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

**HORNER & SHIRIN, INC.**  
**ENGINEERS**

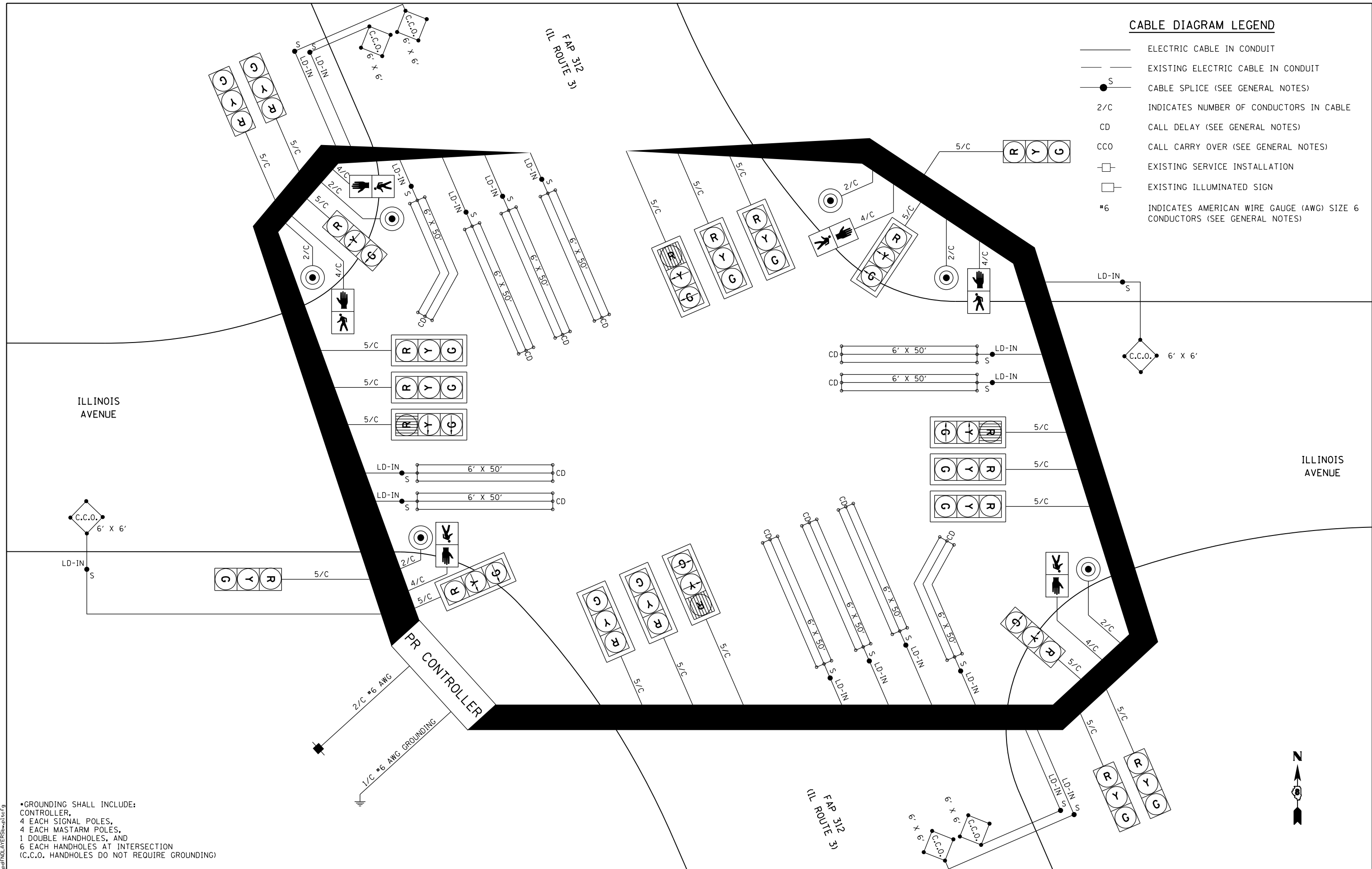
**TRAFFIC SIGNAL DETAILS**  
 FAP 312 (IL ROUTE 3) & ILLINOIS AVENUE  
 TRAFFIC SIGNAL PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	401
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 20'    SHEET NO. 4 OF 7 SHEETS    STA.    TO STA.

**CABLE DIAGRAM LEGEND**

- ELECTRIC CABLE IN CONDUIT
- EXISTING ELECTRIC CABLE IN CONDUIT
- S CABLE SPLICE (SEE GENERAL NOTES)
- 2/C INDICATES NUMBER OF CONDUCTORS IN CABLE
- CD CALL DELAY (SEE GENERAL NOTES)
- CCO CALL CARRY OVER (SEE GENERAL NOTES)
- EXISTING SERVICE INSTALLATION
- EXISTING ILLUMINATED SIGN
- #6 INDICATES AMERICAN WIRE GAUGE (AWG) SIZE 6 CONDUCTORS (SEE GENERAL NOTES)



\*GROUNDING SHALL INCLUDE:  
 CONTROLLER,  
 4 EACH SIGNAL POLES,  
 4 EACH MASTARM POLES,  
 1 DOUBLE HANDHOLES, AND  
 6 EACH HANDHOLES AT INTERSECTION  
 (C.C.O. HANDHOLES DO NOT REQUIRE GROUNDING)

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC.  
 ENGINEERS**

SCALE: NONE

SHEET NO. 5 OF 7 SHEETS

STA. TO STA.

**TRAFFIC SIGNAL DETAILS**  
 FAP 312 (IL ROUTE 3) & ILLINOIS AVENUE  
 WIRING DIAGRAM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	402
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

# SOIL BORING LOG

SCI No. 2004-3089.51  
Page 1 of 1  
Date 10/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Signal Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NW 1/4, SEC. 25, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev.	Stream Bed Elev.	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
N/A	N/A					N/A ft	N/A ft				
B-224	2083+10					Groundwater Elev.:					
	61 ft LT					First Encounter	610.6 ft				
	631.3 ft					Upon Completion	612.1 ft				
						After 0.25 Hrs.	614.8 ft				
FILL: Brown, silty clay, trace crushed rock and roots [A-6]						CLAY: Gray, with iron stains, trace sand [A-7] (continued)					
630.3						609.9					
CLAY: Gray, with iron stains [A-7]						With sandstone and shale fragments					
628.3						Sampler refusal at 21.4 ft.					
SILTY CLAY: Gray, with iron stains, trace fine sand [A-4]											
2											
3											
4											
5											
625.8											
SILTY CLAY: Gray, with iron stains, trace gravel [A-6]											
1											
3											
5											
623.3											
CLAY: Gray, with iron stains, trace sand [A-7]											
2											
4											
4											
-10											
Trace gravel											
1											
3											
4											
Becomes brown and gray											
1											
3											
4											
-15											
Trace sandstone fragments											
2											
3											
5											
1											
3											
5											
-20											

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

# SOIL BORING LOG

SCI No. 2004-3089.51  
Page 1 of 1  
Date 10/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Signal Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NW 1/4, SEC. 25, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)	Surface Water Elev.	Stream Bed Elev.	D E P T H (ft)	B L O W S (/6")	U C S Qu (tsf)	M O I S T (%)
N/A	N/A					N/A ft	N/A ft				
B-225	2083+59					Groundwater Elev.:					
	72 ft RT					First Encounter	NONE ft				
	635.1 ft					Upon Completion	NONE ft				
						After -- Hrs.	N/A ft				
FILL: Brown and gray, silt, trace roots [A-4]						CLAY: Gray, with iron stains, trace sand [A-7] (continued)					
633.6						609.9					
FILL: Brown and gray, clay [A-7]						With sandstone and shale fragments					
632.1						Sampler refusal at 21.4 ft.					
SILTY CLAY: Gray, with iron nodules, trace roots [A-6]											
3											
4											
5											
8											
629.6											
SILTY CLAY: Gray, with iron nodules and fine sand [A-4]											
2											
3											
3											
627.1											
SILTY CLAY: Brownish gray, with iron nodules, trace fine sand and roots [A-6]											
2											
3											
4											
-10											
623.9											
CLAY: Gray, with iron stains, trace fine sand [A-7]											
1											
4											
4											
Trace sandstone and chert fragments											
2											
3											
5											
-15											
Trace fine to coarse sand											
2											
4											
6											
With sandstone and gravel											
2											
4											
5											
615.1											

Boring terminated at 20.0 ft.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**



**TRAFFIC SIGNAL DETAILS**  
BORING LOGS - FAP 312 (IL ROUTE 3) & ILLINOIS AVENUE  
SCALE: NONE SHEET NO. 6 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	403
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



# SOIL BORING LOG

SCI No. 2004-3089.51

Page 1 of 1

Date 10/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Signal Boring LOGGED BY SCI (JAS)

SECTION 68-WRS-1 LOCATION NW 1/4 of the NW 1/4, SEC. 25, TWP. 2S, RNG. 10W

COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. N/A DEPTH N/A SURFACE WATER ELEV. N/A ft  
 Station N/A STREAM BED ELEV. N/A ft  
 BORING NO. B-226 GROUNDWATER ELEV.: 614.5 ft  
 Station 2084+00 First Encounter 614.5 ft  
 Offset 36 ft RT Upon Completion NONE ft  
 Ground Surface Elev. 626.2 ft After -- Hrs. N/A ft

DEPTH (ft)	DIAGNOSIS (BULGE, SHEAR, PENETROMETER)	UCS (%)	MOISTURE (%)	DESCRIPTION
625.2				FILL: Brown, silt, with roots, trace cinders [A-4]
1		2.0	25	CLAY: Gray and brown, trace sand [A-7]
2		2.4	21	Trace sandstone fragments
4		2.5	26	With iron nodules, trace gravel
617.0		3.3	19	SHALEY CLAY: Brown and gray, trace sand and gravel [A-7]
9		2.8	25	2-inch layer of calcareous sandstone with chert nodules
613.0		50/3"	2	Auger refusal at 13.0 feet; sampler refusal at 13.3 ft.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

SCI No. 2004-3089.51

Page 1 of 1

Date 10/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Signal Boring LOGGED BY SCI (JAS)

SECTION 68-WRS-1 LOCATION NW 1/4 of the NW 1/4, SEC. 25, TWP. 2S, RNG. 10W

COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. N/A DEPTH N/A SURFACE WATER ELEV. N/A ft  
 Station N/A STREAM BED ELEV. N/A ft  
 BORING NO. B-227 GROUNDWATER ELEV.: 611.9 ft  
 Station 2084+19 First Encounter 611.9 ft  
 Offset 58 ft LT Upon Completion 610.6 ft  
 Ground Surface Elev. 631.1 ft After 0.25 Hrs. 614.6 ft

DEPTH (ft)	DIAGNOSIS (BULGE, SHEAR, PENETROMETER)	UCS (%)	MOISTURE (%)	DESCRIPTION
630.1				FILL: Brown, silty clay, with roots and crushed rock [A-6]
2		7.6	18	CLAY: Gray, with iron nodules, trace fine sand [A-7]
628.1				SILTY CLAY: Gray, trace iron nodules and fine sand [A-6]
2		2.5	24	
4		2.3	24	
623.1				CLAY: Gray, with iron stains [A-7]
3		2.5	22	
610.0				SANDSTONE: Gray Sampler refusal at 21.1 ft.
2		2.5	23	Trace sand
4		2.3	22	Trace gravel
613.1				BECOMES BROWN
1		1.5	22	
613.1				SHALEY CLAY: Brown, with sandstone fragments [A-7]
4		0.5	24	BECOMES GRAY

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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










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TRAFFIC SIGNAL DETAILS  
 BORING LOGS - FAP 312 (IL ROUTE 3) & ILLINOIS AVENUE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	404
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

**TRAFFIC SIGNALS LEGEND**

RREC	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT
PVCC	POLYVINYL CHLORIDE CONDUIT
GSC	GALVANIZED STEEL CONDUIT
	EXISTING TRAFFIC SIGNAL MAST ARM
	EXISTING HANDHOLE
	EXISTING DOUBLE HANDHOLE
	EXISTING DETECTOR LOOP
	EXISTING CONTROLLER
	EXISTING STREET NAME SIGN/TRAFFIC SIGN
	EXISTING SERVICE INSTALLATION
	EXISTING CONDUIT
	PROPOSED TRAFFIC SIGNAL MAST ARM
	PROPOSED HANDHOLE
	PROPOSED DOUBLE HANDHOLE
	PROPOSED DETECTOR LOOP
	PROPOSED CONDUIT: "T" TRENCH, "P" PUSH, SIZE SPECIFIED

**SCHEDULE OF QUANTITIES**

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	
				FAP 312 (ILLINOIS ROUTE 3) AND FAS 852 (NORTH MARKET STREET)
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	171	171
81028230	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2" DIA.	FOOT	211	211
81028250	UNDERGROUND CONDUIT, GALVANIZED STEEL, 5" DIA.	FOOT	79	79
81028330	UNDERGROUND CONDUIT, PVC, 1 1/4" DIA.	FOOT	188	188
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	1337	1337
81028360	UNDERGROUND CONDUIT, PVC, 2 1/2" DIA.	FOOT	82	82
81028380	UNDERGROUND CONDUIT, PVC, 3 1/2" DIA.	FOOT	82	82
81028400	UNDERGROUND CONDUIT, PVC, 5" DIA.	FOOT	136	136
81400100	HANDHOLE	EACH	14	14
81400300	DOUBLE HANDHOLE	EACH	2	2
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	934	934
87301235	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 4C	FOOT	962	962
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	5547	5547
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	230	230
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	7540	7540
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	33	33
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	710	710
87500900	TRAFFIC SIGNAL POST, 13 FT.	EACH	3	3
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1	1
87700290	STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.	EACH	2	2
87700320	STEEL MAST ARM ASSEMBLY AND POLE, 55 FT.	EACH	1	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	9	9
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	3	3
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	56	56
88040070	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	9	9
88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION MAST-ARM MOUNTED	EACH	13	13
88040110	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	1	1
88102810	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED 1-FACE, BRACKET MOUNTED	EACH	4	4
88200400	TRAFFIC SIGNAL BACKPLATE, FORMED PLASTIC	EACH	9	9
88500100	INDUCTIVE LOOP DETECTOR	EACH	7	7
88600100	DETECTOR LOOP, TYPE I	FOOT	2773	2773
88800100	PEDESTRIAN PUSH-BUTTON	EACH	4	4
89501100	RELOCATE EXISTING TRAFFIC SIGNAL CONTROLLER	EACH	1	1
89502200	MODIFY EXISTING CONTROLLER	EACH	1	1
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	4	4
89502380	REMOVE EXISTING HANDHOLE	EACH	7	7
89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1	1
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	5	5
X0301183	GEOMETRICALLY PROGRAMMED LOUVER	EACH	5	5

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



**TRAFFIC SIGNAL DETAILS**  
 FAP 312 (IL ROUTE 3) & FAS 852 (NORTH MARKET STREET)  
 LEGEND AND SCHEDULE OF QUANTITIES

SCALE: NONE SHEET NO. 1 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	405
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76817	

**ELECTRICAL GENERAL NOTES**

- ALL VEHICLE AND PEDESTRIAN SIGNAL HEADS SHALL HAVE 12" L.E.D. SECTIONS. ALL MOUNTING HARDWARE, SIGNAL POSTS, AND BASES SHALL BE UNPAINTED ALUMINUM. ALL BOLTS, SCREWS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. ANTI-SEIZE PASTE COMPOUND SHALL BE USED ON ALL MOUNTING HARDWARE FIELD CONNECTIONS.
- BACKPLATES SHALL BE ABS PLASTIC.
- THE LOCATION OF MAST ARM SUPPORTS SHALL BE APPROVED BY THE ENGINEER BEFORE FOUNDATIONS ARE CONSTRUCTED. MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 10 FEET FROM THE EDGE OF PAVEMENT OR 2 FEET FROM THE EDGE OF SHOULDER, WHICHEVER DISTANCE IS GREATER. IN CURBED SECTIONS, THE MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM THE FACE OF THE CURB. THESE DISTANCES ARE TO THE NEAR FACE OF THE MAST ARM POLE. ALL MAST ARMS AND POLES SHALL BE GALVANIZED.

**STANDARDS**

- 720001
- 720016
- 805001
- 814001
- 814006
- 857001
- 873001
- 877001
- 878001
- 880006
- 886001
- 886006

- ACTUAL DEPTHS OF THE CONCRETE FOUNDATIONS FOR THE SIGNAL POLES AND MAST ARM SUPPORT POLES ARE AS FOLLOWS:

**FAP 312 (ILLINOIS ROUTE 3) & FAS 852 (NORTH MARKET STREET)**

- NORTHEAST CORNER MAST ARM: 15'-0" DEEP
- SOUTHEAST CORNER MAST ARM: 15'-0" DEEP
- SOUTHEAST CORNER POLE: 3'-0" DEEP
- SOUTHWEST CORNER MAST ARM: 15'-0" DEEP
- SOUTHWEST CORNER POLE: 3'-0" DEEP
- NORTHWEST CORNER MAST ARM: 11'-0" DEEP
- NORTHWEST CORNER POLE: 3'-0" DEEP

THESE DEPTHS ARE DETERMINED FROM THE SOIL BORING DATA.

- ALL TRAFFIC SIGNAL CABLES SHALL BE #14 AWG STRANDED COPPER UNLESS OTHERWISE SPECIFIED.
- THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWED IN THE PAVEMENT.
- DETECTOR LOOP LEAD-IN SPLICES SHALL BE MADE IN A HANDHOLE PER ARTICLE 873.03 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STANDARD DRAWING 886001. CONDUCTORS SHALL BE SPLICED IN A RIGID MOLD. ROSIN-CORE SOLDER SHALL BE USED.
- CALL DELAY SHALL NOT FUNCTION WHEN THE RELATED PHASES ARE IN THE GREEN MODE.
- ALL HANDHOLES SHALL BE CAST-IN-PLACE PORTLAND CEMENT CONCRETE (PER ARTICLE 814.03(B)). THE CAST IN PLACE LEGEND IN THE COVER SHALL BE "TRAFFIC SIGNALS". SLOPE HANDHOLE COVERS TO MATCH PROPOSED GRADE ELEVATIONS.
- ALL UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY ATTEMPT TO CONSTRUCT ANY COMPONENT OF THE VARIOUS TRAFFIC SIGNAL INSTALLATION. AGENCIES KNOWN TO HAVE UNDERGROUND FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING: MEMBER OF J.U.L.I.E. PHONE (800) 892-0123 ARE INDICATED BY • (CALL ONE WEEK BEFORE YOU PLAN TO DIG).
  - CITY OF WATERLOO
  - MONROE COUNTY ELECTRIC CO-OP
  - HTC
  - CHARTER
- ALL INDUCTIVE LOOP DETECTORS SUPPLIED FOR THIS PROJECT SHALL HAVE THE CAPACITY OF OPERATING WITH BOTH DELAY AND EXTENSION MODES ACTIVE, IF A TIME SETTING IS PROGRAMMED. THEY SHALL BE RACK MOUNTED.
- A 1/4" NYLON PULL ROPE SHALL BE FURNISHED AND INSTALLED IN ALL SIGNAL CONDUITS, THIS WORK SHALL BE INCLUDED WITH THE CONDUIT PAY ITEM.
- SEE SPECIAL PROVISIONS FOR TRAFFIC CONTROL AND CONSTRUCTION STAGING REQUIREMENTS.
- RELOCATE EXISTING TRAFFIC SIGNAL BACK PLATES TO NEW SIGNAL HEADS. THE QUANTITY OF 9 NEW BACK PLATES REFLECTS 9 ADDITIONAL SIGNAL HEADS.

