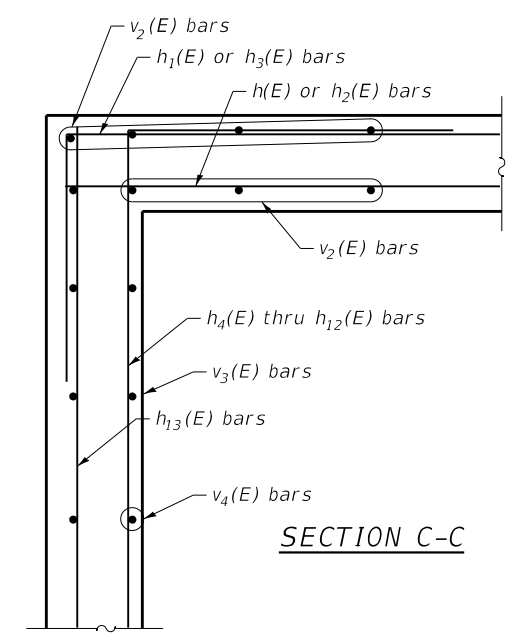
WEST BOTTOM SLAB PLAN



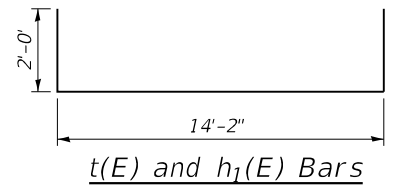
SECTION A-A



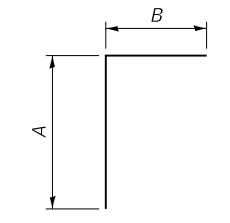
VIEW B-B



SECTION C-C



t(E) and h₁(E) Bars



'X' BAR

'X' Bar	A	B
h ₄ (E)	2'-0"	2'-0"
h ₅ (E)	2'-0"	4'-8"
h ₆ (E)	2'-0"	7'-5"
h ₇ (E)	2'-0"	10'-1"
h ₈ (E)	2'-0"	12'-10"
h ₉ (E)	2'-0"	15'-6"
h ₁₀ (E)	2'-0"	18'-3"
h ₁₁ (E)	2'-0"	20'-11"
h ₁₂ (E)	2'-0"	23'-8"
v(E)	2'-0"	5'-7"
v ₁ (E)	3'-6"	3'-6"
w(E)	2'-0"	24'-6"

FILE NAME: N:\PROJ\020887-01\Design\Structural\CADD\SC_80th_Ave_over_N_Tributary_Union_Drain_Ditch\020887_03_N_Trib_Union_Drain_Ditch_Details2.dgn

CiorbaGroup
8725 W. Higgins Rd, Ste 600, Chicago, IL 60631
P 773.775.4009 | www.ciorba.com

USER NAME =	Roadway	DESIGNED -	MLK	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0:2.0000" = 1" / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CULVERT DETAILS 2
STRUCTURE NO. 099-3269**

SHEET SC-3 OF SC-4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	797
CONTRACT NO.			61G73	
ILLINOIS FED. AID PROJECT				

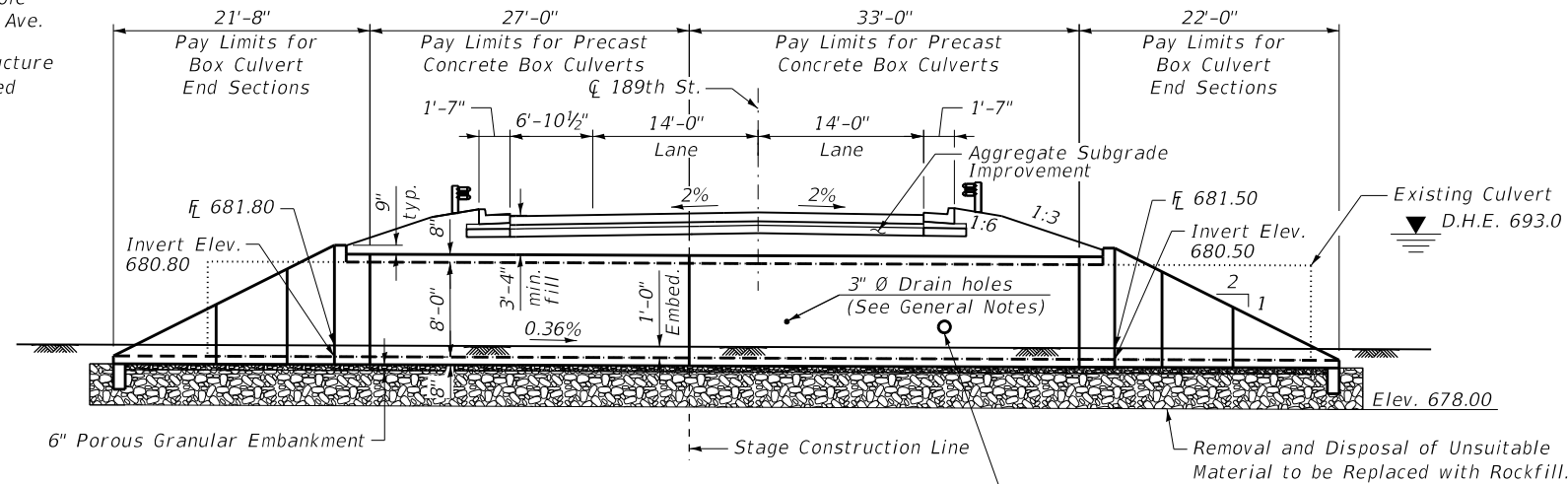
Benchmark: BM28, RRS set East face 5th powerpole South of 191st on west side of 80th Ave.

