

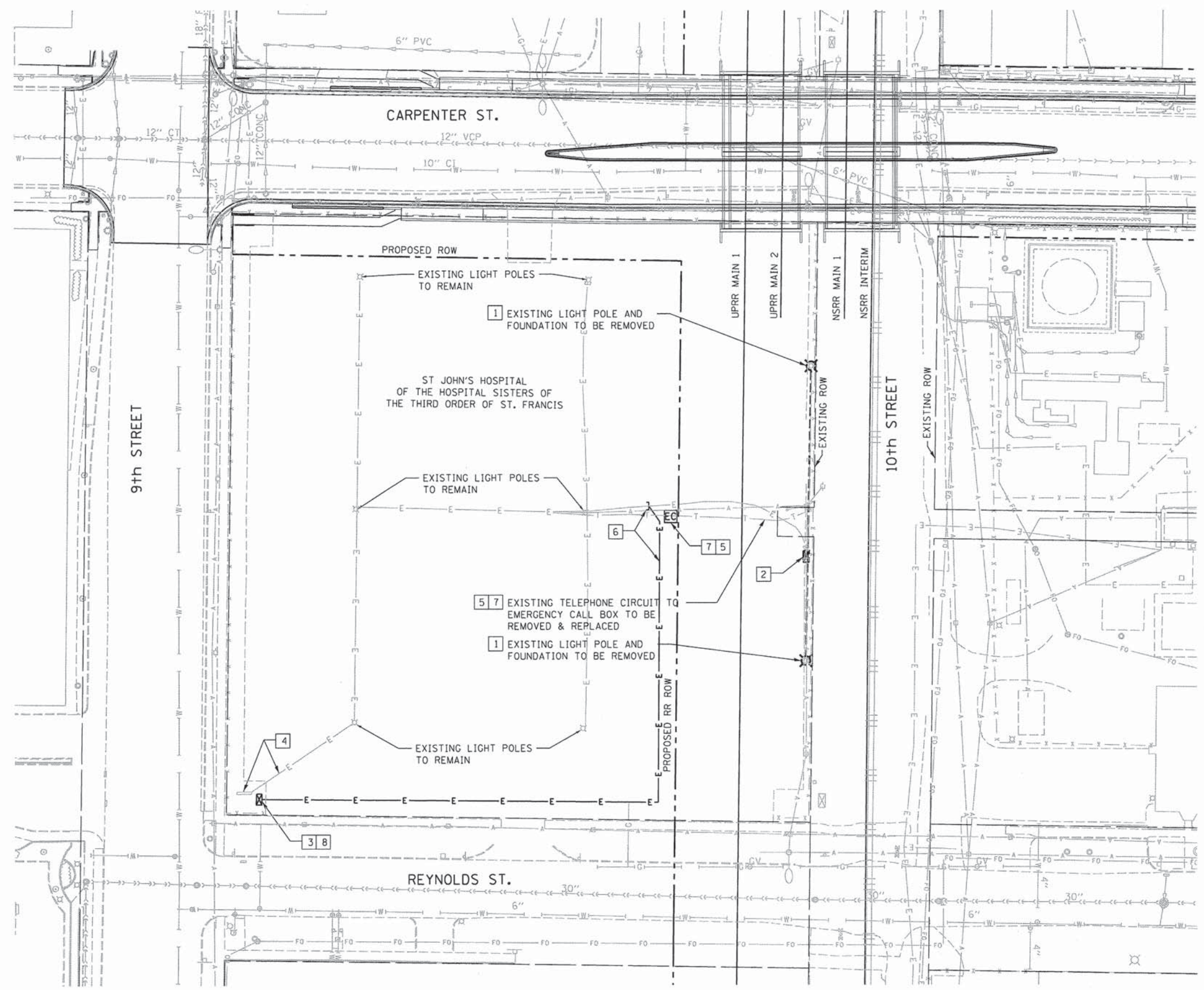


**GENERAL NOTES:**

- COORDINATE WORK IS SUCH A WAY TO KEEP PARKING LOT OPEN WITH AS MANY AVAILABLE PARKING SPACES AS POSSIBLE THROUGHOUT THE CONSTRUCTION.

**KEYED NOTES:**

- EXISTING LIGHT POLE TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. REMOVE FOUNDATION & CONDUITS TO A MINIMUM OF 24" BELOW GRADE. REMOVE EXISTING WIRING BACK TO NEXT ACTIVE SOURCE. IF THE REMOVAL OF THESE LIGHT FIXTURES INTERRUPTS POWER TO AN EXISTING TO REMAIN ACTIVE SOURCE, THE CONDUIT WILL BE INTERCEPTED & REROUTED AROUND THE EXISTING LIGHT POLES TO BE REMOVED AND ALL WIRING BETWEEN THE EXISTING TO REMAIN AND ACTIVE SOURCES WILL BE REPLACED COMPLETE. ALL WORK TO REMOVE THESE LIGHT POLES WILL BE INCIDENTAL TO THE PAY ITEM 84200600 REMOVAL OF LIGHTING UNIT, NO SALVAGE. CONTRACTOR TO VERIFY CONDUIT ROUTING & WIRE SIZE IN THE FIELD.
- EXISTING LIGHTING CONTROLLER TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
- NEW 120/240V, 100A LIGHTING CONTROLLER. FOLLOW IDOT STANDARD 825021-02.
- EXISTING FEED TO LIGHTED SIGN.
- COORDINATE WITH AT&T TO PROVIDE A NEW TELEPHONE SERVICE TO THE EXISTING EMERGENCY CALL BOX.
- INTERCEPT EXISTING UNDERGROUND CONDUIT & RE-ROUTE TO NEW LIGHTING CONTROLLER. PROVIDE A NEW 240V CIRCUIT TO RE-FEED LIGHTS. 2"4, #4G, 1 1/4" COILABLE UNIT DUCT.
- WORK TO BE INCIDENTAL TO PAY ITEM 84200600, REMOVAL OF LIGHTING UNIT, NO SALVAGE.
- PROVIDE NEW ELECTRICAL SERVICE PER IDOT STANDARD SPECIFICATIONS & DETAILS.



**PARTIAL SITE PLAN**  
SCALE: 1" = 30'-0"



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DESIGNED	RDN	9/6/13
DRAWN	SKB	9/27/13
REVIEWED	PJT	2/25/14

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PLOT DATE =	02/27/2014

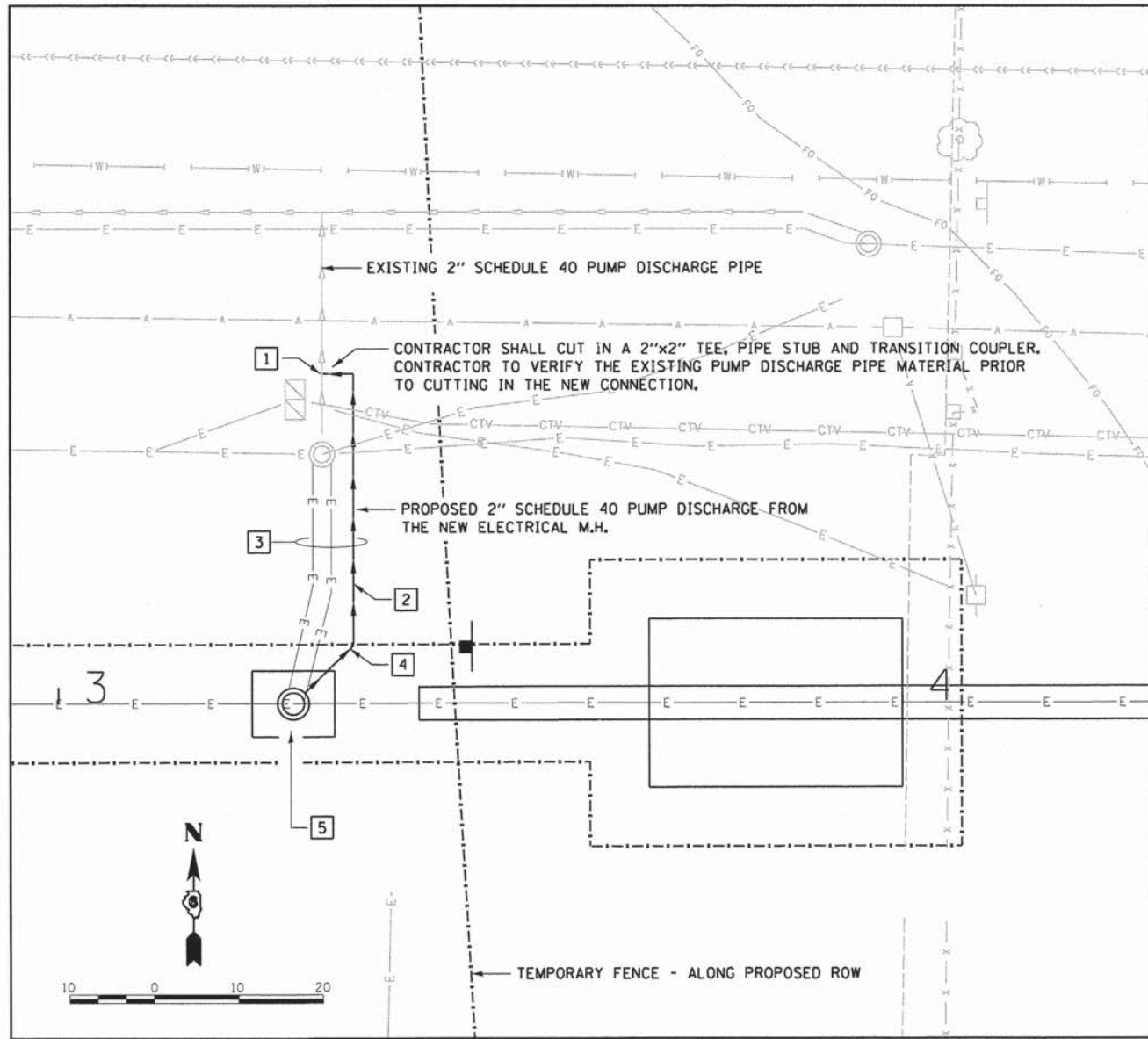
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DRAWN -	SKB	REVISED -	
CHECKED -	PJT	REVISED -	
DATE -	2/25/14	REVISED -	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT**  
**SPRINGFIELD, SANGAMON COUNTY, ILLINOIS**  
**ELECTRICAL PLANS**

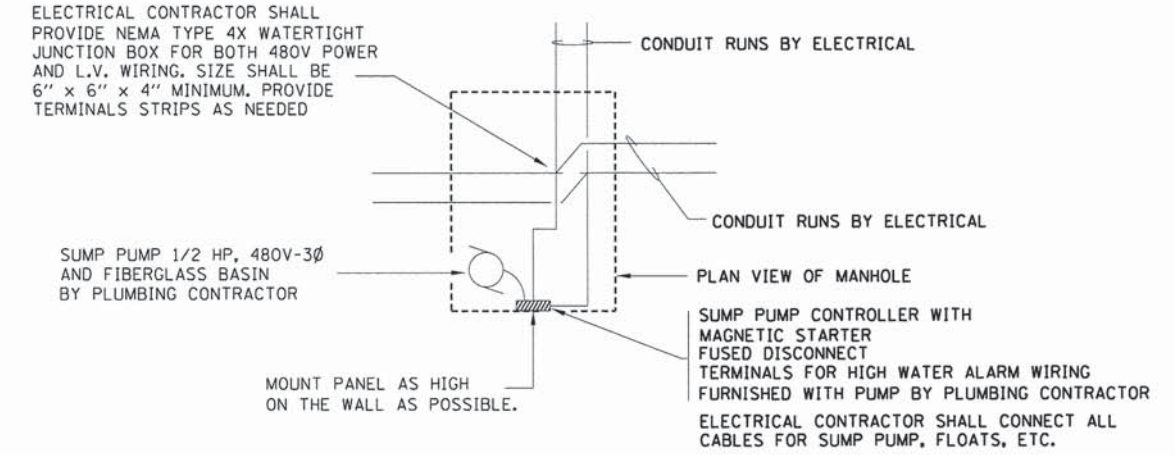
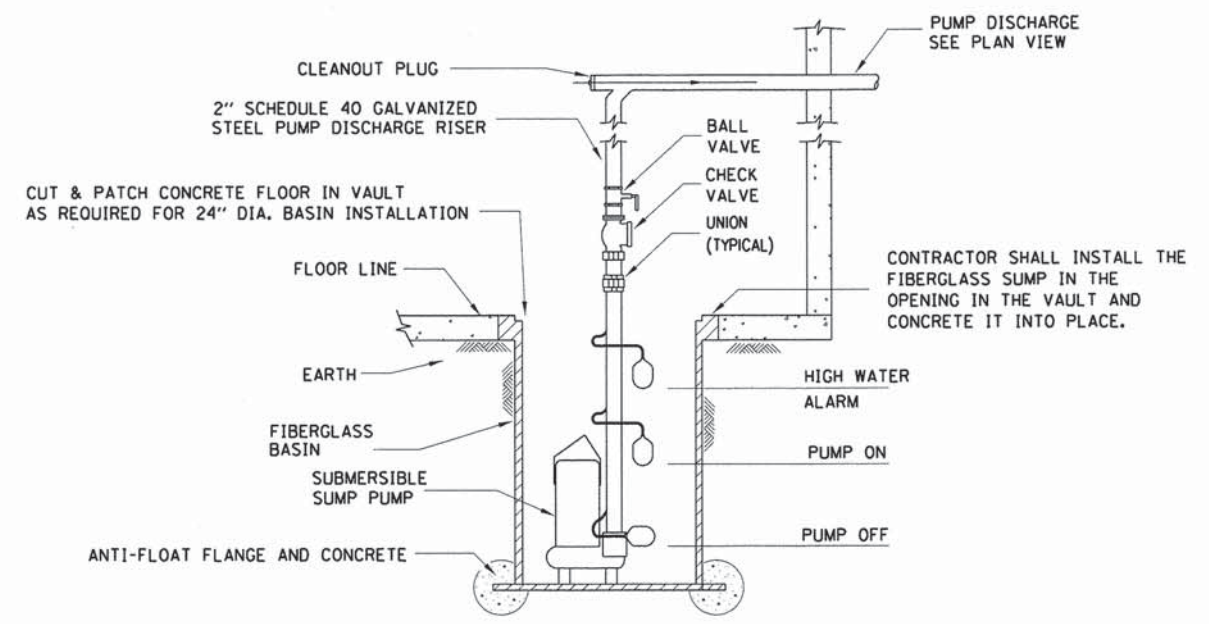
SCALE: SHEET 15 OF 16 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	101
09L0179B			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				



**KEYED NOTES:**

- 1 CONTRACTOR SHALL EXPOSE THE EXISTING 2" DISCHARGE PIPE AND HAVE ALL MATERIALS REQUIRED FOR TYING INTO THE PIPE ON HAND PRIOR TO CONNECTING THE NEW 2" DISCHARGE PIPE.
- 2 PROPOSED PUMP DISCHARGE PIPE SHALL BE INSTALLED 42" BELOW FINISHED GRADE. THE POINT OF CONNECTION TO THE EXISTING PUMP DISCHARGE PIPE SHALL BE VERIFIED AND THE GRADE OF THE PROPOSED PIPE ADJUSTED TO MATCH AT THE POINT OF CONNECTION.
- 3 THE PUMP DISCHARGE PIPE AND THE ELECTRICAL CONDUITS CAN BE INSTALLED IN THE SAME TRENCH. MAINTAIN A MINIMUM OF 6" HORIZONTALLY BETWEEN THE CONDUITS AND THE PIPE.
- 4 THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FULL DEPTH FOR THE LIMITS OF EXCAVATION FOR PROPOSED DISCHARGE PIPE. THE TRENCH SHALL BE BACKFILLED WITH FA-6 AND THE PAVEMENT REPLACED TO MATCH THE EXISTING.
- 5 NEW ELECTRICAL MANHOLE: PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION REQUIRED FOR FIBERGLASS SUMP BASIN INSTALLATION. REFER TO ELECTRICAL SHEETS & PROFILES FOR NEW MANHOLE DEPTHS.



SUMP PUMP SCHEDULE												
DESCRIPTION	LOCATION	MANUFACTURER MODEL #	DISCHARGE SIZE	GPM	OPERATING FEET OF HEAD	MOTOR				CONTROLS		REMARKS
						H.P.	RPM	VOLTS	PHASE	LEVEL	PANEL	
SUBMERSIBLE SUMP PUMP SP-4	ELECTRICAL VAULTS AND MANHOLES	WEIL SUBMERSIBLE PUMP #1411	2"	40	20	1/2	1750	460	3	3-FLOATS	WEIL #3980-BLCDEJR	AUXILIARY CONTACT FOR REMOTE MONITORING, 15 FT POWER CORD, STAINLESS STEEL LIFTING CABLE AND 24" x 36" DEEP FIBERGLASS BASIN WITH ANTI-FLOATATION FLANGE.

DESIGNED - RDN 9/6/13  
DRAWN - SKB 9/27/13  
REVIEWED - PJT 2/25/14

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PLOT DATE = 02/26/2014	DATE - 2/25/14	REVIEWED - PJT	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT**  
**SPRINGFIELD, SANGAMON COUNTY, ILLINOIS**  
**ELECTRICAL PLANS**

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 102
09L0179B		CONTRACT NO. 93617		
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 16 OF 16 SHEETS STA. TO STA.

Benchmark:  
BM #108 - Chiseled 'X' on SW Bolt of fire hydrant - SE Quad  
9th Street and Carpenter Street  
Elevation = 607.145

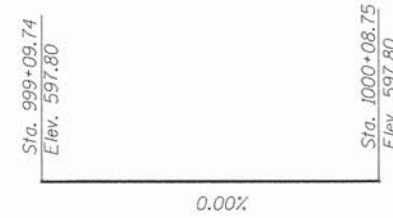
Existing Structure: None

Traffic Control: Road Closure

Salvage: None

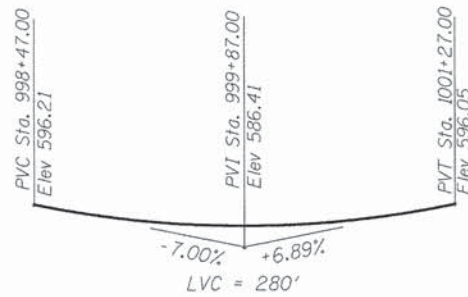
Construction Sequence: See Sheet 4 and 5 of 18 for NSRR Bridge  
(SN 084-9953) for construction sequence and details.

Note: See NSRR Bridge (SN 084-9953) Sheet 4 of 18  
for existing utilities and topography.



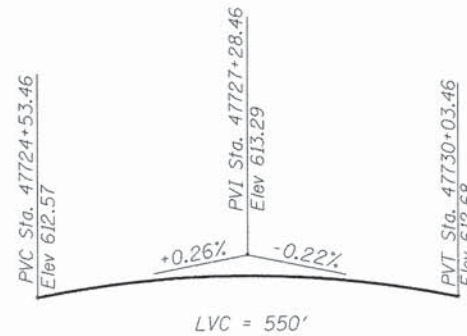
**SIDEWALK PROFILE GRADE**

Along outside edge of sidewalk, Typ. Both Sides

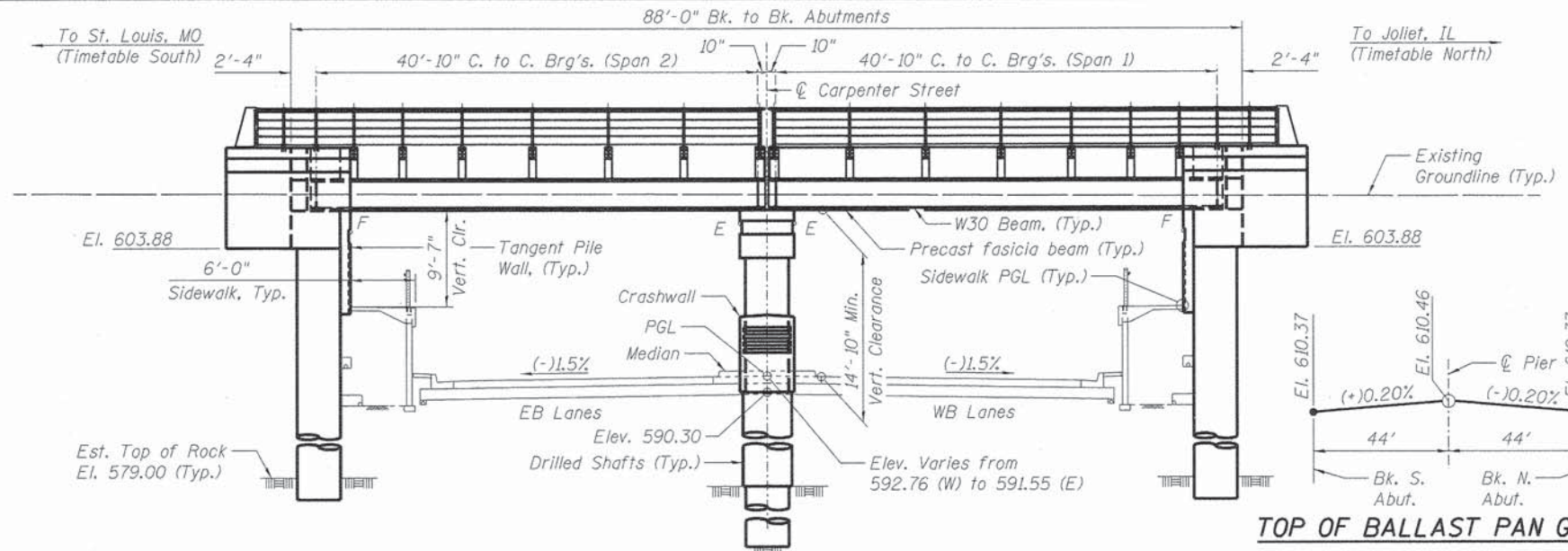


**PROFILE GRADE  
CARPENTER ST.**

Along C of Carpenter St.

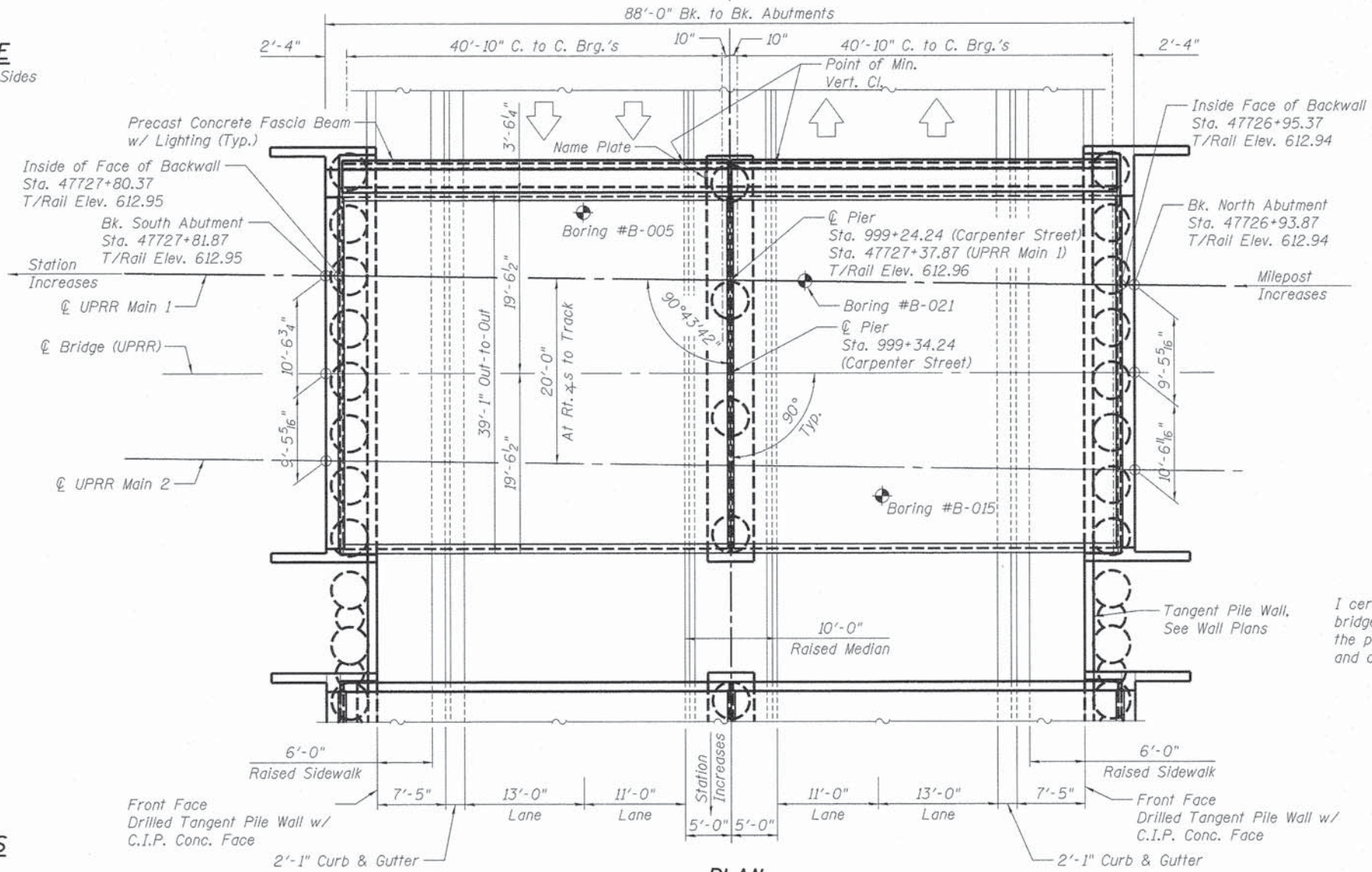


**TOP OF RAIL PROFILE GRADE  
UNION PACIFIC MAINLINE TRACKS**



**ELEVATION**

(Looking West)



**PLAN**

Indicates Boring Location

**LOADING COOPER E-80**

Impact: Diesel Impact  
Allow 30" of Ballast Dead Load  
**DESIGN SPECIFICATIONS**  
2013 AREMA Specifications  
Live Load Deflection: L/640  
Composite Design for Deflection Requirements  
Timetable: 50 m.p.h.

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 4,000$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (ASTM A709 Grade 50)

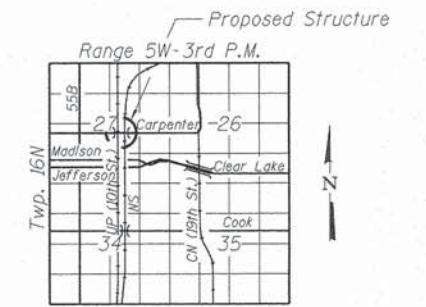
**PRECAST UNITS**

$f'_c = 6,500$  psi  
 $f'_{ci} = 5,000$  psi  
 $f'_{pu} = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strand)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strand)  
 $f_y = 60,000$  psi (Reinforcement)

**SEISMIC DATA**

**AREMA**

Coefficient of Horiz. Acceleration, 100 Year ( $A_{100}$ ) = < 0.04g  
Coefficient of Horiz. Acceleration, 475 Year ( $A_{475}$ ) = < 0.04g  
Coefficient of Horiz. Acceleration, 2400 Year ( $A_{2400}$ ) = 0.095g  
Soil Site Coefficient (S) = 1.0



**LOCATION SKETCH**



Michael N. Mendenhall  
SIGNATURE  
02-25-2014  
DATE  
LIC. EXP. DATE: 11-30-2014

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 requirements of the current AREMA Specifications.

**GENERAL PLAN & ELEVATION  
UPRR (MP 184.57) OVER CARPENTER ST.**

**F.A.U. 7975-SECTION 13-00475-00-BR  
SANGAMON COUNTY  
UPRR SUBDIVISION - SPRINGFIELD  
STATION 47727+37.87  
STRUCTURE NO. 084-9952**

FINAL  
DESIGNED: MJW 12/10/13  
DRAWN: GTJ 1/2/14  
REVIEWED: MNM 2/25/14

FILE NAME =	USER NAME = pop02275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION  
STRUCTURE NO. 084-99552

SHEET NO. 1 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	103
				CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT

**GENERAL NOTES**

Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. Bolts 7/8 in. φ, holes 15/16 in. φ, unless otherwise noted.

Calculated weight of Structural Steel, ASTM A709, Gr. 50 = 402,790 lbs.  
ASTM A36, Gr. 36 = 88,260 lbs.

All structural steel shall be ASTM A709 Grade 50 unless otherwise noted on the plans. The deck plate shall be ASTM A36.

All substructure concrete shall have a compressive strength of 4,000 psi at 28 days.

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 following surfaces:

Abutments - inside face of backwall, inside face of checkwall, top of cap  
Pier - entire exposed pier surface (except surfaces coated with concrete surface color treatment)

Superstructure - entire exposed surface of precast prestressed fascia beam and curb (except surfaces coated with surface color treatment), concrete railing end post

Anti-Graffiti Protection System shall be applied to the following surfaces:

Abutments - entire concrete facing attached to abutment cap and drilled shafts, wingwall and checkwall surfaces coated with concrete surface color treatment

Pier - surfaces coated with concrete surface color treatment

Superstructure - surfaces coated with concrete surface color treatment

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces, exterior bottom of deck plate, steel curb, shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams and exterior cantilever support bracket shall be blue, Munsell No. 10B 3/6.

The Backfill behind the abutments shall not be placed and compacted until the concrete facing is installed.

Drilled shaft cross-hole sonic log (CSL) testing:

- 1) Drilled shafts shall be evaluated by cross-hole sonic log testing. Testing pipes shall be installed in each drilled shaft to facilitate the logging process, which will follow completion of each shaft.
- 2) Furnish and install six standard 2 inch nominal diameter steel pipes (ASTM A53, Grade B) for use in CSL testing of each drilled shaft. Pipes shall be equally spaced around the interior of the reinforcing steel cage.
- 3) Pipes shall be sufficiently regular and free from defects so as to permit the free and unobstructed passage of the probes. Pipes shall be installed such that all internal joints are flush. Pipes shall be watertight with clean internal and external faces, the latter to ensure good bond between the concrete and the pipes.
- 4) Pipes shall be fitted with a screw-on watertight shoe and cap and shall be securely fixed to the interior of the reinforcing steel cage. The pipes shall be filled with water and plugged or capped before concrete placement. The upper end of the pipe shall not be left open during or after concrete placement. The pipes shall extend at least 2'-6" above the top of the drilled shaft concrete. The lower end of the pipes shall extend to the bottom of the shaft. Do not extend pipes into rock sockets with smaller diameter than drilled shafts.
- 5) Allow up to 14 days for the Engineer to perform CSL testing.
- 6) Cost for furnishing and installing all materials to complete CSL testing shall be included with the cost of Drilled Shafts in Soil. Testing will be completed by the Engineer at no cost to the Contractor. If test results are unsatisfactory according to the Engineer, the Contractor shall propose a method of correction to the Engineer for approval. The correction shall be at the expense of the Contractor.

**INDEX OF SHEETS**

1. General Plan and Elevation
2. General Data
3. Foundation Layout
4. Superstructure
5. Structural Steel
6. Structural Steel Details (Sheet 1 of 3)
7. Structural Steel Details (Sheet 2 of 3)
8. Structural Steel Details (Sheet 3 of 3)
9. Precast Fascia Beam
10. Precast Fascia Beam Details
11. Bearing Details
12. Membrane Waterproofing
13. Steel Railing (Special) Westside (Sheet 1 of 2)
14. Steel Railing (Special) Eastside (Sheet 2 of 2)
15. South Abutment
16. South Abutment Details
17. North Abutment
18. North Abutment Details
19. Pier
20. Subsurface Data Profile

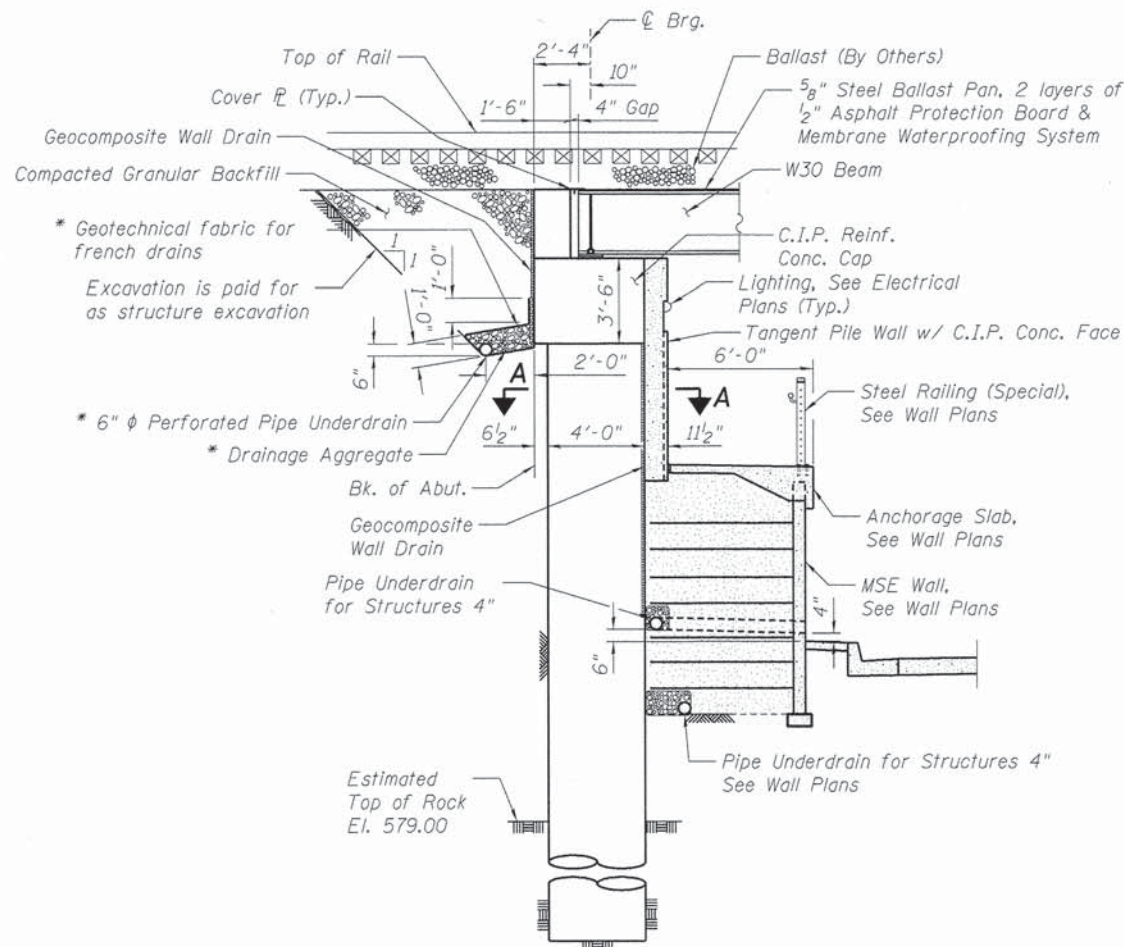
UNION PACIFIC RAILROAD  
S.N. 084-9952 BUILT 20... BY  
CITY OF SPRINGFIELD  
SEC. 13-00475-00-BR  
STATION 4727+37.87  
MILE POST 184.57  
LOADING COOPER E-80

**NAME PLATE**

See Std. 515001

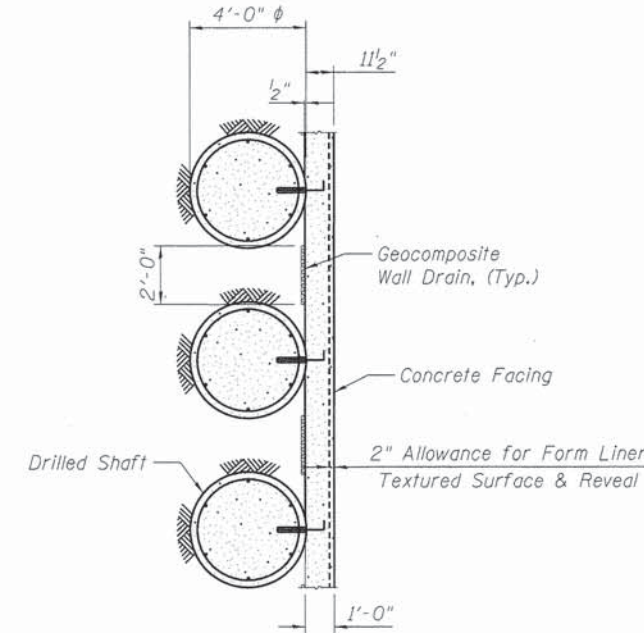
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.	-	170	170
Concrete Structures	Cu. Yd.	-	201.6	201.6
Form Liner Textured Surface	Sq. Ft.	-	654	654
Furnishing and Erecting Structural Steel, Bridge No. 1	L. Sum	1	-	1
Reinforcement Bars	Pound	-	79540	79540
Reinforcement Bars, Epoxy Coated	Pound	-	36320	36320
Name Plates	Each	-	1	1
Drilled Shaft in Soil	Cu. Yd.	-	235.1	235.1
Drilled Shaft in Rock	Cu. Yd.	-	52.2	52.2
Membrane Waterproofing	Sq. Ft.	3705	-	3705
Concrete Sealer	Sq. Ft.	1479	2312	3791
Geocomposite Wall Drain	Sq. Yd.	-	94	94
Anti-Graffiti Protection System	Sq. Ft.	233	1115	1348
Concrete Surface Color Treatment	Sq. Ft.	233	306	539
Granular Backfill for Structures	Cu. Yd.	-	102	102
Steel Railing (Special)	Foot	188	-	188
Pipe Underdrains for Structures, 4"	Foot	-	102	102
Pipe Underdrains for Structures, 6"	Foot	-	100	100
Precast Prestressed Concrete Fascia Beam	Foot	84	-	84

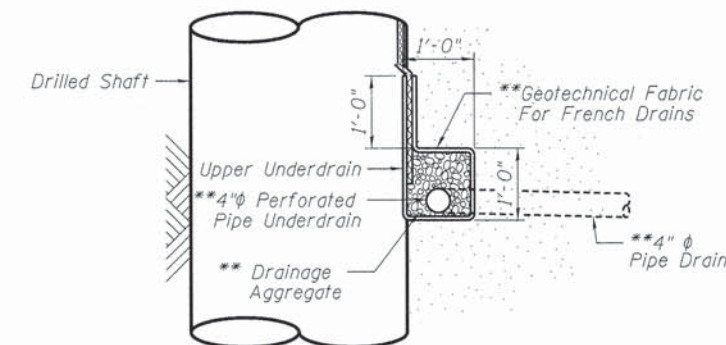


**ABUTMENT SECTION**

\* Included in the cost of "Pipe Underdrains for Structures, 6".



**SECTION A-A**



**PIPE UNDERDRAIN DETAIL**

\*\* Included in the cost of "Pipe Underdrains for Structures, 4".

DESIGNED 12/10/13  
DRAWN 1/2/14  
REVIEWED 2/25/14

FILE NAME = USER NAME = pop00275



DESIGNED - MJW	CHECKED - MNM
DRAWN - GTJ	REVIEWED -
PLOT DATE = 02/26/2014	CHECKED - MNM

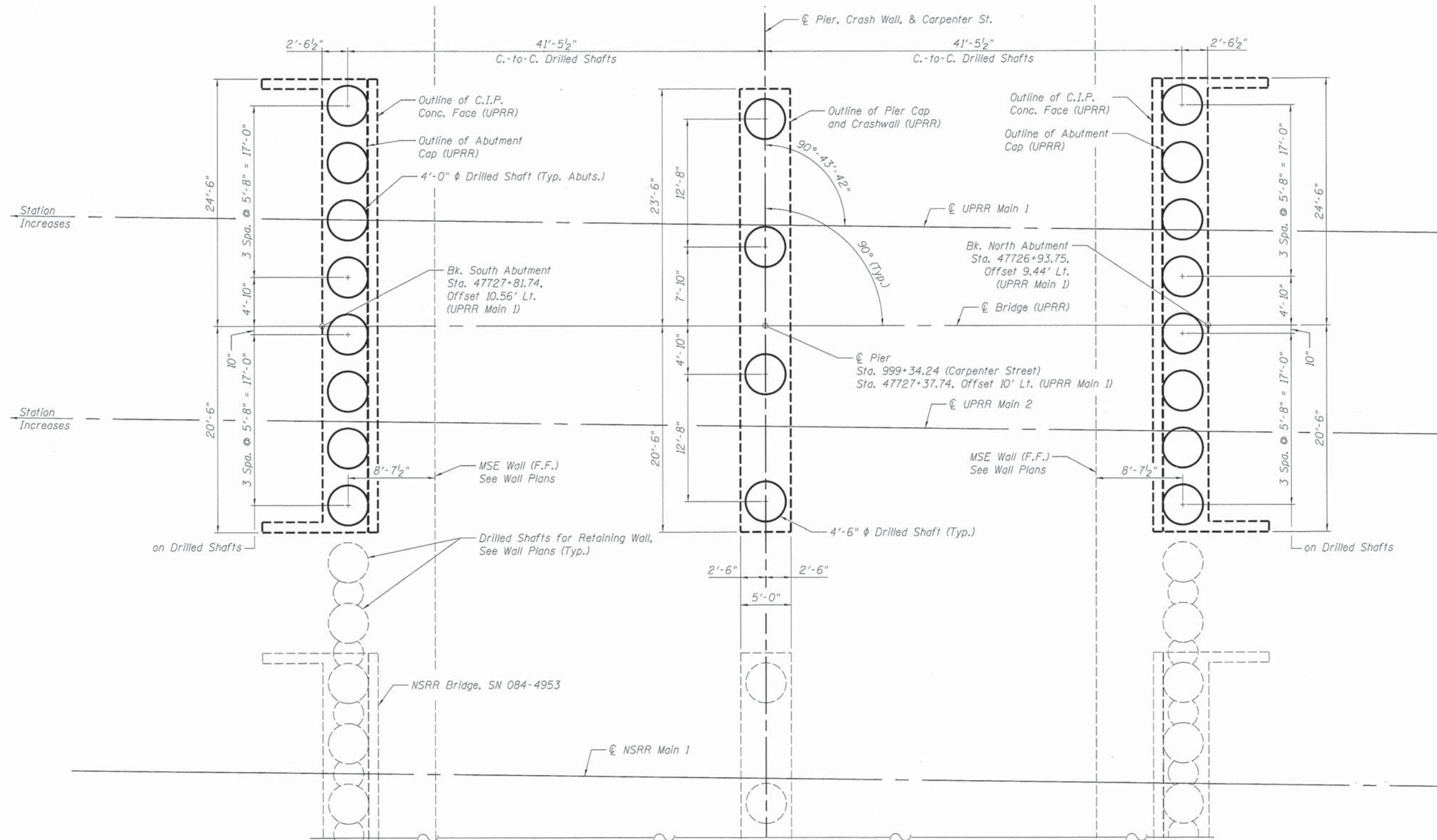
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL DATA  
STRUCTURE NO. 084-9952

SHEET NO. 2 OF 20 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 104
CONTRACT NO. 93617				

ILLINOIS FED. AID PROJECT



**FOUNDATION LAYOUT PLAN**



Notes:  
 See NSRR Bridge Sheet 4 of 18 for existing utilities and topography.  
 See NSRR Bridge Sheet 4 and 5 of 18 for construction sequence details.

FINAL  
 DESIGNED - MJW  
 DRAWN - GTJ  
 REVIEWED - MNM

DESIGNED - MJW	12/10/13
DRAWN - GTJ	1/2/14
REVIEWED - MNM	2/25/14

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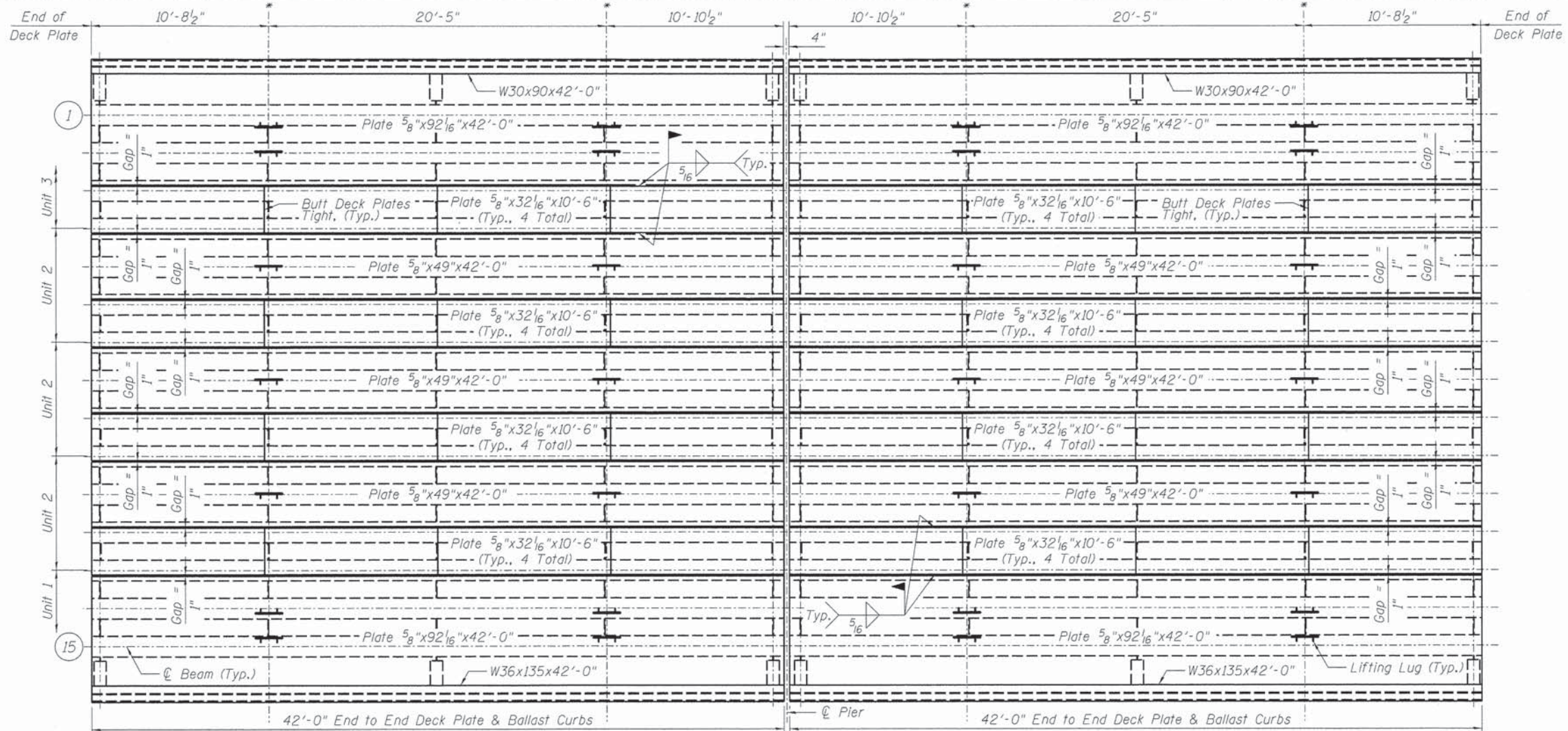
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PLOT DATE = 02\26\2014	DRAWN - GTJ	REVISED -
	CHECKED - MNM	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FOUNDATION LAYOUT  
 STRUCTURE NO. 084-9952**

SHEET NO. 3 OF 20 SHEETS

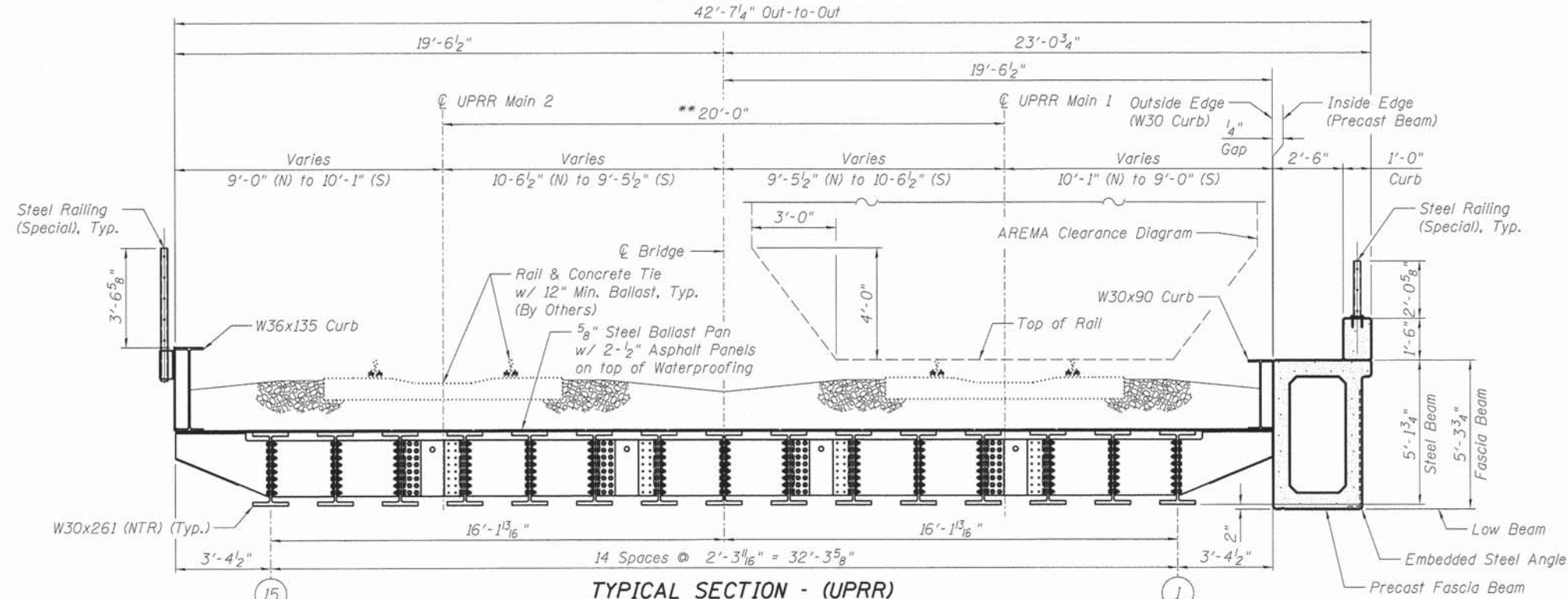
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7975	13-00475-00-BR	SANGAMON	196	105
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				



\* Indicates Location of Lifting Lugs. See Sheet 7 of 20.  
 \*\* Dimensions are at Rt. 2's to C Track.

Notes:  
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

PLAN - DECK PLATE WITH CURBS



TYPICAL SECTION - (UPRR)

(Looking South)

FINAL  
 DESIGNED MJW 12/10/13  
 DRAWN GTJ 1/2/14  
 REVIEWED MNM 2/25/14

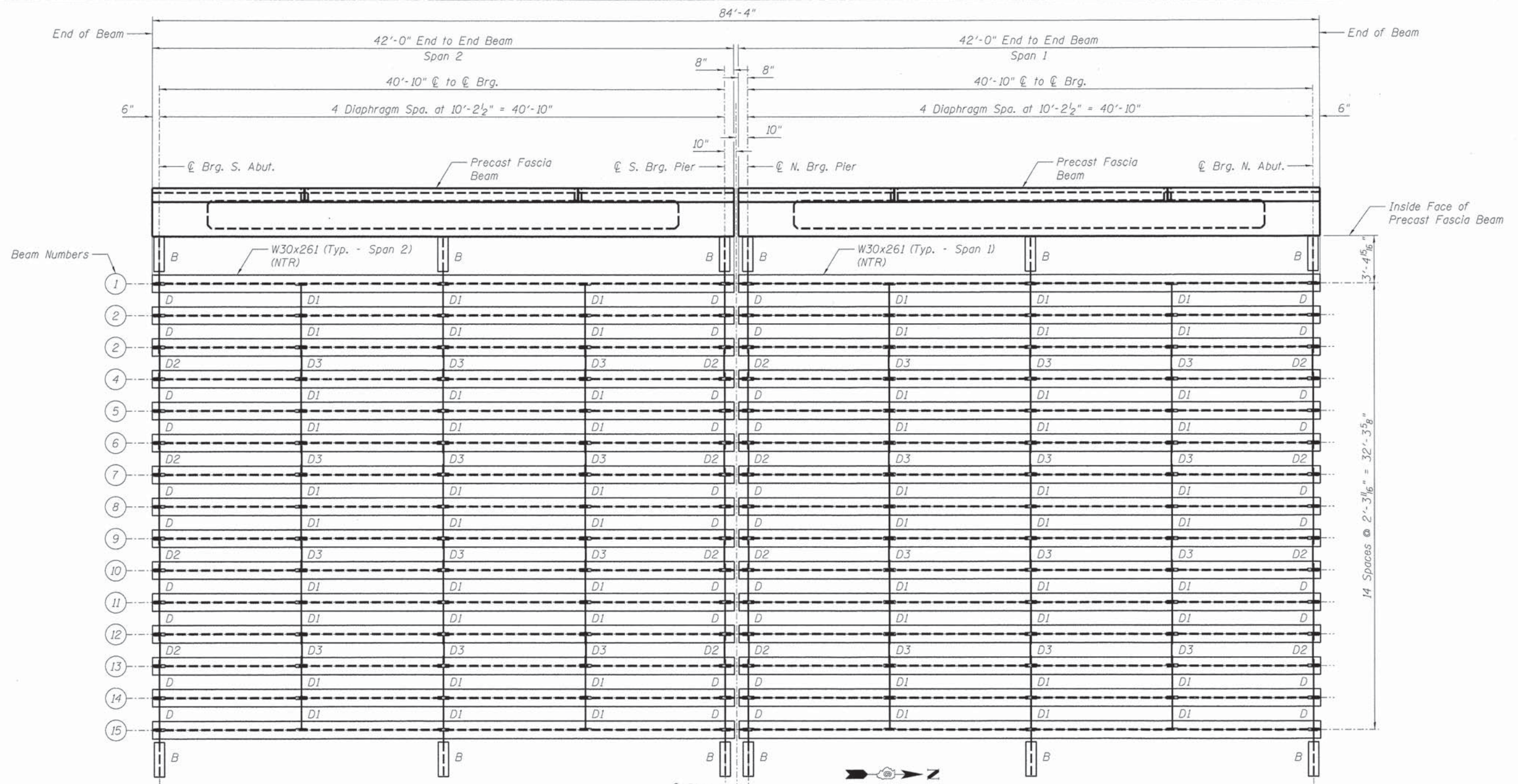
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

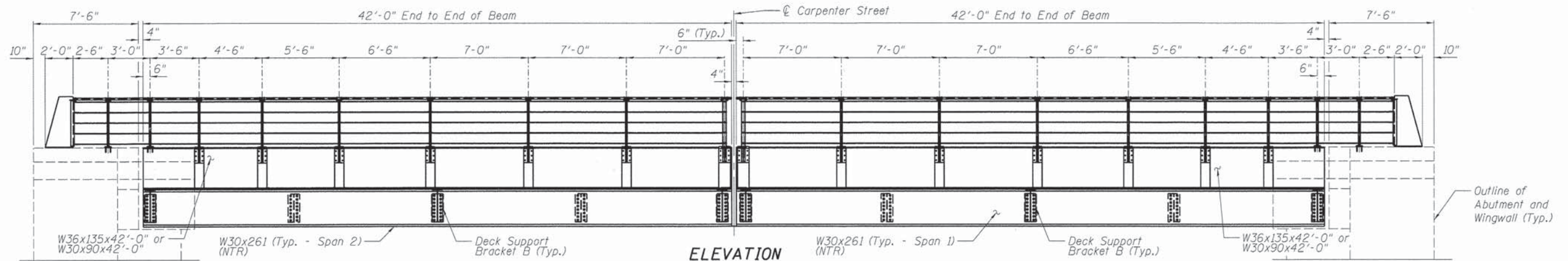
SUPERSTRUCTURE  
 STRUCTURE NO. 084-9952

SHEET NO. 4 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	106
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**FRAMING PLAN**



**ELEVATION**

(Rail Post Spacing only for W36x135 Curb)

FINAL  
DESIGNED M.J.W. 12/10/13  
DRAWN G.T.J. 1/27/14  
REVIEWED M.N.M. 1/25/14

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		CHECKED - M.N.M.	REVISED -
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	PLOT DATE = 02/26/2014	CHECKED - M.N.M.	REVISED -

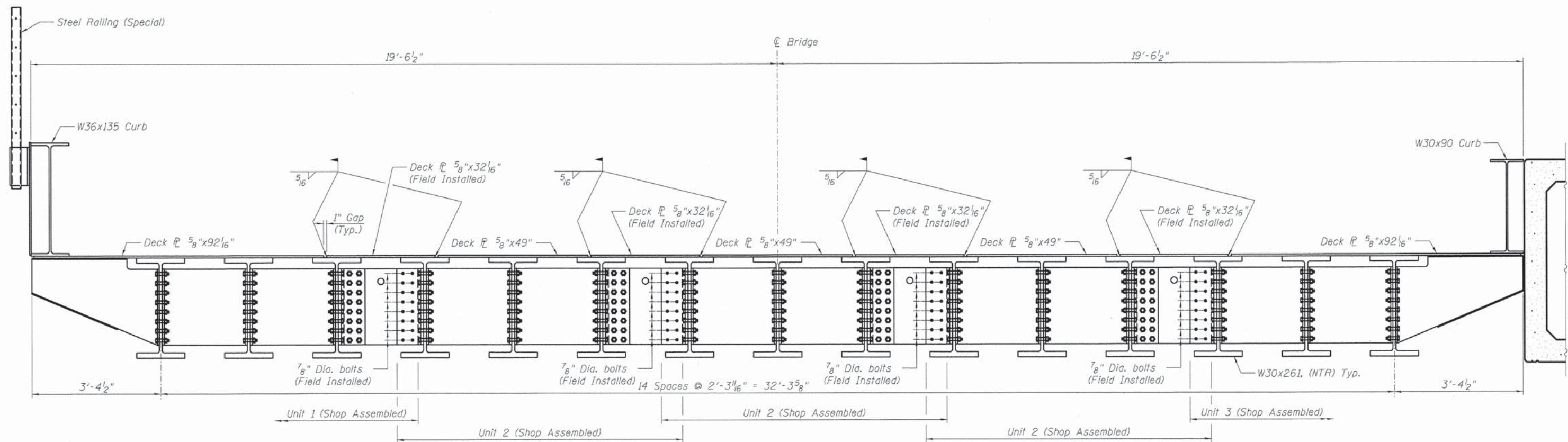
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL  
STRUCTURE NO. 084-9952**

SHEET NO. 5 OF 20 SHEETS

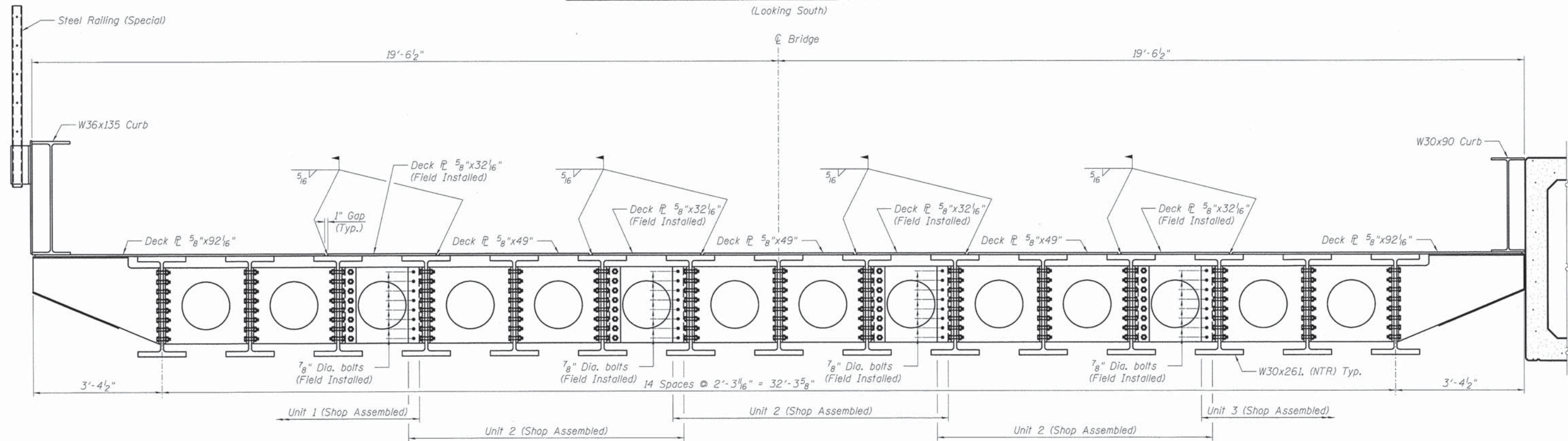
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	107
CONTRACT NO. 9 3 6 1 7				

ILLINOIS FED. AID PROJECT



**SECTION - ASSEMBLED SPAN AT INTERIOR DIAPHRAGM**

(Looking South)



**SECTION - ASSEMBLED SPAN AT END DIAPHRAGM**

(Looking South)

Notes:  
Bolts shall be 7/8"  $\phi$  placed in 1 5/16"  $\phi$  holes unless otherwise noted.  
Steel shall conform to ASTM A709 Gr. 50, unless otherwise noted.

FINAL  
DESIGNED 12/10/13  
DRAWN 1/2/14  
REVIEWED 2/25/14

FILE NAME =	USER NAME = pop02275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
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	PLOT DATE = 02/26/2014	CHECKED - MNM	REVISED -

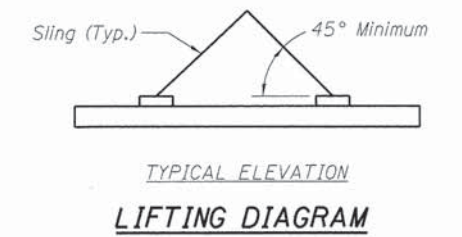
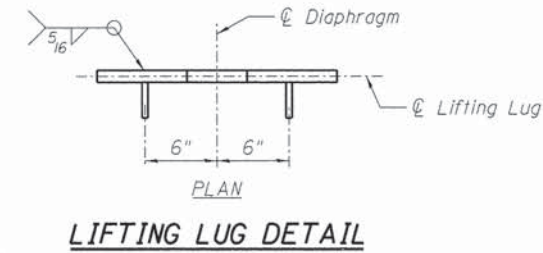
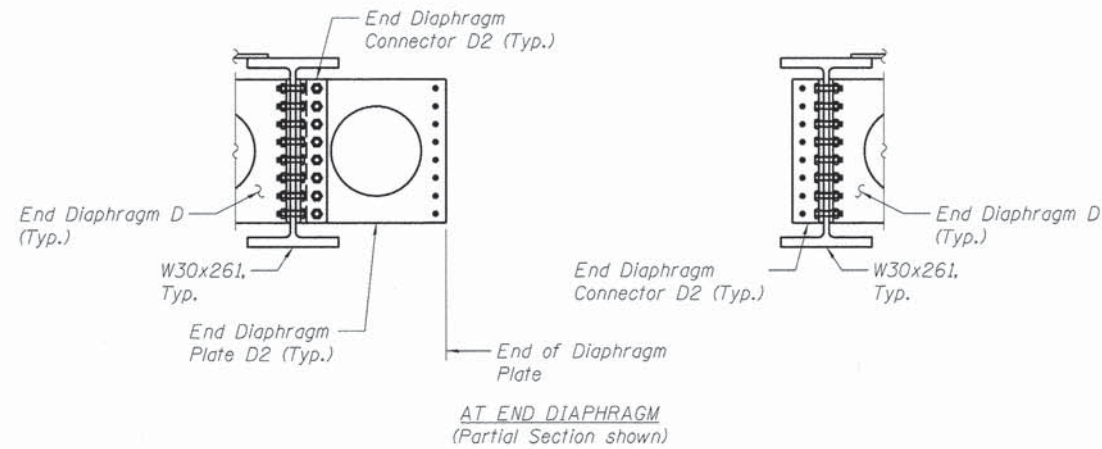
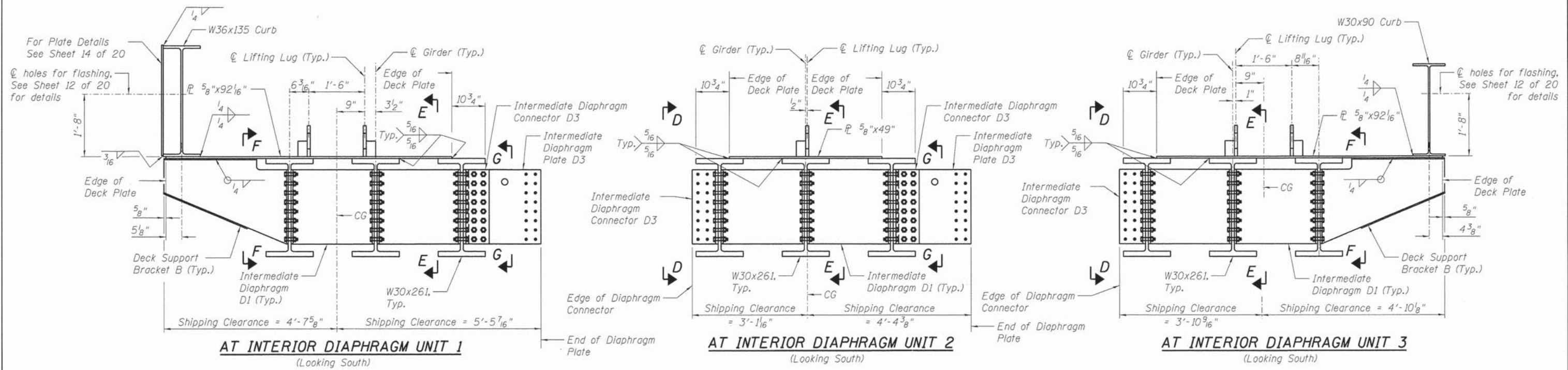
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS (SHEET 1 OF 3)  
STRUCTURE NO. 084-9952

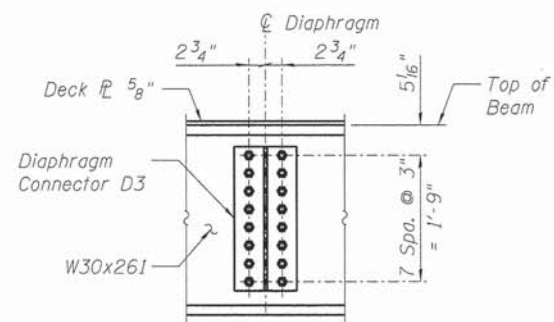
SHEET NO. 6 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	108
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				

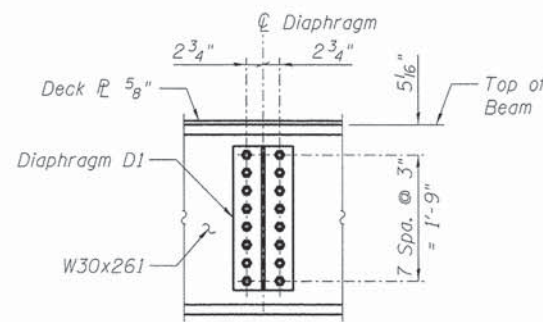




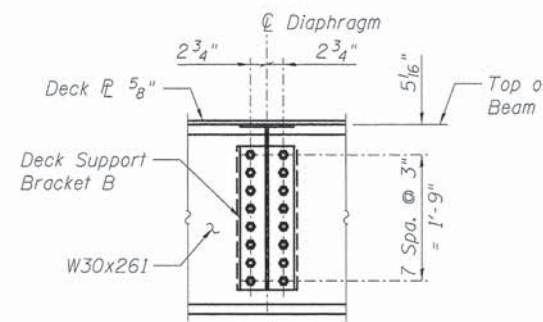
Notes:  
 Bolts shall be 7/8"  $\phi$  placed in 5/16"  $\phi$  holes unless otherwise noted.  
 Steel shall conform to ASTM A709 Gr. 50, unless otherwise noted.  
 After assembled span is in final position, lifting lugs shall be burned or ground off in a manner that will not damage the waterproofing system.



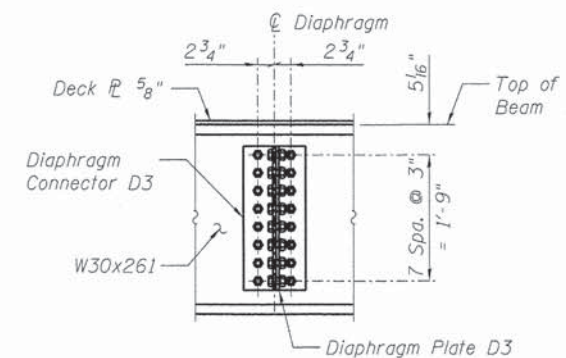
SECTION - D-D



SECTION - E-E



SECTION - F-F



SECTION - G-G

FINAL  
 DESIGNED M.J.W. 12/10/13  
 DRAWN G.T.J. 1/2/14  
 REVIEWED M.N.M. 2/25/14

FILE NAME: p:\sp\svr\306\hanson\_dom\hanson\_projects\documents\09\jobs\09\01798\CAD\struct\carpenter\sheet\0849952-09\01798-superstructure\assembly\details2.dgn

USER NAME = pop0275  
 PLOT SCALE = 0:1.0000 1' = 1/4"  
 PLOT DATE = 02\26\2014

DESIGNED - M.J.W.  
 CHECKED - M.N.M.  
 DRAWN - G.T.J.  
 CHECKED - M.N.M.

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS (SHEET 2 OF 3)  
 STRUCTURE NO. 084-9952

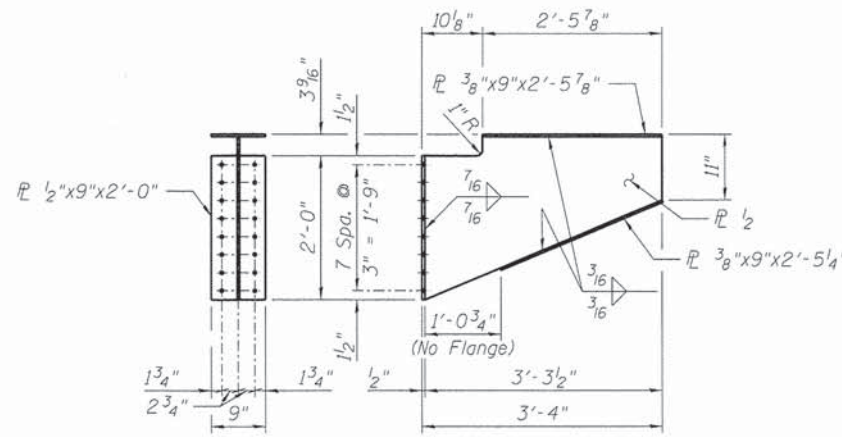
SHEET NO. 7 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	109
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

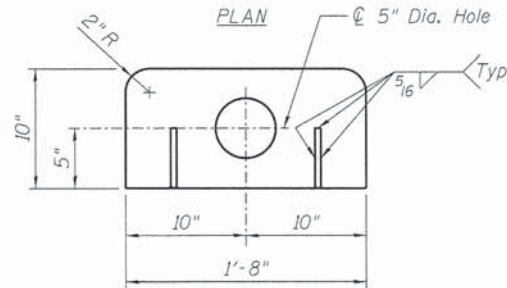
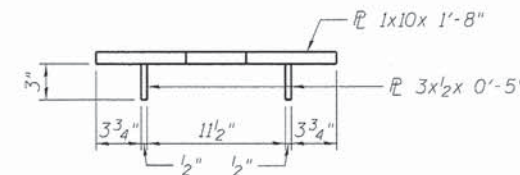
**INTERIOR BEAM MOMENT & SHEAR TABLE**

Description	Max Moment	Max Shear
Dead Load	248.0 ft.-k	24.2 k
Live Load	604.4 ft.-k	64.4 k
Impact	244.6 ft.-k	26.0 k
Total	1097.0 ft.-k	114.6 k
Section	W30x261	
Steel	ASTM A709, Gr. 50, NTR Zone 2	
Net I	12,748 in <sup>4</sup>	
Net S (Bott.)	808 in <sup>3</sup>	
FST (Bott.)	16.3 ksi	
Gross I	13,100 in <sup>4</sup>	
Gross S (Top)	829 in <sup>3</sup>	
FSC (Top)	15.9 ksi	
(LL+I) Deflection	0.62 in	
Allowable (LL+I) Deflection	0.77 in	

I - Non-composite moment of inertia of the steel section  
 S - Non-composite section modulus of the steel section  
 FST - Max unfactored tension stress in steel section due to DL+LL+Impact  
 FSC - Max unfactored compression stress in steel section due to DL+LL+Impact

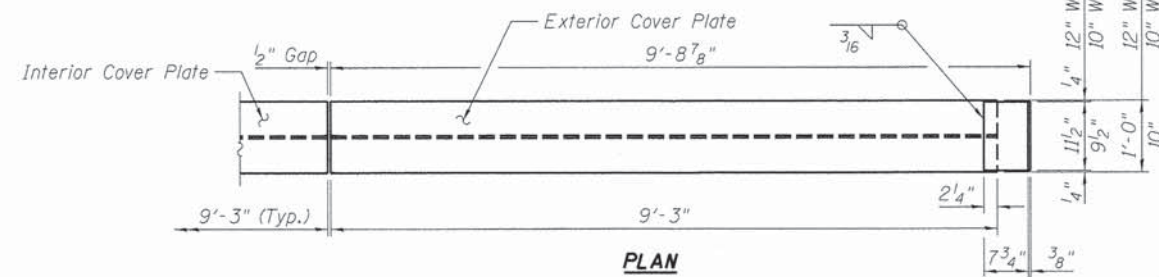


**DECK SUPPORT BRACKET B**

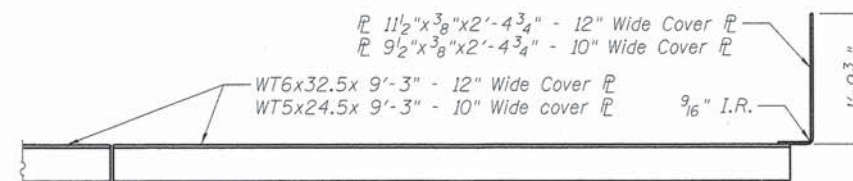


**ELEVATION**

**LIFTING LUG**

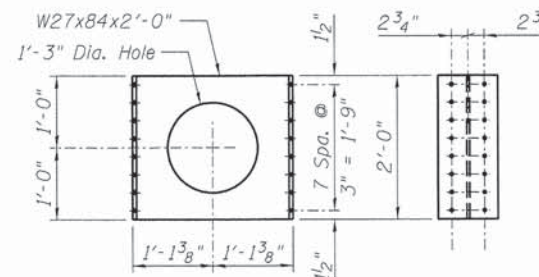


**PLAN**

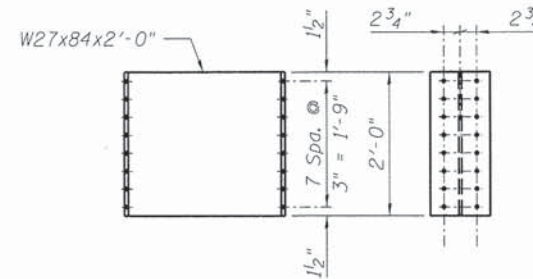


**ELEVATION**

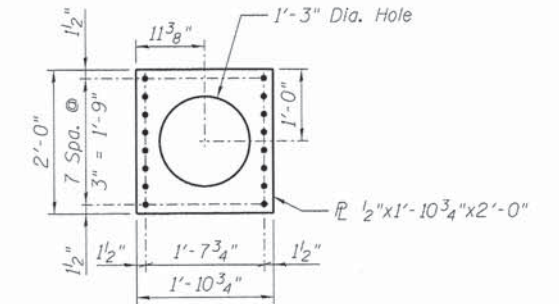
**COVER PLATES**



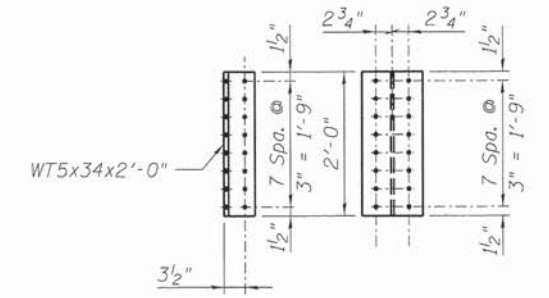
**END DIAPHRAGM D**



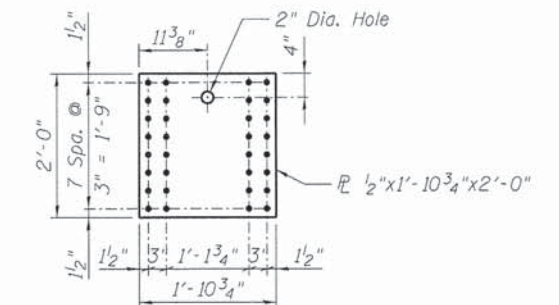
**INTERMEDIATE DIAPHRAGM D1**



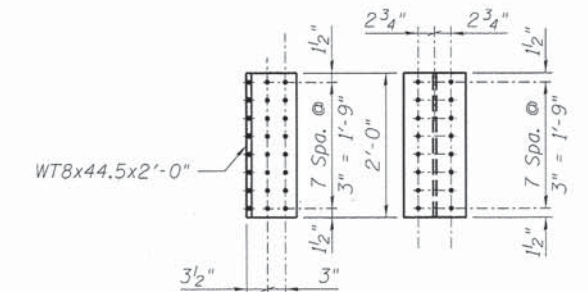
**END DIAPHRAGM PLATE D2**



**END DIAPHRAGM CONNECTOR D2**



**INTERMEDIATE DIAPHRAGM PLATE D3**



**INTERMEDIATE DIAPHRAGM CONNECTOR D3**

**Notes:**

All diaphragms shall be installed at the fabricators shop except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

Bolts shall be 7/8 inch diameter placed in 1 5/16 inch diameter holes unless otherwise noted. Steel shall conform to ASTM A709 Gr. 50, unless otherwise noted.

DESIGNED - MJW  
 DRAWN - GTJ  
 REVIEWED - MNM

FILE NAME = ... USER NAME = pop0275

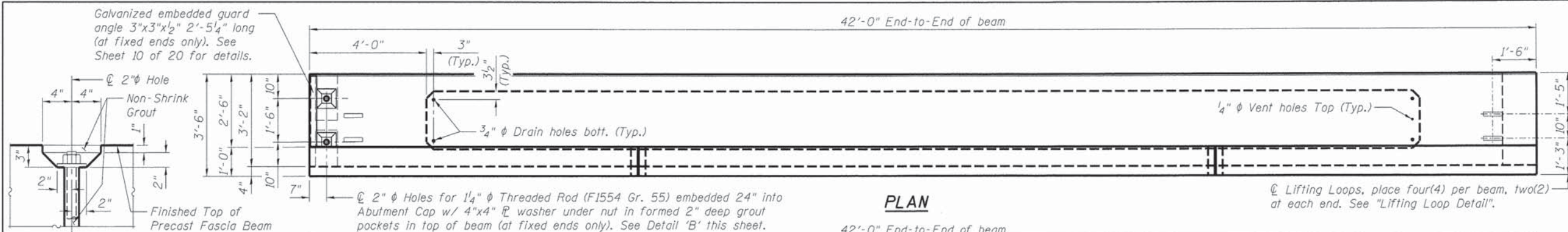
DESIGNED - MJW	REVISIONS
CHECKED - MNM	1
DRAWN - GTJ	2
CHECKED - MNM	3

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS (SHEET 3 OF 3)  
 STRUCTURE NO. 084-9952

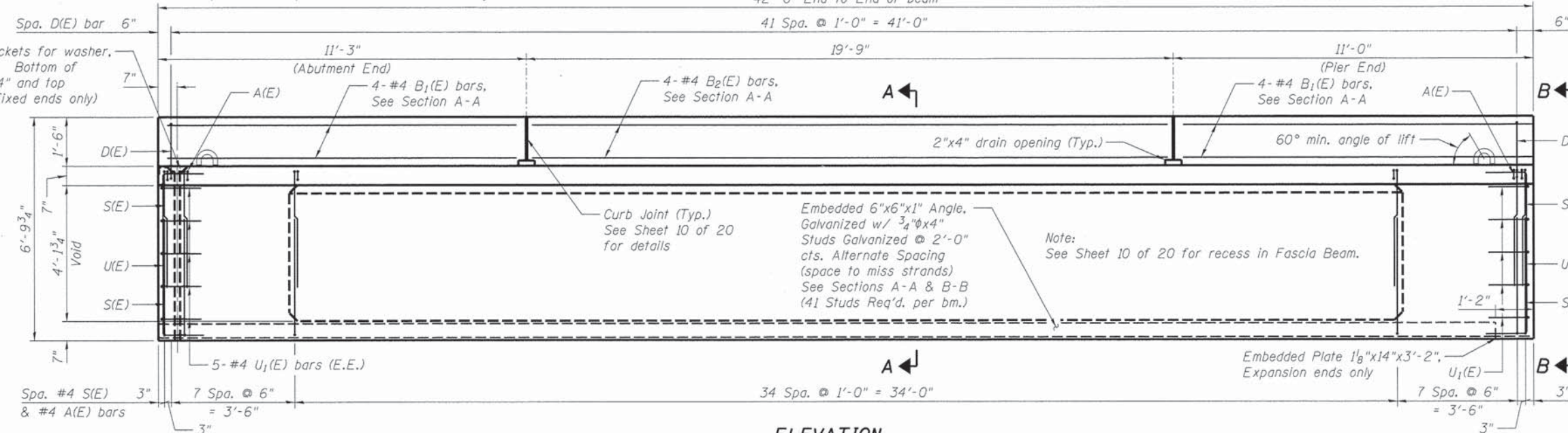
SHEET NO. 8 OF 20 SHEETS

F.A.U. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 110
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

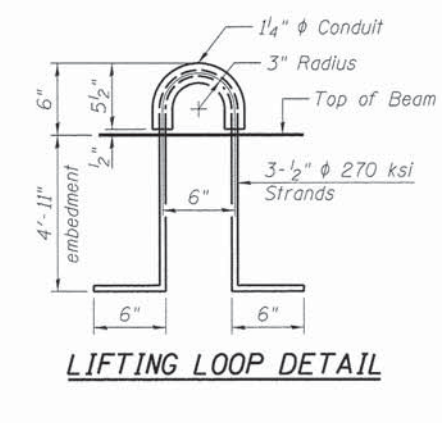
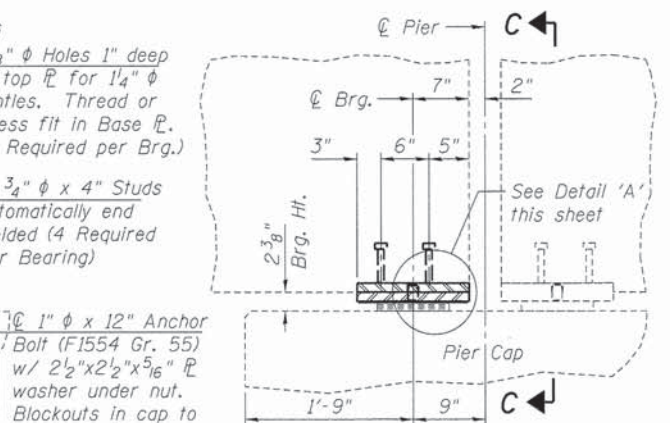
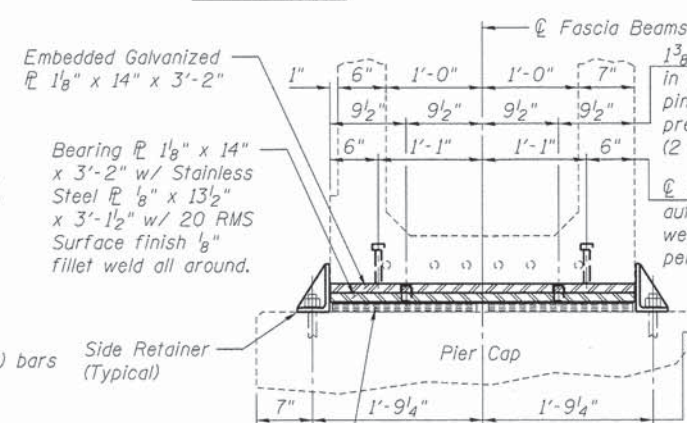
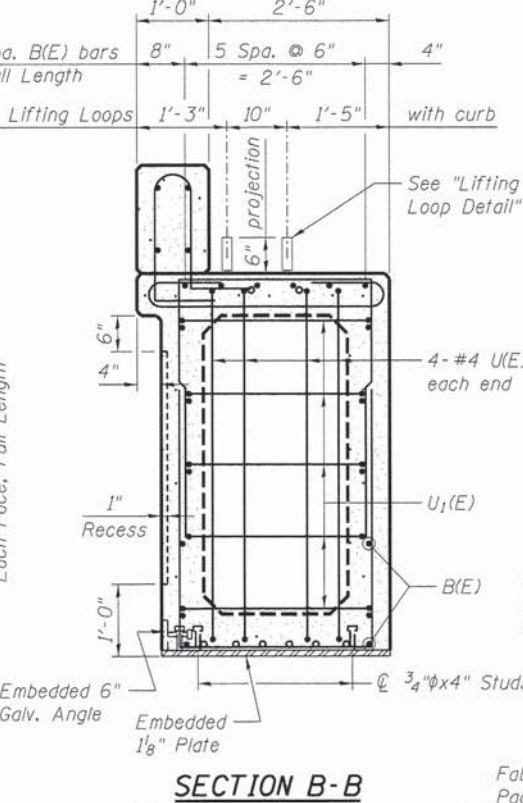
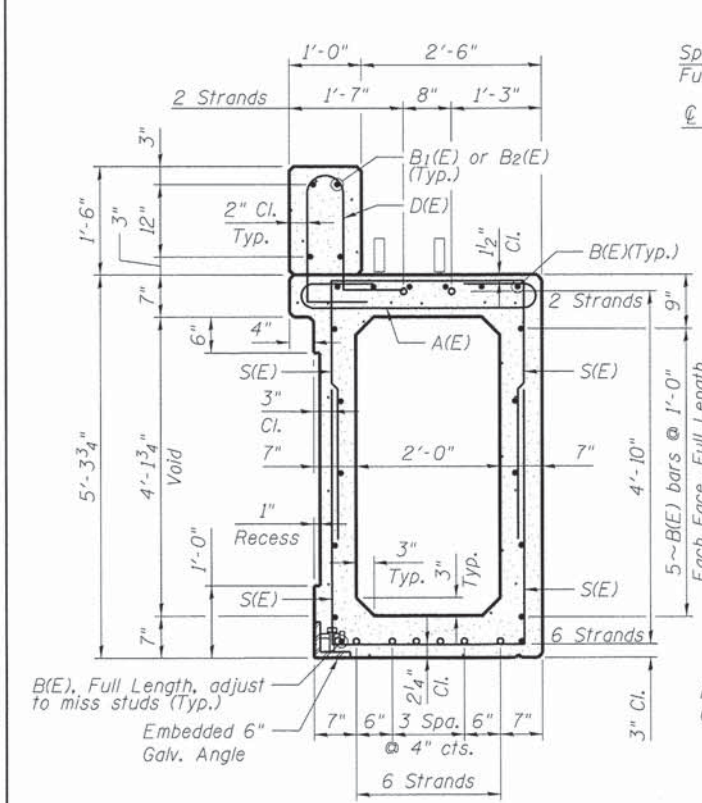


**DETAIL 'B'**

Formed 2" deep grout pockets for washer, nut and non-shrink grout. Bottom of pocket dimensions of 4"x4" and top dimensions of 8"x8". (at fixed ends only) See Detail 'B' this sheet.