**DETECTOR LOOP REQUIREMENTS AND CALCULATIONS FOR FAP 312 (ILLINOIS ROUTE 3) AND FAS 852 (NORTH MARKET STREET)**

LOOP	PHASE (Ø)	LOOP SIZE(FT)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (µH)	CALCULATED RESISTANCE OHMS (Ω)
1. SB LT CD A	1	6'X50' (Ø)	3-6-3	855.1	3.16
2. SB LT CD B	1	6'X50' (Ø)	3-6-3	851.8	3.09
3. SB THRU CD A	6	6'X50' (Ø)	3-6-3	869.8	3.50
4. SB THRU CD B	6	6'X50' (Ø)	3-6-3	866.3	3.42
5. SB RT CD	6	6'X50' (Ø)	3-6-3	867.8	3.45
6. SB LT CCO A	1	6'X6'	7	507.1	3.63
7. SB LT CCO B	1	6'X6'	7	504.4	3.57
8. SB THRU CCO A	6	6'X6'	7	531.7	4.19
9. SB THRU CCO B	6	6'X6'	7	528.8	4.12
10. NB LT CD	5	6'X50' (Ø)	3-6-3	822.1	2.41
11. NB THRU CD A	2	6'X50' (Ø)	3-6-3	815.0	2.25
12. NB THRU CD B	2	6'X50' (Ø)	3-6-3	811.7	2.18
13. NB RT CD	2	6'X50' (Ø)	3-6-3	797.7	1.86
14. NB THRU CCO A	2	6'X6'	7	456.2	2.47
15. NB THRU CCO B	2	6'X6'	7	454.3	2.43
16. EB LT CD	7	6'X50' (Ø)	3-6-3	859.5	3.26
17. EB THRU CD	4	6'X50' (Ø)	3-6-3	856.4	3.19
18. EB RT CD	4	6'X50' (Ø)	3-6-3	840.8	2.84
19. EB THRU CCO	4	6'X6'	7	474.7	2.89
20. WB LT CD	3	6'X50' (Ø)	3-6-3	834.6	2.70
21. WB THRU CD	8	6'X50' (Ø)	3-6-3	828.5	2.56
22. WB THRU CCO	8	6'X6'	7	465.0	2.67

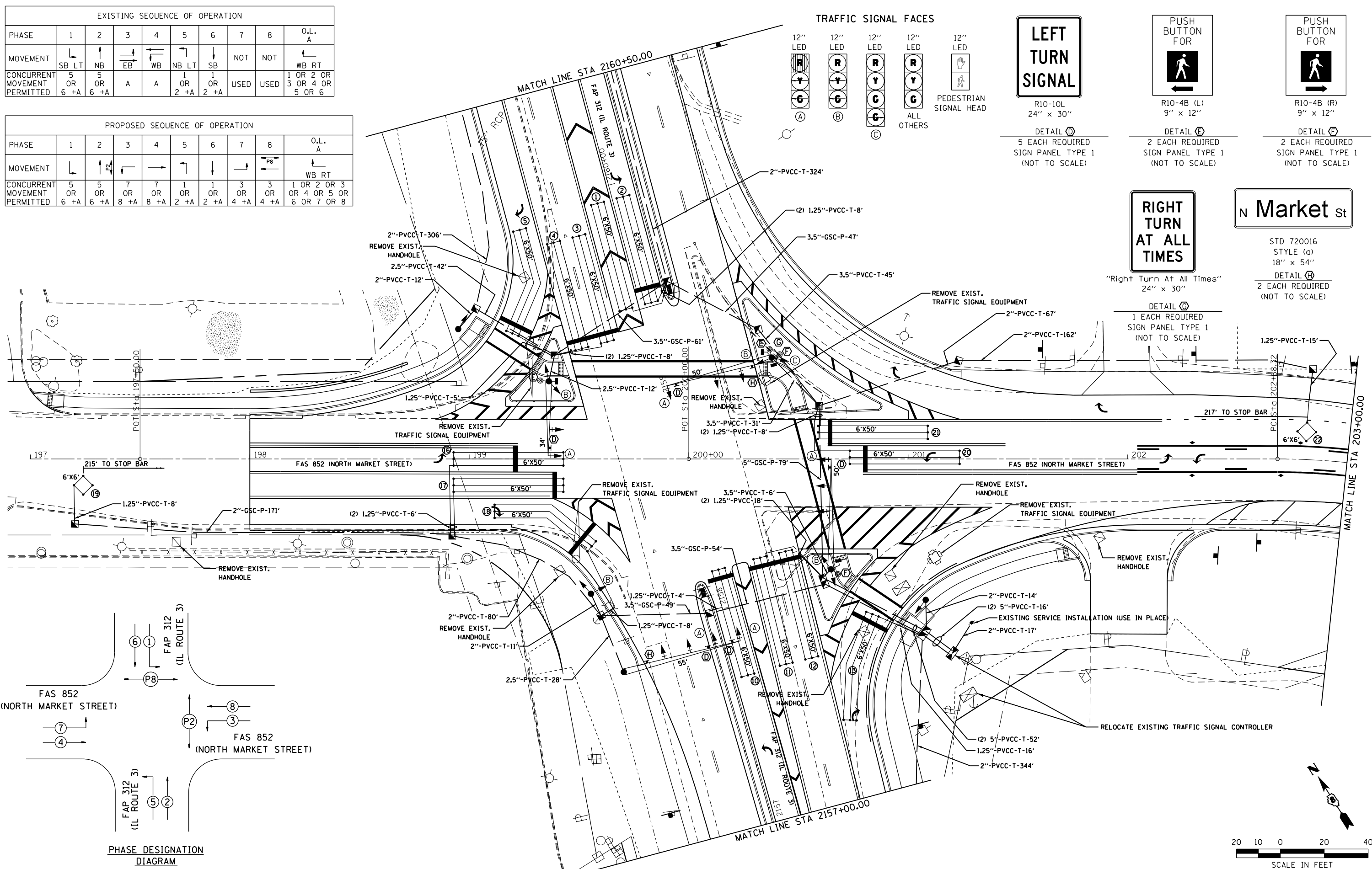
THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

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PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	SCALE: NONE			TRAFFIC SIGNAL NOTES		SHEET NO. 2 OF 7 SHEETS	STA. TO STA.	CONTRACT NO. 76817			
PLOT DATE = 1/25/2013 3:34:23 PM	DATE -	REVISED -											
ILLINOIS FED. AID PROJECT													

EXISTING SEQUENCE OF OPERATION									
PHASE	1	2	3	4	5	6	7	8	O.L. A
MOVEMENT	SB LT	NB	EB	WB	NB LT	SB	NOT	NOT	WB RT
CONCURRENT MOVEMENT PERMITTED	5 OR 6 +A	5 OR 6 +A	A	A	1 OR 2 +A	1 OR 2 +A	USED	USED	1 OR 2 OR 3 OR 4 OR 5 OR 6

PROPOSED SEQUENCE OF OPERATION									
PHASE	1	2	3	4	5	6	7	8	O.L. A
MOVEMENT	SB LT	NB	EB	WB	NB LT	SB	NOT	NOT	WB RT
CONCURRENT MOVEMENT PERMITTED	5 OR 6 +A	5 OR 6 +A	7 OR 8 +A	7 OR 8 +A	1 OR 2 +A	1 OR 2 +A	3 OR 4 +A	3 OR 4 +A	1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8



**TRAFFIC SIGNAL FACES**

12" LED (A) 12" LED (B) 12" LED (C) 12" LED (D) 12" LED (E) PEDESTRIAN SIGNAL HEAD ALL OTHERS

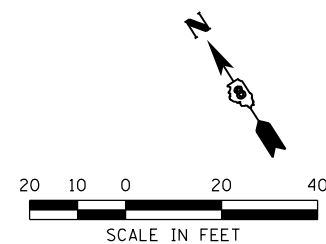
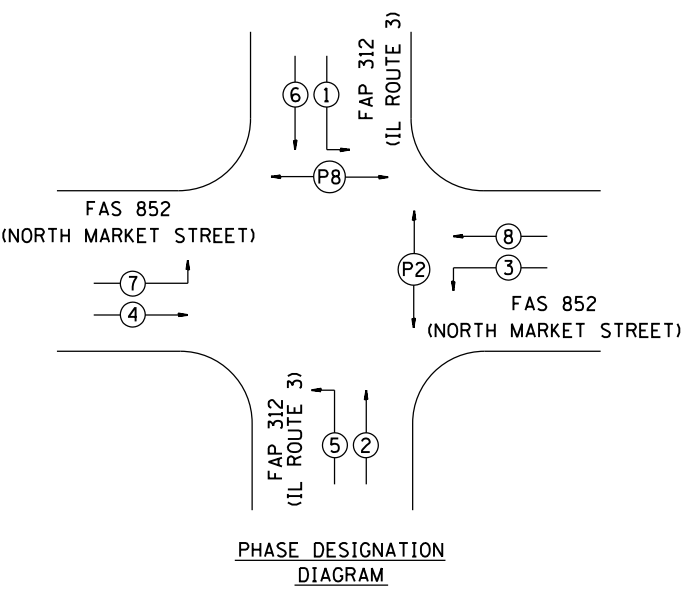
**LEFT TURN SIGNAL**  
R10-10L 24" x 30"  
DETAIL (D) 5 EACH REQUIRED SIGN PANEL TYPE 1 (NOT TO SCALE)

**PUSH BUTTON FOR**  
R10-4B (L) 9" x 12"  
DETAIL (E) 2 EACH REQUIRED SIGN PANEL TYPE 1 (NOT TO SCALE)

**PUSH BUTTON FOR**  
R10-4B (R) 9" x 12"  
DETAIL (F) 2 EACH REQUIRED SIGN PANEL TYPE 1 (NOT TO SCALE)

**RIGHT TURN AT ALL TIMES**  
"Right Turn At All Times" 24" x 30"  
DETAIL (G) 1 EACH REQUIRED SIGN PANEL TYPE 1 (NOT TO SCALE)

**N Market St**  
STD 720016 STYLE (a) 18" x 54"  
DETAIL (H) 2 EACH REQUIRED (NOT TO SCALE)



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PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	REVISED -			SCALE: 1" = 20'	SHEET NO. 3 OF 7 SHEETS	STA. TO STA.	CONTRACT NO. 76817				
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 DRAWN -  
 CHECKED -  
 DATE -

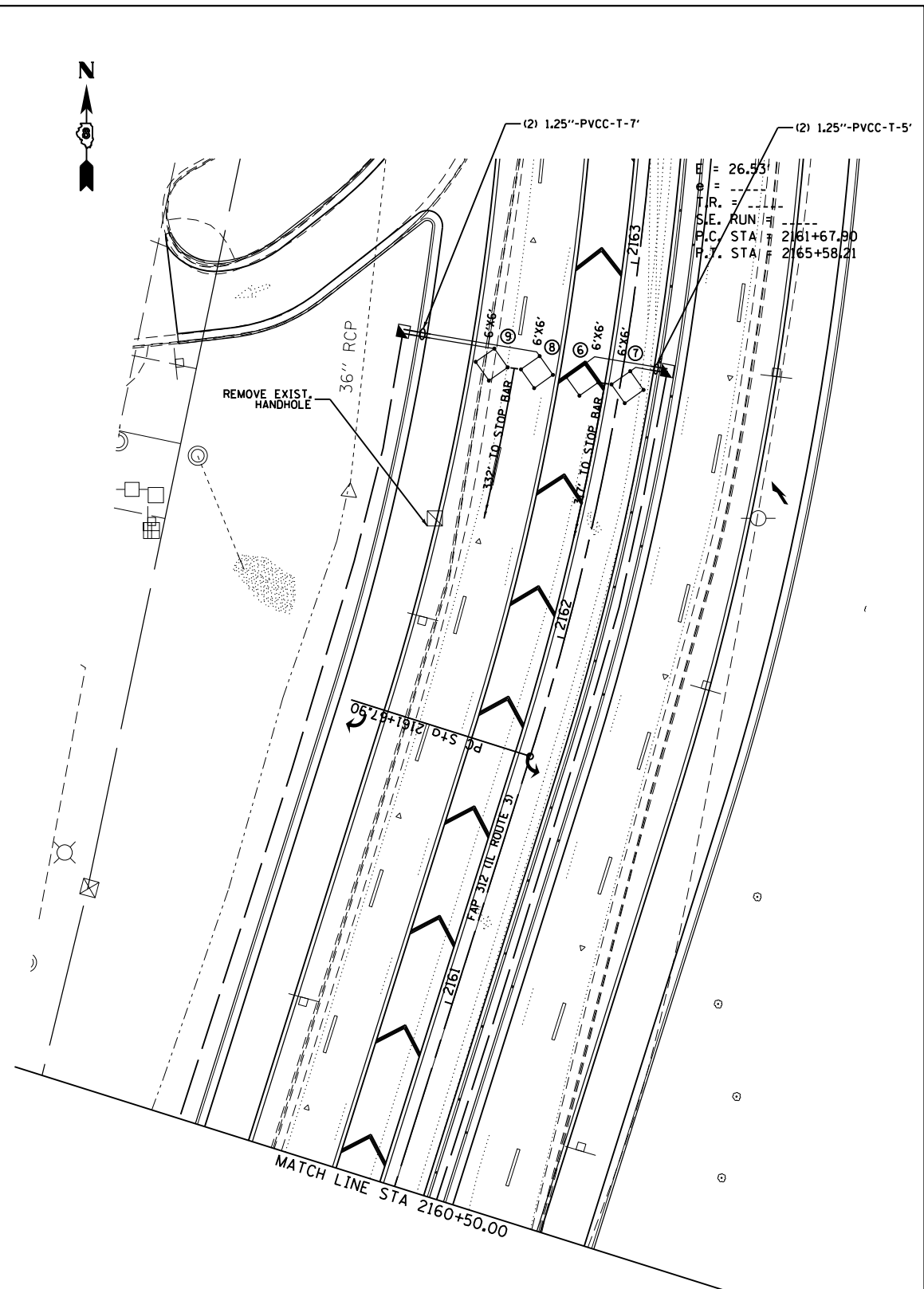
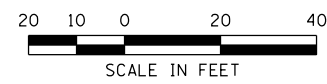
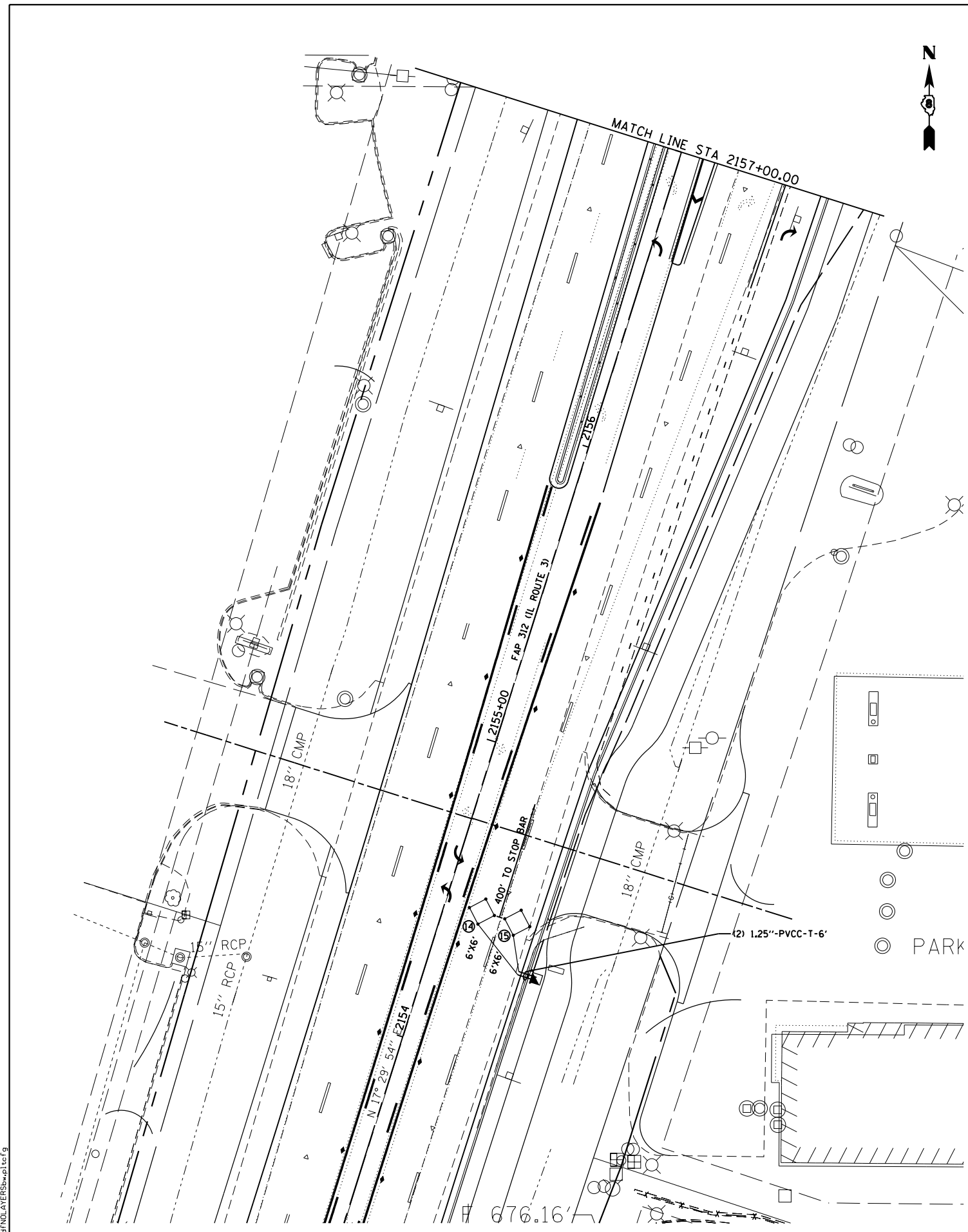
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC  
 ENGINEERS**

**TRAFFIC SIGNAL DETAILS**  
 FAP 312 (IL ROUTE 3) & FAS 885 (NORTH MARKET STREET)  
 PLAN VIEW  
 SCALE: 1" = 20'  
 SHEET NO. 4 OF 7 SHEETS STA. TO STA.