Existing Structure: Original construction date 1967. Structure consists of a 84" diameter Corrugated Metal Pipe (CMP) culvert, 94' long. Existing culvert will be removed and replaced by a precast concrete box culvert using staged construction.

No salvage.

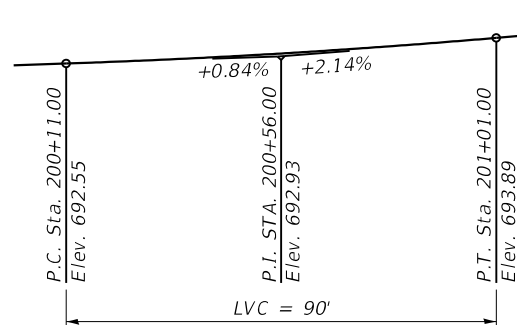
INDEX OF SHEETS

- SD-1 General Plan
- SD-2 Stage Construction
- SD-3 Details
- SD-4 Precast Box Culvert Tapered End Sections Detail 1
- SD-5 Precast Box Culvert Tapered End Sections Detail 2
- SD-6 Soil Boring



LONGITUDINAL SECTION

(Roadway dimension and cross-slopes at Rt. L's to Roadway, looking East)

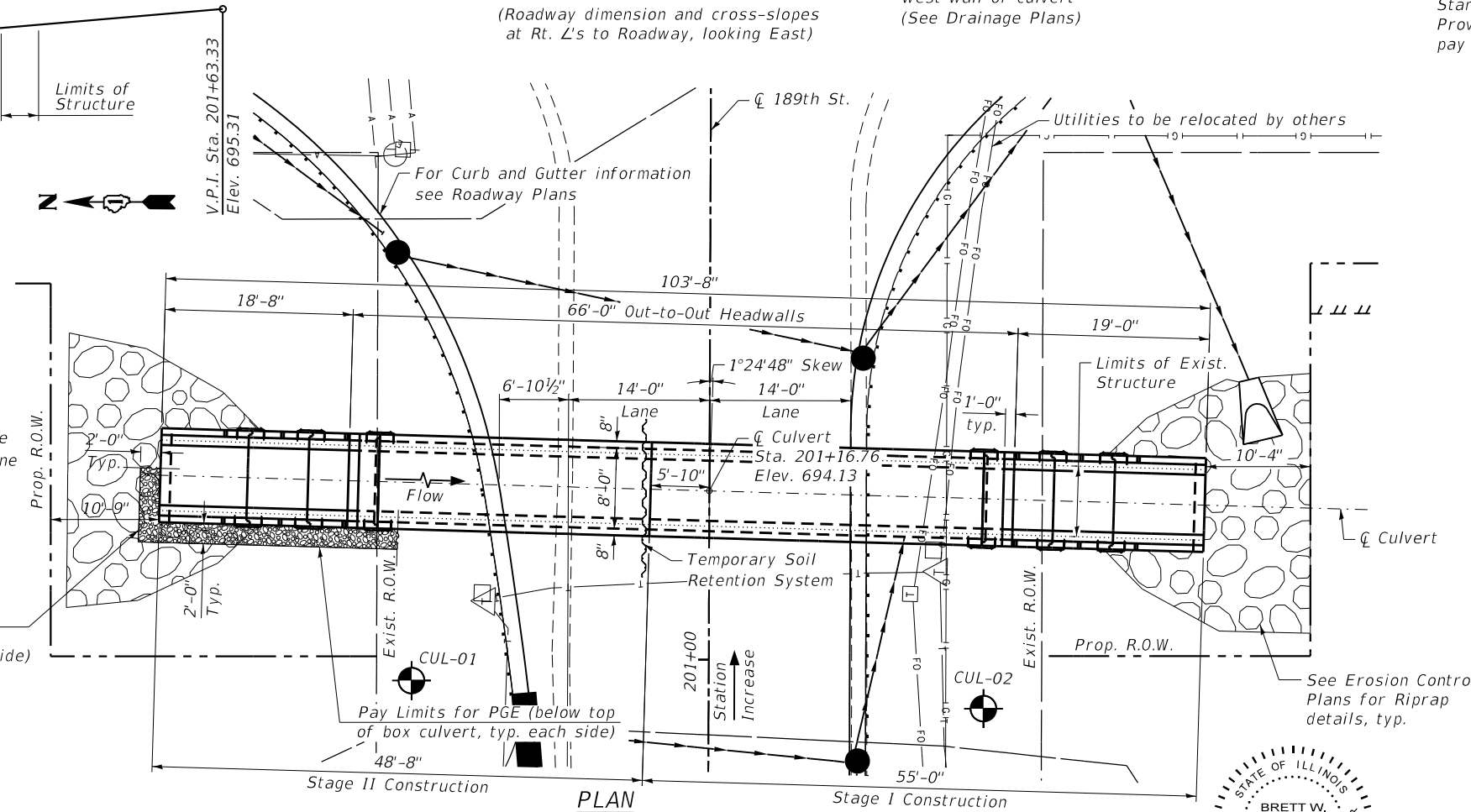


PROFILE GRADE
(along 189th St)

LEGEND

- T Existing Underground Telephone Line
- FO Existing Underground Fiber Optic Line
- G Existing Underground Gas Line
- A Existing Aerial Line
- ⊙ Boring Location

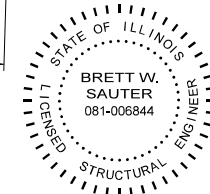
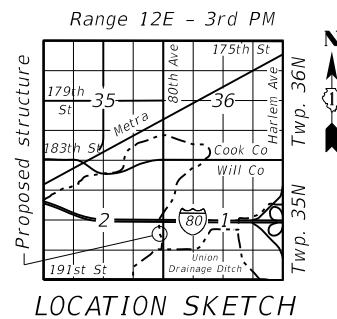
Removal and Disposal of Unsuitable Material to be Replaced with Rockfill (Below bottom of culvert, typ. each side)



PLAN

WATERWAY INFORMATION

Drainage Area = 1.7 sq. mi.		Existing Overtopping Elev. = 691.6 ft at Sta. 199+26		Proposed Overtopping Elev. = 691.6 ft at Sta. 199+26					
Flood	Freq. Yr.	Q C.F.S.	Waterway Opening Sq. Ft.	Natural H.W.E. (ft)	Head - ft	Headwater El.			
			Existing	Proposed	Exist.	Prop.	Exist.	Prop.	
10 Year	10	183	38	56	691.1	0.1	0.0	691.2	691.1
Design	30	270	38	56	693.0	0.1	0.0	693.2	693.0
Base	100	365	38	56	693.3	0.0	0.0	693.4	693.4
Overtop Existing	30	270	38	56	693.0	0.1	0.0	693.2	693.0
Overtop Proposed	100	365	38	56	693.3	0.0	0.0	693.4	693.4



DATE: 3/4/2021
SEAL EXPIRES: 11/30/2022

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"

GENERAL NOTES

The design fill height for this box is 4.5 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577. Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification. The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required. Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard. Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment below the top of the box culvert extending to a vertical plane 2 ft from the exterior sides of the culvert, 2 ft from the back face of the end sections, and not closer than 2 ft from the face of embankment. The Rockfill shall be capped with 6 in. of CA7 and satisfy the Standard Specification unless otherwise indicated in the Special Provisions. The cost of the capping material shall be included in the pay item for Rockfill.