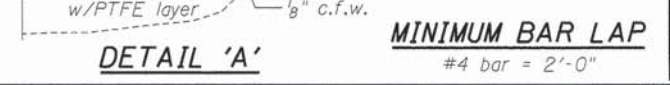
**ELEVATION**



Notes:  
See Sheet 10 of 20 for Notes.

**BAR LIST ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
A(E)	51	#4	5'-3"	[Shape]
B(E)	18	#6	41'-8"	[Shape]
B <sub>1</sub> (E)	8	#4	10'-8"	[Shape]
B <sub>2</sub> (E)	4	#4	19'-5"	[Shape]
D(E)	42	#4	5'-6"	[Shape]
S(E)	102	#4	9'-10"	[Shape]
U(E)	8	#4	7'-5"	[Shape]
U <sub>1</sub> (E)	10	#4	5'-1"	[Shape]



DESIGNED 12/10/13  
DRAWN 1/2/14  
REVIEWED 2/25/14

FILE NAME =  
USER NAME = pop0275  
DESIGNED - MJW  
CHECKED - MNM  
DRAWN - GTJ  
REVIEWED - MNM

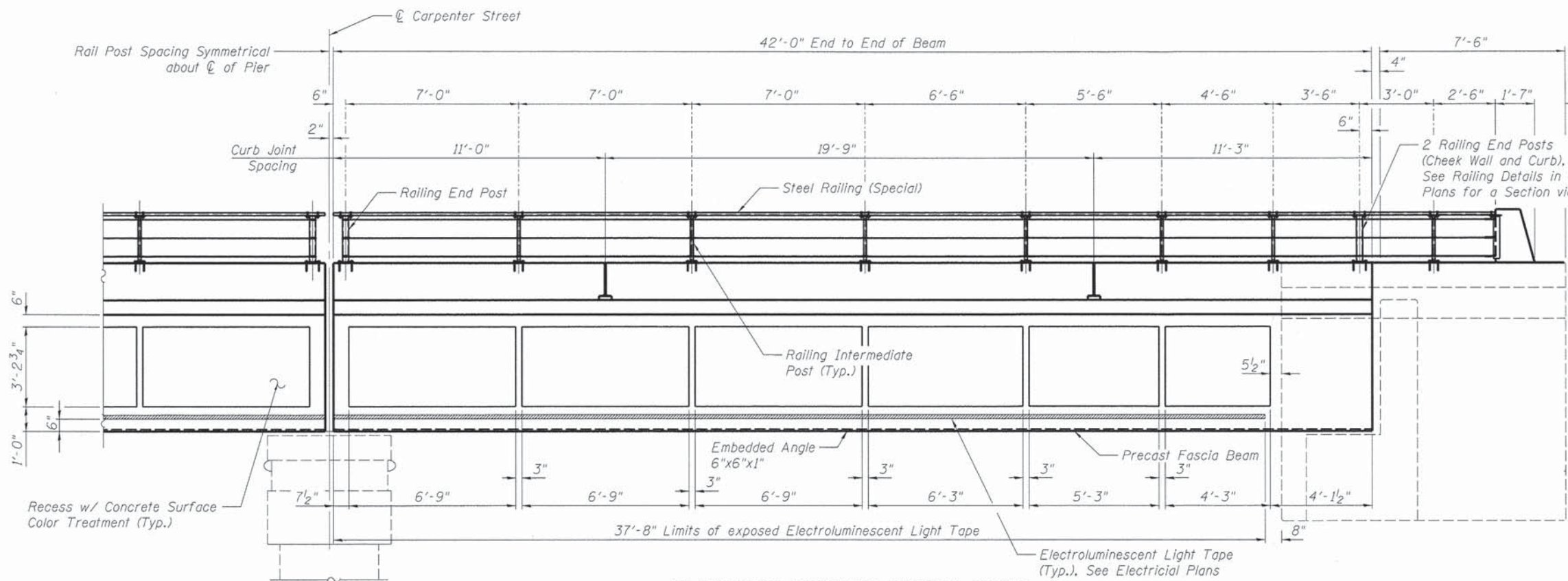
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PLOT DATE = 02-26-2014

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CHECKED - MNM  
DRAWN - GTJ  
REVIEWED - MNM

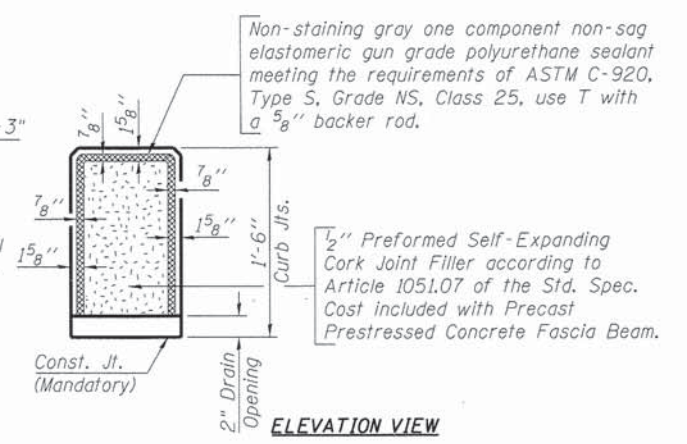
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PRECAST FASCIA BEAM  
STRUCTURE NO. 084-9952  
SHEET NO. 9 OF 20 SHEETS

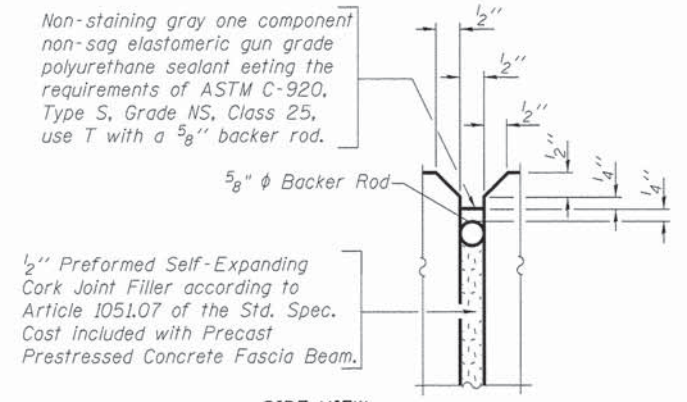
F.A.U. RTE. 7975  
SECTION 13-00475-00-BR  
COUNTY SANGAMON  
TOTAL SHEETS 196  
SHEET NO. 111  
CONTRACT NO. 93617  
ILLINOIS FED. AID PROJECT



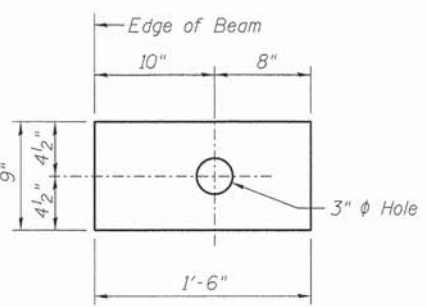
**ELEVATION PRECAST FASCIA BEAM**  
(Looking East)



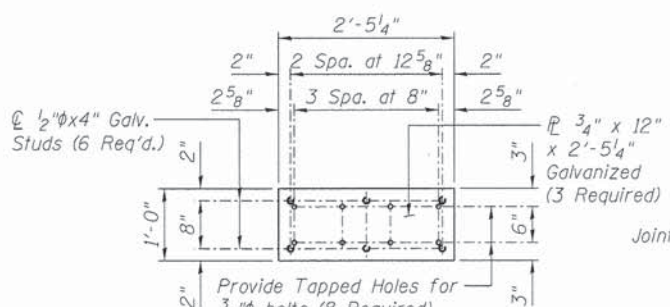
**ELEVATION VIEW**



**SIDE VIEW**  
**CURB JOINT DETAILS**

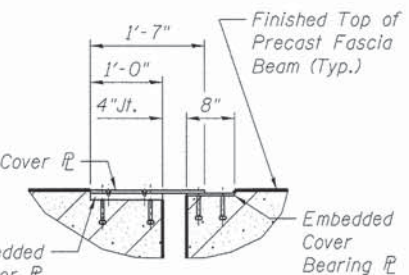


**FABRIC BEARING PAD**

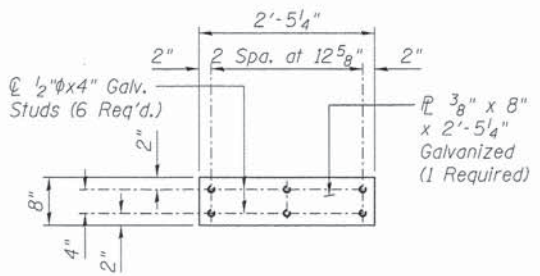


**EMBEDDED ANCHOR PLATE**

(1 Required at Expansion end of North Fascia Beam)  
(1 Required at Each Abutment Backwall)

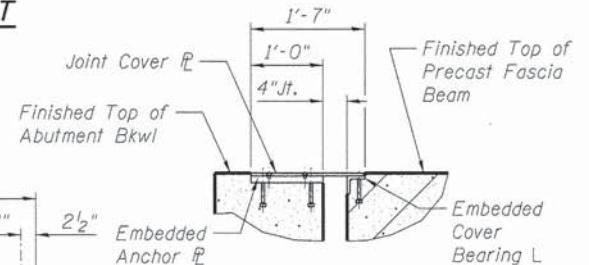


**SECTION AT EXPANSION JOINT**

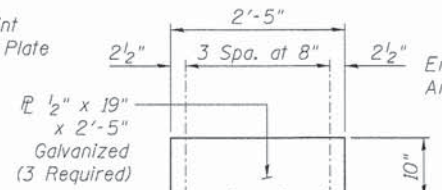


**EMBEDDED COVER BEARING PLATE**

(1 Required at Expansion End of South Fascia Beam)

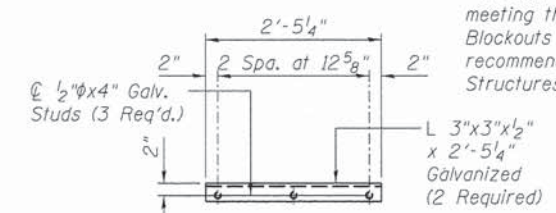


**SECTION AT FIXED JOINT**



**JOINT COVER PLATE**

(1 Required at each Fascia Beam Joint)



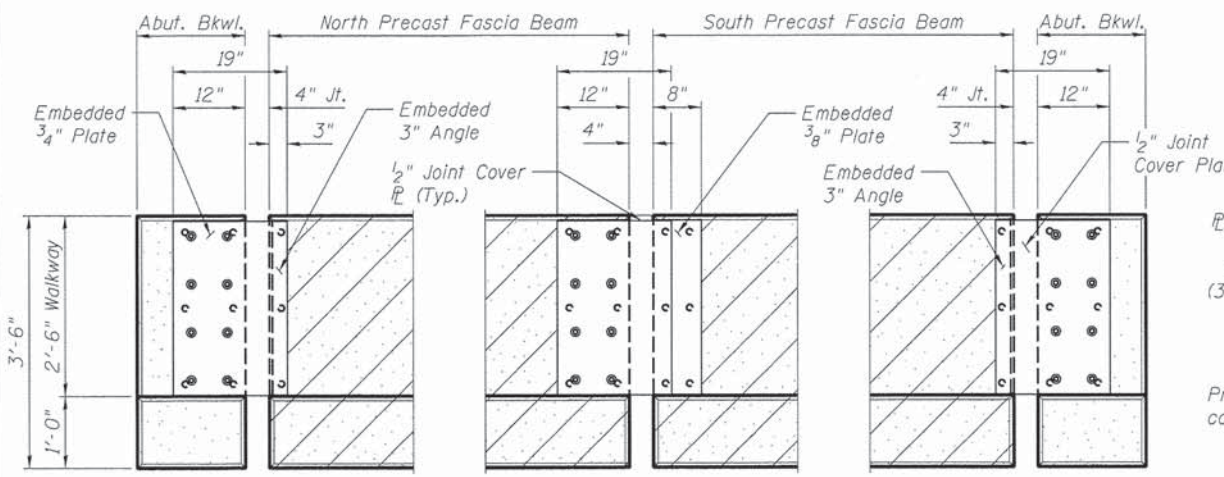
**EMBEDDED COVER BEARING ANGLE**

(1 Required at each Fixed End of Fascia Beams)

**Note:**  
For Railing Details See Sheet 13 of 20.  
All (embedded and separate) hardware, angles, bearing plates, side retainers, anchor bolts, threaded rods, nuts, washers and pintles shall be galvanized according to AASHTO M111 and ASTM 385 or M232 as applicable.  
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.  
Reinforcement bars shall conform to ASTM A 706, Grade 60.  
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
All bearing pads shall be 1" thick. Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.  
Expansion bearing pad shall have PTFE bonded to top surface. PTFE surface shall be bonded according to manufacturers recommendations.  
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete fascia beams. Compressive strength of prestressed concrete, f'c, shall be 6500 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi. Embedded angles, Side Retainers, Anchor Bolts, plates, studs, bearing pads, Threaded Rods, Non-Shrink Grout and accessories shall be included in the cost of Precast Prestressed Concrete Fascia Beam.  
Concrete curb shall be cast with the precast fascia beam and included in the cost of Precast Prestressed Concrete Fascia Beam.  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts and Threaded Rods shall be installed in blockouts with Non-Shrink Grout meeting the material requirements of Article 1024.02 of the Standard Specifications. Blockouts shall be clean prior to grouting and grout installed according to manufactures recommendations. Cost for non-shrink grout shall be included in the cost of Concrete Structures.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Precast Prestressed Concrete Fascia Beams	Foot	84
Concrete Surface Color Treatment	Sq. Ft.	233



**PLAN - FIXED JT. COVER AT NORTH ABUMENT**

**PLAN - EXP. JT. COVER AT PIER**

**PLAN - FIXED JT. COVER AT SOUTH ABUMENT**

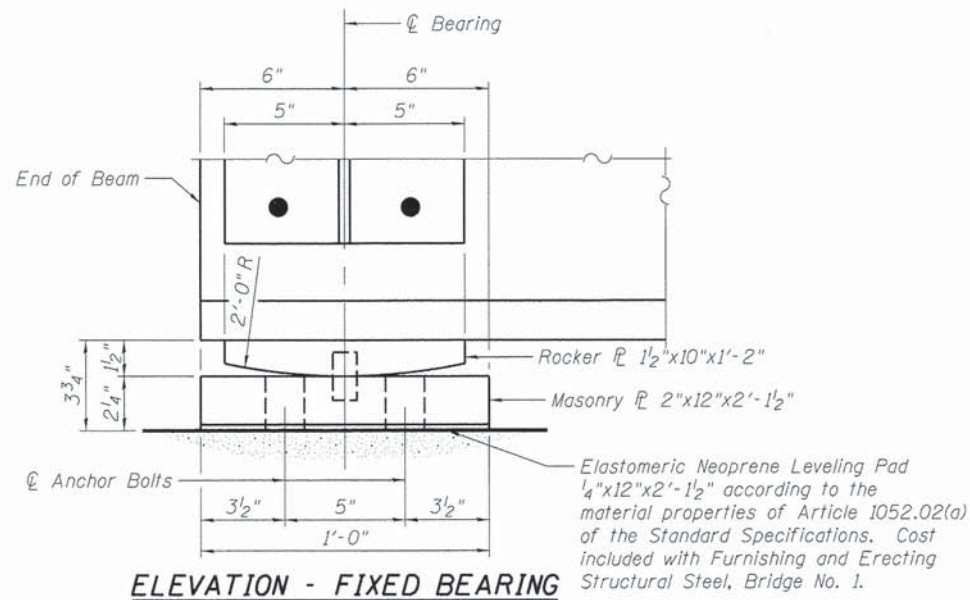
DESIGNED 12/10/13  
DRAWN 1/2/14  
REVIEWED 2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - MJW	REVISOR -
		CHECKED - MNM	REVISOR -
		DRAWN - GTJ	REVISOR -
		CHECKED - MNM	REVISOR -

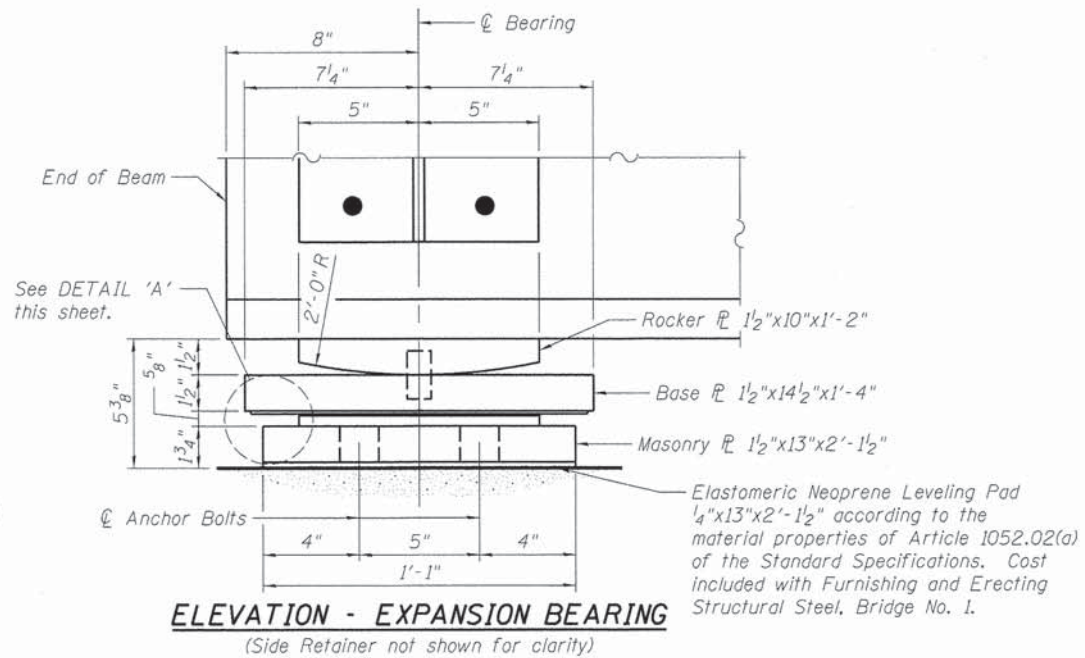
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PRECAST FASCIA BEAM DETAILS  
STRUCTURE NO. 084-9952  
SHEET NO. 10 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	112
				CONTRACT NO. 9361
ILLINOIS FED. AID PROJECT				



**ELEVATION - FIXED BEARING**

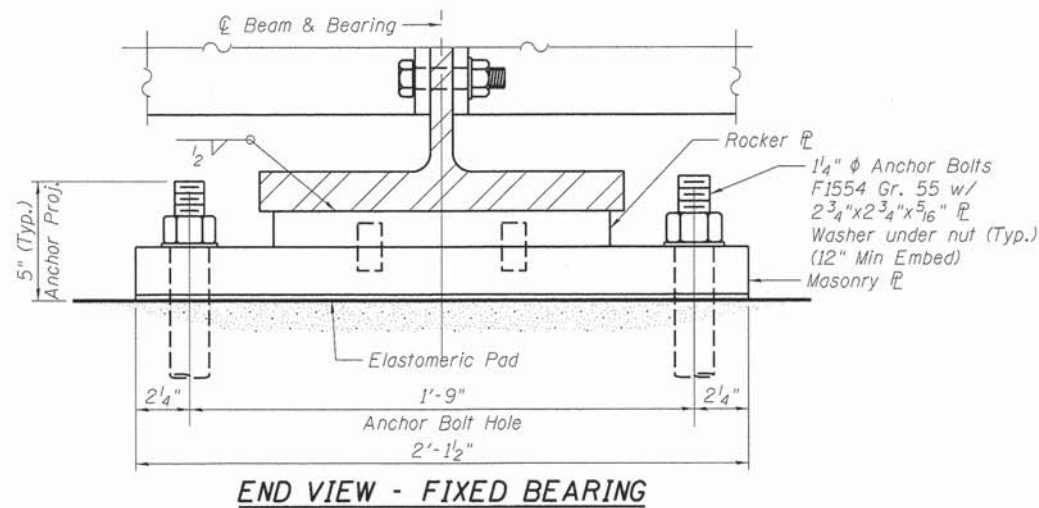


**ELEVATION - EXPANSION BEARING**

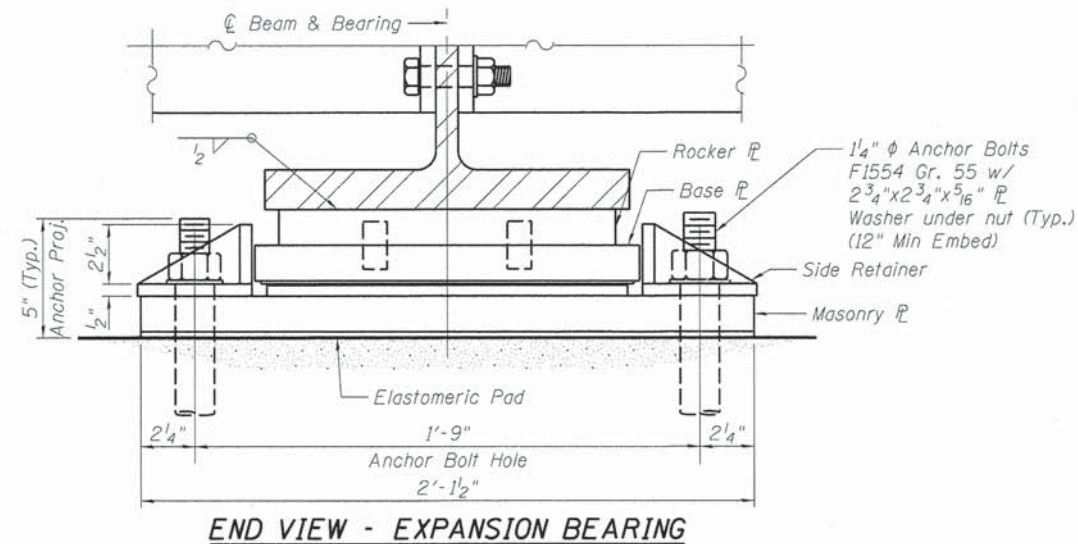
(Side Retainer not shown for clarity)

Notes:

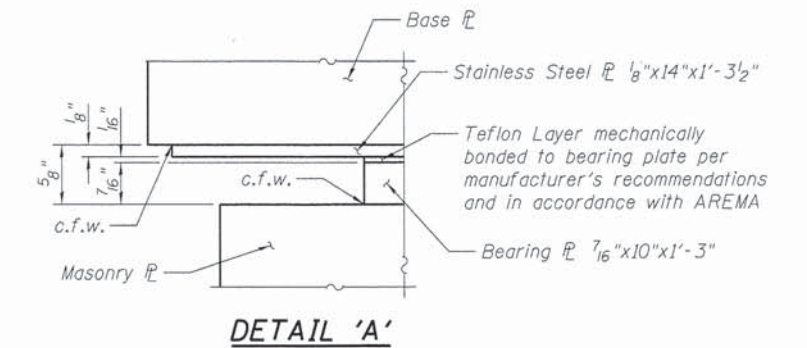
- The structural steel plates of the Bearing Assembly shall conform to the requirements of ASTM A709, Grade 50.
- Teflon Layer shall be composed of virgin unfilled TFE resin, unfilled TFE sheets, or unfilled TFE fabric. Filler material, such as milled glass fibers, will not be allowed. Teflon layer shall conform to the requirements of AREMA Chapter 15.
- The bearing assembly shall be according to Section 521 of the Standard Specifications where applicable. The bearing assembly and anchor bolts will not be paid for separately but included in the weight of Structural Steel for payment as "Furnishing and Erecting Structural Steel, Bridge No. 1".
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts shall be installed in blockouts with Non-Shrink Grout meeting the material requirements of Article 1024.02 of the Standard Specifications. Blockouts shall be clean prior to grouting and grout installed according to manufactures recommendations. Cost for non-shrink grout shall be included in the cost of Concrete Structures.



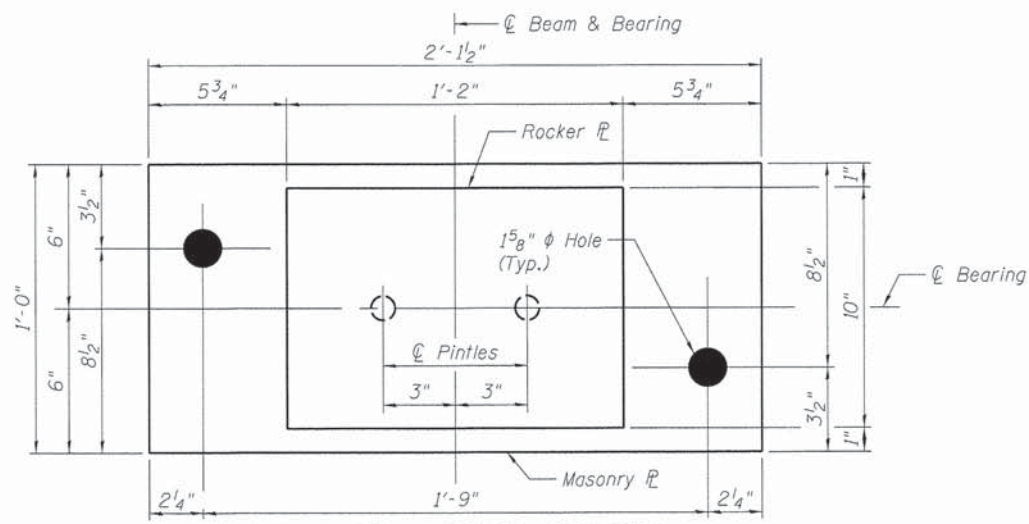
**END VIEW - FIXED BEARING**



**END VIEW - EXPANSION BEARING**

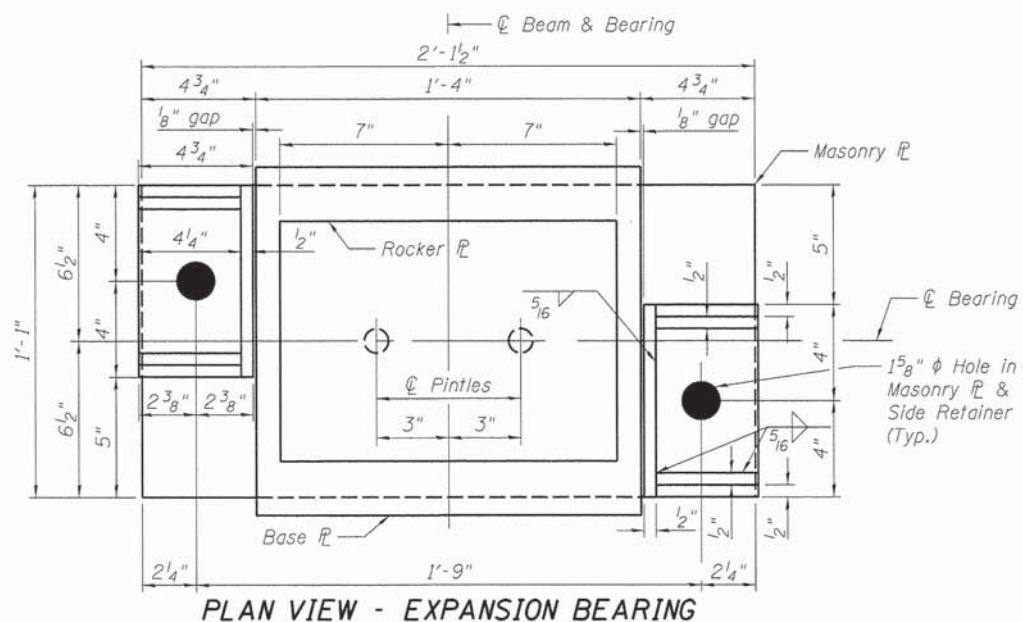


**DETAIL 'A'**



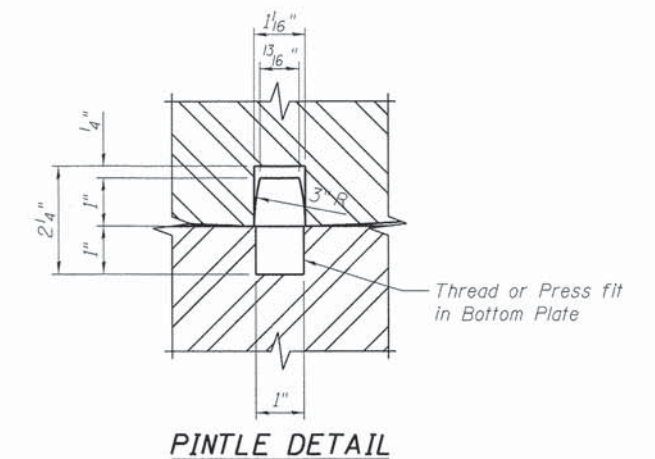
**PLAN VIEW - FIXED BEARING**

(N. Abutment Bearing - 15 required)  
(S. Abutment Bearing - 15 required)



**PLAN VIEW - EXPANSION BEARING**

(Pier Bearings - 30 required)



**PINTLE DETAIL**

FINAL  
DESIGNED MJW 12/10/13  
DRAWN GTJ 1/2/14  
REVIEWED MNM 2/25/14

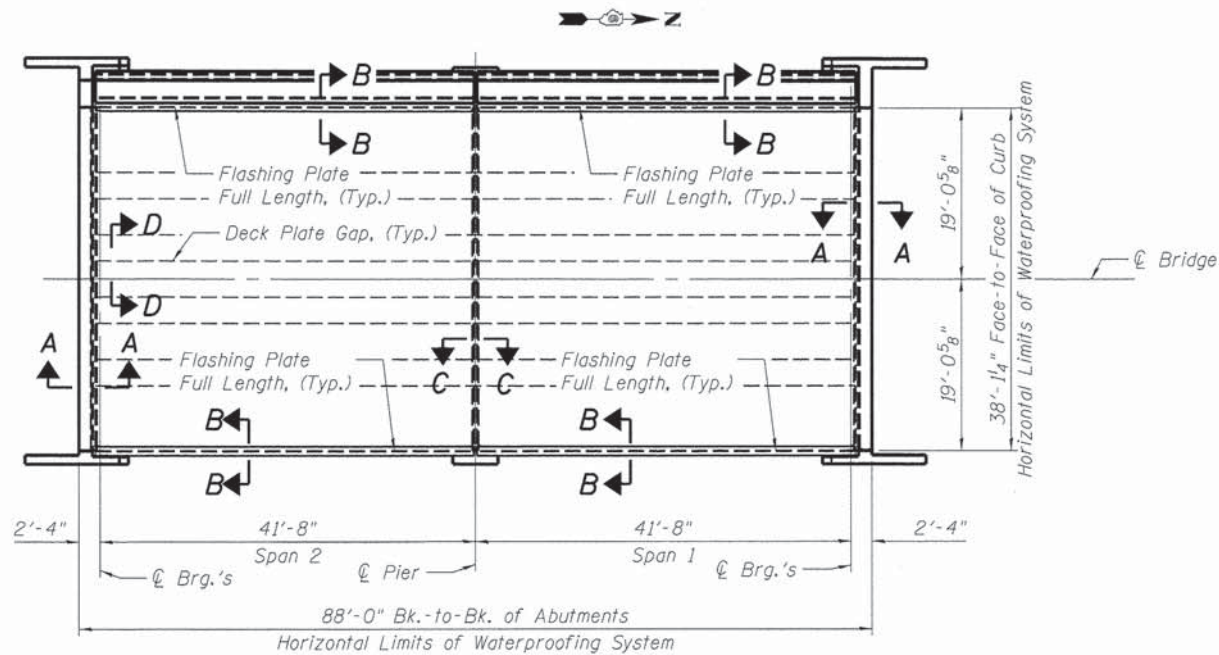
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		DRAWN - GTJ	REVISED -
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PLOT SCALE = 0:1.0000' = 1/8" / in.  
PLOT DATE = 02/26/2014

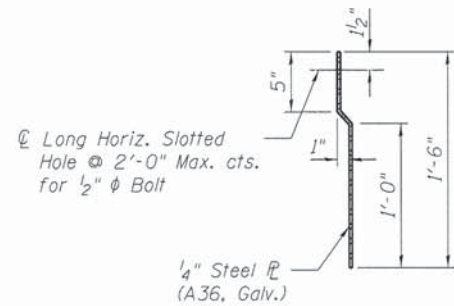
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS  
STRUCTURE NO. 084-9952  
SHEET NO. 11 OF 20 SHEETS

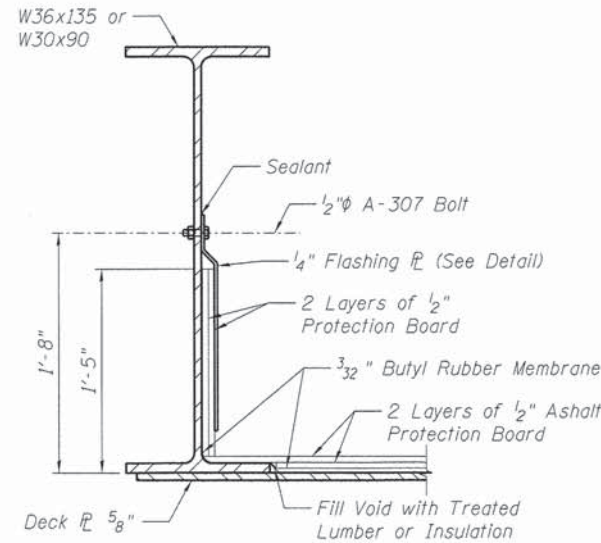
F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 113
			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				



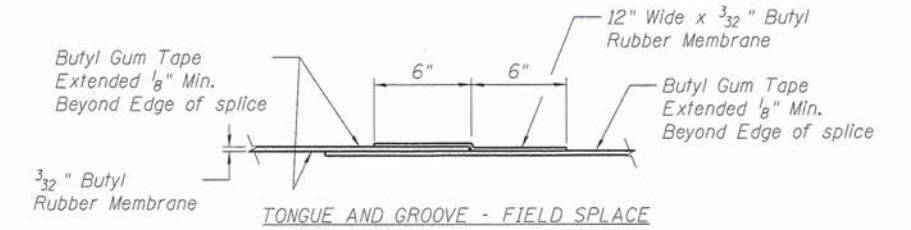
**WATERPROOFING LIMITS PLAN**



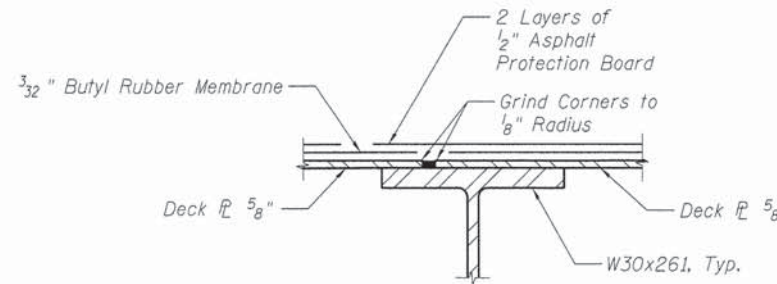
**CURB FLASHING DETAIL**



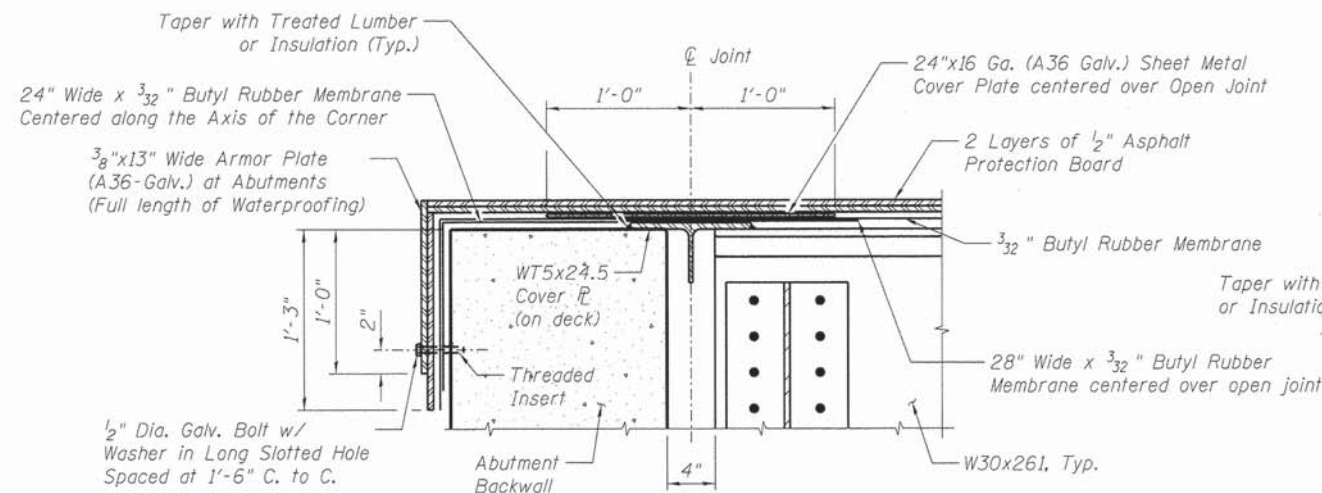
**SECTION B-B**



**BUTYL RUBBER MEMBRANE SPLICE DETAIL**



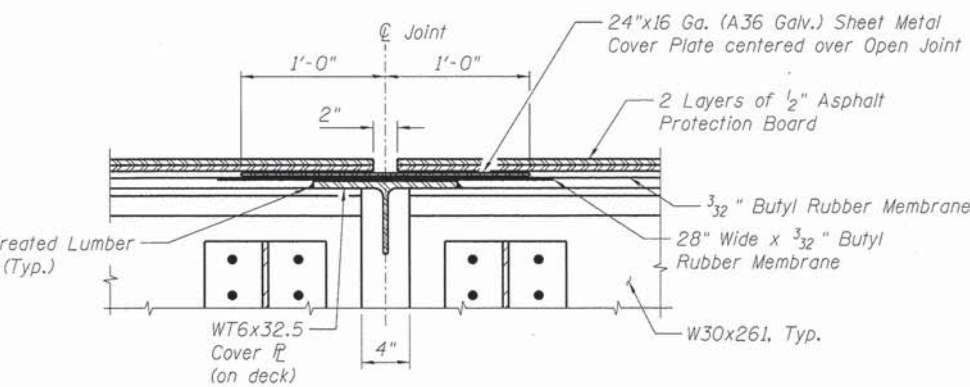
**SECTION D-D**



**Notes:**

1. Adhere galvanized sheet to asphalt protection on each side of joint.
2. Bridge deck membrane continuous thru joint.

**SECTION A-A**



**Notes:**

1. Adhere galvanized sheet to asphalt protection on one side of joint only.
2. Bridge deck membrane continuous thru joint.

**SECTION C-C**

**Notes:**

1. All structural steel plates, bolts, and washers for cover plates and waterproofing shall be galvanized.
2. Discontinue flashing at open joint over pier.
3. Cost of threaded inserts, sealant and tape shall be included in the cost of "Membrane Waterproofing".
4. The cover plate, sheet metal cover, armor plate, flashing, bolts, nuts and washers are included in the weight of the Structural Steel and will be paid for as "Furnishing and Erecting Structural Steel, Bridge No. 1".
5. Protective Asphaltic Panels shall have joints staggered, sealed and taped.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Membrane Waterproofing	Sq. Ft.	3705

Note: For cover plate details see sheet 8 of 20.

FINAL  
DESIGNED M/J 12/10/13  
DRAWN G/J 1/27/14  
REVIEWED M/M 2/25/14

FILE NAME = p:\api-svr\306.hanson.don\hanson\_projects\documents\09jobs\09\01798\CAD\Struct\Carpenter\Sheet\0849952-09\01798-Waterproofing

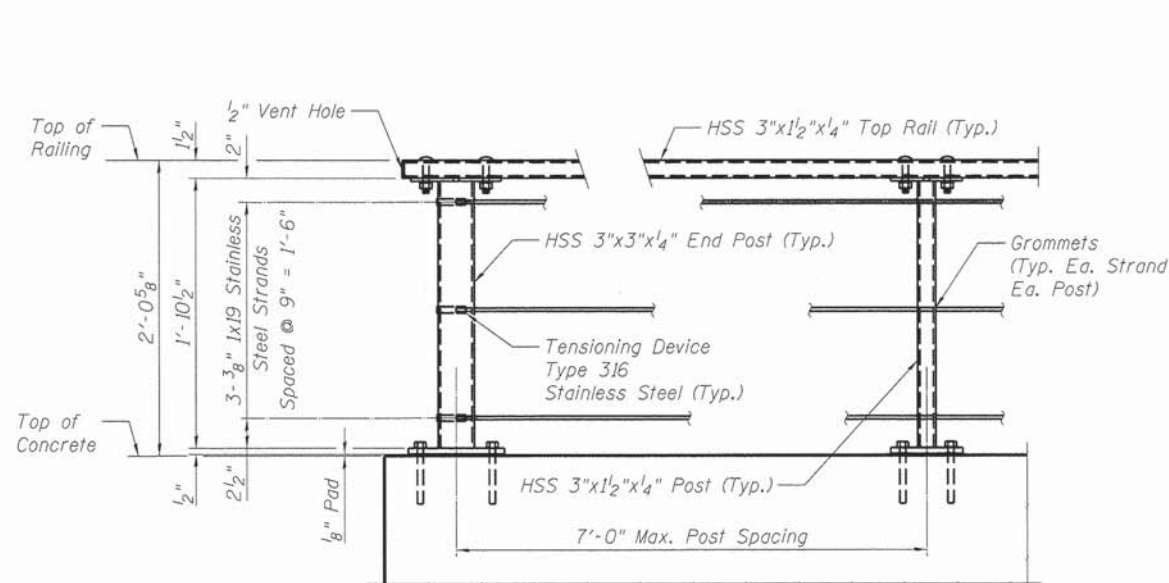
USER NAME = pop0275	DESIGNED - M/J	REVISED -
PLOT SCALE = 0:1.0000 ' = 1/8"	CHECKED - M/M	REVISED -
PLOT DATE = 02/26/2014	DRAWN - G/TJ	REVISED -
	CHECKED - M/M	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MEMBRANE WATERPROOFING  
STRUCTURE NO. 084-9952

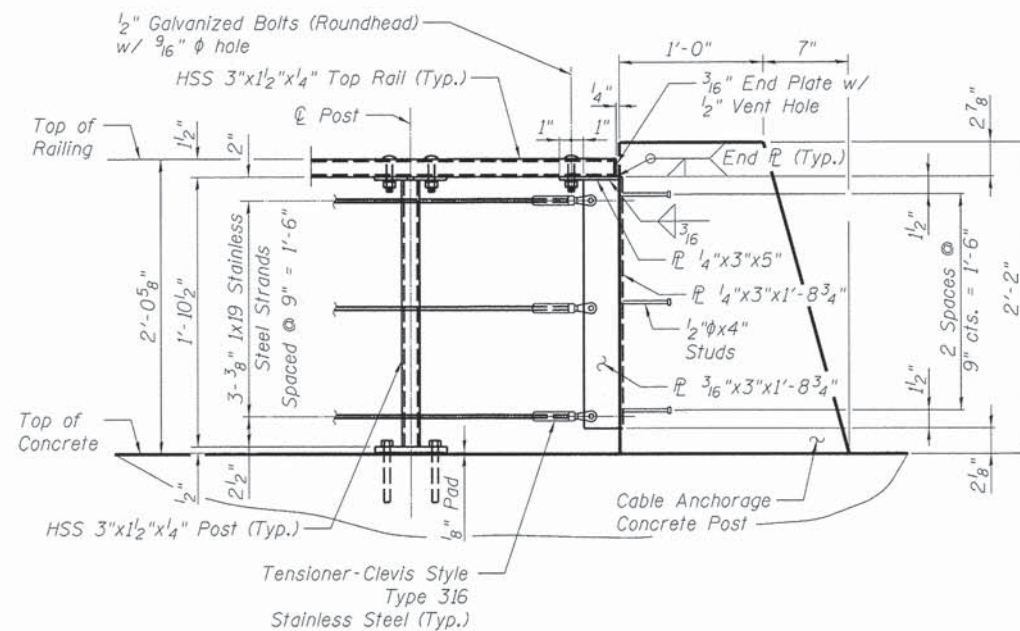
SHEET NO. 12 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	114
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				



**END POST**

**INTERMEDIATE POST**



**CABLE RAILING END PANEL  
RAILROAD BRIDGE**

Notes:

Anchor rods shall be ASTM F568M galvanized steel all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified.

Tube segments shall have all corners ground to remove burrs or sharp projections.

All bolts, eyebolts, nuts and washers must satisfy the requirements of ASTM A307 Gr. A unless noted otherwise.

The Anchor rods shall be installed according to Article 509.06 of the Standard Specifications. Embedment shall be 4" min. or according to the manufactures specifications whatever is greater.

Structural steel plates and bars of the Steel Railing shall conform to the requirements of ASTM A36/36M.

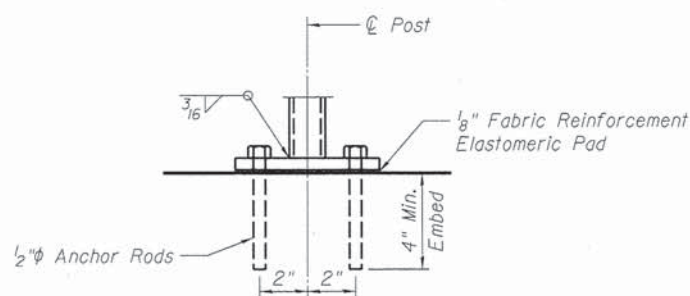
Tubular steel posts shall be according to the requirements of ASTM A500, Grade B.

All steel rail members, with the exception of the stainless steel strand and fittings, shall be hot dipped galvanized according to 509.05 of the Standard Specifications.

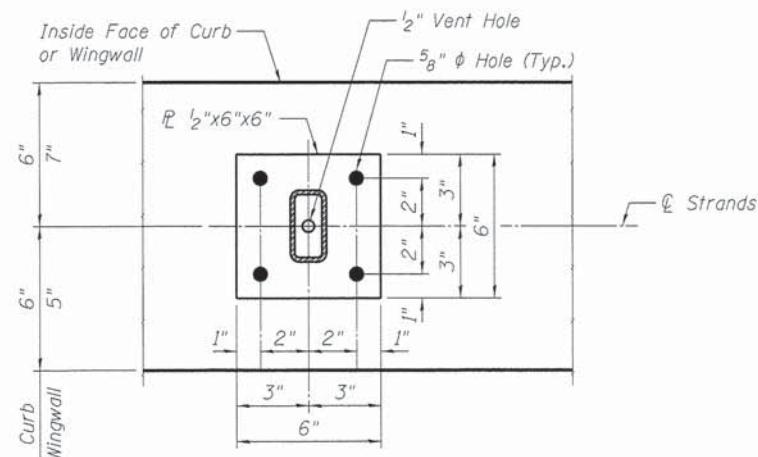
All studs shall be 1/2"φx4" granular or solid flux filled headed studs automatically end welded to plates.

For top rail and post connection details See Sheet 14 of 20.

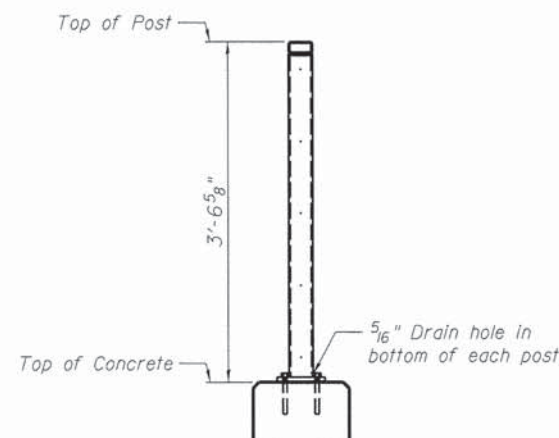
See Sheet 10 of 20 for rail post spacing.



**ANCHOR ROD DETAIL  
INTERMEDIATE POSTS**

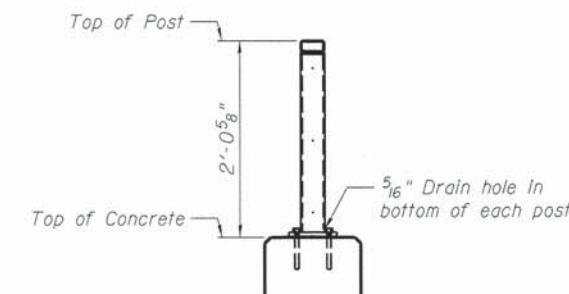


**INTERMEDIATE POST**

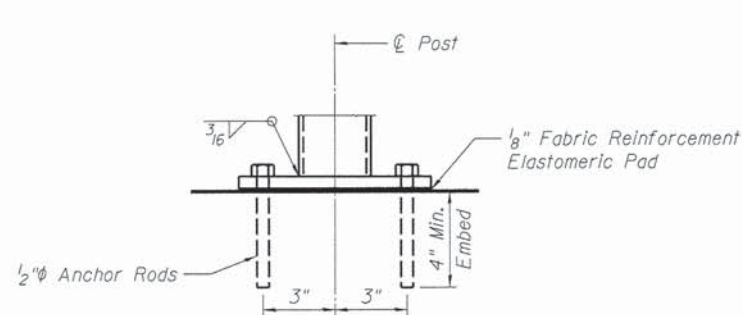


**POST DETAIL - EAST SIDE**

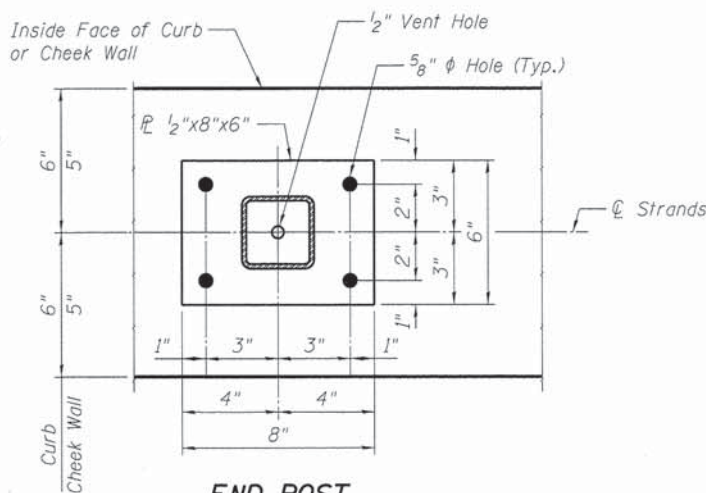
(On Cheek Wall and Wing Wall)



**POST DETAIL - WEST SIDE**



**ANCHOR ROD DETAIL  
END POSTS**



**END POST**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Steel Railing (Special)	Foot	188

FINAL  
DESIGNED - MJW 12/10/13  
DRAWN - GTJ 1/2/14  
REVIEWED - MNM 2/25/14

\\sp1\svr\386\hanson\_dom\hanson\_projects\Documents\09\Jobs\09\01798\CAD\Struct\Carpenter\Sheet\0849952-09\01798-Steel Railing\_01 (Special).dgn

FILE NAME =	USER NAME = pop00275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

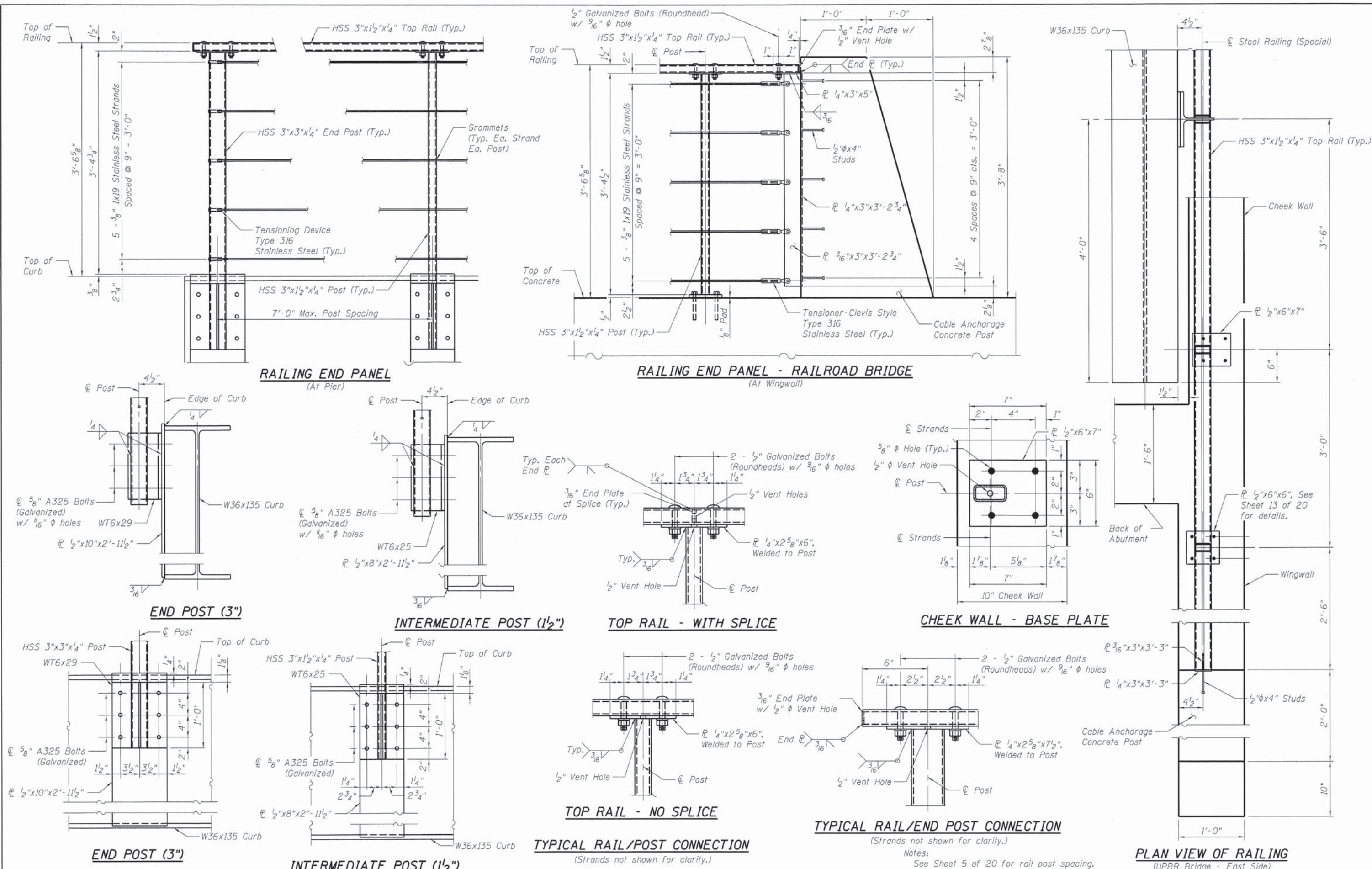
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING (SPECIAL), WESTSIDE, (SHEET 1 OF 2)  
STRUCTURE NO. 084-9952**

SHEET NO. 13 OF 20 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 115
ILLINOIS FED. AID PROJECT				

CONTRACT NO. 9361



FILE NAME: **prj\sp\svr386\hanson\dom\hanson\_projects\Documents\09Jobs\09L01798\CAD\Struct\Carpenter\Sheet\0849952-09L01798-Steel Railing\_02 (Special).dgn**  
 USER NAME: **pop0275**  
 DESIGNED - **MJW**  
 CHECKED - **MNM**  
 DRAWN - **GTJ**  
 PLOT SCALE = **0:1.0000 1' = 1/4"**  
 PLOT DATE = **02/26/2014**  
 DESIGNED - **MNM**  
 CHECKED - **MNM**  
 DRAWN - **GTJ**  
 PLOT DATE = **02/26/2014**

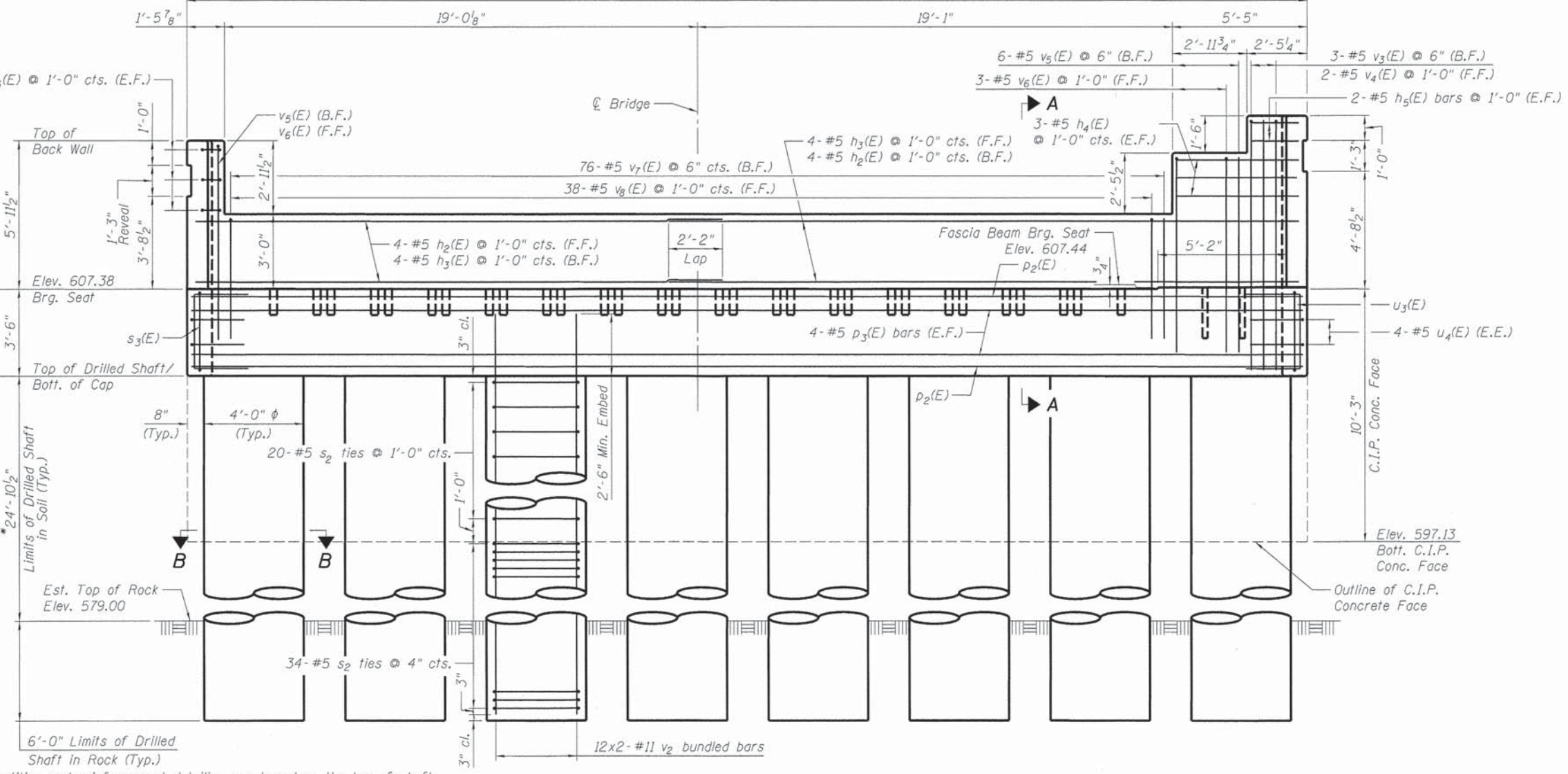
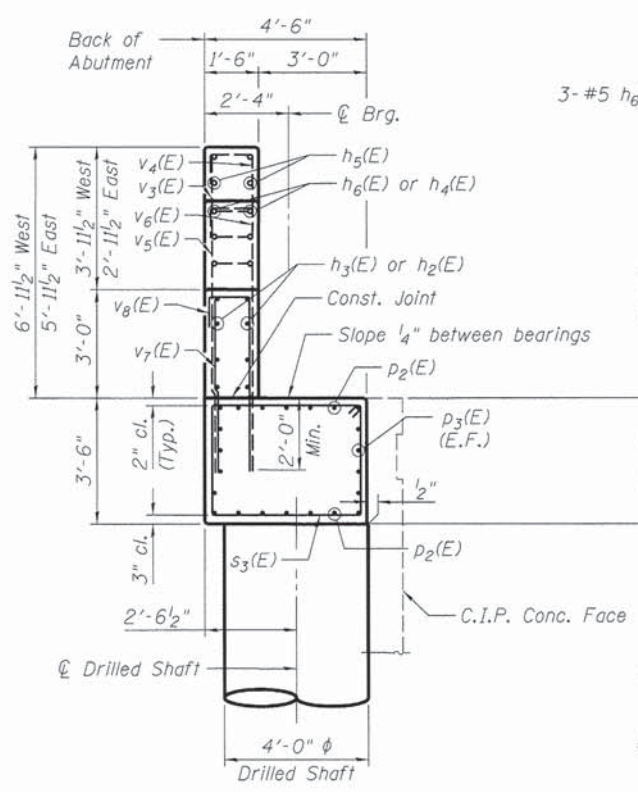
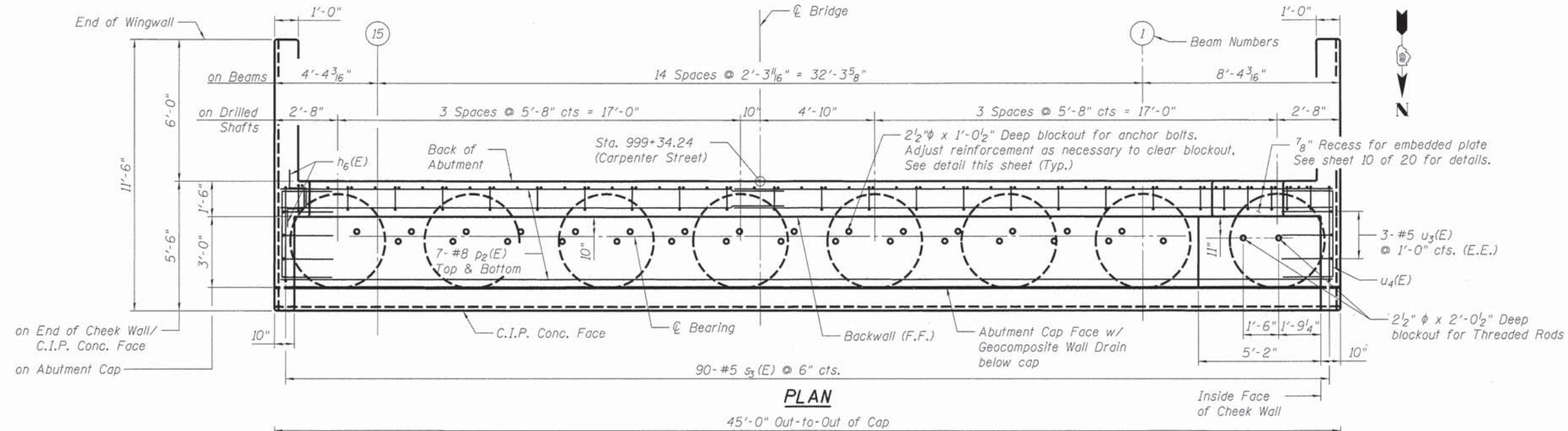
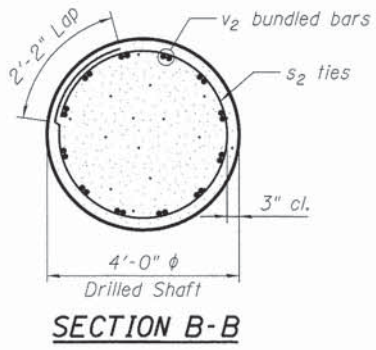
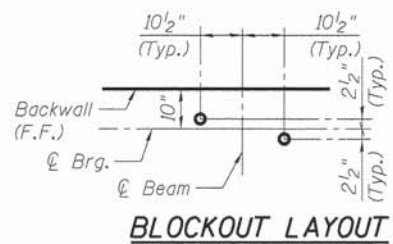
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING (SPECIAL), EASTSIDE, (SHEET 2 OF 2)**  
**STRUCTURE NO. 084-9952**  
 SHEET NO. 14 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	116
CONTRACT NO. 93617			ILLINOIS FED. AID PROJECT	

FINAL  
 DESIGNED: 12/10/13  
 DRAWN: 01/12/14  
 REVIEWED: 01/25/14





\* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

Notes: See Sheet 16 of 20 for C.I.P. Face and other details.

DESIGNED M.J.W. 12/10/13  
 DRAWN C.J.J. 1/2/14  
 REVIEWED M.N.M. 2/25/14

FILE NAME = p:\vapi\svr385\hanson\dom\hanson\_projects\documents\09Jobs\09\01798\CAO\Struct\Carpenter\Sheet\0849952-09\01798-SouthAbutment

DESIGNED - M.J.W.	REVISOR -
CHECKED - M.N.M.	REVISOR -
DRAWN - C.J.J.	REVISOR -
CHECKED - M.N.M.	REVISOR -

USER NAME = pop00275  
 PLOT SCALE = 0:1.0000 1" = 1'-0"  
 PLOT DATE = 02/26/2014

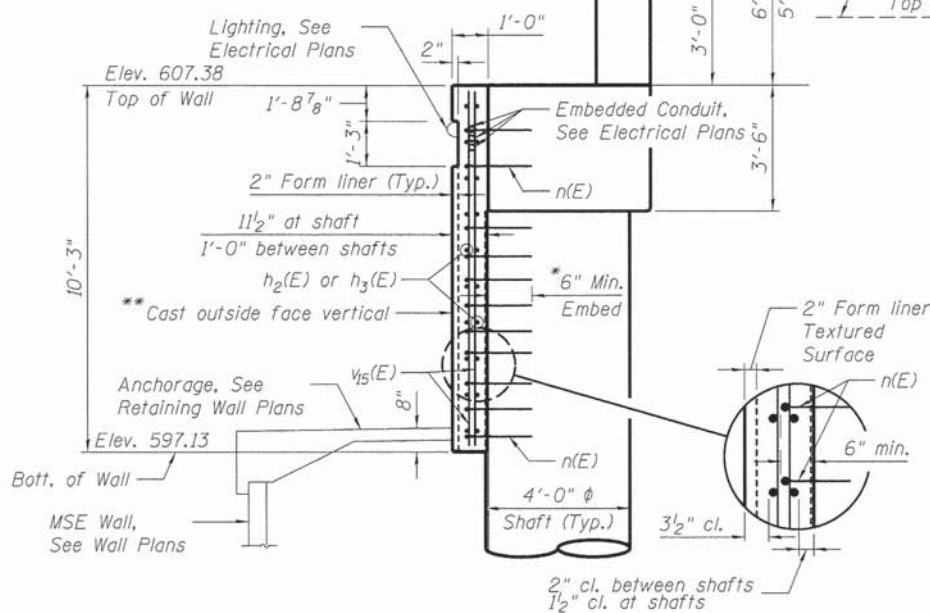
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT  
 STRUCTURE NO. 084-9952  
 SHEET NO. 15 OF 20 SHEETS

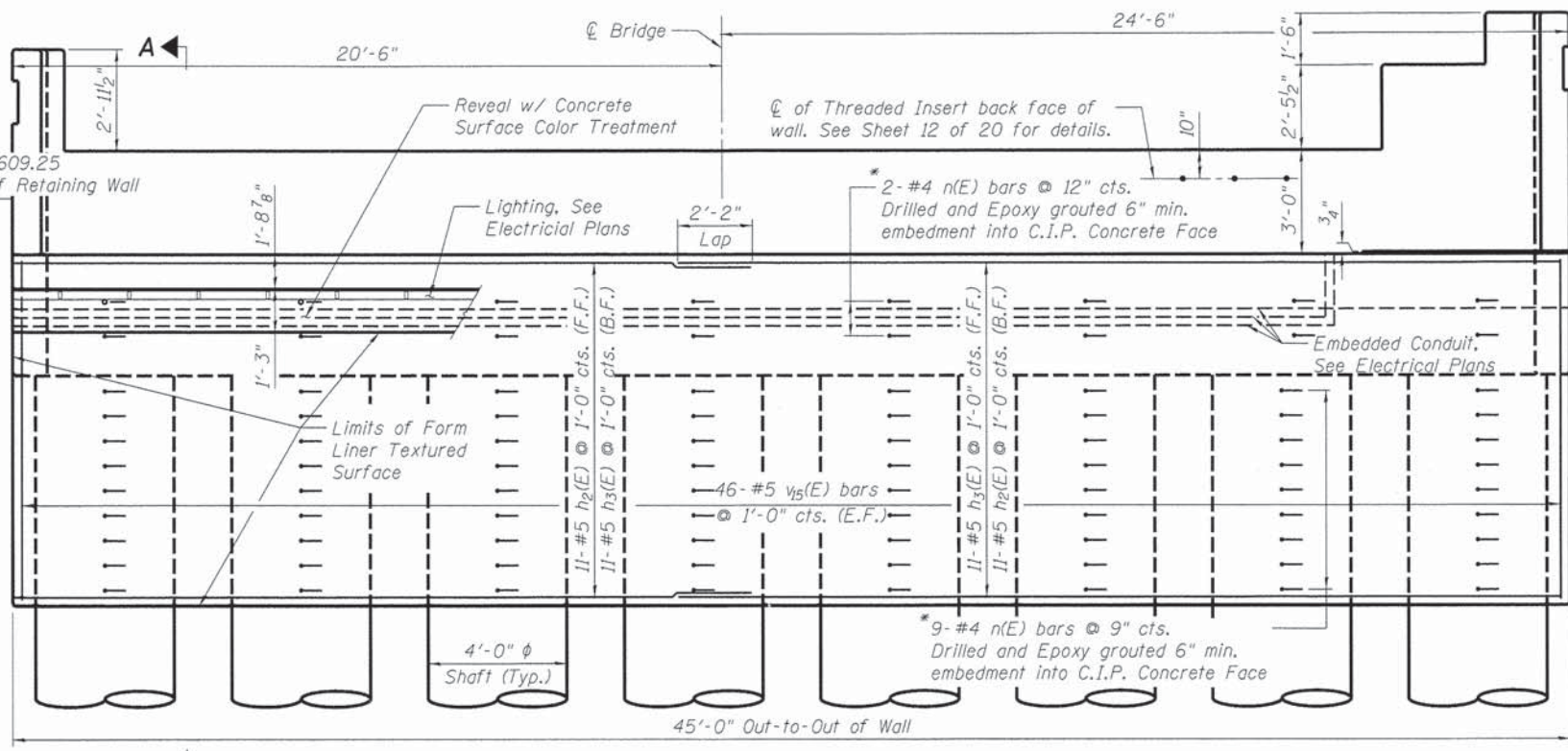
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	117
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

\* Bars epoxy grouted shall have an embedment sufficient to develop 1.25 times the full capacity of the reinforcement bar.

\*\* Concrete wall face shall be cast vertically. Thickness of wall may vary due to abutment deflection. The min. wall thickness shall be 10 1/2".



SECTION A-A

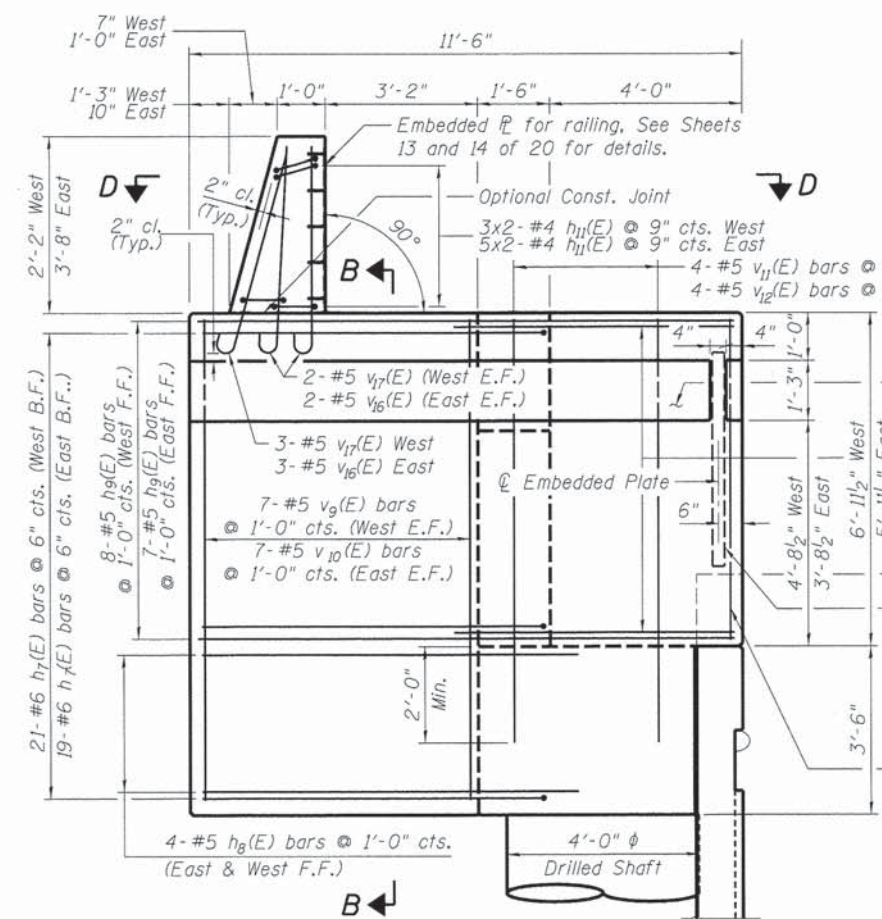


ELEVATION - C.I.P. CONCRETE FACE

Cable Railing Anchorage Posts not shown for clarity. (Looking South)

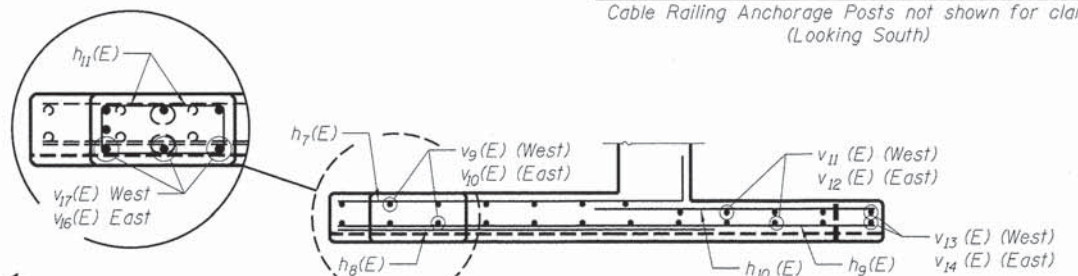
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h <sub>2</sub> (E)	30	#5	21'-4"	—
h <sub>3</sub> (E)	30	#5	25'-6"	—
h <sub>4</sub> (E)	6	#5	4'-11"	—
h <sub>5</sub> (E)	4	#5	1'-11"	—
h <sub>6</sub> (E)	6	#5	2'-5"	┌
h <sub>7</sub> (E)	40	#6	8'-1"	┌
h <sub>8</sub> (E)	8	#5	7'-10"	—
h <sub>9</sub> (E)	15	#5	11'-2"	—
h <sub>10</sub> (E)	39	#5	5'-10"	—
h <sub>11</sub> (E)	16	#5	3'-3"	□
n(E)	88	#4	1'-8"	┌
p <sub>2</sub> (E)	14	#8	44'-8"	—
p <sub>3</sub> (E)	8	#5	44'-8"	—
s <sub>2</sub>	432	#5	13'-2"	○
s <sub>3</sub> (E)	90	#5	15'-5"	□
u <sub>3</sub> (E)	6	#5	7'-4"	┌
u <sub>4</sub> (E)	8	#5	8'-4"	┌
v <sub>2</sub>	192	#11	33'-2"	—
v <sub>3</sub> (E)	3	#5	8'-10"	—
v <sub>4</sub> (E)	2	#5	10'-10"	┌
v <sub>5</sub> (E)	7	#5	7'-10"	┌
v <sub>6</sub> (E)	4	#5	9'-10"	┌
v <sub>7</sub> (E)	76	#5	4'-10"	┌
v <sub>8</sub> (E)	38	#5	6'-10"	┌
v <sub>9</sub> (E)	14	#5	10'-0"	┌
v <sub>10</sub> (E)	14	#5	9'-0"	┌
v <sub>11</sub> (E)	8	#5	8'-9"	┌
v <sub>12</sub> (E)	8	#5	7'-9"	┌
v <sub>13</sub> (E)	2	#5	6'-7"	┌
v <sub>14</sub> (E)	2	#5	5'-7"	┌
v <sub>15</sub> (E)	92	#5	9'-11"	┌
v <sub>16</sub> (E)	7	#5	4'-11"	┌
v <sub>17</sub> (E)	7	#5	3'-5"	┌
Structure Excavation			Cu. Yds.	85.0
Concrete Structures			Cu. Yds.	57.1
Drilled Shaft in Soil			Cu. Yds.	92.6
Drilled Shaft in Rock			Cu. Yds.	22.4
Form Liner			Sq. Ft.	327
Textured Surface			Sq. Ft.	86
Reinforcement Bars			Pound	39770
Reinforcement Bars, Epoxy Coated			Pound	8490

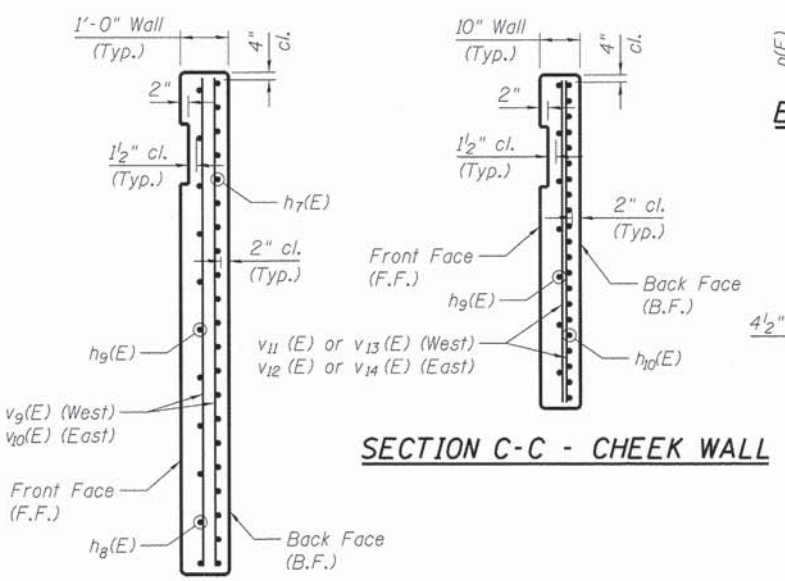


ELEVATION - TYPICAL END VIEW

East side shown, West side similar

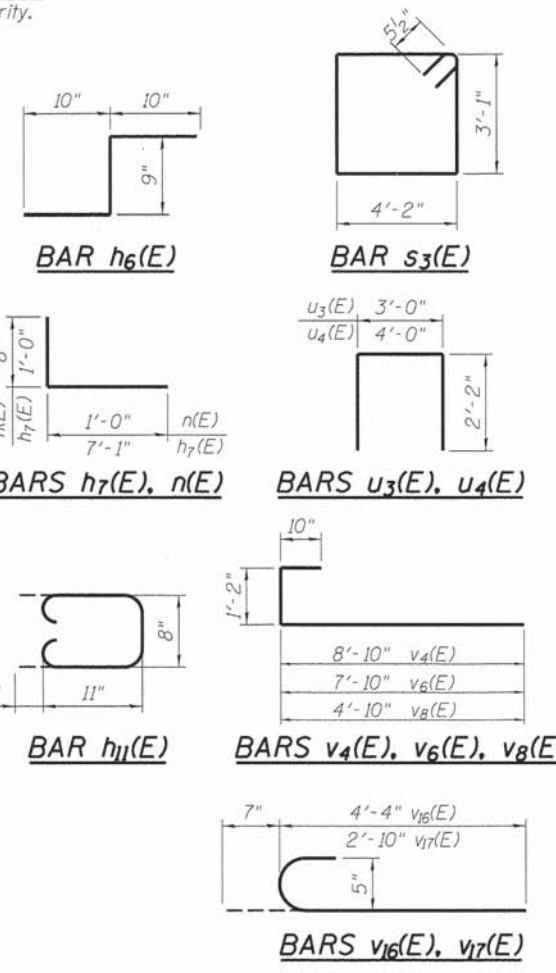


SECTION D-D - PLAN VIEW



SECTION C-C - CHEEK WALL

SECTION B-B - WINGWALL



Notes:  
Cast steps monolithically with cap.  
Space cap reinforcement to miss blockouts for anchor bolts.

FINAL  
DESIGNED MJW 12/10/13  
DRAWN GTJ 1/2/14  
REVIEWED MNM 2/25/14

FILE NAME: \\sapi-svr306.hanson.com\hanson\_projects\documents\09\Jobs\09\01798\CAD\Struct\ Carpenter\Sheet\0849952-09\01798-SouthAbutmentDetails

USER NAME	DESIGNED	REVISOR
pop00275	MJW	-
	CHECKED	MNM
	DRAWN	GTJ
	CHECKED	MNM

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

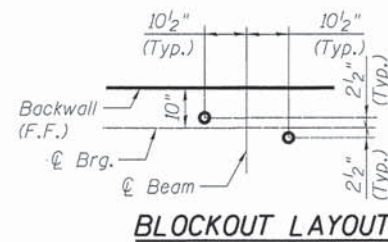
SOUTH ABUTMENT DETAILS  
STRUCTURE NO. 084-9952

SHEET NO. 16 OF 20 SHEETS

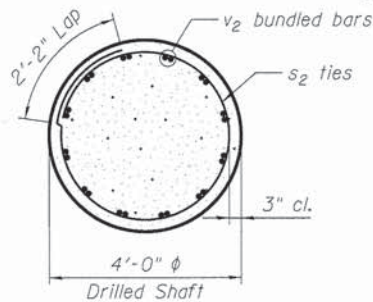
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	118

CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT



**BLOCKOUT LAYOUT**

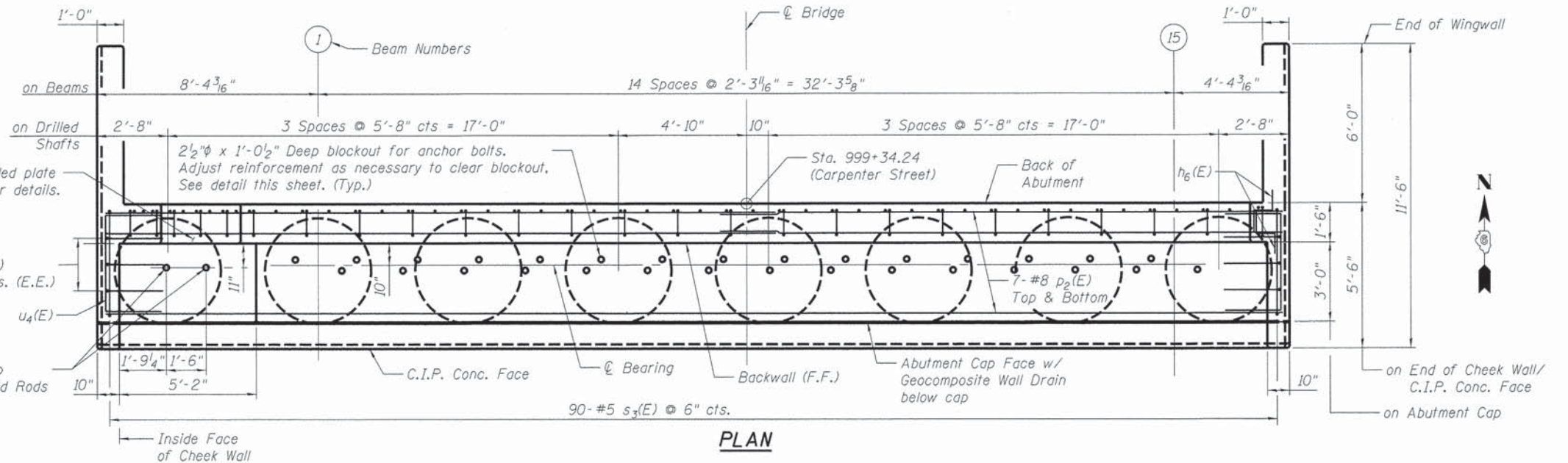


**SECTION B-B**

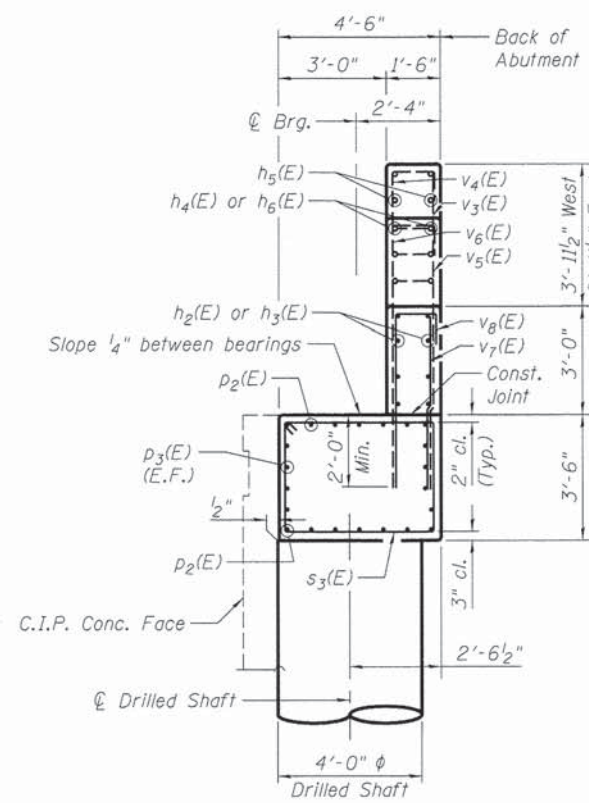
7/8" Recess for embedded plate  
See sheet 10 of 20 for details.