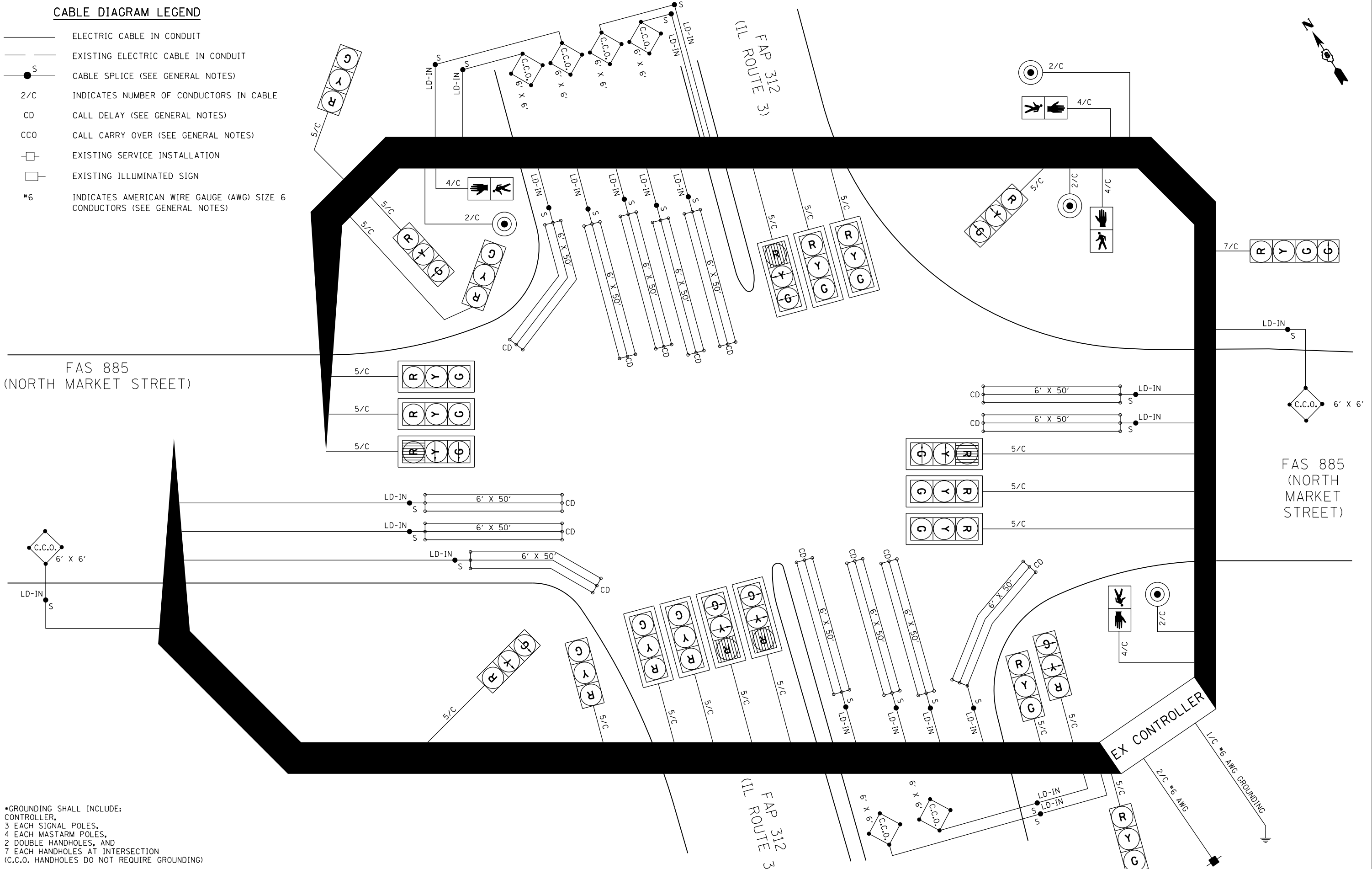
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	408
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				





**CABLE DIAGRAM LEGEND**

- ELECTRIC CABLE IN CONDUIT
- EXISTING ELECTRIC CABLE IN CONDUIT
- S CABLE SPLICE (SEE GENERAL NOTES)
- 2/C INDICATES NUMBER OF CONDUCTORS IN CABLE
- CD CALL DELAY (SEE GENERAL NOTES)
- CCO CALL CARRY OVER (SEE GENERAL NOTES)
- EXISTING SERVICE INSTALLATION
- EXISTING ILLUMINATED SIGN
- #6 INDICATES AMERICAN WIRE GAUGE (AWG) SIZE 6 CONDUCTORS (SEE GENERAL NOTES)



\*GROUNDING SHALL INCLUDE:  
 CONTROLLER,  
 3 EACH SIGNAL POLES,  
 4 EACH MASTARM POLES,  
 2 DOUBLE HANDHOLES, AND  
 7 EACH HANDHOLES AT INTERSECTION  
 (C.C.O. HANDHOLES DO NOT REQUIRE GROUNDING)

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		DATE -	REVISED -

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

**HORNER & SHIRIN, INC.**  
**ENGINEERS**

**TRAFFIC SIGNAL DETAILS**  
 FAP 312 (IL ROUTE 3) & FAS 852 (NORTH MARKET STREET)  
 CABLE DIAGRAM

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 409
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 20'      SHEET NO. 5 OF 7 SHEETS      STA. TO STA.



**Illinois Department  
of Transportation**  
Division of Highways  
Illinois Department of Transportation

# SOIL BORING LOG

Page 1 of 1

Date 1/30/96

ROUTE FAP 312 DESCRIPTION Traffic Signals at Relocated IL 3 and North Market Street LOGGED BY Dana Coughlin  
 SECTION 68R-1-3 LOCATION SW 1/4, SE 1/4, SEC. 13, TWP. 2S, RNG. 10W, 3<sup>rd</sup> PM,  
 COUNTY Monroe DRILLING METHOD Hand Auger HAMMER TYPE \_\_\_\_\_

STRUCT. NO.	N/A	D E P T H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.:
Station	N/A					First Encounter _____ ft Upon Completion _____ ft After _____ Hrs. _____ ft
BORING NO.	1 NW Mast Arm	(ft)	(/6")	(tsf)	(%)	
Station	2159+40					
Offset	58.0 ft Left					
Ground Surface Elev.	679.26					
Gray and Brown Silty CLAY (Fill)				1.8	27	
			10	1.7	26	
				1.8	22	
			10	2.0	26	
674.76				2.0	23	
Brown Silty CLAY		-5		0.7	25	
			6	1.6	24	
				1.5	25	
			11	1.2	24	
				1.2	24	
		-10	12	1.2	24	
				1.5	23	
666.26				1.2	21	
END OF HAND AUGER						
Pocket Penetrometer used for Qu		-15				
Due to inaccessability or buried utilities, Hand Augers were used. "N" values shown are calibrated from a curve converting Dynamic Cone N to SPT "N". Reference ASTM STP 399						
End of Boring		-20				

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

BBS, form 137 (Rev. 8-99)



**Illinois Department  
of Transportation**  
Division of Highways  
Illinois Department of Transportation

# SOIL BORING LOG

Page 1 of 1

Date 1/30/96

ROUTE FAP 312 DESCRIPTION Traffic Signals at Relocated IL 3 and North Market Street LOGGED BY Dana Coughlin  
 SECTION 68R-1-3 LOCATION SW 1/4, SE 1/4, SEC. 13, TWP. 2S, RNG. 10W, 3<sup>rd</sup> PM,  
 COUNTY Monroe DRILLING METHOD Hand Auger HAMMER TYPE \_\_\_\_\_

STRUCT. NO.	N/A	D E P T H S	B L O W S	U C S Qu	M O I S T %	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.:
Station	N/A					First Encounter _____ ft Upon Completion <u>673.2</u> ft ∇ After _____ Hrs. _____ ft
BORING NO.	2 SE Mast Arm	(ft)	(/6")	(tsf)	(%)	
Station	2158+00					
Offset	86.0 ft Right					
Ground Surface Elev.	679.15					
Brown Silty CLAY (Fill)				1.7	22	
			11	1.7	22	
				1.5	21	
			10	1.5	22	
674.15				1.2	23	
Gray Silty CLAY		∇	9	1.3	16	
				1.3	27	
				0.8	29	
			9	0.7	28	
				1.5	32	
		-10	9	1.7	30	
				1.7	30	
666.15				1.0	31	
END OF HAND AUGER						
Pocket Penetrometer used for Qu		-15				
Due to inaccessability or buried utilities, Hand Augers were used. "N" values shown are calibrated from a curve converting Dynamic Cone N to SPT "N". Reference ASTM STP 399						
End of Boring		-20				

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

BBS, form 137 (Rev. 8-99)

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



**TRAFFIC SIGNAL DETAILS**  
BORING LOGS - IL ROUTE 3 & NORTH MARKET ST

SCALE: 1" = 20'

SHEET NO. 6 OF 7 SHEETS STA. TO STA.

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 410
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	



# SOIL BORING LOG

Date 5/12/95

ROUTE FAP 312 DESCRIPTION Traffic Signals at Relocated IL 3 and North Market Street LOGGED BY Kirk Brown  
 SECTION 68R-1-3 LOCATION SW 1/4, SE 1/4, SEC. 13, TWP. 2S, RNG. 10W, 3<sup>rd</sup> PM, Latitude, Longitude  
 COUNTY Monroe DRILLING METHOD Hand Auger HAMMER TYPE

STRUCT. NO.	N/A	D	B	U	M	Surface Water Elev.	ft
Station	N/A	E	L	C	O	Stream Bed Elev.	ft
BORING NO.	3 NE Mast Arm	P	O	S	I	Groundwater Elev.:	
Station	2158+93	T	W	Qu	S	First Encounter	ft
Offset	37.0 ft Right	H	S		T	Upon Completion	670.9 ft
Ground Surface Elev.	674.40 ft	(ft)	(/6")	(tsf)	(%)	After	Hrs. ft
Brown Silty CLAY				1.3	26		
			3	1.2	26		
				1.0	27		
		▽		0.0	30		
			3	1.3	25		
				1.0	28		
Brown Sandy CLAY			3	1.0	29		
				1.0	28		
			5	1.0	27		
				1.4	28		
Brown and Gray Sandy Silty CLAY			7	2.5	27		
				2.0	27		
Brown Sandy Clay TILL				2.0	27		
END OF HAND AUGER							
Pocket Penetrometer used for Qu							
Due to inaccessability or buried utilities, Hand Augers were used. "N" values shown are calibrated from a curve converting Dynamic Cone N to SPT "N". Reference ASTM STP 399 End of Boring							

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

BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 5/12/95

ROUTE FAP 312 DESCRIPTION Traffic Signals at Relocated IL 3 and North Market Street LOGGED BY Kirk Brown  
 SECTION 68R-1-3 LOCATION SW 1/4, SE 1/4, SEC. 13, TWP. 2S, RNG. 10W, 3<sup>rd</sup> PM, Latitude, Longitude  
 COUNTY Monroe DRILLING METHOD Hand Auger HAMMER TYPE

STRUCT. NO.	N/A	D	B	U	M	Surface Water Elev.	ft
Station	N/A	E	L	C	O	Stream Bed Elev.	ft
BORING NO.	4 SW Mast Arm	P	O	S	I	Groundwater Elev.:	
Station	2158+48	T	W	Qu	S	First Encounter	ft
Offset	47.0 ft Left	H	S		T	Upon Completion	665.0 ft
Ground Surface Elev.	676.47 ft	(ft)	(/6")	(tsf)	(%)	After	Hrs. ft
Brown Silty CLAY				1.3	23		
				1.3	25		
			4	0.8	26		
				1.4	27		
			6	1.3	25		
				1.5	25		
			7	1.3	23		
				2.5	23		
			6	2.3	31		
				2.3	25		
Brown Silty CLAY and Limestone Rock			8	2.5	24		
Brown Sandy Silty CLAY				1.3	30		
END OF HAND AUGER							
Pocket Penetrometer used for Qu							
Due to inaccessability or buried utilities, Hand Augers were used. "N" values shown are calibrated from a curve converting Dynamic Cone N to SPT "N". Reference ASTM STP 399 End of Boring							

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

BBS, form 137 (Rev. 8-99)

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



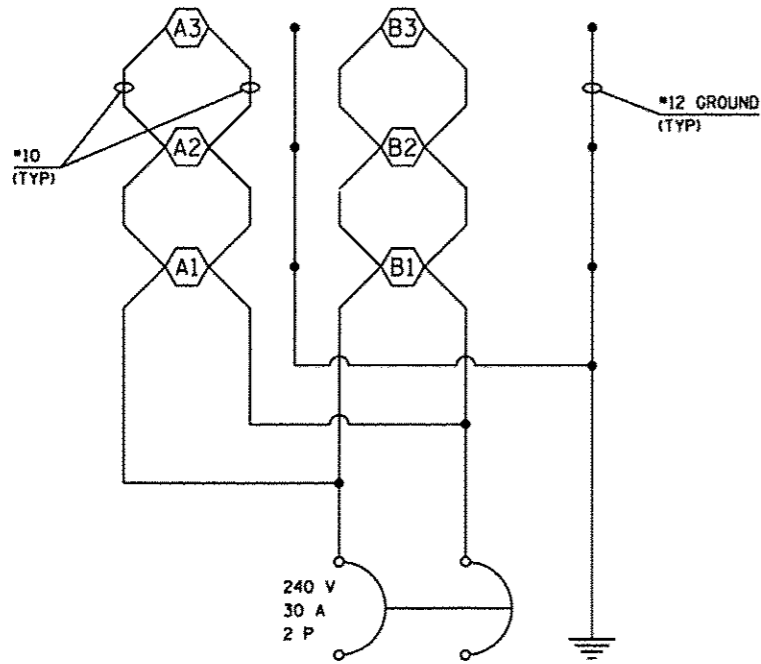
TRAFFIC SIGNAL DETAILS  
 BORING LOGS - IL ROUTE 3 & NORTH MARKET ST  
 SCALE: 1" = 20'  
 SHEET NO. 7 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	411
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

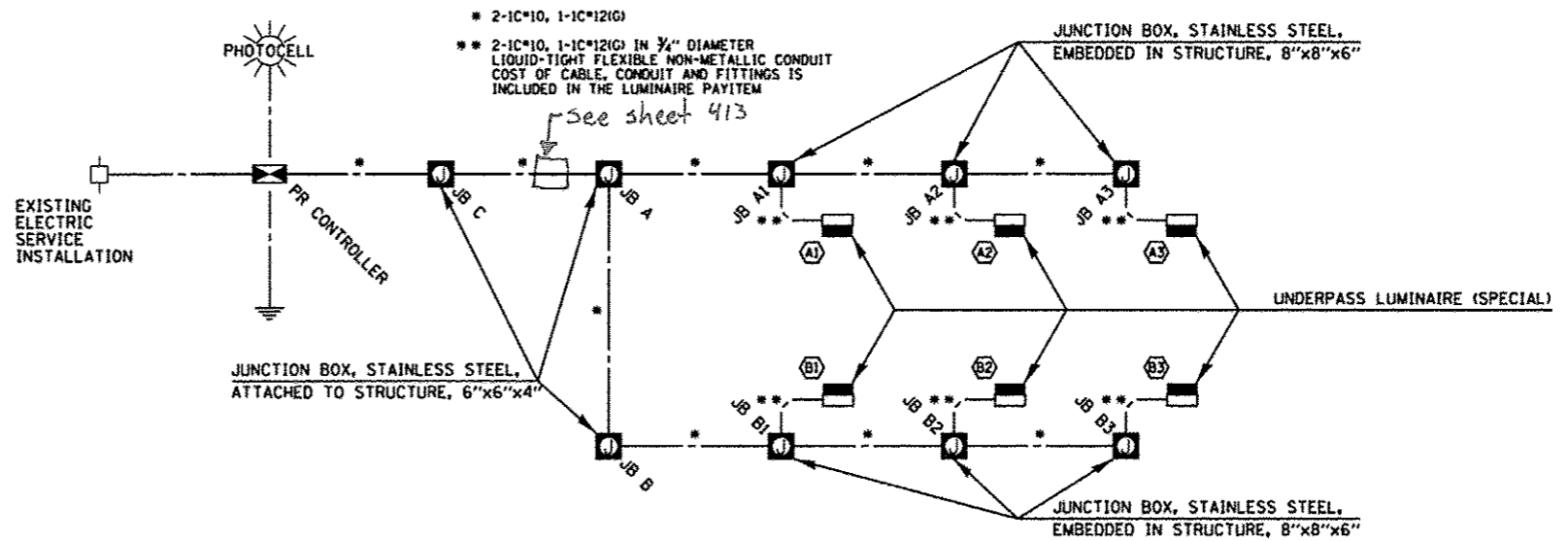
**LIGHTING LEGEND**

-  EXISTING SERVICE INSTALLATION
-  PROPOSED LIGHTING CONTROLLER, POLE MOUNTED, 240 VOLT, 30 AMP
-  PROPOSED JUNCTION BOX (JB XX), SIZE AS INDICATED ON THE PLANS
-  PROPOSED UNDERPASS LUMINAIRE (SPECIAL)
-  PROPOSED GROUND
-  PROPOSED CONDUIT, SIZE AND TYPE AS INDICATED ON THE PLANS
-  PROPOSED CONDUIT, EMBEDDED IN STRUCTURE, SIZE AND TYPE AS INDICATED ON THE PLANS

SCHEDULE OF QUANTITIES		TOTAL QUANTITIES	FAP 312 (ILLINOIS ROUTE 3) PEDESTRIAN BOX CULVERT LIGHTING
ITEM	UNIT		
UNDERGROUND CONDUIT, PVC, 1" DIA.	FOOT	236	236
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	57	57
CONDUIT EMBEDDED IN STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	184	184
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6"x6"x4"	EACH	3	3
JUNCTION BOX, STAINLESS STEEL, EMBEDDED IN STRUCTURE, 8"x8"x6"	EACH	6	6
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 12	FOOT	504	504
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1041	1041
LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1	1
UNDERPASS LUMINAIRE (SPECIAL)	EACH	6	6



**CIRCUIT #1**



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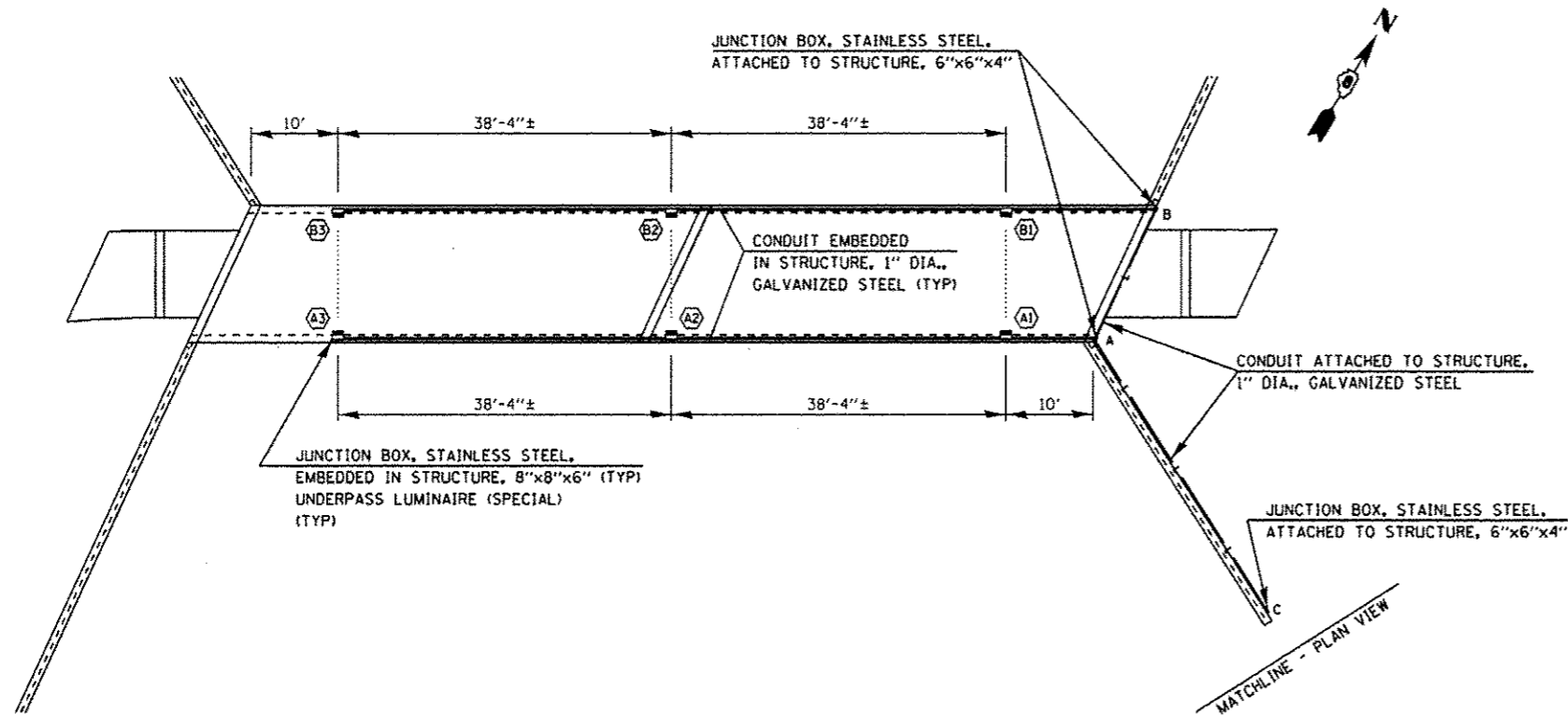
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHARP, INC.  
ENGINEERS**