DESIGN STRESSES

PRECAST UNITS

f'c = 5,000 psi
fy = 65,000 psi (Welded Wire Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.089g
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.152g
Soil Site Class = D

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu Yd	112
Pipe Culvert Removal	Foot	94
Removal And Disposal Of Unsuitable Material For Structures	Cu Yd	79
Temporary Soil Retention System	Sq Ft	320
Geotextile Retaining Wall	Sq Ft	26
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culverts 8' X 8'	Foot	60
Geocomposite Wall Drain	Sq Yd	81
Membrane Waterproofing System For Buried Structures	Sq Yd	81
Rock Fill	Ton	137

GENERAL PLAN

189TH STREET CULVERT OVER DITCH

F.A.U 2755 - SEC. 06-00122-16-FP

WILL COUNTY

STATION 201+16.76



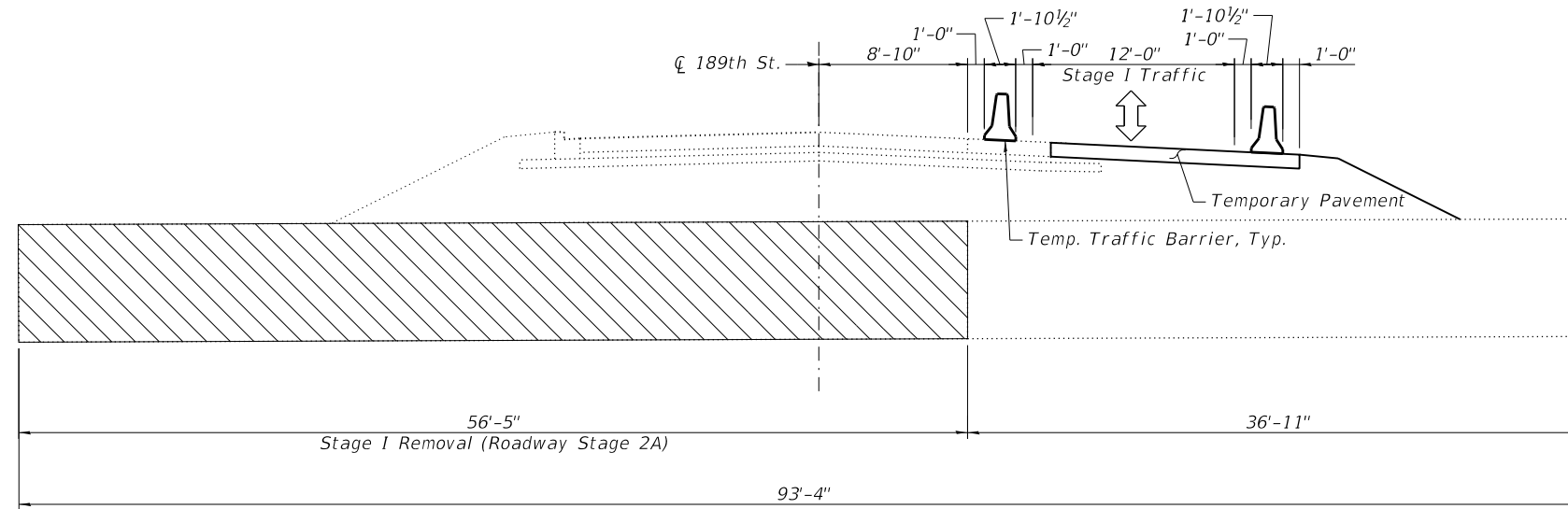
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PLOT SCALE = 0.1667' / in.	CHECKED - BWS	REVISED -
PLOT DATE = 3/4/2021	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