3- #5 u<sub>3</sub>(E)  
@ 1'-0" cts. (E.E.)

2 1/2" φ x 2-0 1/2" Deep  
blockout for Threaded Rods

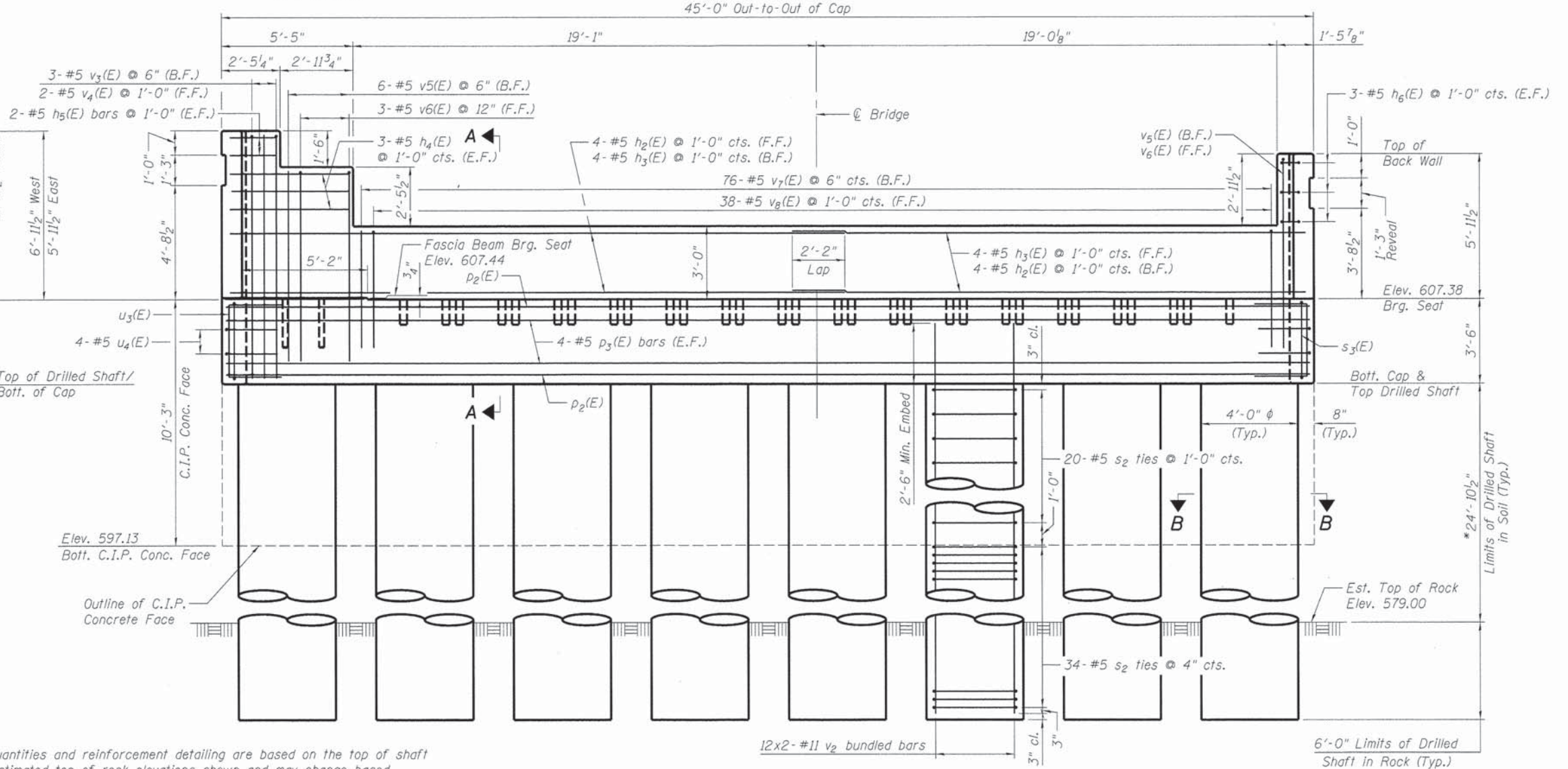


**PLAN**



**SECTION A-A**

West side shown, East side similar



**ELEVATION**

C.I.P. Concrete Face not shown for clarity.  
(Looking North)

Notes: See Sheet 18 of 20 for C.I.P. Face and other details.

\* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

DESIGNED	MJW	12/10/13
DRAWN	GTJ	1/2/14
REVIEWED	MNM	2/25/14

PROJECT: s:\projects\386\hanson\_domitanson\_projects\documents\09\jobs\09\l\0179B\CAD\Struct\Carpenter\Sheet\0849952-09\l\0179B-North Abutment

FILE NAME: **HANSON**

USER NAME	pop00275
PLOT SCALE	0.1, 0.000 1" = 10'
PLOT DATE	02/26/2014

DESIGNED	MJW	REVISED	-
CHECKED	MNM	REVISED	-
DRAWN	GTJ	REVISED	-
CHECKED	MNM	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT  
STRUCTURE NO. 084-9952**

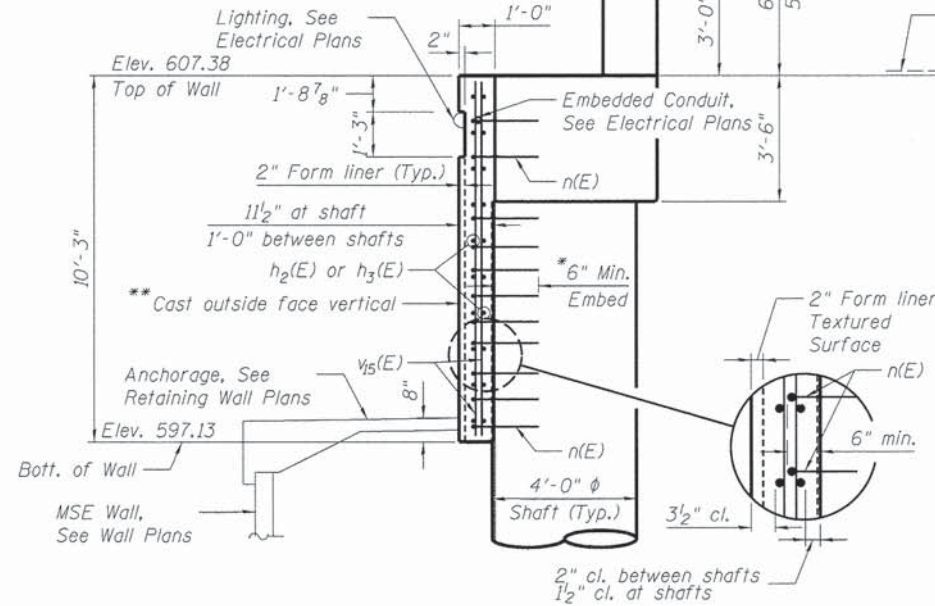
SHEET NO. 17 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	119
CONTRACT NO. 93617				

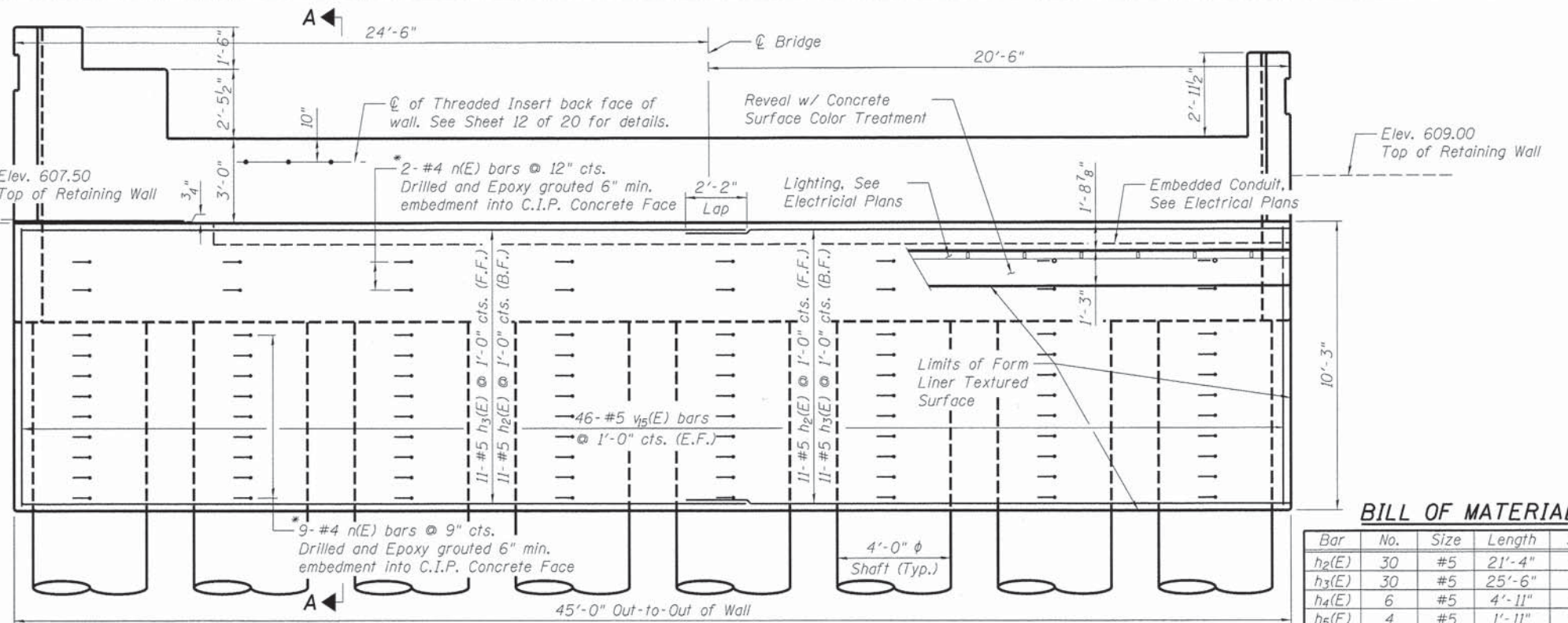
ILLINOIS FED. AID PROJECT

\* Bars epoxy grouted shall have an embedment sufficient to develop 1.25 times the full capacity of the reinforcement bar.

\*\* Concrete wall face shall be cast vertically. Thickness of wall may vary due to abutment deflection. The min. wall thickness shall be 10 1/2".



SECTION A-A

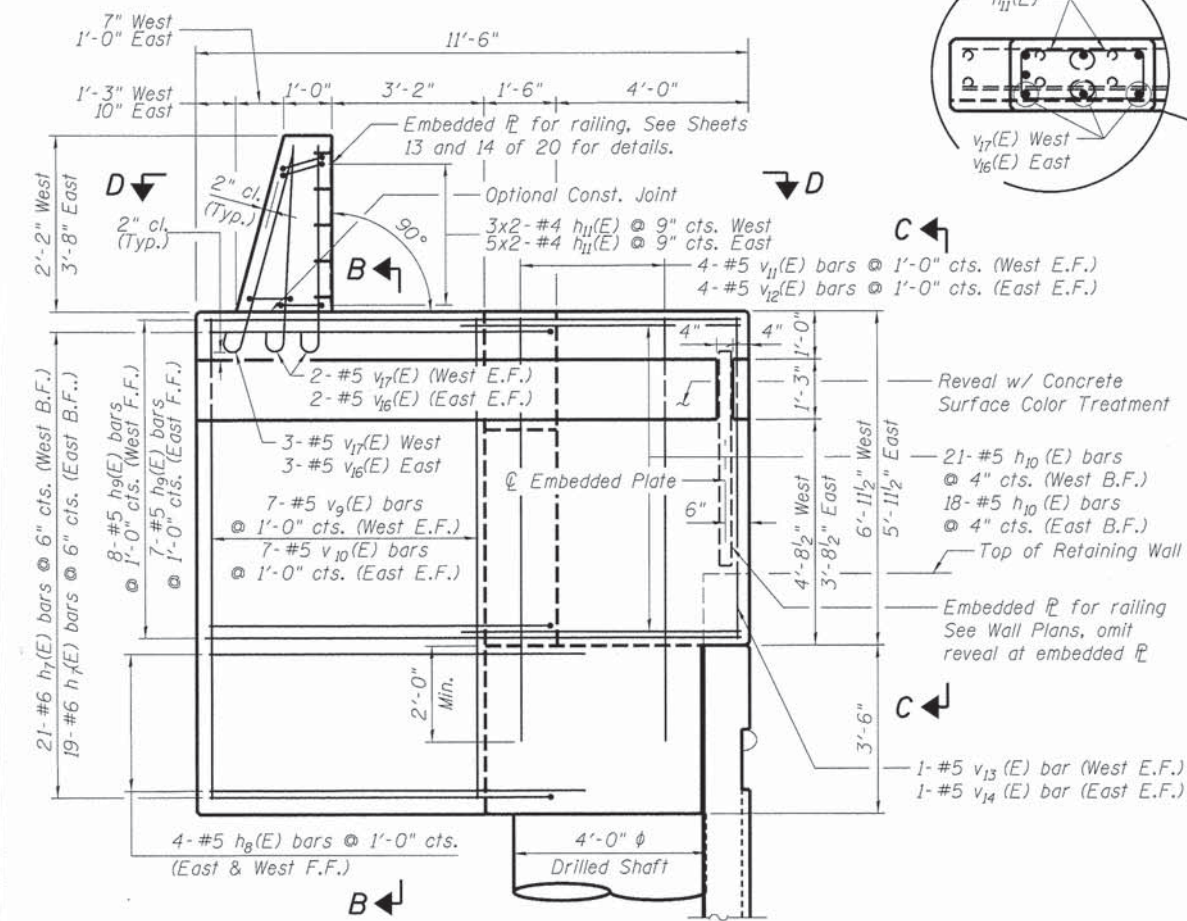


ELEVATION - C.I.P. CONCRETE FACE

Cable Railing Anchorage Posts not shown for clarity. (Looking North)

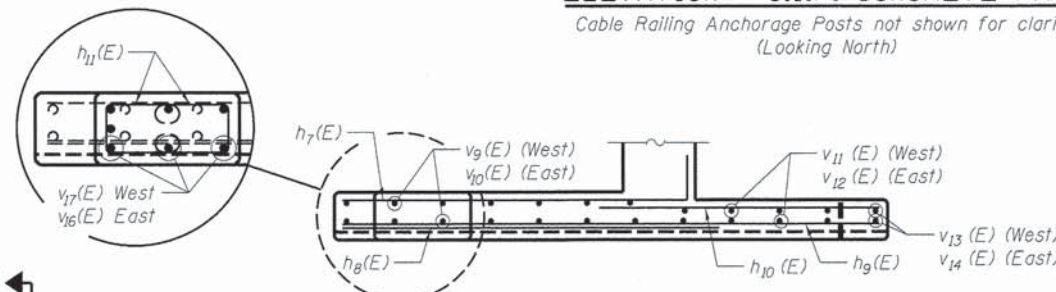
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	30	#5	21'-4"	—
h3(E)	30	#5	25'-6"	—
h4(E)	6	#5	4'-11"	—
h5(E)	4	#5	1'-11"	—
h6(E)	6	#5	2'-5"	—
h7(E)	40	#6	8'-1"	L
h8(E)	8	#5	7'-10"	—
h9(E)	15	#5	11'-2"	—
h10(E)	39	#5	5'-10"	—
h11(E)	16	#5	3'-3"	D
n(E)	88	#4	1'-8"	L
D2(E)	14	#8	44'-8"	—
D3(E)	8	#5	44'-8"	—
s2	432	#5	13'-2"	O
s3(E)	90	#5	15'-5"	D
u3(E)	6	#5	7'-4"	U
u4(E)	8	#5	8'-4"	U
v2	192	#11	33'-2"	—
v3(E)	3	#5	8'-10"	—
v4(E)	2	#5	10'-10"	—
v5(E)	7	#5	7'-10"	—
v6(E)	4	#5	9'-10"	—
v7(E)	76	#5	4'-10"	—
v8(E)	38	#5	6'-10"	—
v9(E)	14	#5	10'-0"	—
v10(E)	14	#5	9'-0"	—
v11(E)	8	#5	8'-9"	—
v12(E)	8	#5	7'-9"	—
v13(E)	2	#5	6'-7"	—
v14(E)	2	#5	5'-7"	—
v15(E)	92	#5	9'-11"	—
v16(E)	7	#5	4'-11"	—
v17(E)	7	#5	3'-5"	—
Structure Excavation	Cu. Yds.		85.0	
Concrete Structures	Cu. Yds.		57.1	
Drilled Shaft in Soil	Cu. Yds.		92.6	
Drilled Shaft in Rock	Cu. Yds.		22.4	
Form Liner Textured Surface	Sq. Ft.		327	
Concrete Surface Color Treatment	Sq. Ft.		86	
Reinforcement Bars	Pound		39770	
Reinforcement Bars, Epoxy Coated	Pound		8490	

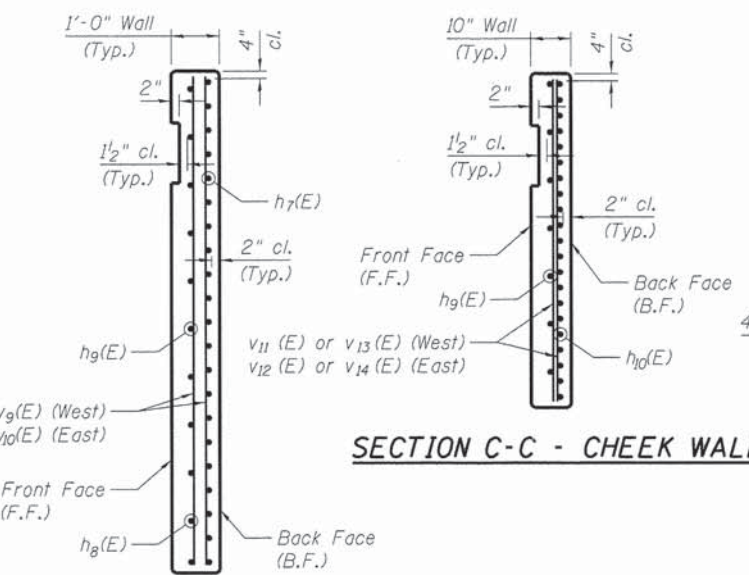


ELEVATION - TYPICAL END VIEW

West side shown, East side similar

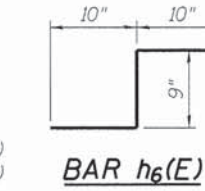


SECTION D-D - PLAN VIEW

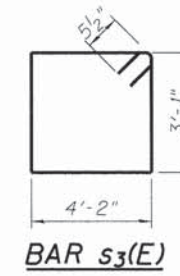


SECTION C-C - CHEEK WALL

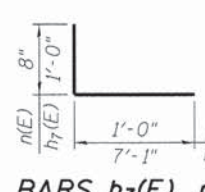
SECTION B-B - WINGWALL



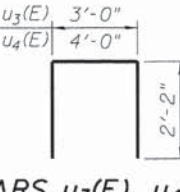
BAR h6(E)



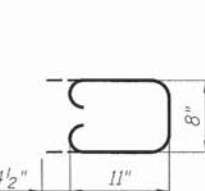
BAR s3(E)



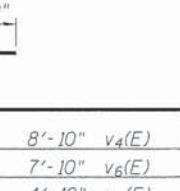
BARS h7(E), n(E)



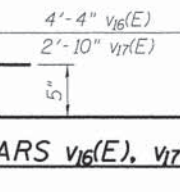
BARS u3(E), u4(E)



BAR h11(E)



BARS v4(E), v6(E), v8(E)



BARS v16(E), v17(E)

Notes:  
Cast steps monolithically with cap.  
Space cap reinforcement to miss blockouts for anchor bolts.

DESIGNED 12/10/13  
DRAWN 1/2/14  
REVIEWED 2/25/14

FILE NAME: USER NAME: pop00275



DESIGNED - MJW  
CHECKED - MNM  
DRAWN - CTJ  
PLOT DATE: 02/26/2014

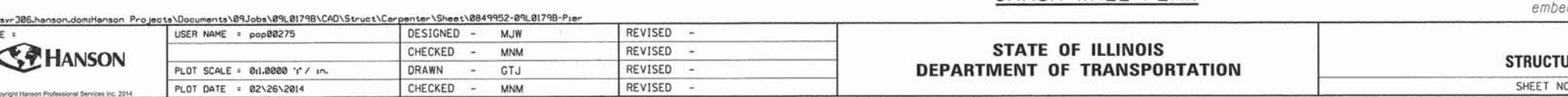
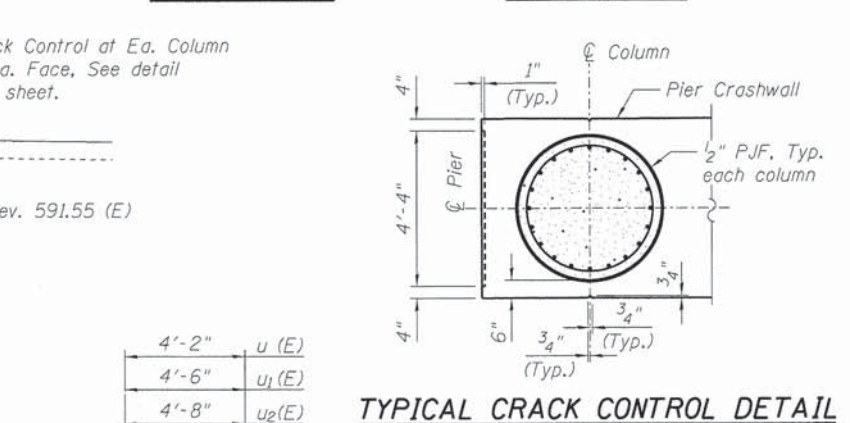
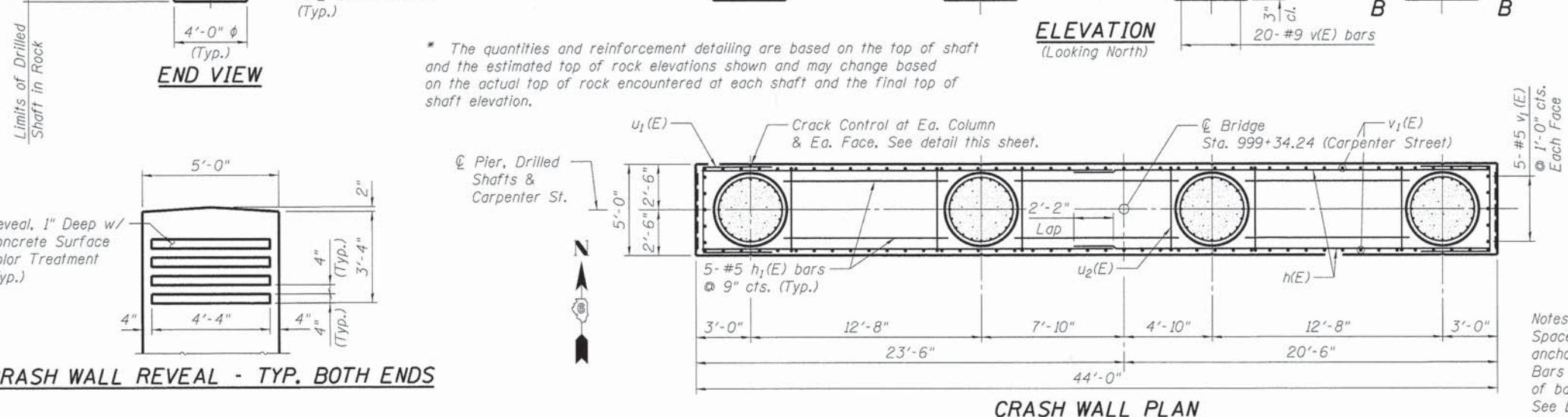
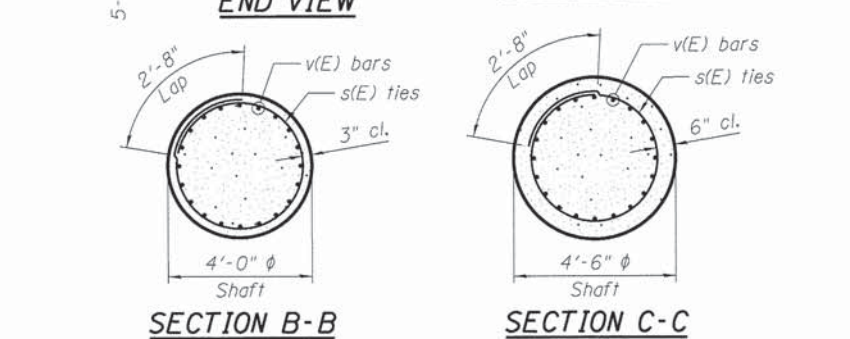
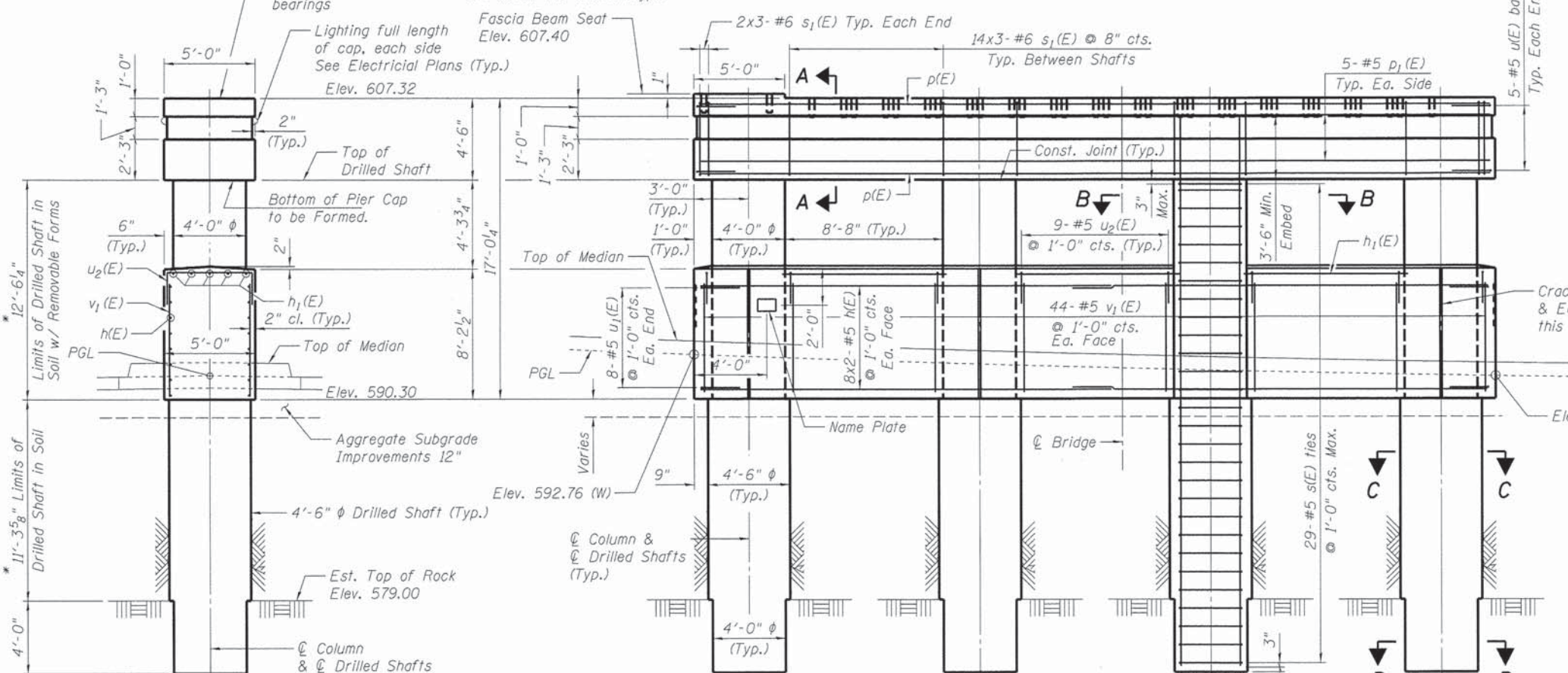
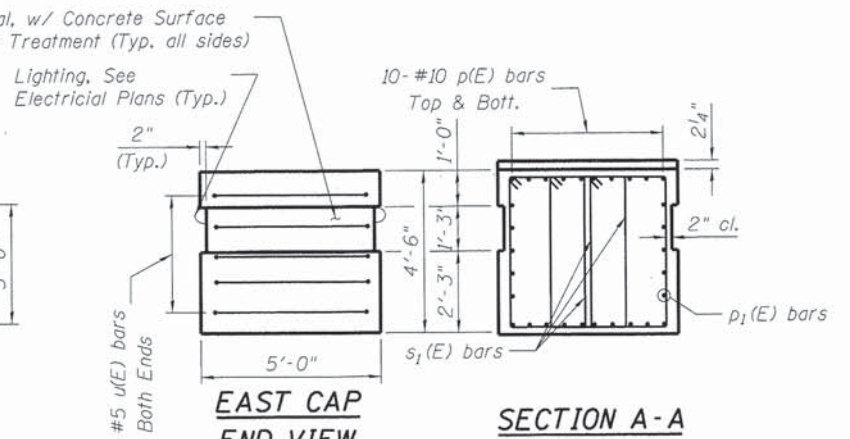
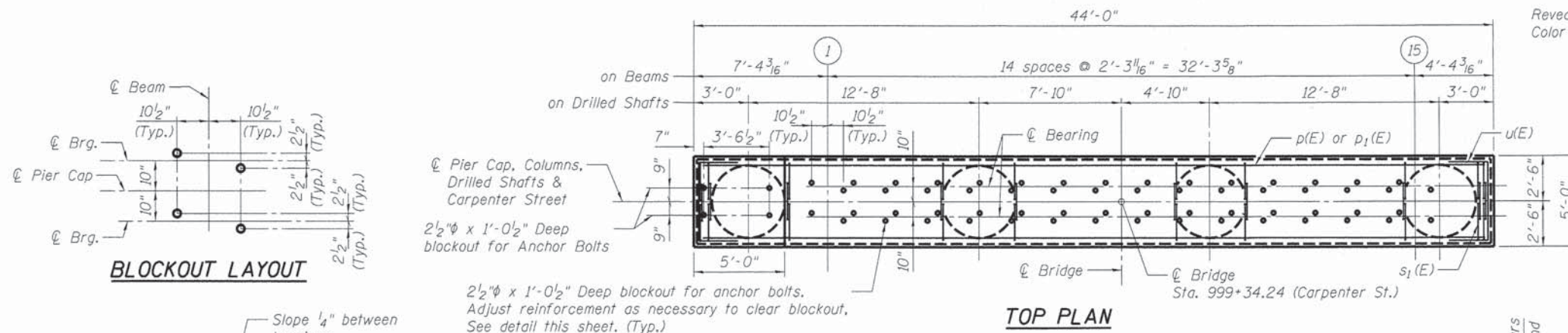
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT DETAILS  
STRUCTURE NO. 084-9952

SHEET NO. 18 OF 20 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	120
				CONTRACT NO. 9 3 6 1 7
ILLINOIS FED. AID PROJECT				



**BARS u(E), u1(E), & u2(E)**

Bar No.	Size	Length	Shape
h(E)	32 #5	22'-10"	—
h1(E)	15 #5	8'-4"	—
p(E)	20 #10	43'-8"	—
p1(E)	10 #5	43'-4"	—
s(E)	116 #5	13'-8"	○
s1(E)	138 #6	13'-9"	□
v(E)	80 #9	31'-1"	—
v1(E)	98 #5	7'-9"	—
u(E)	10 #5	8'-6"	U
u1(E)	16 #5	8'-10"	U
u2(E)	27 #5	9'-0"	U

Material	Quantity	Unit
Concrete Structures	87.4	Cu. Yds.
Drilled Shaft in Soil	49.9	Cu. Yds.
Drilled Shaft in Rock	7.4	Cu. Yds.
Concrete Surface Color Treatment	134	Sq. Ft.
Reinforcement Bars, Epoxy Coated	19340	Pound

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	121

CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT

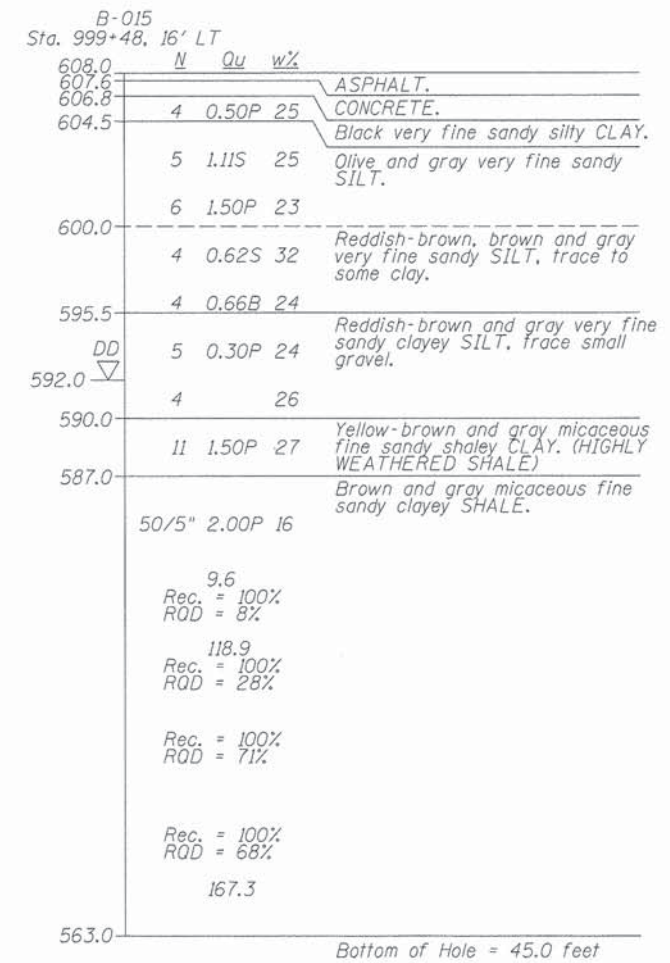
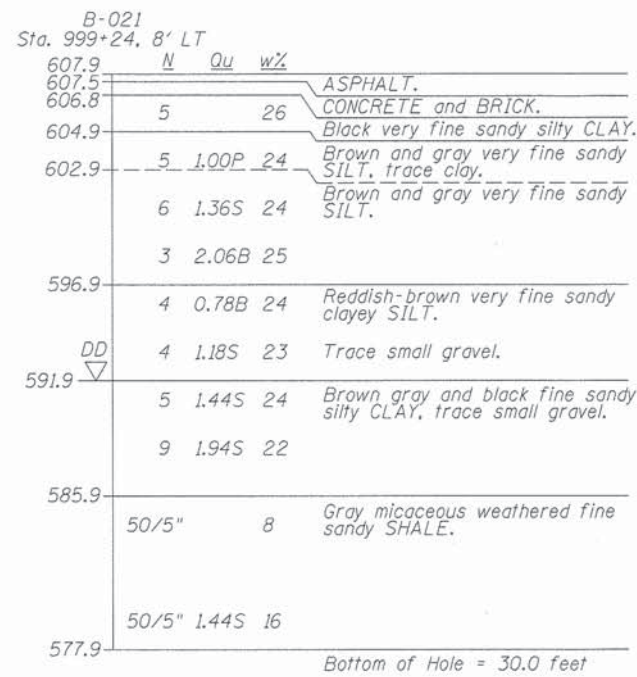
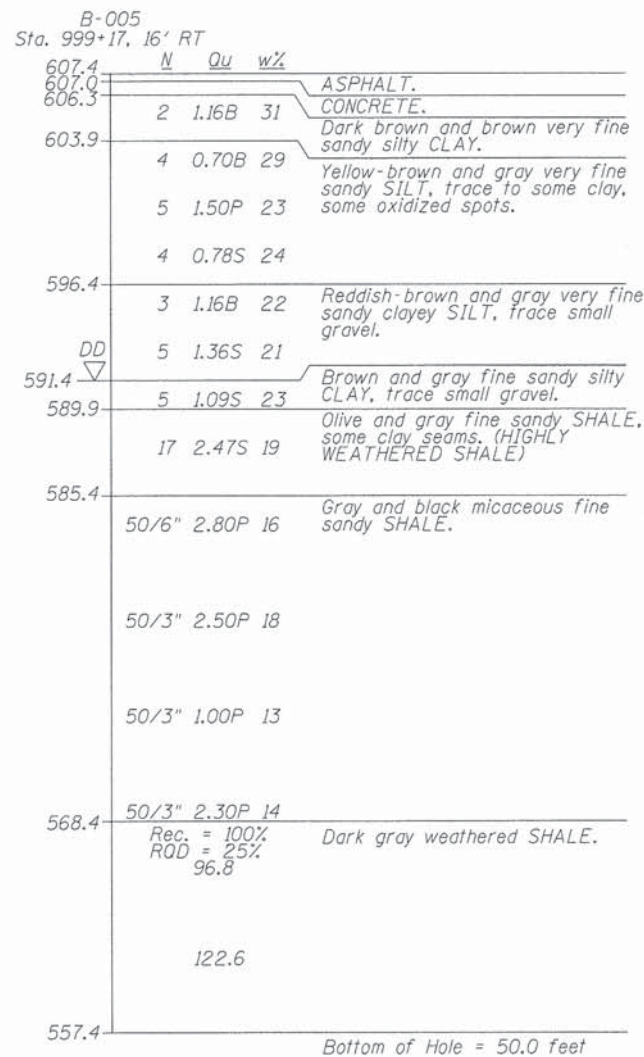
DESIGNED - MJW 12/10/13  
 DRAWN - GTJ 1/27/14  
 REVIEWED - MNM 2/25/14

FILE NAME = ...  
 USER NAME = pop0275  
 DESIGNED - MJW  
 CHECKED - MNM  
 DRAWN - GTJ  
 CHECKED - MNM

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PIER  
 STRUCTURE NO. 084-9952  
 SHEET NO. 19 OF 20 SHEETS

Notes:  
 Space reinforcement in cap to miss blockouts for anchor bolts. Pour steps monolithically with cap. Bars indicated thus 7x2-#5 etc indicates 7 lines of bars with 2 lengths per line. See Electrical Plans for Junction Box and Conduits embedded in cap.



**LEGEND**

N Standard Penetration Test N (blows/ft)  
 Qu Unconfined Strength (tsf)  
 w% Natural Moisture Content (%)

DD Water Surface Elevation Encountered in Boring  
 558.10 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED 12/10/13  
 DRAWN 1/2/14  
 REVIEWED 2/25/14

FILE NAME =	USER NAME = pop0275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBSURFACE DATA PROFILE  
 STRUCTURE NO. 084-9952

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	122
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

SHEET NO. 20 OF 20 SHEETS

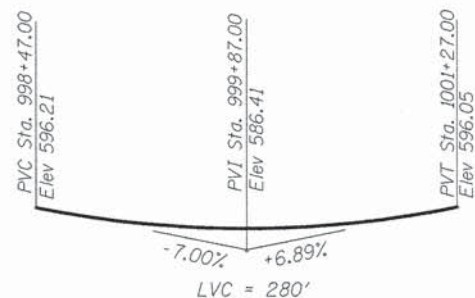
Benchmark:  
 BM# 108 - Chiseled 'X' on SW Bolt of fire hydrant - SE Quad  
 9th Street and Carpenter Street  
 Elevation = 607.145

Existing Structure: None

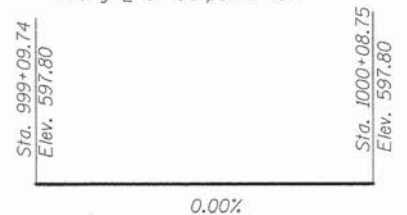
Traffic Control: Road Closure

Salvage: None

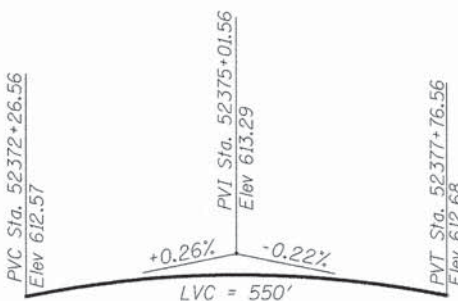
Railroad utilities may exist within NSRR right-of-way. Prior to the start of any construction or excavation, utility relocations will have to be coordinated with the NSRR.



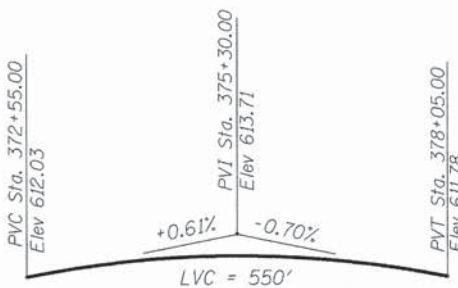
**PROFILE GRADE  
 CARPENTER ST.**  
 Along C of Carpenter St.



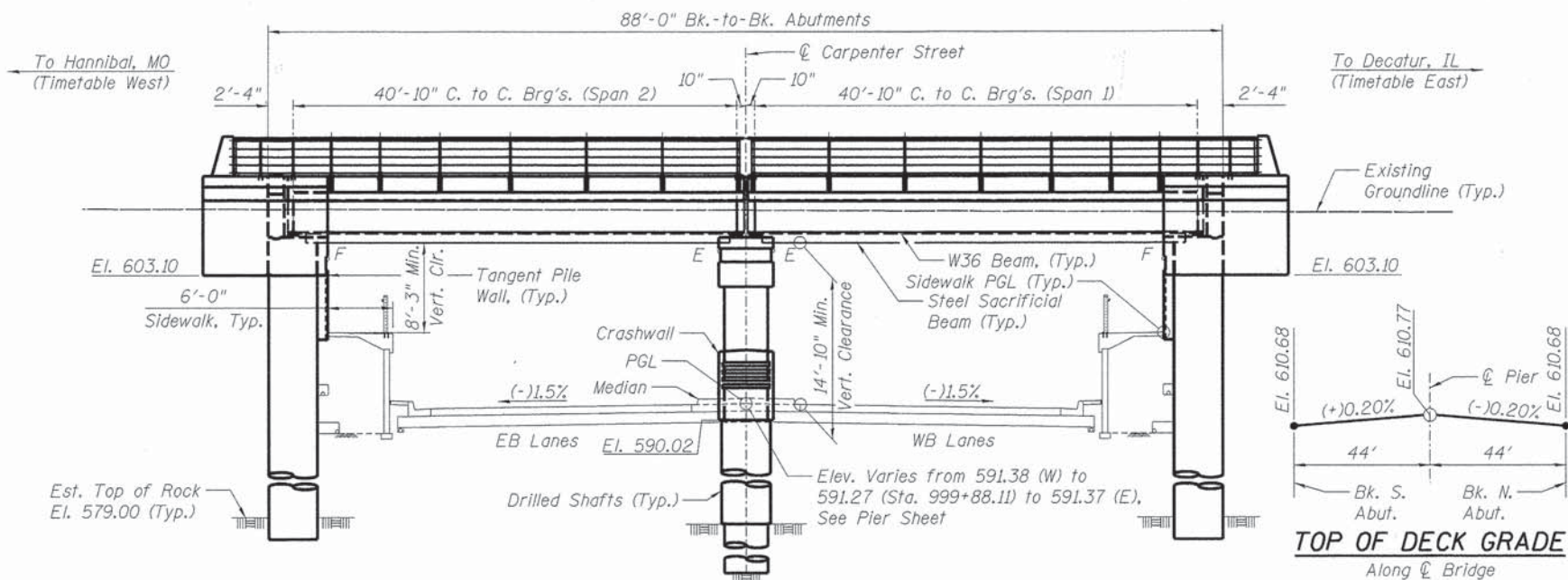
**SIDEWALK PROFILE GRADE**  
 Along outside edge of sidewalk, Typ. Both Sides



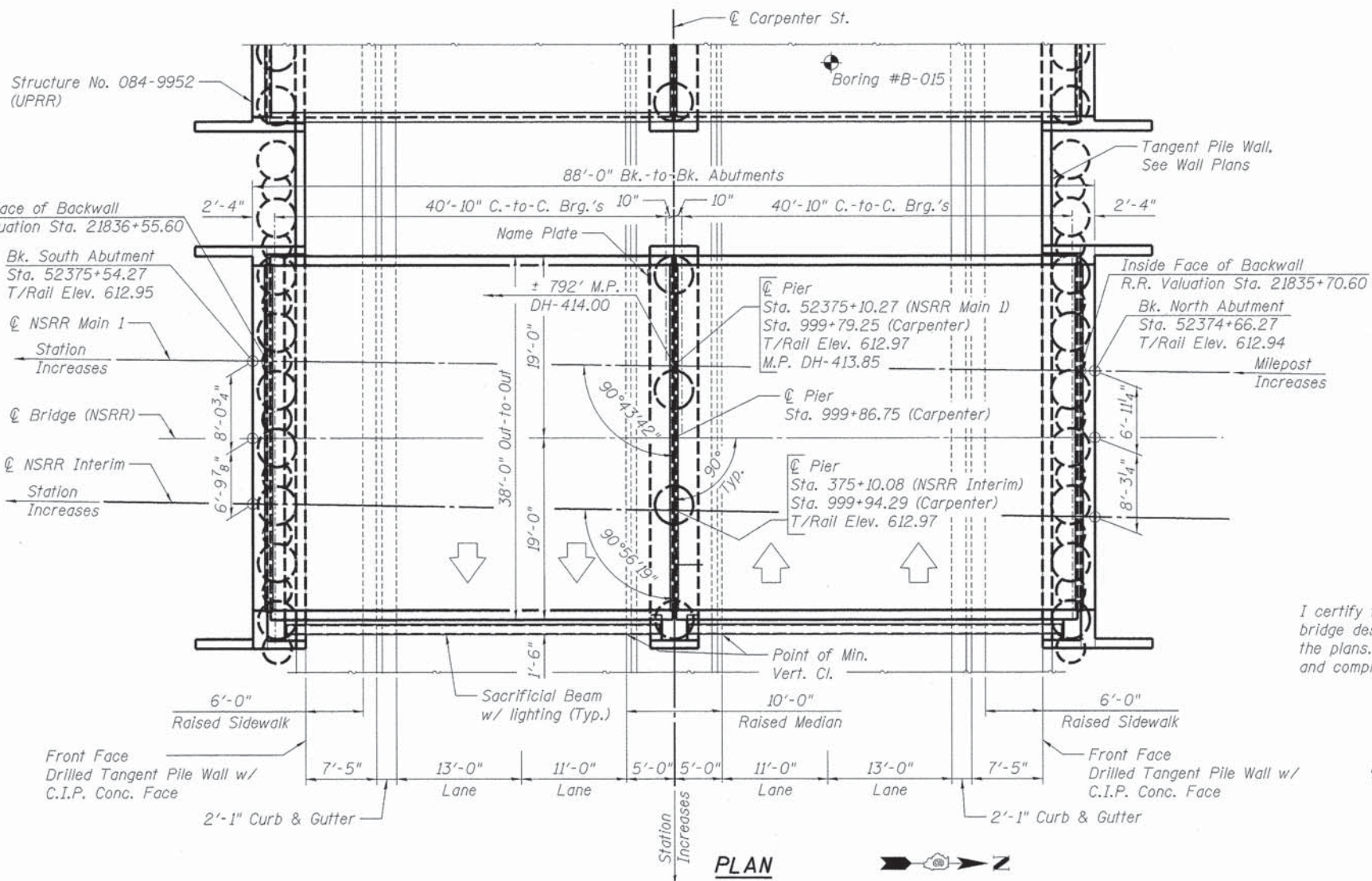
**TOP OF RAIL PROFILE GRADE  
 NORFOLK SOUTHERN MAINLINE TRACKS**



**TOP OF RAIL PROFILE GRADE  
 INTERIM NORFOLK SOUTHERN TRACK**



**ELEVATION**  
 (Looking West)



**PLAN**

**LOADING COOPER E-80**

Impact: Diesel Impact  
 Allow 6" of Future Ballast Dead Load

**DESIGN SPECIFICATIONS**

2013 AREMA Specifications  
 Live Load Deflection: L/640  
 Composite Design for Deflection Requirements  
 Timetable: 40 m.p.h.

**DESIGN STRESSES**

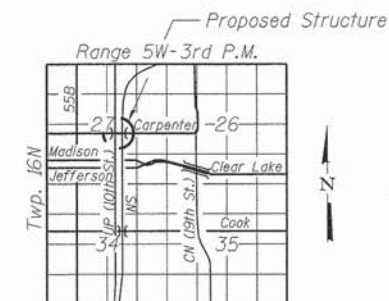
**FIELD UNITS**

f<sub>c</sub> = 4,000 psi  
 f<sub>y</sub> = 60,000 psi (Reinforcement)  
 f<sub>y</sub> = 50,000 psi (ASTM A709 Grade 50)

**SEISMIC DATA**

**AREMA**

Coefficient of Horiz. Acceleration, 100 Year (A<sub>100</sub>) = < 0.04g  
 Coefficient of Horiz. Acceleration, 475 Year (A<sub>475</sub>) = < 0.04g  
 Coefficient of Horiz. Acceleration, 2400 Year (A<sub>2400</sub>) = 0.095g  
 Soil Site Coefficient (S) = 1.0



**LOCATION SKETCH**



Michael N. Mendenhall  
 SIGNATURE  
 02-26-2014  
 DATE  
 LIC. EXP. DATE: 11-30-2014

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 requirements of the current AREMA Specifications.

**GENERAL PLAN & ELEVATION  
 NSRR (MP DH-413.85) OVER CARPENTER ST.  
 F.A.U. 7975-SECTION 13-00475-00-BR  
 SANGAMON COUNTY  
 STATION 52375+10.27  
 STRUCTURE NO. 084-9953**

Note: See sheet 4 of 18 for existing utilities and topography.

DESIGNED	MJM	12/10/13
DRAWN	GTJ	1/2/14
REVIEWED	MJM	2/25/14

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FILE NAME =	USER NAME = pop02275	DESIGNED - MJM	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION  
 STRUCTURE NO. 084-9953**

SHEET NO. 1 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	123
			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts.  
Bolts 7/8 in. φ, holes 1 1/8 in. φ, unless otherwise noted.

Calculated weight of Structural Steel, ASTM A709, Gr. 50 = 276,820 lbs.  
ASTM A36, Gr. 36 = 3,220 lbs.  
ASTM A500, Gr. B (46 ksi) = 7,290 lbs.  
ASTM A240, Type 304 (30 ksi) = 2,310 lbs.

All structural steel shall be ASTM A709 Grade 50 unless otherwise noted on the plans.

Stainless steel plate for the deck joints shall be according to ASTM A240, Type 304, Fy=30 k.s.i.

All substructure concrete shall have a compressive strength of 4,000 psi at 28 days.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Protective coat shall not be applied to any surface.

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.

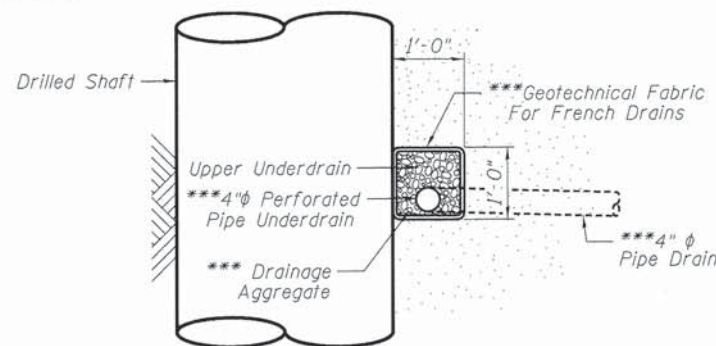
Concrete Sealer shall be applied to the following surfaces:

- Abutments - inside face of backwall, inside face of checkwall, top of cap
- Pier - entire exposed pier surface (except surfaces coated with concrete surface color treatment)
- Superstructure - top and outside vertical faces of ballast curb and outside vertical face of deck, concrete railing end post (except surfaces coated with surface color and treatment)

Anti-Graffiti Protection System shall be applied to the following surfaces:

- Abutments - entire concrete facing attached to abutment cap and drilled shafts, wingwall and checkwall surfaces coated with concrete surface color treatment
- Pier - surfaces coated with concrete surface color treatment
- Superstructure - surfaces coated with concrete surface color treatment

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces and sacrificial beam shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be blue, Munsell No. 10B 3/6.



**PIPE UNDERDRAIN DETAIL**

\*\*\*Included in the cost of "Pipe Underdrains for Structures, 4".

NORFOLK SOUTHERN RAILROAD  
S.N. 084-9953 BUILT 20\_\_ BY  
CITY OF SPRINGFIELD  
SEC. 13-00475-00-BR  
STATION 52375+10.27  
MILE POST DH-413.85  
LOADING COOPER E-80

**NAME PLATE**

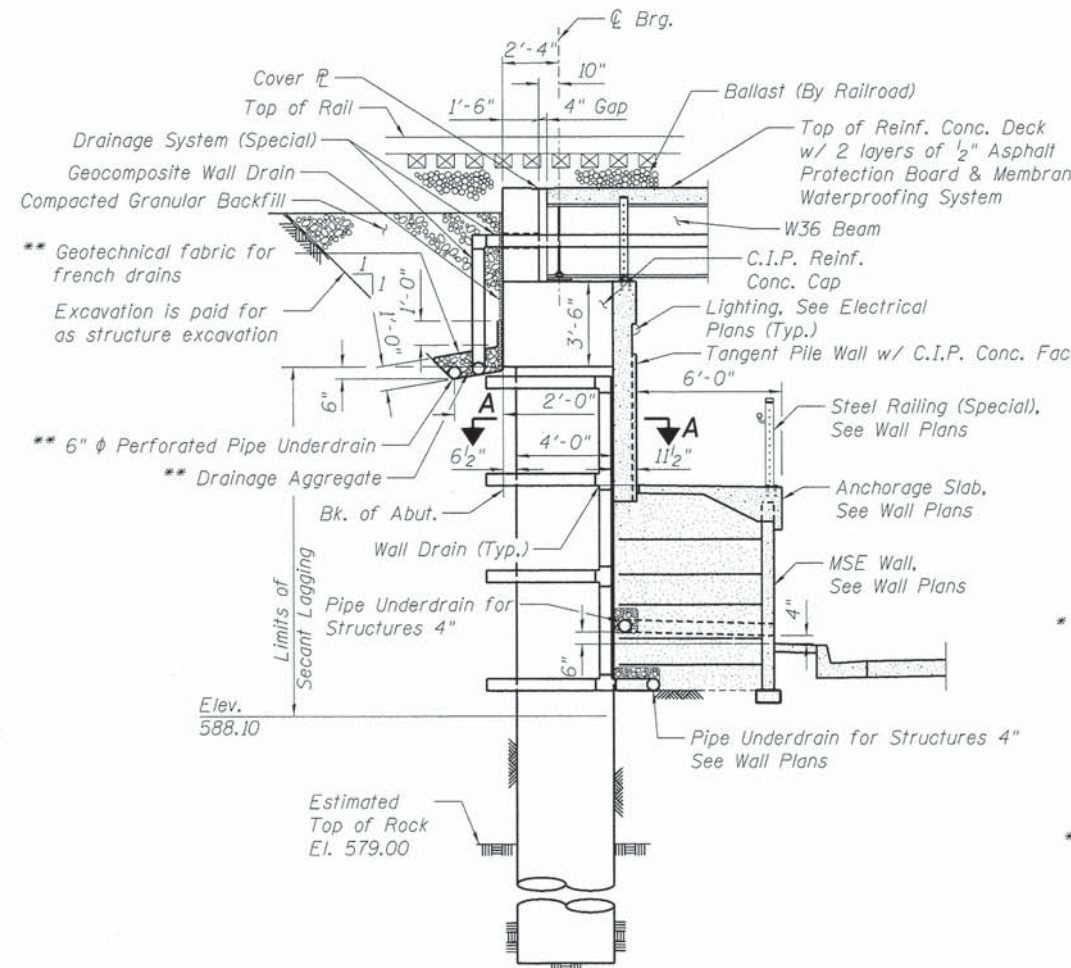
See Std. 515001

**INDEX OF SHEETS**

1. General Plan and Elevation
2. General Data
3. Foundation Layout
4. Stage Construction Details
5. Temporary Sheet Piling
6. Superstructure
7. Superstructure Details
8. Structural Steel
9. Structural Steel Details
10. Sacrificial Beam Details
11. Bearing Details
12. Membrane Waterproofing
13. Drainage System Details
14. Steel Railing (Special)
15. North and South Abutments
16. North and South Abutment Details
17. Pier
18. Subsurface Data Profile

**TOTAL BILL OF MATERIAL**

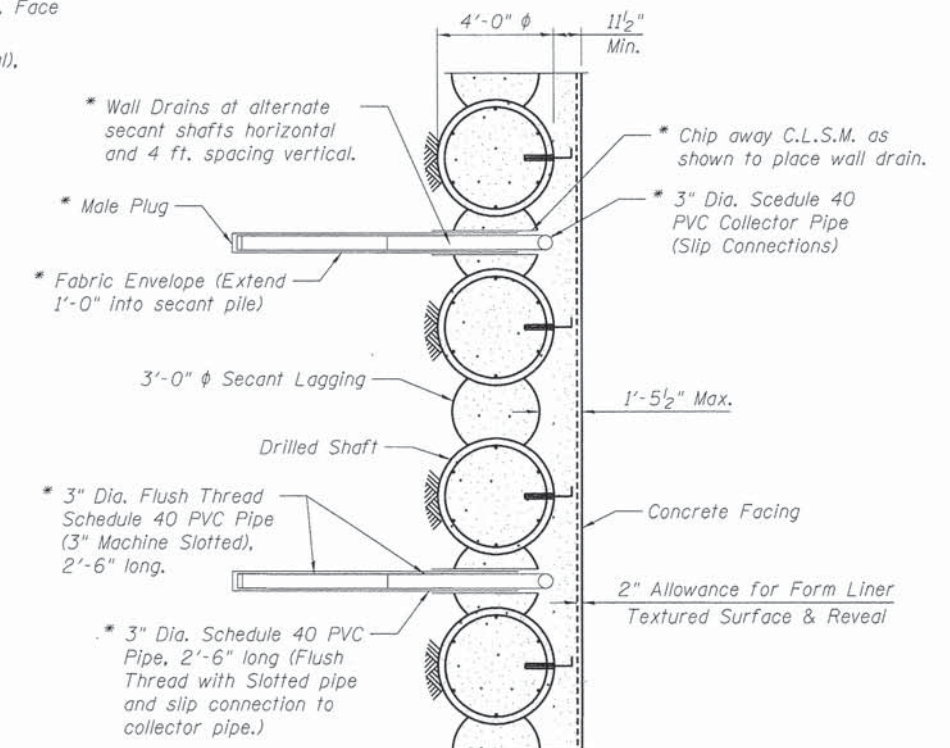
ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.	-	202	202
Concrete Structures	Cu. Yd.	-	185.8	185.8
Concrete Superstructure	Cu. Yd.	98.8	-	98.8
Form Liner Textured Surface	Sq. Ft.	-	610	610
Furnishing and Erecting Structural Steel, Bridge No. 2	L. Sum	1	-	1
Stud Shear Connectors	Each	6816	-	6816
Reinforcement Bars	Pound	-	67680	67680
Reinforcement Bars, Epoxy Coated	Pound	16950	34730	51680
Name Plates	Each	-	1	1
Drilled Shaft in Soil	Cu. Yd.	-	205.5	205.5
Drilled Shaft in Rock	Cu. Yd.	-	46.6	46.6
Membrane Waterproofing	Sq. Ft.	3347	-	3347
Concrete Sealer	Sq. Ft.	621	2250	2871
Geocomposite Wall Drain	Sq. Yd.	-	69	69
Conduit Embedded in Structure, 4" dia., PVC	Foot	168	-	168
Anti-Graffiti Protection System	Sq. Ft.	8	982	990
Drainage System (Special)	L. Sum	1	-	1
Concrete Surface Color Treatment	Sq. Ft.	8	292	300
Floor Drains (Special)	Each	18	-	18
Granular Backfill for Structures	Cu. Yd.	-	114	114
Steel Railing (Special)	Foot	188	-	188
Temporary Sheet Piling	Sq. Ft.	-	2898	2898
Pipe Underdrains for Structures, 4"	Foot	-	109	109
Pipe Underdrains for Structures, 6"	Foot	-	94	94
Secant Lagging	Cu. Ft.	-	1484	1484



**ABUTMENT SECTION**

\*\* Included in the cost of "Pipe Underdrains for Structures, 6".

Note: For additional drainage details see Roadway Plans.



**SECTION A-A**

\* Included in the cost of "Pipe Underdrains for Structures, 4".

DESIGNED M.J.W. 12/10/13  
DRAWN G.T.J. 1/27/14  
REVIEWED M.N.M. 2/25/14

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		CHECKED - M.N.M.	REVISED -
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	PLOT DATE = 02\26\2014	CHECKED - M.N.M.	REVISED -

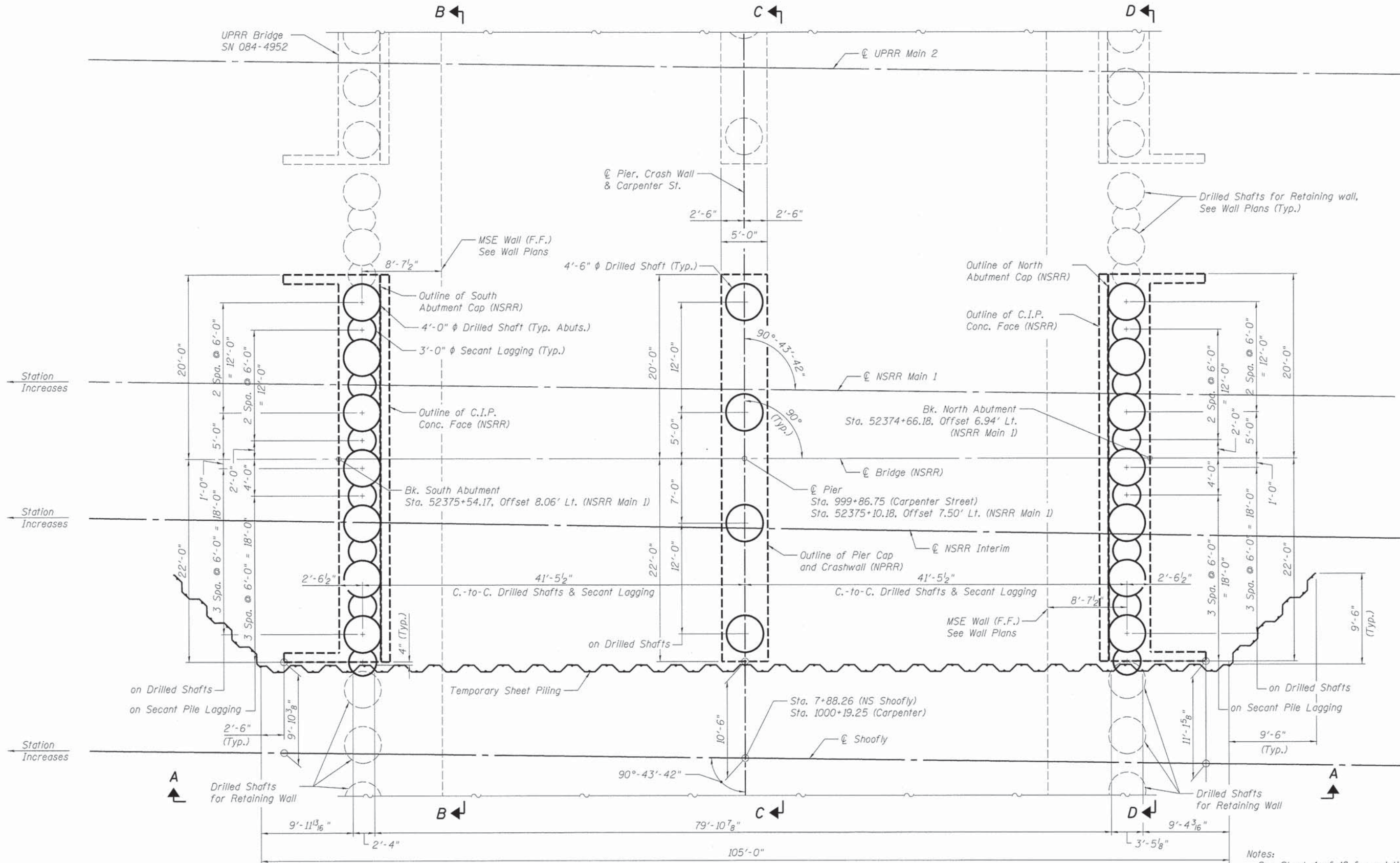
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL DATA  
STRUCTURE NO. 084-9953

SHEET NO. 2 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	124
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				





**FOUNDATION LAYOUT PLAN**



Notes:  
 See Sheet 4 of 18 for existing utilities and topography.  
 For Temporary Sheet Piling Details and Sections "A-A", "B-B", "C-C" & "D-D" see Sheet 5 of 18.

DESIGNED	MJW	12/10/13
DRAWN	GTJ	1/2/14
REVIEWED	MNM	2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -
PLOT SCALE = 5:3,9999 ' = 1" / in.			
PLOT DATE = 02/26/2014			

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FOUNDATION LAYOUT  
 STRUCTURE NO. 084-9953**

SHEET NO. 3 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	125
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

**CONSTRUCTION SEQUENCE**

Stage IA: Rail traffic will be maintained on Existing NSRR track.

1. Detour Carpenter Street roadway traffic to alternate routes as shown in the roadway plans.
2. Complete temporary road closure of Carpenter Street between 9th and 11th Street.
3. Construct drilled shafts for portions of retaining walls that will be underneath the NSRR Shoofly and other retaining walls to the extent feasible.
4. Place and compact subballast on top of drilled shafts underneath the NSRR Shoofly. See Railway plans.
5. Construct pump station.
6. Using track closure windows install temporary sheet piling west of NSRR Shoofly.
7. Permanently close Miller and Reynolds Streets at existing grade crossings. NSRR to remove Carpenter, Miller and Reynolds Street crossing gates, signals and cabinets.
8. NSRR to construct Shoofly up to Existing NSRR track cutover locations.

Stage IB: Rail traffic will be maintained on Existing NSRR track with track closure windows to allow for construction of Shoofly cutover. Once cutover is complete railroad traffic will be on Shoofly.

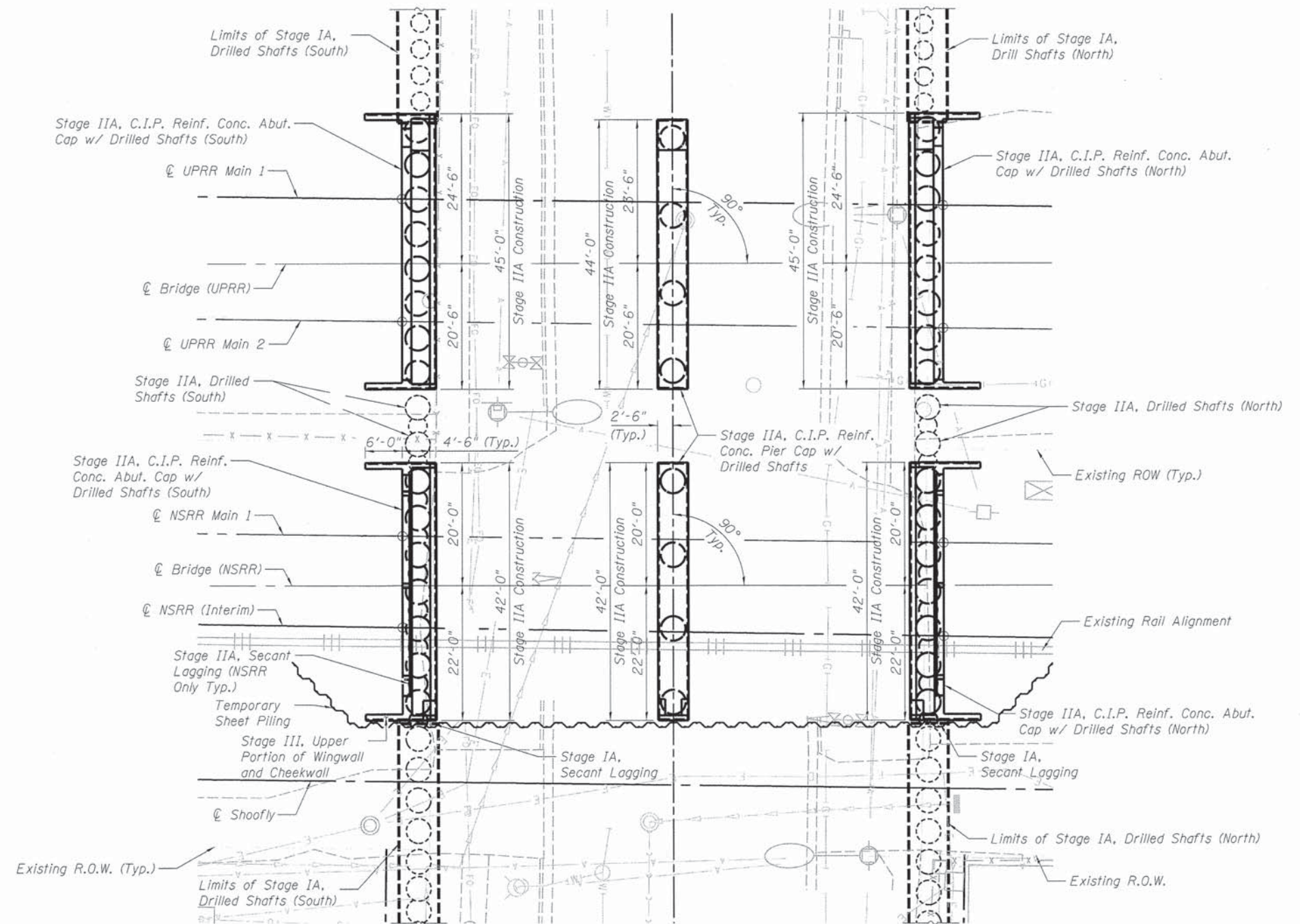
Stage IIA: Rail traffic will be maintained on Shoofly alignment.

1. Railroad to remove existing track within limits of Shoofly.
2. Excavate Carpenter St. at the bridges down to the elevation of the bottom of abutment and pier caps.
3. NSRR structure:
  - Drill and place the secant shafts for the North and South abutments and the drilled shafts for the pier.
- UPRR structure:
  - Drill and place the tangent shafts for the North and South abutments and the drilled shafts for the pier.
4. Construct cast-in-place concrete abutment and pier caps for both bridges.
5. Place Compacted Granular Backfill behind the abutments.
6. Place the superstructure for the NSRR structure. The UPRR superstructure may be placed during or after this stage.
7. NSRR to construct Interim track up to Shoofly cutover locations.

Stage IIB: Rail traffic will be maintained on Shoofly with track closure windows to allow for construction of Interim cutover. Once cutover is complete railroad traffic will be on Interim.

Stage III: Rail traffic will be maintained on Interim alignment.

1. The Shoofly track will be removed by NSRR.
2. Complete upper portion of E. Wingwall and E. Cheekwall at S. Abutment.
3. Complete remaining excavation to required elevations for roadway construction.
4. Complete upper retaining wall facing and construct M.S.E. wall, pier crashwalls and roadway.
5. Open Carpenter Street to roadway traffic.



**STAGE CONSTRUCTION PLAN - STAGE I AND II**

(Superstructures not shown for clarity.)



DESIGNED MJW 12/01/13  
 DRAWN GTJ 1/2/14  
 REVIEWED MNM 2/25/15

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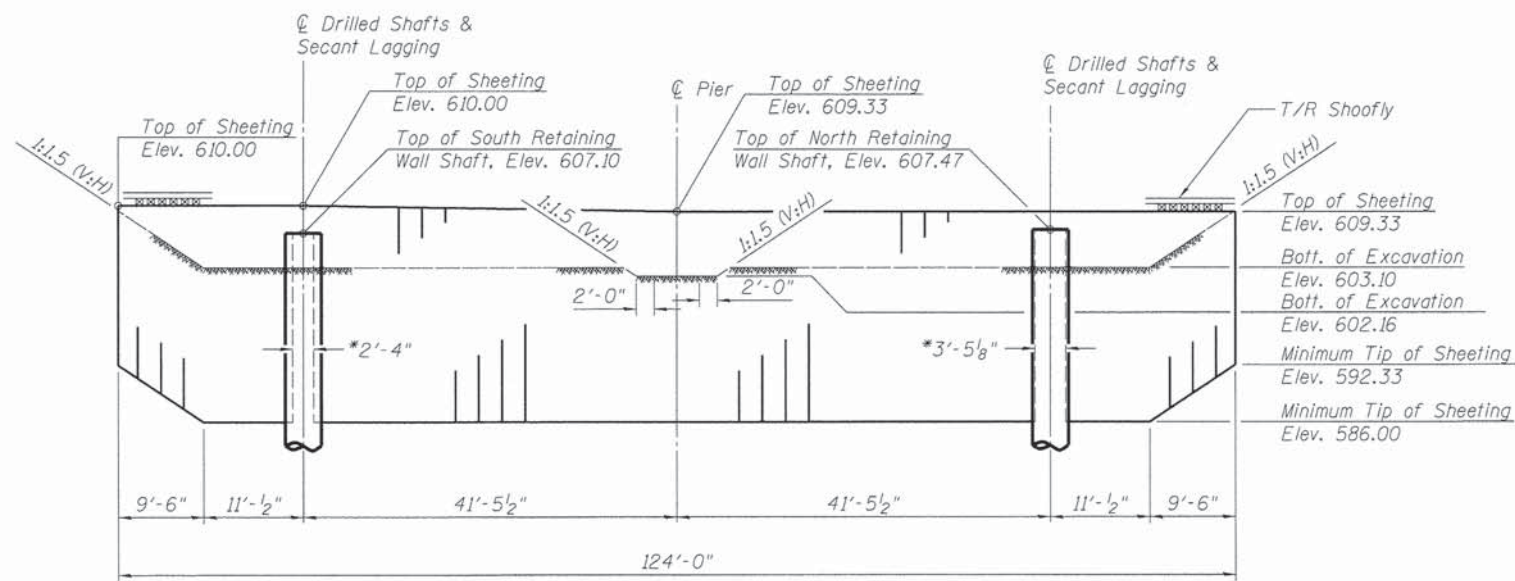
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		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS  
 STRUCTURE NO. 084-9953

SHEET NO. 4 OF 18 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 126
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

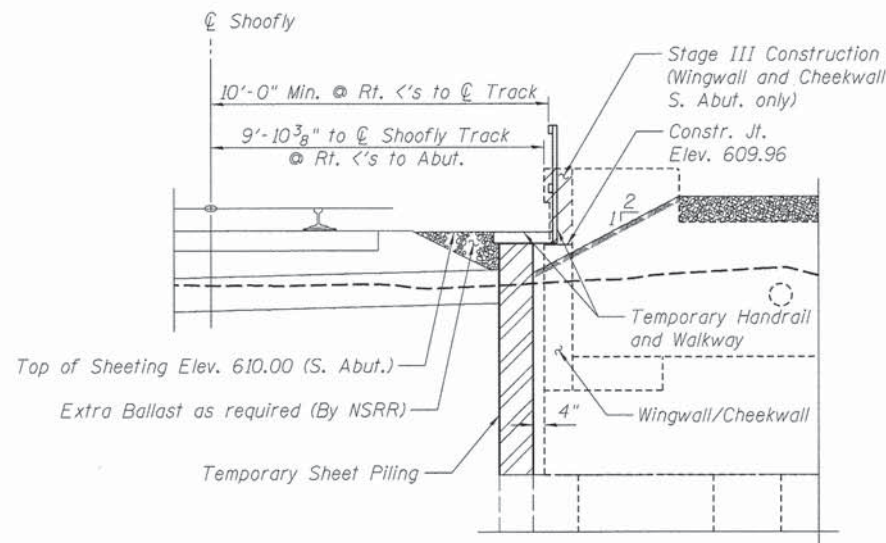


Minimum Section Modulus = 26.0 in<sup>3</sup>/ft  
 Minimum Moment of Inertia = 360.0 in<sup>4</sup>/ft

\* Gap sheet piling below top of retaining wall drilled shafts.

**TEMPORARY SHEET PILING - SECTION A-A**

(Looking West)

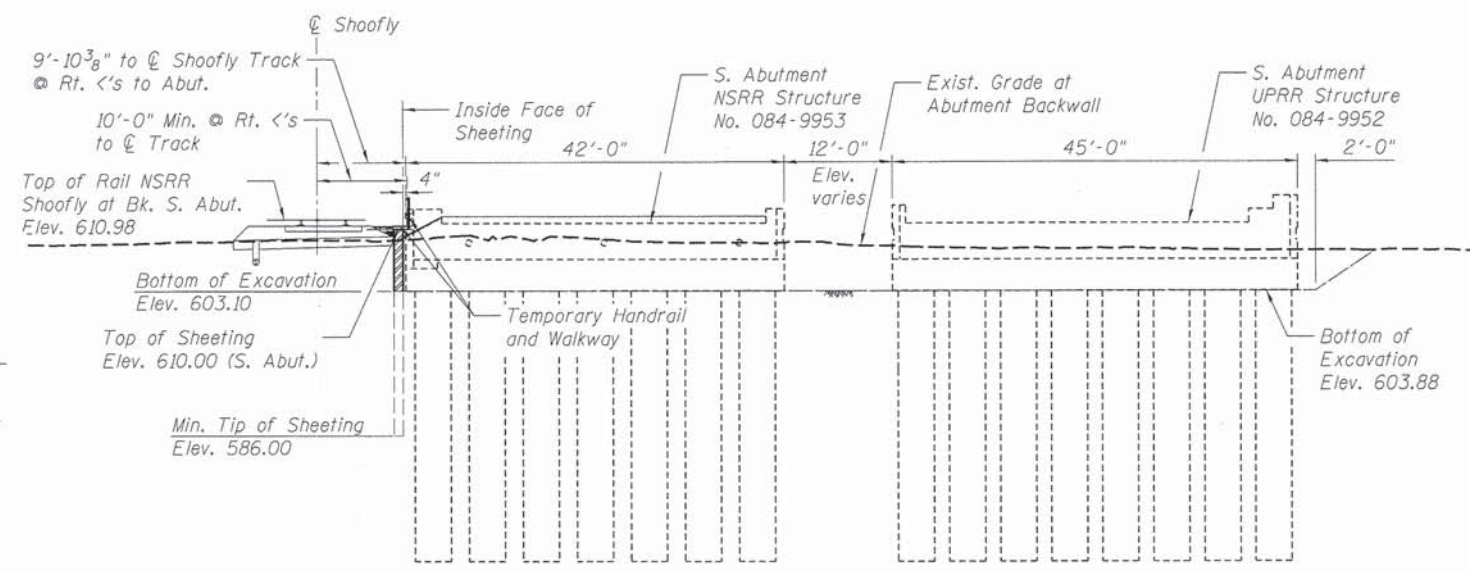


**TEMPORARY HANDRAIL AND WALKWAY DETAIL**

(S. Abut. Looking South)

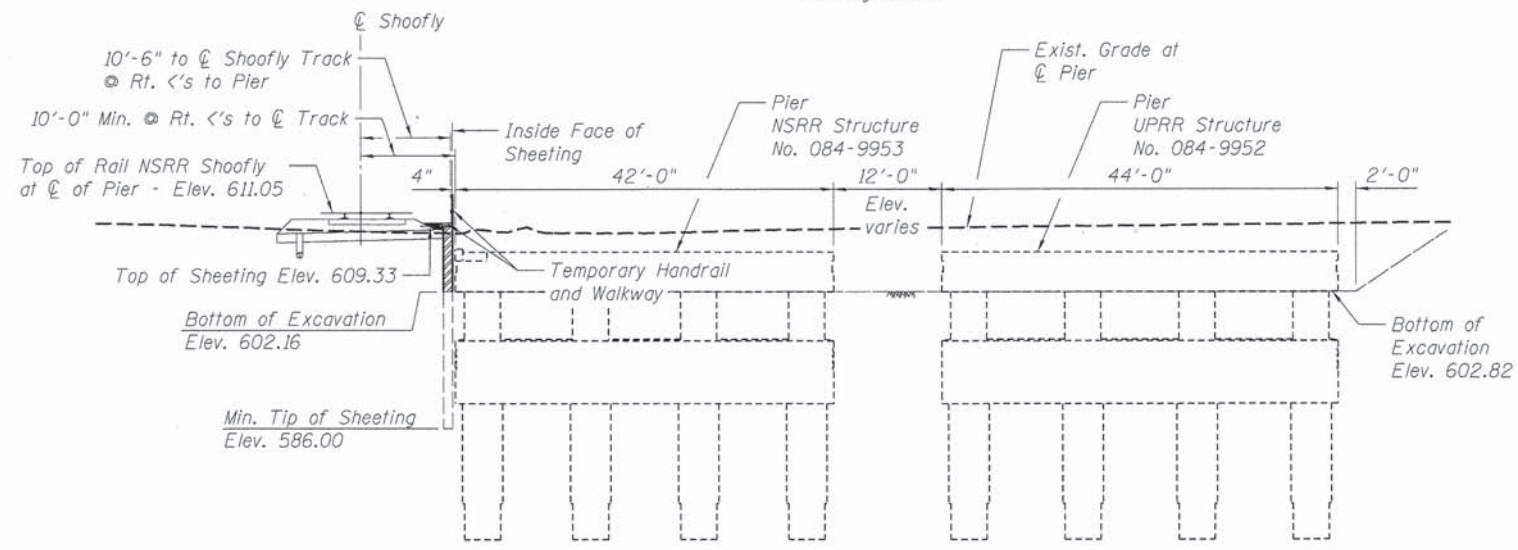
**Notes:**

- The Contractor is responsible for the design and installation of the Temporary handrail and walkway.
- Temporary handrail and walkway shall meet AREMA, FRA, OSHA and NSRR requirements and cost shall be included with Temporary Sheet Piling.
- If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
- Retaining wall drilled shafts not shown for clarity.
- The Contractor shall connect the bottom of sheet piling over the top of drilled shaft or secant lagging to the retaining wall drilled shaft to ensure stability of sheets at top of the retaining wall drilled shaft. The connection shall be reviewed and accepted by the Engineer and included in the cost of Temporary Sheet Piling.