**LIGHTING DETAILS  
PEDESTRIAN BOX CULVERT**

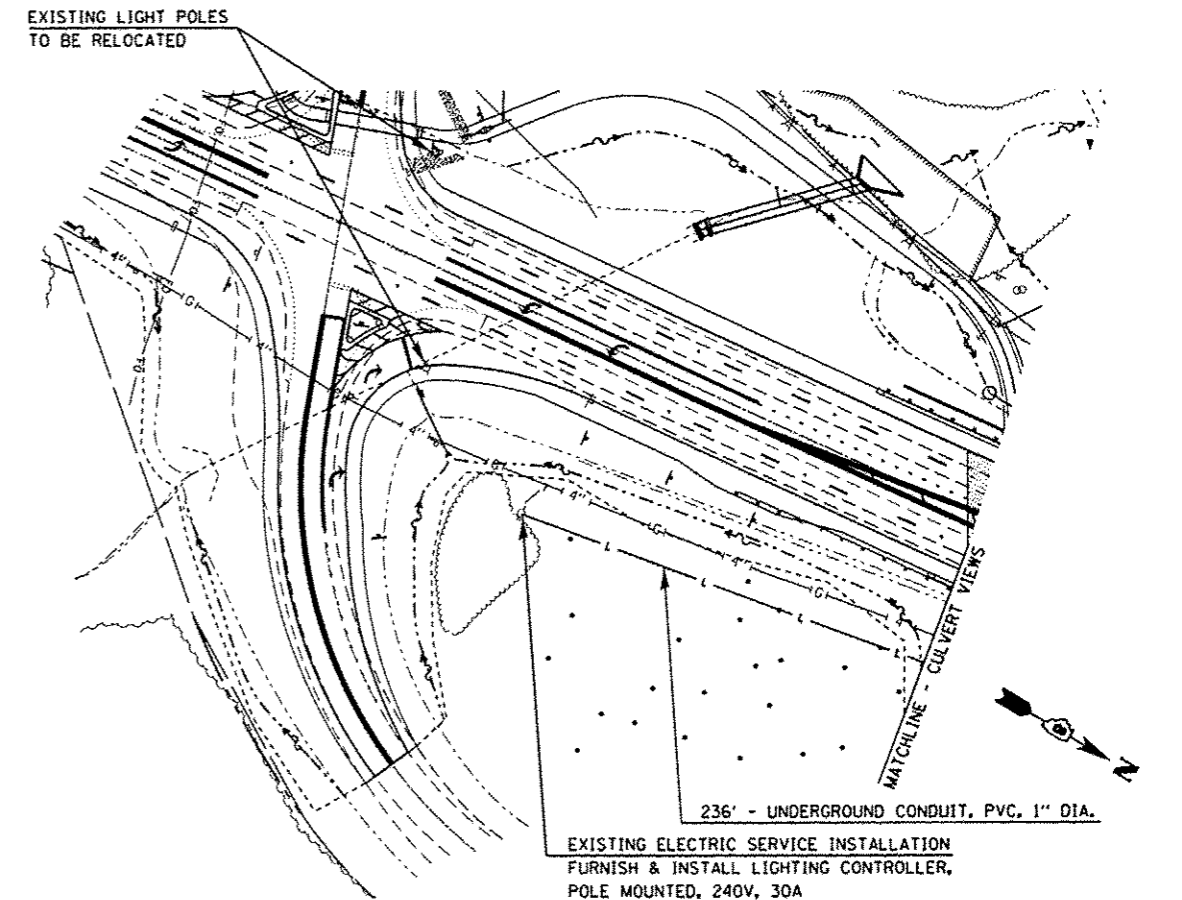
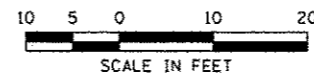
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CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

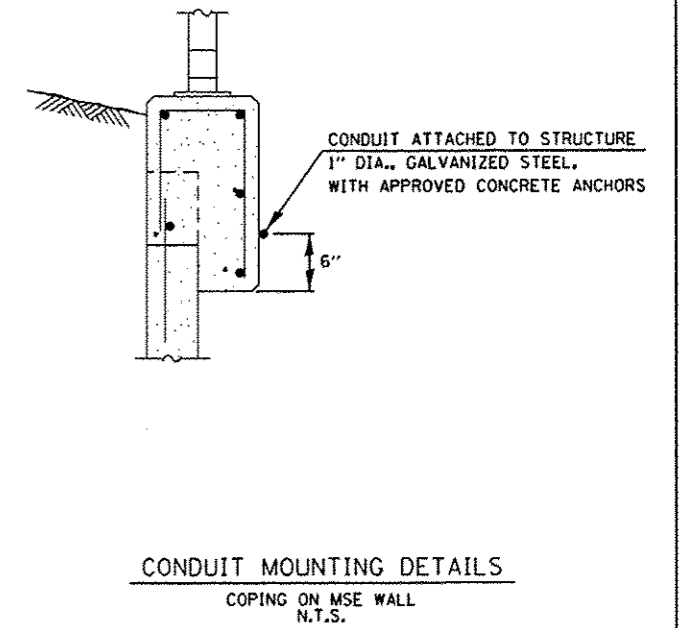
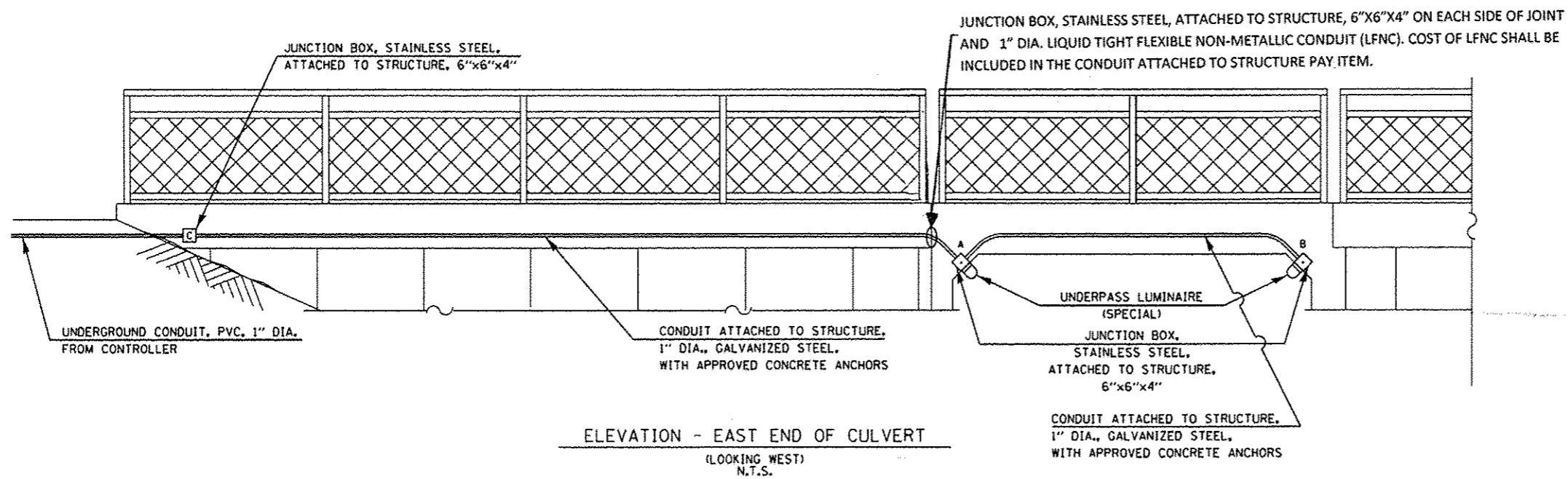
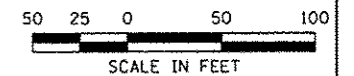


NOTE:  
ALL HARDWARE SHALL BE STAINLESS STEEL. ALL CONDUIT STRAPS, CLAMPS, HANGERS, FITTINGS AND APPURTENANCES SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL

LIGHTING LOCATION - CULVERT



LIGHTING LOCATION - PLAN



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HORNER & SHIRIN, INC.  
ENGINEERS

LIGHTING DETAILS  
PEDESTRIAN BOX CULVERT

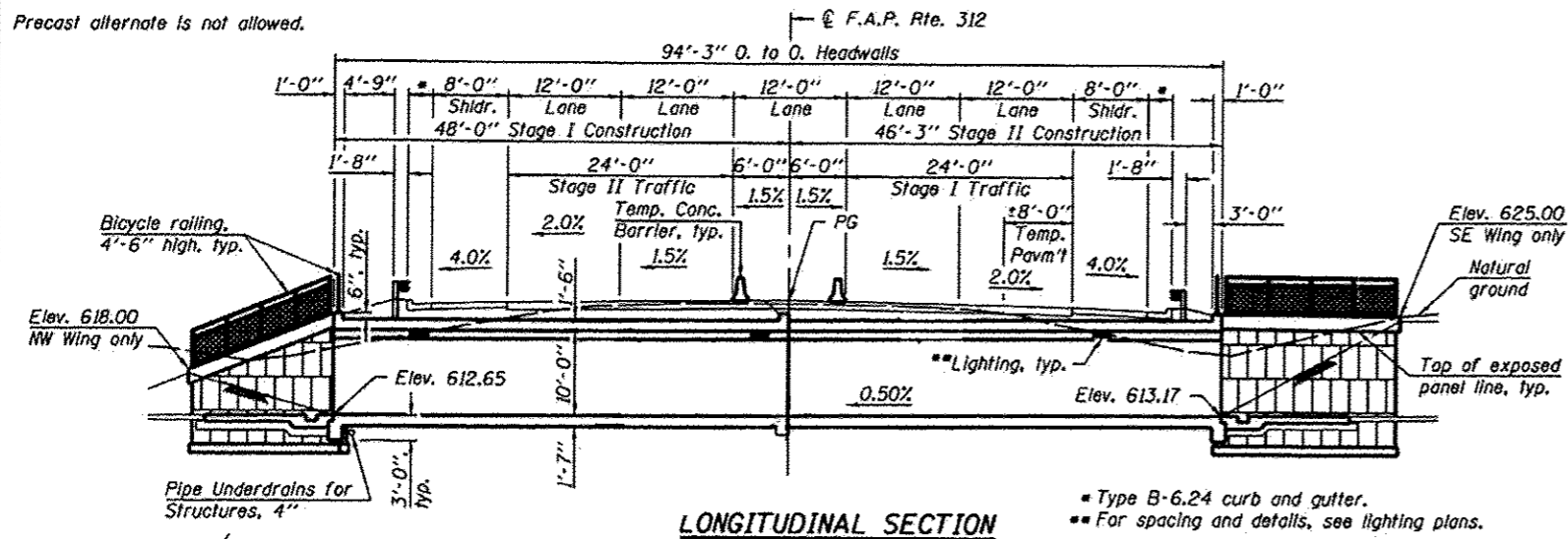
SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	413
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

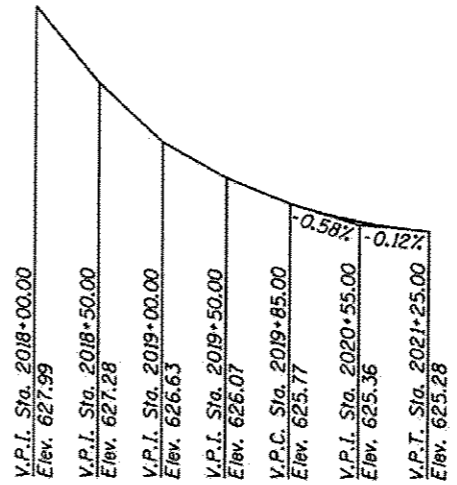
Bench Mark: Chiseled " " on the Southwest corner of a concrete box culvert running under IL 3 on the West side of IL 3 and North of South Library Street. Elev. 620.09.

Existing Structure: None. The proposed structure will be constructed utilizing staged construction.

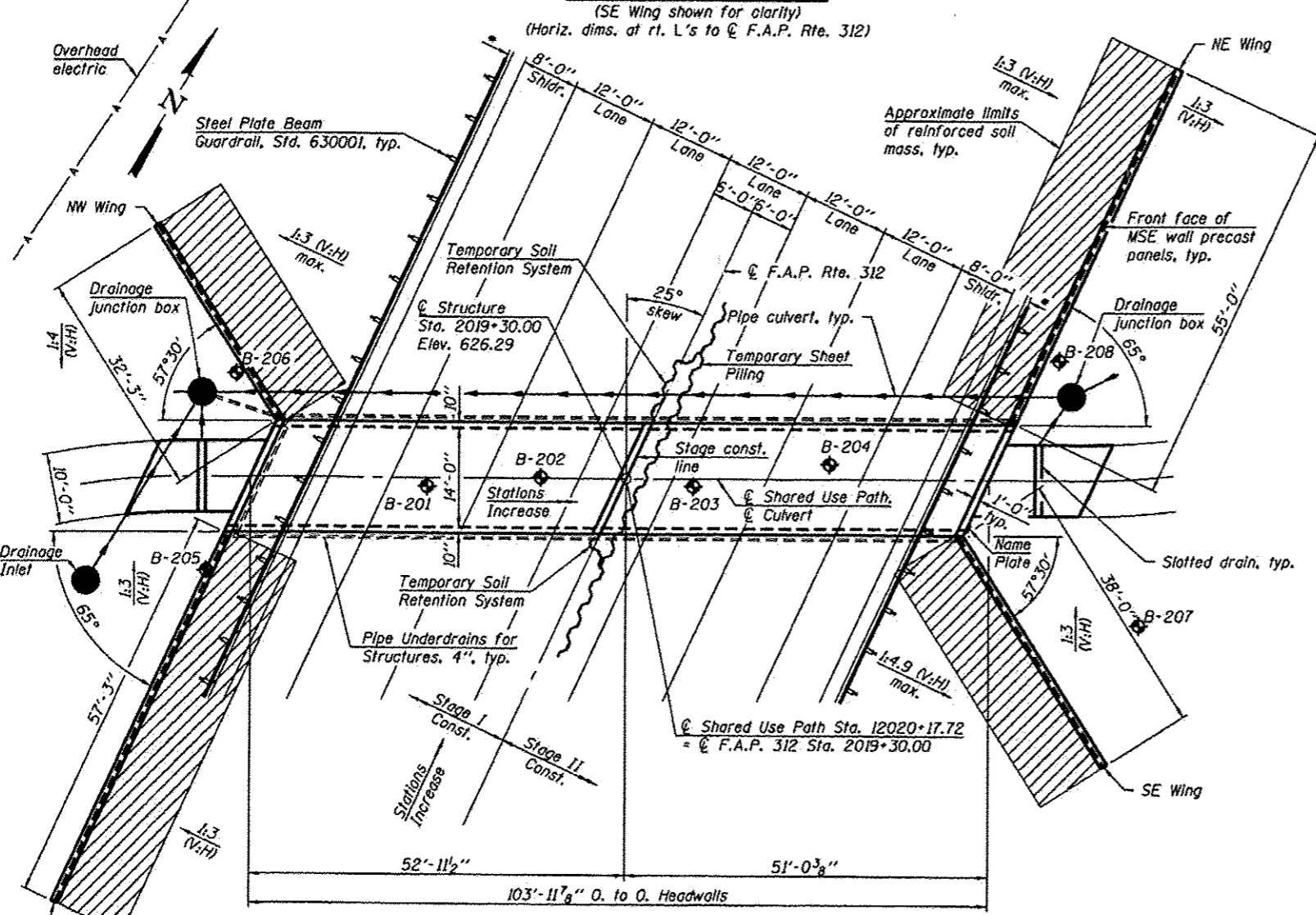
Precast alternate is not allowed.



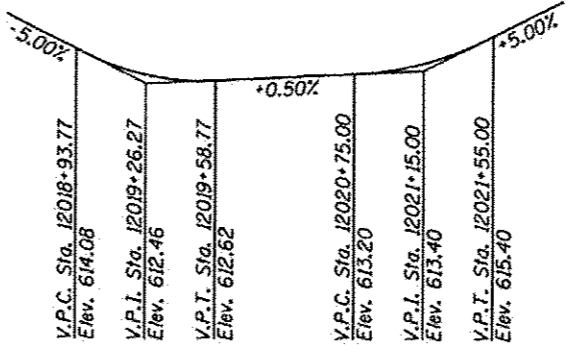
**LONGITUDINAL SECTION**  
(SE Wing shown for clarity)  
(Horiz. dims. at rt. L's to @ F.A.P. Rte. 312)



**PROFILE GRADE**  
(Along PG on F.A.P. Rte. 312)



**PLAN**



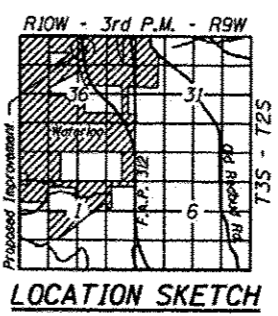
**PROFILE GRADE**  
(Along PG on Shared Use Path)

**SHARED USE PATH**

**CURVE 3 DATA**  
P.I. Sta. = 12019+13.70  
Δ = 52° 51' 12" (Rt.)  
D = 57° 17' 45"  
R = 100.00'  
T = 49.70'  
L = 92.25'  
E = 11.67'  
P.C. Sta. = 12018+64.00  
P.T. Sta. = 12019+56.25  
S.E. = 2.00%

**SHARED USE PATH**

**CURVE 4 DATA**  
P.I. Sta. = 12021+77.74  
Δ = 87° 29' 21" (L.)  
D = 57° 17' 45"  
R = 100.00'  
T = 95.71'  
L = 152.70'  
E = 38.42'  
P.C. Sta. = 12020+82.03  
P.T. Sta. = 12022+34.73  
S.E. = 2.00%



**LOCATION SKETCH**

**INDEX OF SHEETS**

1. General Plan
2. General Data
3. Temporary Sheet Pile and Temp. Soil Retention System
4. Stage Construction Details
5. Temporary Concrete Barrier
6. Culvert Plan
- 7-8. Culvert Elevation and Details
- 9-10. MSE Wingwall Details
11. Bicycle Railing Details
12. West Approach Slab Details
13. East Approach Slab Details
14. Bar Splicer Details
- 15-20. Boring Logs

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST UNITS**

f'c = 4,500 psi (Precast panels)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.26g  
Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.60g  
Soil Site Class = D



*Eric Lagemann* 1/24/13 Date  
Expires 11/30/2014

**GENERAL PLAN**  
**IL 3 OVER SHARED USE PATH**  
**F.A.P. RTE. 312 - SECTION 68-WRS-1**  
**MONROE COUNTY**  
**STATION 2019+30.00**  
**STRUCTURE NO. 067-2427**

FILE NAME = 141981881.Phase II - 76817.dgn	DESIGNED - E.M. Lagemann	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET NO. 1 OF 20 SHEETS				
USER NAME = elagemann	CHECKED - K.L. Hayes	REVISIONS						
PLLOT SCALE =	DRAWN - E.M. Lagemann	REVISIONS						
PLLOT DATE = 1/23/2013	CHECKED - K.L. Hayes	REVISIONS						
			F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 414	CONTRACT NO. 76817
								ILLINOIS FED. AID PROJECT

STATION 2019+30.00  
 BUILT 201 BY  
 STATE OF ILLINOIS  
 F.A.P. 312 SEC. 68-WRS-1  
 LOADING HL-93  
 STRUCTURE NO. 067-2427