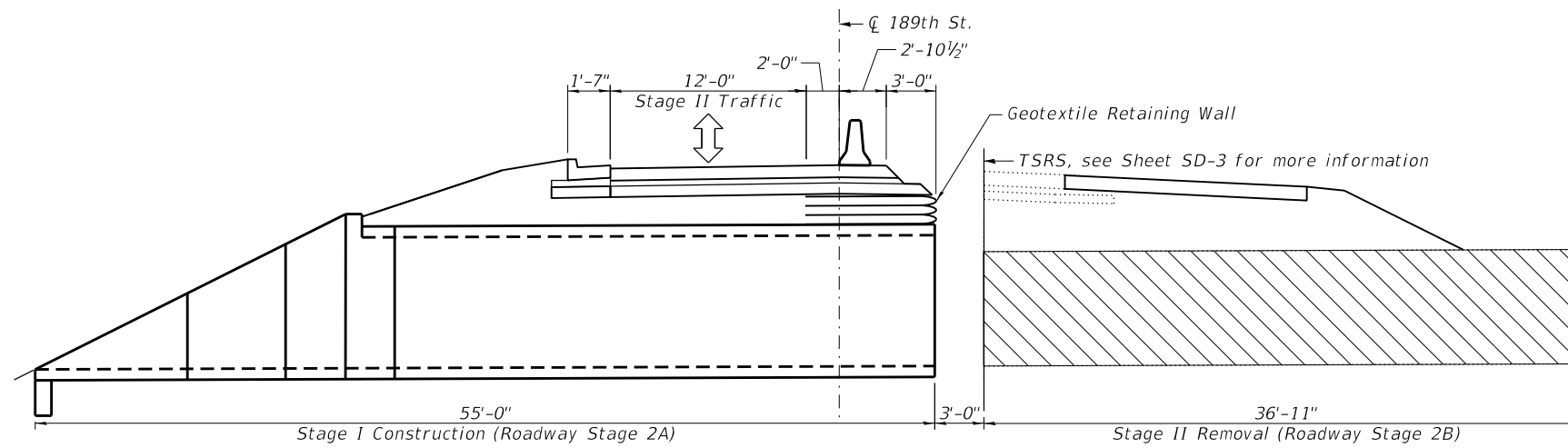
SHEET SD-1 OF SD-6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.				61G73

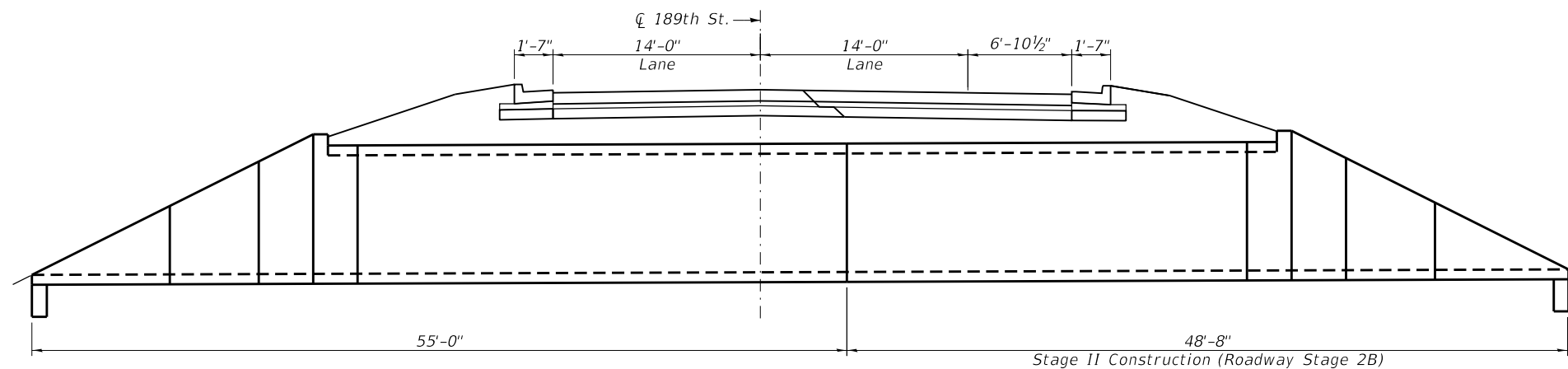
ILLINOIS FED. AID PROJECT



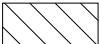
STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION AND STAGE II REMOVAL
(Looking West)



PROPOSED SECTION
(Looking West)

 Pipe Culvert Removal

FILE NAME: N:\PROJ\020887\01\Design\Structural\CAD\SD_189th Street Culvert\020887_02_189thCulvert_StageConst.dgn



USER NAME =	Roadway	DESIGNED -	KEC	REVISED -	
		CHECKED -	BWS	REVISED -	
PLOT SCALE =	0.1667' / in.	DRAWN -	SBA	REVISED -	
PLOT DATE =	3/4/2021	CHECKED -	BWS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
189TH STREET CULVERT OVER DITCH**

SHEET SD-2 OF SD-6 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2755	06-00122-16-FP	WILL	1113	800
CONTRACT NO.			61G73	
ILLINOIS			FED. AID PROJECT	