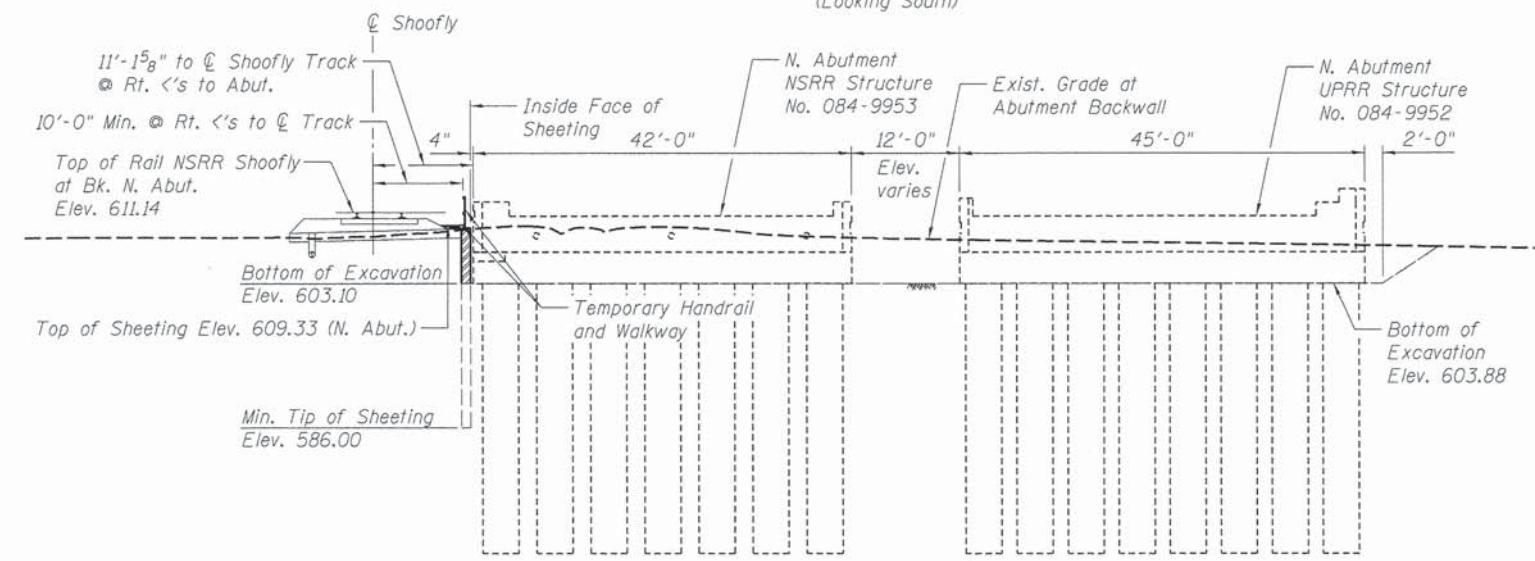
**TEMPORARY SHEET PILING - SECTION B-B**

(Looking South)



**TEMPORARY SHEET PILING - SECTION C-C**

(Looking South)



**TEMPORARY SHEET PILING - SECTION D-D**

(Looking South)

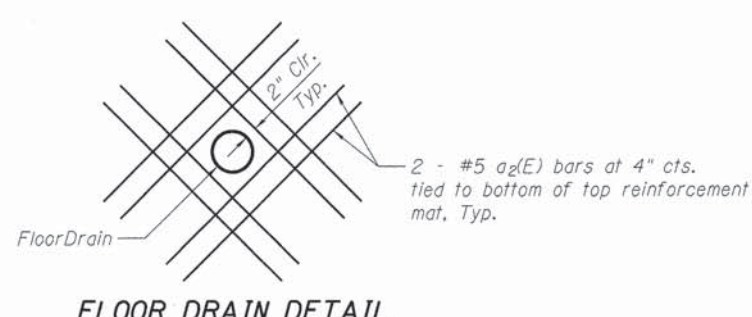
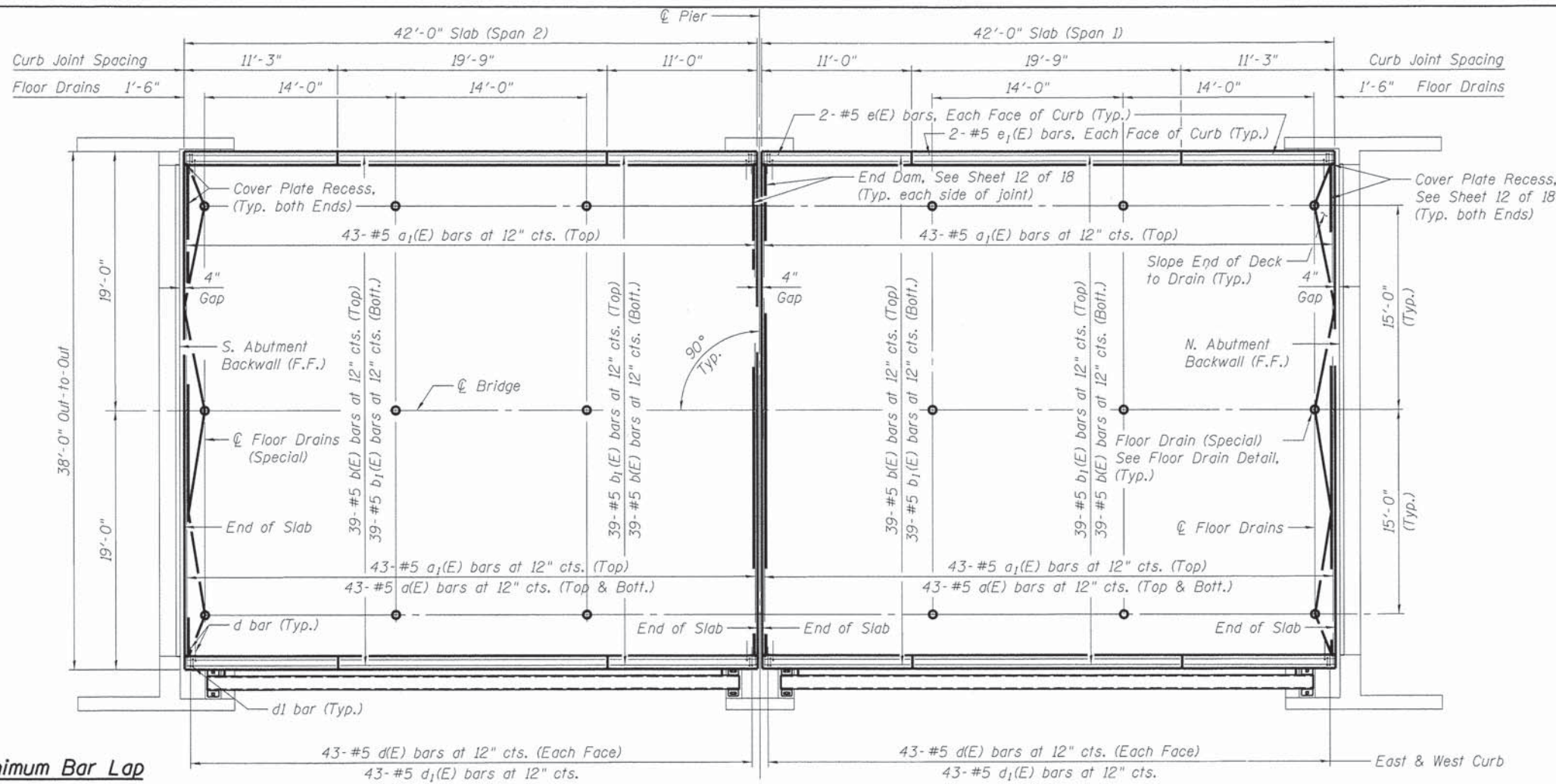
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 DESIGNED MJW 12/10/13  
 DRAWN GTJ 1/2/14  
 REVIEWED MNM 2/25/14

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		CHECKED - MNM	REVISED -
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PLOT DATE = 02/26/2014			

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

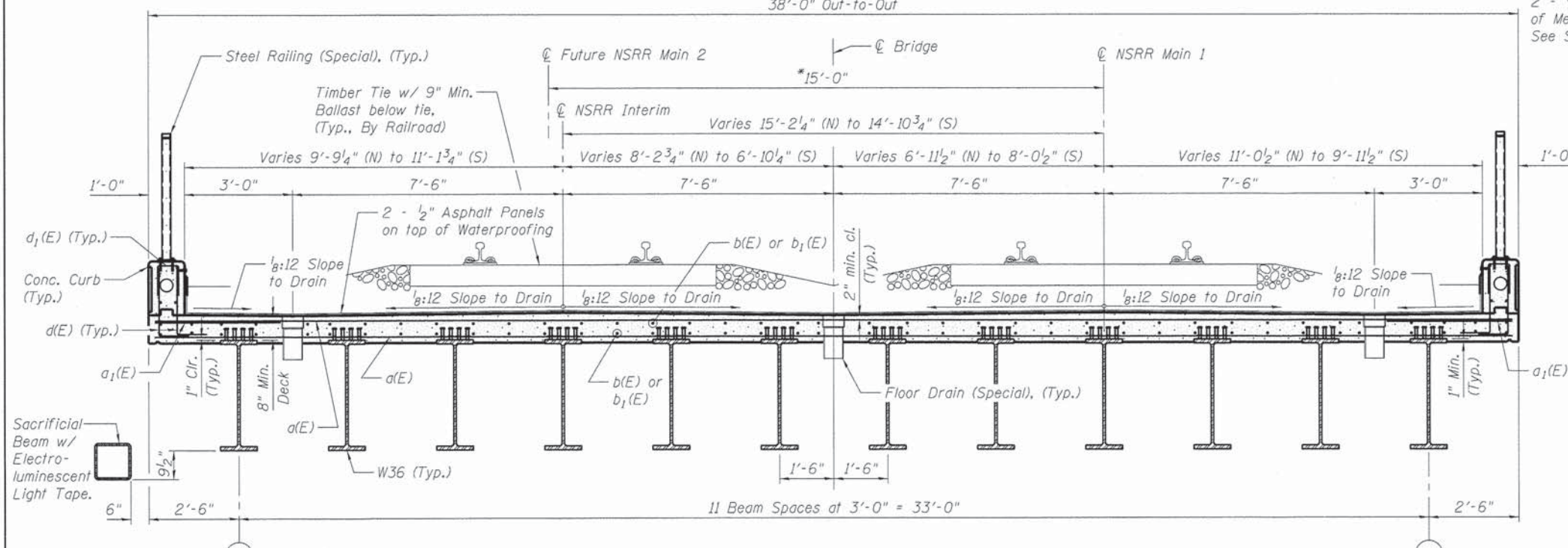
**TEMPORARY SHEET PILING  
 STRUCTURE NO. 084-9953**  
 SHEET NO. 5 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	127
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



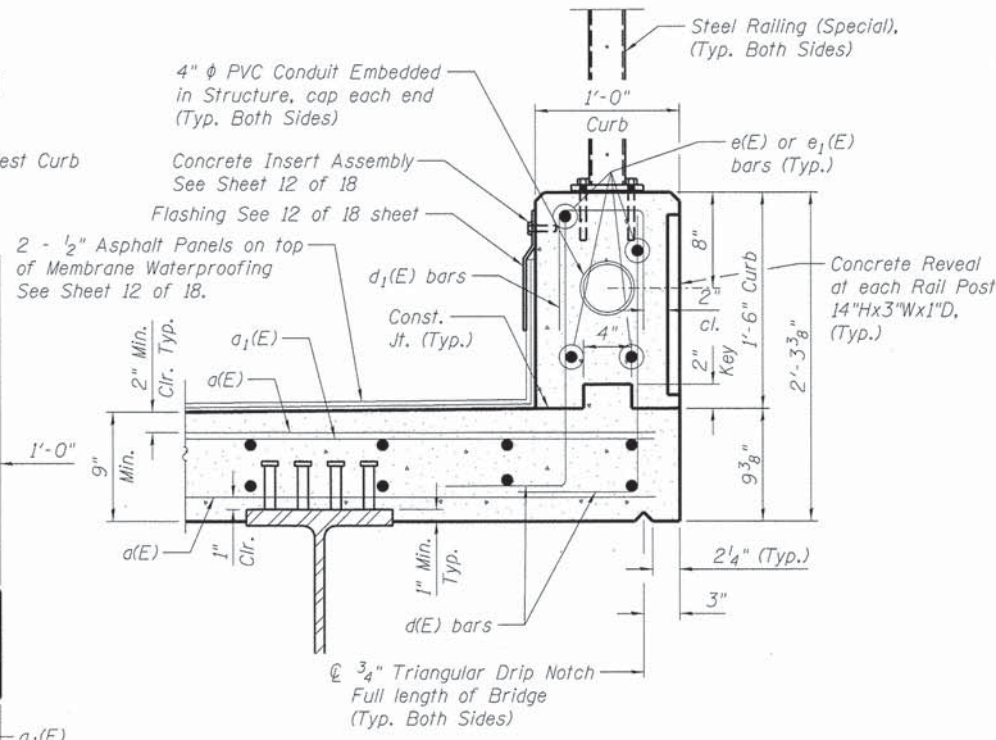
**Minimum Bar Lap**  
#5 bar = 2'-1"

**PLAN**



**TYPICAL SECTION (NSRR)**  
(Looking South)

\* Dimensions are Rt. Δ's to Ctr. Track



**CURB SECTION**

- Notes:
1. For Steel Railing Details See Sheet 14 of 18
  2. For Membrane Waterproofing Details See Sheet 12 of 18
  3. Shift bars to miss floor drains, do not cut.
  4. Bars indicated thus 2x2-#5 etc. indicates 2 lines of bars with 2 lengths per line.
  5. For Concrete Deck End Dam Details at Joints See Sheet 12 of 18.

FINAL  
DESIGNED - MJW 12/10/13  
DRAWN - GTJ 1/27/14  
REVIEWED - MNM 2/25/14

FILE NAME: p:\1\spi-svr\386.hanson.dom\hanson\_projects\documents\09\jobs\0%01798\CAD\Struct\Carpenter\Sheet\8849953-0%01798-TypSection

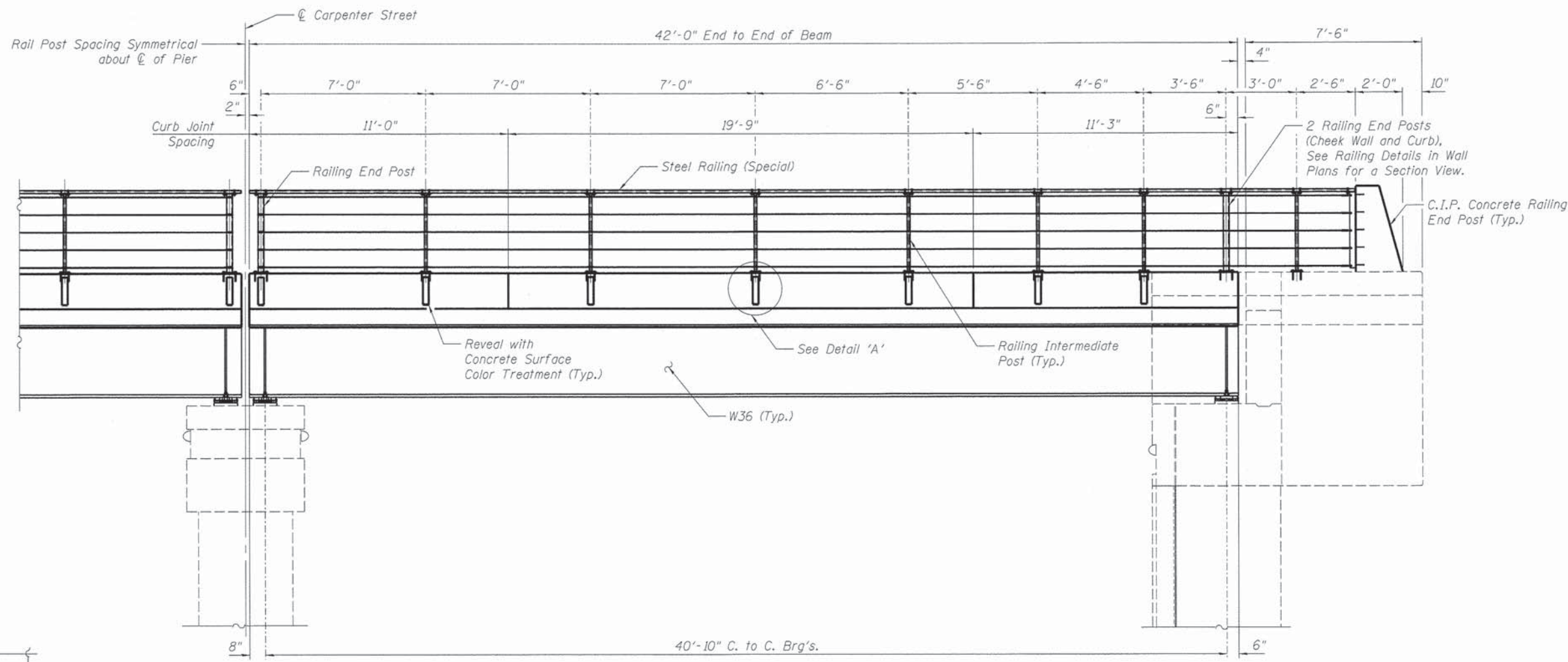
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE**  
**STRUCTURE NO. 084-9953**

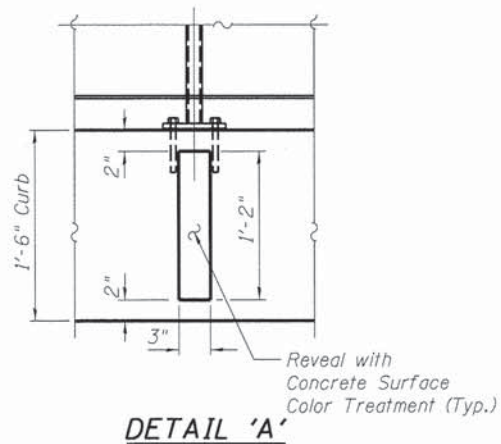
SHEET NO. 6 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	128
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

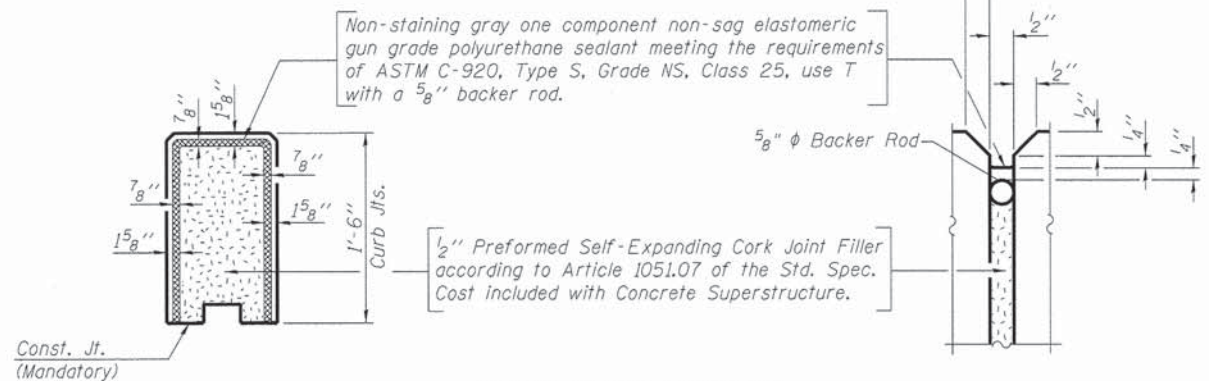


**ELEVATION**

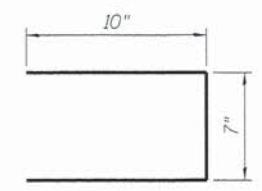
(Looking West, Steel Sacrificial Beam not shown for clarity)



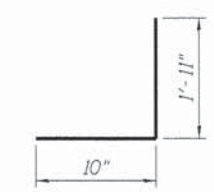
**DETAIL 'A'**



**CURB JOINT DETAILS**



**BAR d1(E)**



**BAR d(E)**

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	172	*5	37'-8"	—
a1(E)	172	*5	3'-6"	—
a2(E)	144	*5	2'-6"	—
b(E)	156	*5	19'-10"	—
b1(E)	156	*5	23'-11"	—
d(E)	344	*5	2'-9"	┘
d1(E)	172	*5	2'-3"	┘
e(E)	32	*5	10'-8"	—
e1(E)	16	*5	19'-5"	—
Reinforcement Bars, Epoxy Coated			Pound	16950
Concrete Superstructure			Cu. Yds.	98.8
Conduit Embedded in Structure, 4" dia., PVC			Foot	168
Floor Drains (Special)			Each	18
Concrete Surface Color Treatment			Sq. Ft.	8

Note: For steel railing details see sheet 14 of 18. For concrete railing end post details see sheet 16 of 18.

FINAL  
DESIGNED MJW 12/10/13  
DRAWN GTJ 1/27/14  
REVIEWED MNM 2/25/14

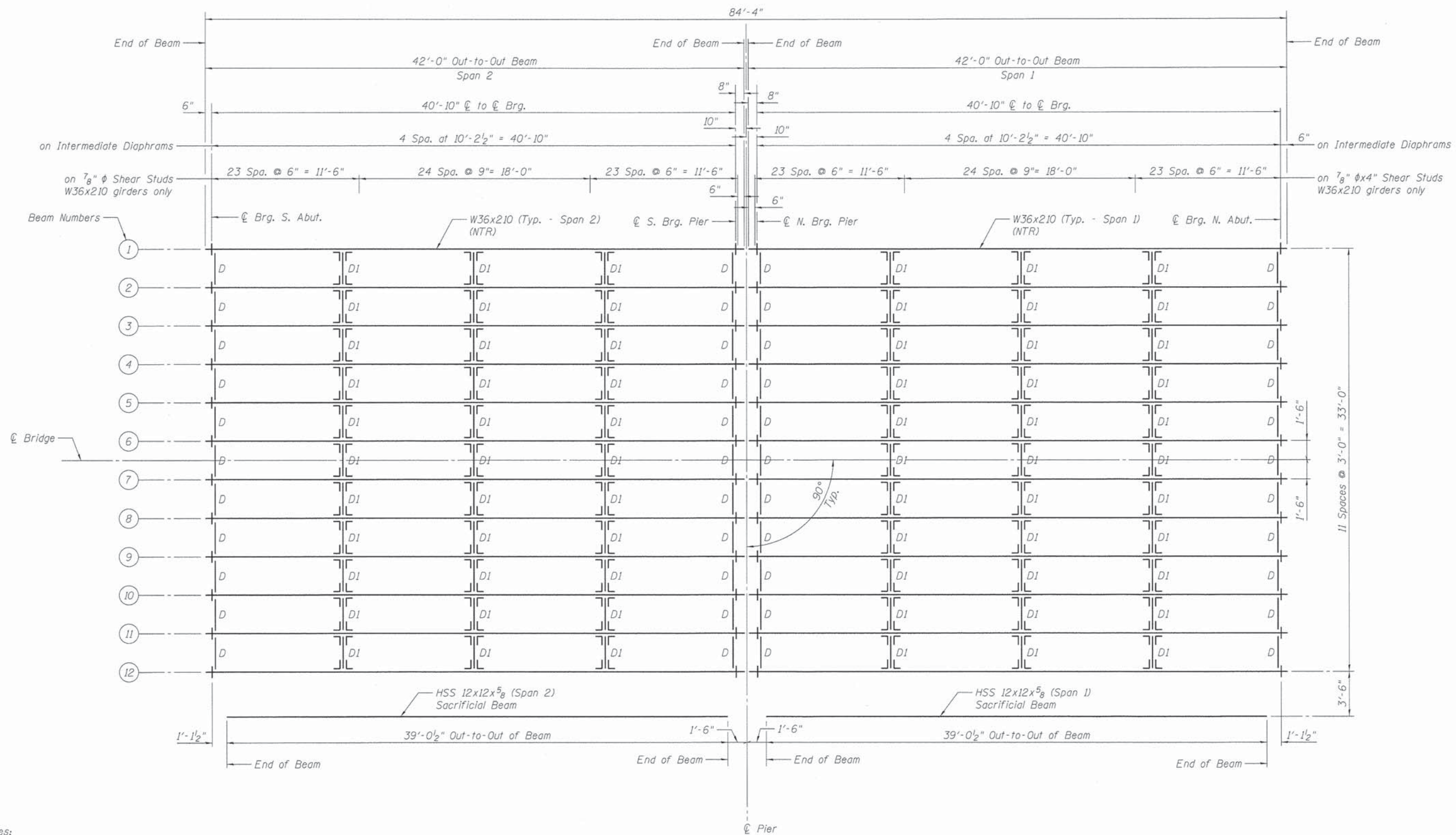
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 084-9953

SHEET NO. 7 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	129
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				



**FRAMING PLAN**

Notes:  
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.  
 Floor Drains shall be located clear of all diaphragms.

FINAL  
 DESIGNED MJW 12/10/13  
 DRAWN GTJ 1/27/14  
 REVIEWED MNM 2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - MJW	REVISED -
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		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -
PLOT SCALE = 0:1.0000 1" = 1'-0"			
PLOT DATE = 02/26/2014			

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL  
 STRUCTURE NO. 084-9953

SHEET NO. 8 OF 18 SHEETS

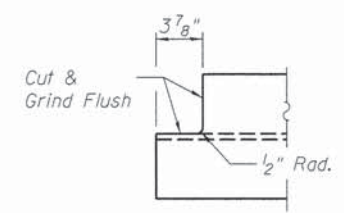
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7975	13-00475-00-BR	SANGAMON	196	130
CONTRACT NO. 3 6 1 7				

ILLINOIS FED. AID PROJECT

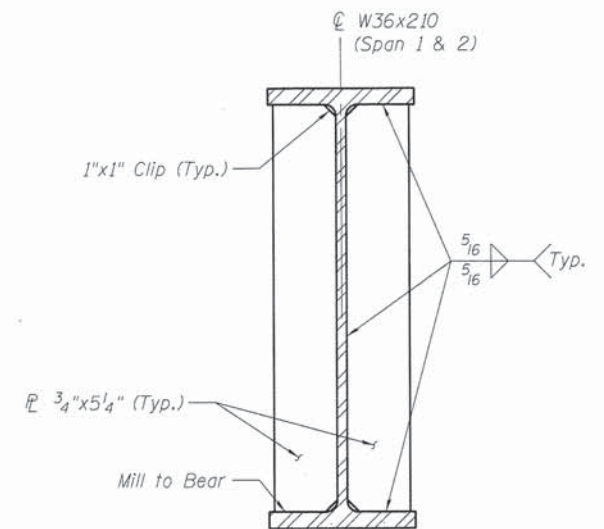
**MOMENT & SHEAR TABLE FOR INTERIOR BEAMS**

DESCRIPTION	MAX MOMENT	MAX SHEAR
Dead Load	288.4 Ft.-K	28.1 K
Live Load	755.5 Ft.-K	80.4 K
Impact	302.9 Ft.-K	32.2 K
Total	1,346.8 Ft.-K	140.7 K
Section	W36x210	
Steel	ASTM A709, GR 50, NTR ZONE 2	
Net I	12,886 IN <sup>4</sup>	
Net S (Bott.)	702 IN <sup>3</sup>	
FST (Bott.)	23.0 KSI	
Gross I	13,200 IN <sup>4</sup>	
Gross S (Top)	719 IN <sup>3</sup>	
FSC (Top)	22.5 KSI	
(LL+I) Deflection	0.45 IN	
Allowable (LL+I) Deflection	0.77 IN	

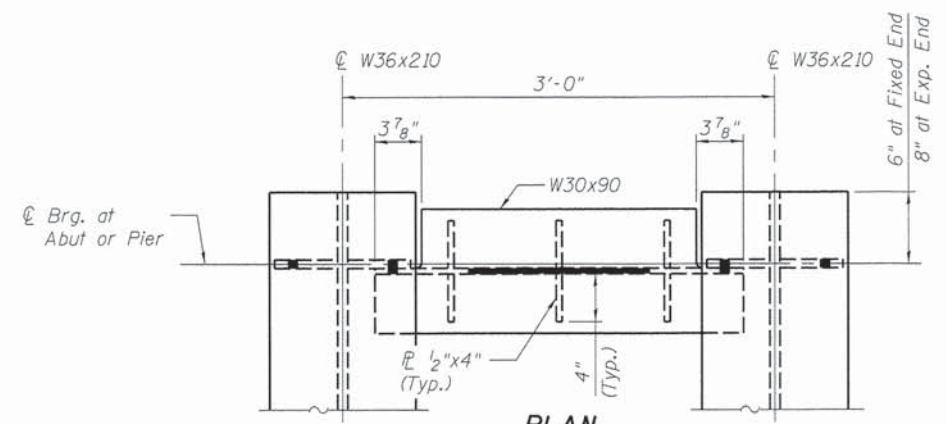
I - Non-composite moment of inertia of the steel section  
 S - Non-composite section modulus of the steel section  
 FST - Max unfactored tension stress in steel section due to DL+LL+Impact  
 FSC - Max unfactored compression stress in steel section due to DL+LL+Impact



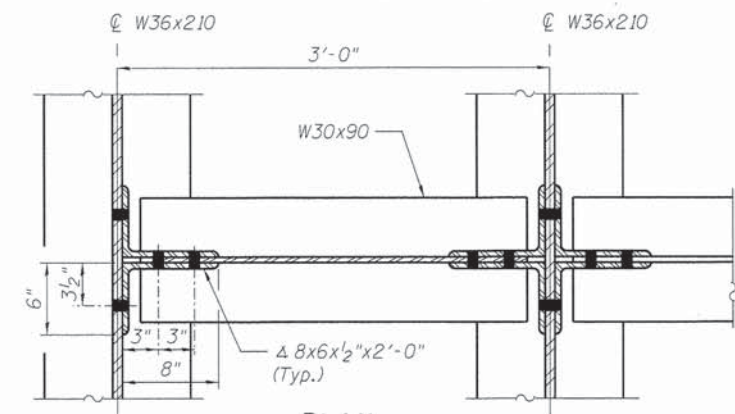
**COPE DETAIL**



**BEARING STIFFENER DETAIL**

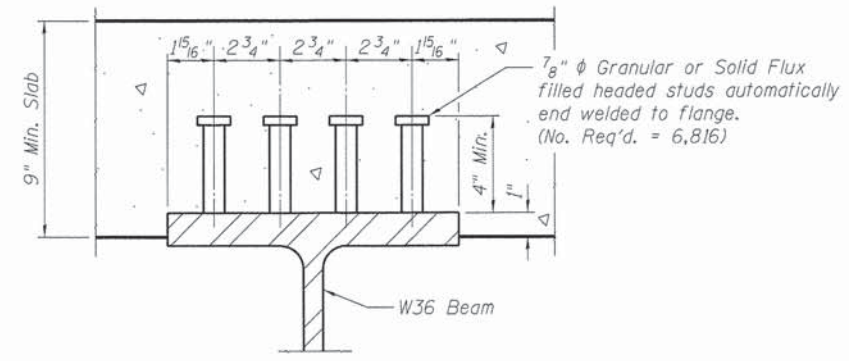


**PLAN**

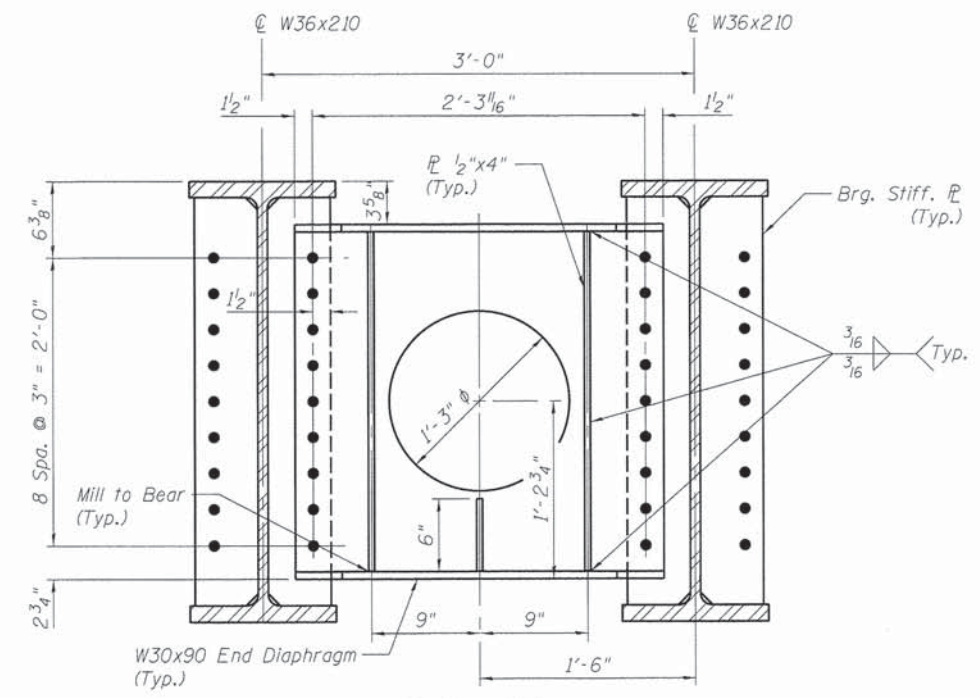


**PLAN**

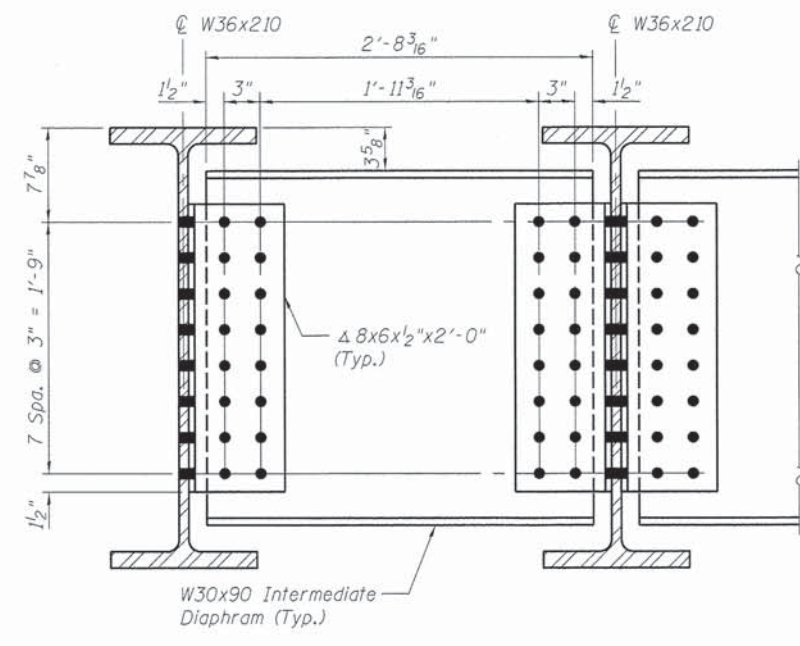
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**SHEAR STUD DETAIL**



**ELEVATION  
END DIAPHRAMS-D**



**ELEVATION  
INTERMEDIATE DIAPHRAMS-DI**

- Notes:
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
  - Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
  - Bolts shall be 7/8"  $\phi$  placed in 1 5/16"  $\phi$  holes unless otherwise noted.
  - Steel shall conform to ASTM A709 Gr. 50 unless otherwise noted.
  - See sheet 13 of 18 for holes in interior diaphragms for drainage system.

FINAL  
 DESIGNED MJW 12/10/13  
 DRAWN GTJ 1/2/14  
 REVIEWED MNM 2/25/14

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PLOT DATE = 02/26/2014			

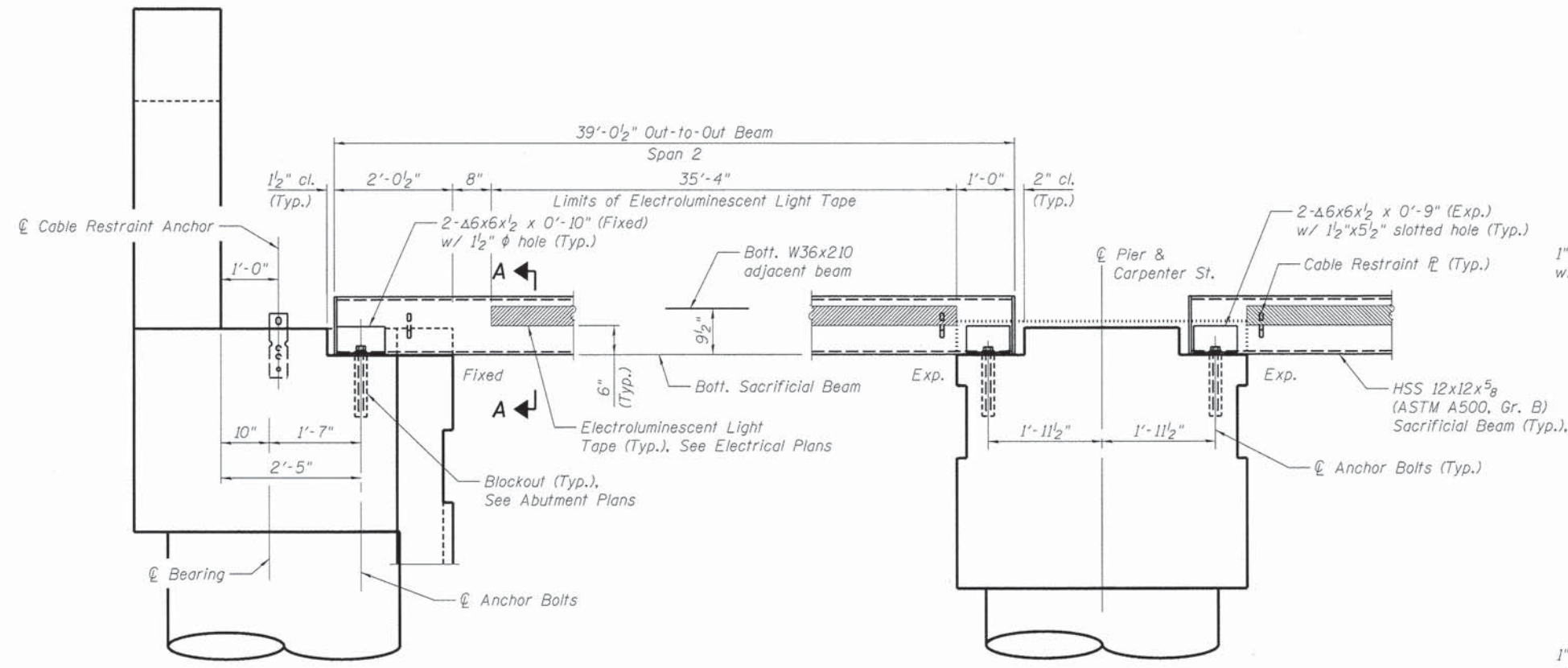
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS  
STRUCTURE NO. 084-9953**

SHEET NO. 9 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	131
<b>CONTRACT NO. 93617</b>				

ILLINOIS FED. AID PROJECT

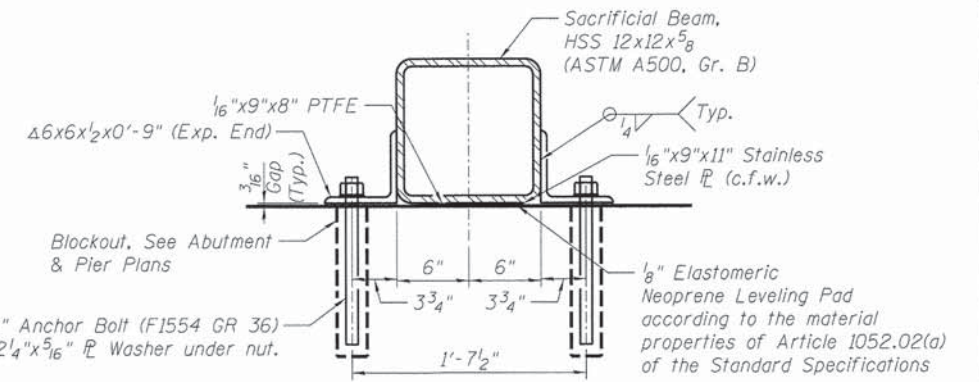


**ELEVATION - SOUTH ABUTMENT**

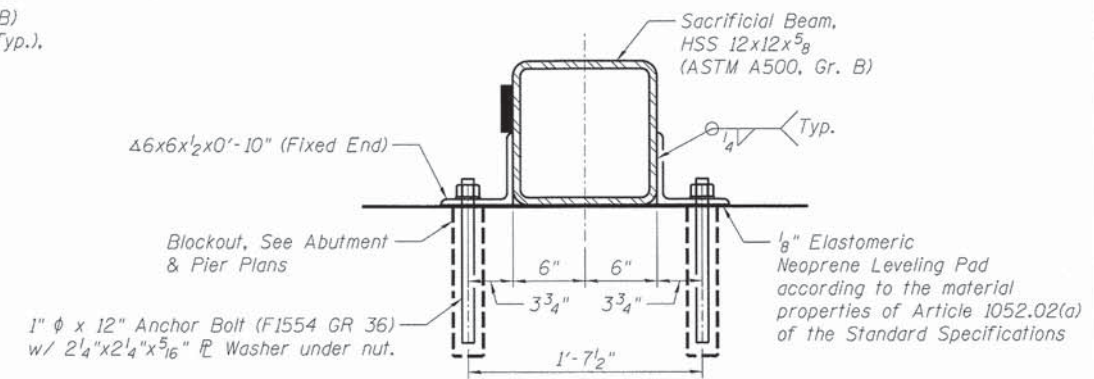
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(Looking West)

**ELEVATION - PIER**

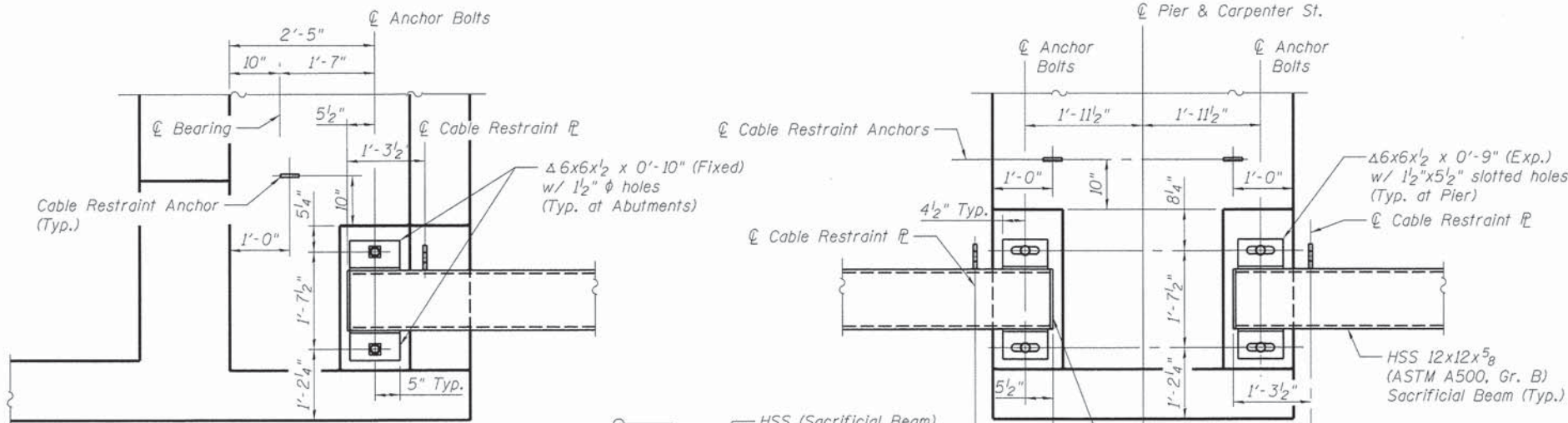
Cable Restraint Anchors not shown for clarity.  
(Looking West)



**TYPICAL SECTION AT EXPANSION END**

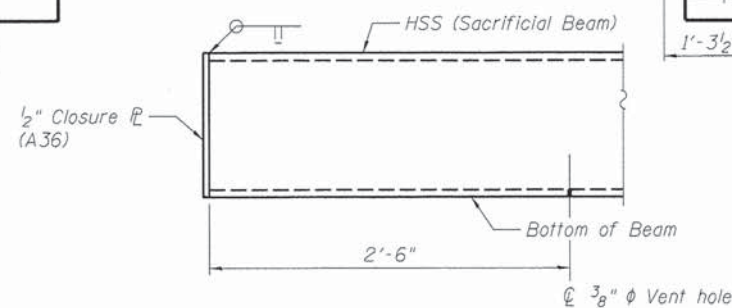


**TYPICAL SECTION AT FIXED END**

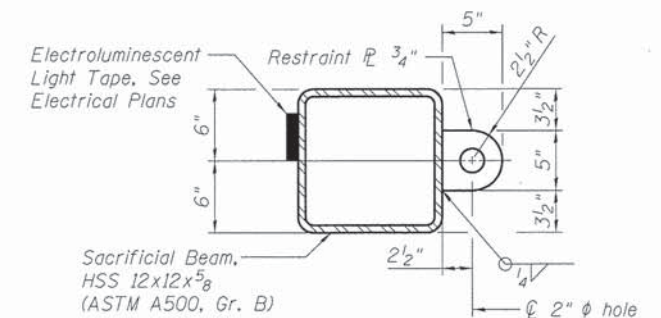


**PLAN - SOUTH ABUTMENT**

**PLAN - PIER**



**CLOSURE PLATE DETAIL**



**SECTION A-A**

**Notes:**  
Cable Restraint Anchors shall be P92 Fleet-Lift Anchors, FLO49, by Dayton Superior, or approved equal.  
Each Cable Restraint shall connect a single Cable Restraint Anchor to a Cable Restraint Plate using wire rope with 2 wire rope thimbles and 3 wire rope clips per end.  
Wire rope shall be 3/8"  $\phi$  aircraft cable, MIL-DTL-83420, Type I non jacketed, 7x19 construction.  
Cost for elastomeric neoprene and elastomeric neoprene leveling pad w/ PTFE surface, cable restraint anchors, wire rope and accessories shall be included in the cost of "Furnishing and Erecting Structural Steel, Bridge No. 2".  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts shall be installed in blockouts with Non-Shrink Grout meeting the material requirements of Article 1024.02 of the Standard Specifications. Blockouts shall be clean prior to grouting and grout installed according to manufactures recommendations.  
The PTFE shall be bonded directly to the leveling pad according to the manufacturers recommendations.

FINAL  
DESIGNED - MJW 12/10/13  
DRAWN - GTJ 1/27/14  
REVIEWED - MNM 2/25/14

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

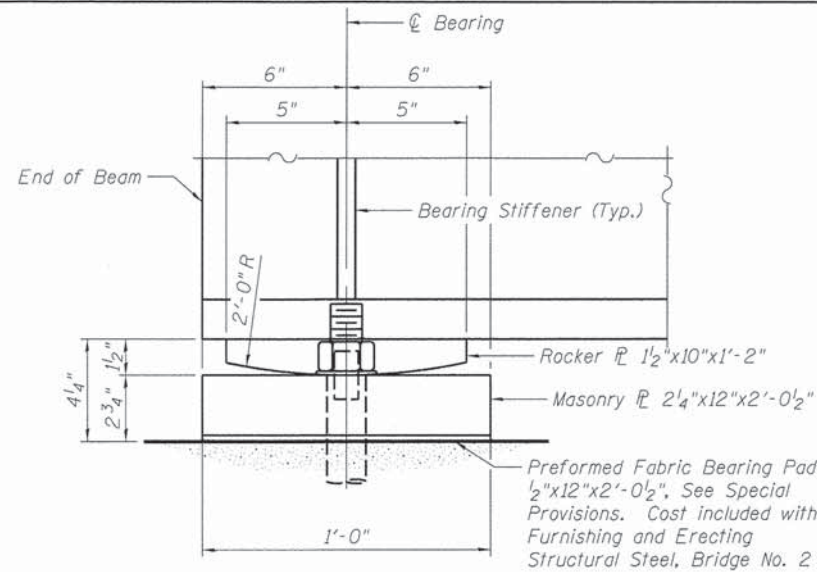
**SACRIFICIAL BEAM DETAILS  
STRUCTURE NO. 084-9953**

SHEET NO. 10 OF 18 SHEETS

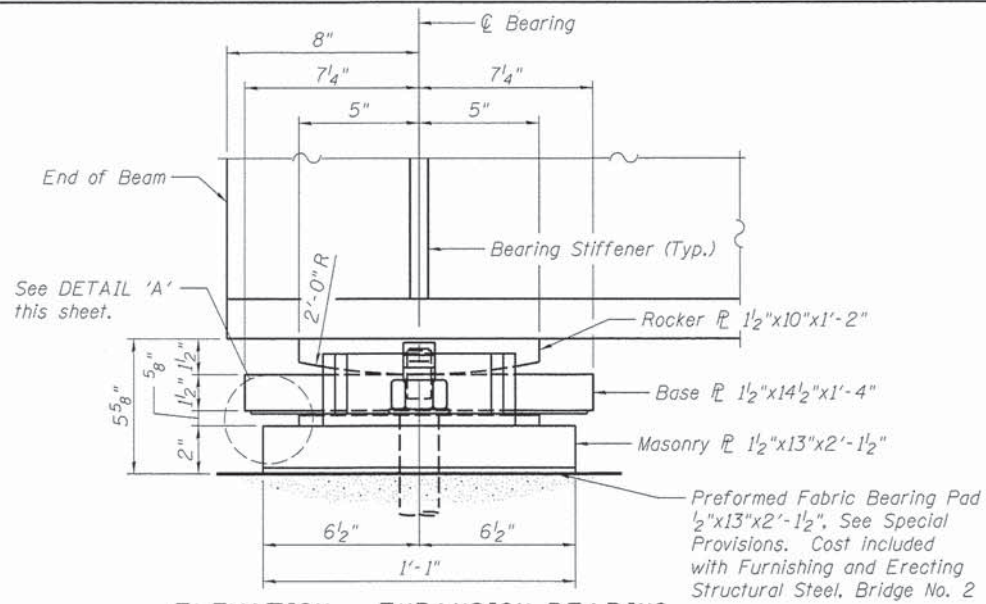
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	132
				CONTRACT NO. 9 3 6 1 7

ILLINOIS FED. AID PROJECT

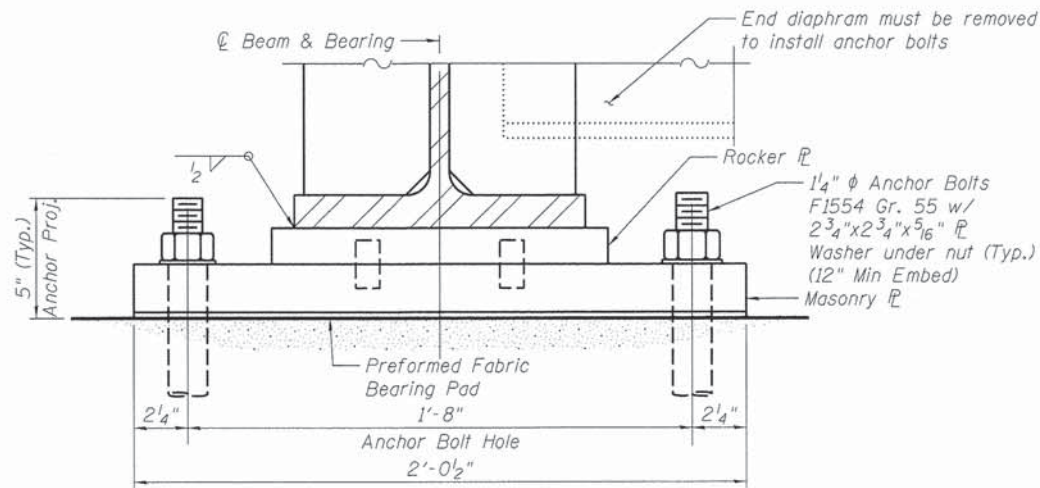




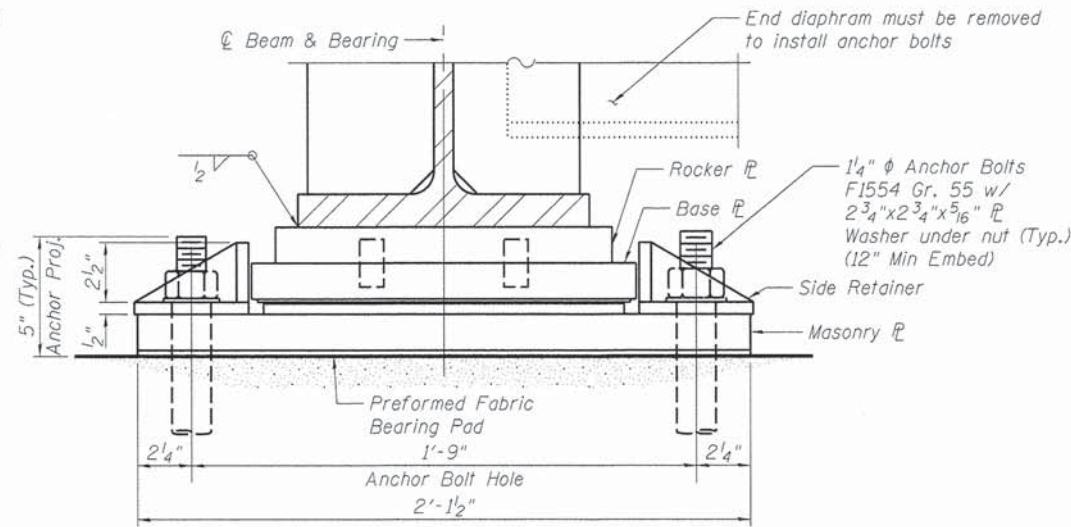
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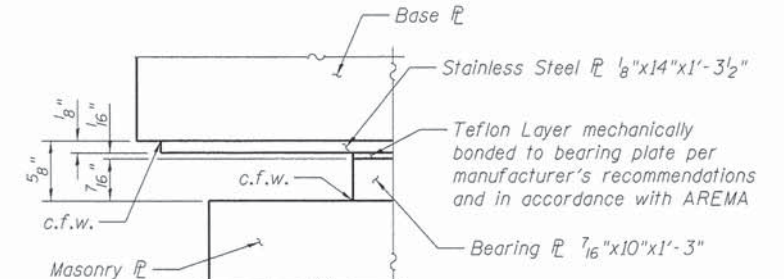
**ELEVATION - EXPANSION BEARING**



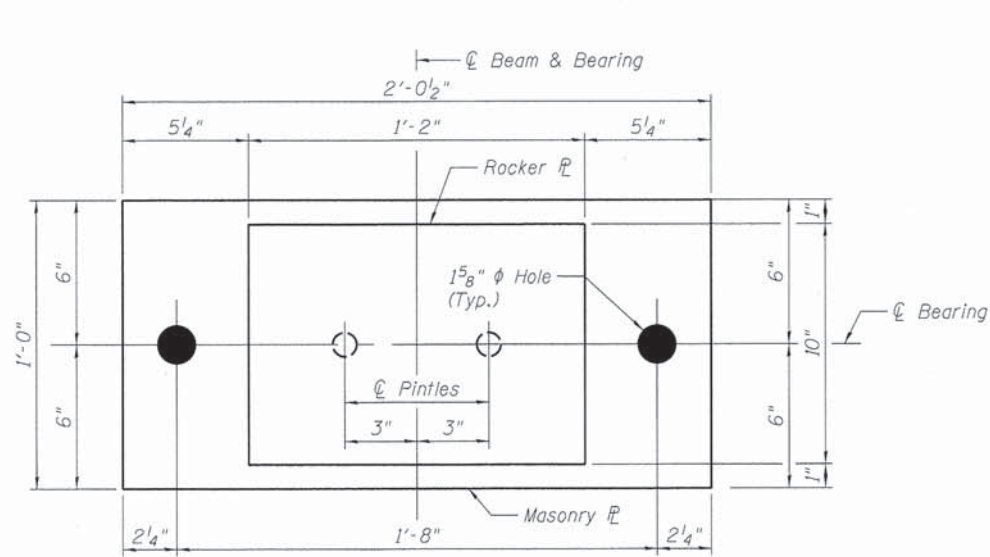
**END VIEW - FIXED BEARING**



**END VIEW - EXPANSION BEARING**

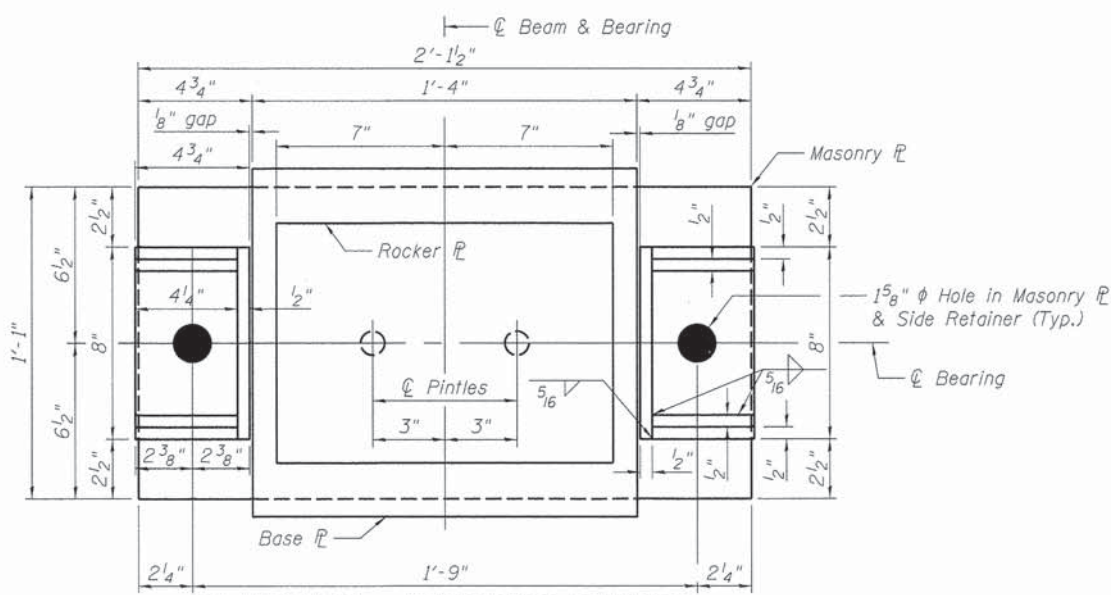


**DETAIL 'A'**



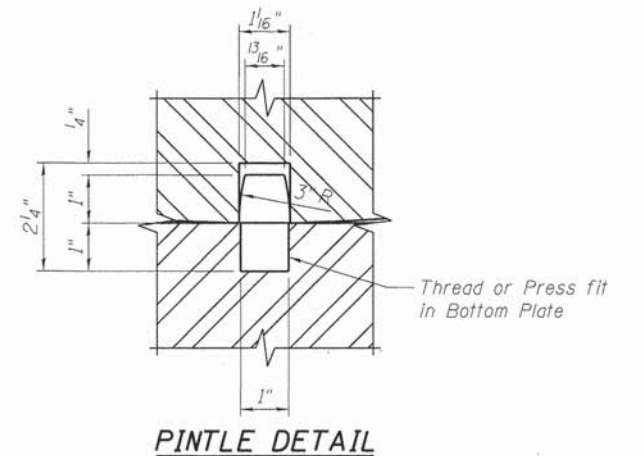
**PLAN VIEW - FIXED BEARING**

(N. Abutment Bearing - 12 required)  
(S. Abutment Bearing - 12 required)



**PLAN VIEW - EXPANSION BEARING**

(Pier Bearings - 24 required)



**PINTLE DETAIL**

**Notes:**

- The structural steel plates of the Bearing Assembly shall conform to the requirements of ASTM A709, Grade 50.
- Teflon Layer shall be composed of virgin unfilled TFE resin, unfilled TFE sheets, or unfilled TFE fabric. Filler material, such as milled glass fibers, will not be allowed. Teflon layer shall conform to the requirements of AREMA Chapter 15.
- The bearing assembly shall be according to Section 521 of the Standard Specifications where applicable. The bearing assembly and anchor bolts will not be paid for separately but included in the weight of Structural Steel for payment as "Furnishing and Erecting Structural Steel, Bridge No. 2".
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts shall be installed in blockouts with Non-Shrink Grout meeting the material requirements of Article 1024.02 of the Standard Specifications. Blockouts shall be clean prior to grouting and grout installed according to manufacturers recommendations. Cost for non-shrink grout shall be included in the cost of Concrete Structures.

DESIGNED: MJW 12/10/13  
DRAWN: GTJ 1/27/14  
REVIEWED: MNM 2/25/14

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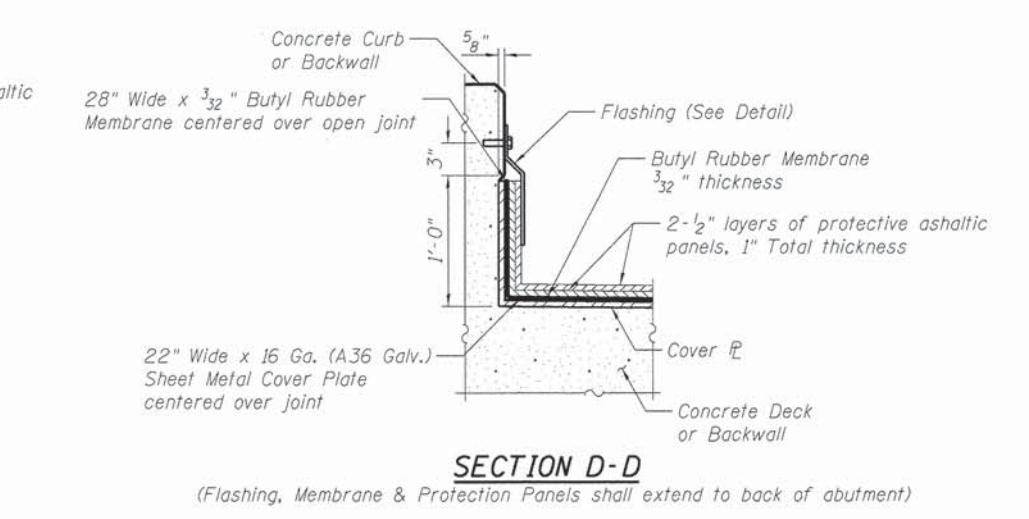
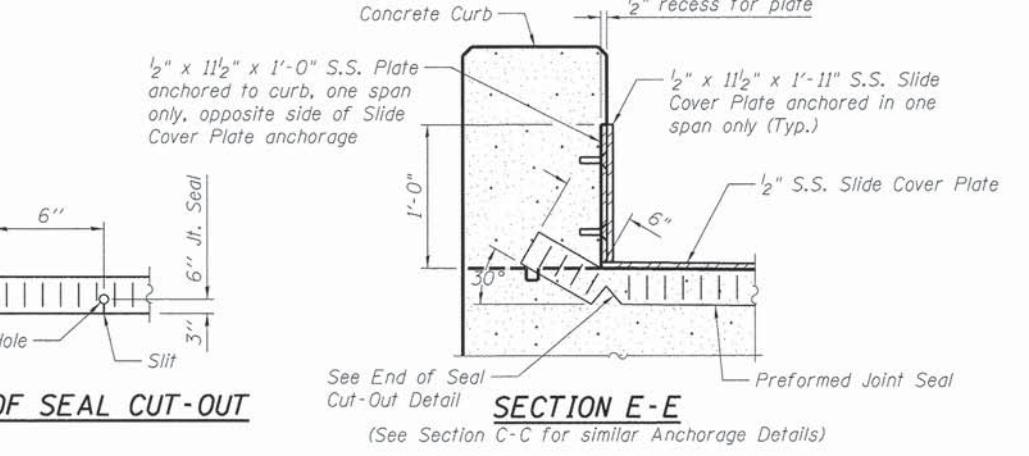
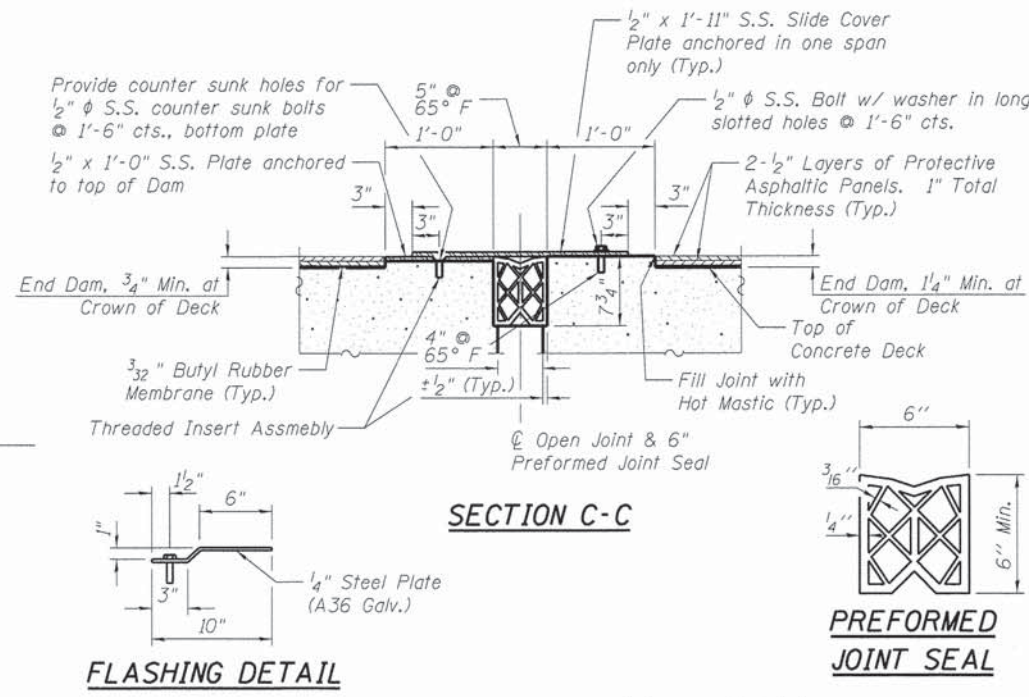
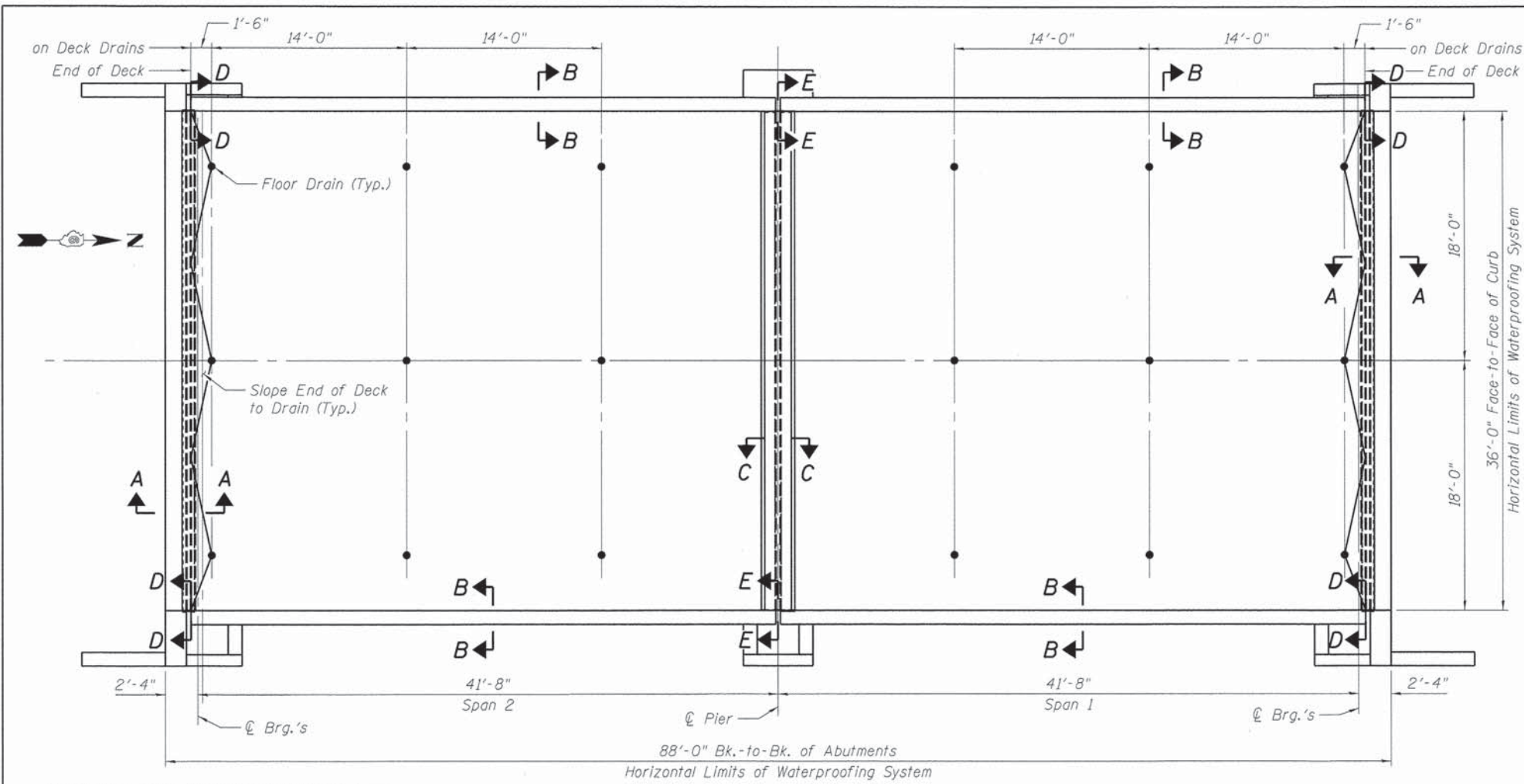
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

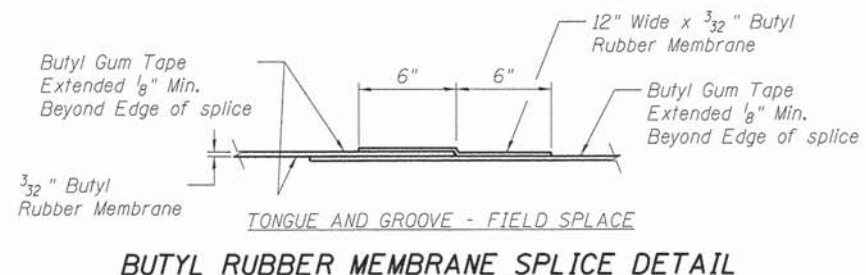
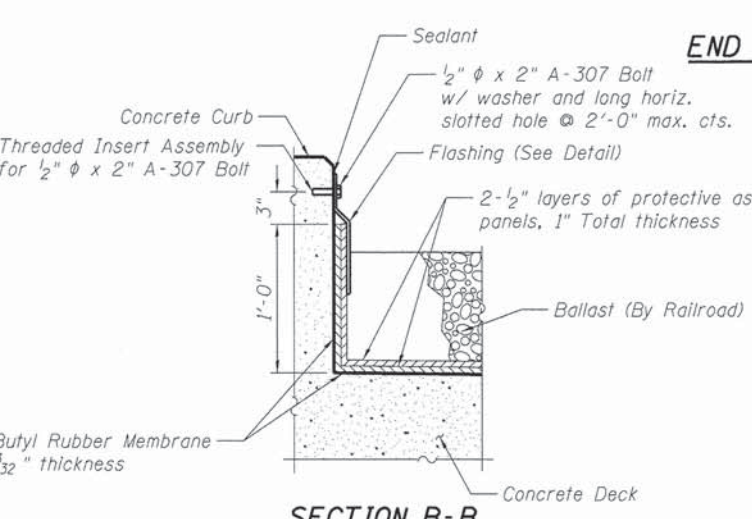
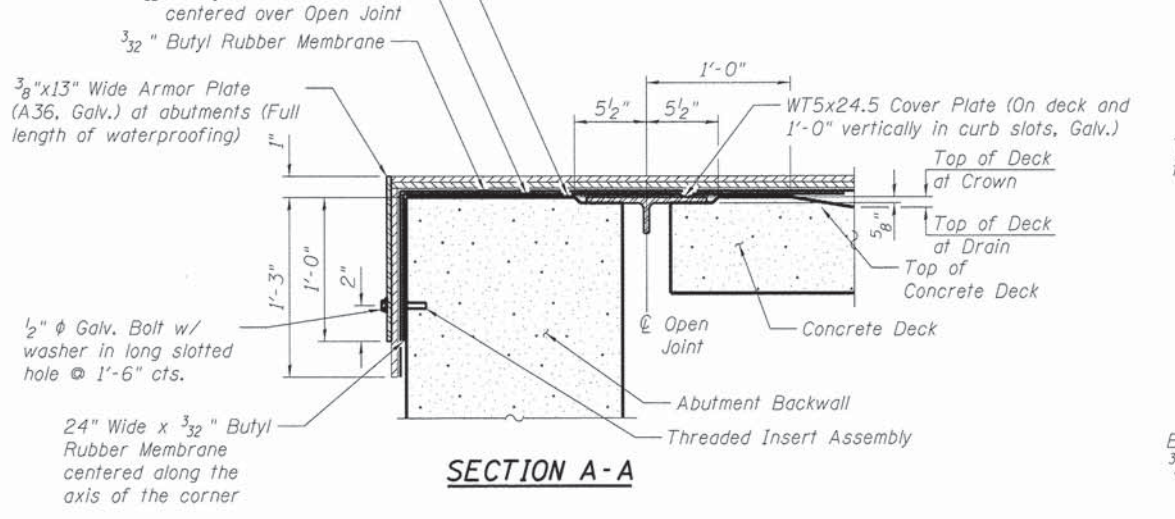
**BEARING DETAILS  
STRUCTURE NO. 084-9953**

SHEET NO. 11 OF 18 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 133
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**WATERPROOFING LIMITS PLAN**



- Notes:
- All structural steel plates, bolts, and washers for cover plates and waterproofing shall be galvanized.
  - Discontinue flashing at open joint over pier.
  - Cost of threaded inserts, sealant and tape shall be included in the cost of Membrane Waterproofing.
  - The cover plate, sheet metal cover, armor plate, flashing, bolts and washers are included in the weight of Structural Steel and will be paid for as "Furnishing and Erecting Structural Steel, Bridge No. 2".
  - Cost of Preformed Joint Seal is included with Concrete Superstructure.
  - Protective Asphaltic Panels shall have joints staggered, sealed and taped.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Membrane Waterproofing	Sq. Ft.	3347

FINAL  
DESIGNED MJW 12/10/13  
DRAWN GTJ 1/2/14  
REVIEWED MNM 2/25/14

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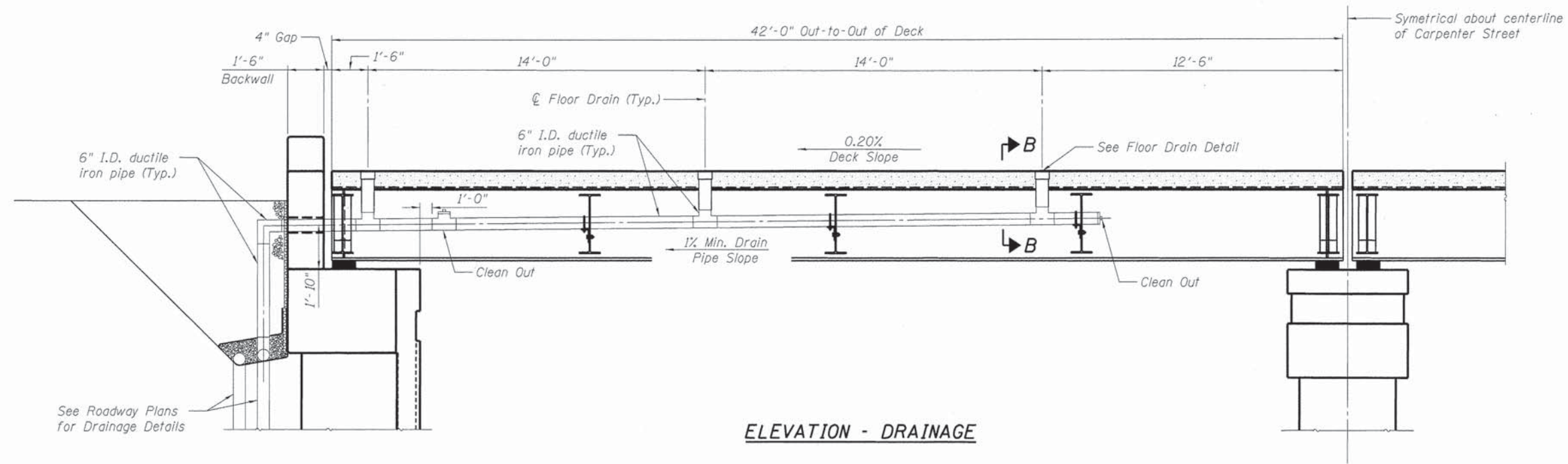
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

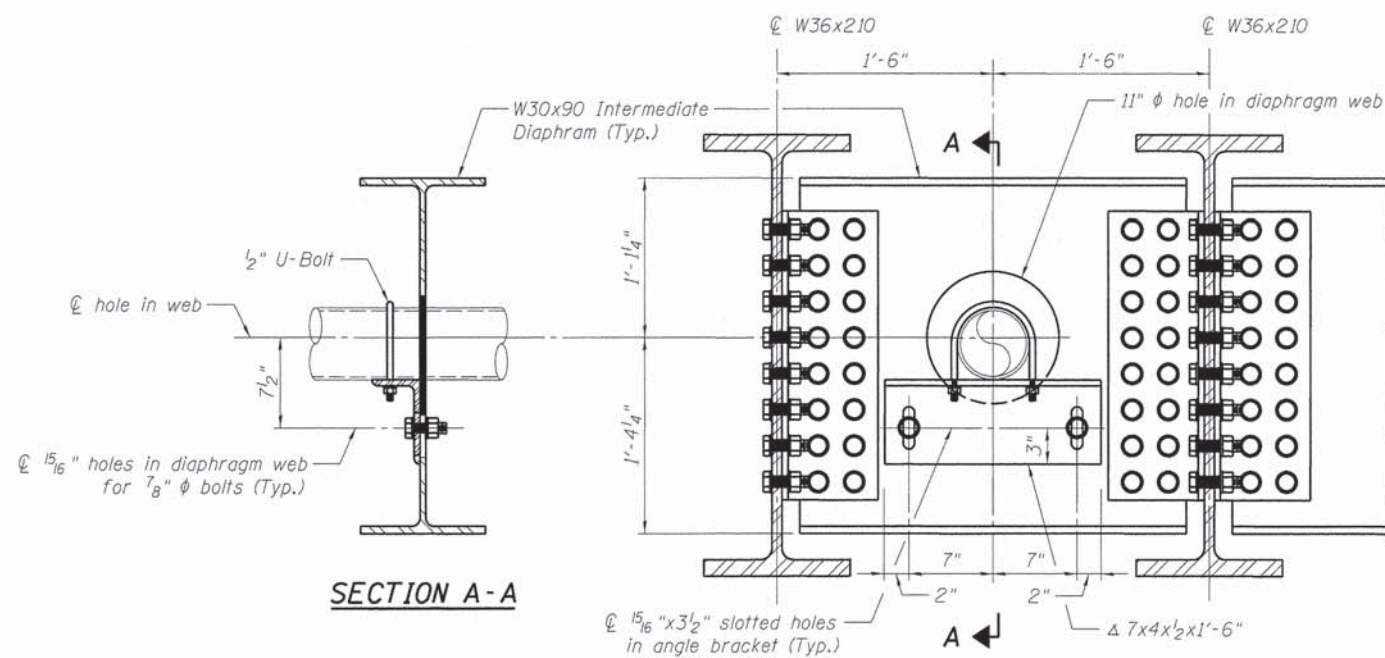
MEMBRANE WATERPROOFING  
STRUCTURE NO. 084-9953  
SHEET NO. 12 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	134

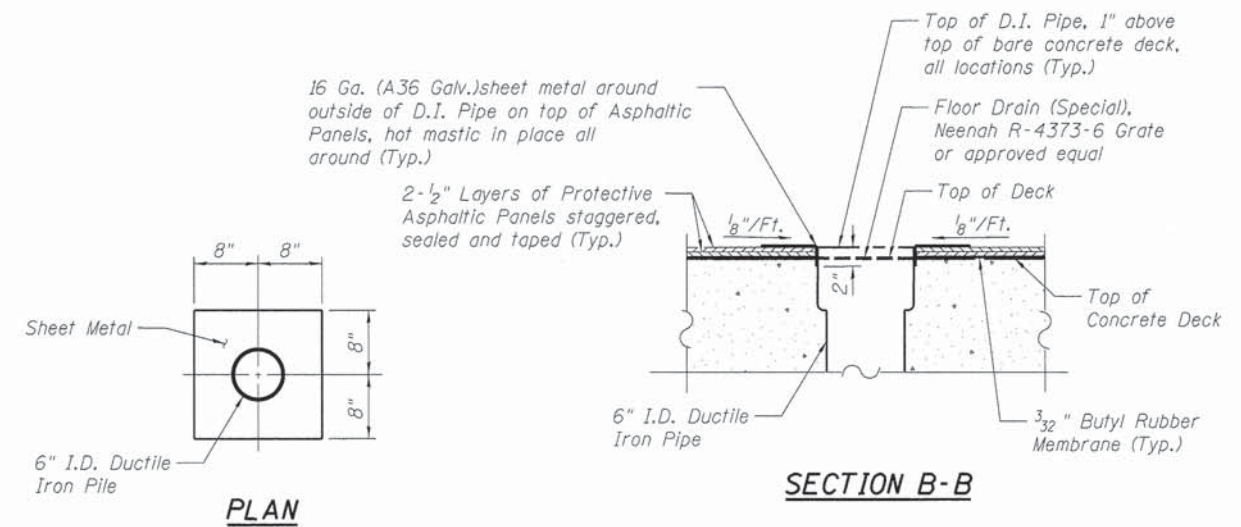
CONTRACT NO. 93617  
ILLINOIS FED. AID PROJECT



**ELEVATION - DRAINAGE**



**TYPICAL ELEVATION AT INTERMEDIATE DIAPHRAGM PENETRATION**



**FLOOR DRAIN DETAIL**

**Notes:**

1. All drain pipes shall be 6" I.D. All pipes, tees, bells and bends shall be Class 54 Ductile Iron.
2. Use minimum 1% fall on drain pipes.
3. Cost of angle brackets, bolts, u-bolts, sheet metal, mastic and other hardware shall be included in the cost of Drainage System (Special).
4. For additional drainage details See Roadway Plans.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Drainage System (Special)	L Sum	1

FINAL  
 DESIGNED M/J 12/10/13  
 DRAWN G/TJ 1/2/14  
 REVIEWED M/M 2/25/14

prj\spi-svr\206.hanson.don.hanson\_projects\documents\09\jobs\09\01798\CAD\Struct\Carpenter\Sheet\0849953-09\01798-DeckDrainElevation

FILE NAME =	USER NAME = pop0275	DESIGNED - M/J	REVISED -
		CHECKED - M/M	REVISED -
	PLOT SCALE = 0:1.0000 1' = 1/4"	DRAWN - G/TJ	REVISED -
	PLOT DATE = 02/26/2014	CHECKED - M/M	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SYSTEM DETAILS  
 STRUCTURE NO. 084-9953**

SHEET NO. 13 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	135
				CONTRACT NO. 3617
ILLINOIS FED. AID PROJECT				

Notes:

Anchor rods shall be ASTM F568M galvanized steel all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified.

Tube segments shall have all corners ground to remove burrs or sharp projections.

All bolts, eyebolts, nuts and washers must satisfy the requirements of ASTM A307 Gr. A unless noted otherwise.

The anchor rods shall be installed according to Article 509.06 of the Standard Specifications. Embedment shall be 4" min. or according to the manufacturer's specifications whatever is greater.

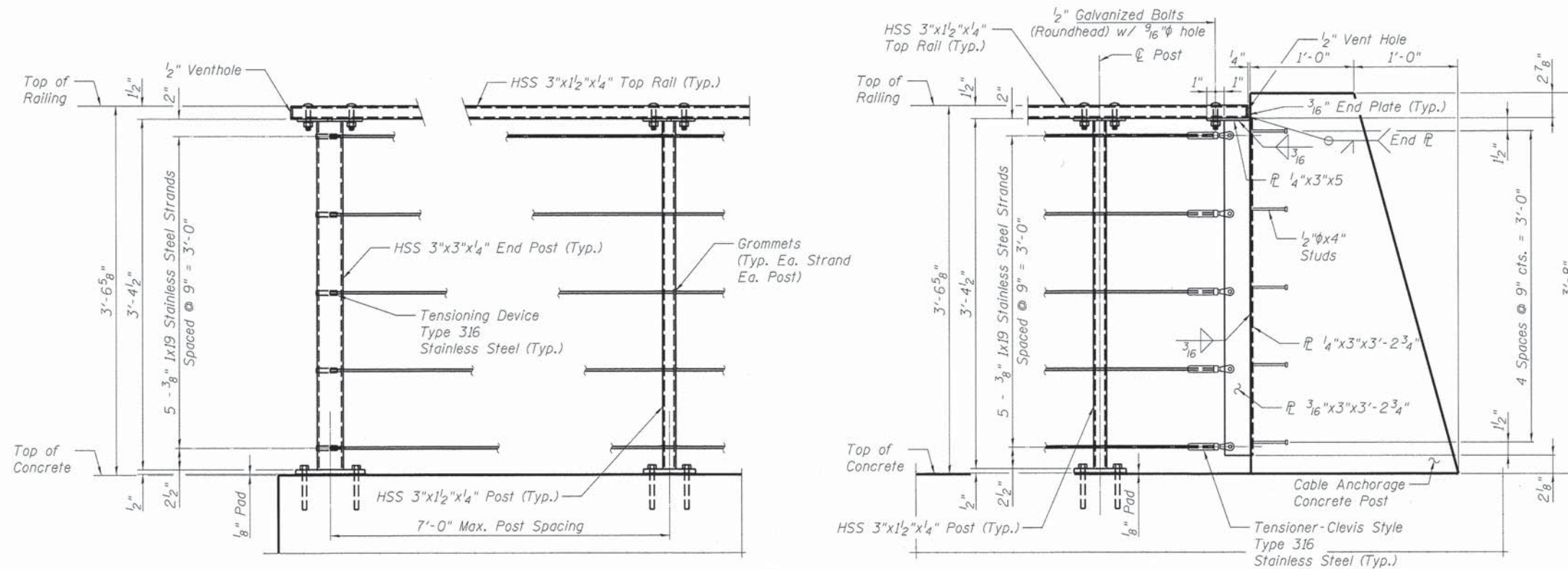
Structural steel plates and bars of the Steel Railing shall conform to the requirements of ASTM A36/36M.

Tubular steel posts shall be according to the requirements of ASTM A500, Grade B.

All steel rail members, with the exception of the stainless steel strand and fittings, shall be hot dipped galvanized according to 509.05 of the Standard Specifications.

All studs shall be 1/2" x 4" granular or solid flux filled headed studs automatically end welded to plates.

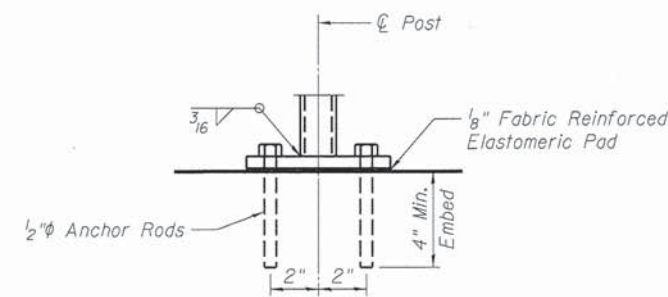
See Sheet 7 of 18 for rail post spacing.