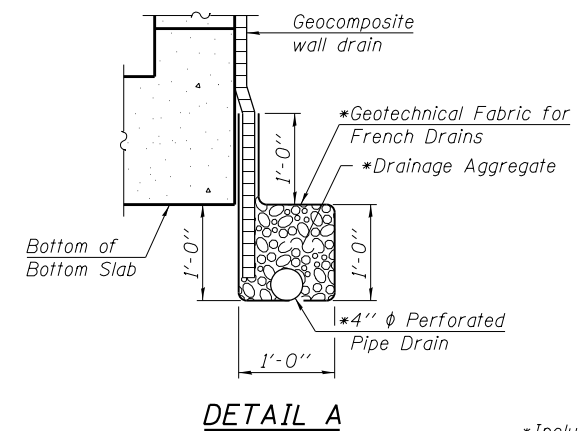
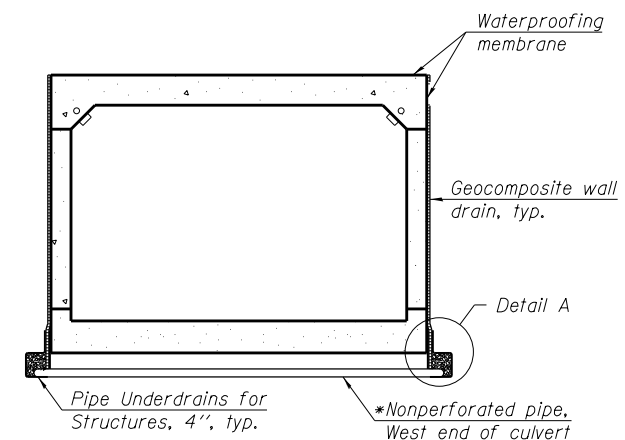
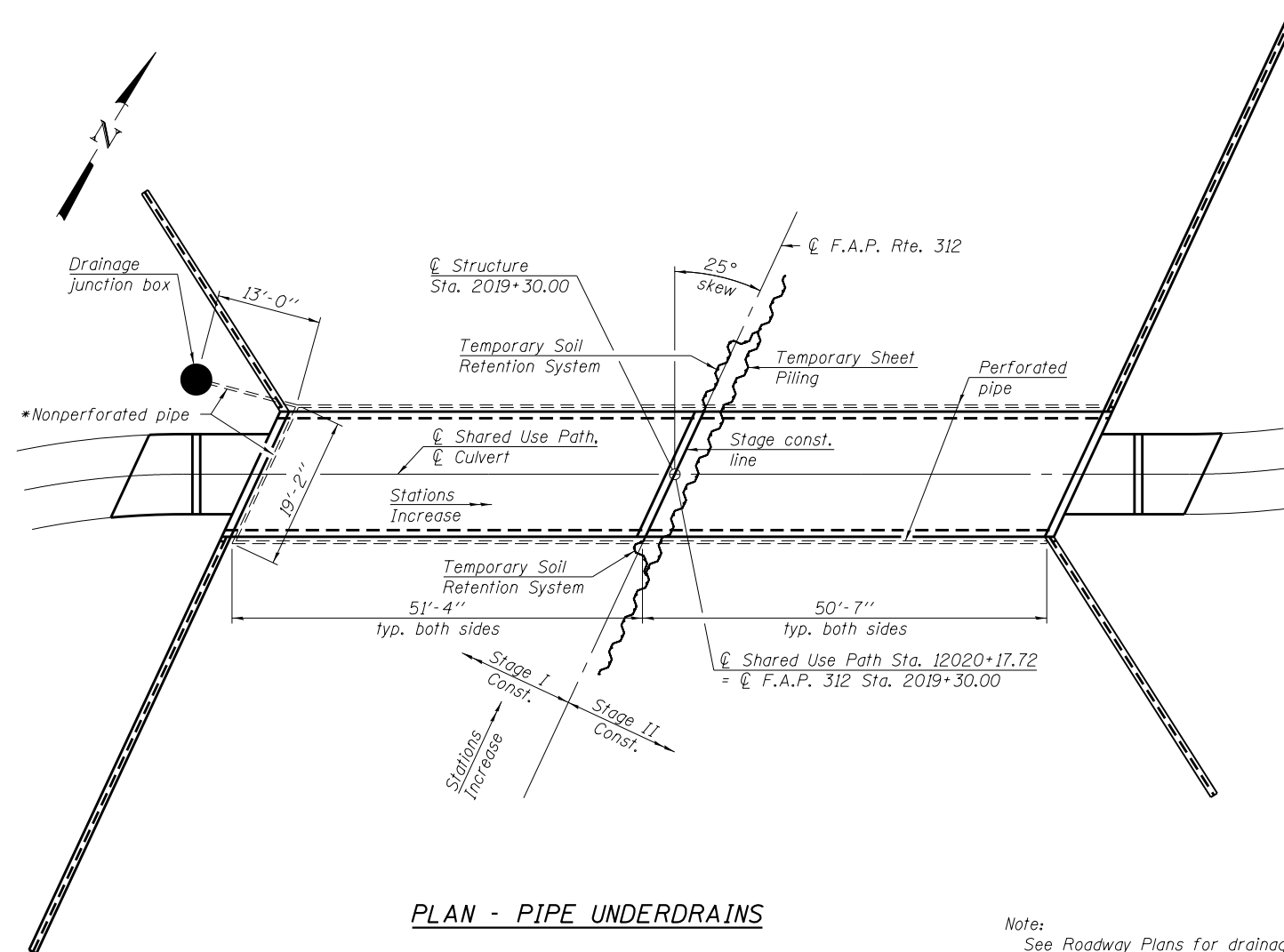
**NAME PLATE**  
 See Std. 515001

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

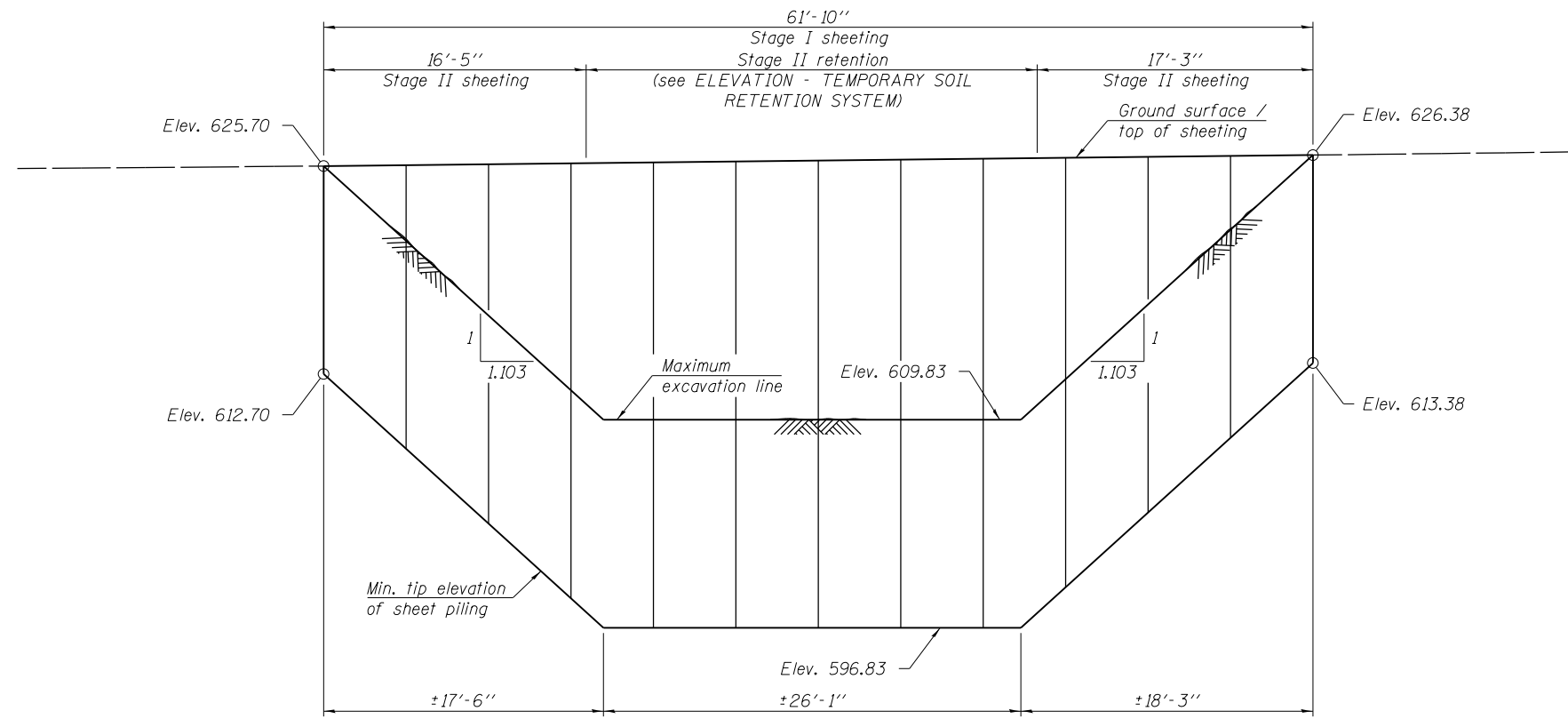
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	507
Concrete Structures	Cu. Yd.	12.5
Reinforcement Bars, Epoxy Coated	Pound	39,150
Bar Splicers	Each	144
Bicycle Railing	Foot	211
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	258.5
Membrane Waterproofing	Sq. Ft.	4,344
Geocomposite Wall Drain	Sq. Yd.	319
Temporary Sheet Piling	Sq. Ft.	1,518
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	1,661
Pipe Underdrains for Structures 4"	Foot	236
Temporary Soil Retention System	Sq. Ft.	163



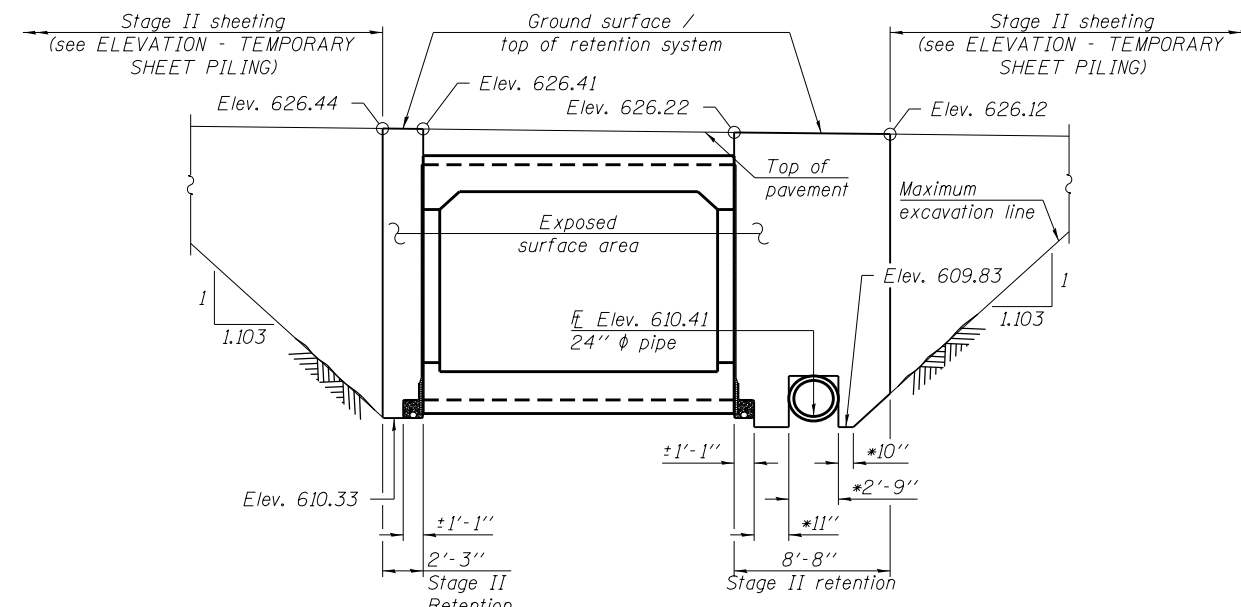
Note:  
 See Roadway Plans for drainage junction box location.

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



**ELEVATION - TEMPORARY SHEET PILING**  
(Looking East)

**SHEET PILE DATA**  
Minimum Section Modulus = 25 in.<sup>3</sup>/ft.  
fy = 38.5 ksi



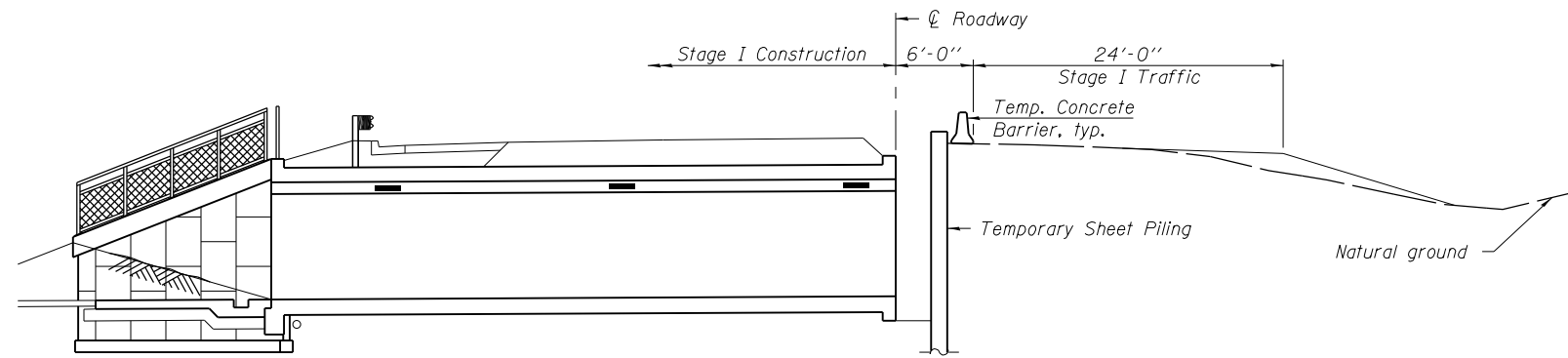
**ELEVATION - TEMPORARY SOIL RETENTION SYSTEM**  
(Looking West)

\*Dimensions subject to change based on actual O.D. of pipe.

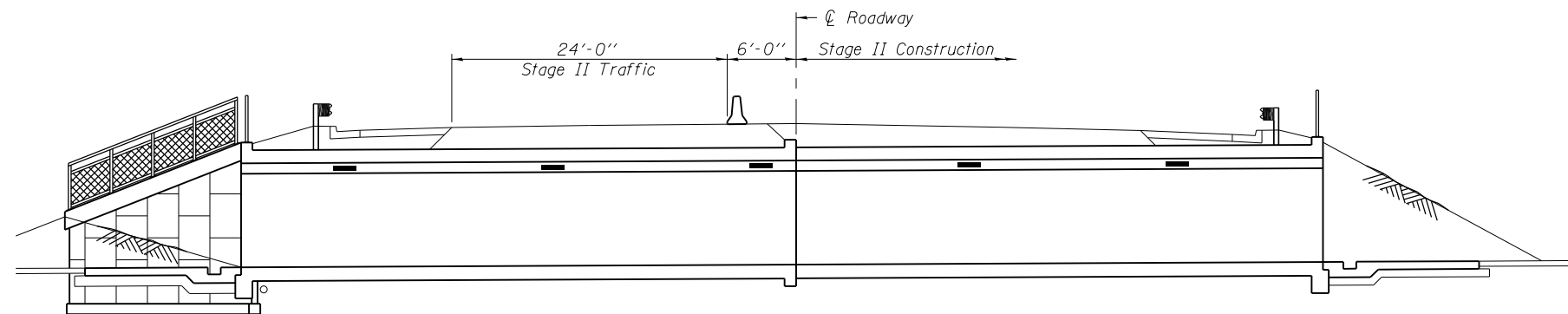
**Notes:**  
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.  
A cantilevered sheet piling design does not appear feasible for a portion of Stage II Construction and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.  
If the Contractor attaches the temporary soil retention system to the culvert, this connection shall have the same watertightness as the waterproofing membrane system. This detail shall be submitted for review and acceptance by the Engineer.

FILE NAME = I:\1001100\Phase II - 76817\ed\SV\Plans\0672427-76817.dgn 	USER NAME = elagemann	DESIGNED - E.M. Lagemann	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMP. SHEET PILE AND TEMP. SOIL RETENTION SYSTEM DETAILS STRUCTURE NO. 067-2427	F.A.P. RTE. = 312	SECTION = 68-WRS-1	COUNTY = MONROE	TOTAL SHEETS = 760	SHEET NO. = 416
	PLOT SCALE =	DRAWN - E.M. Lagemann	REVISED			CONTRACT NO. 76817	ILLINOIS FED. AID PROJECT			
PLOT DATE = 1/25/2013	CHECKED - K.L. Hayes	REVISED		SHEET NO. 3 OF 20 SHEETS						





STAGE I CONSTRUCTION



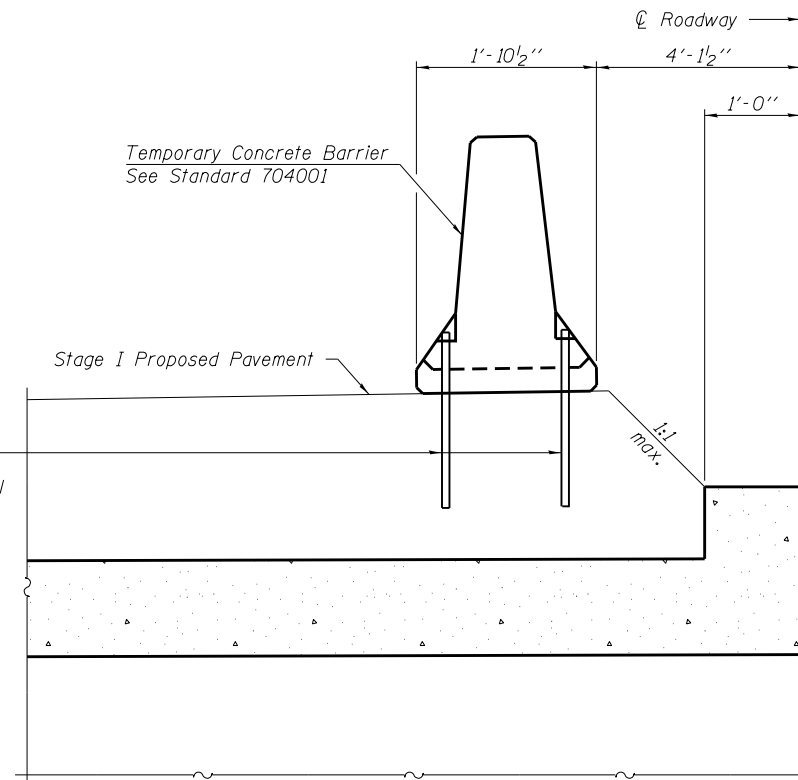
STAGE II CONSTRUCTION

*Notes:*

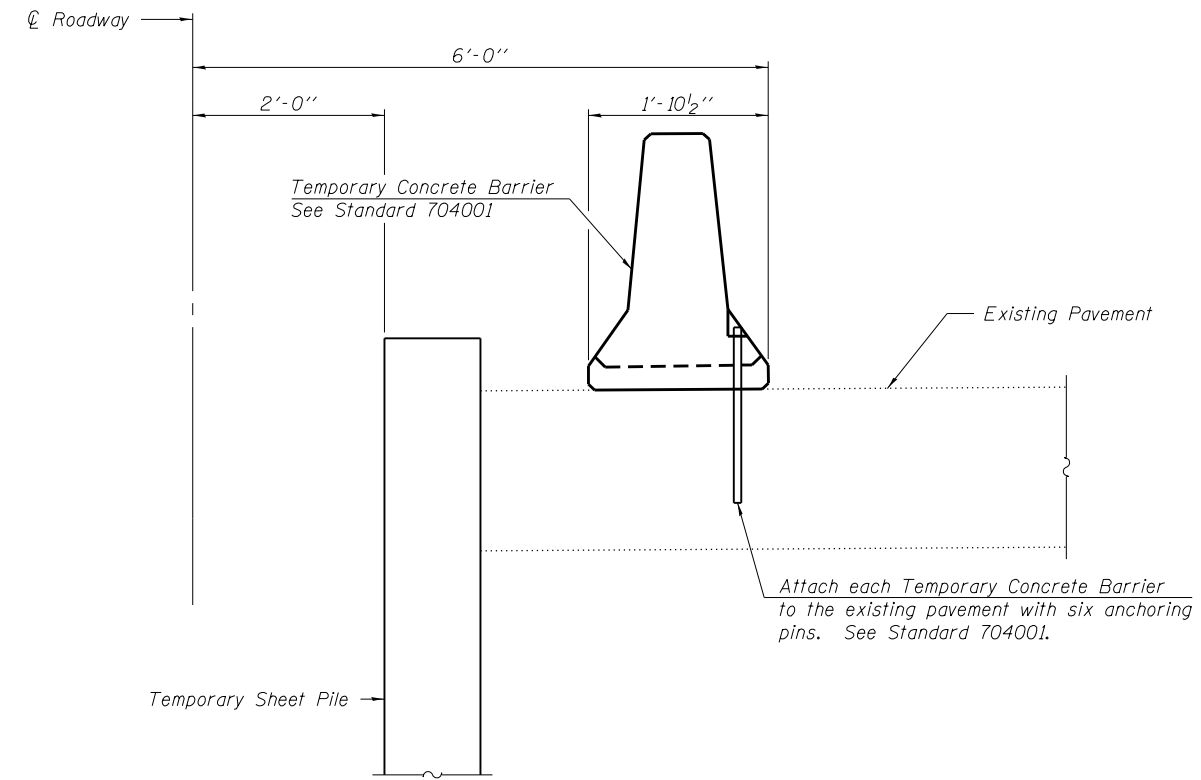
*All staging cross section are looking North.  
 For quantity of Temporary Concrete Barrier, see roadway plans.  
 For Temporary Concrete Barrier Details, see sheet 5 of 20.  
 For Temporary Sheet Pile Details, see sheet 3 of 20.*

FILE NAME = I:\100100\Phase II - 76817\ed\SV_Plan\0672427-76817.dgn 	DESIGNED - E.M. Lagemann	REVISED	<b>STATE OF ILLINOIS          DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE CONSTRUCTION DETAILS          STRUCTURE NO. 067-2427</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = elagemann	CHECKED - K.L. Hayes			REVISED	312	68-WRS-1	MONROE	760
PLOT SCALE =	DRAWN - E.M. Lagemann	REVISED		CONTRACT NO. 76817					
PLOT DATE = 1/25/2013	CHECKED - K.L. Hayes	REVISED		SHEET NO. 4 OF 20 SHEETS					

Attach each Temporary Concrete Barrier to the pavement over the top of the culvert with six anchoring pins. Remaining holes shall be repaired as directed by the Engineer. See Standard 704001.



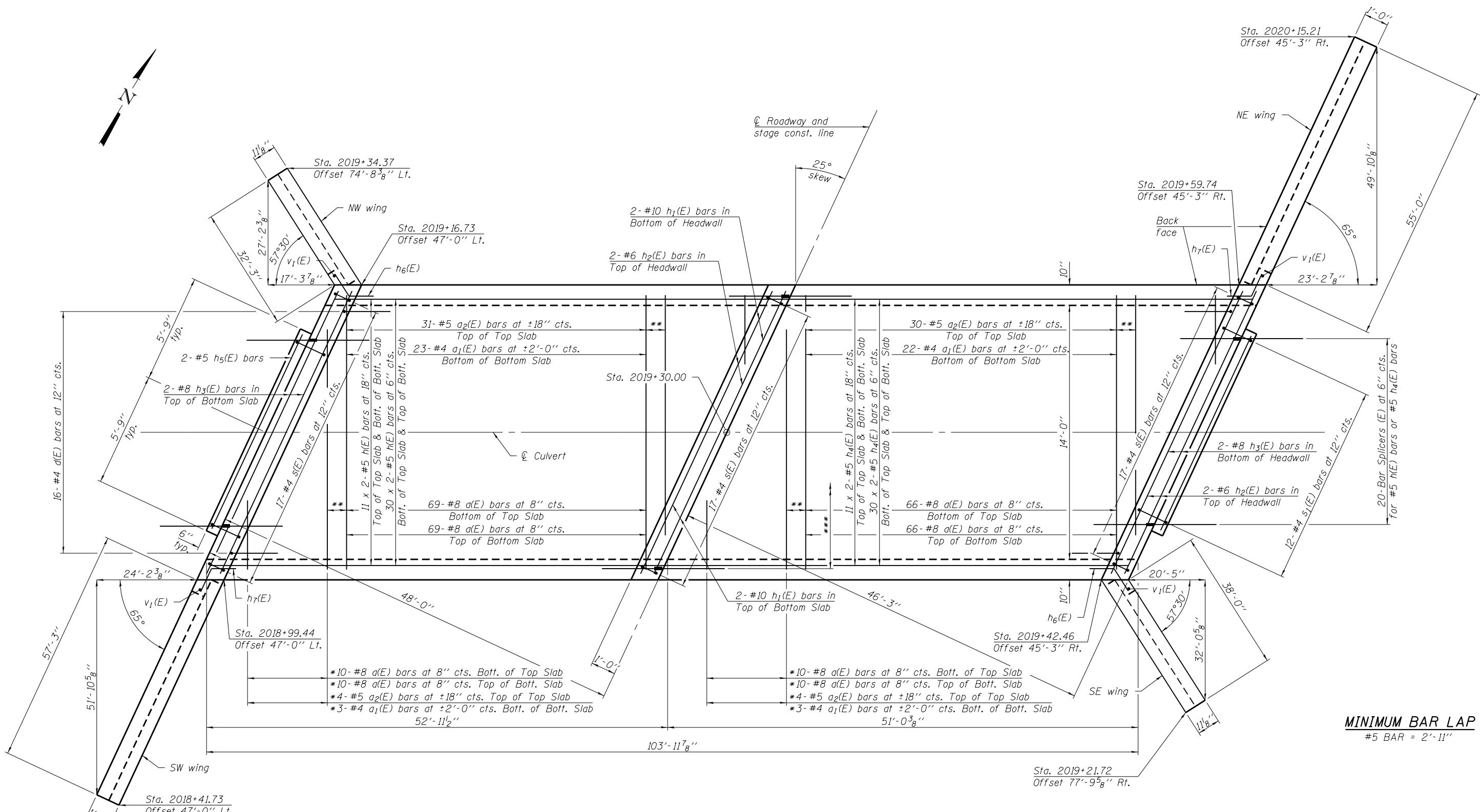
SECTION THRU NEW CULVERT



SECTION THRU PAVEMENT

Notes:  
Cost of anchoring pins and dowel bars is included with Temporary Concrete Barrier.

FILE NAME = I:\100100\Phase II - 76817\ed\SV\Plans\0672427-76817.dgn 	USER NAME = elagemann	DESIGNED - E.M. Lagemann	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 067-2427</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - E.M. Lagemann	REVISED			312	68-WRS-1	MONROE	760	418
PLOT DATE = 1/25/2013	CHECKED - K.L. Hayes	REVISED	CONTRACT NO. 76817							
						ILLINOIS FED. AID PROJECT				

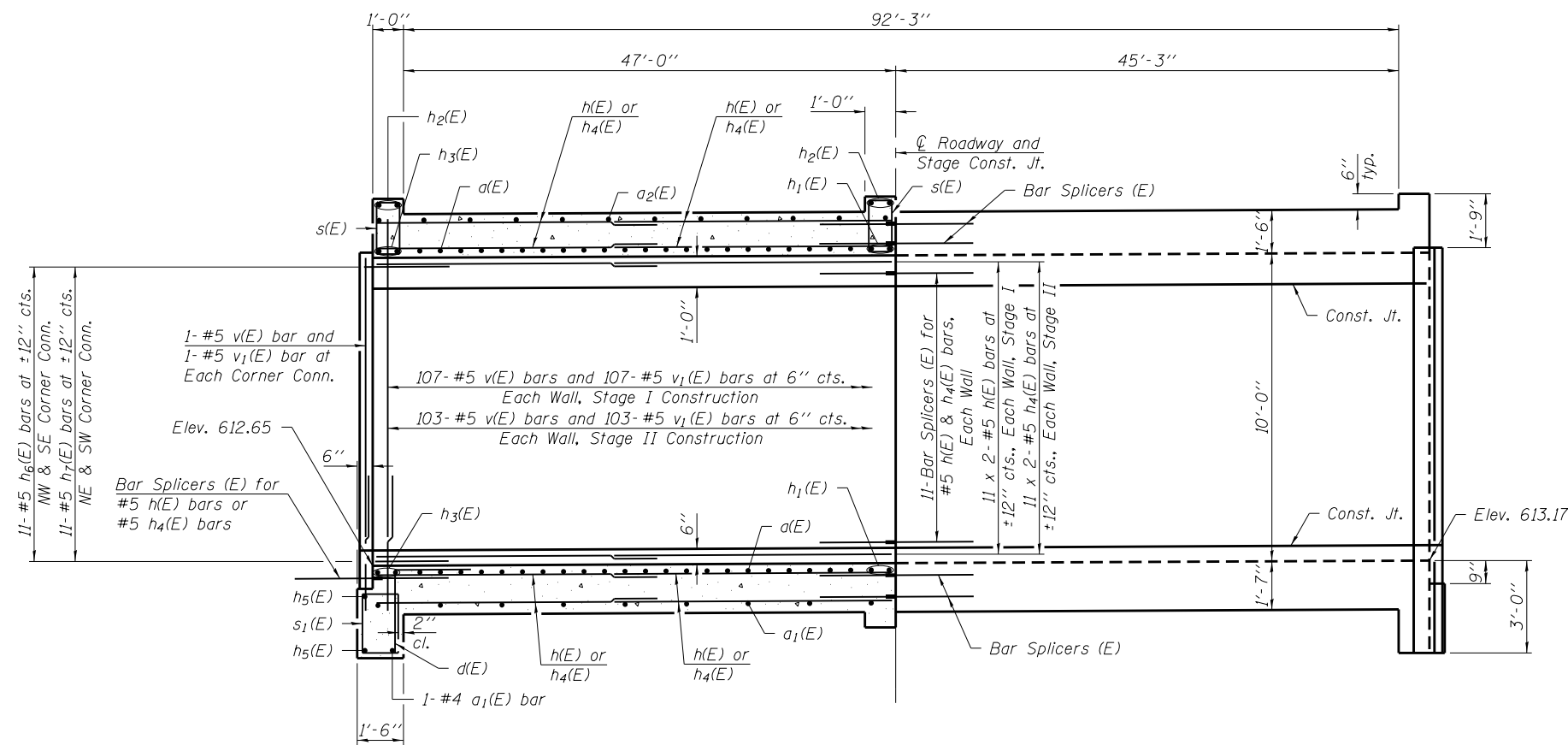


PLAN

- \* a(E) thru a<sub>2</sub>(E) bars in skew portion of slab shall be ordered full length & cut to fit. Place hooked end of a(E) thru a<sub>2</sub>(E) bars along outside slab edge. Balance of bar to be used in opposite end of stage construction.
- \*\* 8" for a(E) bars  
±2'-0" for a<sub>1</sub>(E) bars  
±18" for a<sub>2</sub>(E) bars
- \*\*\* 11-Bar Splicers (E) for #5 h(E) & h<sub>4</sub>(E) bars in Top of Top Slab & Bottom of Bottom Slab.  
30-Bar Splicers (E) for #5 h(E) & h<sub>4</sub>(E) bars in Bottom of Top Slab & Top of Bottom Slab.

Notes:  
Wingwall offsets are measured to the back face of wall, and normal to  $\text{CL}$  Roadway.  
Bars indicated thus 11 x 2-#5 etc. indicates 11 lines of bars with 2 lengths per line.  
For culvert details, see sheets 7 & 8 of 20.  
For wingwall details, see sheets 9 & 10 of 20.  
For Bar Splicer details, see sheet 14 of 20.

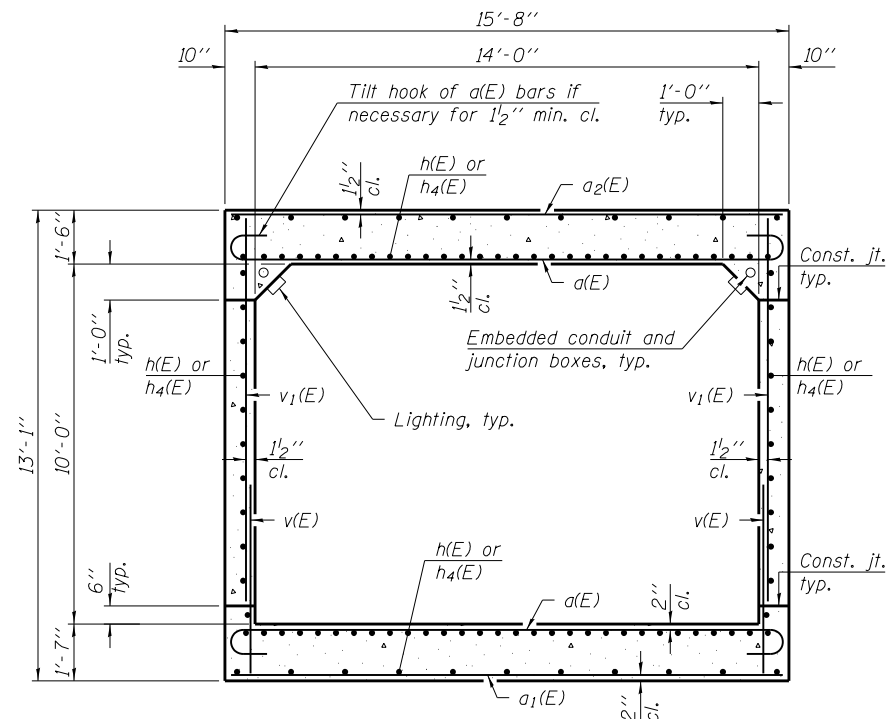
**MINIMUM BAR LAP**  
#5 BAR = 2'-11"



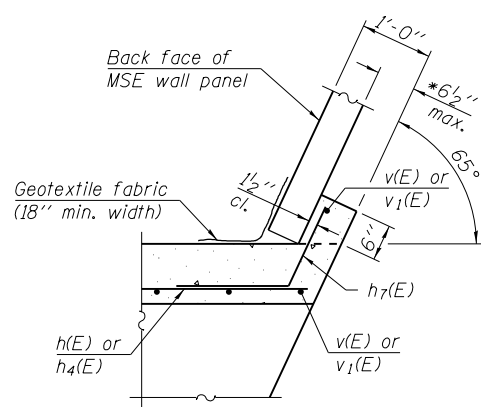
**HALF LONG SECTION**

**HALF ELEVATION**

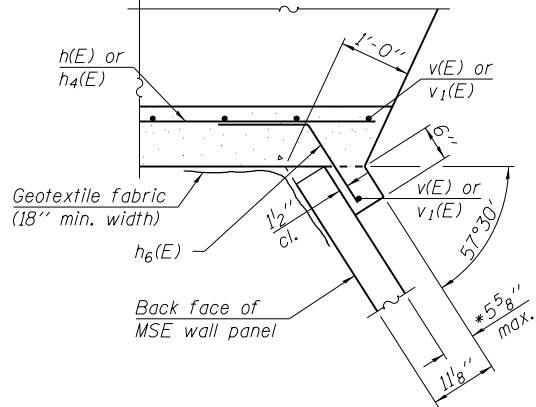
Dimensions at Rt. L's to  $\varnothing$  Roadway



**SECTION THRU BARREL**

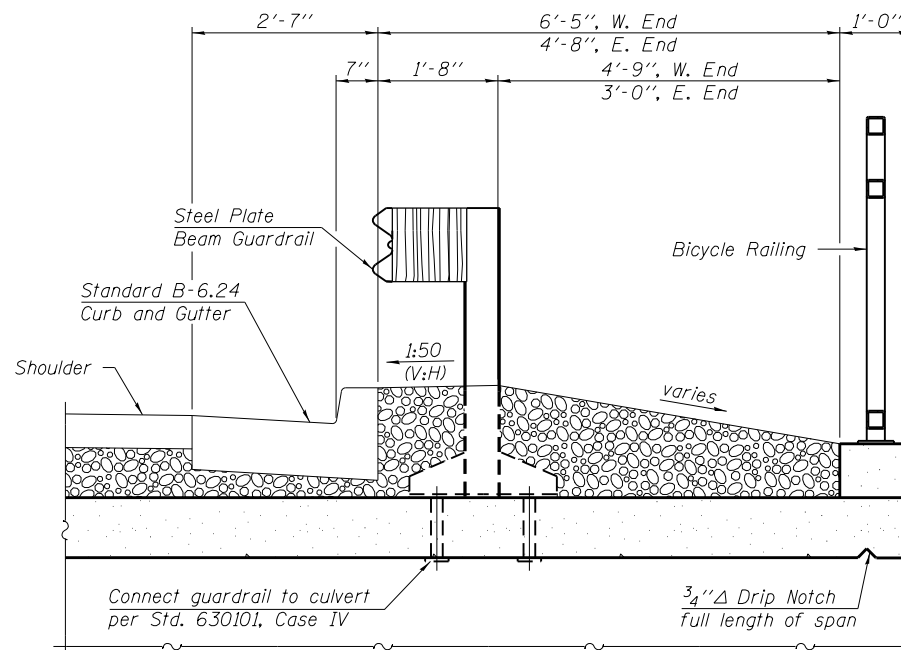


**MSE WALL TO CULVERT CONNECTION DETAIL**  
(NE Wing shown, SW Wing similar)



**MSE WALL TO CULVERT CONNECTION DETAIL**  
(SE Wing shown, NW Wing similar)

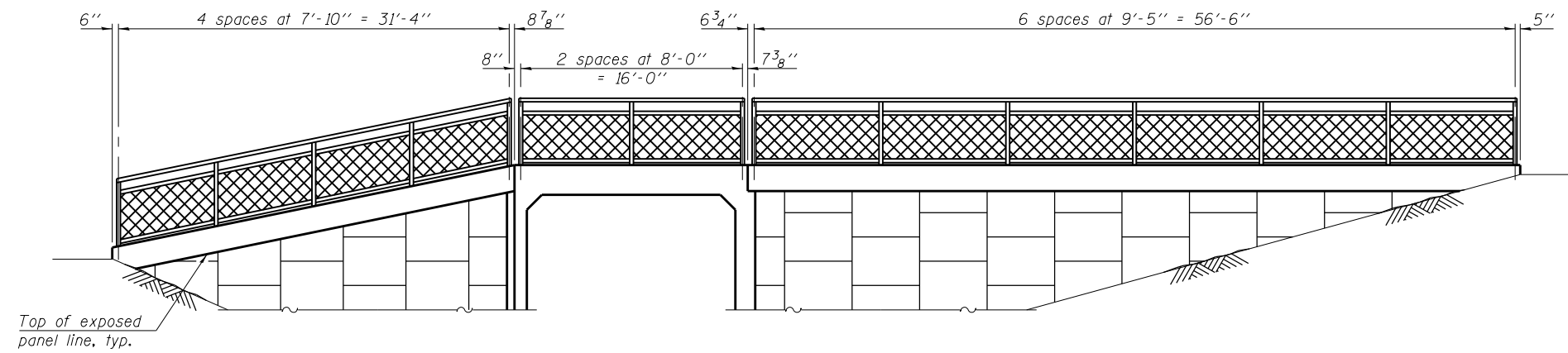
\*Dimension may vary due to MSE wall panel thickness.  
Contractor to verify MSE wall panel thickness prior to forming.



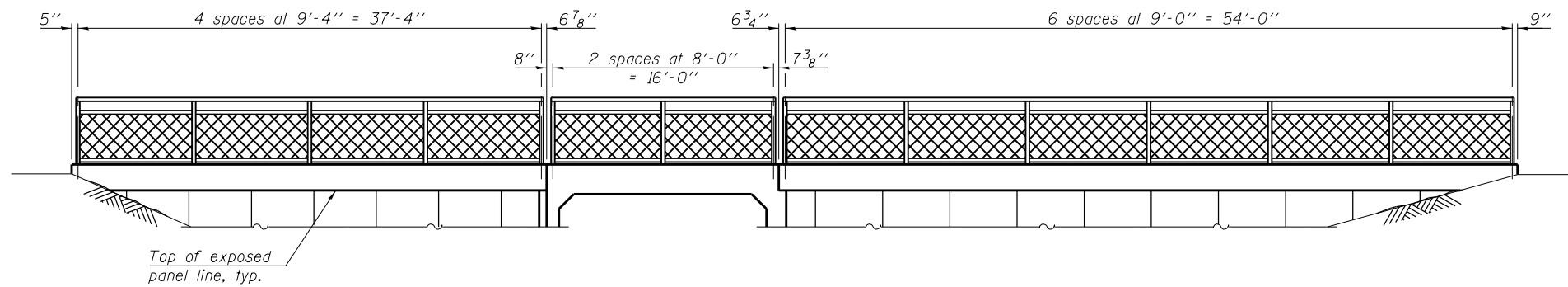
**GUARDRAIL MOUNTING DETAIL**

**MINIMUM BAR LAP**  
#5 BAR = 2'-11"

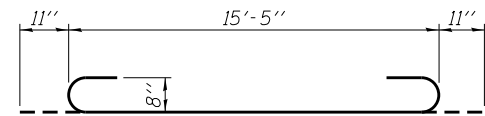
Notes:  
For lighting, conduits and junction box details, see Lighting Plans.  
Bars indicated thus 11 x 2 - #5 etc. indicates 11 lines of bars with 2 lengths per line.  
For Culvert Plan, see sheet 6 of 20.  
For Bicycle Railing post spacing, bar bending details and Bill of Material, see sheet 8 of 20.  
For Bar Splicer details, see sheet 14 of 20.