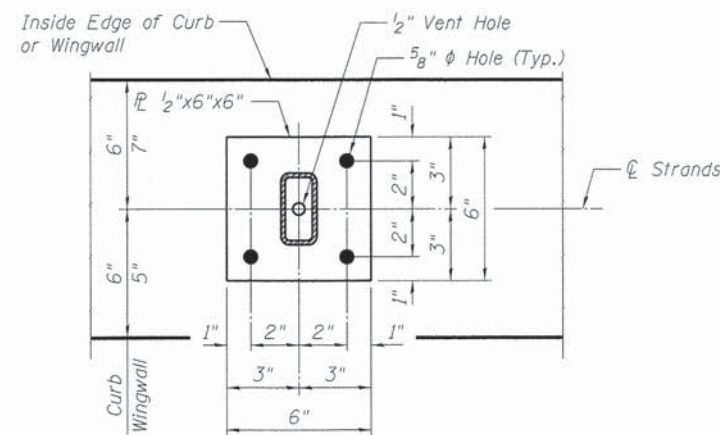
**END POST**

**INTERMEDIATE POST**

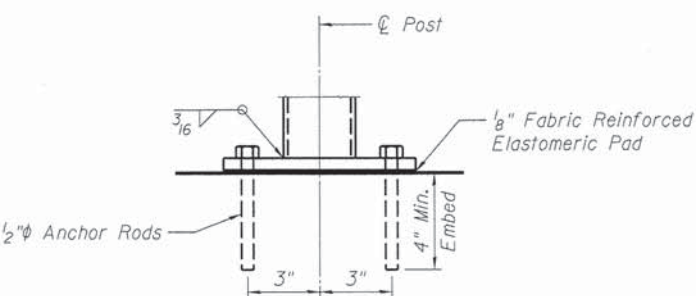
**CABLE RAILING END PANEL  
RAILROAD BRIDGE**



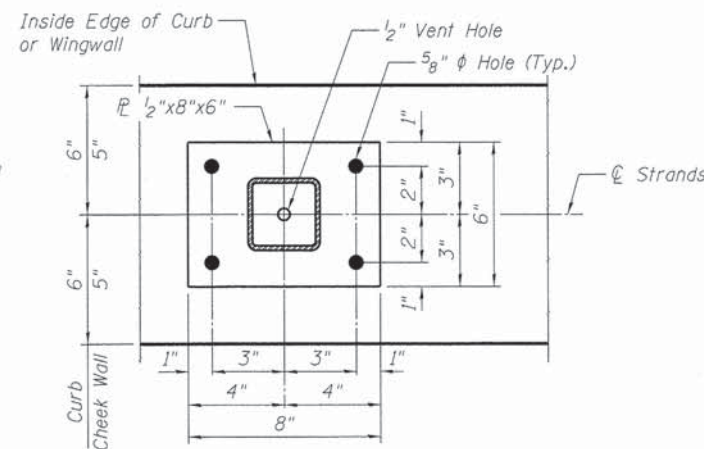
**ANCHOR ROD DETAIL  
INTERMEDIATE POSTS**



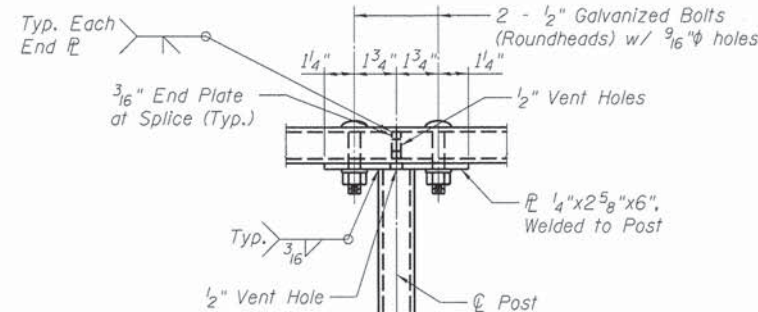
**STANDARD INTERMEDIATE POST**



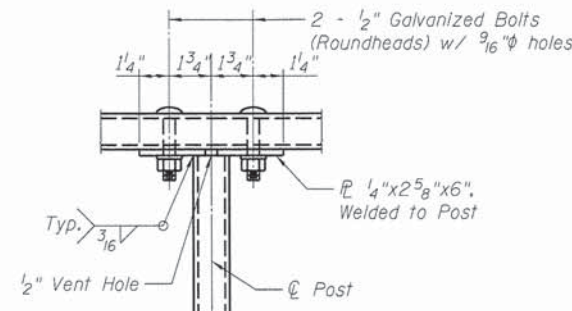
**ANCHOR ROD DETAIL  
END POSTS**



**STANDARD END POST**

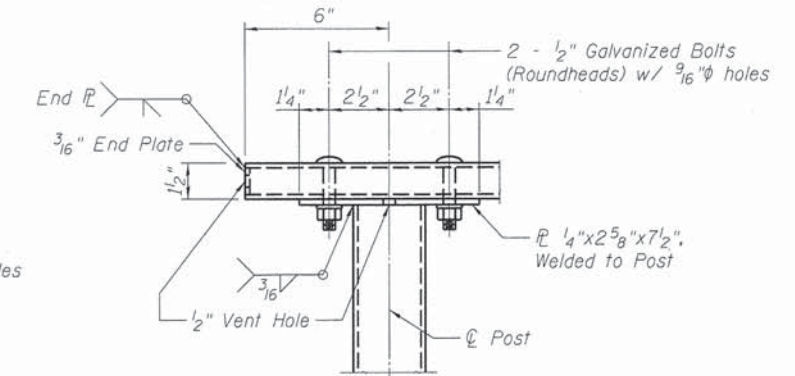


**TOP RAIL - WITH SPLICE**

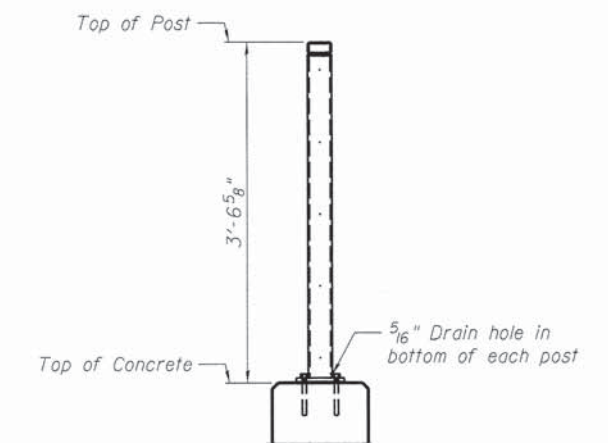


**TOP RAIL - NO SPLICE**

**TYPICAL RAIL/POST CONNECTION**  
(Strands not shown for clarity)



**TYPICAL RAIL/END POST CONNECTION**  
(Strands not shown for clarity)



**POST DETAIL**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Steel Railing (Special)	Foot	188

FINAL  
DESIGNED MJW 12/10/13  
DRAWN GTJ 1/2/14  
REVIEWED MNM 2/25/14

p:\1\sp1\svr\386\hanson\_dom\hanson\_projects\documents\09\jobs\09\l01798\CAD\Struct\Carpenter\Sheet\084953-09\l01798-Steel Railing (Special).dgn



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USER NAME = pop02275  
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PLOT DATE = 02/26/2014

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CHECKED - MNM  
DRAWN - GTJ  
CHECKED - MNM

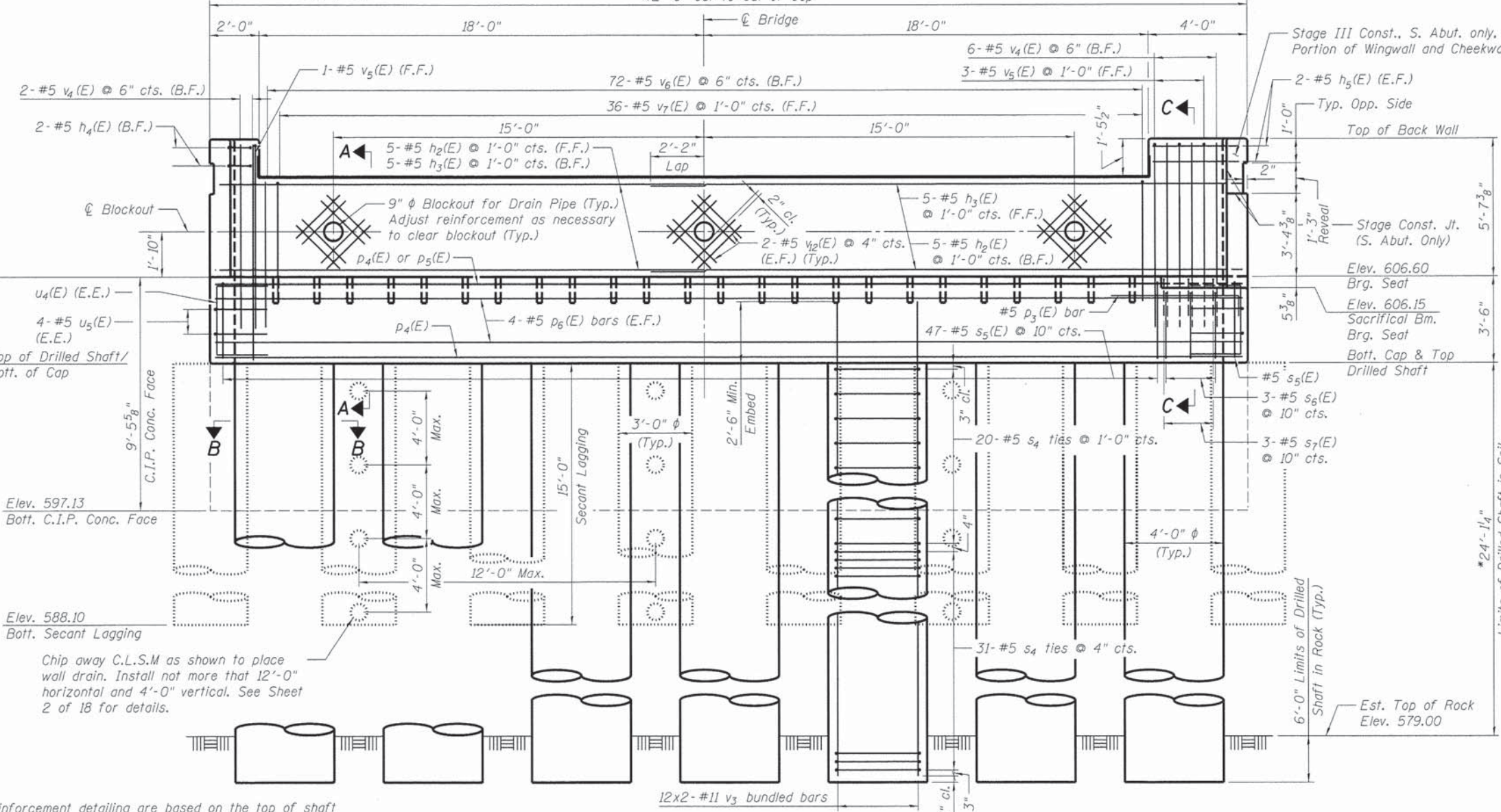
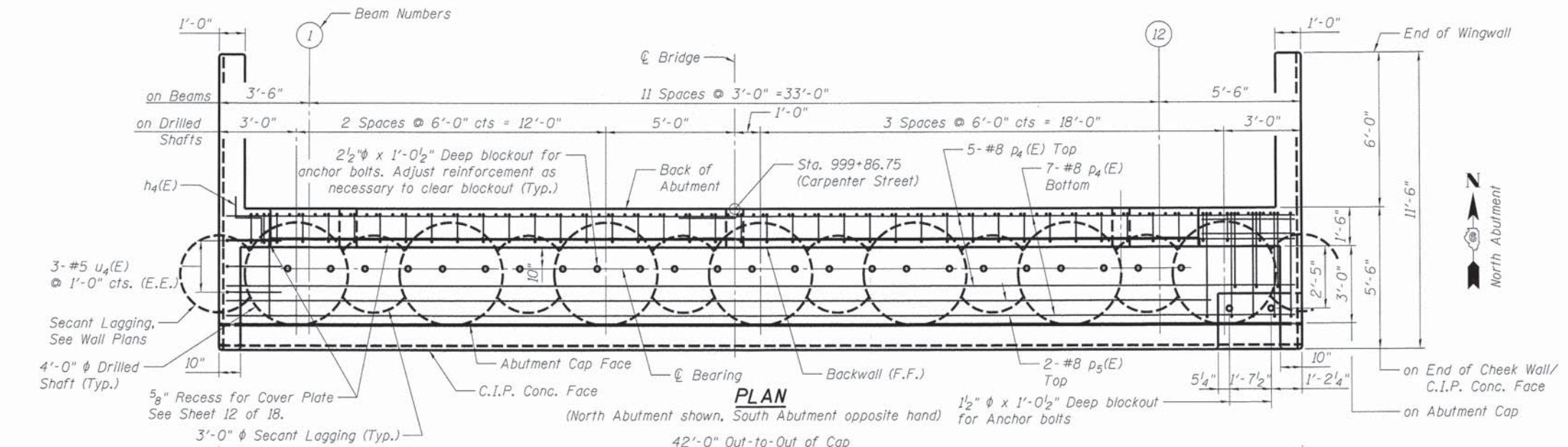
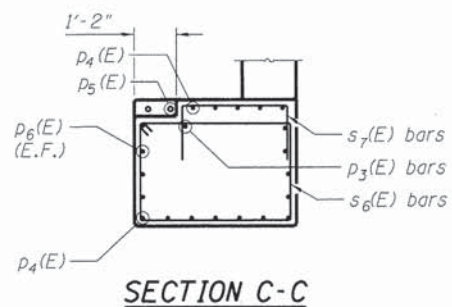
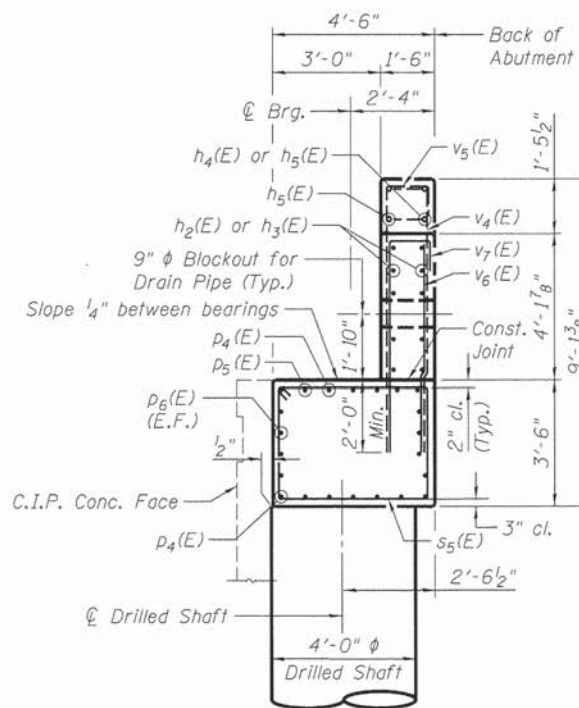
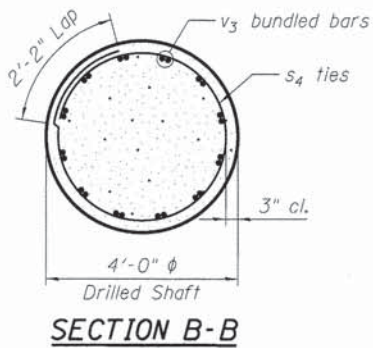
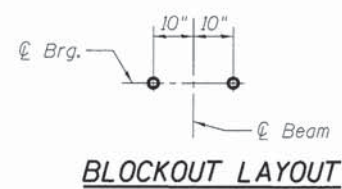
REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL RAILING (SPECIAL)  
STRUCTURE NO. 084-9953

SHEET NO. 14 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	136
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



\* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

**ELEVATION - NORTH ABUTMENT, SOUTH ABUTMENT OPP. HAND**  
C.I.P. Concrete Face not shown for clarity. (Looking North)

Notes:  
See Sheet 4 & 5 of 18 for Stage Construction Details.  
See Sheet 16 of 18 for C.I.P. Concrete Face and other details.

FINAL  
DESIGNED 12/10/13  
DRAWN GTJ 1/2/14  
REVIEWED MNM 2/25/14

FILE NAME =	USER NAME = pop02275	DESIGNED - MJW	REVISED -
		CHECKED - MNM	REVISED -
		DRAWN - GTJ	REVISED -
		CHECKED - MNM	REVISED -

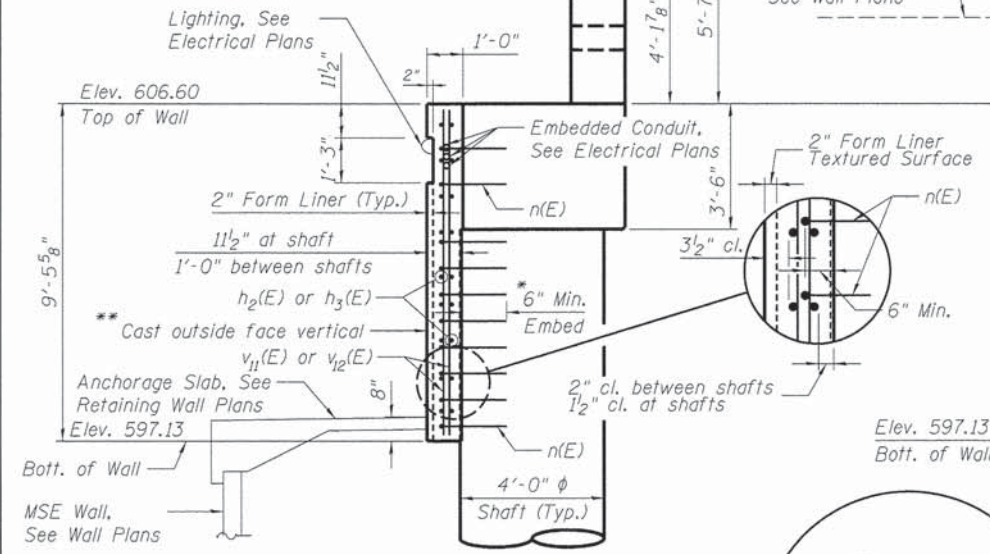
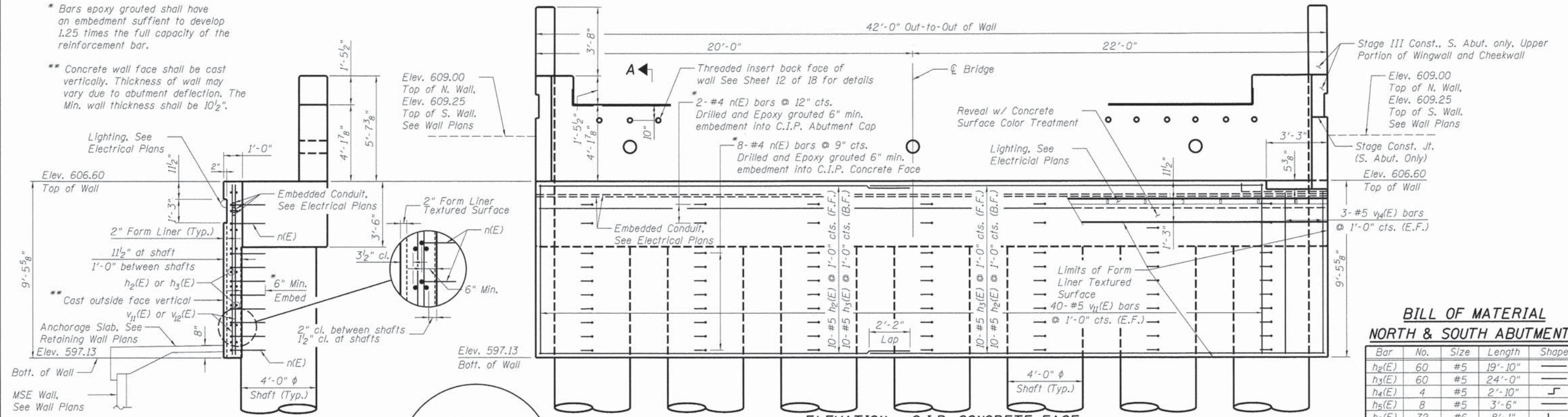
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**NORTH AND SOUTH ABUTMENT**  
**STRUCTURE NO. 084-9953**  
SHEET NO. 15 OF 18 SHEETS

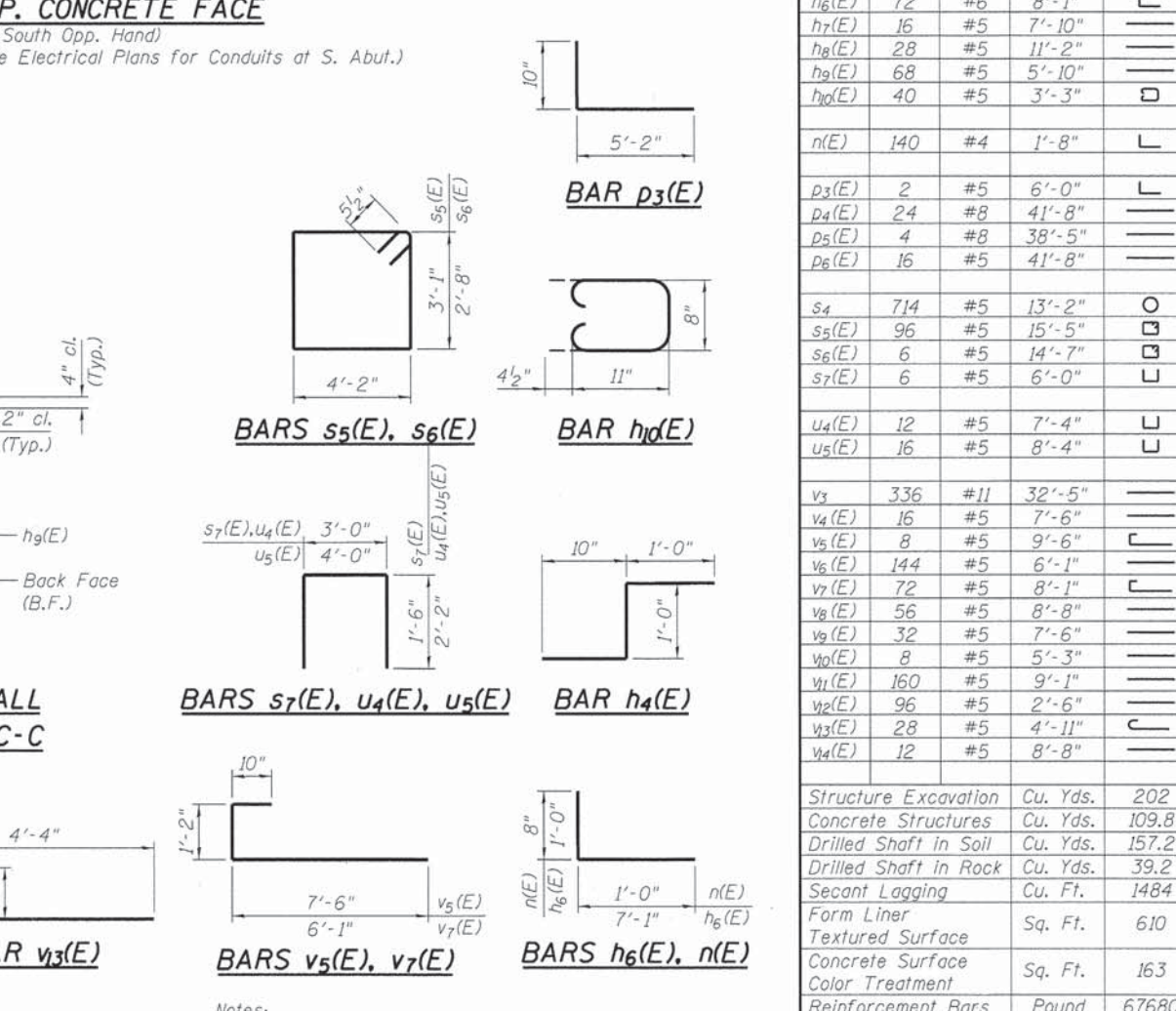
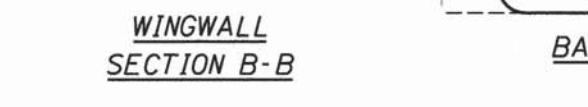
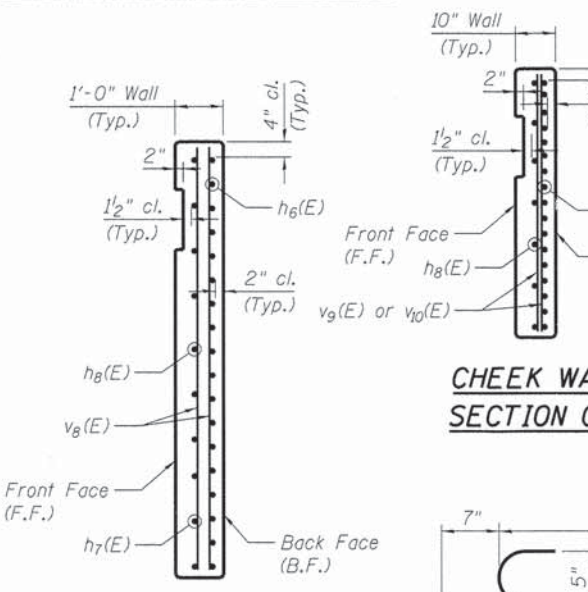
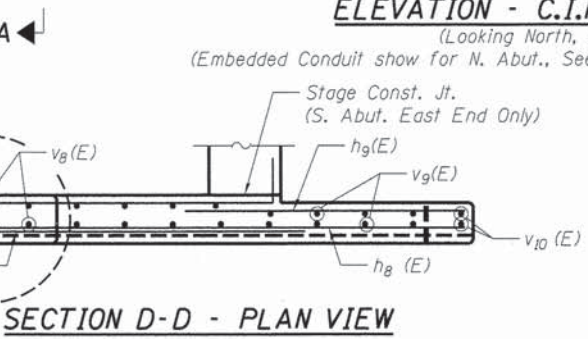
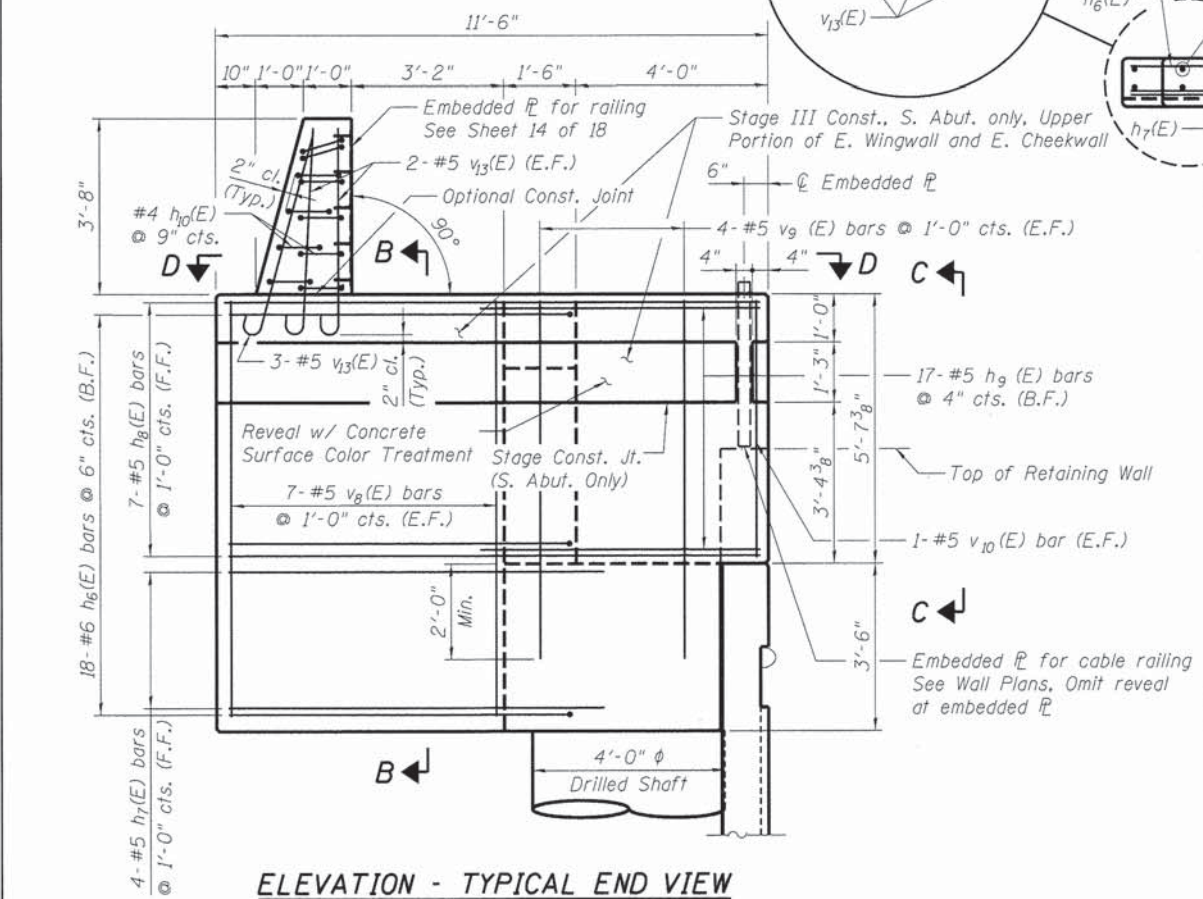
F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 137
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

\* Bars epoxy grouted shall have an embedment sufficient to develop 1.25 times the full capacity of the reinforcement bar.

\*\* Concrete wall face shall be cast vertically. Thickness of wall may vary due to abutment deflection. The Min. wall thickness shall be 10 1/2".



**ELEVATION - TYPICAL END VIEW**



FINAL  
DESIGNED M.J.W. 12/10/13  
DRAWN G.T.J. 1/2/14  
REVIEWED M.N.M. 2/25/14

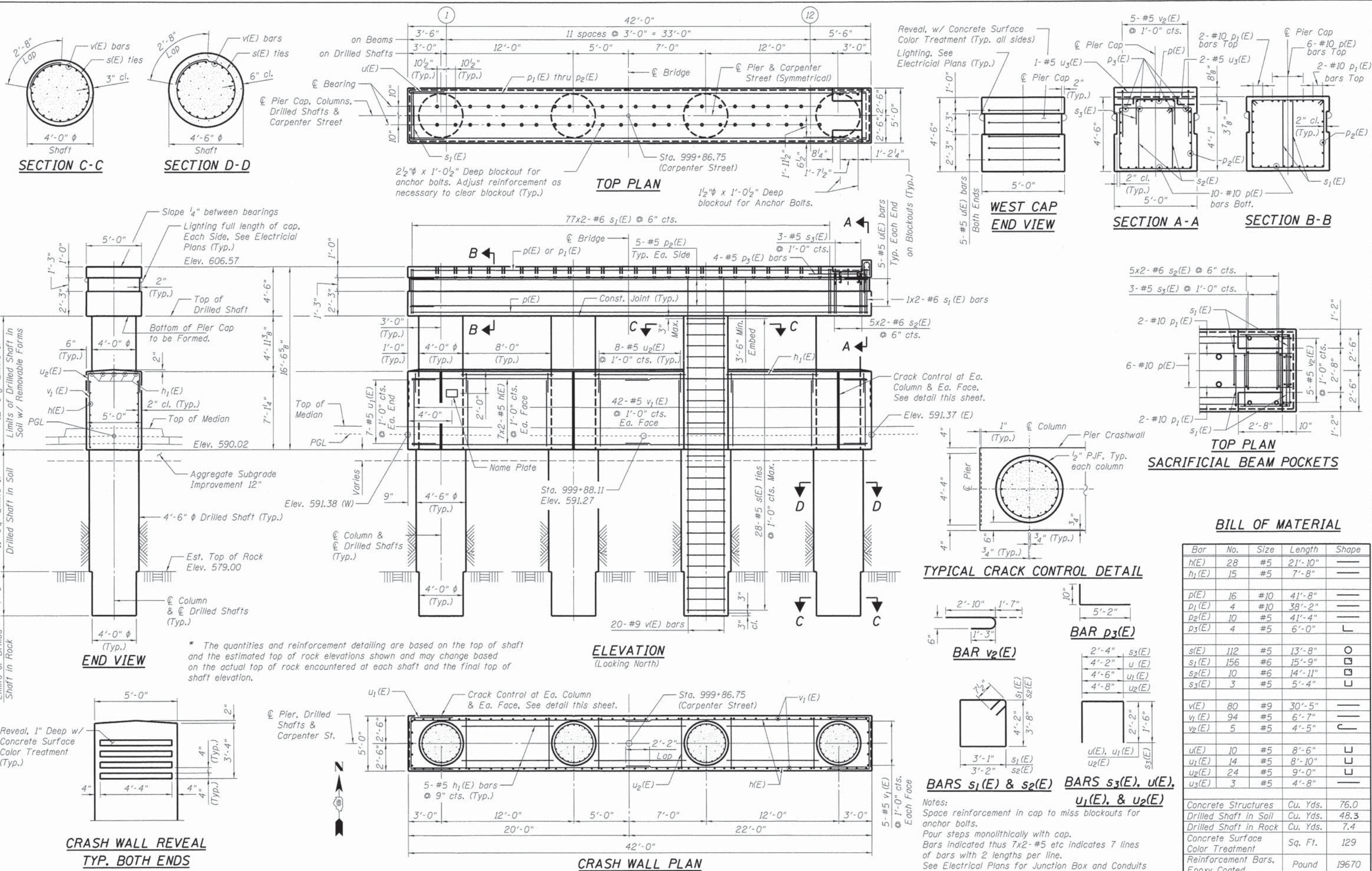
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USER NAME: pop02275  
DESIGNED - M.J.W.  
CHECKED - M.N.M.  
DRAWN - G.T.J.  
CHECKED - M.N.M.  
PLOT SCALE: @ 1:10000 1/4" = 1'-0"  
PLOT DATE: 02/26/2014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NORTH AND SOUTH ABUTMENT DETAILS  
STRUCTURE NO. 084-9953

SHEET NO. 16 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	138
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

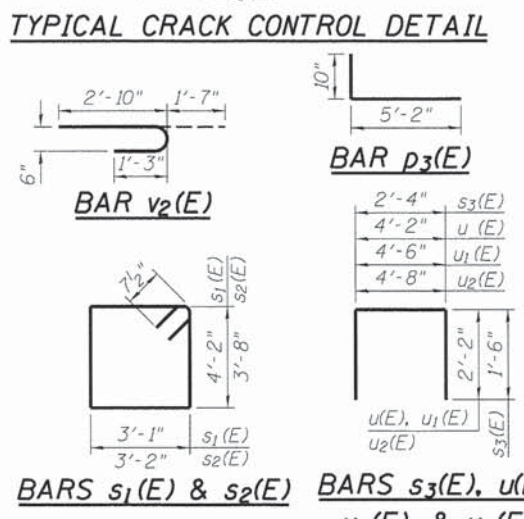


### BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#5	21'-10"	—
h1(E)	15	#5	7'-8"	—
p(E)	16	#10	41'-8"	—
p1(E)	4	#10	38'-2"	—
p2(E)	10	#5	41'-4"	—
p3(E)	4	#5	6'-0"	L
s(E)	112	#5	13'-8"	○
s1(E)	156	#6	15'-9"	□
s2(E)	10	#6	14'-11"	□
s3(E)	3	#5	5'-4"	L
v(E)	80	#9	30'-5"	—
v1(E)	94	#5	6'-7"	—
v2(E)	5	#5	4'-5"	—
u(E)	10	#5	8'-6"	L
u1(E)	14	#5	8'-10"	L
u2(E)	24	#5	9'-0"	L
u3(E)	3	#5	4'-8"	—
Concrete Structures		Cu. Yds.	76.0	
Drilled Shaft in Soil		Cu. Yds.	48.3	
Drilled Shaft in Rock		Cu. Yds.	7.4	
Concrete Surface Color Treatment		Sq. Ft.	129	
Reinforcement Bars, Epoxy Coated		Pound	19670	

### CRASH WALL REVEAL

TYP. BOTH ENDS



Notes:  
 Space reinforcement in cap to miss blockouts for anchor bolts.  
 Bars indicated thus 7x2-#5 etc indicates 7 lines of bars with 2 lengths per line.  
 See Electrical Plans for Junction Box and Conduits embedded in cap.

FINAL  
 DESIGNED M/J 12/10/13  
 DRAWN G/TJ 1/2/14  
 REVIEWED M/M 2/25/14

FILE NAME: pop02275  
 USER NAME: pop02275  
 PLOT SCALE = 0.1:0.000 1/4" = 1'-0"  
 PLOT DATE = 02/26/2014

DESIGNED - M/J  
 CHECKED - MNM  
 DRAWN - GTJ  
 CHECKED - MNM

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

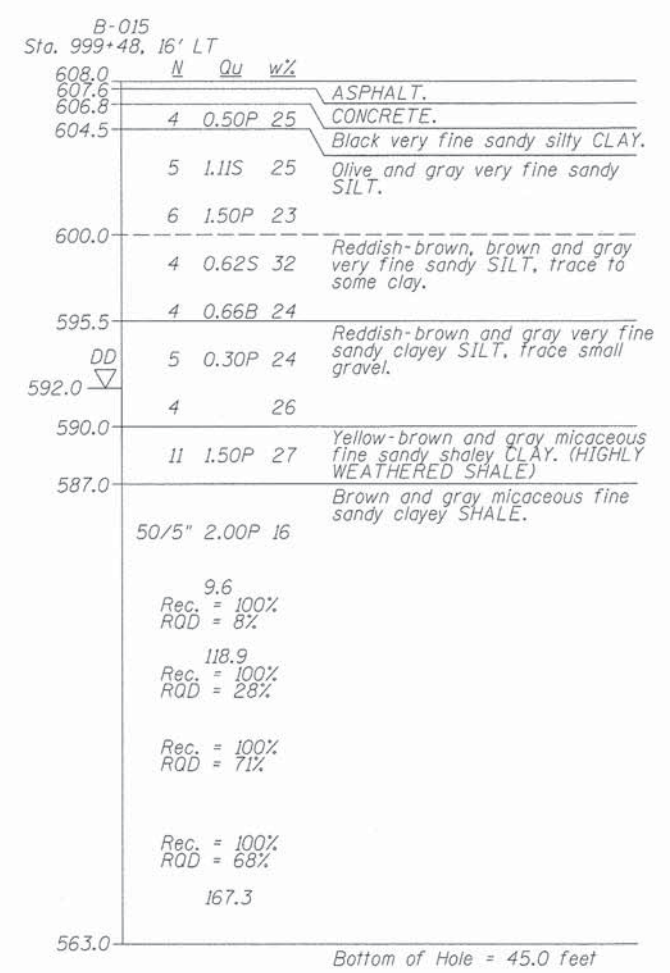
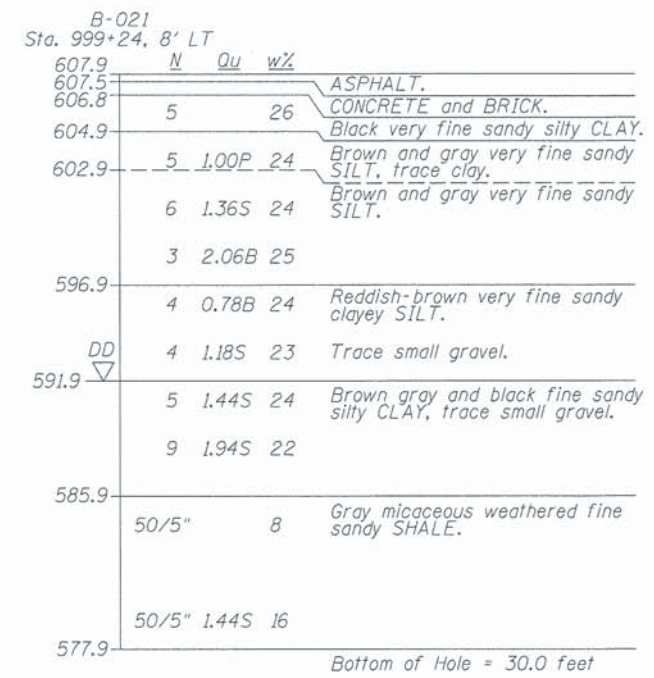
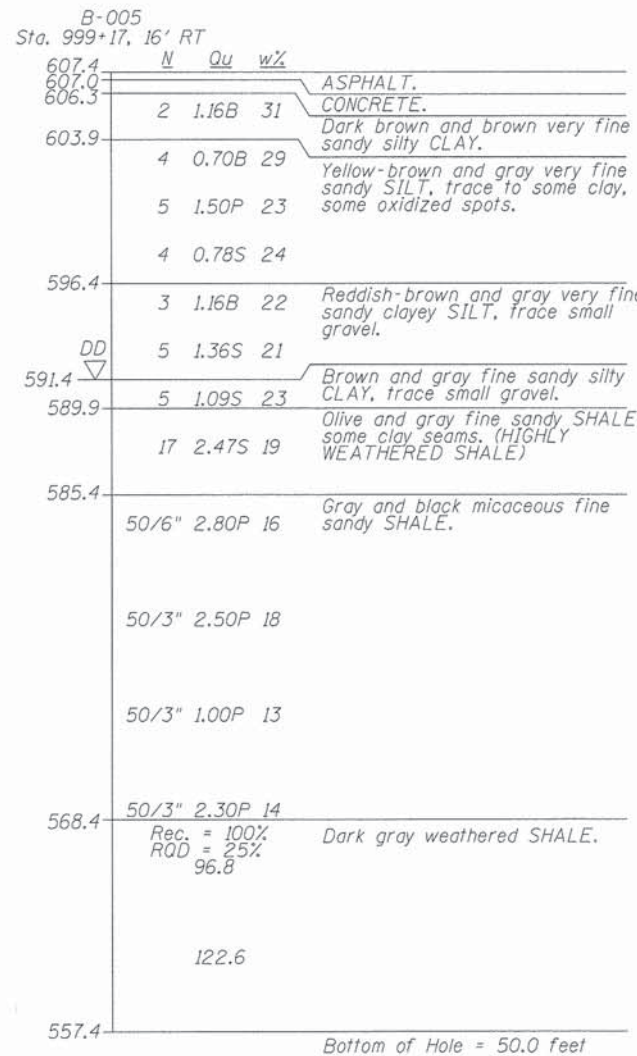
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PIER  
 STRUCTURE NO. 084-9953

SHEET NO. 17 OF 18 SHEETS

F.A.U. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
 7975 13-00475-00-BR SANGAMON 196 139

CONTRACT NO. 93617  
 ILLINOIS FED. AID PROJECT



**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)
- DD Water Surface Elevation Encountered in Boring
- DD during drilling
- Oh at completion
- 24h = 24 hours after completion

DESIGNED	MJW	12/10/13
DRAWN	GTJ	1/2/14
REVIEWED	MNM	2/25/14

FILE NAME =	USER NAME = pop0275	DESIGNED - MJW	REVISED -
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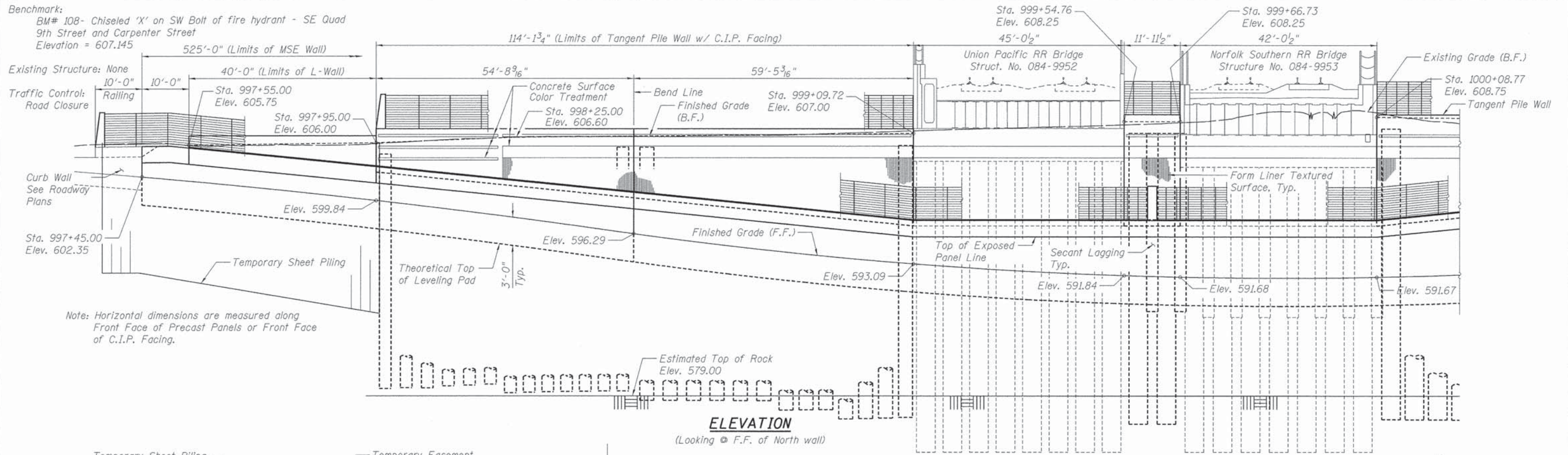
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUBSURFACE DATA PROFILE  
STRUCTURE NO. 084-9953**

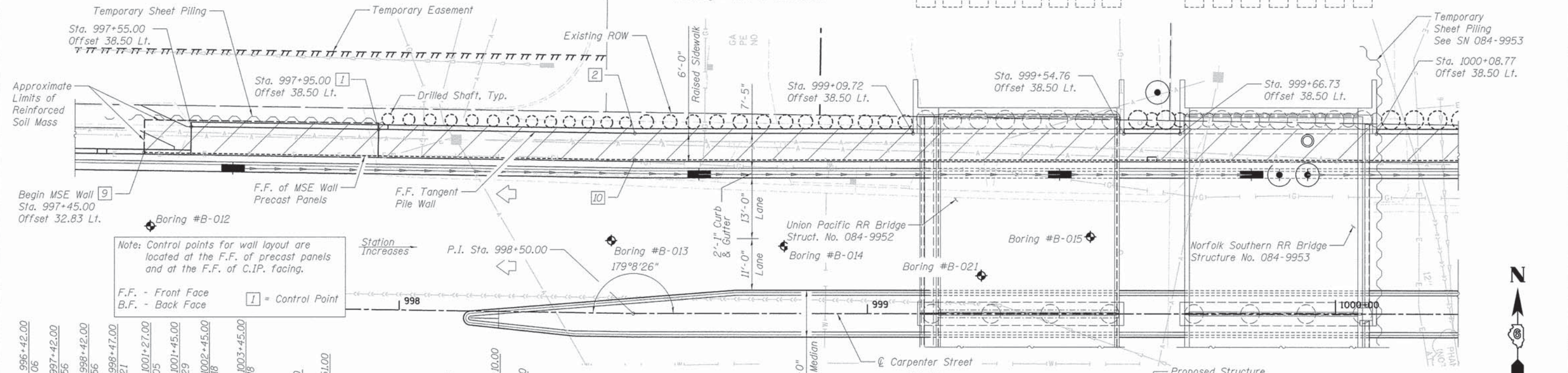
SHEET NO. 18 OF 18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	140
			CONTRACT NO. 3617	
ILLINOIS FED. AID PROJECT				

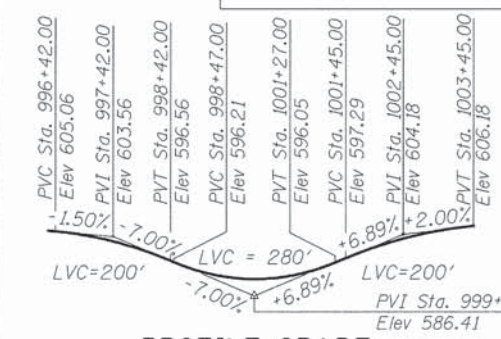




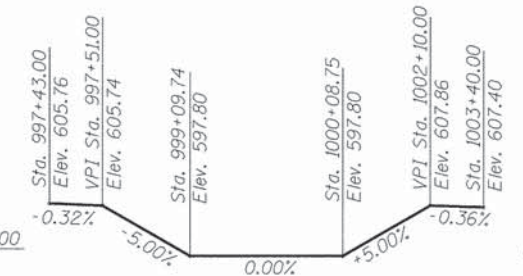
**ELEVATION**  
(Looking @ F.F. of North wall)



**PLAN**



**PROFILE GRADE  
CARPENTER ST.**  
Along @ of Carpenter St.



**PROFILE GRADE  
LEFT SIDEWALK**  
Along outside edge of sidewalk

**DESIGN STRESSES**  
**FIELD UNITS**  
f'c = 4,000 psi  
fy = 60,000 psi (Reinforcement)  
**PRECAST UNITS**  
f'c = 4,500 psi (Precast Panels)

**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge Design Specifications,  
6th Edition with 2013 Interims



I certify that to the best of my knowledge, information and belief, this retaining wall 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 requirements of the current "AASHTO LRFD Specifications".



**LOCATION SKETCH**

**GENERAL PLAN (SHEET 1 OF 4)**  
**NORTH WALL - CARPENTER ST.**  
**F.A.U. 7975-SECTION 13-00475-00-BR**  
**SANGAMON COUNTY**  
**STATION 997+45.00 TO 1002+70.00**

DESIGNED - RGC  
DRAWN - EJM  
CHECKED - RGC



USER NAME = pop00275  
DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
CHECKED - RGC

DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
CHECKED - RGC

DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
CHECKED - RGC

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

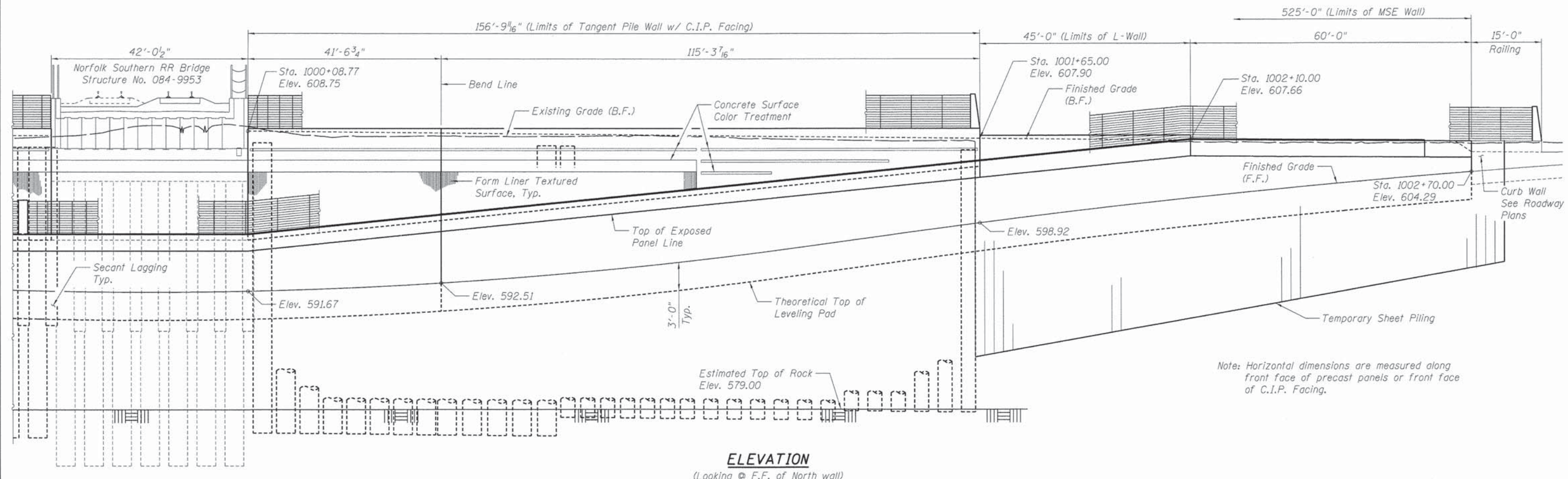
**GENERAL PLAN & ELEVATION (NORTH)**  
**CARPENTER STREET RETAINING WALLS**

SHEET NO. 1 OF 34 SHEETS

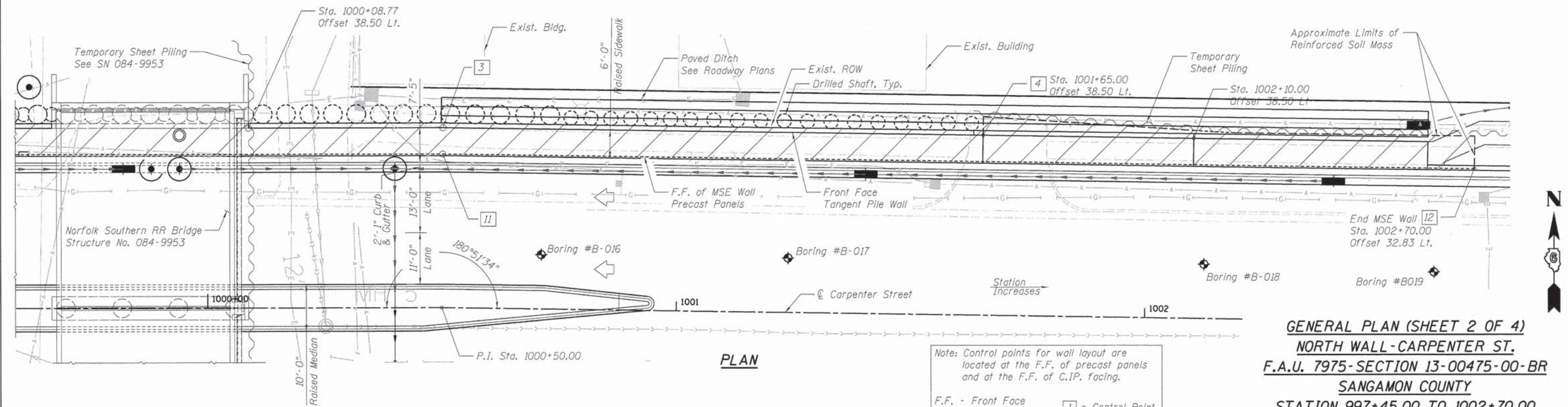
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	141

CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT



**ELEVATION**  
(Looking @ F.F. of North wall)



**PLAN**

Note: Control points for wall layout are located at the F.F. of precast panels and at the F.F. of C.I.P. facing.

F.F. - Front Face  
B.F. - Back Face

[1] = Control Point

**GENERAL PLAN (SHEET 2 OF 4)**  
**NORTH WALL-CARPENTER ST.**  
**F.A.U. 7975-SECTION 13-00475-00-BR**  
**SANGAMON COUNTY**  
**STATION 997+45.00 TO 1002+70.00**

FINAL  
DESIGNED RCC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RCC 2/25/14

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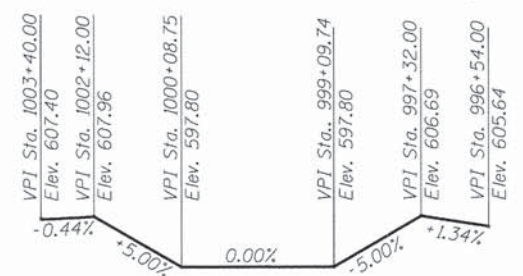
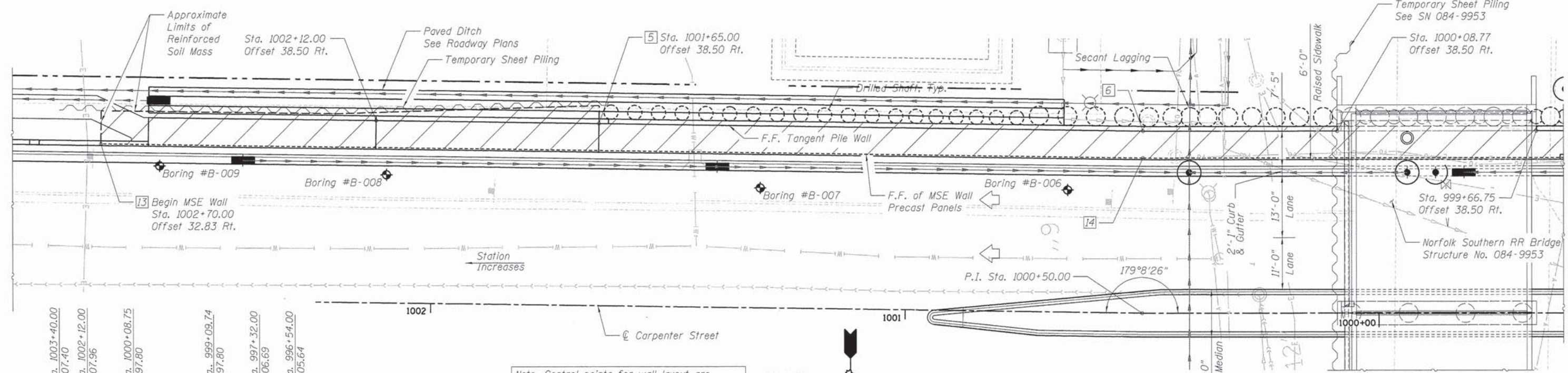
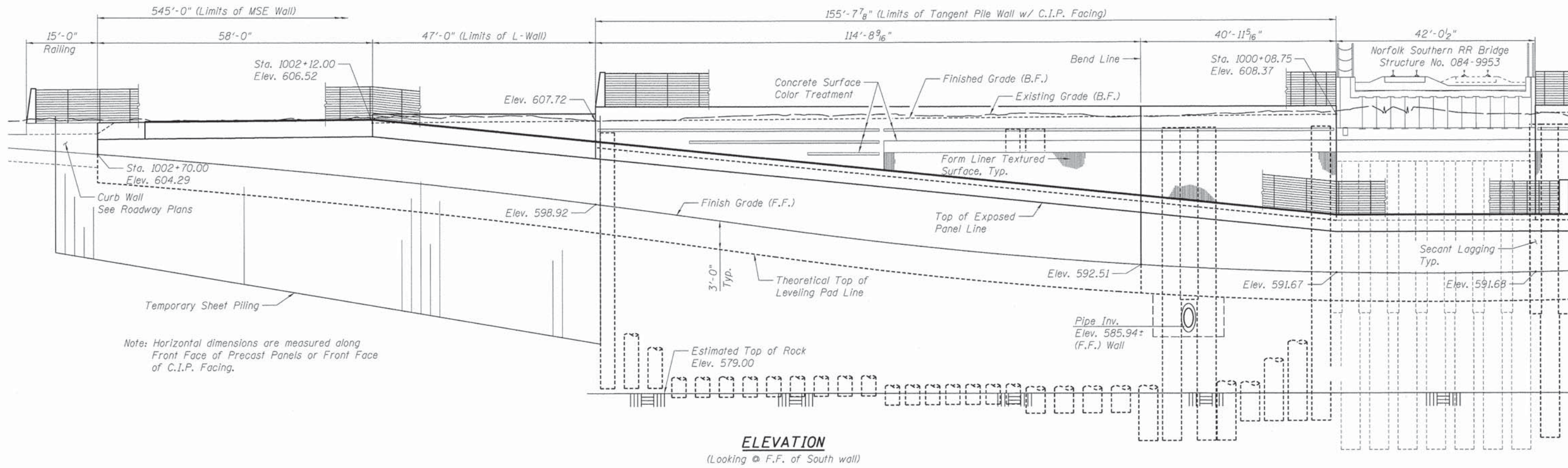
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PLOT DATE = 02/26/2014	DRAWN - EJM	REVISED -
	CHECKED - RCC	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION (NORTH)**  
**CARPENTER STREET RETAINING WALLS**

SHEET NO. 2 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	142
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				



**GENERAL PLAN (SHEET 3 OF 4)  
SOUTH WALL - CARPENTER ST.  
F.A.U. 7975-SECTION 13-00475-00-BR  
SANGAMON COUNTY  
STATION 997+25.00 TO 1002+70.00**

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

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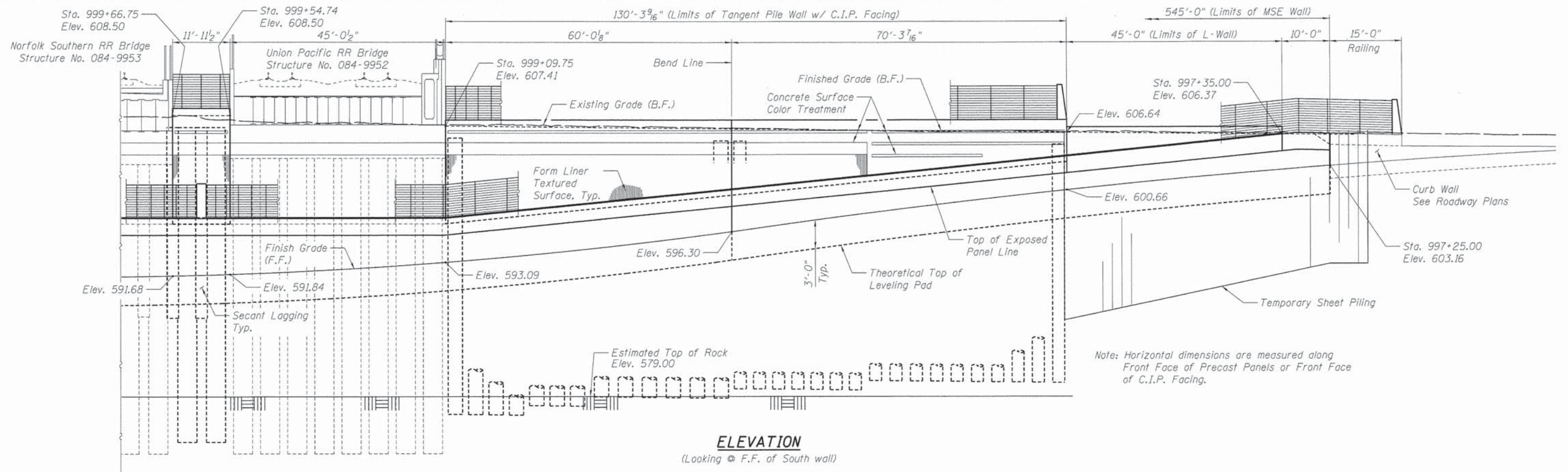
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	CHECKED - RGC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

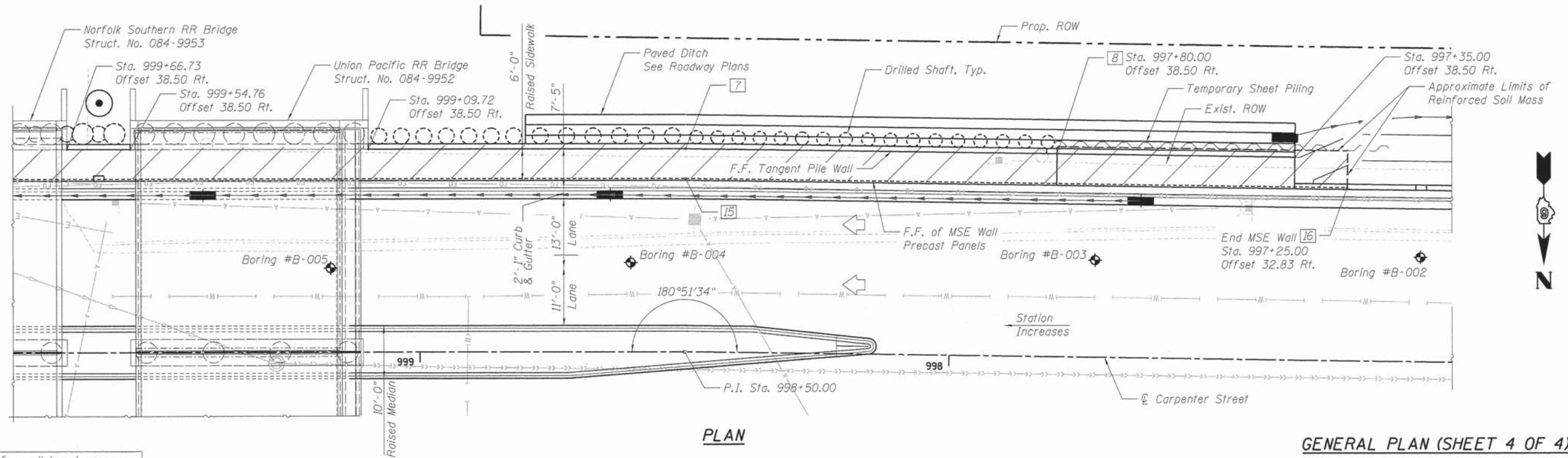
**GENERAL PLAN & ELEVATION (SOUTH)  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 3 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	143
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**ELEVATION**  
(Looking @ F.F. of South wall)



**PLAN**

Note: Control points for wall layout are located at the F.F. of precast panels and at the F.F. of C.I.P. facing.

F.F. - Front Face  
B.F. - Back Face

[I] = Control Point

**GENERAL PLAN (SHEET 4 OF 4)**  
**SOUTH WALL - CARPENTER ST.**  
**F.A.U. 7975-SECTION 13-00475-00-BR**  
**SANGAMON COUNTY**  
**STATION 997+25.00 TO 1002+70.00**

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

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	CHECKED - KMS	REVISED -
PLOT SCALE = 0.0833' / 1"	DRAWN - EJM	REVISED -
PLOT DATE = 02/26/2014	CHECKED - RGC	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION (SOUTH)**  
**CARPENTER STREET RETAINING WALLS**  
SHEET NO. 4 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	144
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

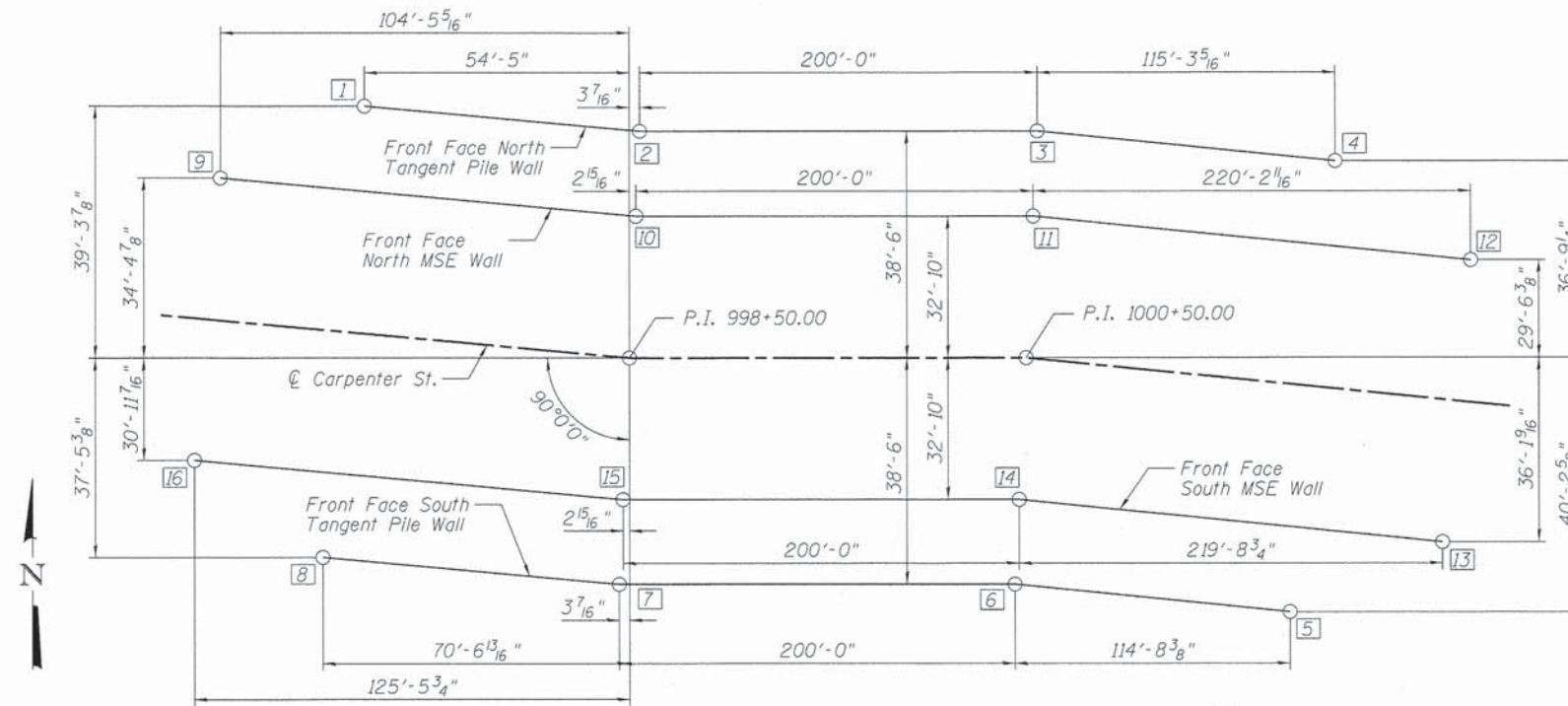
**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. All substructure concrete shall have a compressive strength of 4,000 psi at 28 days.

**SUGGESTED SEQUENCE OF CONSTRUCTION**

Note: See NSRR Bridge Plans (084-9953) for General Construction Sequence.

1. Construct drilled shafts and secant lagging for upper wall.
2. Drive temporary sheet piling.
3. Complete roadway excavation while working under the new NS Railroad Bridge.
4. Construct lower (MSE) wall up to bottom of C.I.P. Facing of upper wall.
5. Construct C.I.P. Facing in front of drilled shafts.
6. Complete upper portion of lower wall.
7. Remove temporary sheet piling.
8. Construct cast-in-place anchorage slab.
9. Complete backfill behind upper wall.



**WALL LAYOUT SKETCH**

Note: [1] = Control Point

**WALL CONTROL POINTS**

Control Point	Northing	Easting
1	1,144,118.4818	2,443,768.7765
2	1,144,117.6155	2,443,823.4809
3	1,144,117.4488	2,444,023.4808
4	1,144,115.6234	2,444,138.7552
5	1,144,038.6331	2,444,137.5360
6	1,144,040.4493	2,444,022.8391
7	1,144,040.6160	2,443,822.8392
8	1,144,041.7289	2,443,752.5592
9	1,144,113.6075	2,443,718.6931
10	1,144,111.9489	2,443,823.4337
11	1,144,111.7822	2,444,023.4336
12	1,144,108.2950	2,444,243.6523
13	1,144,042.6365	2,444,242.6125
14	1,144,046.1160	2,444,022.8864
15	1,144,046.2826	2,443,822.8864
16	1,144,048.2657	2,443,697.6559

**INDEX OF SHEETS**

ITEM
1. General Plan & Elevation (North)
2. General Plan & Elevation (North)
3. General Plan & Elevation (South)
4. General Plan & Elevation (South)
5. General Notes
6. Drilled Shafts - North Wall
7. Drilled Shafts - North Wall
8. Drilled Shafts - South Wall
9. Drilled Shafts - South Wall
10. Drilled Shaft Details
11. Concrete Facing - North Wall
12. Concrete Facing - North Wall
13. Concrete Facing - North Wall
14. Concrete Facing - South Wall
15. Concrete Facing - South Wall
16. Concrete Facing - South Wall
17. Concrete Facing Details
18. MSE Unfolded Elevation - North Wall
19. MSE Unfolded Elevation - South Wall
20. MSE Details
21. Anchorage Slab - North Wall
22. Anchorage Slab - North Wall
23. Anchorage Slab - South Wall
24. Anchorage Slab - South Wall
25. Railing Details
26. Railing Details
27. Railing Details
28. Railing Details
29. Subsurface Data Profile
30. Subsurface Data Profile
31. Subsurface Data Profile
32. Subsurface Data Profile
33. Subsurface Data Profile
34. Subsurface Data Profile

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	54
Concrete Structures	Cu. Yd.	331.1
Form Liner Textured Surface	Sq. Ft.	1998
Reinforcement Bars	Pound	202500
Reinforcement Bars, Epoxy Coated	Pound	36150
Drilled Shaft in Soil	Cu. Yd.	977.6
Drilled Shaft in Rock	Cu. Yd.	56.1
Concrete Sealer	Sq. Ft.	12387
Geocomposite Wall Drain	Sq. Yd.	268
Anti-Graffiti Protection System	Sq. Ft.	6429
Concrete Surface Color Treatment	Sq. Ft.	710
Steel Railing (Special)	Foot	1690
Temporary Sheet Piling	Sq. Ft.	6255
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	7267
Pipe Underdrains for Structures 4"	Foot	2072
Secant Lagging	Cu. Ft.	766

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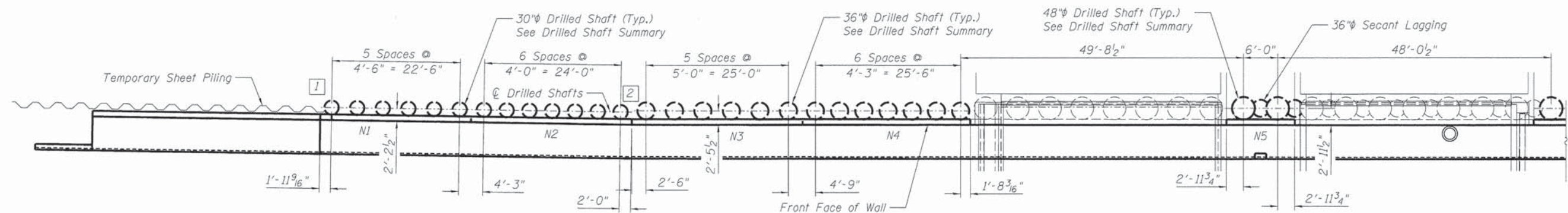
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PLOT DATE = 02/26/2014	DRAWN - EJM	REVISED -
	CHECKED - RGC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
CARPENTER STREET RETAINING WALLS**

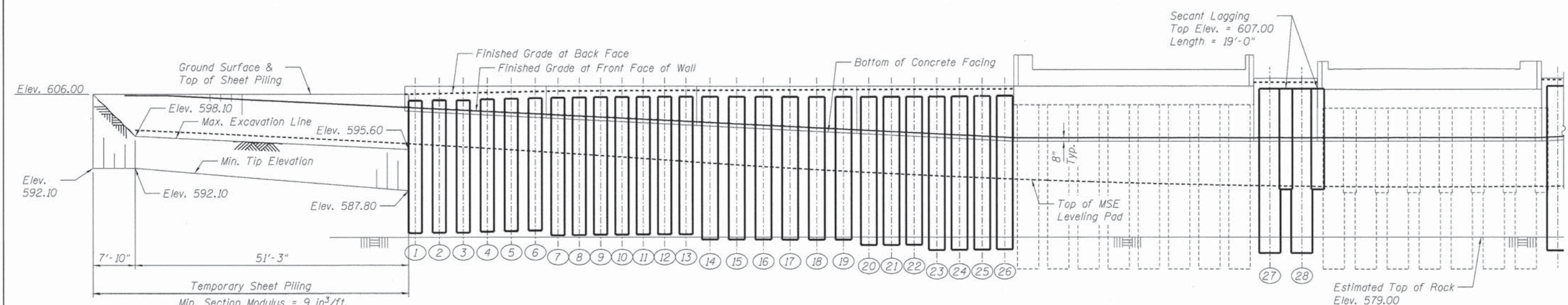
SHEET NO. 5 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 145
CONTRACT NO. 93617				ILLINOIS FED. AID PROJECT



**PLAN**

Note: All Dimensions are Measured Along Front Face of Wall



**ELEVATION**

Unfolded Along Face of Wall

**DRILLED SHAFT SUMMARY**

SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
1	A2	25'-0"	579.79	604.79	15	B1	27'-0"	578.50	605.50
2	A2	25'-0"	579.88	604.88	16	B1	27'-0"	578.53	605.53
3	A2	25'-0"	579.97	604.97	17	B1	27'-0"	578.55	605.55
4	A2	25'-0"	580.06	605.06	18	B1	27'-0"	578.58	605.58
5	A2	25'-0"	580.15	605.15	19	B1	27'-0"	578.60	605.60
6	A2	25'-0"	580.24	605.24	20	B2	28'-0"	577.62	605.62
7	A1	26'-0"	579.32	605.32	21	B2	28'-0"	577.64	605.64
8	A1	26'-0"	579.36	605.36	22	B2	28'-0"	577.66	605.66
9	A1	26'-0"	579.38	605.38	23	B4	29'-0"	576.68	605.68
10	A1	26'-0"	579.40	605.40	24	B4	29'-0"	576.70	605.70
11	A1	26'-0"	579.42	605.42	25	B4	29'-0"	576.72	605.72
12	A1	26'-0"	579.44	605.44	26	B4	29'-0"	576.74	605.74
13	A1	26'-0"	579.46	605.46	27	C5	31'-0"	576.00	607.00
14	B1	27'-0"	578.48	605.48	28	C5	31'-0"	576.00	607.00

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Drilled Shafts in Soil	Cu. Yd.	177.0
Drilled Shafts in Rock	Cu. Yd.	7.0
Secant Lagging	Cu. Ft.	269

FINAL  
 DESIGNED RGC 11/15/13  
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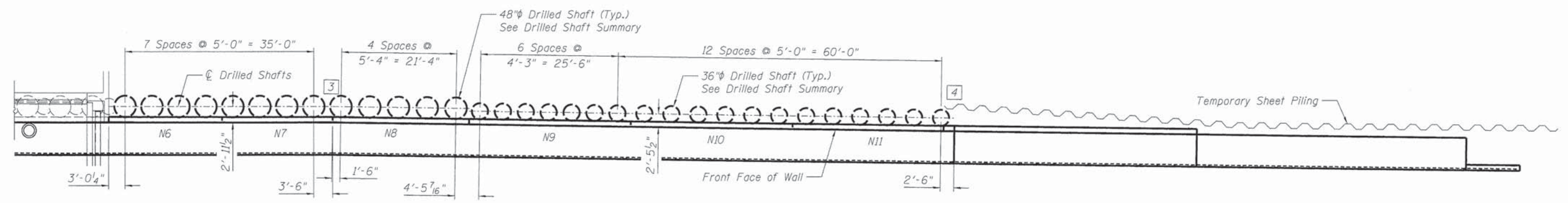
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFTS - NORTH WALL**  
**CARPENTER STREET RETAINING WALLS**

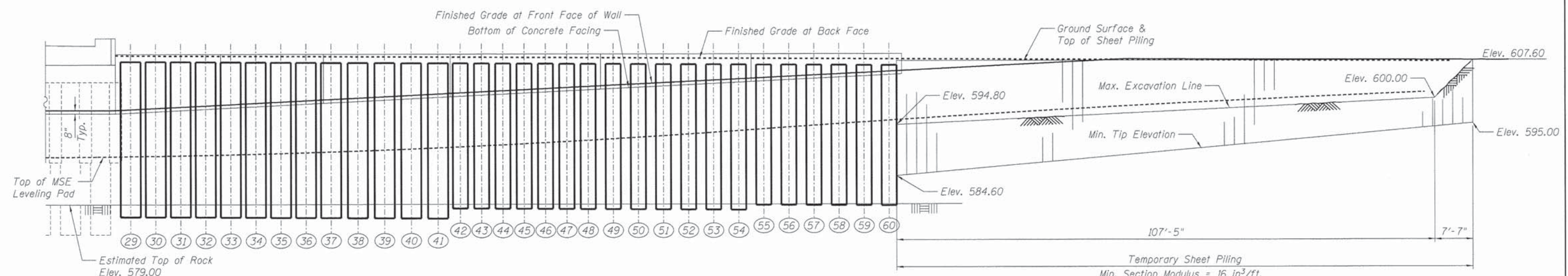
SHEET NO. 6 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 146
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				



**PLAN**

Note: All Dimensions are Measured Along Front Face of Wall



**ELEVATION**

Unfolded Along Face of Wall

**DRILLED SHAFT SUMMARY**

SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
29	C3	31'-0"	576.47	607.47	45	B3	29'-0"	578.08	607.08
30	C3	31'-0"	576.45	607.45	46	B3	29'-0"	578.06	607.06
31	C3	31'-0"	576.42	607.42	47	B3	29'-0"	578.04	607.04
32	C3	31'-0"	576.40	607.40	48	B3	29'-0"	578.01	607.01
33	C6	31'-0"	576.37	607.37	49	B3	29'-0"	577.99	606.99
34	C6	31'-0"	576.35	607.35	50	B3	29'-0"	577.96	606.96
35	C6	31'-0"	576.32	607.32	51	B3	29'-0"	577.94	606.94
36	C6	31'-0"	576.30	607.30	52	B3	29'-0"	577.91	606.91
37	C6	31'-0"	576.27	607.27	53	B3	29'-0"	577.89	606.89
38	C6	31'-0"	576.25	607.25	54	B3	29'-0"	577.86	606.86
39	C6	31'-0"	576.22	607.22	55	B2	28'-0"	578.84	606.84
40	C6	31'-0"	576.19	607.19	56	B2	28'-0"	578.81	606.81
41	C6	31'-0"	576.17	607.17	57	B2	28'-0"	578.79	606.79
42	B3	29'-0"	578.14	607.14	58	B2	28'-0"	578.76	606.76
43	B3	29'-0"	578.12	607.12	59	B2	28'-0"	578.74	606.74
44	B3	29'-0"	578.10	607.10	60	B2	28'-0"	578.71	606.71

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Drilled Shafts in Soil	Cu. Yd.	310.3
Drilled Shafts in Rock	Cu. Yd.	19.9

FINAL  
 DESIGNED - RGC 11/15/13  
 DRAWN - EJM 11/15/13  
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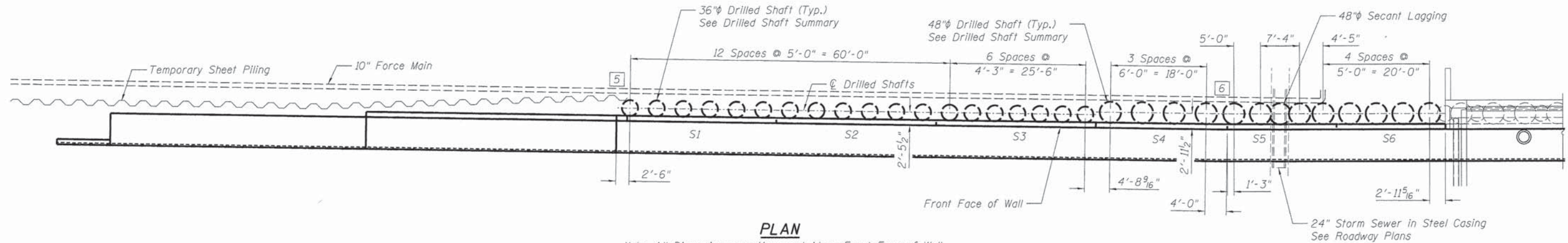
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PLOT DATE = 02\26\2014	DRAWN - EJM	REVISED -
	CHECKED - RGC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFTS - NORTH WALL  
CARPENTER STREET RETAINING WALLS**

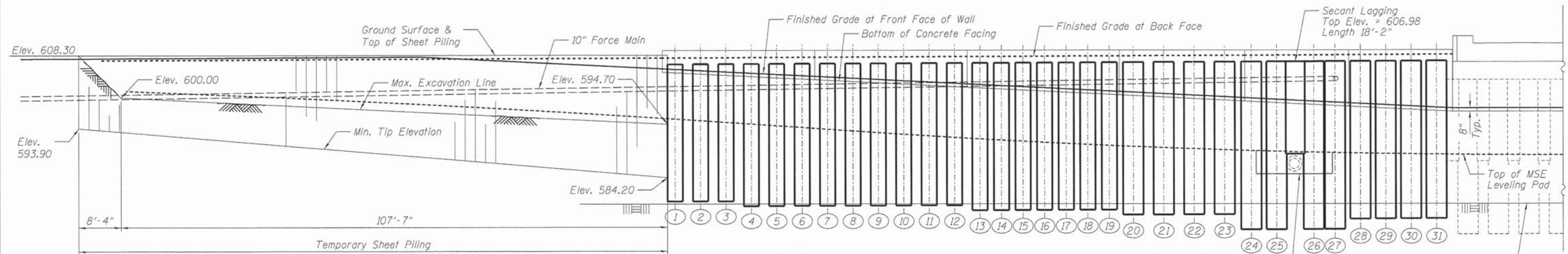
SHEET NO. 7 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	147
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**PLAN**

Note: All Dimensions are Measured Along Front Face of Wall



**ELEVATION**

Unfolded Along Face of Wall

**DRILLED SHAFT SUMMARY**

SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
1	B1	27'-0"	579.51	606.51	17	B3	29'-0"	577.81	606.81
2	B1	27'-0"	579.53	606.53	18	B3	29'-0"	577.82	606.82
3	B1	27'-0"	579.55	606.55	19	B3	29'-0"	577.84	606.84
4	B2	28'-0"	578.57	606.57	20	C1	30'-0"	576.86	606.86
5	B2	28'-0"	578.59	606.59	21	C1	30'-0"	576.88	606.88
6	B2	28'-0"	578.61	606.61	22	C1	30'-0"	576.91	606.91
7	B2	28'-0"	578.62	606.62	23	C1	30'-0"	576.93	606.93
8	B2	28'-0"	578.64	606.64	24	C2	33'-0"	573.95	606.95
9	B2	28'-0"	578.66	606.66	25	C2	33'-0"	573.97	606.97
10	B2	28'-0"	578.68	606.68	26	C2	33'-0"	574.00	607.00
11	B2	28'-0"	578.70	606.70	27	C2	33'-0"	574.02	607.02
12	B2	28'-0"	578.72	606.72	28	C3	31'-0"	576.04	607.04
13	B3	29'-0"	577.74	606.74	29	C3	31'-0"	576.06	607.06
14	B3	29'-0"	577.76	606.76	30	C3	31'-0"	576.08	607.08
15	B3	29'-0"	577.77	606.77	31	C3	31'-0"	576.10	607.10
16	B3	29'-0"	577.79	606.79					

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Drilled Shafts in Soil	Cu. Yd.	293.6
Drilled Shafts in Rock	Cu. Yd.	21.8
Secant Lagging	Cu. Ft.	228

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

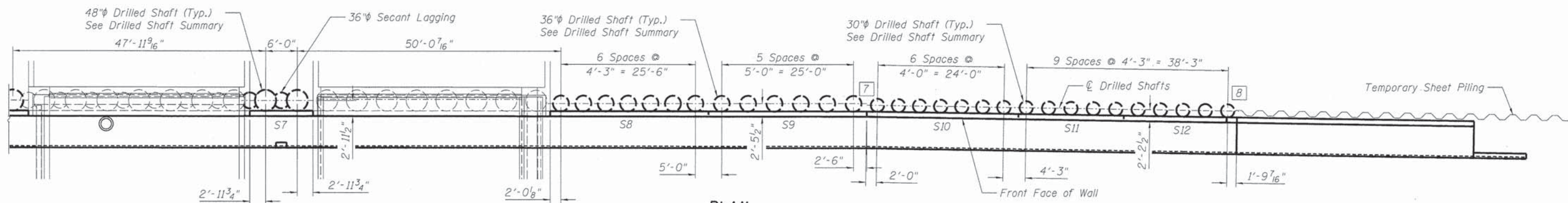
DRILLED SHAFTS - SOUTH WALL  
 CARPENTER STREET RETAINING WALLS

SHEET NO. 8 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	148
CONTRACT NO. 93617				

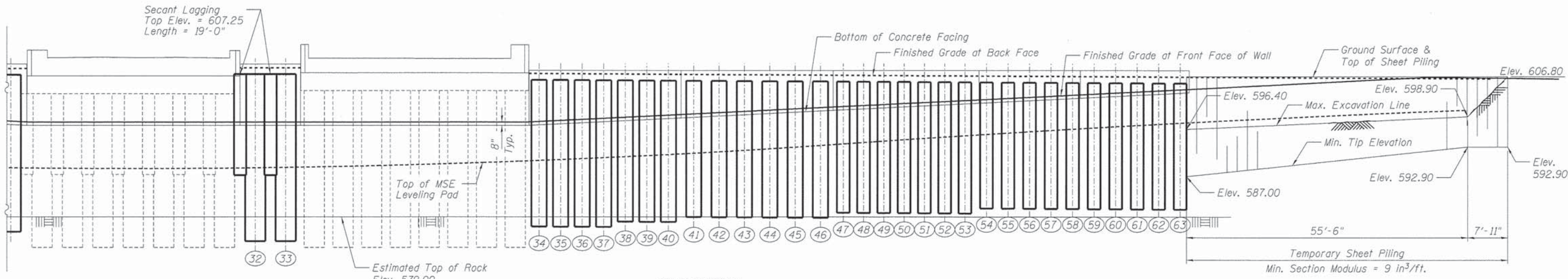
ILLINOIS FED. AID PROJECT





**PLAN**

Note: All Dimensions are Measured Along Front Face of Wall



**ELEVATION**

Unfolded Along Face of Wall

**DRILLED SHAFT SUMMARY**

SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	SHAFT NO.	CAGE DESIGNATION	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
32	C4	33'-0"	574.25	607.25	48	A1	26'-0"	579.79	605.79
33	C4	33'-0"	574.25	607.25	49	A1	26'-0"	579.77	605.77
34	B4	29'-0"	577.13	606.13	50	A1	26'-0"	579.75	605.75
35	B4	29'-0"	577.11	606.11	51	A1	26'-0"	579.72	605.72
36	B4	29'-0"	577.08	606.08	52	A1	26'-0"	579.70	605.70
37	B4	29'-0"	577.06	606.06	53	A1	26'-0"	579.68	605.68
38	B2	28'-0"	578.04	606.04	54	A2	25'-0"	580.66	605.66
39	B2	28'-0"	578.01	606.01	55	A2	25'-0"	580.63	605.63
40	B2	28'-0"	577.99	605.99	56	A2	25'-0"	580.61	605.61
41	B1	27'-0"	578.97	605.97	57	A2	25'-0"	580.59	605.59
42	B1	27'-0"	578.94	605.94	58	A2	25'-0"	580.57	605.57
43	B1	27'-0"	578.91	605.91	59	A2	25'-0"	580.54	605.54
44	B1	27'-0"	578.88	605.88	60	A2	25'-0"	580.52	605.52
45	B1	27'-0"	578.86	605.86	61	A2	25'-0"	580.50	605.50
46	B1	27'-0"	578.83	605.83	62	A2	25'-0"	580.47	605.47
47	A1	26'-0"	579.81	605.81	63	A2	25'-0"	580.45	605.45

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Drilled Shafts in Soil	Cu. Yd.	196.7
Drilled Shafts in Rock	Cu. Yd.	7.4
Secant Lagging	Cu. Ft.	269

FINAL  
 DESIGNED - RGC 11/15/13  
 DRAWN - EJM 11/15/13  
 REVIEWED - RGC 2/25/14

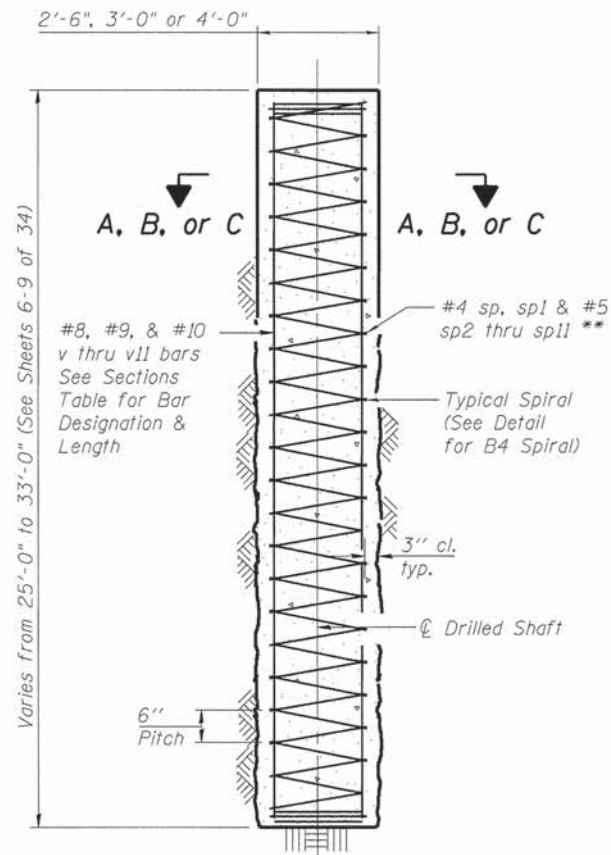
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**STATE OF ILLINOIS  
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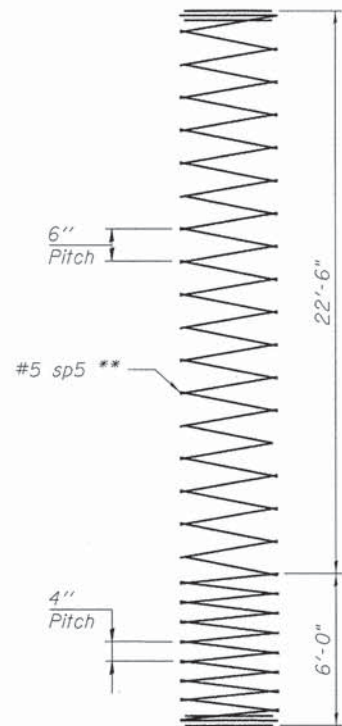
**DRILLED SHAFTS - SOUTH WALL  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 9 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 149
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

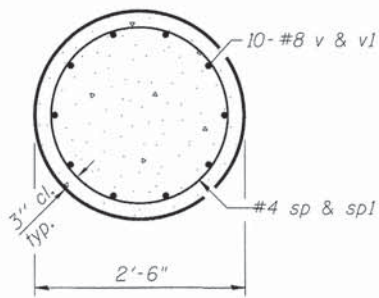


**DRILLED SHAFT ELEVATION**  
Showing Reinforcement

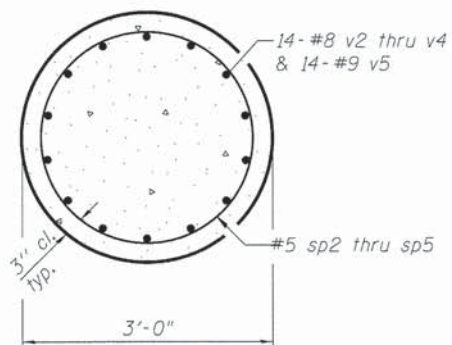


**B4 SPIRAL DETAIL**

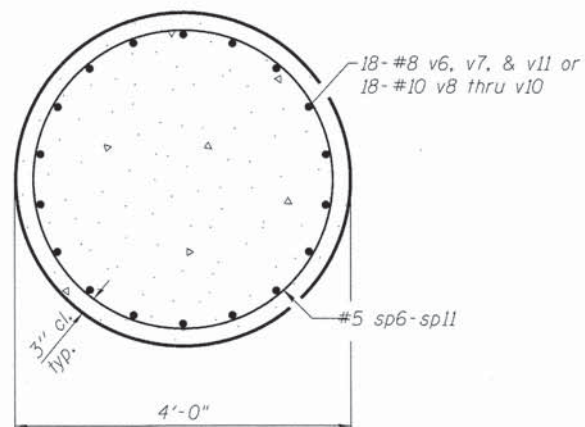
\*\* Provide 1/2 extra turns top and bottom of each drilled shaft.



**SECTION A-A**  
2'-6" Dia. Shafts  
(Cage Designations A1 & A2)



**SECTION B-B**  
3'-0" Dia. Shafts  
(Cage Designations B1 - B4)



**SECTION C-C**  
4'-0" Dia. Shafts  
(Cage Designations C1 - C6)

Cage Designation	Number Required	n	Bar	Number	Size	Length	Shape	
A1	14	10	v	140	#8	25'-6"	———	
A2	16	10	v1	160	#8	24'-6"	———	
B1	15	14	v2	210	#8	26'-6"	———	
B2	21	14	v3	294	#8	27'-6"	———	
B3	20	14	v4	280	#8	28'-6"	———	
B4	8	14	v5	112	#9	28'-6"	———	
C1	4	18	v6	72	#8	29'-6"	———	
C2	4	18	v7	72	#8	32'-6"	———	
C3	8	18	v8	144	#10	30'-6"	———	
C4	2	18	v9	36	#10	32'-6"	———	
C5	2	18	v10	36	#10	30'-6"	———	
C6	9	18	v11	162	#8	30'-6"	———	
A1	14	1	sp	14	#4	*25'-6"	~~~~~	
A2	16	1	sp1	16	#4	*24'-6"	~~~~~	
B1	15	1	sp2	15	#5	*26'-6"	~~~~~	
B2	21	1	sp3	21	#5	*27'-6"	~~~~~	
B3	20	1	sp4	20	#5	*28'-6"	~~~~~	
B4	8	1	sp5	8	#5	*28'-6"	~~~~~	
C1	4	1	sp6	4	#5	*29'-6"	~~~~~	
C2	4	1	sp7	4	#5	*32'-6"	~~~~~	
C3	8	1	sp8	8	#5	*30'-6"	~~~~~	
C4	2	1	sp9	2	#5	*32'-6"	~~~~~	
C5	2	1	sp10	2	#5	*30'-6"	~~~~~	
C6	9	1	sp11	9	#5	*30'-6"	~~~~~	
Reinforcement Bars							Pound	202500

**MIN. BAR LAPS FOR SPIRALS**  
#4 Bars = 2'-0" #5 Bars = 2'-6"

\* Length is height of spiral.

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RCC 12/25/14

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PLOT DATE = 02/26/2014		CHECKED - RGC	REVISED -

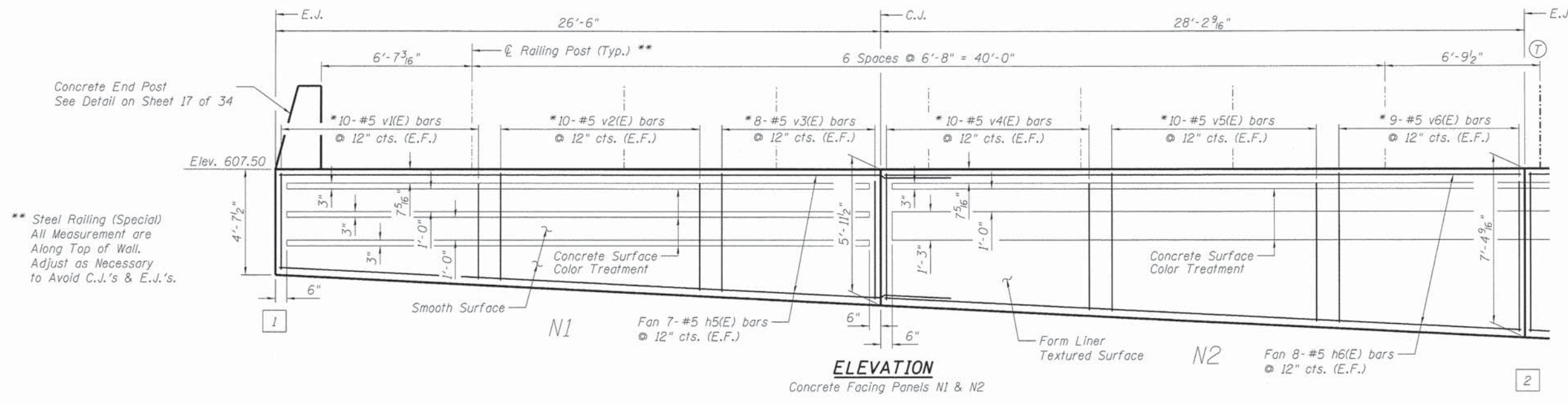
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DRILLED SHAFT DETAILS  
CARPENTER STREET RETAINING WALLS

SHEET NO. 10 OF 34 SHEETS

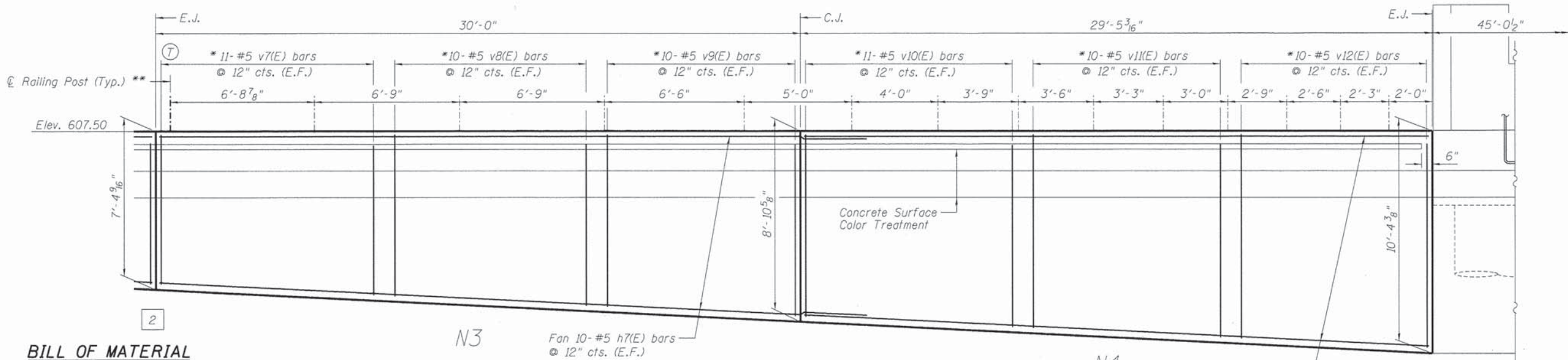
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	150
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				

Ⓣ = Intermediate Tensioning Posts



**ELEVATION**  
Concrete Facing Panels N1 & N2

\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.



**ELEVATION**  
Concrete Facing Panels N3 & N4

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h5(E)	14	#5	29'-6"	---
h6(E)	16	#5	27'-11"	---
h7(E)	20	#5	33'-0"	---
h8(E)	22	#5	29'-1"	---
v1(E)	20	#5	4'-4"	---
v2(E)	20	#5	4'-10"	---
v3(E)	16	#5	5'-3"	---
v4(E)	20	#5	5'-8"	---
v5(E)	20	#5	6'-2"	---
v6(E)	18	#5	6'-8"	---
v7(E)	22	#5	7'-1"	---
v8(E)	20	#5	7'-7"	---
v9(E)	20	#5	8'-1"	---
v10(E)	22	#5	8'-7"	---
v11(E)	20	#5	9'-1"	---
v12(E)	20	#5	9'-7"	---
Reinforcement Bars Epoxy Coated		Pound	3980	
Concrete Structures		Cu. Yd.	31.7	

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

prj\spi\svr306.hanson.dom\hanson\_projects\documents\09\jobs\09\01798\CAD\Struct\Carpenter\Sheet\08499529953-09\01798-RetainingWallPlans

FILE NAME =	USER NAME = pop0275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
		CHECKED - RGC	REVISED -

PLOT SCALE = 0.0833' / 1"  
PLOT DATE = 02/26/2014

**HANSON**  
© Copyright Hanson Professional Services Inc. 2014

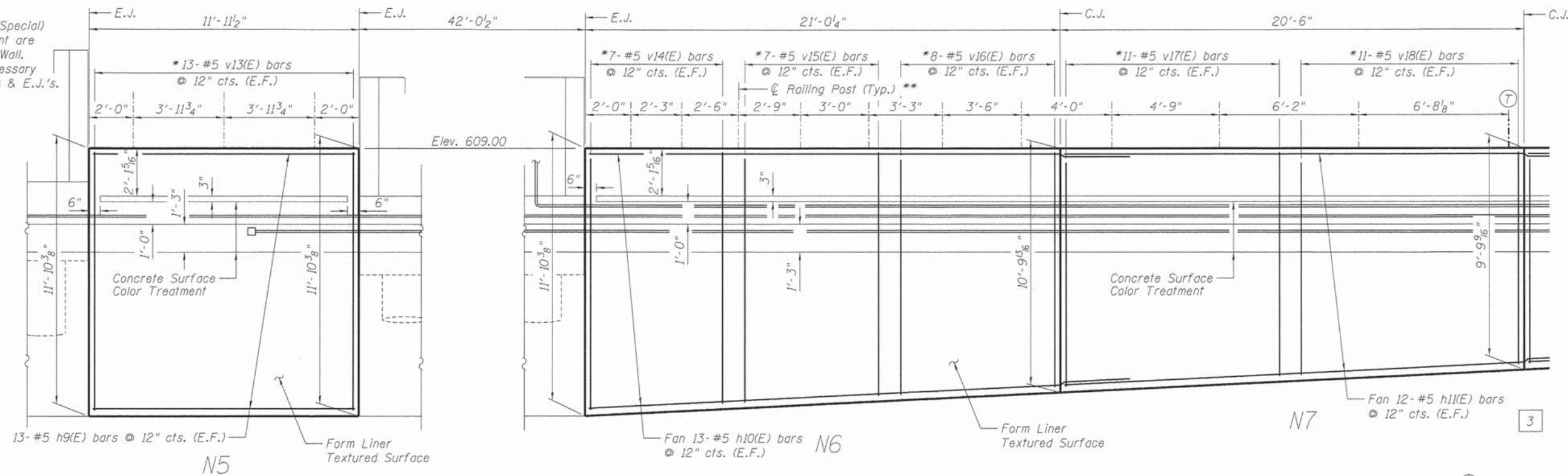
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CONCRETE FACING - NORTH WALL**  
**CARPENTER STREET RETAINING WALLS**

SHEET NO. 11 OF 34 SHEETS

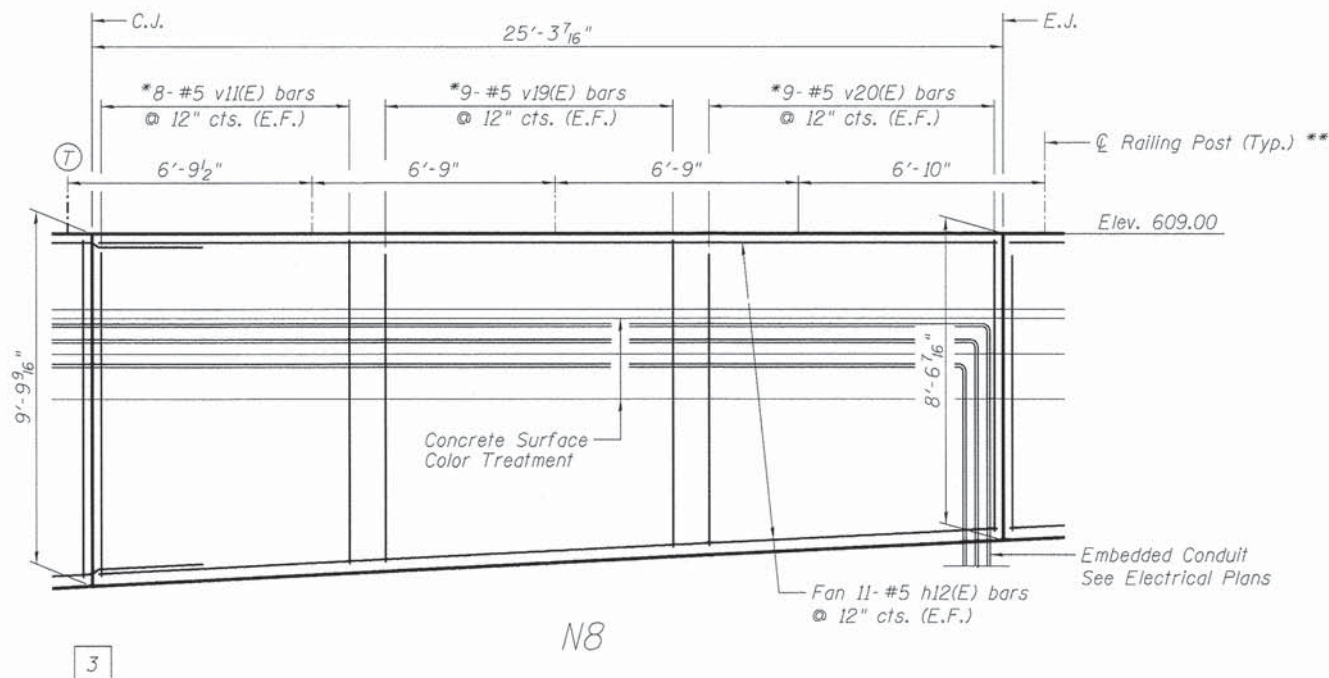
F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 151
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				

\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.



**ELEVATION**  
Concrete Facing Panel N5

**ELEVATION**  
Concrete Facing Panels N6 & N7



**ELEVATION**  
Concrete Facing Panel N8

Ⓣ = Intermediate Tensioning Posts

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h9(E)	26	#5	11'-8"	---	
h10(E)	26	#5	24'-0"	---	
h11(E)	24	#5	23'-6"	---	
h12(E)	22	#5	25'-0"	---	
v11(E)	16	#5	9'-1"	---	
v13(E)	26	#5	11'-7"	---	
v14(E)	14	#5	11'-3"	---	
v15(E)	14	#5	10'-9"	---	
v16(E)	16	#5	10'-6"	---	
v17(E)	22	#5	10'-0"	---	
v18(E)	22	#5	9'-6"	---	
v19(E)	18	#5	8'-9"	---	
v20(E)	18	#5	8'-3"	---	
Reinforcement Bars Epoxy Coated				Pound	3860
Concrete Structures				Cu. Yd.	30.5

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

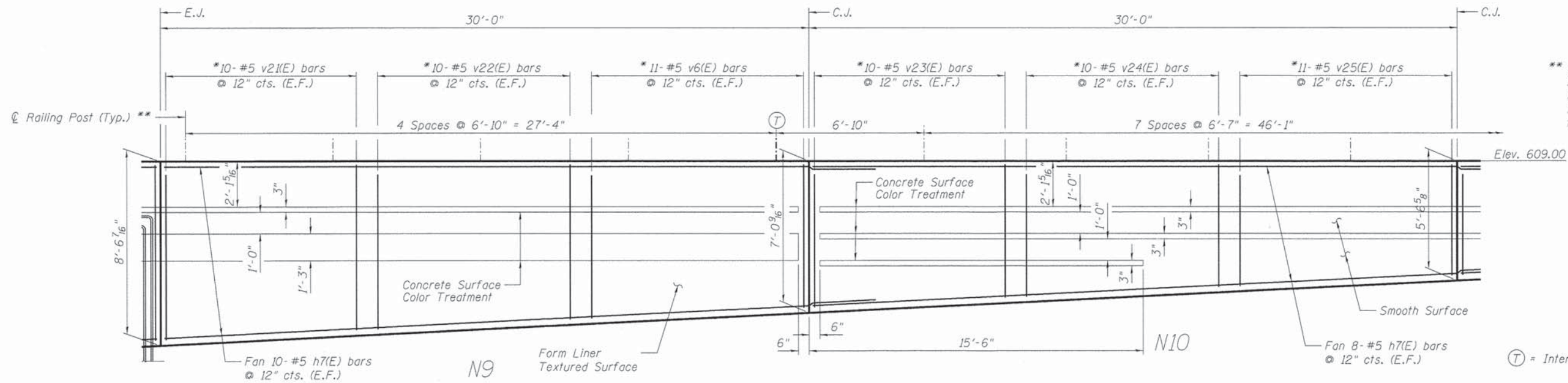
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING - NORTH WALL  
CARPENTER STREET RETAINING WALLS

SHEET NO. 12 OF 34 SHEETS

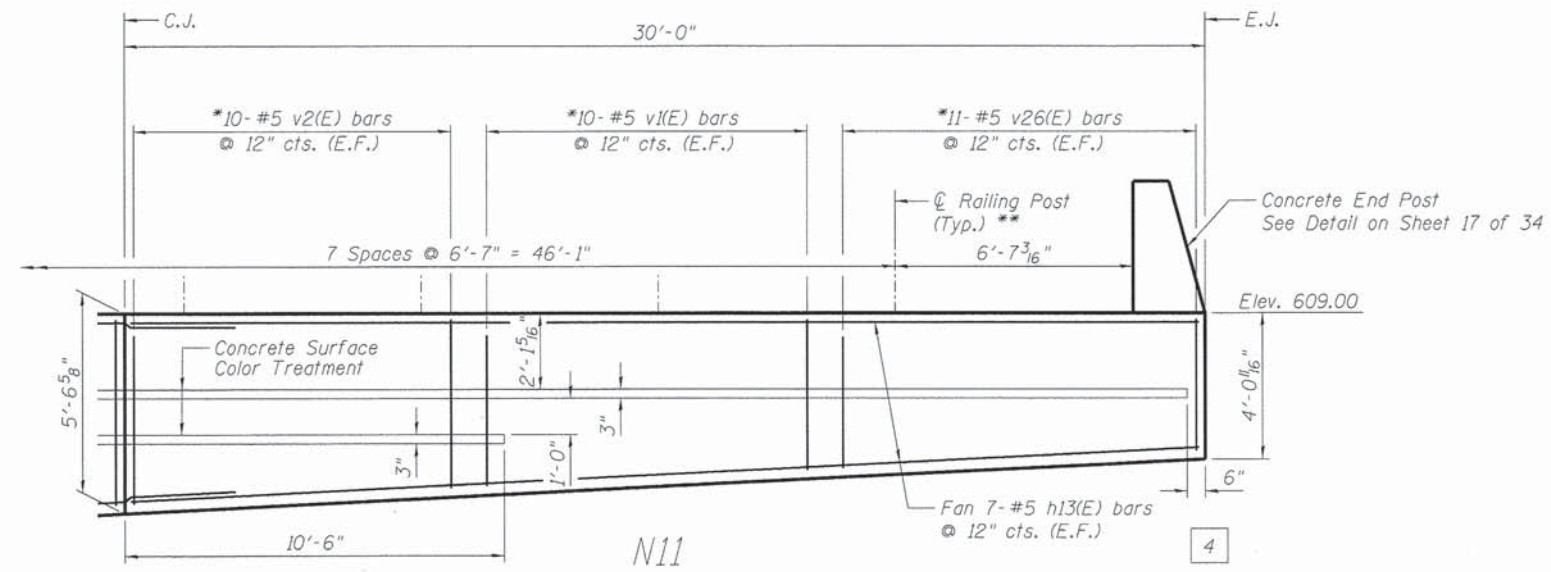
F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	152
CONTRACT NO. 93617			ILLINOIS FED. AID PROJECT	



\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.

(T) = Intermediate Tensioning Posts

**ELEVATION**  
Concrete Facing Panels N8 & N9



**ELEVATION**  
Concrete Facing Panel N10

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h7(E)	36	#5	33'-0"	---
h13(E)	14	#5	29'-8"	---
v1(E)	20	#5	4'-4"	---
v2(E)	20	#5	4'-10"	---
v6(E)	22	#5	6'-8"	---
v21(E)	20	#5	7'-9"	---
v22(E)	20	#5	7'-3"	---
v23(E)	20	#5	6'-3"	---
v24(E)	20	#5	5'-10"	---
v25(E)	22	#5	5'-3"	---
v26(E)	22	#5	3'-9"	---
Reinforcement Bars Epoxy Coated		Pound	2790	
Concrete Structures		Cu. Yd.	21.0	

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

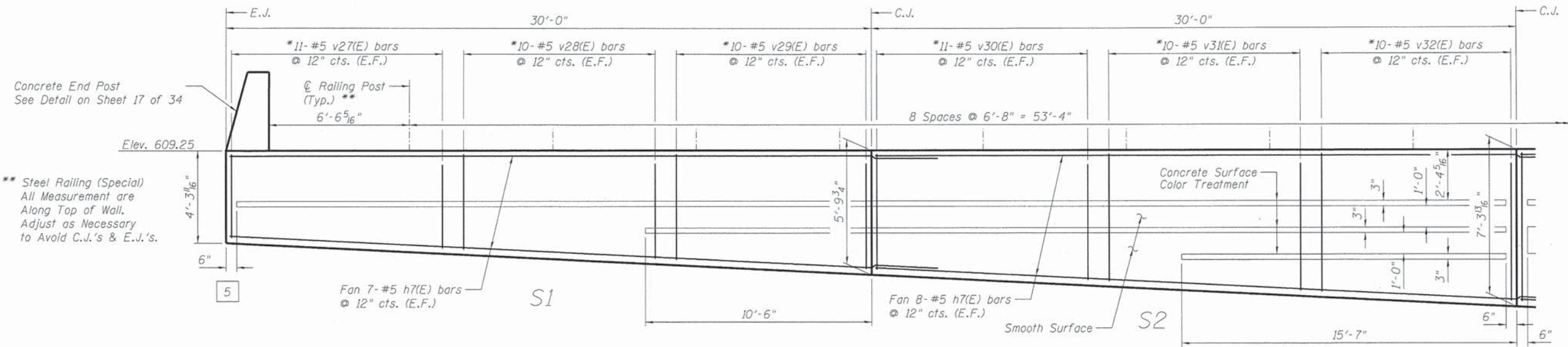
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING - NORTH WALL  
CARPENTER STREET RETAINING WALLS

SHEET NO. 13 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	153
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**ELEVATION**  
Concrete Facing Panels S1 & S2

\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.

Elev. 609.25

4'-3 1/16"

6"

5

Fan 7- #5 h7(E) bars  
@ 12" cts. (E.F.)

S1

10'-6"

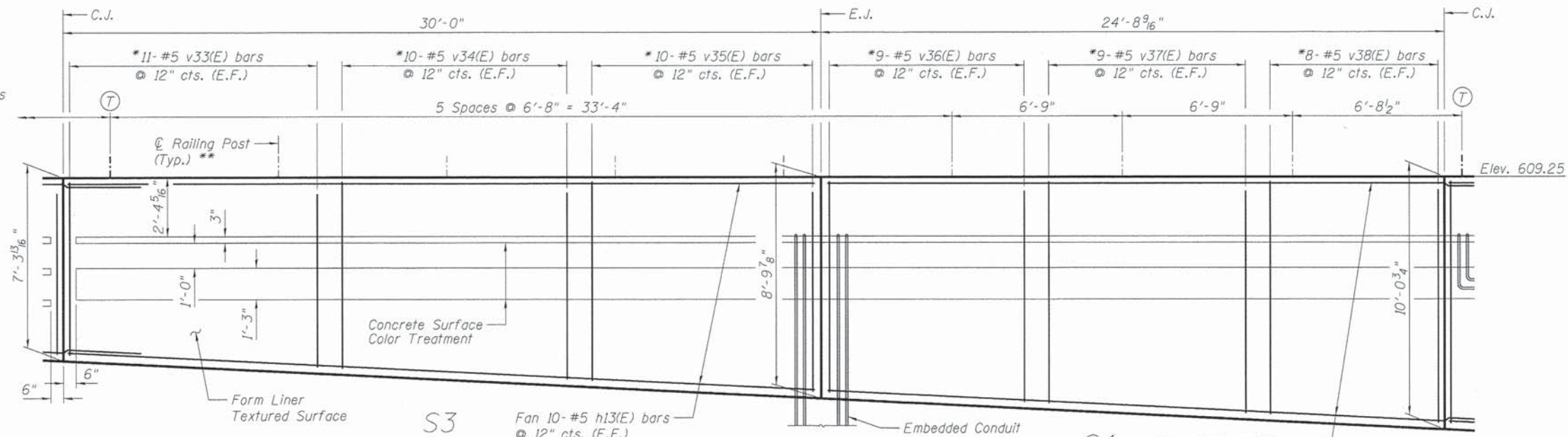
Fan 8- #5 h7(E) bars  
@ 12" cts. (E.F.)

Smooth Surface

S2

15'-7"

(T) = Intermediate Tensioning Posts



**ELEVATION**  
Concrete Facing Panels S3 & S4

Elev. 609.25

7'-3 3/8"

6"

U

U

U

U

6"

Railing Post  
(Typ.) \*\*

Form Liner  
Textured Surface

S3

Fan 10- #5 h13(E) bars  
@ 12" cts. (E.F.)

Embedded Conduit  
See Electrical Plans

S4

Fan 11- #5 h14(E) bars  
@ 12" cts. (E.F.)

6

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h7(E)	30	#5	33'-0"	—
h13(E)	20	#5	29'-8"	—
h14(E)	22	#5	27'-9"	—
v27(E)	22	#5	4'-0"	—
v28(E)	20	#5	4'-7"	—
v29(E)	20	#5	5'-1"	—
v30(E)	22	#5	5'-6"	—
v31(E)	20	#5	6'-1"	—
v32(E)	20	#5	6'-7"	—
v33(E)	22	#5	7'-0"	—
v34(E)	20	#5	7'-7"	—
v35(E)	20	#5	8'-1"	—
v36(E)	18	#5	8'-6"	—
v37(E)	18	#5	9'-0"	—
v38(E)	16	#5	9'-5"	—
Reinforcement Bars Epoxy Coated		Pound	3950	
Concrete Structures		Cu. Yd.	30.5	

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

FILE NAME: p:\api-svr\386.hanson.dom\hanson\_projects\Documents\09Jobs\09L\01798\CAO\Struct\Carpenter\Sheet\08499529953-09L\01798-RetainingWallPlans

USER NAME: pap00275

DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
PLOT SCALE = 0.0033' / 1"  
PLOT DATE = 02/26/2014

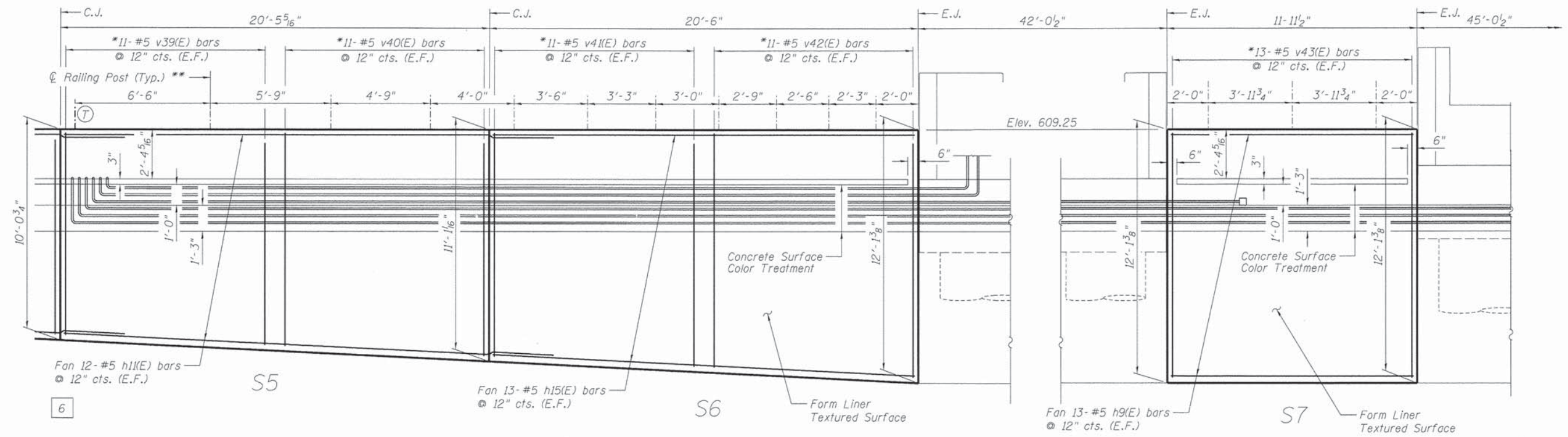
REVISOR - RGC  
REVISOR - RGC  
REVISOR - RGC  
REVISOR - RGC

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING - SOUTH WALL  
CARPENTER STREET RETAINING WALLS

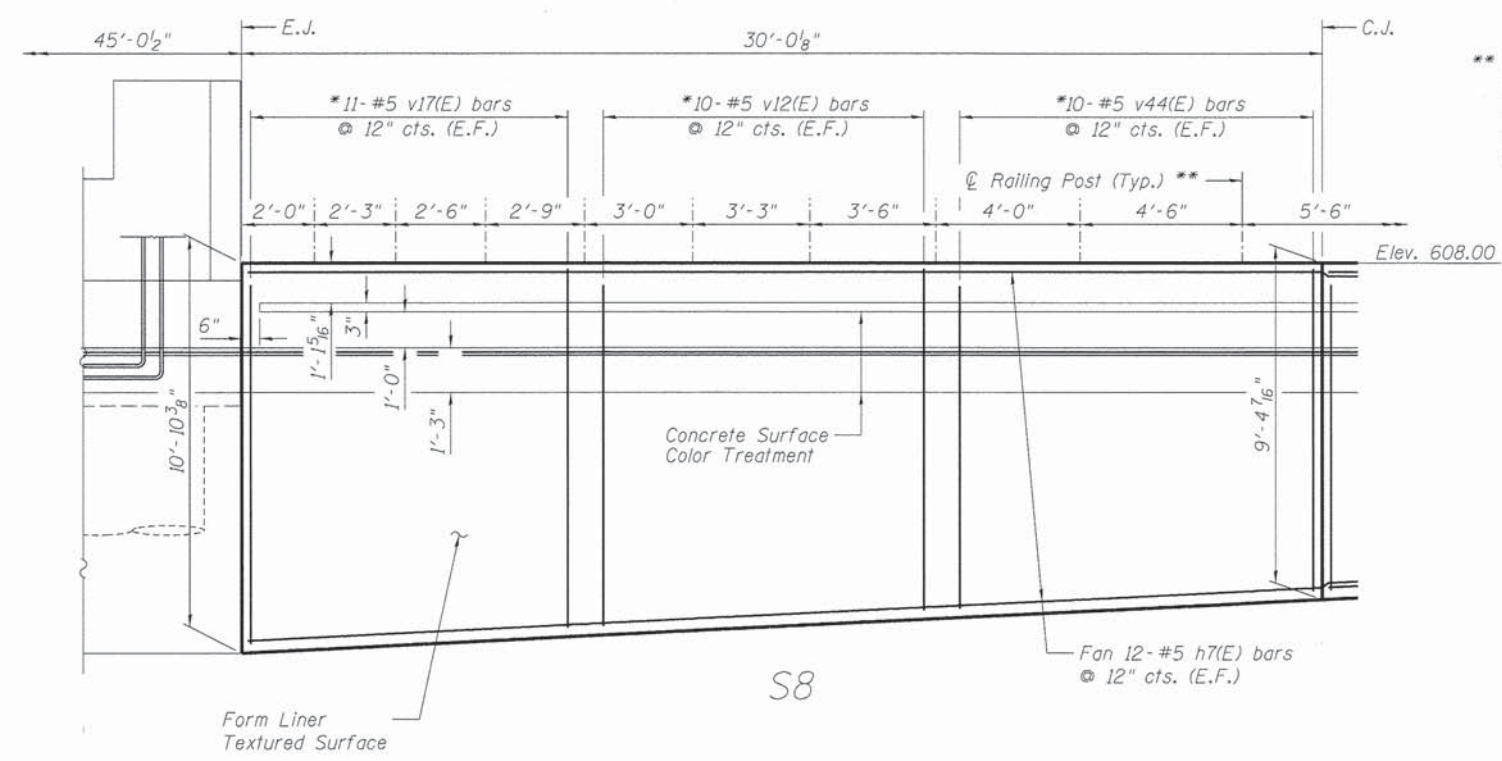
SHEET NO. 14 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 154
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				



**ELEVATION**  
Concrete Facing Panels S5 & S6

**ELEVATION**  
Concrete Facing Panel S7



**ELEVATION**  
Concrete Facing Panel S8

\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h7(E)	24	#5	33'-0"	---
h9(E)	26	#5	11'-8"	---
h11(E)	24	#5	23'-6"	---
h15(E)	26	#5	20'-2"	---
v12(E)	20	#5	9'-7"	---
v17(E)	22	#5	10'-0"	---
v39(E)	22	#5	9'-9"	---
v40(E)	22	#5	10'-4"	---
v41(E)	22	#5	10'-10"	---
v42(E)	22	#5	11'-4"	---
v43(E)	26	#5	11'-10"	---
v44(E)	20	#5	9'-1"	---
Reinforcement Bars Epoxy Coated				Pound 4190
Concrete Structures				Cu. Yd. 33.4

FINAL  
DESIGNED - RGC 11/15/13  
DRAWN - EJM 11/15/13  
REVIEWED - RGC 2/25/14

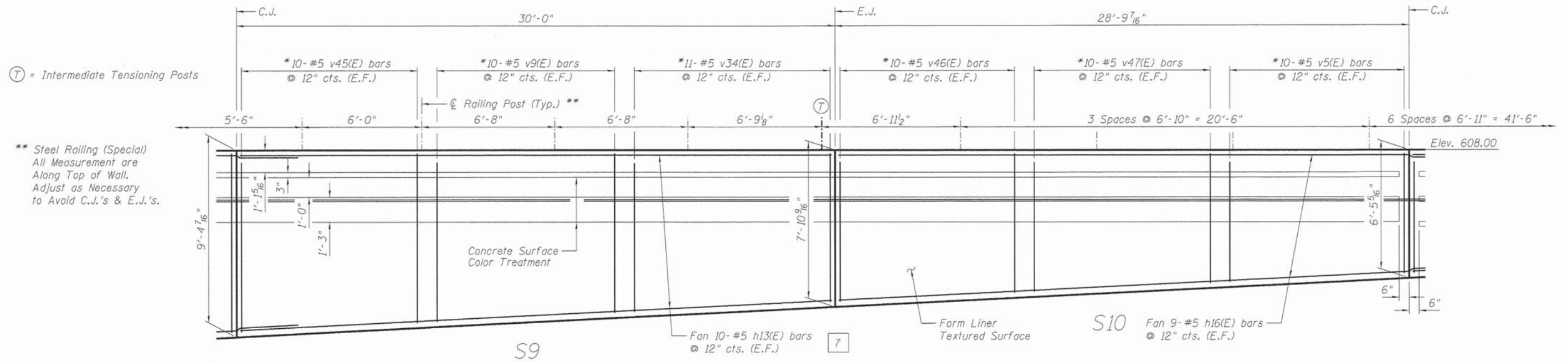
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 USER NAME = pop00275  
 DESIGNED - RGC  
 CHECKED - KMS  
 DRAWN - EJM  
 PLOT DATE = 02/26/2014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING - SOUTH WALL  
CARPENTER STREET RETAINING WALLS

SHEET NO. 15 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 155
CONTRACT NO. 93617			ILLINOIS FED. AID PROJECT	

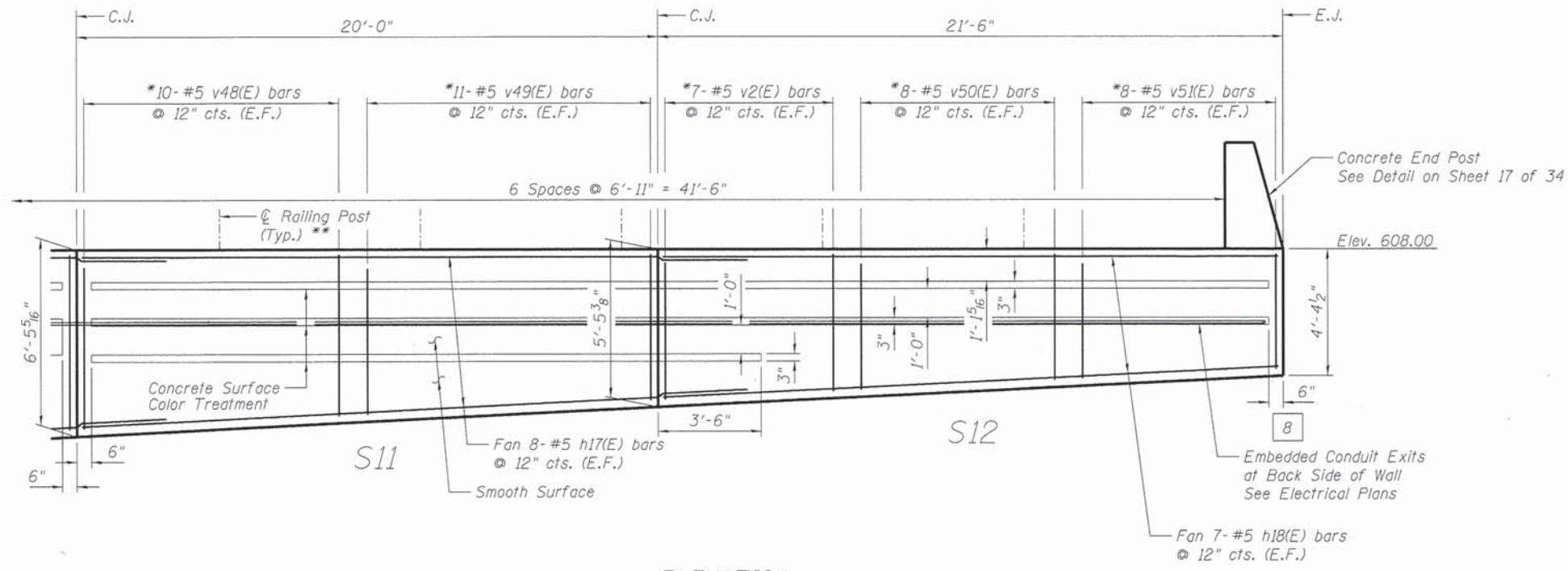


(T) = Intermediate Tensioning Posts

\*\* Steel Railing (Special)  
All Measurement are  
Along Top of Wall.  
Adjust as Necessary  
to Avoid C.J.'s & E.J.'s.

**ELEVATION**

Concrete Facing Panels S9 & S10



**ELEVATION**

Concrete Facing Panels S11 & S12

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h13(E)	20	#5	29'-8"	—	
h16(E)	18	#5	31'-9"	—	
h17(E)	16	#5	23'-0"	—	
h18(E)	14	#5	21'-2"	—	
v2(E)	14	#5	4'-10"	—	
v5(E)	20	#5	6'-2"	—	
v9(E)	20	#5	8'-1"	—	
v34(E)	22	#5	7'-7"	—	
v45(E)	20	#5	8'-8"	—	
v46(E)	20	#5	7'-2"	—	
v47(E)	20	#5	6'-8"	—	
v48(E)	20	#5	5'-8"	—	
v49(E)	22	#5	5'-2"	—	
v50(E)	16	#5	4'-6"	—	
v51(E)	16	#5	4'-1"	—	
Reinforcement Bars Epoxy Coated				Pound	3300
Concrete Structures				Cu. Yd.	21.1

Note: E.J. = Expansion Joint  
C.J. = Construction Joint  
E.F. = Each Face  
\* = Stagger Bars

**MIN. BAR LAPS**  
#5 Bars = 2'-11"

FINAL  
DESIGNED 11/15/13  
DRAWN 11/15/13  
REVIEWED 2/25/14

per\\spu-svr206.hanson.dom\hanson\_projects\Documents\89Jobs\89L01798\CAO\Struct\Carpenter\Sheet\88499529953-89L01798-RetainingWallPlans

FILE NAME:	USER NAME = pop0275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
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	PLOT DATE = 02/26/2014	CHECKED - RGC	REVISED -

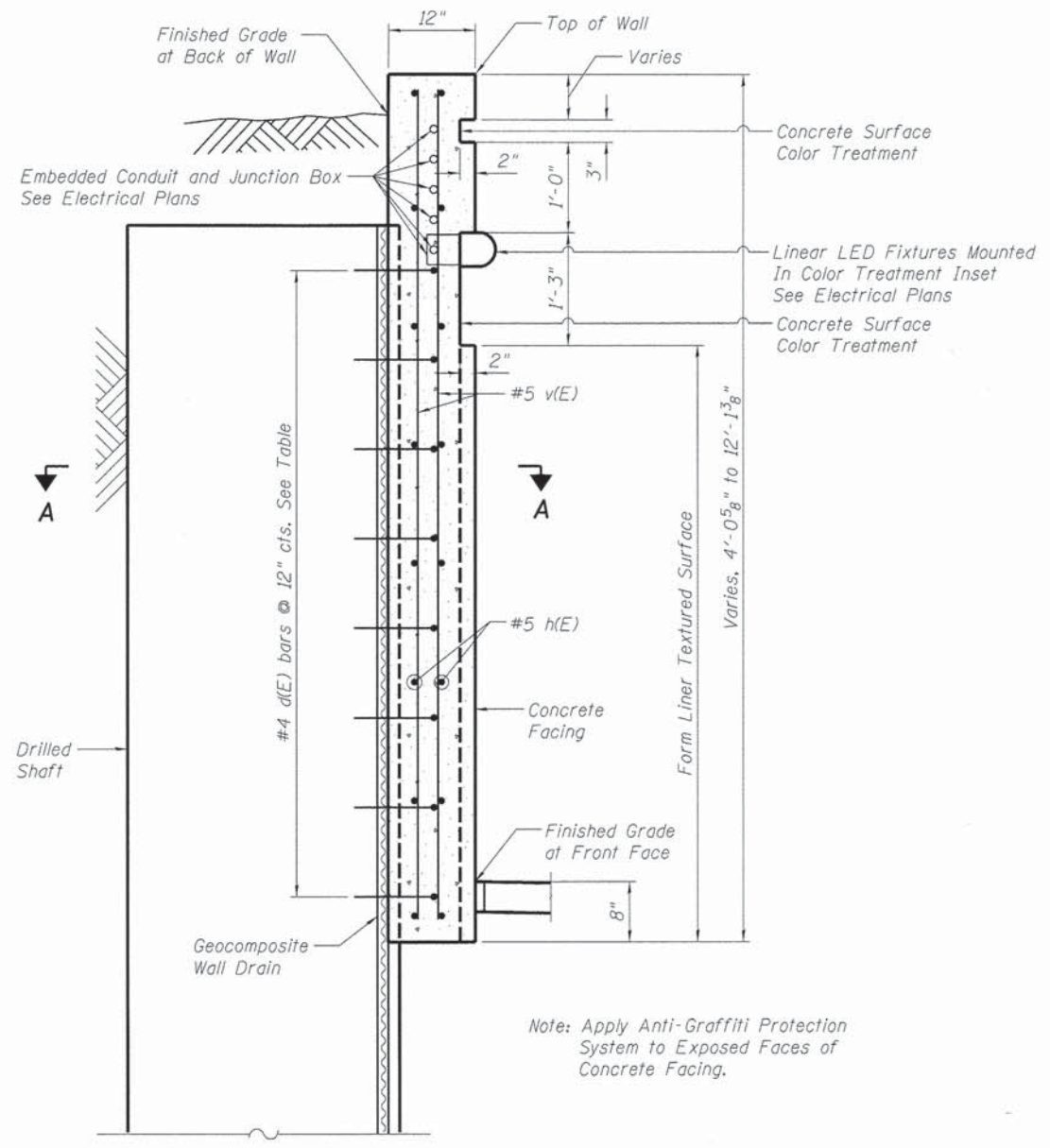
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CONCRETE FACING - SOUTH WALL  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 16 OF 34 SHEETS

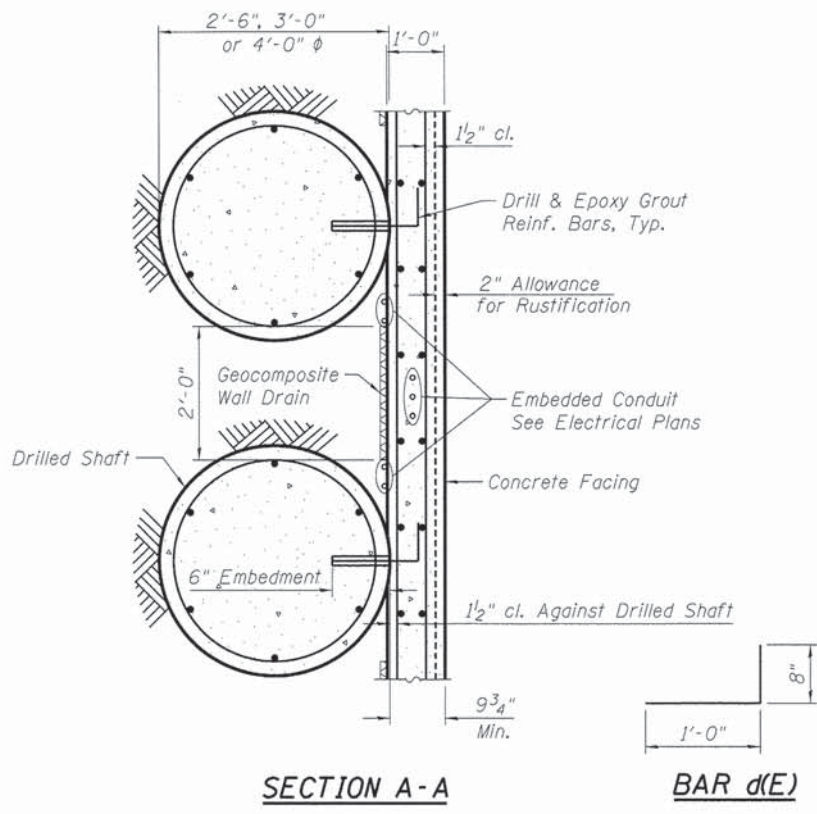
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	156
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				





**VERTICAL SECTION THRU CONCRETE FACING**

Note: Apply Anti-Graffiti Protection System to Exposed Faces of Concrete Facing.



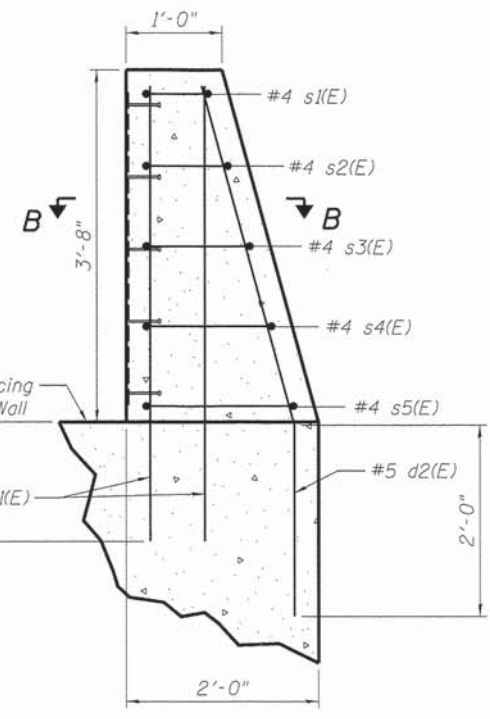
**SECTION A-A**  
**BAR d(E)**

**NORTH WALL**  
**d(E) BARS REQUIRED**

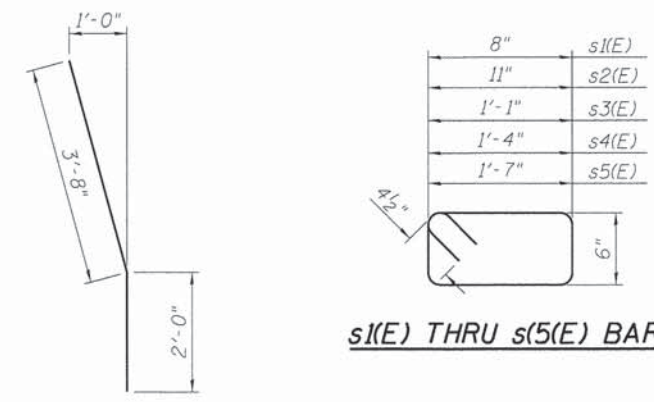
Shaft No.	Number Required on Each Shaft
1-2	3
3-5	4
6-9	5
10-14	6
15-17	7
18-21	8
22-25	9
26	10
27-31	11
32-35	10
36-38	9
39-42	8
43-46	7
47-50	6
51-54	5
55-57	4
58-60	3

**SOUTH WALL**  
**d(E) BARS REQUIRED**

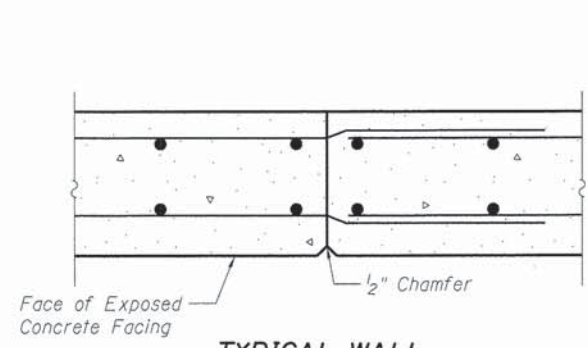
Shaft No.	Number Required on Each Shaft
1-4	3
5-7	4
8-11	5
12-15	6
16-19	7
20-22	8
23-25	9
26-29	10
30-33	11
34-36	10
37-40	9
41-45	8
46-50	7
51-55	6
56-60	5
61-63	4



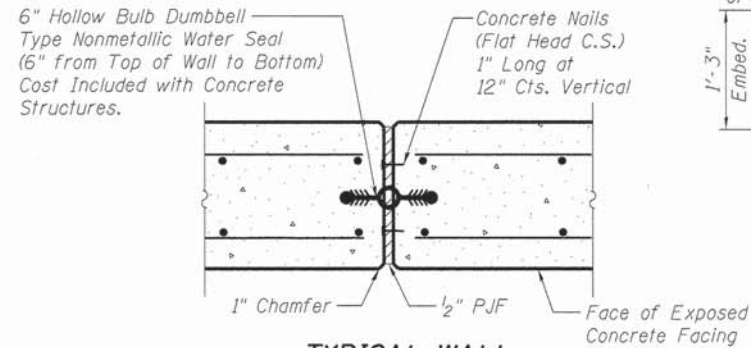
**CABLE ANCHORAGE**  
**CONCRETE POST DETAIL**  
(Typ. of 8 Posts)



**d2(E) BAR**  
**SECTION B-B**  
**s1(E) THRU s5(E) BARS**



**TYPICAL WALL**  
**CONSTRUCTION JOINT DETAIL**



**TYPICAL WALL**  
**EXPANSION JOINT DETAIL**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
d(E)	853	#4	1'-8"	□	
d1(E)	32	#4	4'-9"	□	
d2(E)	16	#5	5'-8"	□	
s1(E)	8	#4	3'-1"	□	
s2(E)	8	#4	3'-7"	□	
s3(E)	8	#4	3'-11"	□	
s4(E)	8	#4	4'-5"	□	
s5(E)	8	#4	4'-11"	□	
Reinforcement Bars Epoxy Coated				Pound	1220
Concrete Structures				Cu. Yd.	1.6

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 12/25/14

FILE NAME = **HANSON**  
 USER NAME = pop0275  
 DESIGNED - RGC  
 CHECKED - KMS  
 PLOT SCALE = 0.0633' / 1"  
 DRAWN - EJM  
 PLOT DATE = 02/26/2014  
 REVIEWED - RGC  
 CHECKED - RGC  
 REVISED -

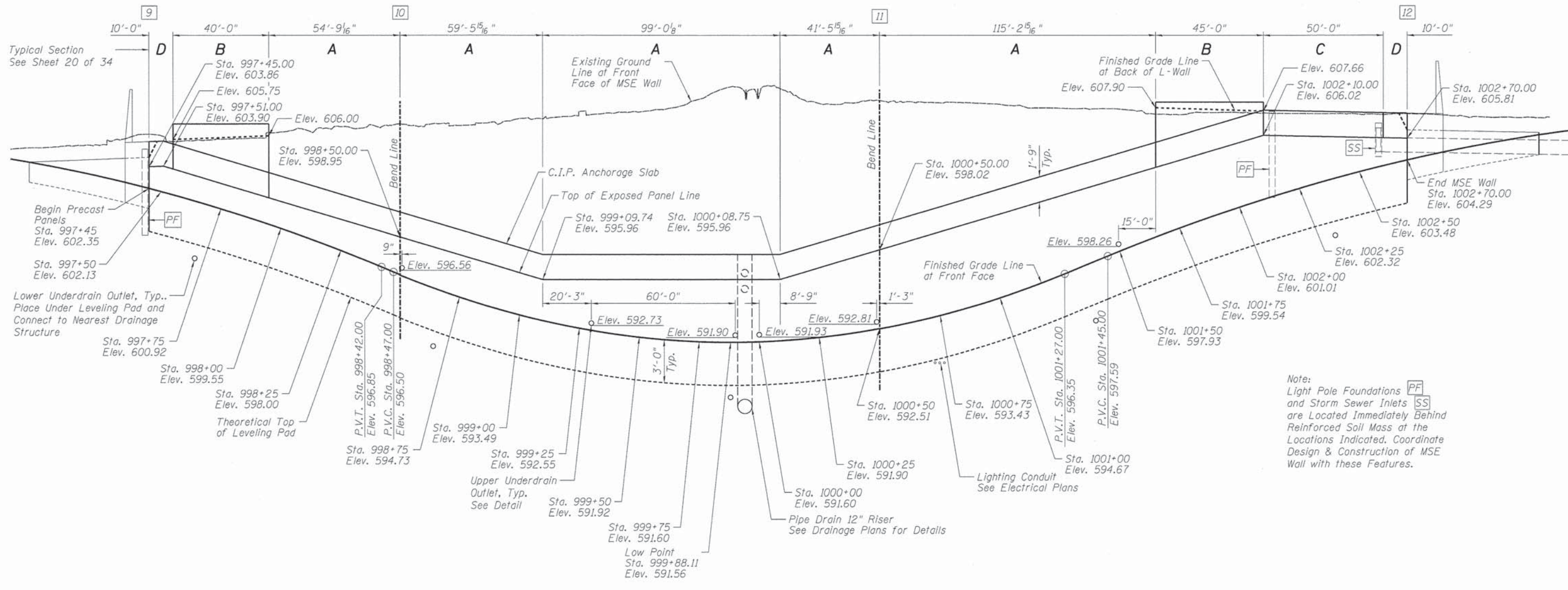
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CONCRETE FACING DETAILS**  
**CARPENTER STREET RETAINING WALLS**

SHEET NO. 17 OF 34 SHEETS

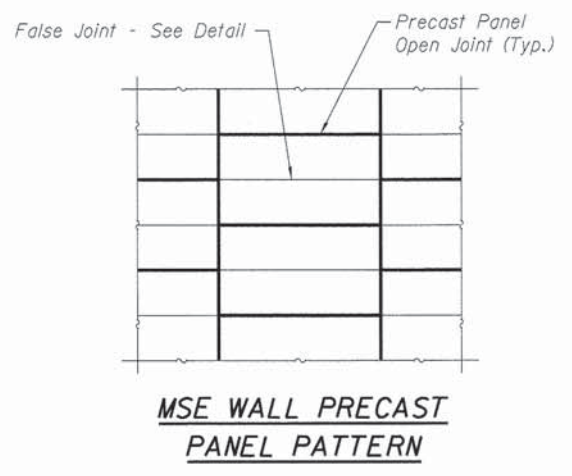
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	157
				CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT

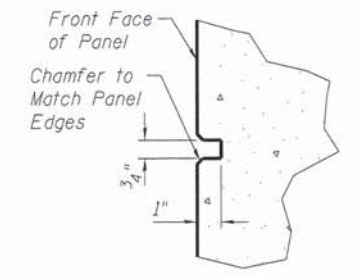


Note:  
 Light Pole Foundations **PF**  
 and Storm Sewer Inlets **SS**  
 are Located Immediately Behind  
 Reinforced Soil Mass at the  
 Locations Indicated. Coordinate  
 Design & Construction of MSE  
 Wall with these Features.

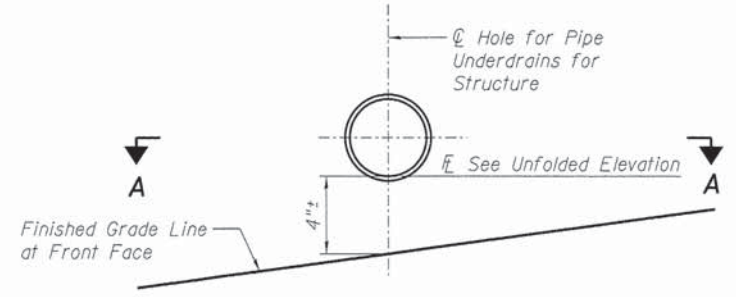
**NORTH WALL UNFOLDED ELEVATION**



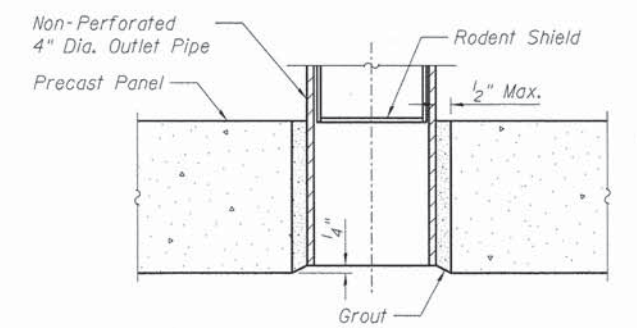
**MSE WALL PRECAST  
 PANEL PATTERN**



**FALSE JOINT  
 RUSTICATION**



**UPPER UNDERDRAIN OUTLET DETAIL**



**SECTION A-A**

FINAL  
 DESIGNED RGC 11/15/13  
 DRAWN EJM 11/15/13  
 REVIEWED RGC 12/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
		CHECKED - RGC	REVISED -

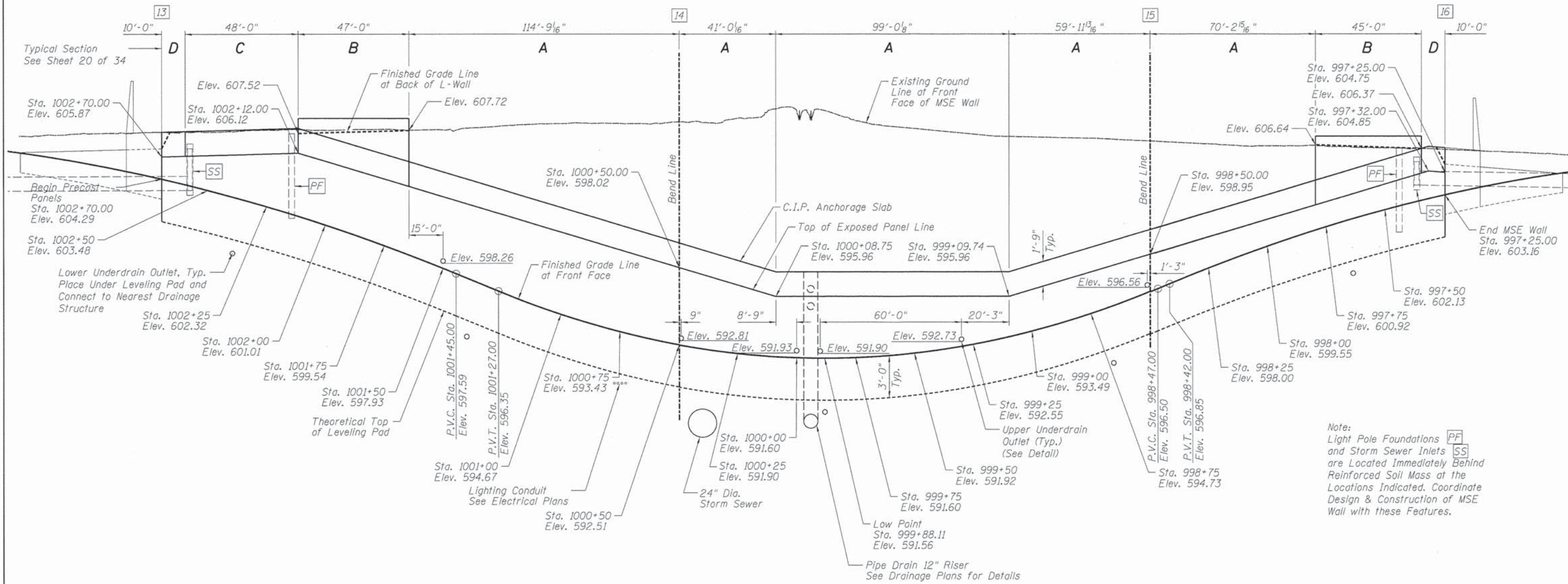
PLOT SCALE = 0.8833' / 1" / 31.68  
 PLOT DATE = 02/26/2014

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**MSE UNFOLDED ELEVATION - NORTH WALL  
 CARPENTER STREET RETAINING WALLS**

SHEET NO. 18 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 158
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				



**SOUTH WALL UNFOLDED ELEVATION**

Note:  
 Light Pole Foundations [PF]  
 and Storm Sewer Inlets [SS]  
 are Located Immediately Behind  
 Reinforced Soil Mass at the  
 Locations Indicated. Coordinate  
 Design & Construction of MSE  
 Wall with these Features.

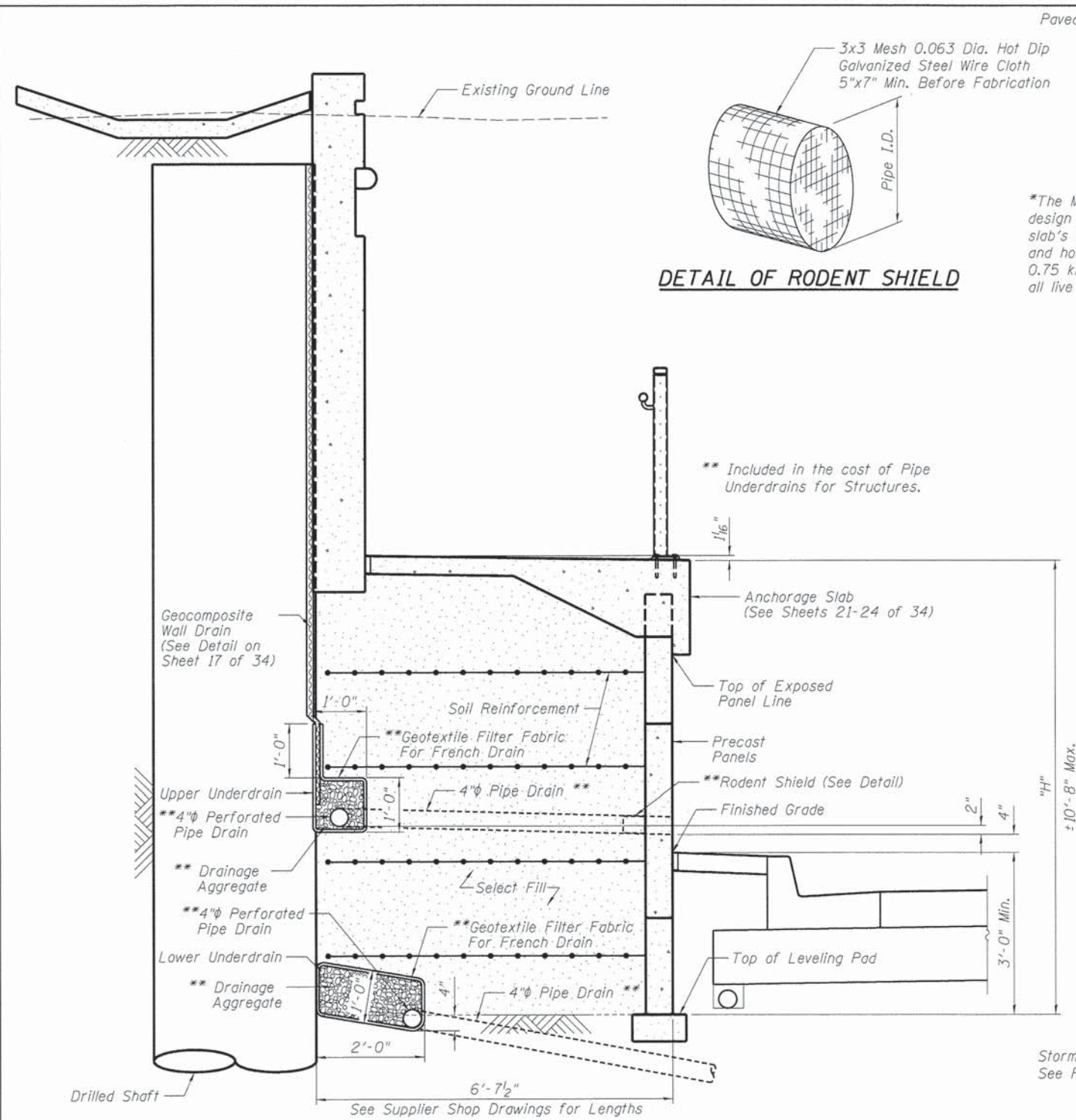
FINAL  
 DESIGNED 11/15/13  
 DRAWN 11/15/13  
 REVIEWED 2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
		CHECKED - RGC	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**MSE UNFOLDED ELEVATION - SOUTH WALL**  
**CARPENTER STREET RETAINING WALLS**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	159
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



**DETAIL OF RODENT SHIELD**

\*The M.S.E. wall supplier's internal stability design shall account for the L-Wall anchorage slab's factored bearing pressure of 0.40 ksf and horizontal factored sliding force of 0.75 kips/ft. of wall. This loading includes all live loads.

\*\* Included in the cost of Pipe Underdrains for Structures.

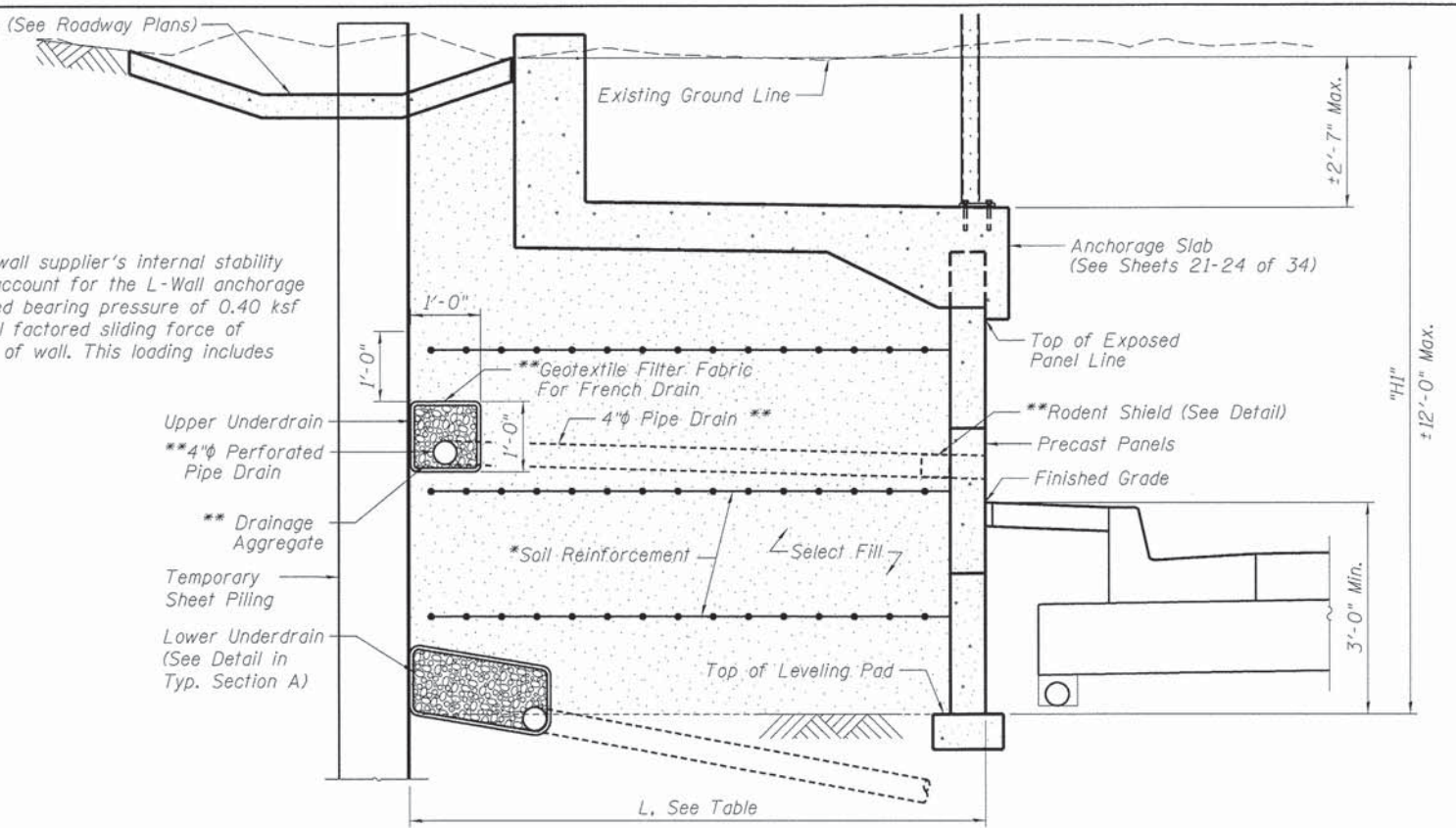
**TYPICAL MSE WALL SECTION A**

**MSE Wall Design Loads**

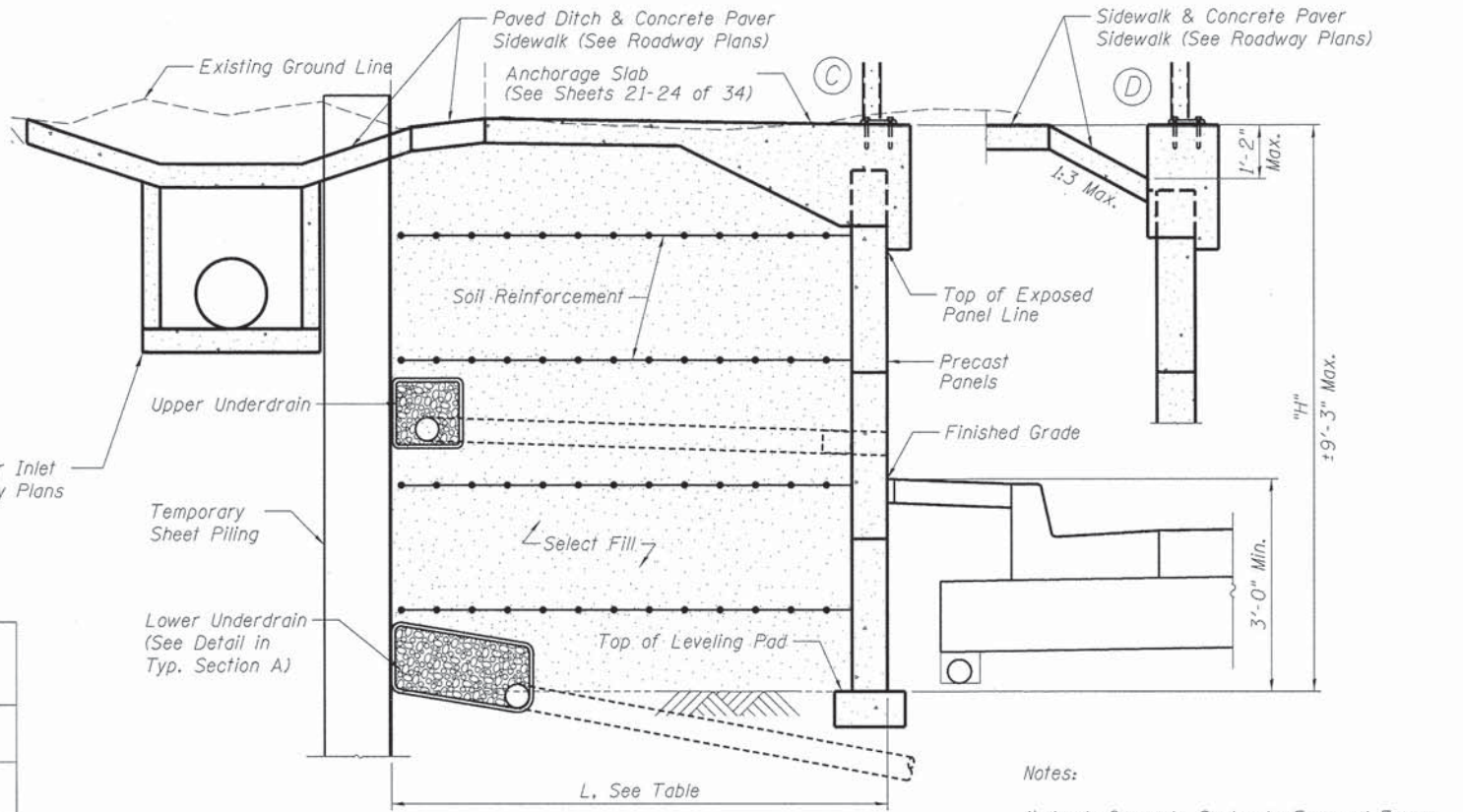
1. Native soil behind select fill  
Unit Weight = 125 pcf,  $\phi = 30^\circ$
2. Vertical live load on sidewalk = 75 psf
3. Vertical live load behind upper wall  
Cooper E-80 at railroad tracks  
240 psf traffic surcharge elsewhere

External stability of the MSE wall in front of the permanent tangent pile retaining wall has been evaluated for the greater of the active pressure including surcharge behind the tangent pile wall applied only through the gaps between the drilled shafts or 35 psf/ft applied to the entire reinforced soil mass.

L, Min. (See Supplier Shop Drawings for Lengths)	LOCATION
$0.70 \times "H" \geq 7'-0"$	North Wall 997+55 to 997+95 South Wall 997+80 to 997+35
$0.80 \times "H" \geq 7'-0"$	North Wall 1001+65 to 1002+10 South Wall 1002+12 to 1001+65
$0.70 \times "H" \geq 7'-0"$	North Wall 997+45 to 997+55 South Wall 997+35 to 997+25
$0.80 \times "H" \geq 7'-0"$	North Wall 1002+10 to 1002+70 South Wall 1002+70 to 1002+12



**TYPICAL MSE WALL SECTION B**



**TYPICAL MSE WALL SECTIONS C & D**

- Notes:
- 1) Apply Concrete Sealer to Exposed Faces of Precast Panels and Anchorage Slab.
  - 2) Apply Anti-Graffiti Protection System to Exposed Faces of L-Wall Above Sidewalk.