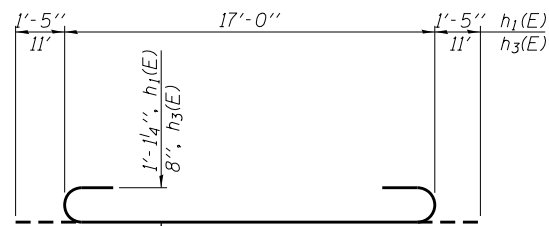
DEVELOPED ELEVATION - WEST END OF CULVERT  
(Looking East)



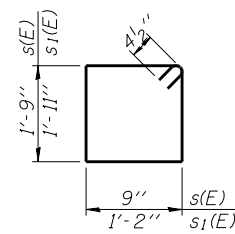
DEVELOPED ELEVATION - EAST END OF CULVERT  
(Looking West)



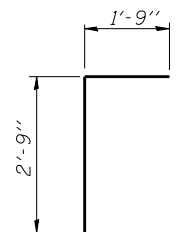
BAR a(E)



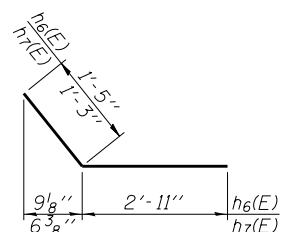
BARS h<sub>1</sub>(E) & h<sub>3</sub>(E)



BARS s(E) & s<sub>1</sub>(E)



BAR d(E)

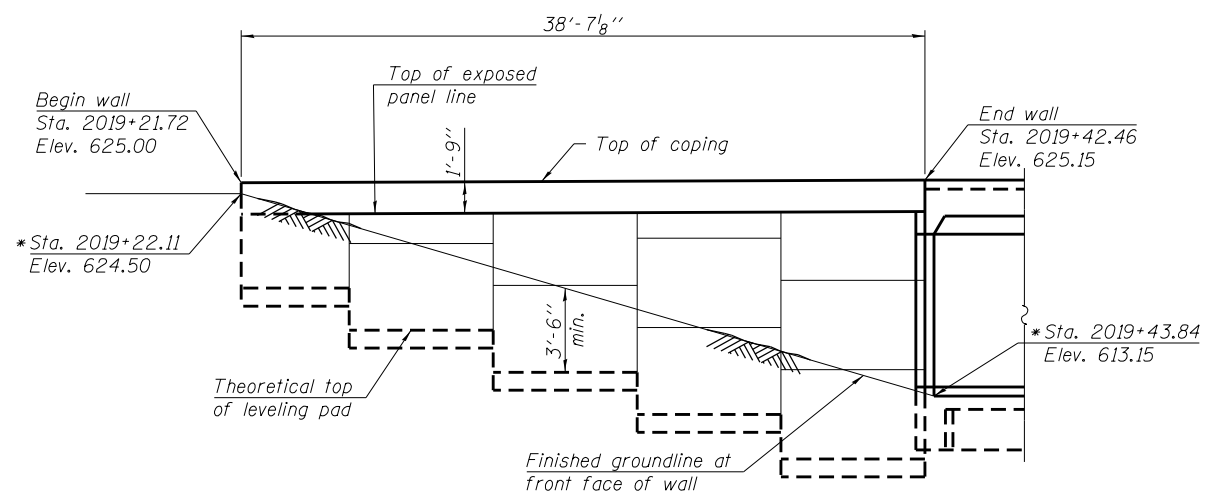


BARS h<sub>6</sub>(E) & h<sub>7</sub>(E)

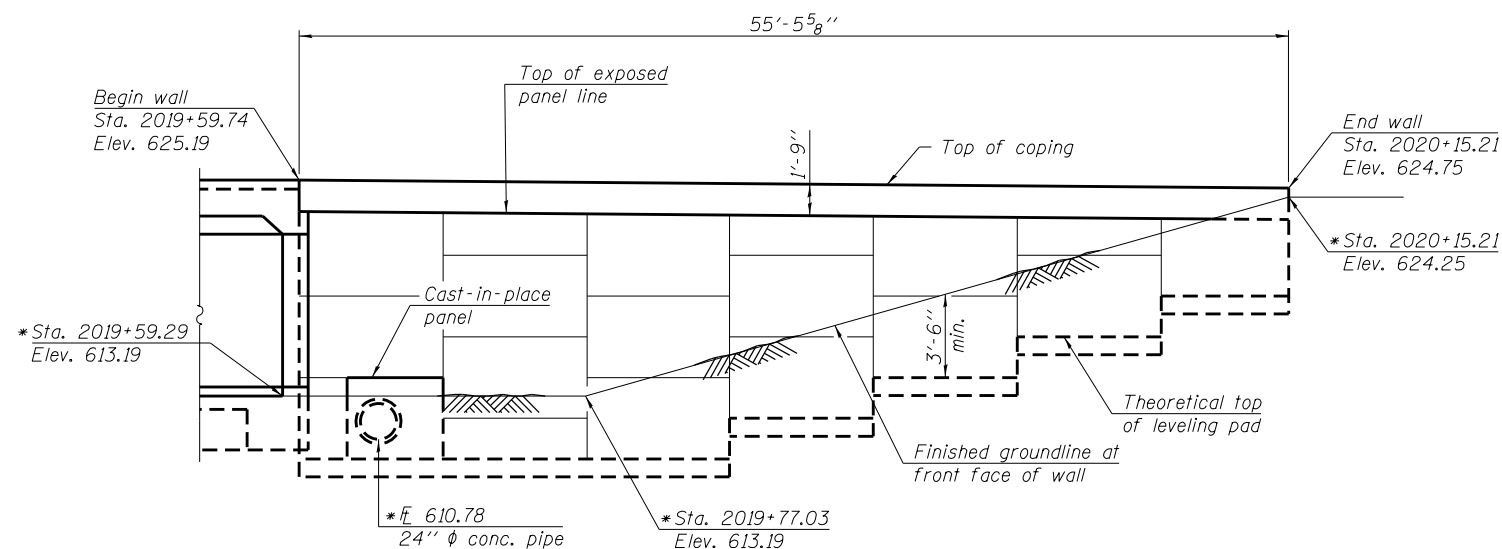
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	310	#8	17'-3"	U
a <sub>1</sub> (E)	53	#4	15'-5"	—
a <sub>2</sub> (E)	69	#5	15'-5"	—
d(E)	32	#4	4'-6"	L
h(E)	208	#5	27'-10"	—
h <sub>1</sub> (E)	4	#10	19'-10"	U
h <sub>2</sub> (E)	6	#6	17'-0"	—
h <sub>3</sub> (E)	8	#8	18'-10"	U
h <sub>4</sub> (E)	208	#5	26'-10"	—
h <sub>5</sub> (E)	4	#5	11'-3"	—
h <sub>6</sub> (E)	22	#5	4'-4"	—
h <sub>7</sub> (E)	22	#5	4'-2"	—
s(E)	51	#4	5'-9"	□
s <sub>1</sub> (E)	24	#4	6'-11"	□
v(E)	424	#5	5'-4"	—
v <sub>1</sub> (E)	424	#5	10'-9"	—
Concrete Box Culverts		Cu. Yd.	258.5	
Reinforcement Bars, Epoxy Coated		Pound	36,450	

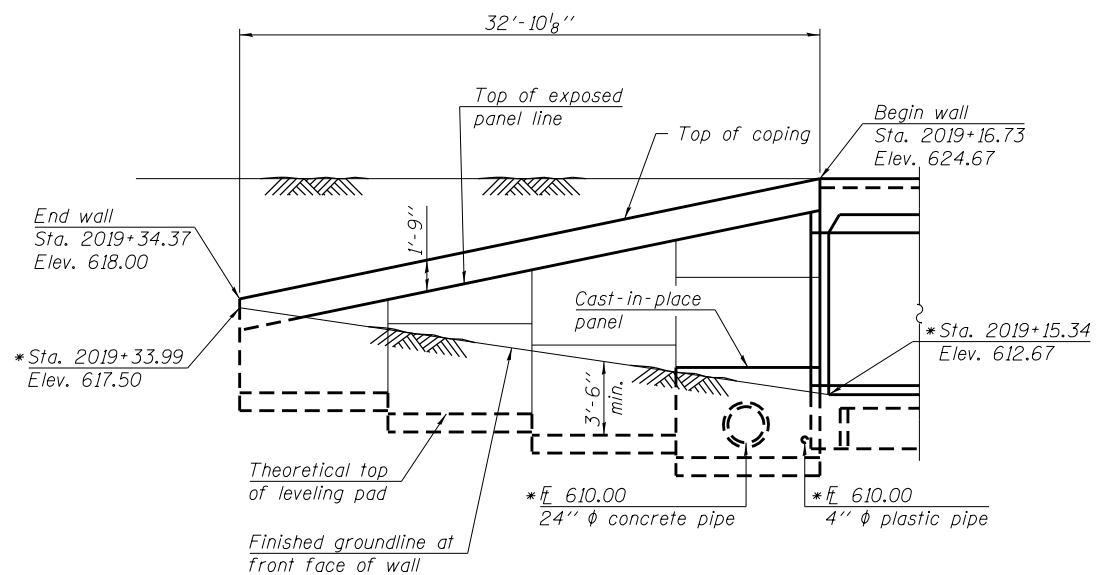
Notes:  
 For Culvert Plan, see sheet 6 of 20.  
 For Culvert Elevation and Details, see sheet 7 of 20.  
 For Bicycle Railing details, see sheet 11 of 20.



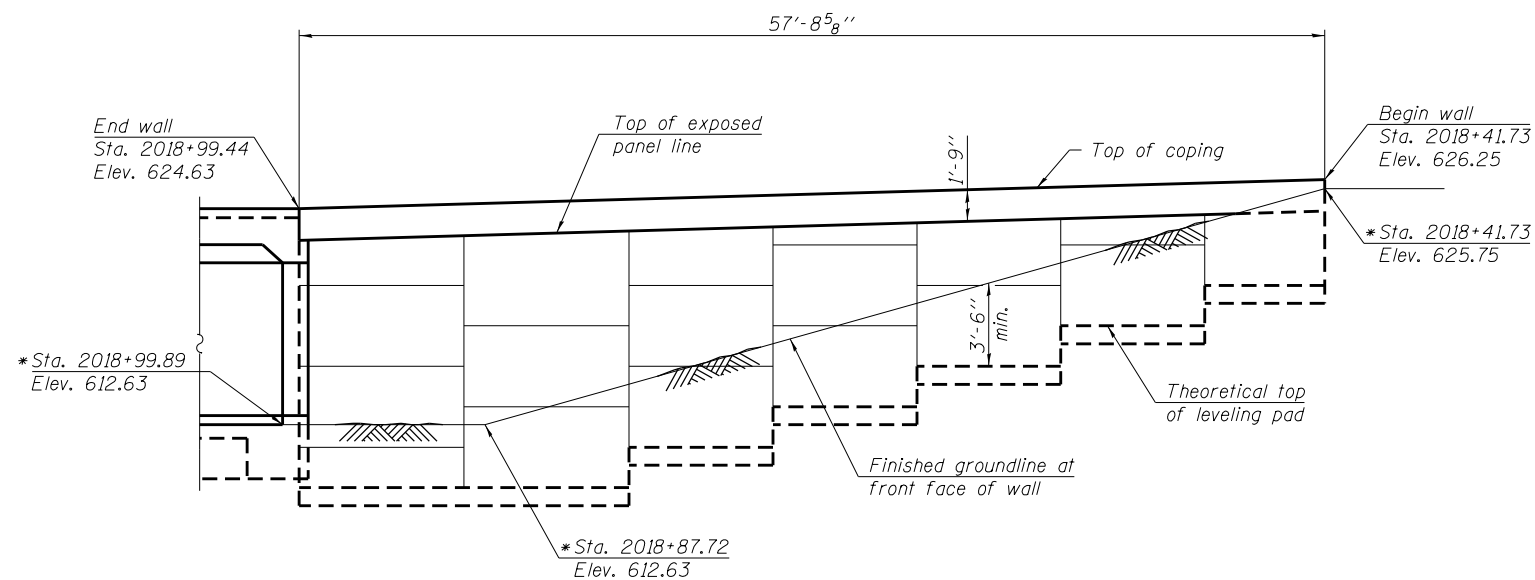
**ELEVATION - SE WING**



**ELEVATION - NE WING**



**ELEVATION - NW WING**

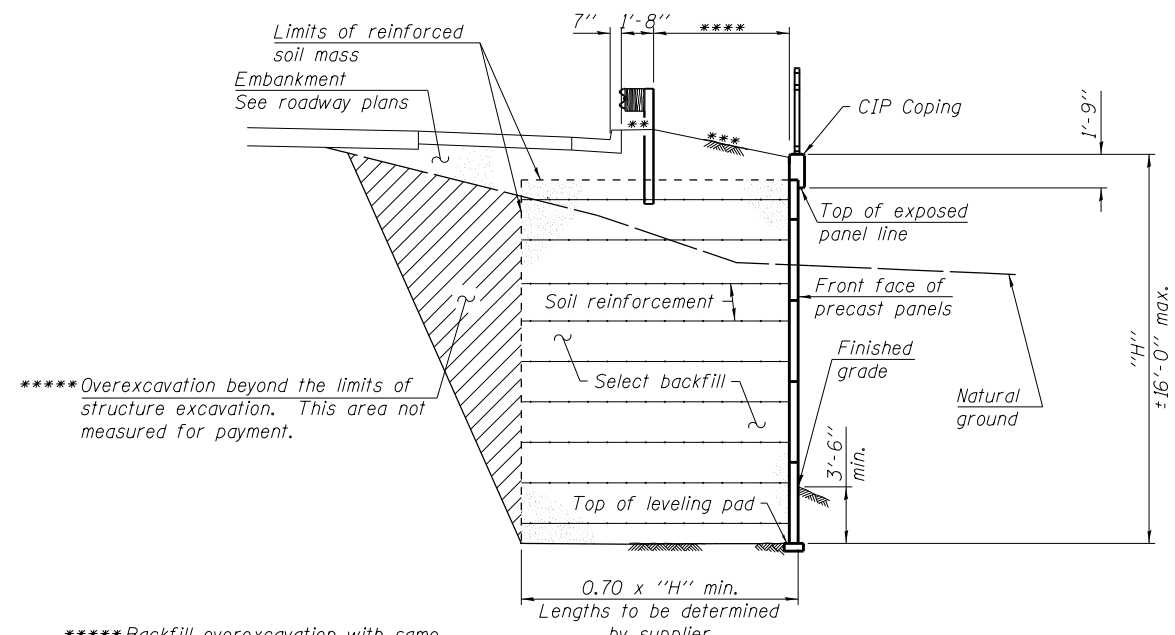


**ELEVATION - SW WING**

\*Measured along front face of precast panels.

Notes:  
 All stations, offsets, and dimensions measured along back face of precast panels, unless shown otherwise.  
 Bicycle Railing not shown for clarity.  
 For MSE wingwall layout showing stations and offsets, see sheet 6 of 20.  
 For MSE wingwall details, see sheet 10 of 20.  
 For MSE wingwall to culvert connection details, see sheet 7 of 20.  
 For Bicycle Railing details, see sheet 11 of 20.

FILE NAME = I:\1001100\Phase II - 76817\ed\SV\Plans\0672427-76817.dgn 	DESIGNED - E.M. Lagemann	REVISED	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>MSE WINGWALL DETAILS I</b> <b>STRUCTURE NO. 067-2427</b>	F.A.P. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	USER NAME = elagemann	CHECKED - K.L. Hayes			REVISED	312	68-WRS-1	MONROE	760	422	
	PLOT SCALE =	DRAWN - E.M. Lagemann			REVISED	CONTRACT NO. 76817					
	PLOT DATE = 1/25/2013	CHECKED - K.L. Hayes			REVISED	ILLINOIS FED. AID PROJECT					

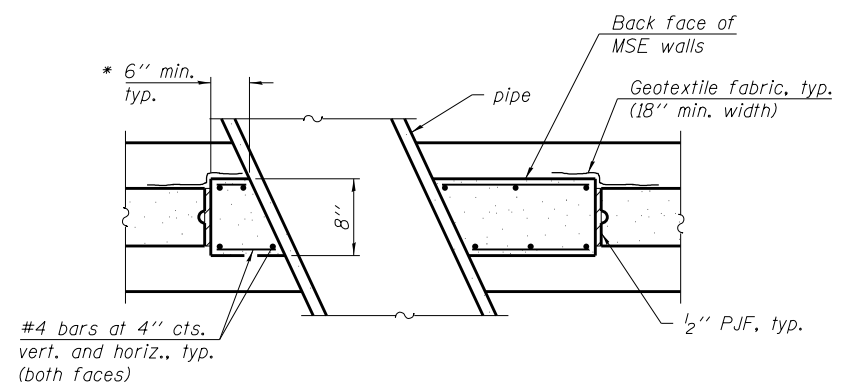


\*\*\*\*\*Overexcavation beyond the limits of structure excavation. This area not measured for payment.

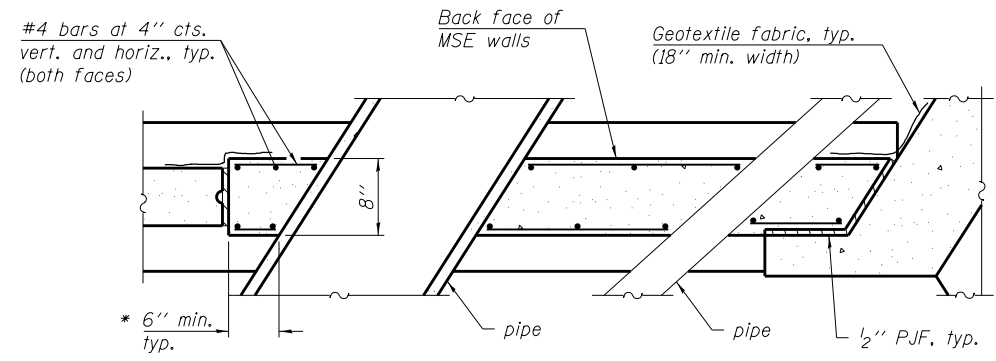
\*\*\*\*\*Backfill overexcavation with same material as used for select backfill.