FINAL  
DESIGNED 11/15/13  
DRAWN 11/15/13  
REVIEWED 2/25/14

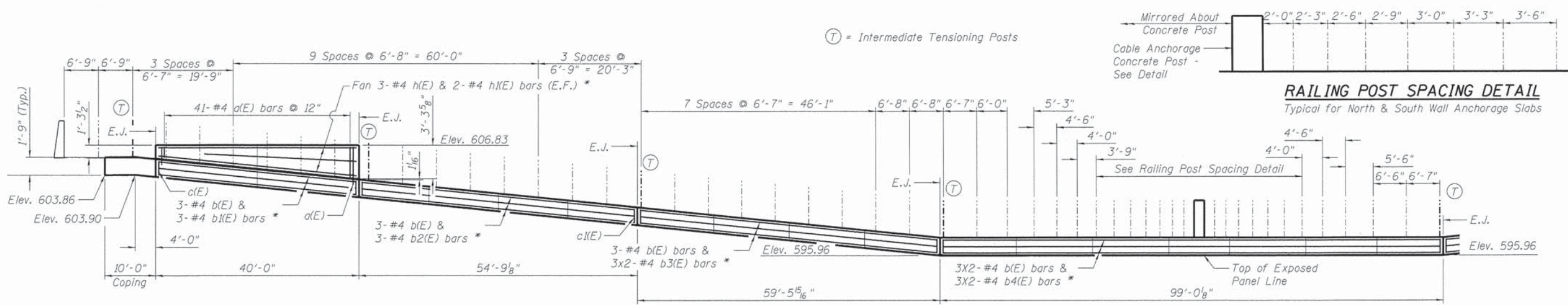
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		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
		CHECKED - RGC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

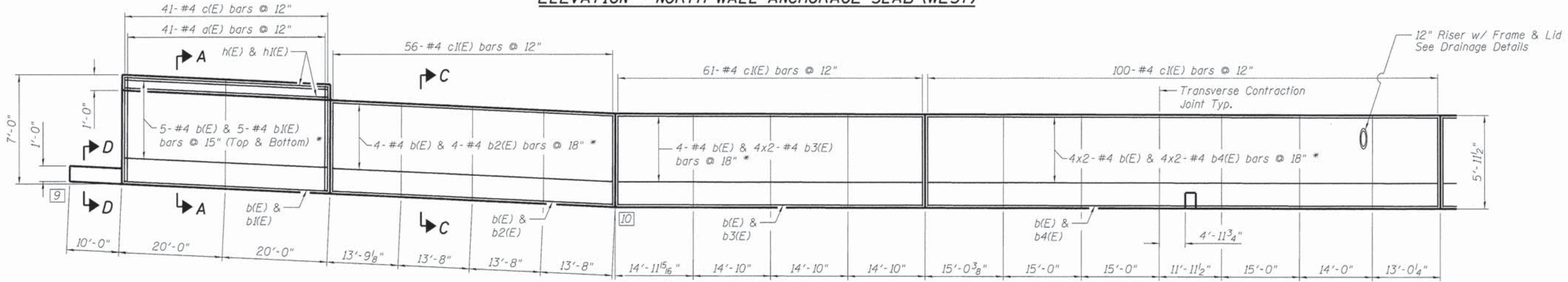
**MSE DETAILS  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 20 OF 34 SHEETS

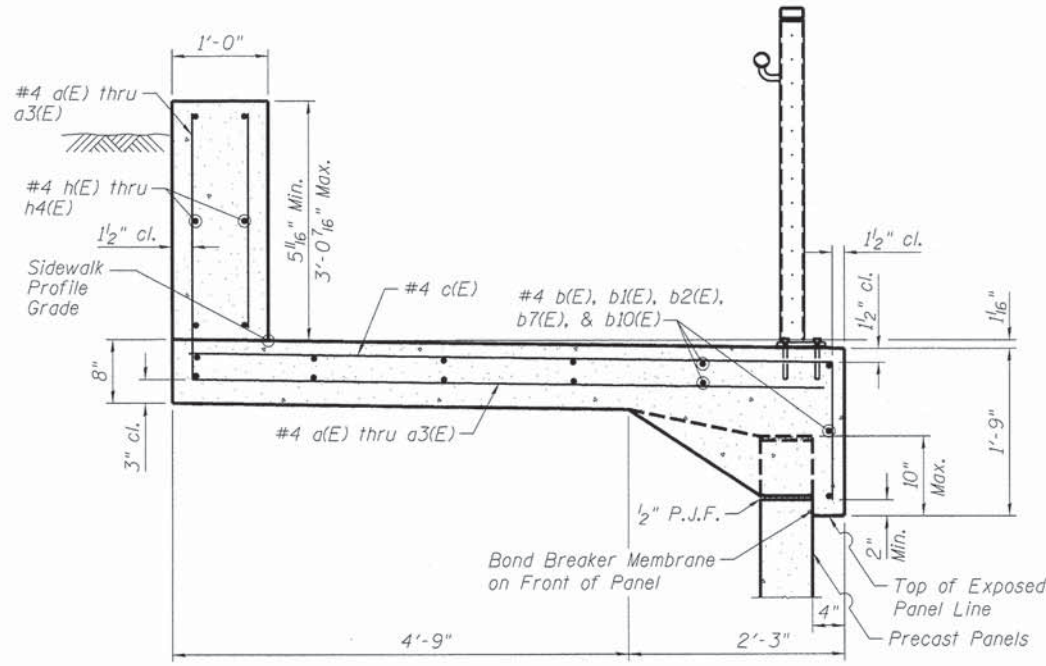
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	160
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				



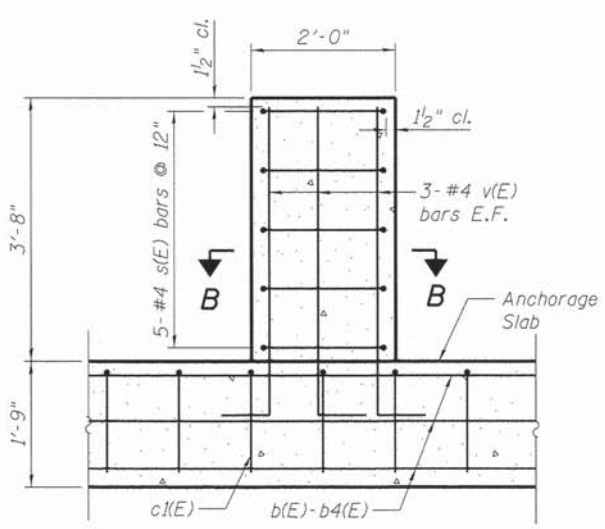
**ELEVATION - NORTH WALL ANCHORAGE SLAB (WEST)**



**PLAN - NORTH WALL ANCHORAGE SLAB (WEST)**

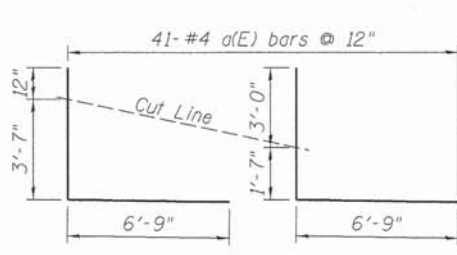


**SECTION A-A**



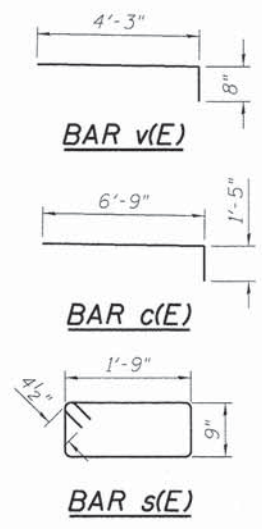
**CABLE ANCHORAGE CONCRETE POST DETAIL**

Typical for North and South Walls  
See Sheet 26 of 34 for Railing Connection Details



**SECTION B-B**

Bars Above Cut Line To Be Used at Front Face of L-Wall



**MIN. BAR LAPS**

#4 Bars = 1'-10"

Note: E.J. = Expansion Joint  
E.F. = Each Face  
\* = Stagger Laps

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a(E)	41	#4	11'-4"	L	
b(E)	41	#4	30'-0"	—	
b1(E)	13	#4	11'-6"	—	
b2(E)	7	#4	26'-4"	—	
b3(E)	14	#4	16'-5"	—	
b4(E)	14	#4	22'-2"	—	
c(E)	41	#4	8'-2"	L	
c1(E)	217	#4	7'-1"	L	
h(E)	6	#4	30'-0"	—	
h1(E)	4	#4	11'-6"	—	
s(E)	5	#4	5'-9"	S	
v(E)	6	#4	4'-11"	L	
Reinforcement Bars Epoxy Coated				Pound	3160
Concrete Structures				Cu. Yd.	51.3

FINAL  
DESIGNED - RGC 11/15/13  
DRAWN - EJM 11/15/13  
REVIEWED - RCC 2/25/14

FILE NAME: p:\1\svr386.hanson.dom\hanson\_projects\documents\09\Jobs\09\1798\CAD\Struct\Carpenter\Sheet\8849952953-09\1798-RetainingWallPlans

**HANSON**  
DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
REVIEWED - RCC

USER NAME = pop0275  
PLOT SCALE = 0.0833' / 1"  
PLOT DATE = 02/26/2014

DESIGNED - RGC  
CHECKED - KMS  
DRAWN - EJM  
REVIEWED - RCC

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

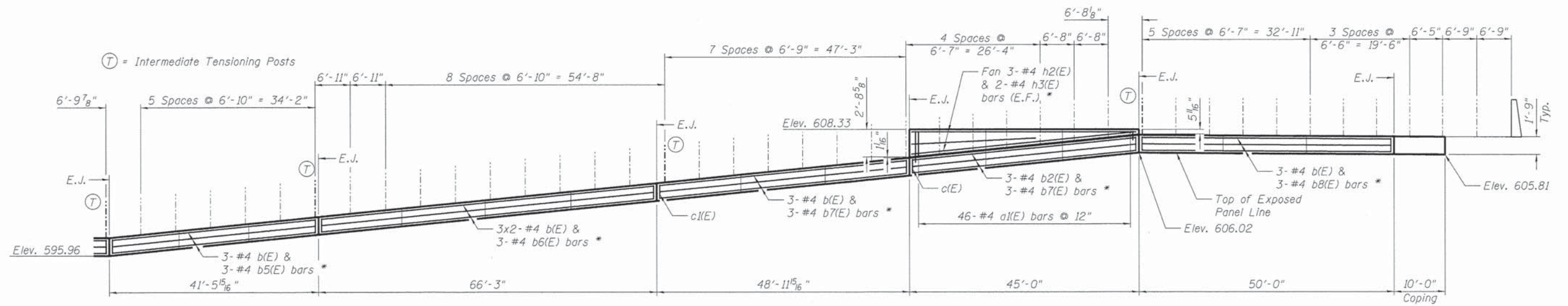
**ANCHORAGE SLAB - NORTH WALL  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 21 OF 34 SHEETS

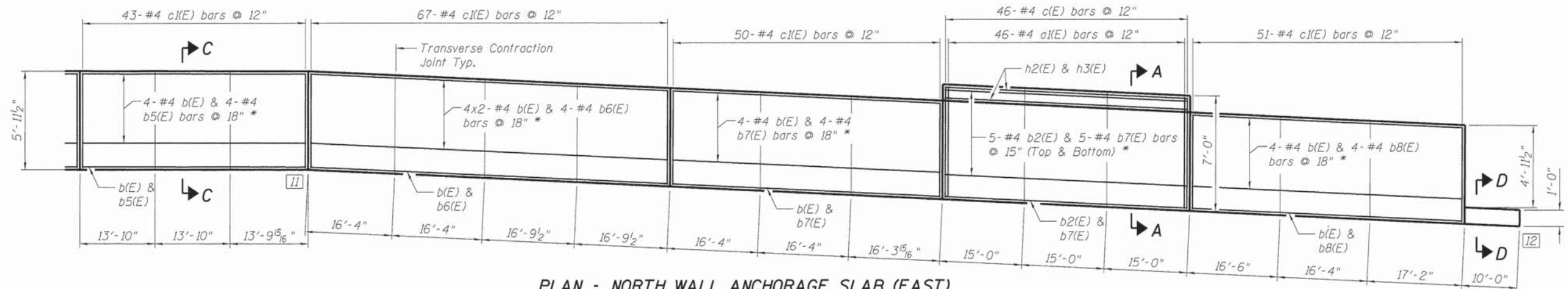
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	161

CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT



**ELEVATION - NORTH WALL ANCHORAGE SLAB (EAST)**



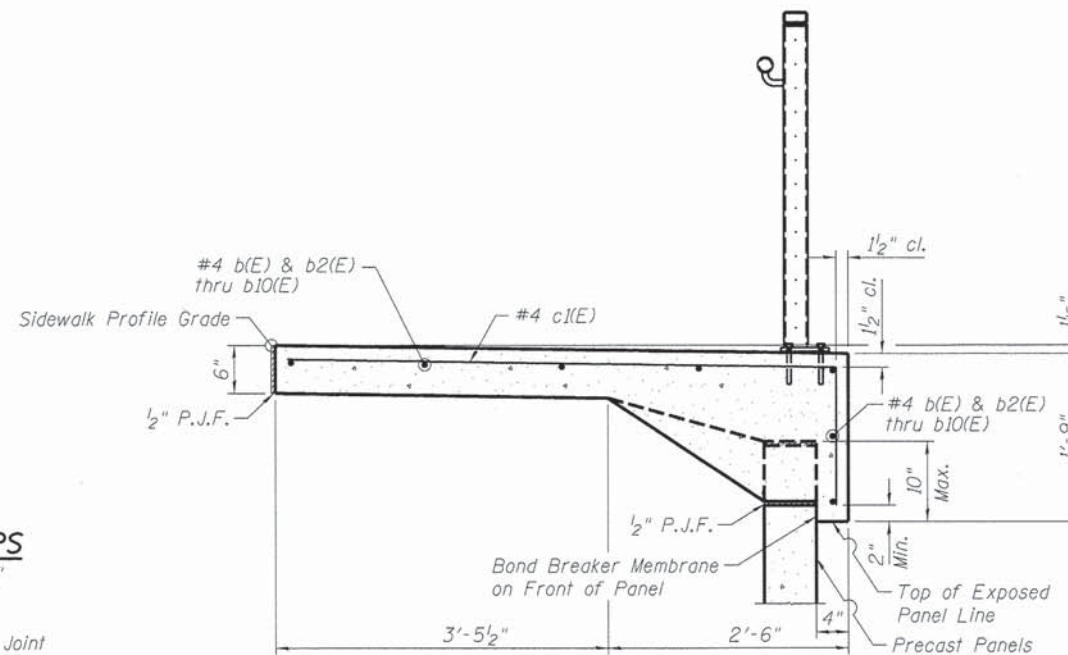
**PLAN - NORTH WALL ANCHORAGE SLAB (EAST)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a(E)	46	#4	9'-11"	L	
b(E)	35	#4	30'-0"	—	
b2(E)	13	#4	26'-4"	—	
b5(E)	7	#4	13'-0"	—	
b6(E)	7	#4	9'-7"	—	
b7(E)	20	#4	20'-9"	—	
b8(E)	7	#4	21'-6"	—	
c(E)	46	#4	8'-2"	L	
c(E)	211	#4	7'-1"	L	
h2(E)	6	#4	24'-5"	—	
h3(E)	4	#4	22'-1"	—	
Reinforcement Bars Epoxy Coated				Pound	3120
Concrete Structures				Cu. Yd.	59.3

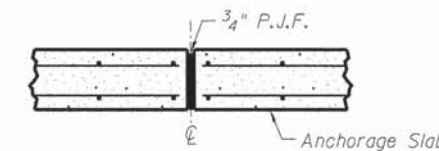
**MIN. BAR LAPS**  
#4 Bars = 1'-10"

Note: E.J. = Expansion Joint  
E.F. = Each Face  
\* = Stagger Laps

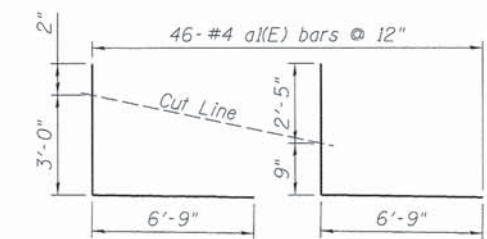


**SECTION C-C**

**BAR c(E)**



**EXPANSION JOINT**



**BARS a(E)**

Bars Above Cut Line To Be Used at Front Face of L-Wall

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 12/25/14

p:\v\p\svr\386\hanson\dom\hanson\_projects\documents\09\jobs\09\01798\CAD\Struct\Carpenter\Sheet\0849929953-09\01798-RetainingWallPlans

FILE NAME =	USER NAME = pop0275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
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PLOT SCALE = 0.0833	PLOT DATE = 02/26/2014		

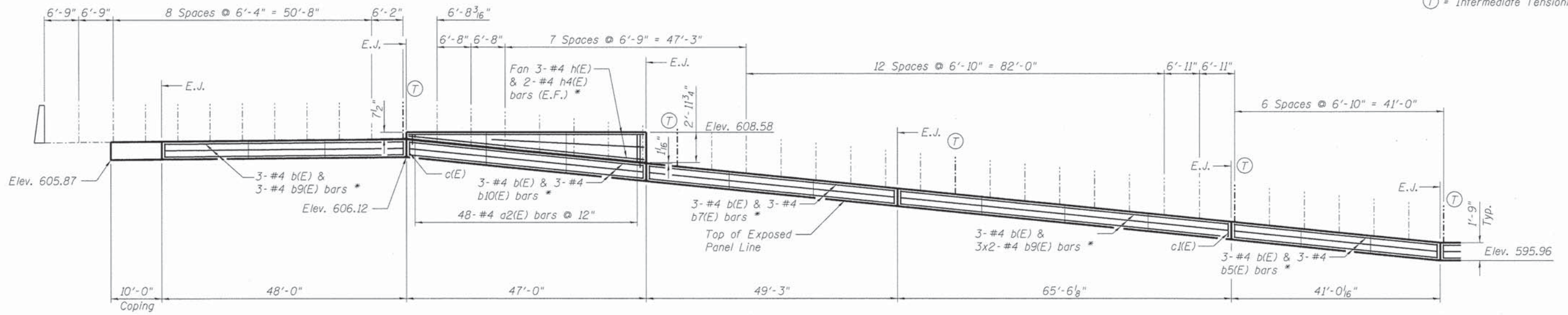
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB - NORTH WALL  
CARPENTER STREET RETAINING WALLS

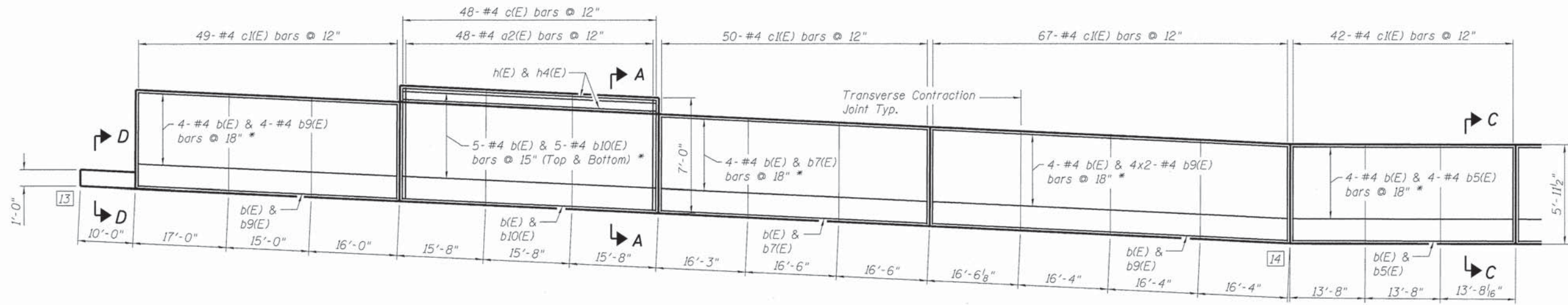
SHEET NO. 22 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 162
CONTRACT NO. 93617				
ILLINOIS FED. AID PROJECT				

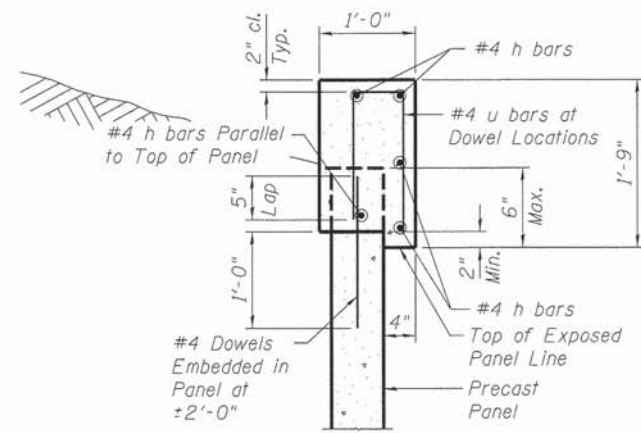
(T) = Intermediate Tensioning Posts



ELEVATION - SOUTH WALL ANCHORAGE SLAB (EAST)

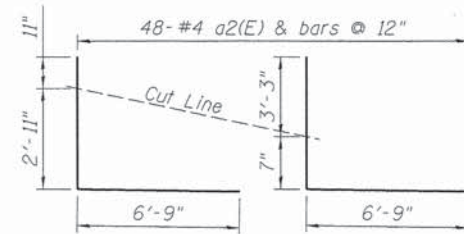


PLAN - SOUTH WALL ANCHORAGE SLAB (EAST)



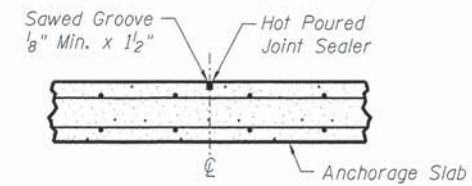
SECTION D-D

Concrete and Reinforcement in Coping is Included for Payment in the Item "Mechanically Stabilized Earth Retaining Wall".



BARS a2(E)

Bars Above Cut Line To Be Used at Front Face of L-Wall



TRANSVERSE CONTRACTION JOINT

See Article 420.05(c) of Standard Specifications.

MIN. BAR LAPS

#4 Bars = 1'-10"

Note: E.J. = Expansion Joint  
E.F. = Each Face  
\* = Stagger Laps

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	48	#4	10'-7"	L
b(E)	41	#4	30'-0"	—
b5(E)	7	#4	13'-0"	—
b7(E)	7	#4	20'-9"	—
b9(E)	21	#4	19'-6"	—
b10(E)	13	#4	18'-6"	—
c(E)	48	#4	8'-2"	L
c(E)	208	#4	7'-1"	L
h(E)	6	#4	30'-0"	—
h4(E)	4	#4	18'-6"	—
Reinforcement Bars Epoxy Coated		Pound		3170
Concrete Structures		Cu. Yd.		59.4

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

FILE NAME =	USER NAME = pop0275	DESIGNED - RGC	REVISIONS -
		CHECKED - KMS	REVISIONS -
		DRAWN - EJM	REVISIONS -
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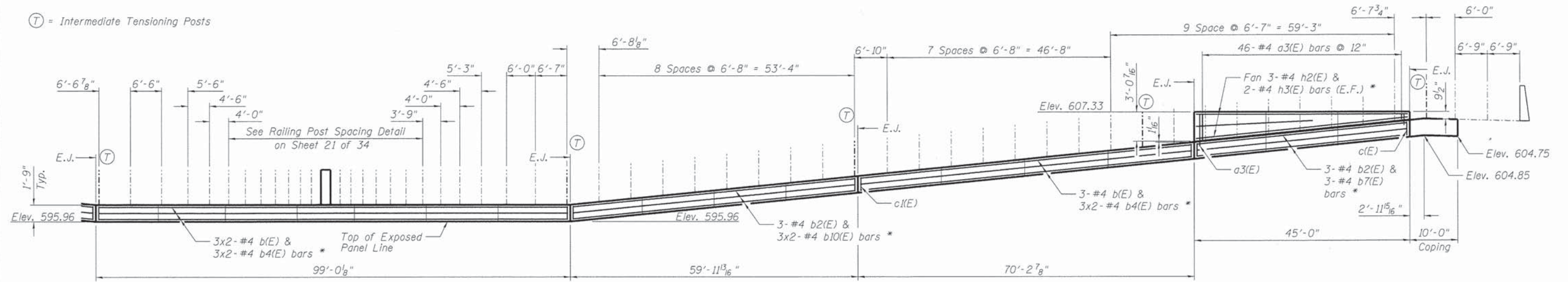
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB - SOUTH WALL  
CARPENTER STREET RETAINING WALLS

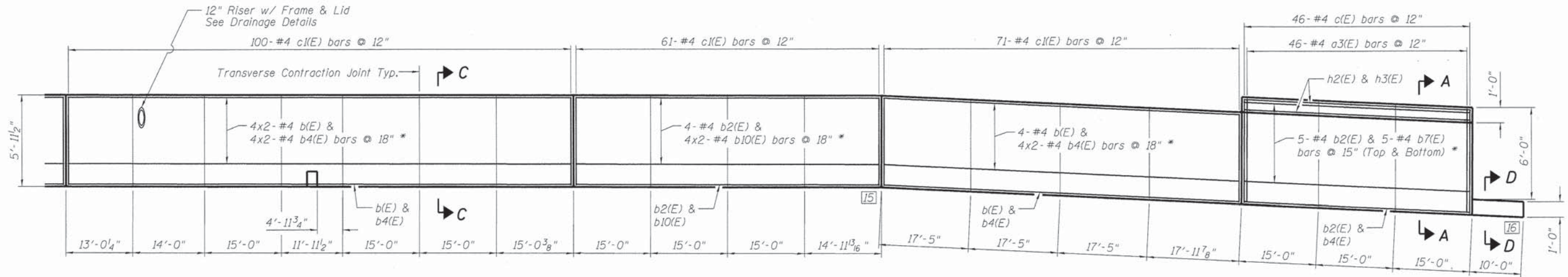
F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 163
				CONTRACT NO. 9 3 6 1 7
ILLINOIS FED. AID PROJECT				

SHEET NO. 23 OF 34 SHEETS

Ⓣ = Intermediate Tensioning Posts



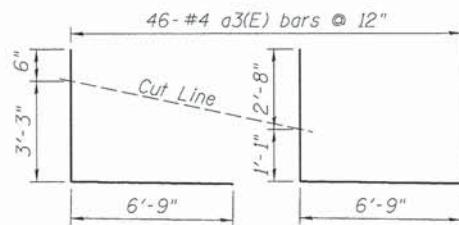
**ELEVATION - SOUTH WALL ANCHORAGE SLAB (WEST)**



**PLAN - SOUTH WALL ANCHORAGE SLAB (WEST)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a3(E)	46	#4	10'-6"	L
b(E)	21	#4	30'-0"	—
b2(E)	20	#4	26'-4"	—
b4(E)	28	#4	22'-2"	—
b7(E)	13	#4	20'-9"	—
b10(E)	14	#4	18'-6"	—
c(E)	46	#4	8'-2"	L
c1(E)	232	#4	7'-1"	L
h2(E)	6	#4	24'-5"	—
h3(E)	4	#4	22'-1"	—
s(E)	5	#4	5'-9"	□
v(E)	6	#4	4'-11"	L
Reinforcement Bars Epoxy Coated		Pound	3410	
Concrete Structures		Cu. Yd.	55.2	



**BARS a3(E)**

Bars Above Cut Line To Be Used at Front Face of L-Wall

**MIN. BAR LAPS**

#4 Bars = 1'-10"

Note: E.J. = Expansion Joint  
E.F. = Each Face  
\* = Stagger Laps

FINAL  
DESIGNED RGC 11/15/13  
DRAWN EJM 11/15/13  
REVIEWED RGC 2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - RGC	REVISED -
		CHECKED - KMS	REVISED -
		DRAWN - EJM	REVISED -
		CHECKED - RGC	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB - SOUTH WALL  
CARPENTER STREET RETAINING WALLS

SHEET NO. 24 OF 34 SHEETS

F.A.U. RTE. 7975	SECTION 13-00475-00-BR	COUNTY SANGAMON	TOTAL SHEETS 196	SHEET NO. 164
			CONTRACT NO. 9 3 6 1 7	
ILLINOIS FED. AID PROJECT				



Notes:

Railing posts shall be vertical.

Anchor rods shall be ASTM F568M galvanized steel all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified.

Tube segments shall have all corners ground to remove burrs or sharp projections.

All bolts, eyebolts, nuts and washers must satisfy the requirements of ASTM A307 Gr. A unless noted otherwise.

The anchor rods shall be installed according to Article 509.06 of the Standard Specifications. Embedment shall be 4" min. or according to the manufactures specifications whatever is greater.

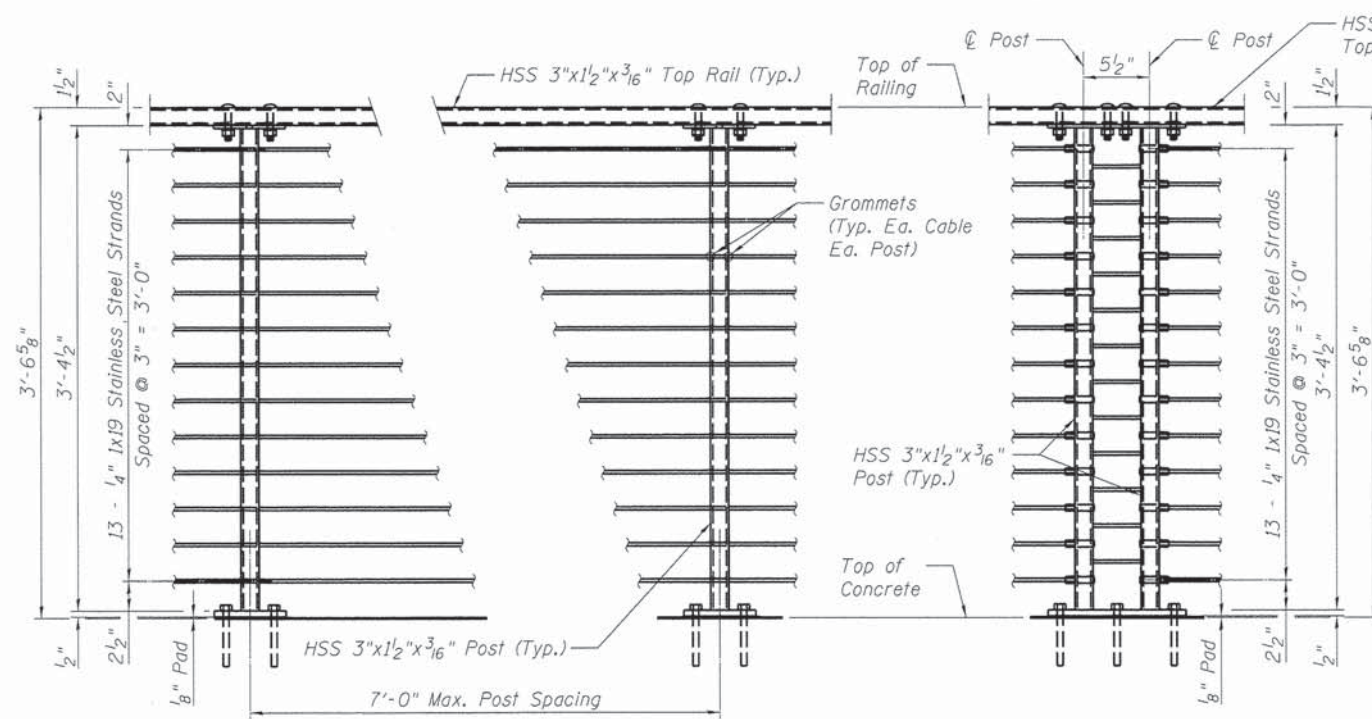
Structural steel plates and bars of the Steel Railing shall conform to the requirements of ASTM A36/36M.

Tubular steel posts shall be according to the requirements of ASTM A500, Grade B.

All steel rail members, with the exception of the stainless steel strand and fittings, shall be hot dipped galvanized according to 509.05 of the Standard Specifications.

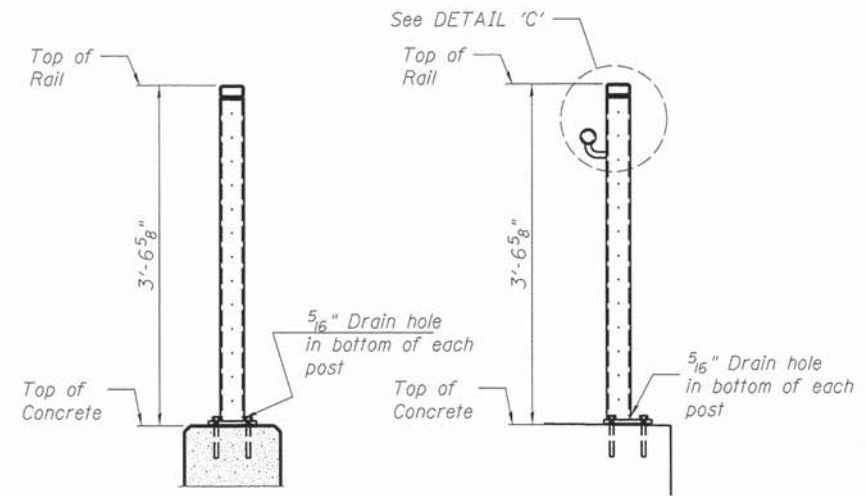
All studs shall be 1/2"x4" granular or solid flux filled headed studs automatically end welded to plates.

See Sheets 11 thru 16 of 34 and Sheets 21 thru 24 of 34 for rail post spacing.

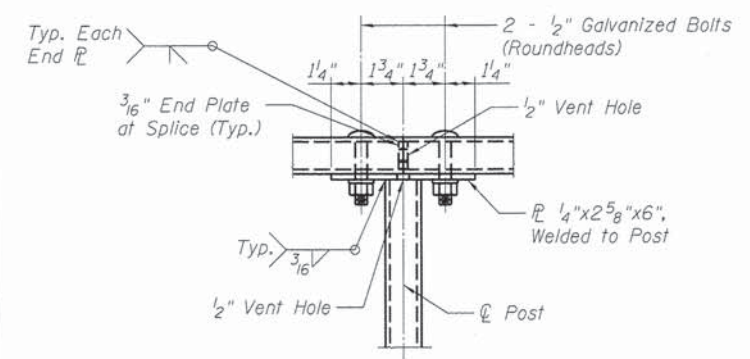


TYPICAL RAILING PANEL

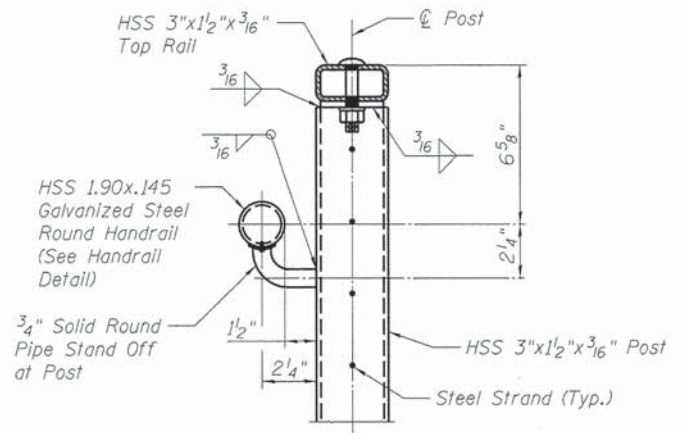
INTERMEDIATE TENSIONING POSTS



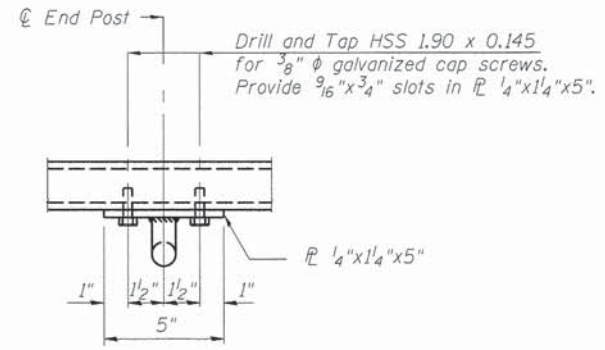
UPPER RETAINING WALL POST DETAILS  
LOWER RETAINING WALL POST DETAILS



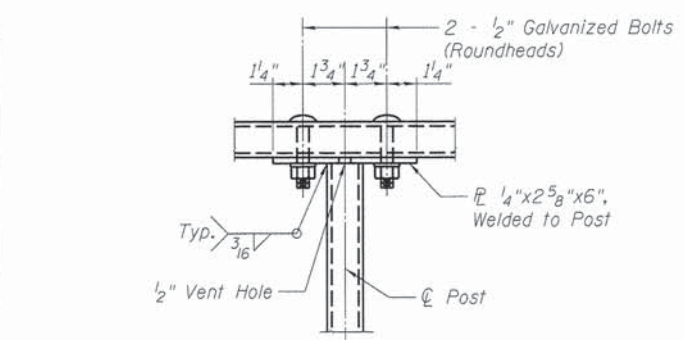
TOP RAIL - WITH SPLICE



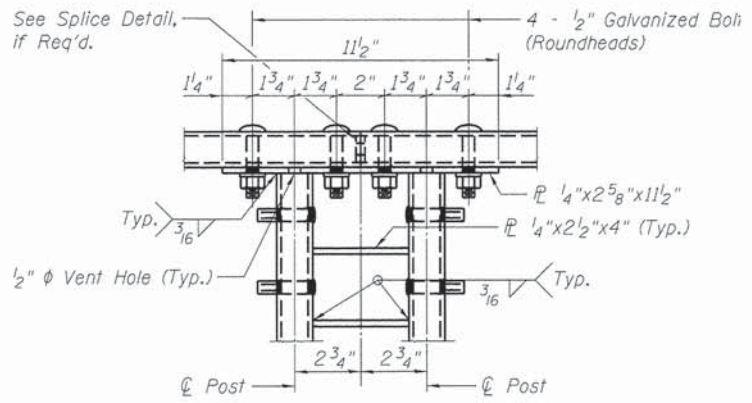
DETAIL 'C'



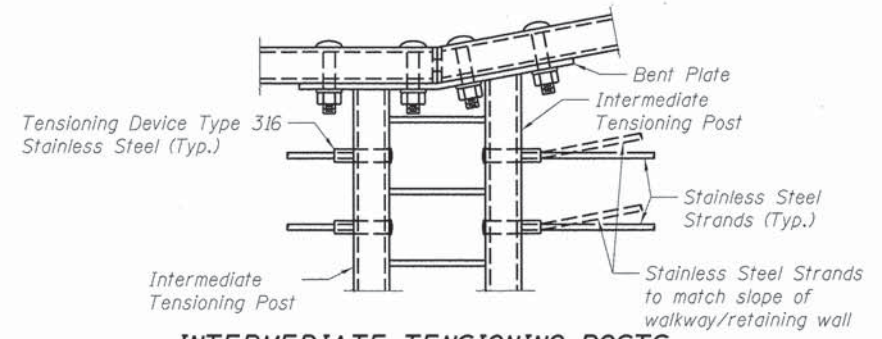
HANDRAIL DETAIL



TOP RAIL - NO SPLICE



TOP PLATE INTERMEDIATE TENSIONING POSTS



INTERMEDIATE TENSIONING POSTS (At Grade Change Only)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Steel Railing (Special)	Foot	1690

FINAL  
DESIGNED  
DRAWN  
REVIEWED

11/15/13  
11/15/13  
2/25/14

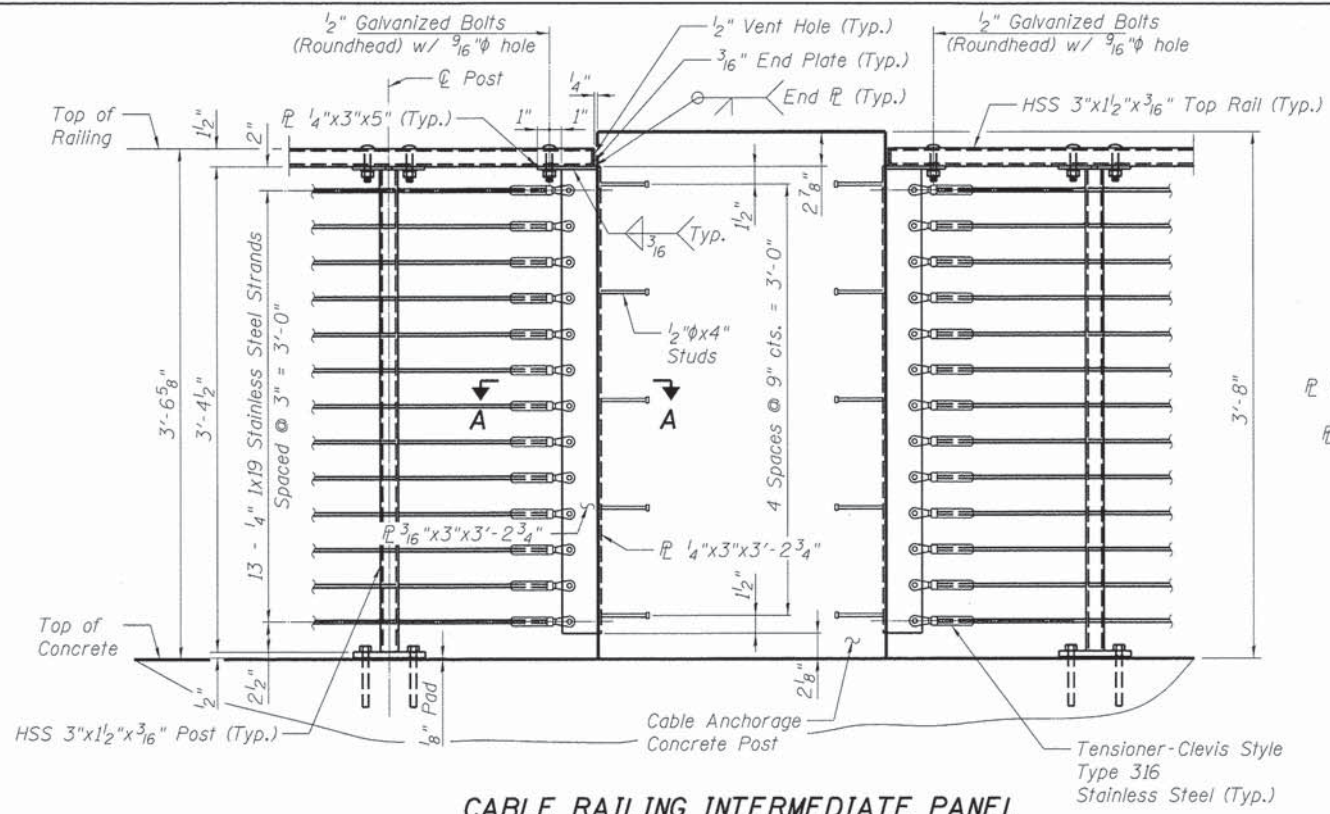
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DESIGNED - TEH  
CHECKED - JUT  
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REVIEWED - TEH  
PLOT SCALE: 0:1.0000 ' = 1\"/>

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

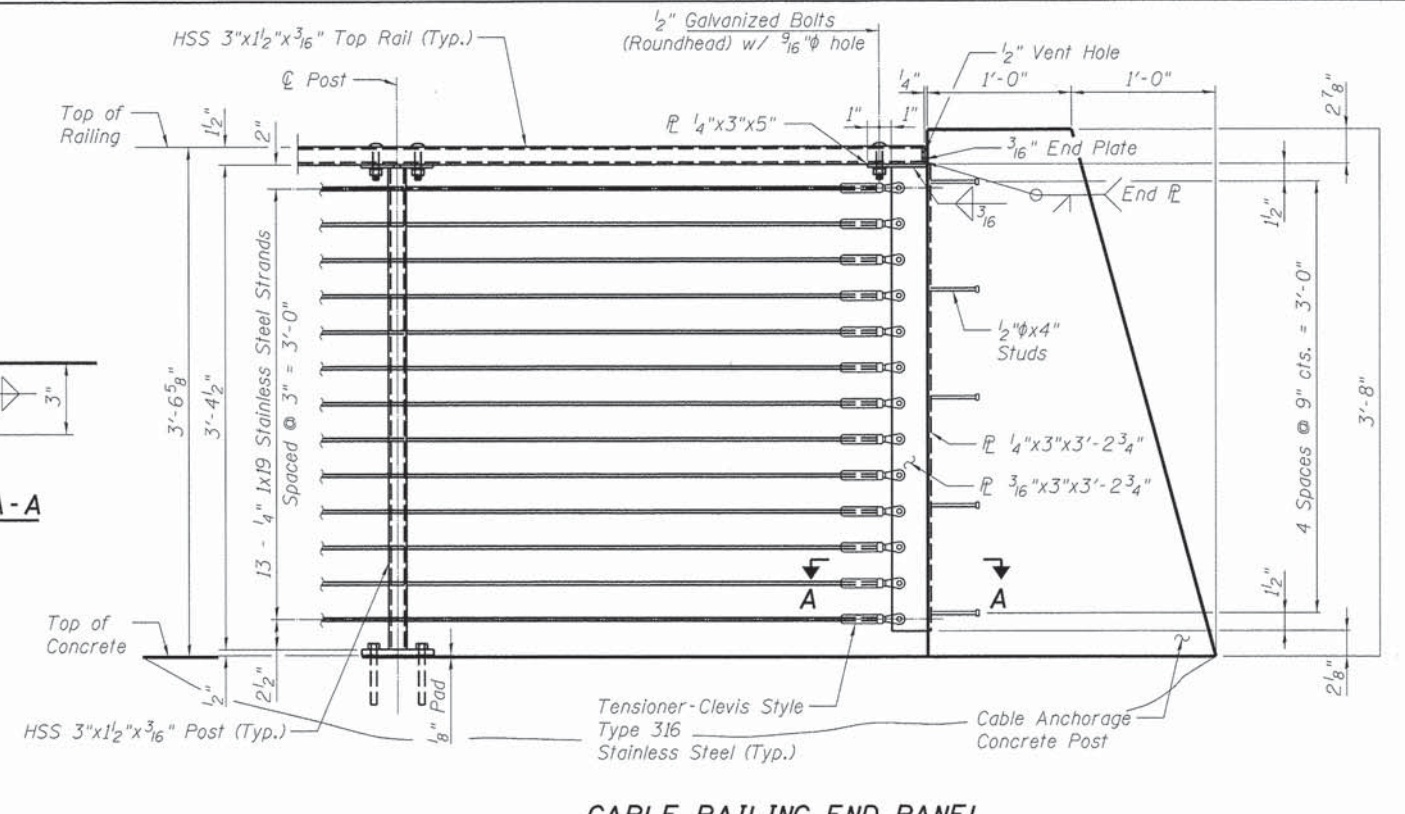
RAILING DETAILS  
CARPENTER STREET RETAINING WALLS

SHEET NO. 25 OF 34 SHEETS

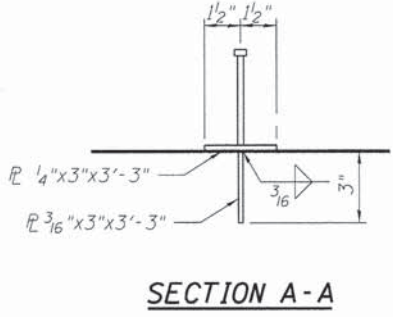
F.A.U. SECTION COUNTY TOTAL SHEETS SHEET NO.  
7975 13-00475-00-BR SANGAMON 196 165  
CONTRACT NO. 93617  
ILLINOIS FED. AID PROJECT



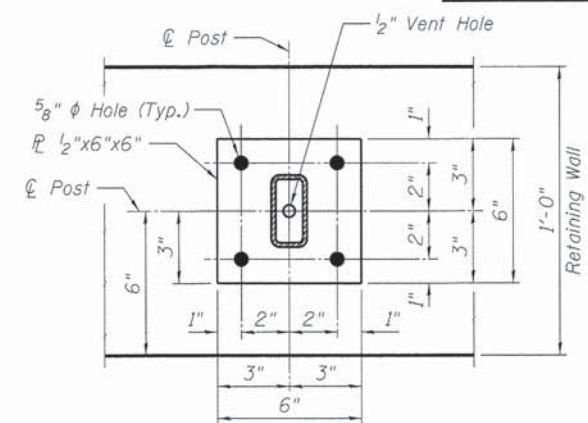
**CABLE RAILING INTERMEDIATE PANEL**



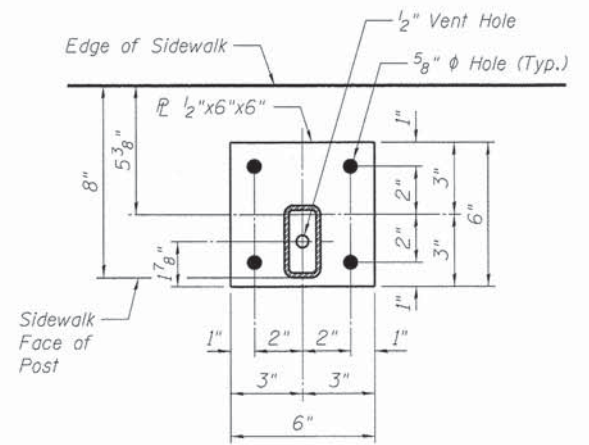
**CABLE RAILING END PANEL**



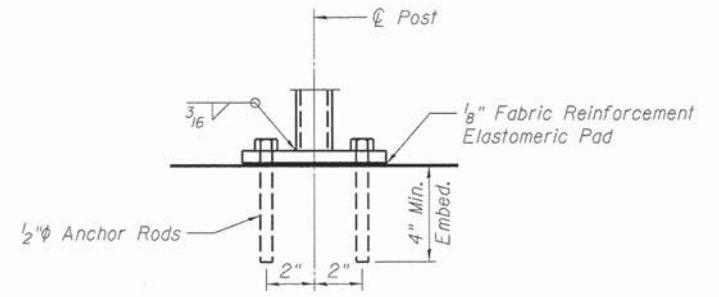
**SECTION A-A**



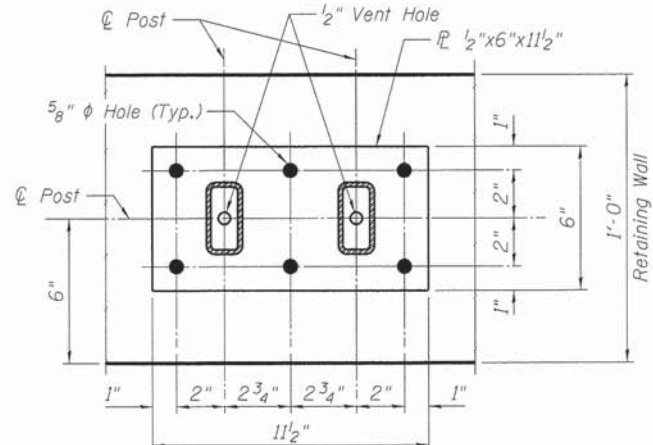
**STANDARD POST**



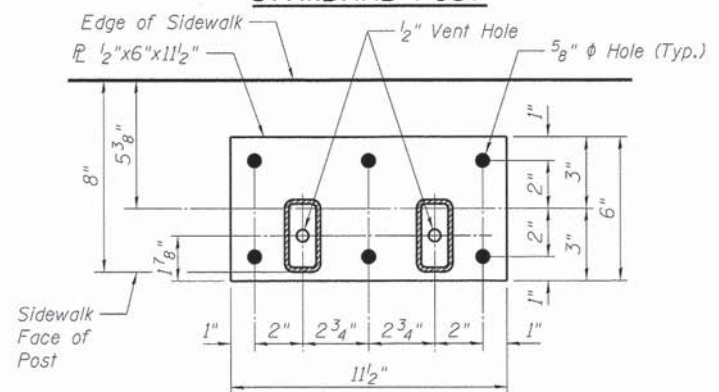
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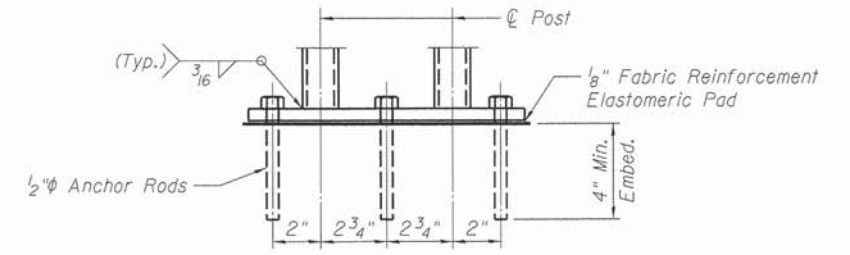
**STANDARD POST**



**INTERMEDIATE TENSIONING POSTS**



**INTERMEDIATE TENSIONING POSTS**



**INTERMEDIATE TENSIONING POSTS**

**TYPICAL ANCHOR ROD DETAILS**

**BASE PLATE DETAILS**

(Upper Retaining Walls)

**BASE PLATE DETAILS**

(Lower Retaining Walls)

FINAL  
DESIGNED: TEH 11/15/13  
DRAWN: DAP 11/15/13  
REVIEWED: TEH 2/25/14

\\sp1-svr306.hanson.dom\hanson\_projects\Documents\09Jobs\09L\01798\CAD\Struct\Carpenter\Sheet\08499529953-09L\01798-Retaining Wall Railing\_02.dgn  
FILE NAME = USER NAME = pop00275



DESIGNED - TEH  
CHECKED - JUT  
DRAWN - DAP  
CHECKED - TEH  
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PLOT DATE = 02/26/2014

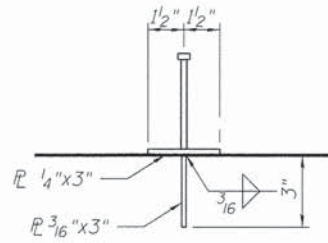
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CHECKED - JUT  
DRAWN - DAP  
CHECKED - TEH  
REVIS...  
REVIS...  
REVIS...  
REVIS...

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

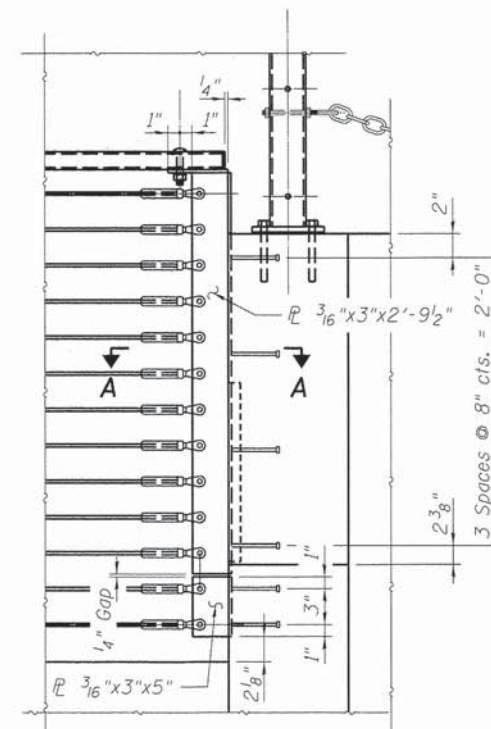
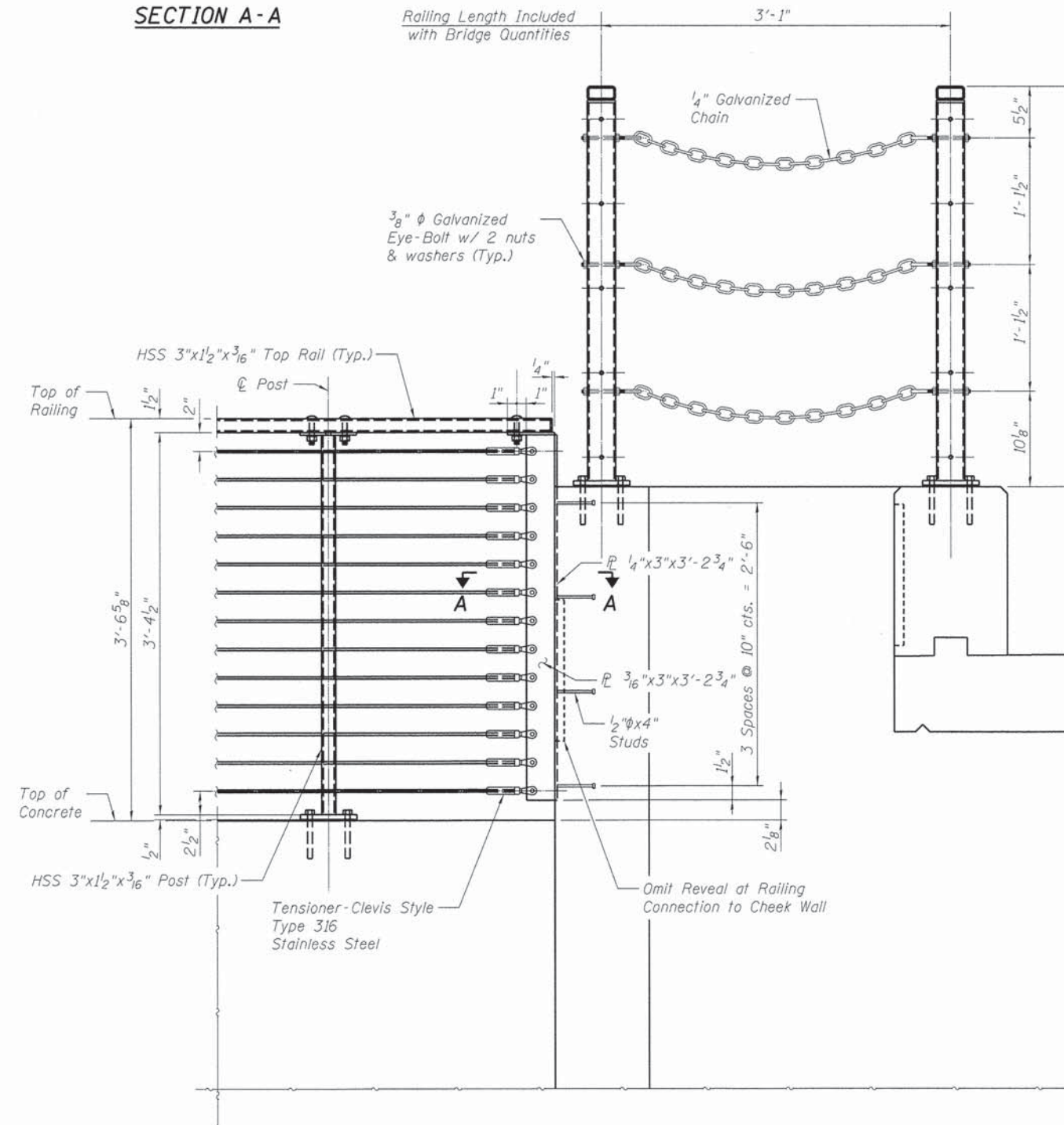
RAILING DETAILS  
CARPENTER STREET RETAINING WALLS

SHEET NO. 26 OF 34 SHEETS

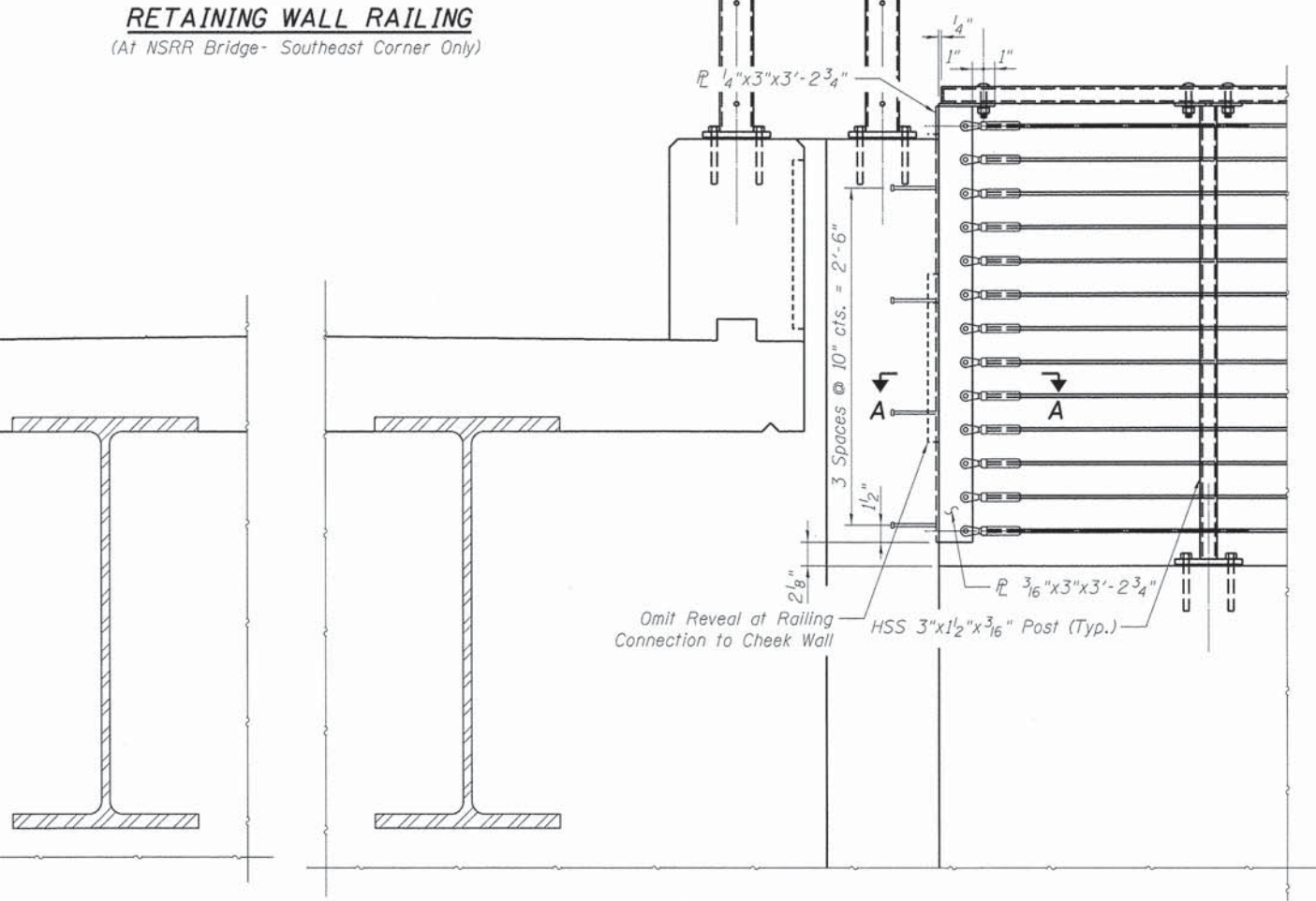
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	166
CONTRACT NO. 9 3 6 1 7				
ILLINOIS FED. AID PROJECT				



**SECTION A-A**



**RETAINING WALL RAILING**  
(At NSRR Bridge - Southeast Corner Only)



**RETAINING WALL RAILING**  
(At NSRR Bridge)

FINAL  
DESIGNED - TEH 11/15/13  
DRAWN - DAP 11/15/13  
REVIEWED - TEH 12/25/14

FILE NAME = p:\sp1-svr306.hanson.dom\hanson\_projects\documents\09jobs\09l\0179b\cad\struct\carpenter\sheet\08499529953-09l\0179b-retaining wall railing.03.dgn  
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DESIGNED - TEH	DESIGNED - TEH	REVISIONS
CHECKED - JJT	CHECKED - JJT	REVISIONS
DRAWN - DAP	DRAWN - DAP	REVISIONS
REVIEWED - TEH	CHECKED - TEH	REVISIONS

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

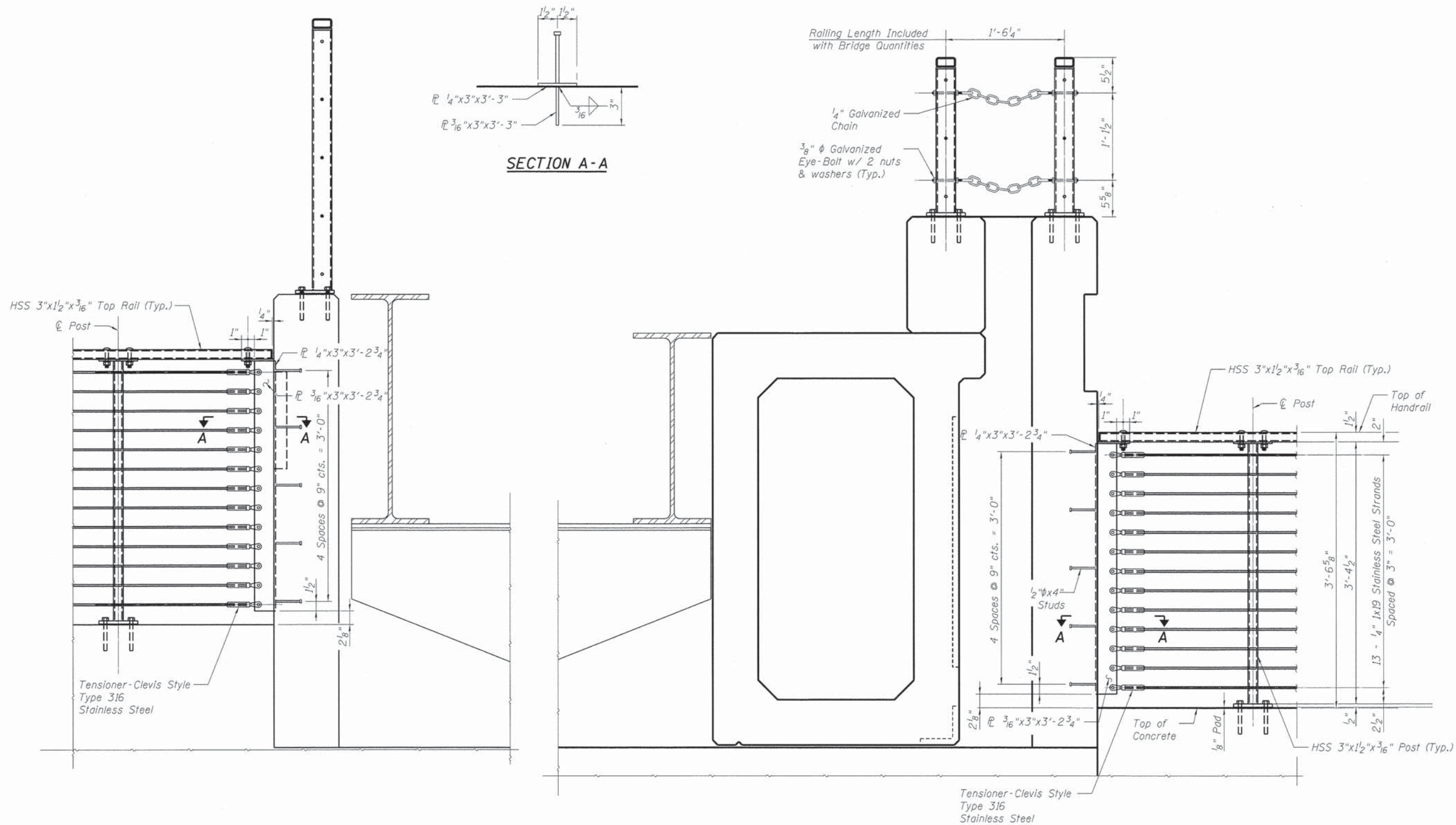
**RAILING DETAILS**  
**CARPENTER STREET RETAINING WALLS**

SHEET NO. 27 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	167
CONTRACT NO. 3617				

ILLINOIS FED. AID PROJECT

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**RETAINING WALL RAILING**  
(At UPRR Bridge)

DESIGNED - TEH 11/15/13  
DRAWN - DAP 11/15/13  
REVIEWED - TEH 2/25/14

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PLOT DATE = 02/26/2014			

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**RAILING DETAILS**  
**CARPENTER STREET RETAINING WALLS**  
SHEET NO. 28 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	168
CONTRACT NO. 3617				
ILLINOIS FED. AID PROJECT				

B-011  
Sta. 996+87, 18' LT

Depth	N	Qu	w%	Description
605.6				ASPHALT.
605.1				CONCRETE.
604.6	8	1.50P	27	Black very fine sandy silty CLAY.
602.1	8	1.51S	24	Olive and gray very fine sandy SILT.
598.1	6	1.53S	25	

Bottom of Hole = 7.5 feet

B-012  
Sta. 997+47, 17' LT

Depth	N	Qu	w%	Description
606.2				ASPHALT.
605.8				CONCRETE.
605.0	6	1.50P	31	Dark gray very fine sandy silty CLAY.
602.7	6	1.51B	25	Yellow, olive and gray very fine sandy SILT, trace to some clay.
	7	1.94S	28	
596.2	5	1.82S	26	

Bottom of Hole = 10.0 feet

B-013  
Sta. 998+45, 16' LT

Depth	N	Qu	w%	Description	
606.9				ASPHALT.	
606.5				CONCRETE and BRICK.	
605.4	5	1.78S	27	Dark gray very fine sandy silty CLAY, trace organics.	
604.4	4	1.24B	26	Gray very fine sandy clayey SILT.	
601.9	4	1.36B	26	Reddish-brown and gray very fine sandy clayey SILT, trace oxidized spots.	
	4	1.36S	20		
	4	0.97B	22		
593.4					
591.9	Oh	4	1.16S	23	Black brown and gray fine sandy silty CLAY, trace coarse sand and small gravel.
590.9	DD	4	1.55S	23	
588.4		20	2.70P	13	Yellow-brown and gray very fine sandy SILT, trace clay and shale fragments. (HIGHLY WEATHERED SHALE)
585.9		50/5"		18	Dark gray and gray micaceous weathered fine sandy SHALE.
581.9					Bottom of Hole = 25.0 feet

B-014  
Sta. 998+82, 14' LT

Depth	N	Qu	w%	Description	
607.2				ASPHALT.	
606.9				CONCRETE and BRICK.	
606.0	3		29	Dark brown very fine sandy silty CLAY.	
603.7	4	1.50P	21	Dark brown and gray very fine sandy silty CLAY, trace small gravel.	
602.2	7	2.00P	26	Olive, brown and gray very fine sandy SILT	
598.2	3	0.78B	25	Trace organics.	
594.7	4	0.97B	23	Reddish-brown and gray very fine sandy SILT, some clay.	
593.2	Oh	4	0.97S	22	Brown and gray very fine to fine sandy silty CLAY, trace coarse sand.
	7	1.75S	24	Trace oxidized spots.	
588.7		18	2.80P	16	Brown and gray micaceous fine sandy SHALE. (HIGHLY WEATHERED SHALE)
586.2		50/5"		8	Gray micaceous weathered fine sandy SHALE.
582.2					Bottom of Hole = 25.0 feet

**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD  $\nabla$  Water Surface Elevation Encountered in Boring  
 558.10  $\nabla$  DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED RGC 11/15/13  
 DRAWN EJM 11/15/13  
 REVIEWED RGC 2/25/14

FILE NAME = \\sp1-svr306.hanson.dom\hanson\_projects\Documents\09Jobs\09L01798\CAD\Struct\Carpenter\Sheet\88499529953-09L01798-RetainingWallPlans

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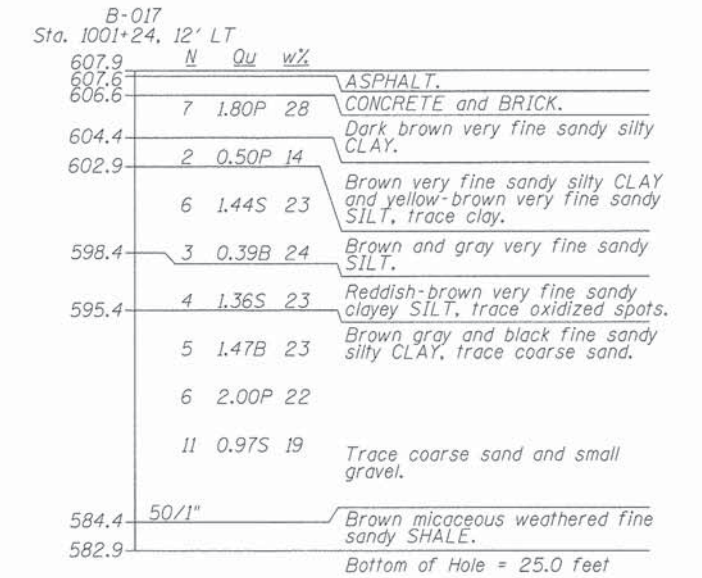
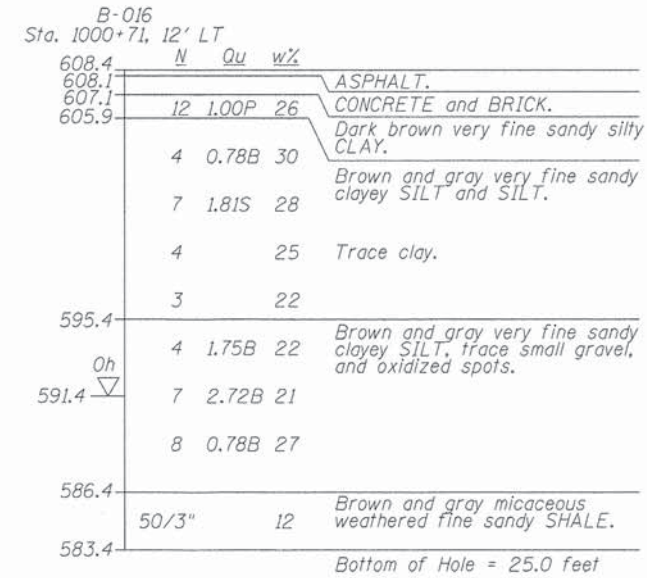
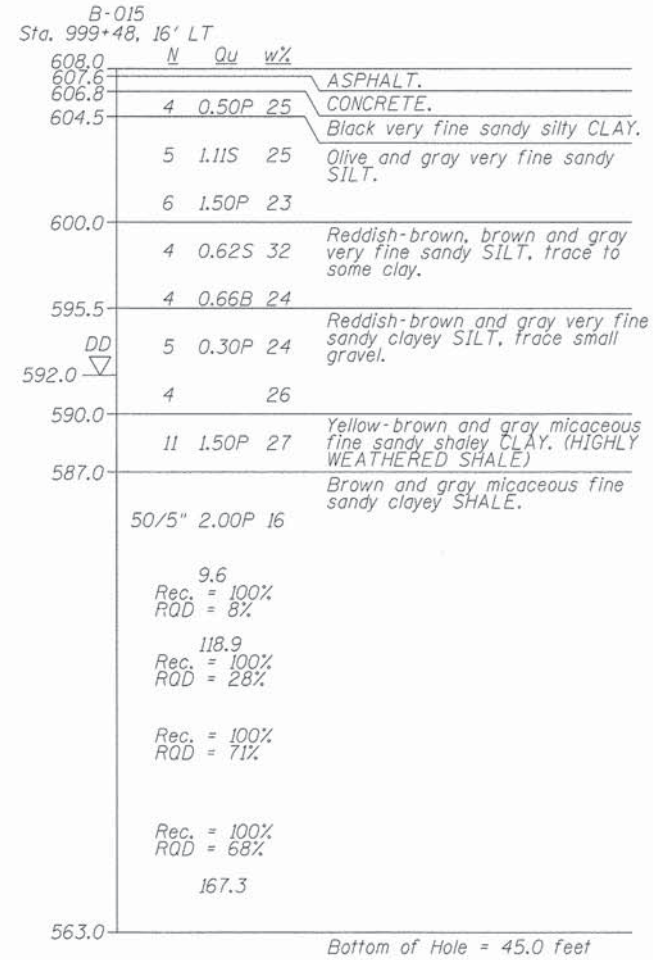
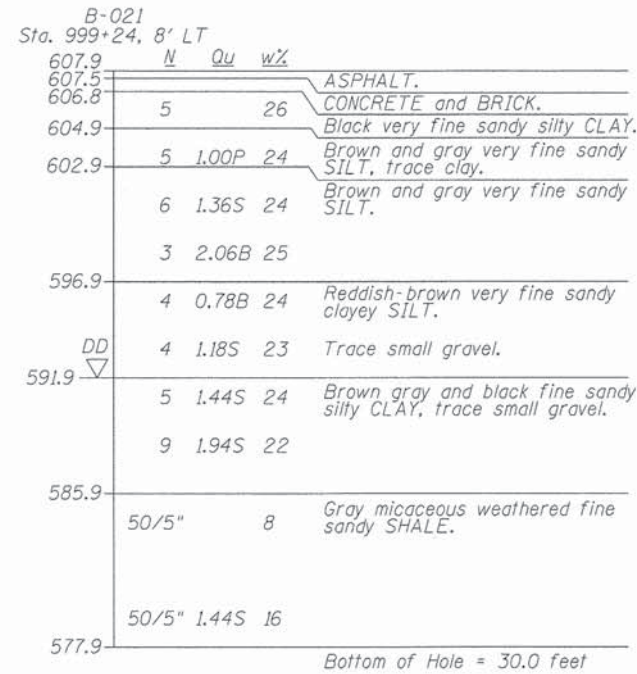
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUBSURFACE DATA PROFILE  
 CARPENTER STREET RETAINING WALLS**

SHEET NO. 29 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	169
				CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT



**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD Water Surface Elevation Encountered in Boring  
 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

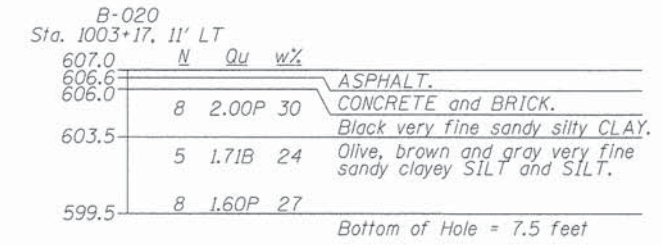
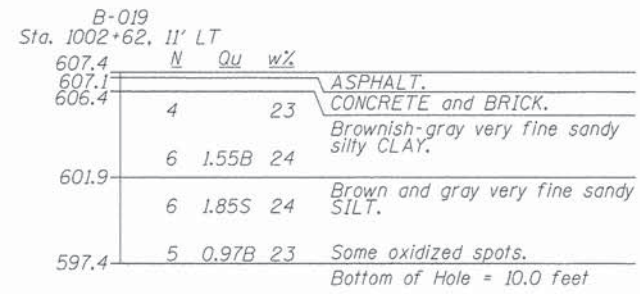
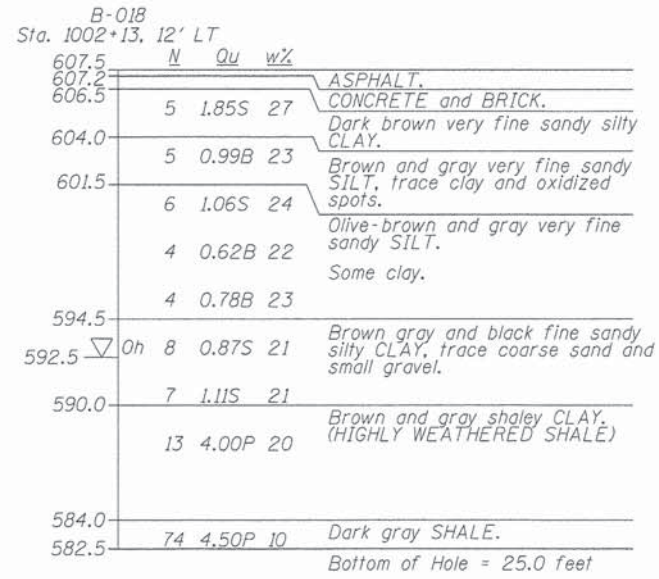
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 DRAWN EJM 11/15/13  
 REVIEWED RGC 12/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - RGC	REVISED -
		CHECKED - EJM	REVISED -
		DRAWN - RGC	REVISED -
		CHECKED - RGC	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBSURFACE DATA PROFILE  
 CARPENTER STREET RETAINING WALLS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	170
				CONTRACT NO. 93617
ILLINOIS FED. AID PROJECT				



**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD  $\nabla$  Water Surface Elevation Encountered in Boring  
 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED 11/15/13  
 DRAWN 11/15/13  
 REVIEWED 11/15/13  
 RGC 2/25/14

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FILE NAME =	USER NAME = pop0275	DESIGNED - RGC	REVISIED -
		CHECKED - EJM	REVISIED -
		DRAWN - RGC	REVISIED -
		CHECKED - RGC	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUBSURFACE DATA PROFILE  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 31 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	171
			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				

B-010  
Sta. 1003+22, 27' RT

Depth (ft)	N	Qu	w%	Description
607.3				Brown and black very fine sandy silty CLAY.
	5	2.06B	33	
603.8				Yellow-brown and gray very fine sandy SILT, trace clay and oxidized spots.
	5	1.09B	24	
601.8				Yellow-brown and gray very fine sandy SILT.
	7	1.24B	30	
599.8				Bottom of Hole = 7.5 feet

B-009  
Sta. 1002+58, 28' RT

Depth (ft)	N	Qu	w%	Description
607.6				Black silty CLAY, trace roots.
	6	2.00P	26	
605.1				Yellow-brown, brown and gray very fine sandy SILT, some clay.
	8	1.50P	26	
	6	1.44B	24	
597.6				Bottom of Hole = 10.0 feet

B-008  
Sta. 1002+10, 27' RT

Depth (ft)	N	Qu	w%	Description
607.8				Dark brown very fine sandy clayey SILT - organic.
	6	2.00P	26	
605.3				Dark brown, brown and gray very fine sandy SILT, some clay.
	6	1.00P	25	
603.8				Yellow, reddish-brown and gray very fine sandy SILT.
	7	1.65S	29	
	4	0.49B	27	
	5	1.78B	22	Some clay.
593.8				DD
	5	0.58B	27	
591.8				Black brown and gray fine sandy silty CLAY, trace coarse sand and small gravel.
	8	2.06S	19	
589.3				Yellow-brown and gray clayey SHALE. (HIGHLY WEATHERED SHALE)
	10	5.43S	18	
585.8				Brown and gray weathered SHALE.
	49	4.50P	16	
582.8				Bottom of Hole = 25.0 feet

B-007  
Sta. 1001+31, 25' RT

Depth (ft)	N	Qu	w%	Description
608.1				Dark brown very fine sandy clayey SILT - organic.
	10	2.50P	22	
604.6				Brown and gray very fine sandy clayey SILT.
	7	0.41B	29	
602.1				Yellow, reddish-brown, and gray very fine sandy SILT, some clay.
	7	1.98S	24	
	5	1.03B	22	
	4	0.78B	23	
595.1				Brown, gray and black fine sandy silty CLAY, trace small gravel.
	5	1.77B	20	
	8	1.75B	25	
590.1				DD
589.1				Oh
	12	4.46S	20	Brown and gray clayey SHALE. (HIGHLY WEATHERED SHALE)
585.1				Dark gray SHALE.
	54	4.50P	12	
583.1				Bottom of Hole = 25.0 feet

**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD  $\nabla$  Water Surface Elevation Encountered in Boring  
 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED RGC 11/15/13  
 DRAWN EJM 11/15/13  
 REVIEWED RGC 2/25/14

FILE NAME =	USER NAME = pop00275	DESIGNED - RGC	REVISED -
		CHECKED - EJM	REVISED -
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		CHECKED - RGC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

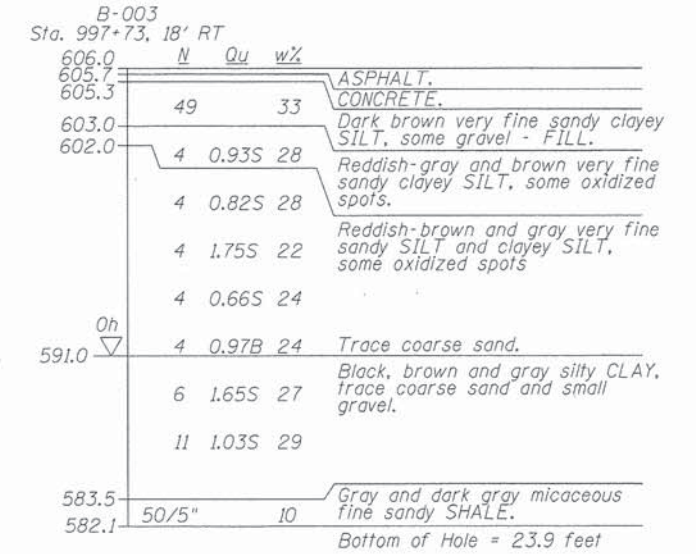
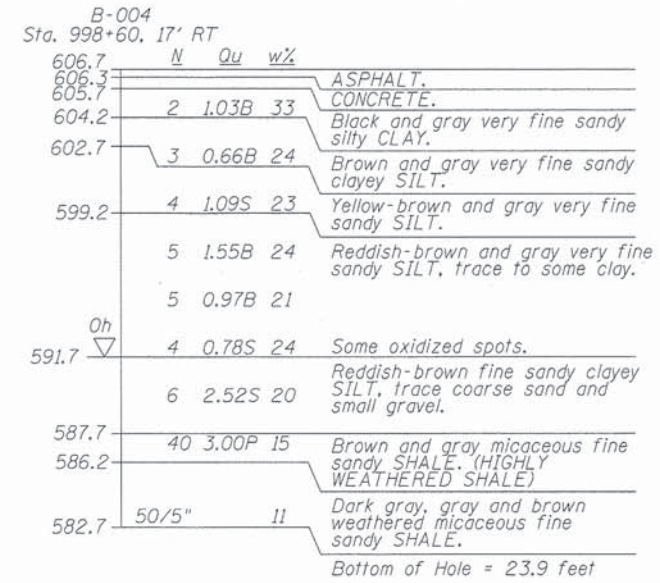
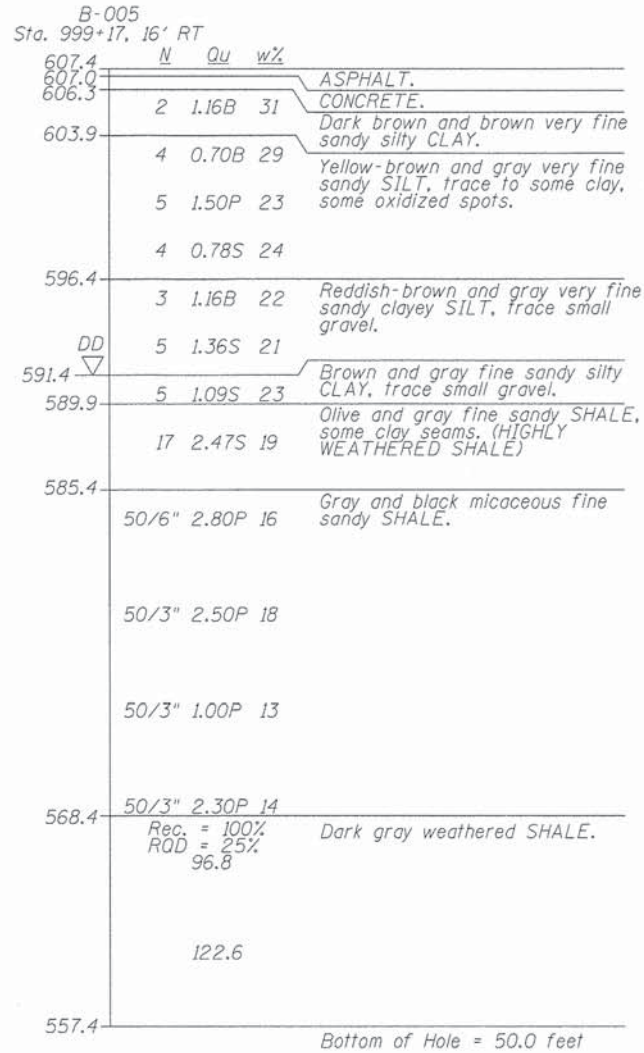
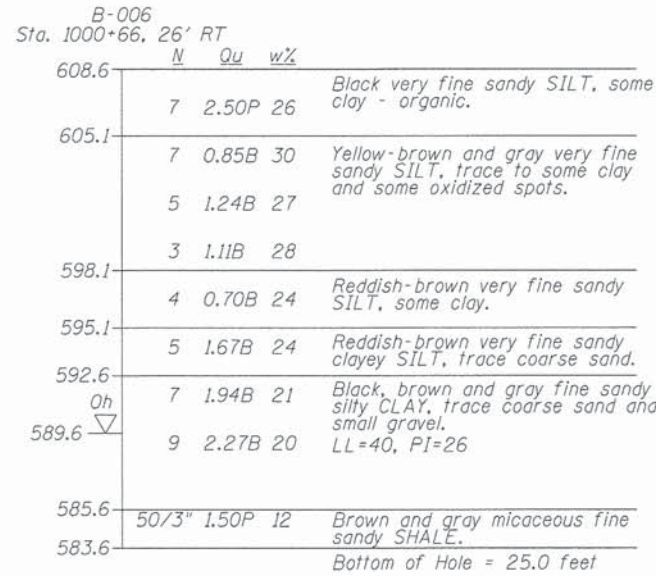
**SUBSURFACE DATA PROFILE  
CARPENTER STREET RETAINING WALLS**

SHEET NO. 32 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	172
CONTRACT NO. 93617				

ILLINOIS FED. AID PROJECT





LEGEND

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD  $\nabla$  Water Surface Elevation Encountered in Boring  
 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED RGC 11/15/13  
 DRAWN EJM 11/15/13  
 REVIEWED RGC 2/25/14

FILE NAME =	USER NAME = pop0275	DESIGNED - RGC	REVISED -
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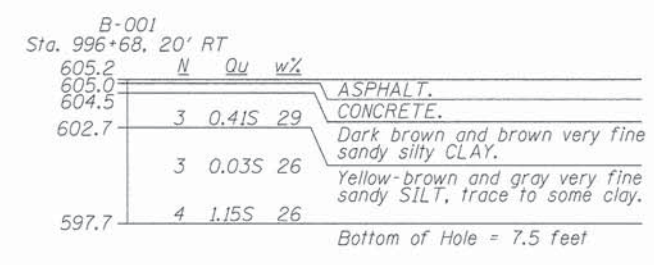
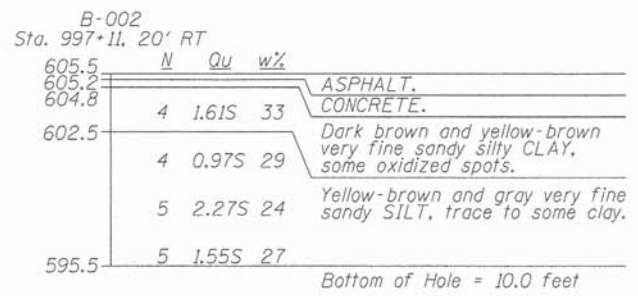
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBSURFACE DATA PROFILE  
 CARPENTER STREET RETAINING WALLS

SHEET NO. 33 OF 34 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	173
				CONTRACT NO. 93617

ILLINOIS FED. AID PROJECT



**LEGEND**

- N Standard Penetration Test N (blows/ft)
- Qu Unconfined Strength (tsf)
- w% Natural Moisture Content (%)

DD  $\nabla$  Water Surface Elevation Encountered in Boring  
 DD = during drilling  
 Oh = at completion  
 24h = 24 hours after completion

FINAL  
 DESIGNED RGC 11/15/13  
 DRAWN EJM 11/15/13  
 REVIEWED RGC 2/25/14

FILE NAME =	USER NAME = pap00275	DESIGNED - RGC	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUBSURFACE DATA PROFILE  
CARPENTER STREET RETAINING WALLS**

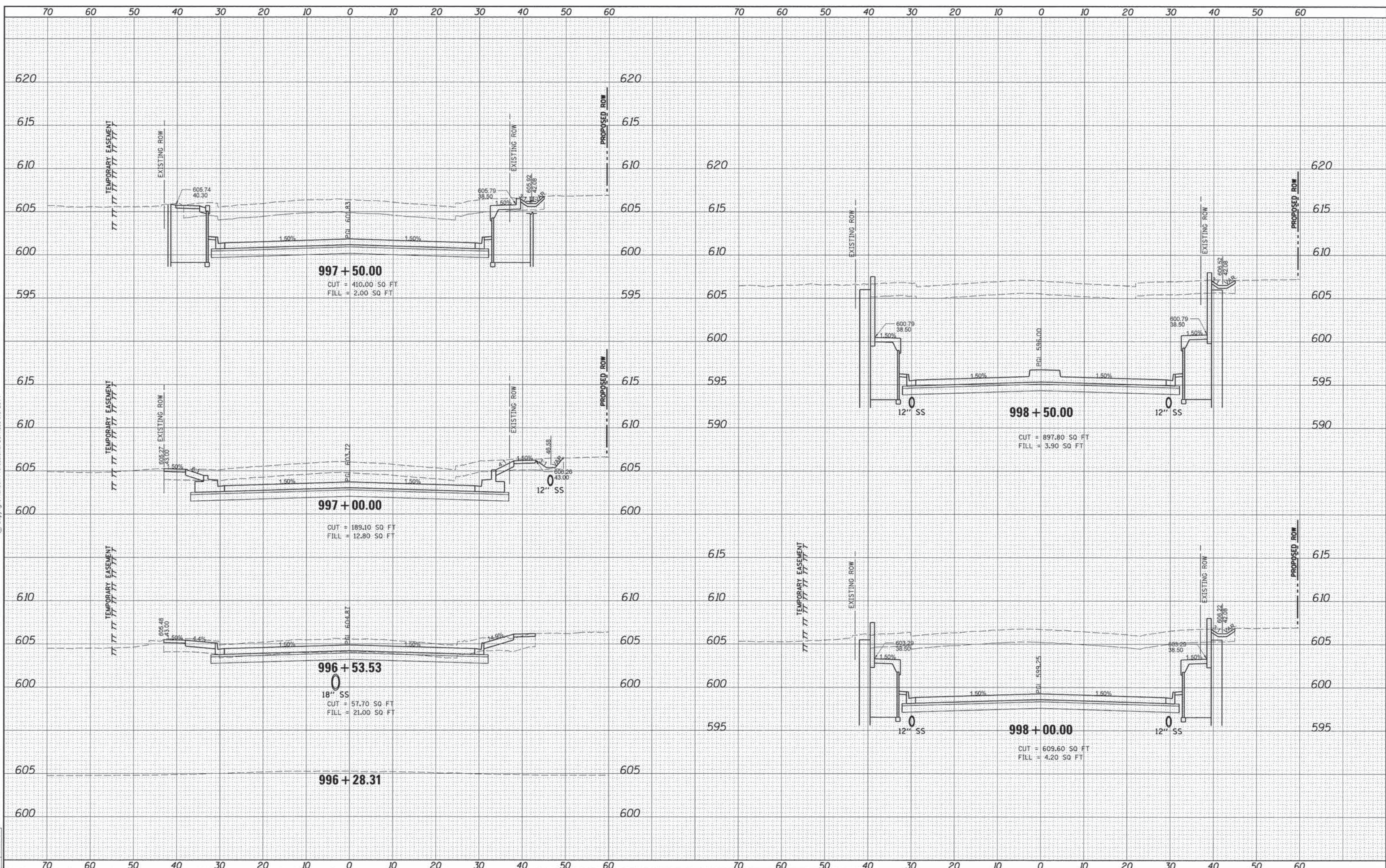
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	174
CONTRACT NO. 93617			ILLINOIS FED. AID PROJECT	

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DESIGNED	JWM	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	JWM	2/25/14



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USER NAME = pop00275

DESIGNED	-	JWM	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	JWM	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT**  
**SPRINGFIELD, SANGAMON COUNTY, ILLINOIS**  
**CROSS SECTIONS - CARPENTER STREET**

SCALE: SHEET 1 OF 4 SHEETS STA. 996+28.31 TO STA. 998+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	175
09L0179B			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				

DATE	
BY	
NO.	
AREAS CHECKED	
AREAS	
TEMPLATE	
PLOTTED	
SURVEYED	
NO. BOOK	
FINAL SURVEY	

DATE	
BY	
NO.	
AREAS CHECKED	
AREAS	
TEMPLATE	
PLOTTED	
SURVEYED	
NO. BOOK	
ORIGINAL SURVEY	

DATE	9/6/13
BY	JWM
NO.	
AREAS CHECKED	
AREAS	
TEMPLATE	
PLOTTED	
SURVEYED	
NO. BOOK	
FINAL SURVEY	

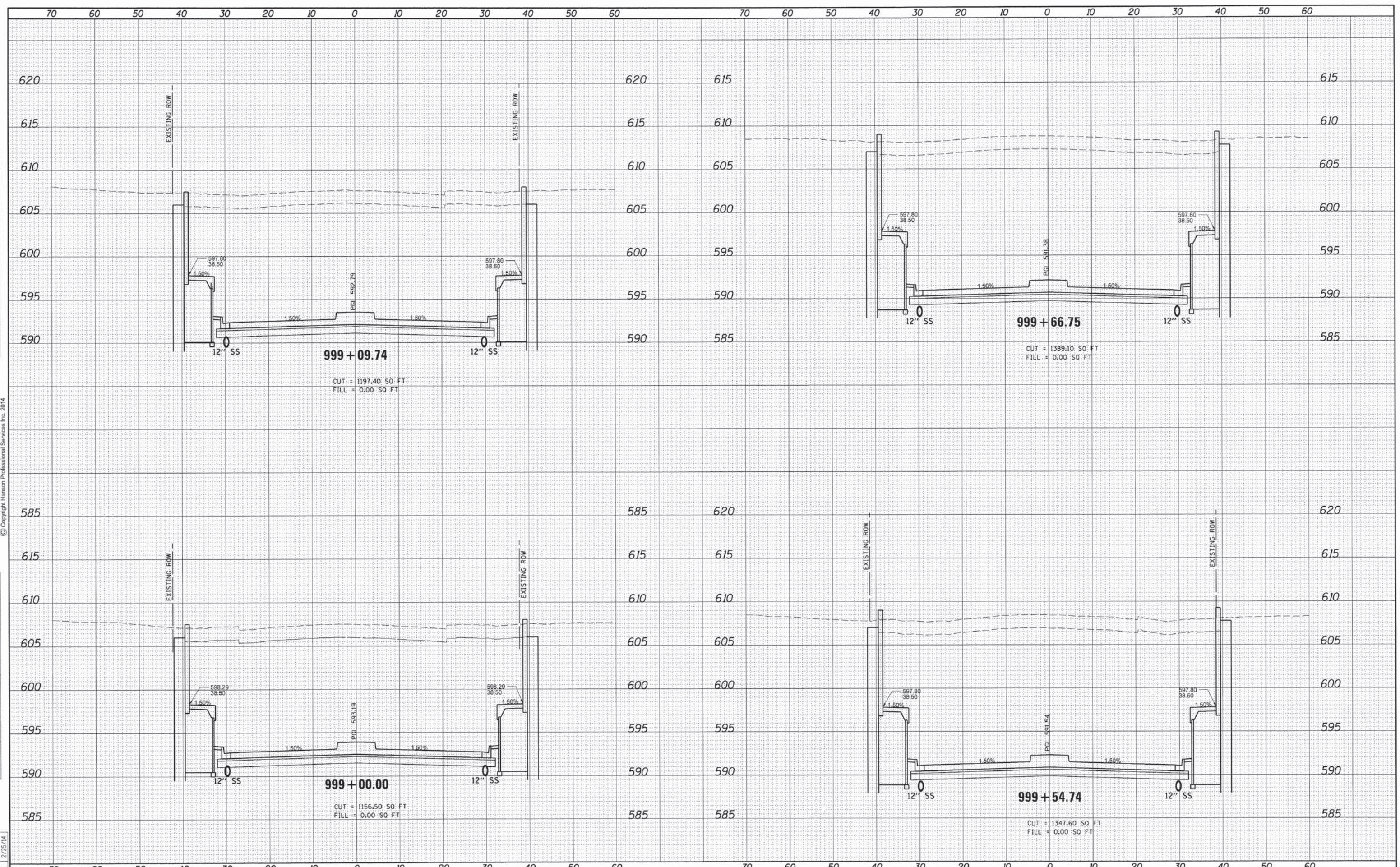
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USER NAME	pop0275
DESIGNED	JWM
DRAWN	DJP
CHECKED	JWM
DATE	2/25/14
REVISOR	
REVISION	
REVISOR	
REVISION	
REVISOR	
REVISION	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCALE: SHEET 2 OF 4 SHEETS STA. 999+00.00 TO STA. 999+66.75

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	176
09L0179B			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				

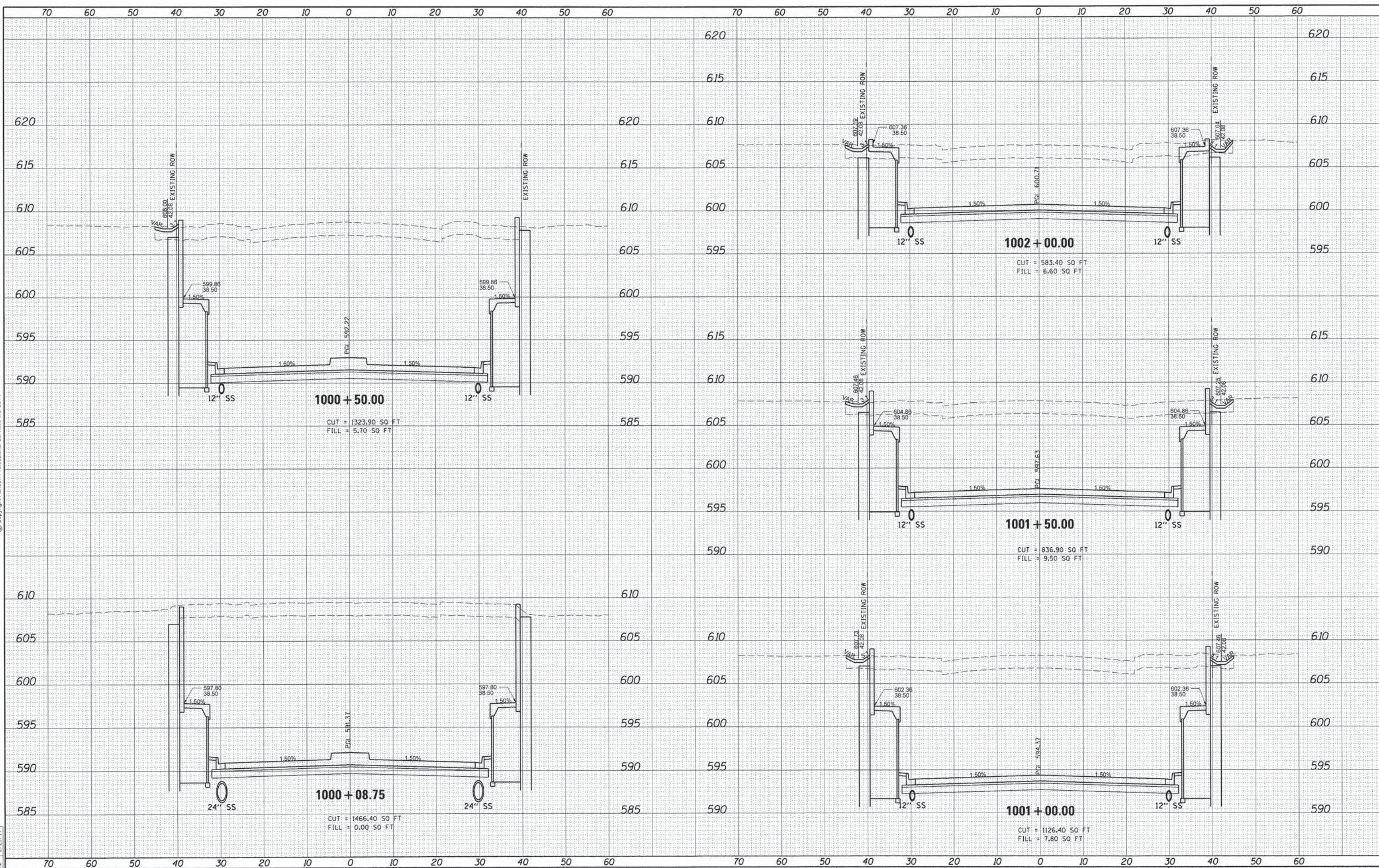


DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



DATE	
BY	
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DESIGNED	JWM	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	JWM	2/25/14



FILE NAME	=
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DESIGNED	- JWM
DRAWN	- DJP
CHECKED	- JWM
DATE	- 2/25/14

DESIGNED	- JWM	REVISED	-
DRAWN	- DJP	REVISED	-
CHECKED	- JWM	REVISED	-
DATE	- 2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - CARPENTER STREET**

SCALE: SHEET 3 OF 4 SHEETS STA. 1000+08.75 TO STA. 1002+00.00

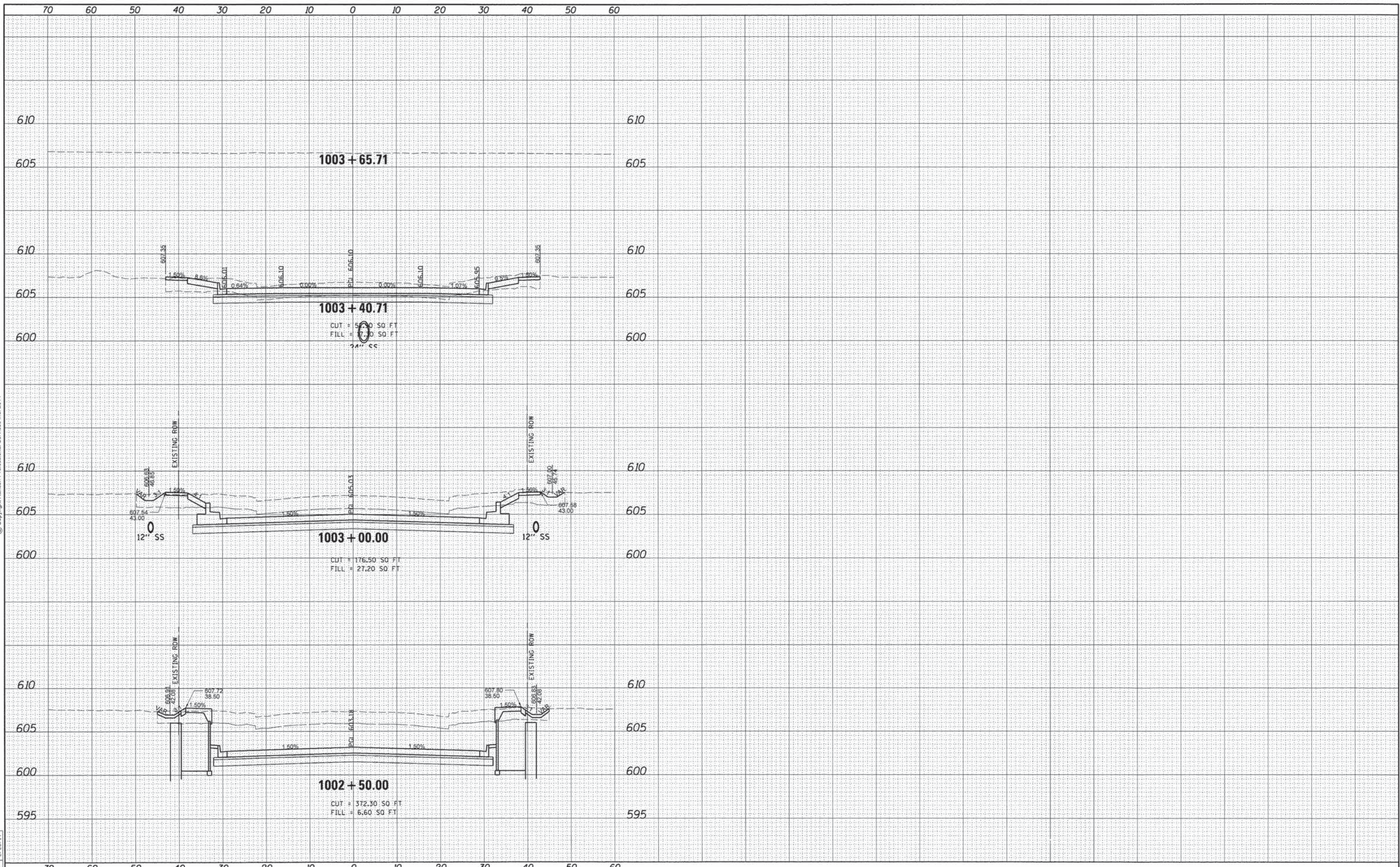
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	177
	09L0179B		CONTRACT NO. 9	3617
			ILLINOIS FED. AID PROJECT	

FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



ORIGINAL SURVEY	DATE
SURVEYED	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DESIGNED	JWM	9/16/13
DRAWN	DJP	9/27/13
REVIEWED	JWM	2/25/14



FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
D609L0179B-sht-xssh-CAR-001.dgn	pop00275	JWM	
		DRAWN -	REVISOR -
		DJP	
		CHECKED -	REVISOR -
		JWM	
		DATE -	REVISOR -
		2/25/14	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - CARPENTER STREET**

SCALE: SHEET 4 OF 4 SHEETS STA. 1002+50.00 TO STA. 1003+65.77

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	178
	09L0179B		CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				



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FINP SURV.	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

ORIGINAL SURV.	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14

FILE NAME = D689L0179B-sht-xsh-t-TRACK-ShooFly-001.dgn  
 USER NAME = pop02275  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 02/27/2014

DESIGNED - GCN  
 DRAWN - DJP  
 CHECKED - GCN  
 DATE - 2/25/14

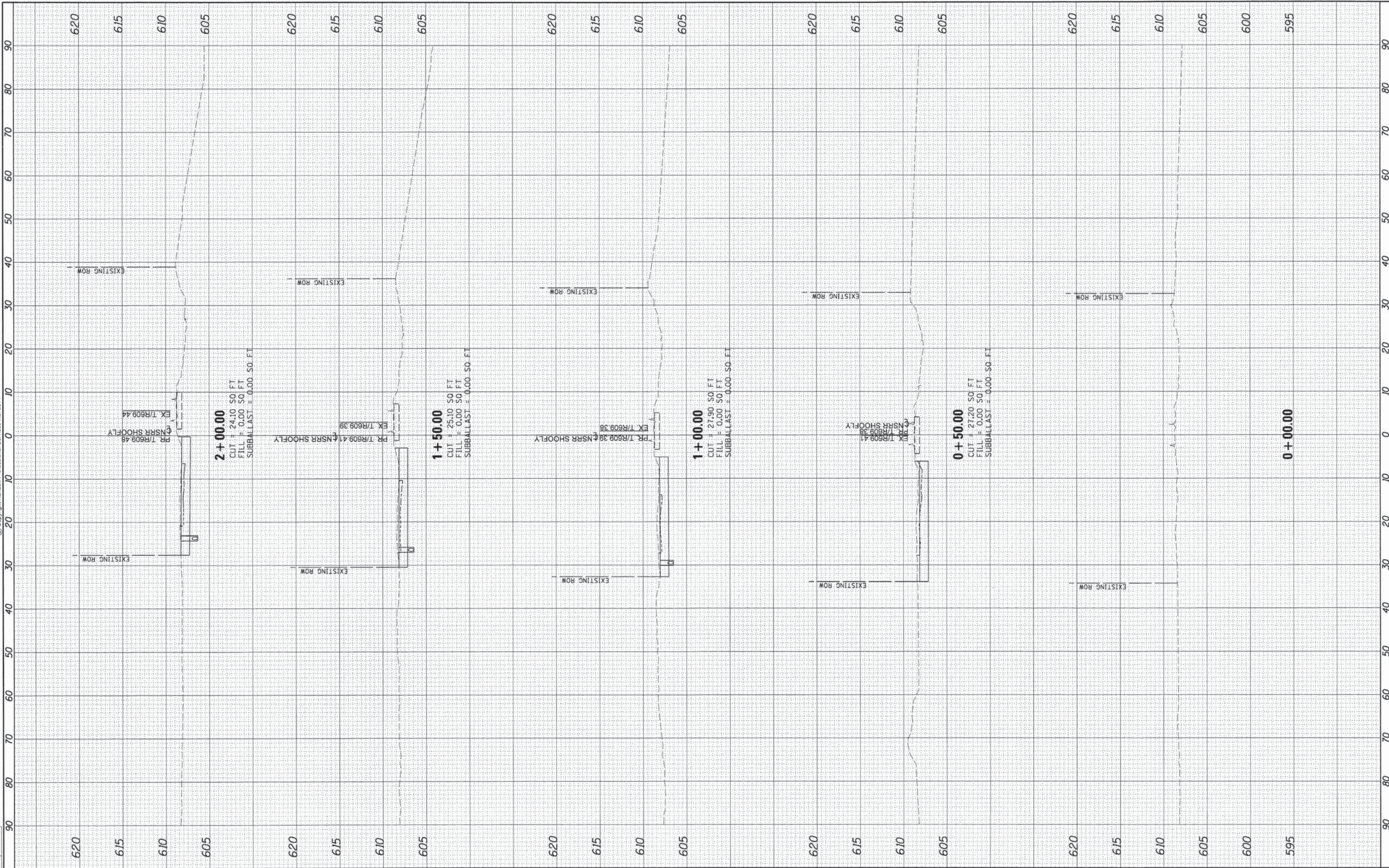
REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
 CROSS SECTIONS - NSRR SHOOFLY

SCALE: SHEET 1 OF 8 SHEETS STA. +00.00 TO STA. 2+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	179
09L0179B			CONTRACT NO.	3617
ILLINOIS FED. AID PROJECT				





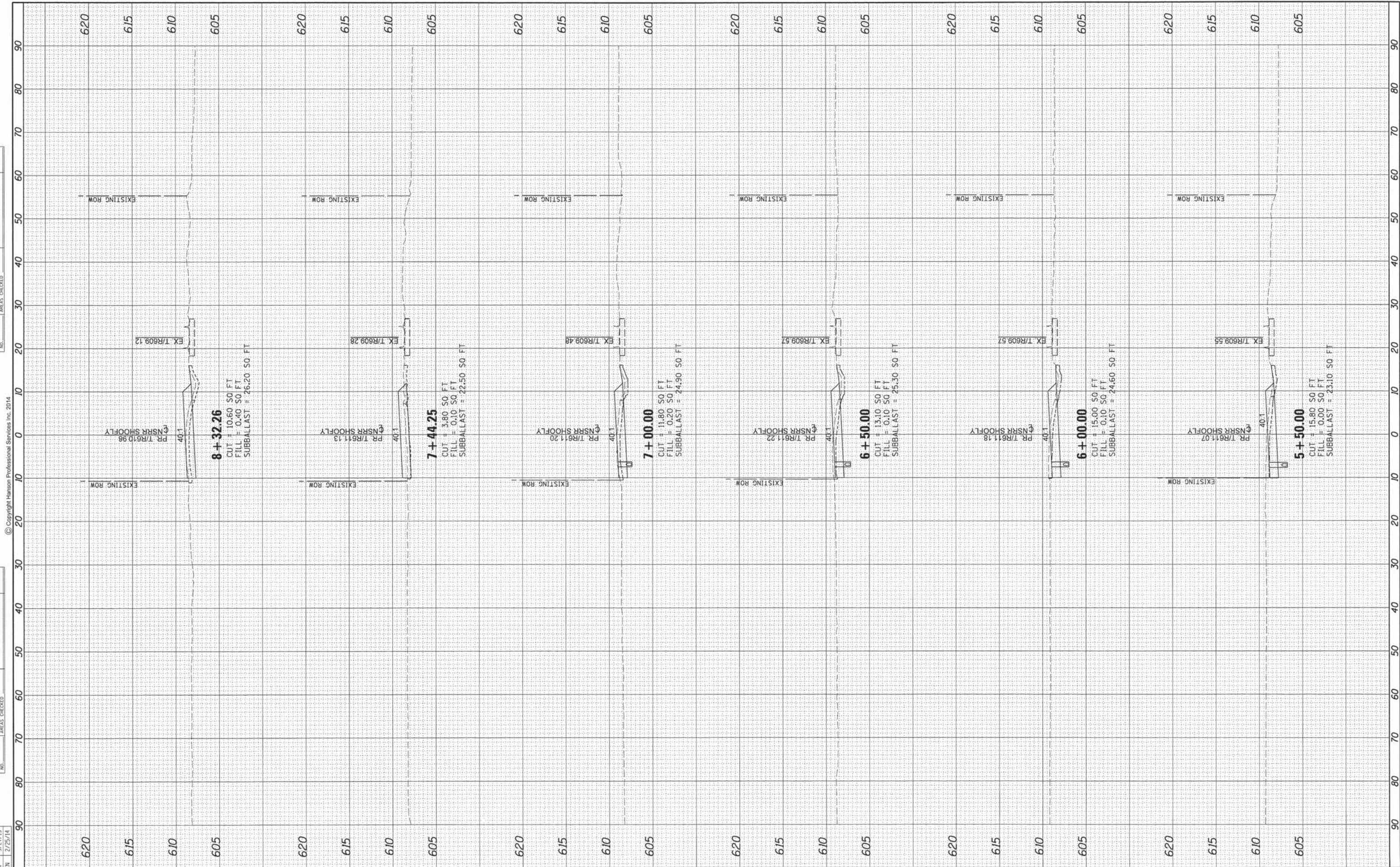




FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D609L01798-sht-xssht-TRACK-ShooFly-001.dgn

USER NAME = pop0275

PLOT SCALE = 10.0000' / in.

PLOT DATE = 02/27/2014

DESIGNED - GCN  
DRAWN - DJP  
CHECKED - GCN  
DATE - 2/25/14

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - NSRR SHOOFLY

SCALE: SHEET 3 OF 8 SHEETS STA. 5+50.00 TO STA. 8+32.26

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	181
	09L0179B			CONTRACT NO. 93617
				ILLINOIS FED. AID PROJECT

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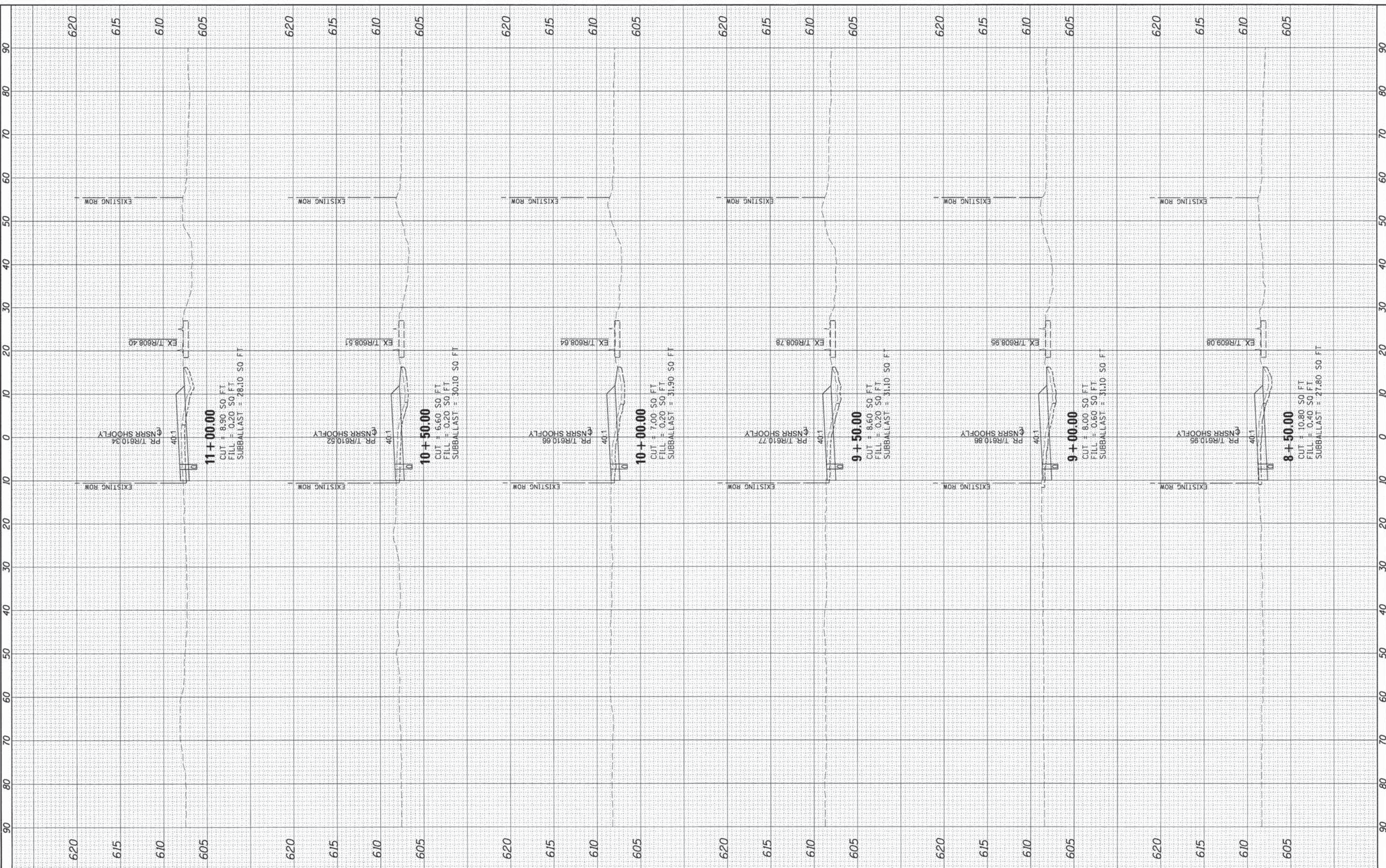


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FINISHED SURVEY	BY	DATE
SUBMITTED		
PLOTTED		
TEMPLATE		
AREAS CHECKED		

ORIGINAL SURVEY	BY	DATE
SUBMITTED		
PLOTTED		
TEMPLATE		
AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D:\09\179B-shr\ssht-TRACK-ShooFly\021.dgn  
 USER NAME = pop02275

DESIGNED - GCN  
 DRAWN - DJP  
 CHECKED - GCN  
 DATE - 2/25/14

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET 4 OF 8 SHEETS STA. 8+50.00 TO STA. 11+00.00

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
 CROSS SECTIONS - NSRR SHOOFLY**

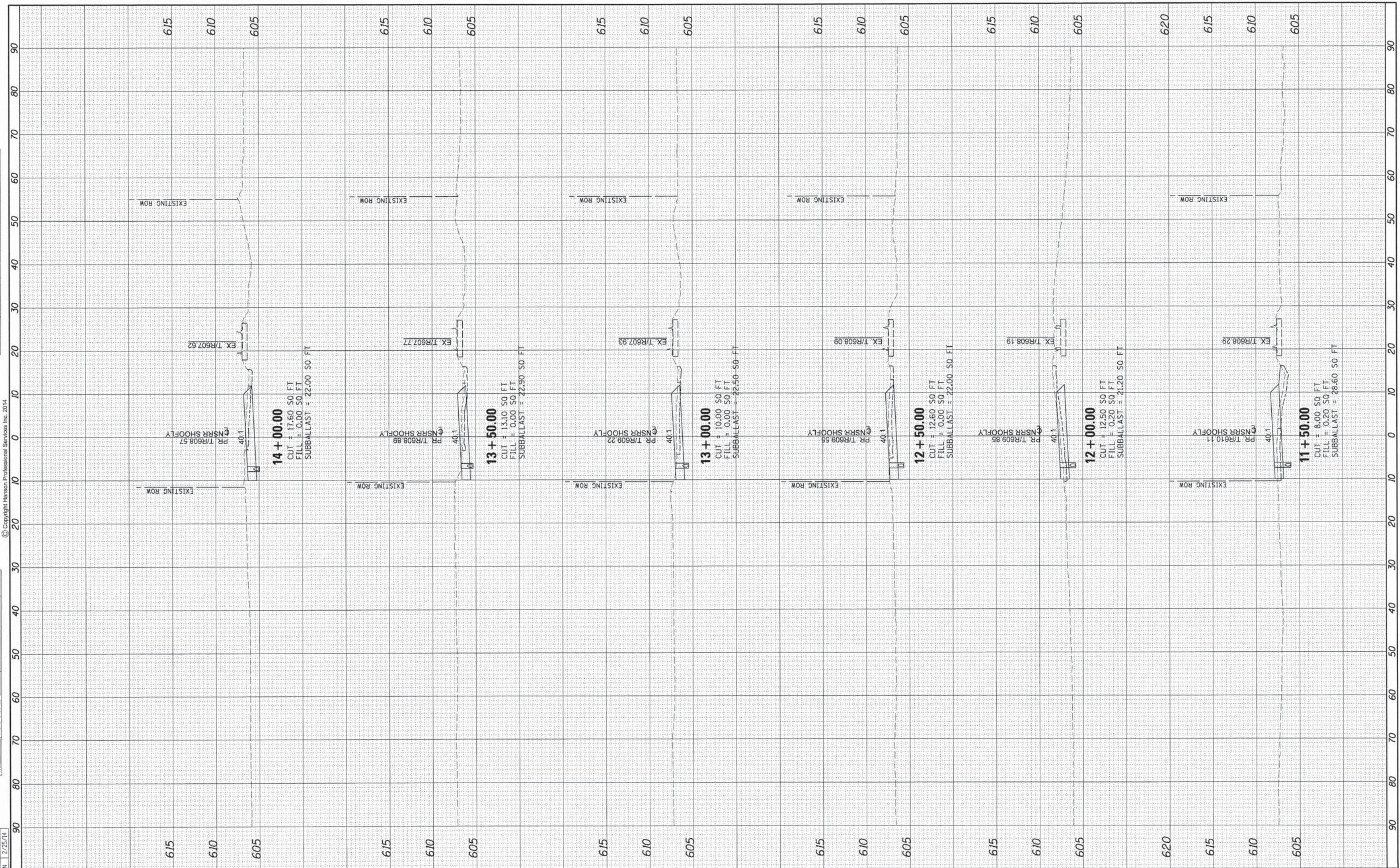
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	182
	09L0179B		CONTRACT NO. 3617	
ILLINOIS FED. AID PROJECT				



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D:\09L0179B-ht-xsh-t-TRACK-ShooFjy\001.dgn  
 USER NAME = pop00275  
 PLOT SCALE = 10.0000' / 1" =  
 PLOT DATE = 02/27/2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - NSRR SHOOFLY**

SCALE: SHEET 5 OF 8 SHEETS STA. 11+50.00 TO STA. 14+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	183
09L0179B		CONTRACT NO. 93617		
ILLINOIS FED. AID PROJECT				

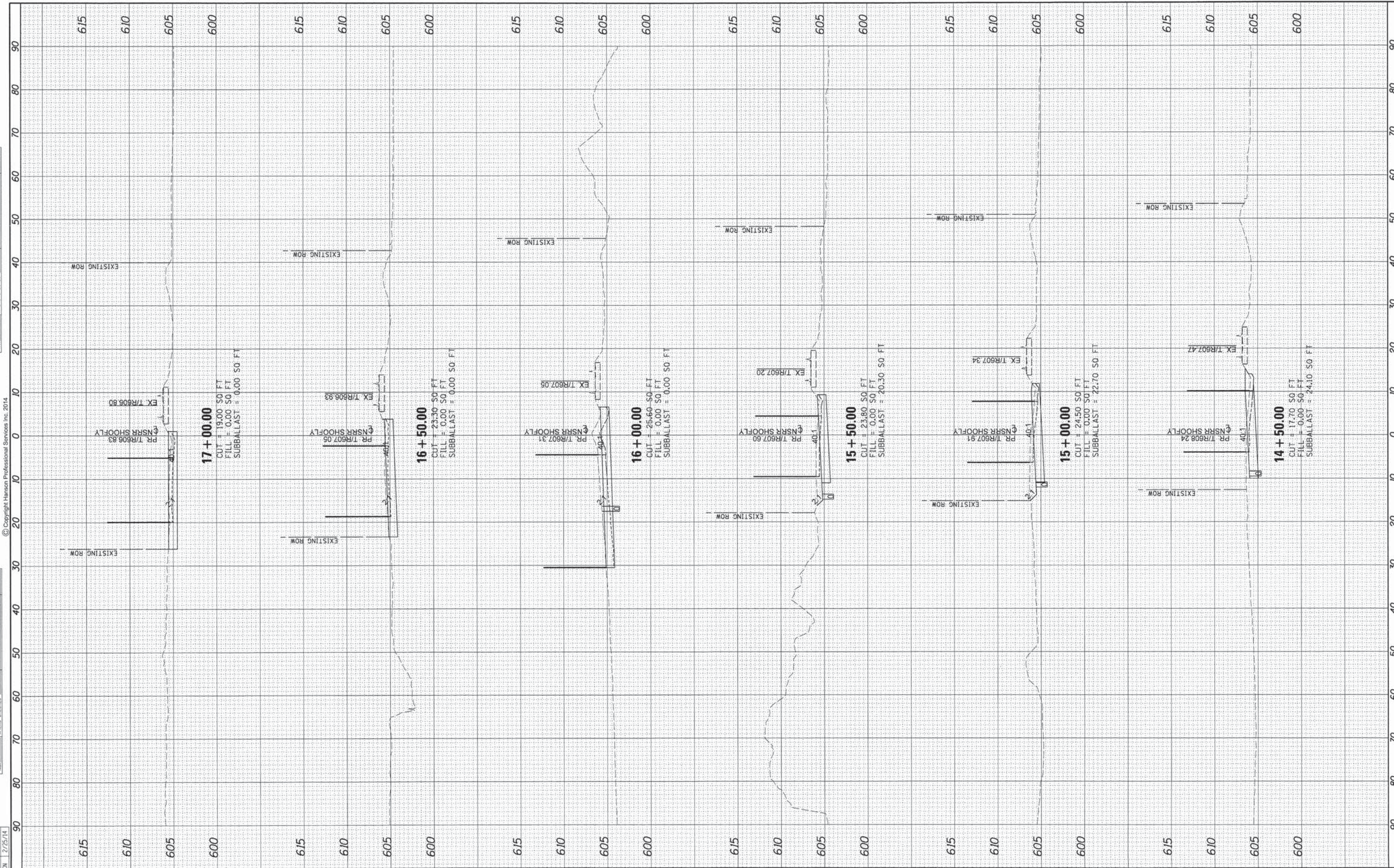
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FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



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 USER NAME = pop0275  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 02/27/2014

DESIGNED - GCN	REVISED -
DRAWN - DJP	REVISED -
CHECKED - GCN	REVISED -
DATE - 2/25/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - NSRR SHOOFLY**

SCALE: SHEET 6 OF 8 SHEETS STA. 14+50.00 TO STA. 17+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	184
09L0179B			CONTRACT NO.9 3617	
ILLINOIS FED. AID PROJECT				

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FINAL SURVEY	SURVEYED	BY	DATE
PLOTTED			
NOTE BOOK			
AREAS CHECKED			
NO.			

ORIGINAL SURVEY	SURVEYED	BY	DATE
PLOTTED			
NOTE BOOK			
AREAS CHECKED			
NO.			

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14

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 USER NAME = pop00275  
 PLOT SCALE = 10.0000' / 1"  
 PLOT DATE = 02/27/2014

DESIGNED - GCN  
 DRAWN - DJP  
 CHECKED - GCN  
 DATE - 2/25/14

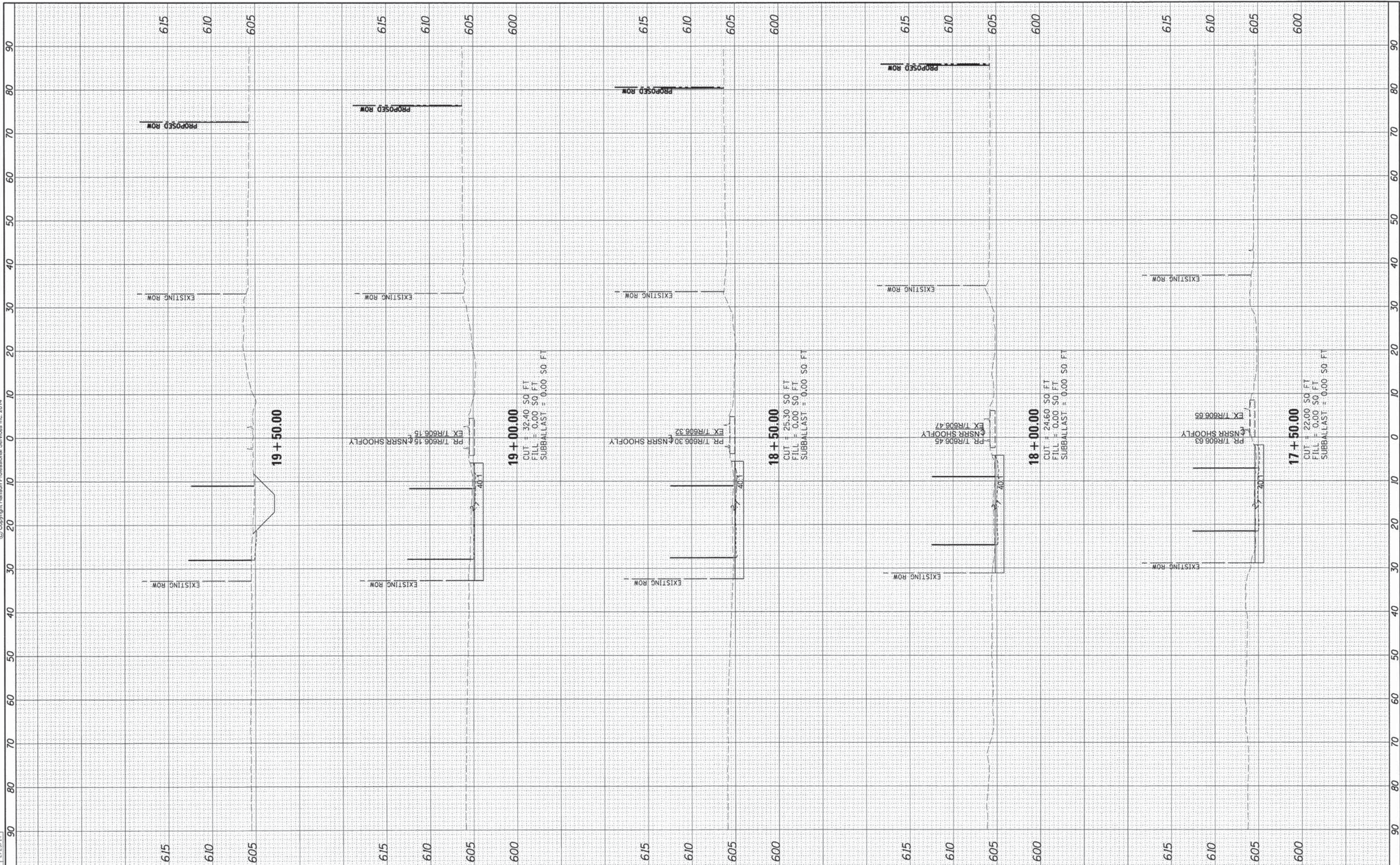
REVISED -  
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
 CROSS SECTIONS - NSRR SHOOFLY

SCALE: SHEET 7 OF 8 SHEETS STA. 17+50.00 TO STA. 19+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	185
09L01798			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				



FINAL SURVEY	DATE
NOTE BOOK NO.	
SURVEYED	BY
PLOTTED	
AREAS CHECKED	



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ORIGINAL SURVEY	DATE
NOTE BOOK NO.	
SURVEYED	BY
PLOTTED	
AREAS CHECKED	

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/7/13
REVIEWED	GCN	2/25/14



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USER NAME = pap00275  
PLOT SCALE = 10.0000' / 1" = 100  
PLOT DATE = 02\27\2014

DESIGNED - GCN  
DRAWN - DJP  
CHECKED - GCN  
DATE - 2/25/14

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET 8 OF 8 SHEETS STA. 19+88.07 TO STA. 19+88.07

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - NSRR SHOOFLY**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	186
09L0179B		CONTRACT NO. 93617		
ILLINOIS FED. AID PROJECT				

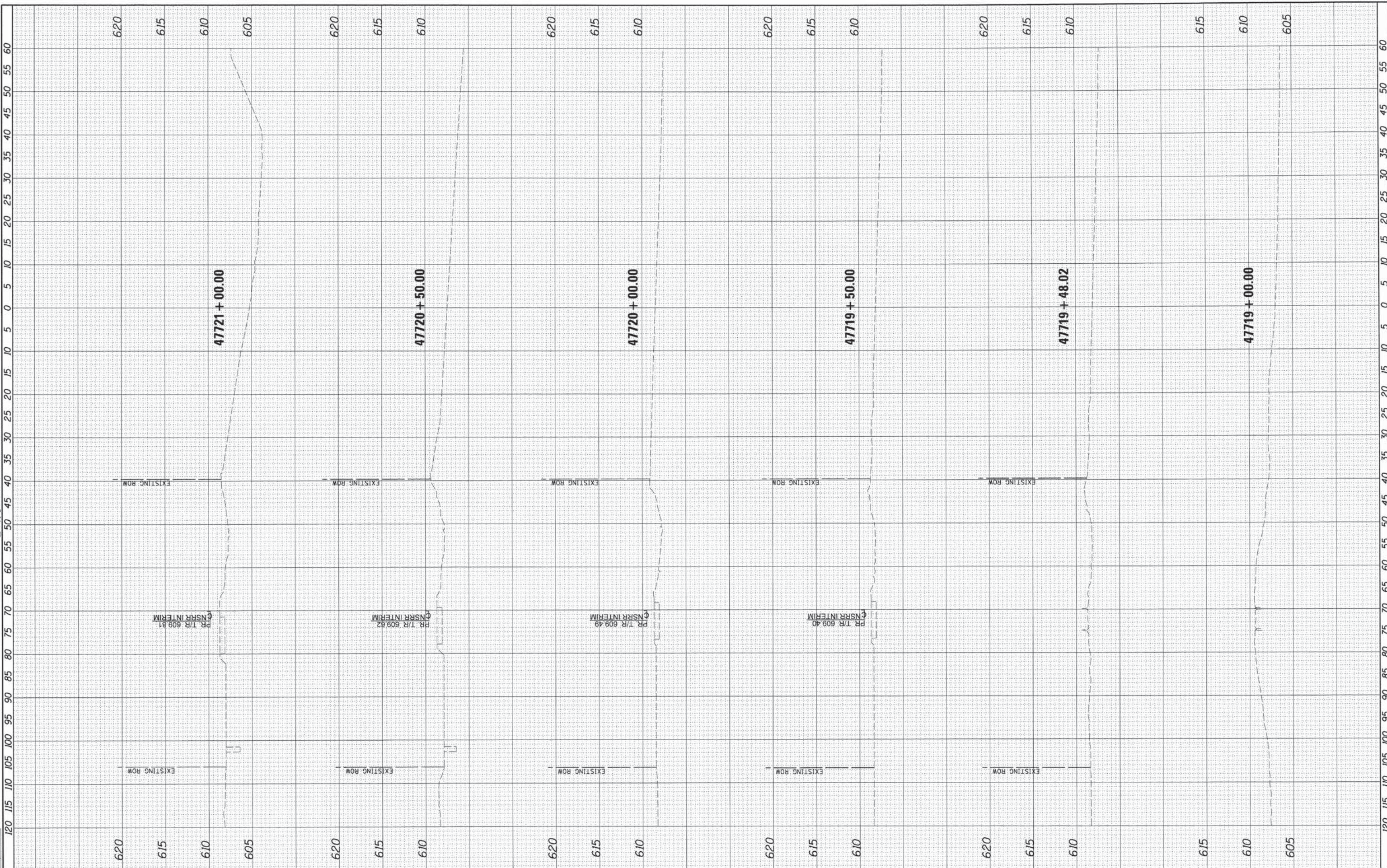


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FINAL SURVY	BY	DATE
SURVETED		
PROTEED		
TEMPLE		
AREAS		
CHECKED		
NO.		

ORIGINAL SURVY	BY	DATE
SURVETED		
PROTEED		
TEMPLE		
AREAS		
CHECKED		
NO.		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D60%\_01798-sht-ssht-TRACK-Interim-001.dgn  
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 PLOT DATE = 82\27\2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

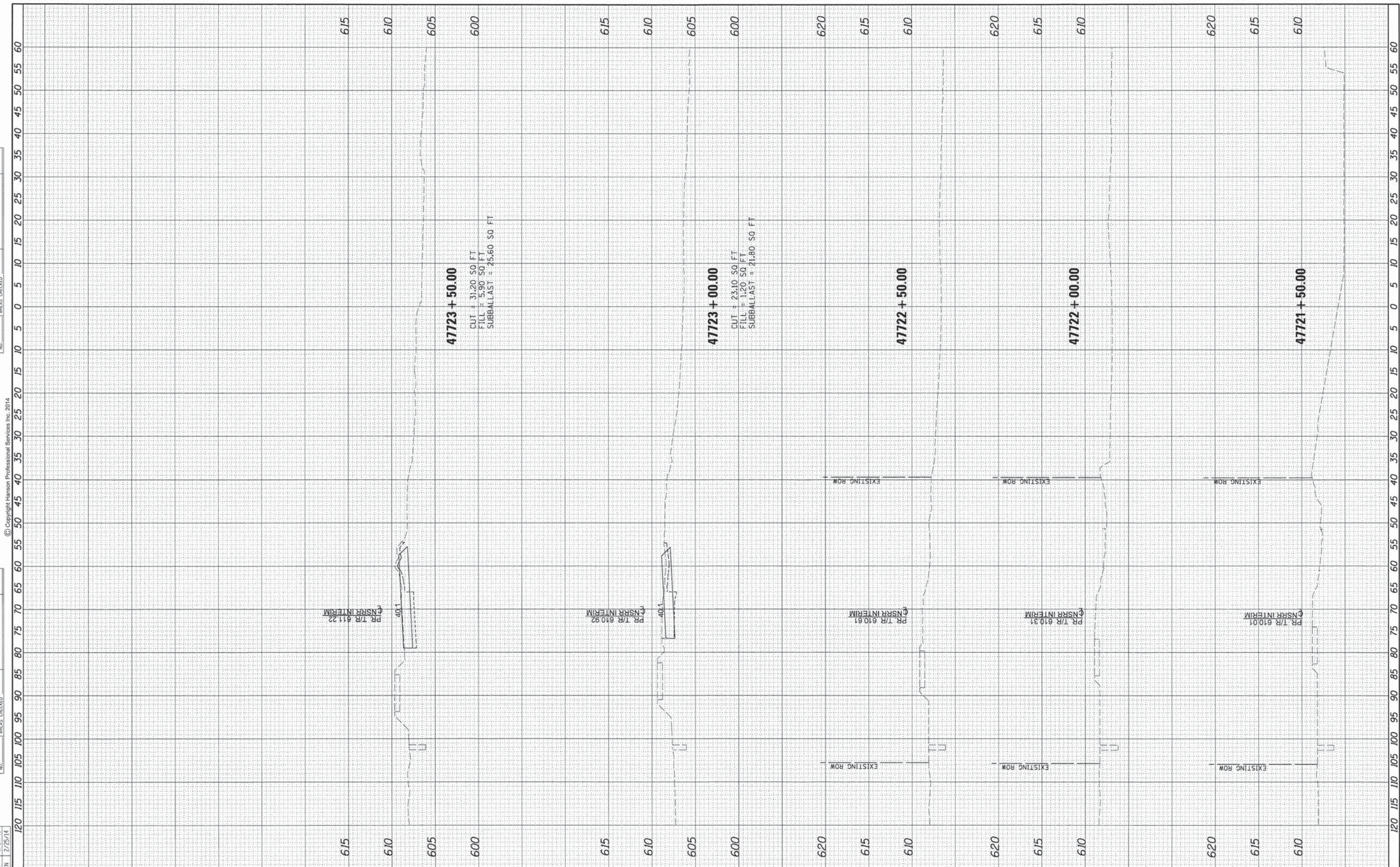
SCALE: SHEET 1 OF 9 SHEETS STA. 47719+00.00 TO STA. 47721+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	187
09L0179B			CONTRACT NO. 9 3 6 1 7	
ILLINOIS FED. AID PROJECT				

FINV	SURVEYED	BY	DATE
SURV.	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

ORIGINAL	SURVEYED	BY	DATE
SURV.	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



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DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

PLLOT SCALE	= 10.0000' / 1"
PLLOT DATE	= 02/27/2014

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

SCALE: SHEET 2 OF 9 SHEETS STA. 47721+50.00 TO STA. 47723+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	188
	09L0179B		CONTRACT NO. 93617	
			ILLINOIS FED. AID PROJECT	



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FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
TEMP. DATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

ORIGINAL SURVEY	DATE
SURVEYED	
PLOTTED	
TEMP. DATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

DESIGNED	GCN	9/5/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14

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USER NAME = pap00275  
 PLOT SCALE = 10.0000' / 1"  
 PLOT DATE = 02/27/2014

DESIGNED - GCN  
 DRAWN - DJP  
 CHECKED - GCN  
 DATE - 2/25/14

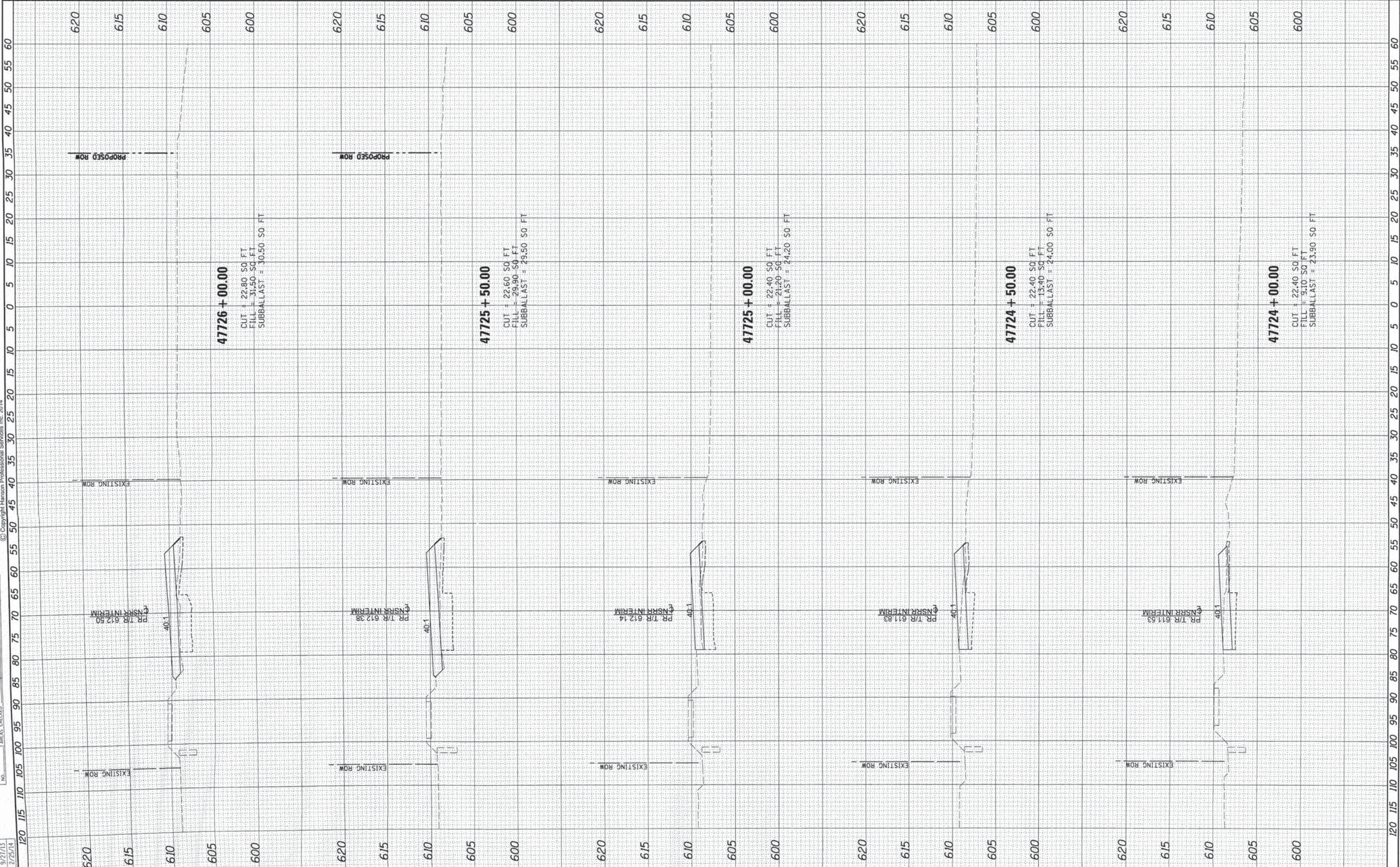
REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCALE: SHEET 3 OF 9 SHEETS STA. 47724+00.00 TO STA. 47726+00.00

SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
 CROSS SECTIONS - TRACK INTERIM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	189
09L01798			CONTRACT NO. 3617	
ILLINOIS FED. AID PROJECT				

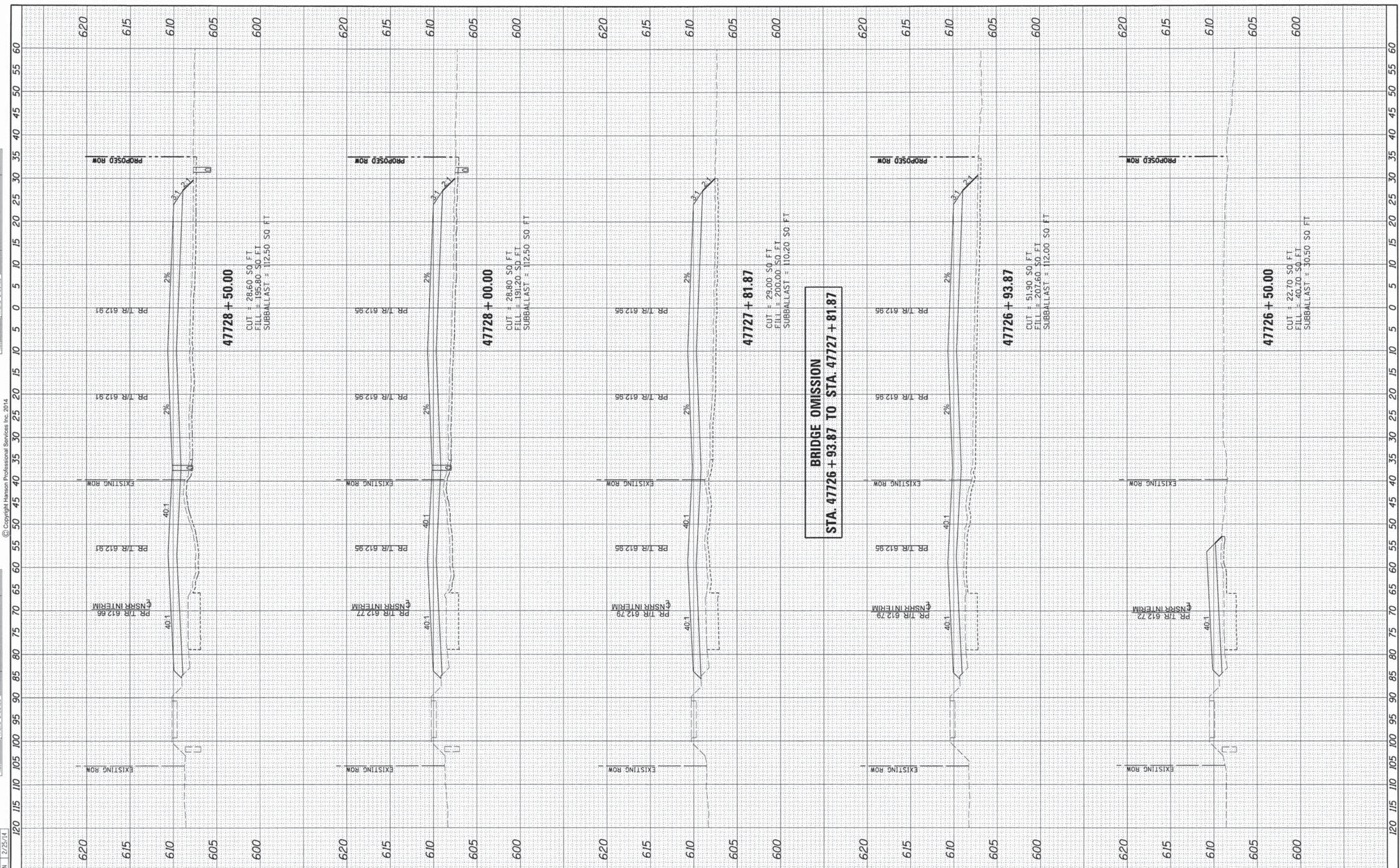




FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	DATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	DATE		
	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



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 PLOT DATE = 02\27\2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET 4 OF 9 SHEETS STA. 47726+50.00 TO STA. 47728+50.00

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

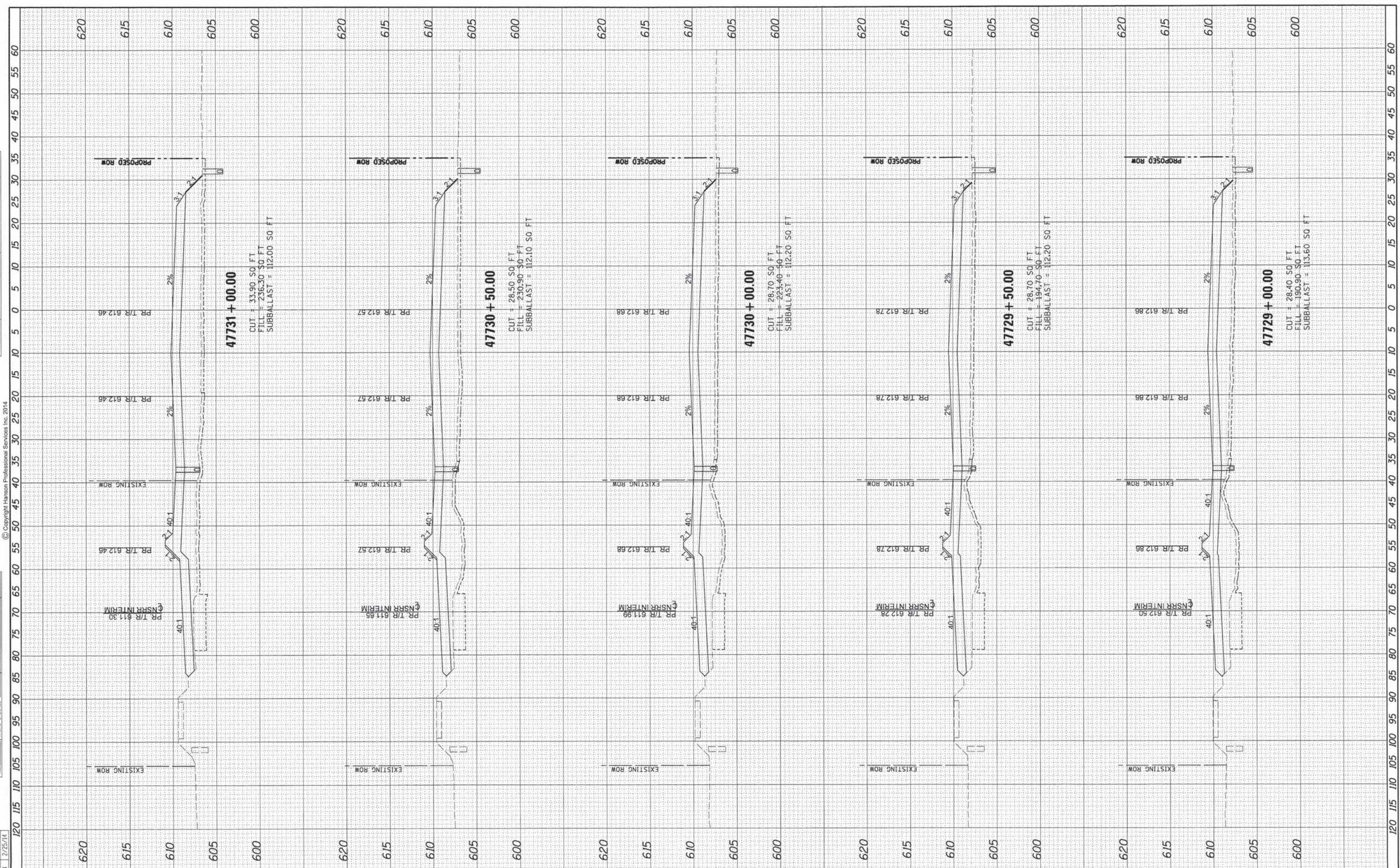
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	190
09L0179B		CONTRACT NO. 93617		
ILLINOIS FED. AID PROJECT				



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/2/13
REVIEWED	GCN	2/25/14



FILE NAME = 0609L01798-sht-xssht-TRACK-Interim-001.dgn  
 USER NAME = pop00275  
 PLOT SCALE = 10.0000' / 1" /  
 PLOT DATE = 02/27/2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

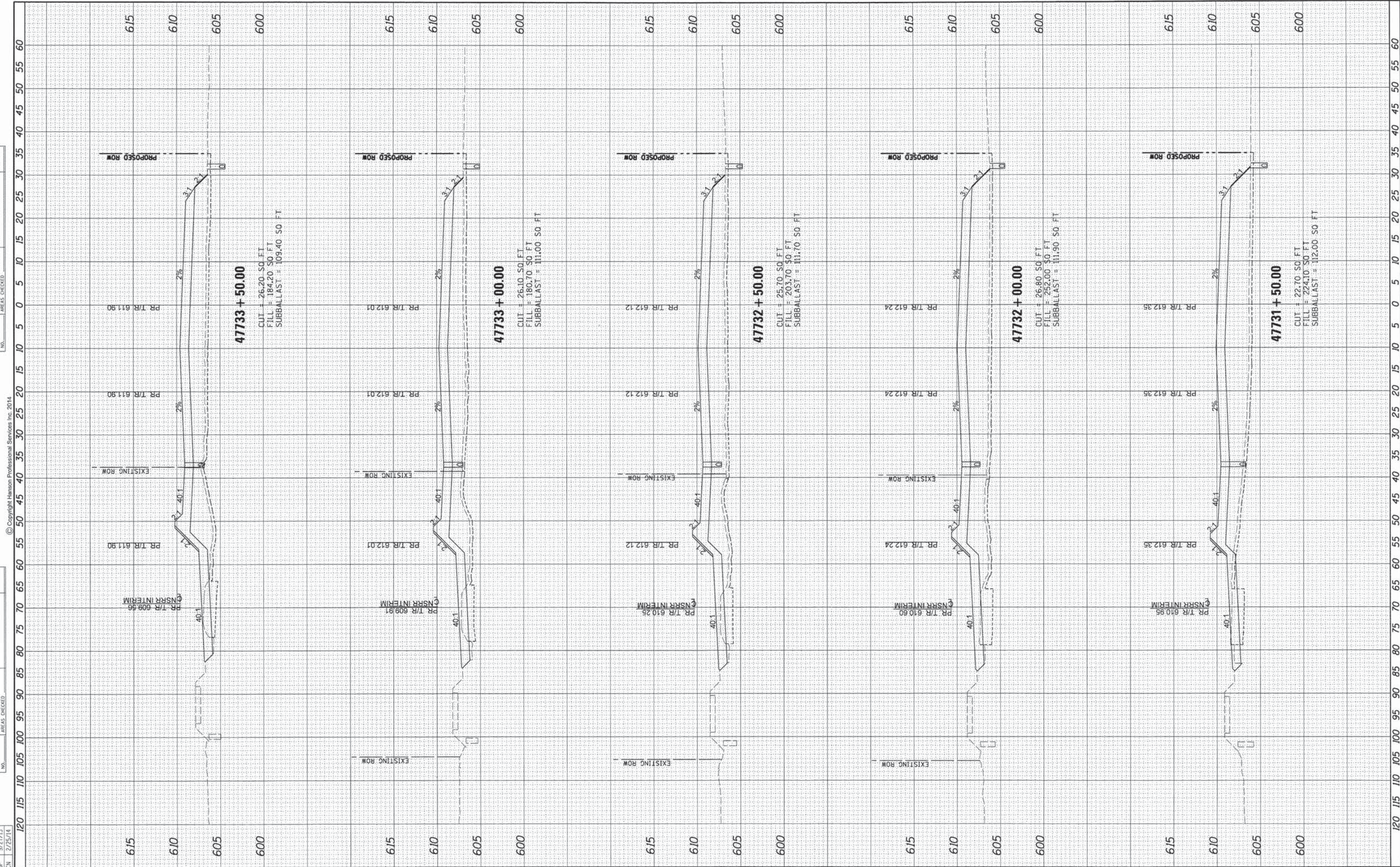
SCALE: SHEET 5 OF 9 SHEETS STA. 47729+00.00 TO STA. 47731+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	191
09L0179B		CONTRACT NO.	93617	
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D:\09L01798-shr-track-interim-001.dgn  
 USER NAME = pop0275  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 02/27/2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

SCALE: SHEET 6 OF 9 SHEETS STA. 47731+50.00 TO STA. 47733+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	192
	09L0179B		CONTRACT NO. 93617	
			ILLINOIS FED. AID PROJECT	

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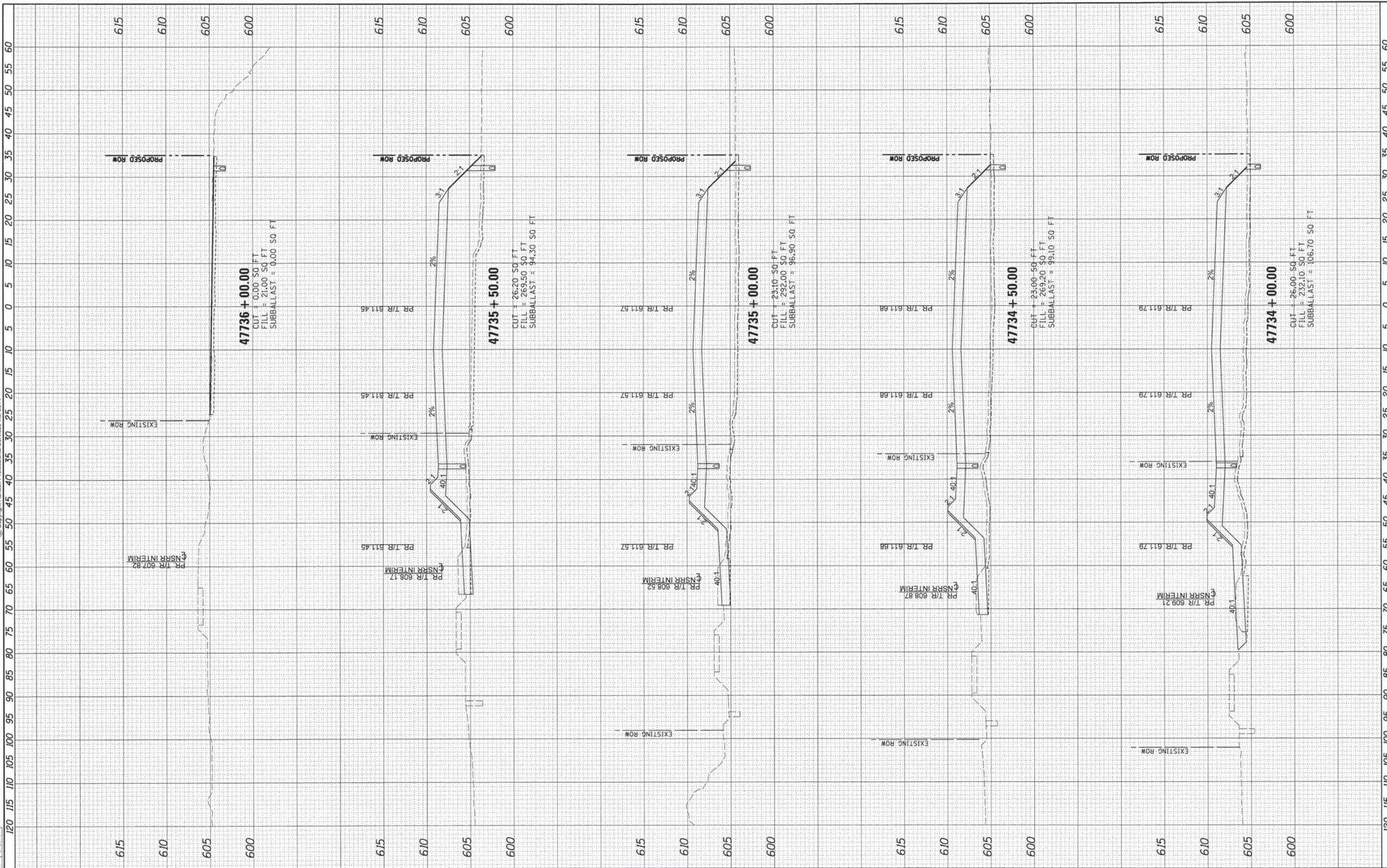


DATE	BY
DATE	BY
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
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DATE	BY

DATE	BY
DATE	BY
DATE	BY
DATE	BY
DATE	BY

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FILE NAME = D689L0179B-shr-xsh-t-TRACK-Interim-001.dgn  
 USER NAME = pop00275  
 PLOT SCALE = 10.0000' / 1"  
 PLOT DATE = 02/27/2014

DESIGNED - GCN	REVISED -
DRAWN - DJP	REVISED -
CHECKED - GCN	REVISED -
DATE - 2/25/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - TRACK INTERIM**

SCALE: SHEET 7 OF 9 SHEETS STA. 47734+00.00 TO STA. 47736+00.00

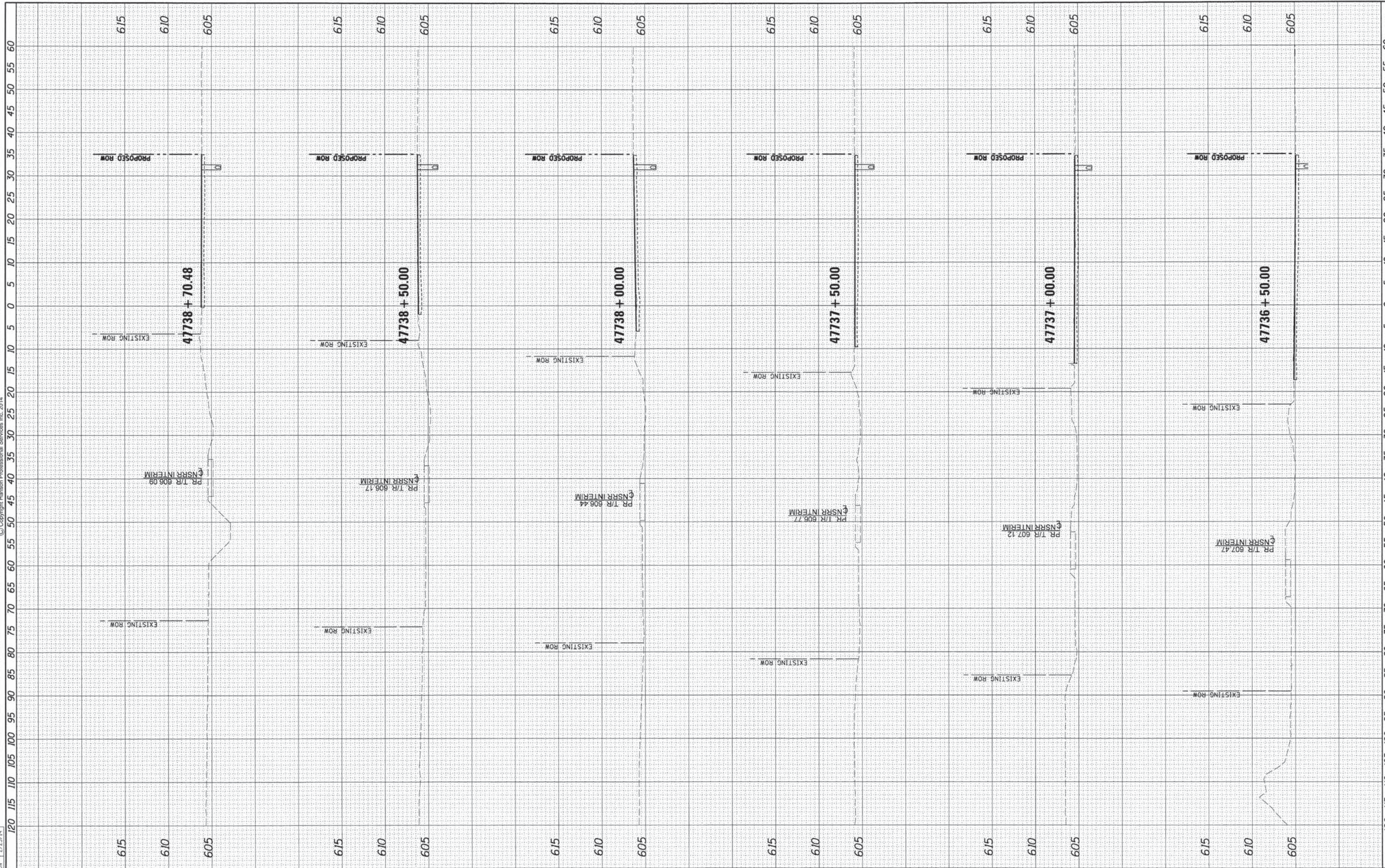
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	193
09L0179B			CONTRACT NO. 9 3 6 1 7	
ILLINOIS FED. AID PROJECT				

DATE	BY	SURVEYED	PLOTTED
		NOTE BOOK	TEMPLATE
		AREAS CHECKED	AREAS CHECKED



DATE	BY	ORIGINAL	SURVEYED
		NOTE BOOK	PLOTTED
		AREAS CHECKED	AREAS CHECKED

DESIGNED	DCN	9/16/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D609L0179B-sht-ksht-TRACK-Interim-001.dgn  
 USER NAME = pop02275  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 02/27/2014

DESIGNED - GCN	REVISD -
DRAWN - DJP	REVISD -
CHECKED - GCN	REVISD -
DATE - 2/25/14	REVISD -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT**  
**SPRINGFIELD, SANGAMON COUNTY, ILLINOIS**  
**CROSS SECTIONS - TRACK INTERIM**

SCALE: SHEET 8 OF 9 SHEETS STA. 47736+50.00 TO STA. 47738+70.48

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	194
09L0179B		CONTRACT NO. 93617		
ILLINOIS FED. AID PROJECT				

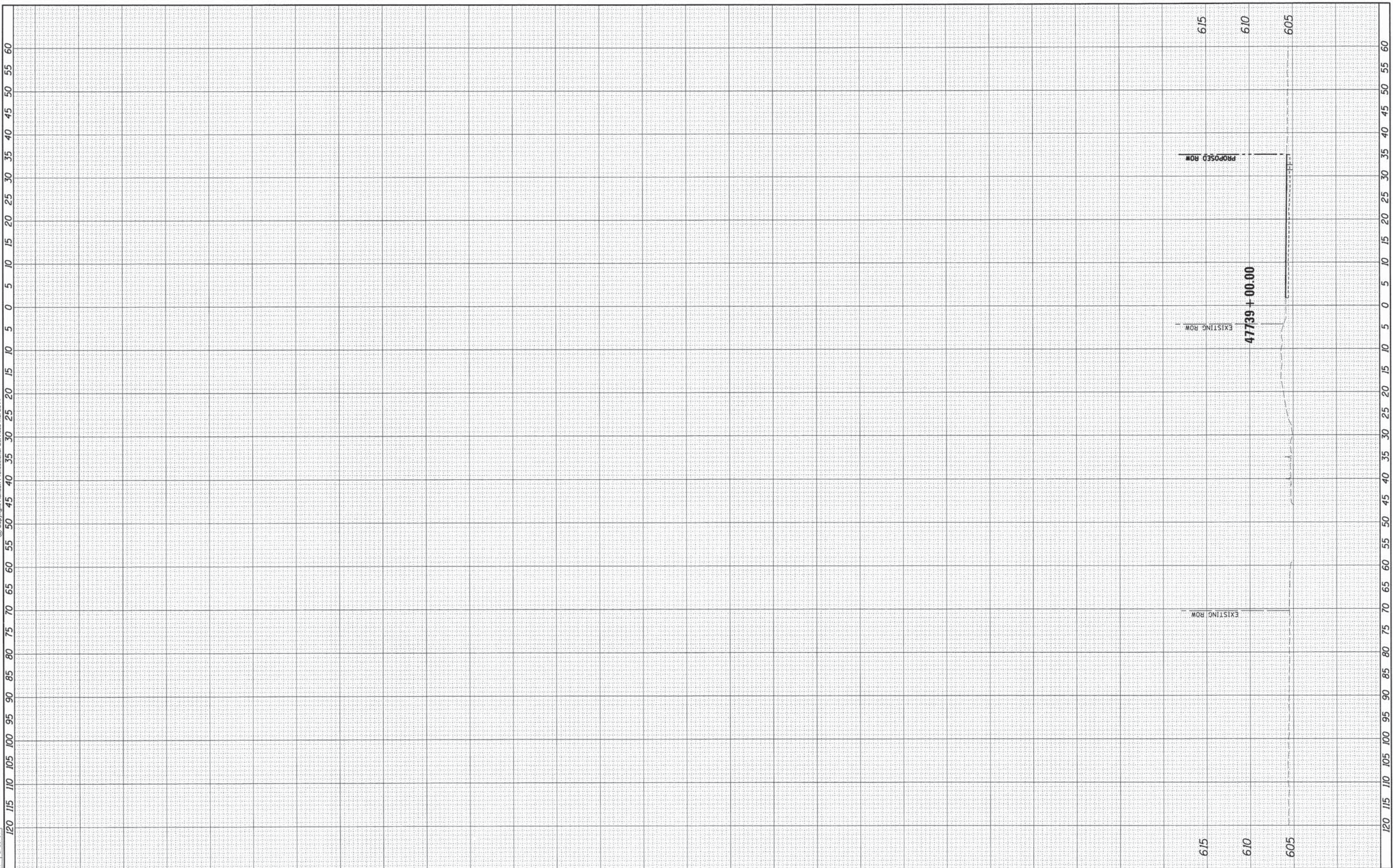
FINAL SURVEY NO.	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK NO.		
AREAS CHECKED		

ORIGINAL SURVEY NO.	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK NO.		
AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



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FILE NAME = D:\09L0179B\ah\ssht-TRACK-Interim-001.dgn  
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USER NAME = pop0275  
 PLOT SCALE = 10,0000' / 1" =  
 PLOT DATE = 02/27/2014

DESIGNED - GCN	REVISED -
DRAWN - DJP	REVISED -
CHECKED - GCN	REVISED -
DATE - 2/25/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET 9 OF 9 SHEETS STA. 47739+00.00 TO STA. 47739+00.00

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
 CROSS SECTIONS - TRACK INTERIM**

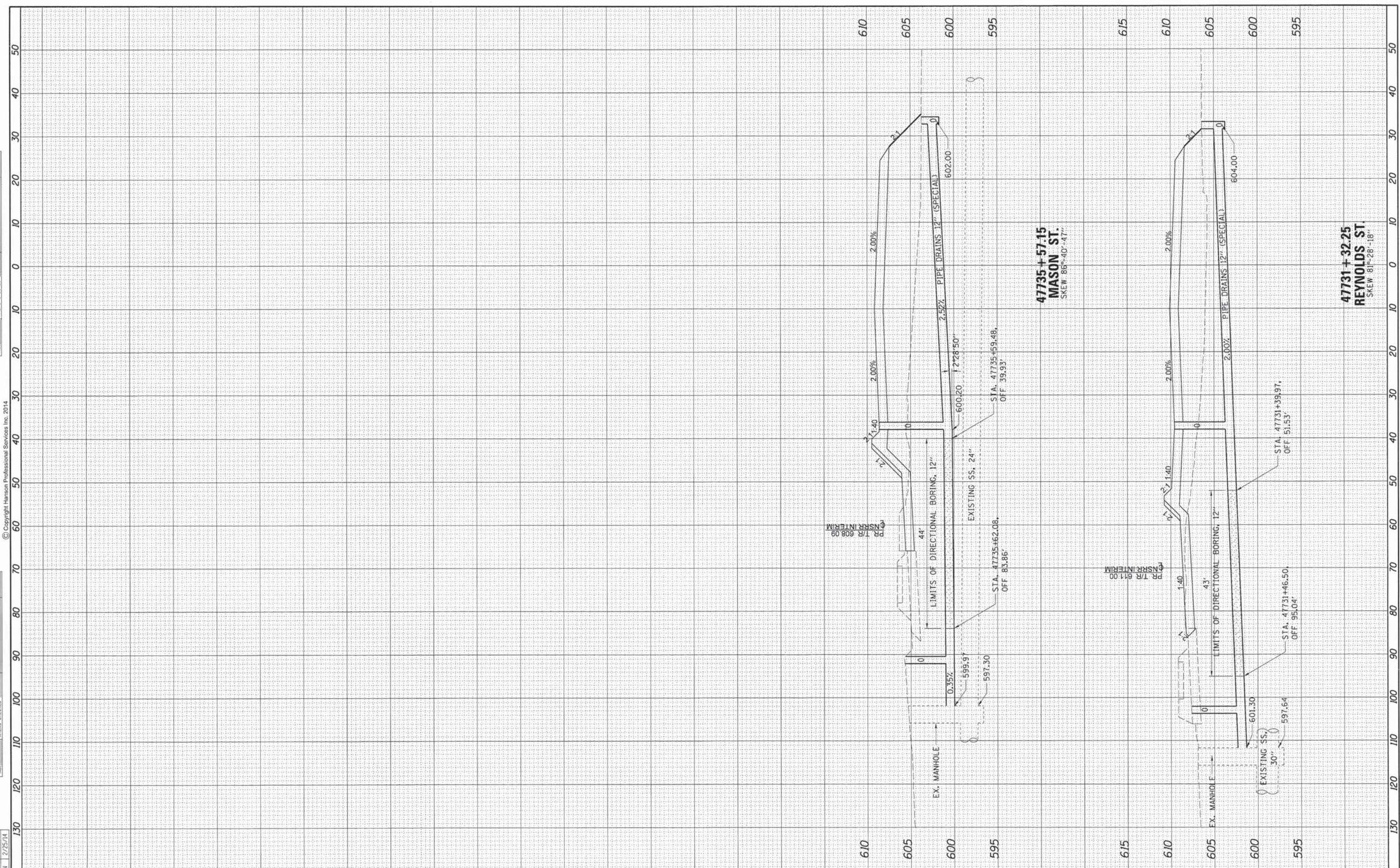
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	195
09L0179B			CONTRACT NO. 93617	
ILLINOIS FED. AID PROJECT				



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	AREAS CHECKED		

DESIGNED	GCN	9/6/13
DRAWN	DJP	9/27/13
REVIEWED	GCN	2/25/14



FILE NAME = D:\09\0179B-sht-xssht-TRACK-Drainage-001.dgn  
 USER NAME = pop00275  
 PLOT SCALE = 10.0000' / 1" = 1000  
 PLOT DATE = 02/27/2014

DESIGNED	-	GCN	REVISED	-
DRAWN	-	DJP	REVISED	-
CHECKED	-	GCN	REVISED	-
DATE	-	2/25/14	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT  
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS  
CROSS SECTIONS - DRAINAGE**

SCALE: SHEET 1 OF 1 SHEETS STA. 47731+32.25 TO STA. 47735+57.15

F.A.U. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7975	13-00475-00-BR	SANGAMON	196	196
	09L0179B		CONTRACT NO. 9361	
			ILLINOIS FED. AID PROJECT	