**SECTION THRU MSE WALL**

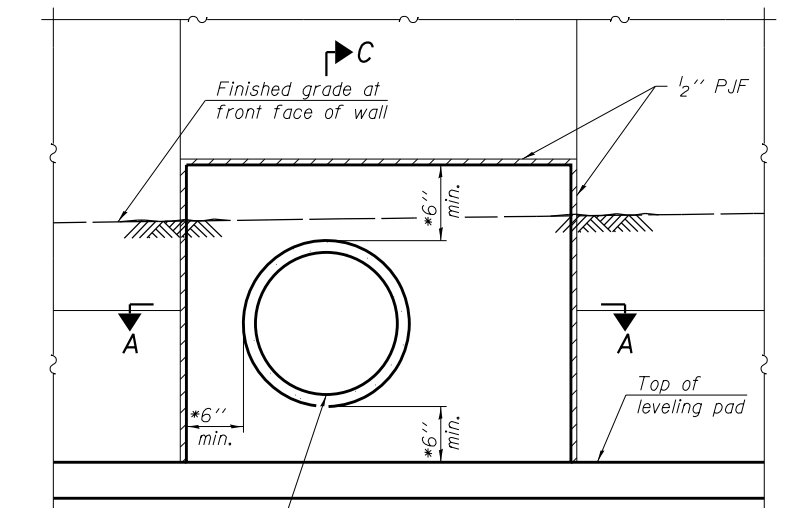
- \*\* 1:50 (V:H)
- \*\*\* Varies, 1:3.7 (V:H) max., 1:4 (V:H) min., NW Wing  
Varies, 1:3 (V:H) max., 1:7.7 (V:H) min., NE Wing  
Varies, 1:4.9 (V:H) max., 1:21.9 (V:H) min., SE Wing  
1:3 (V:H) SW Wing
- \*\*\*\* Varies, 32'-5" max., 4'-9" min., NW Wing  
Varies, 35'-6 1/8" max., 3'-0" min., SE Wing  
4'-9" SW Wing  
3'-0" NE Wing



**SECTION A-A**

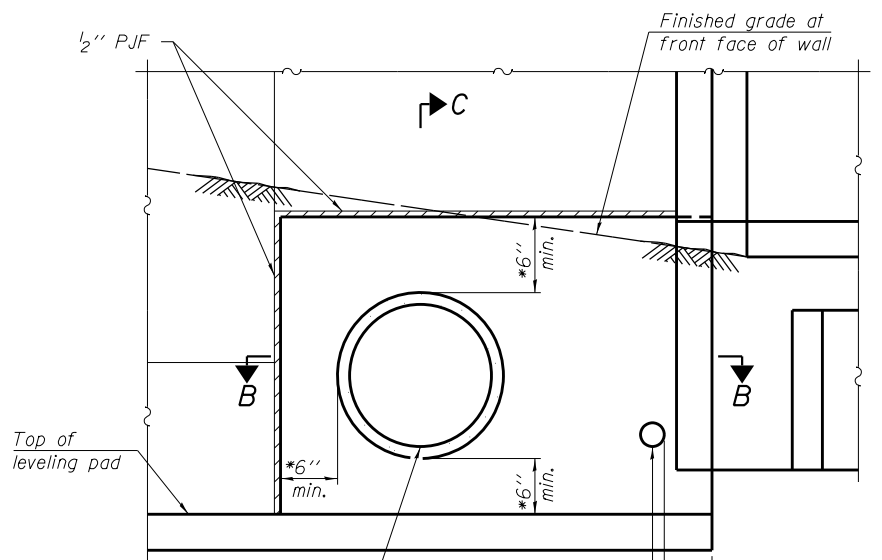


**SECTION B-B**



Sta. 2019+64.15  
Invert Elev. 610.78 at wall  
24" I.D. concrete pipe

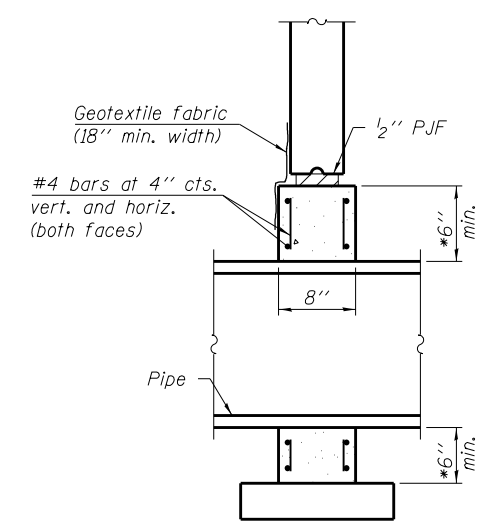
**24" Ø PIPE DETAIL**  
(Elevation View - NE Wing)



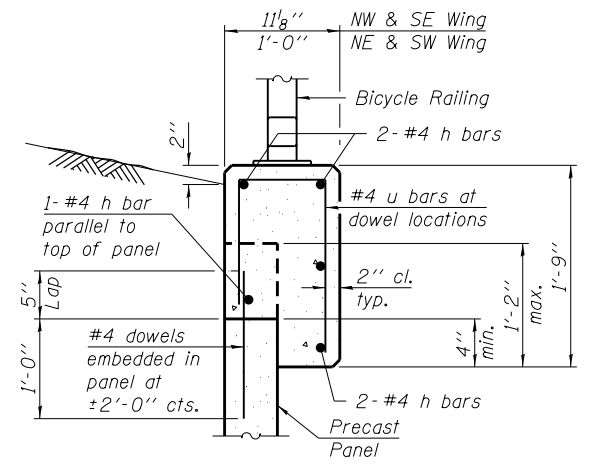
Sta. 2019+19.31  
Invert Elev. 610.00 at wall  
24" I.D. concrete pipe

Sta. 2019+17.30  
Invert Elev. 610.00 at wall  
4" I.D. plastic pipe

**4" & 24" Ø PIPE DETAIL**  
(Elevation View - NW Wing)



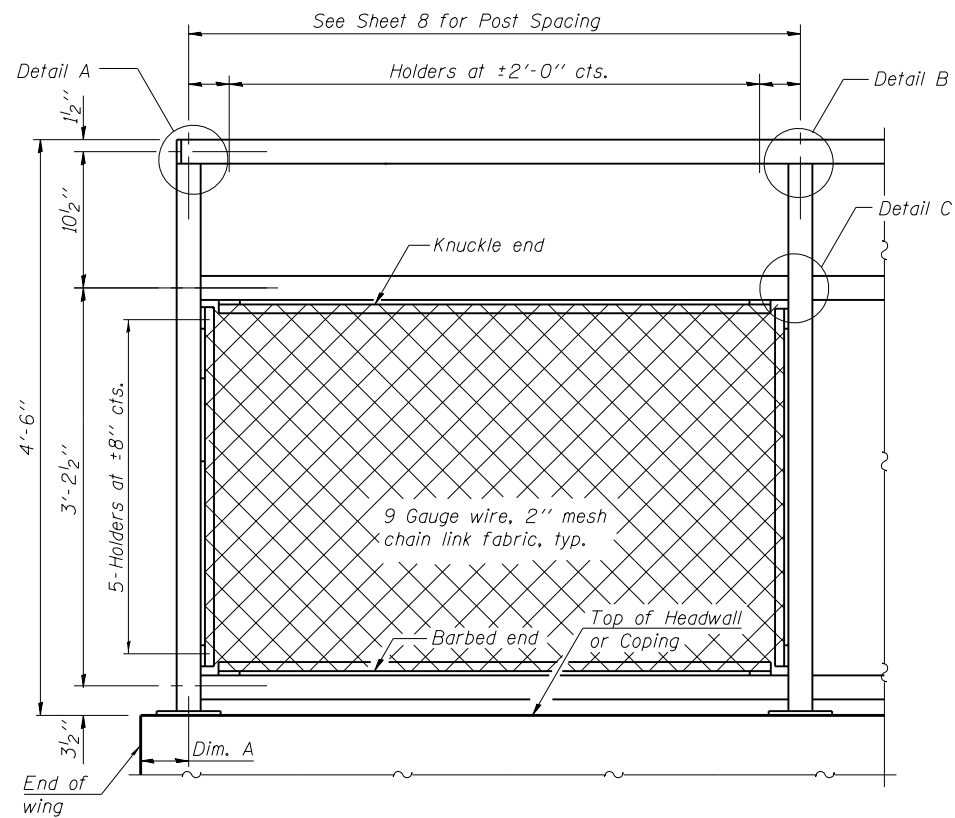
**SECTION C-C**



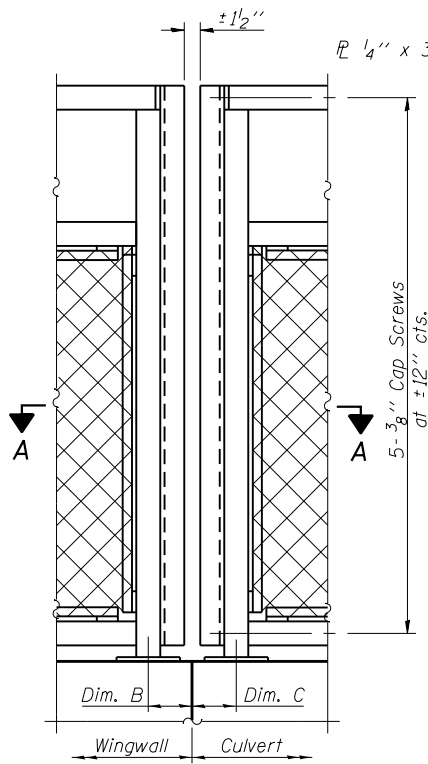
**CAST IN PLACE COPING FOR PRECAST FACE PANELS**

Notes:  
All stations, offsets, and dimensions measured along back face of precast panels, unless shown otherwise.  
For MSE wingwall details, see sheet 9 of 20.  
For MSE wingwall to culvert connection details, see sheet 7 of 20.  
For Bicycle Railing details, see sheet 11 of 20.

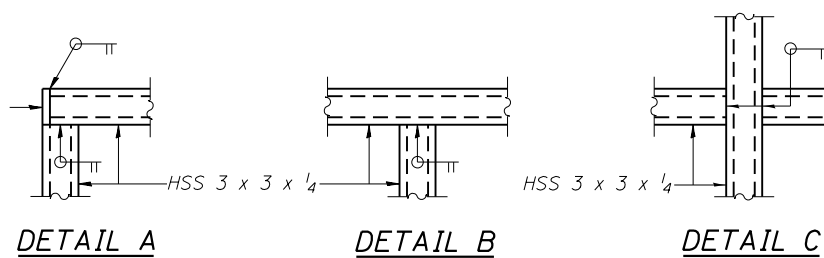
\*Wall supplier to determine required dimensions.



**BICYCLE RAILING**



**BICYCLE RAILING**

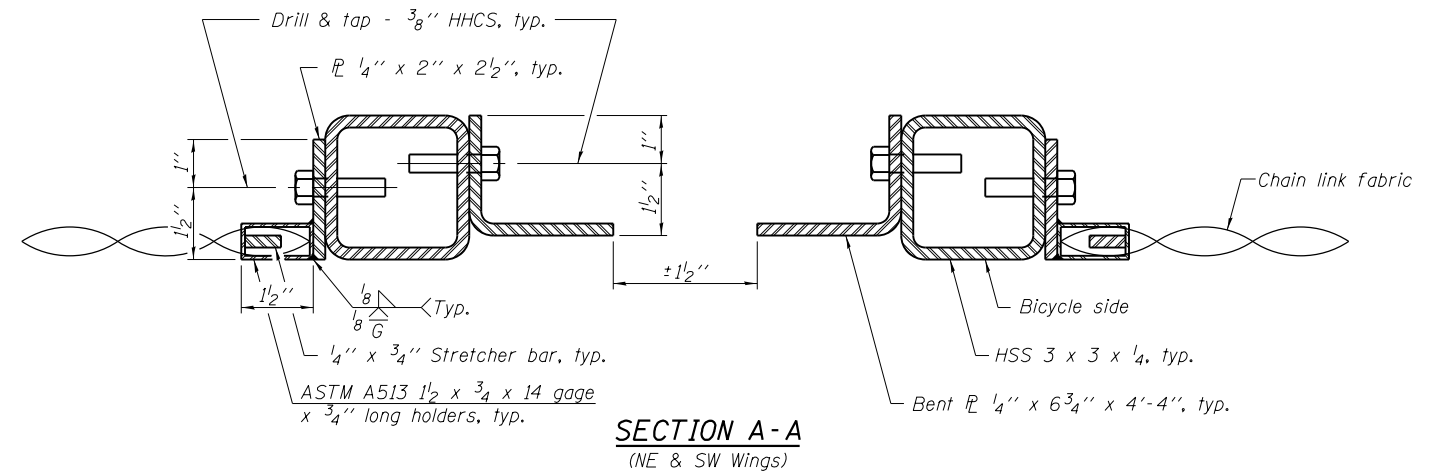


**DETAIL A**

**DETAIL B**

**DETAIL C**

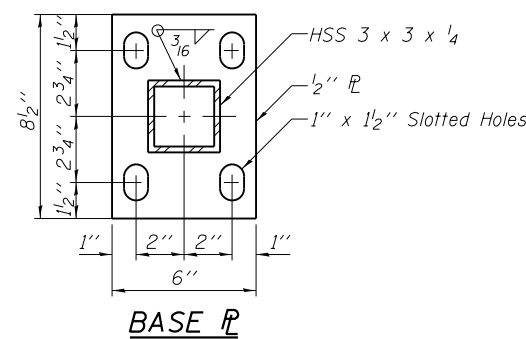
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



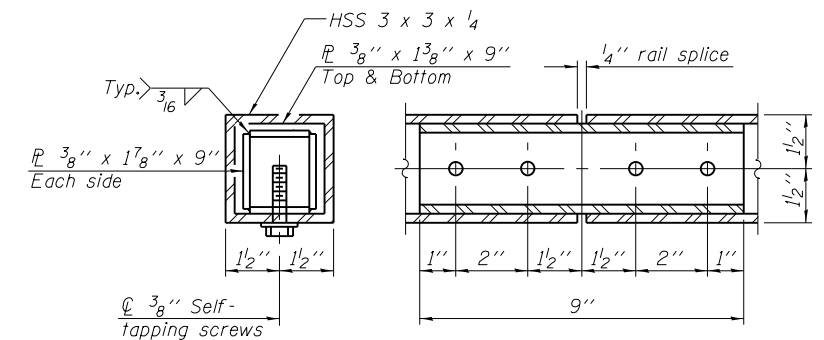
**SECTION A-A**  
(NE & SW Wings)

**TABLE OF VARIABLE DIMENSIONS**

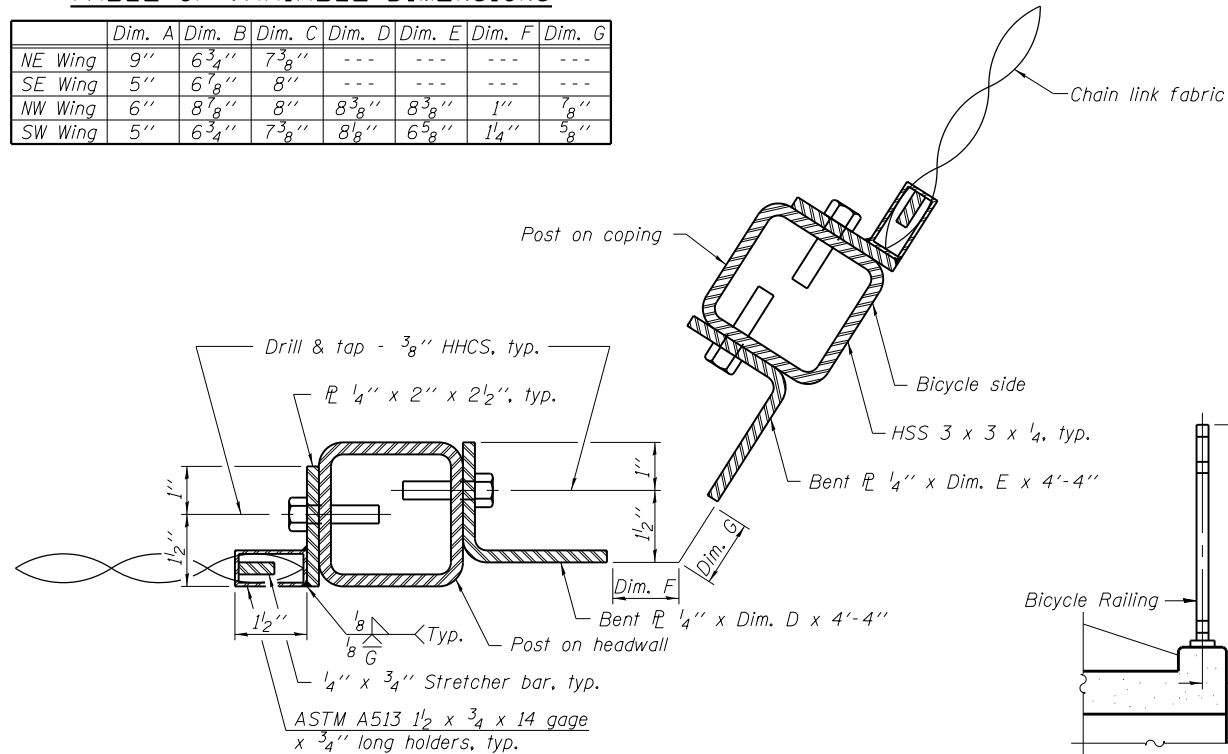
	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G
NE Wing	9"	6 3/4"	7 3/8"	---	---	---	---
SE Wing	5"	6 1/8"	8"	---	---	---	---
NW Wing	6"	8 1/8"	8"	8 3/8"	8 3/8"	1"	7 1/8"
SW Wing	5"	6 3/4"	7 3/8"	8 1/8"	6 5/8"	1 1/4"	5 5/8"



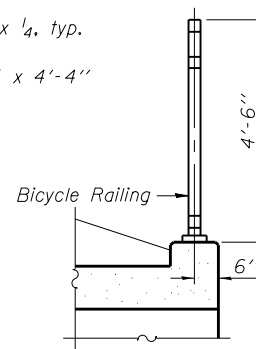
**BASE R**



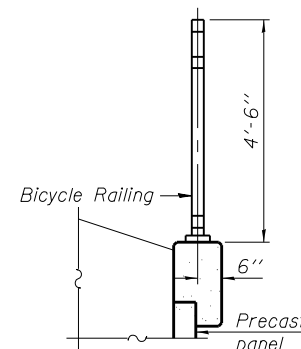
**RAIL SPLICE**



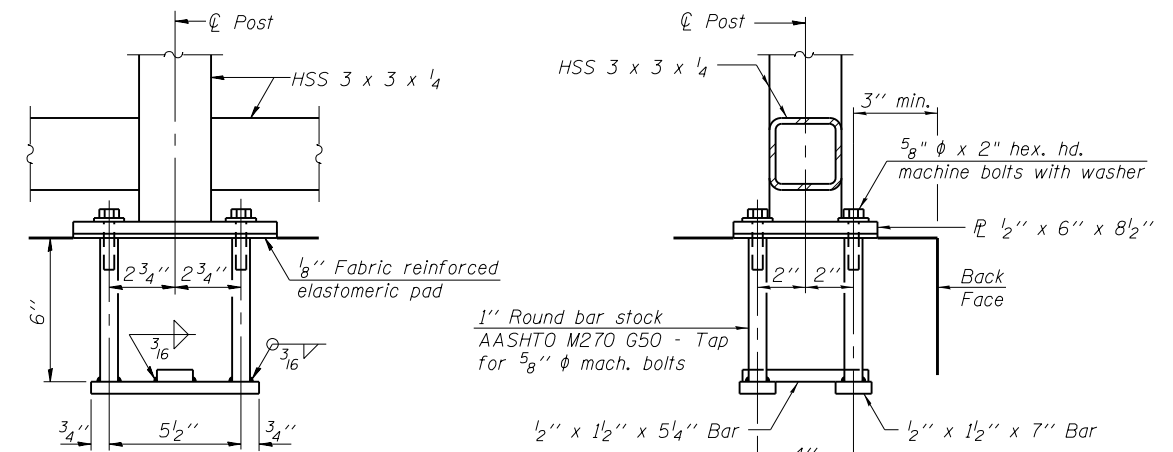
**SECTION A-A**  
(NW & SE Wings)



**SECTION THRU HEADWALL**



**SECTION THRU COPING**



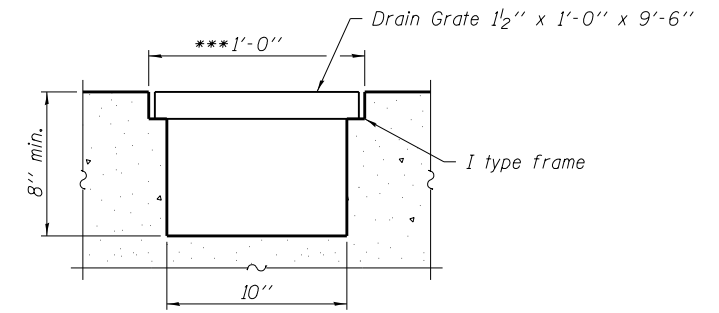
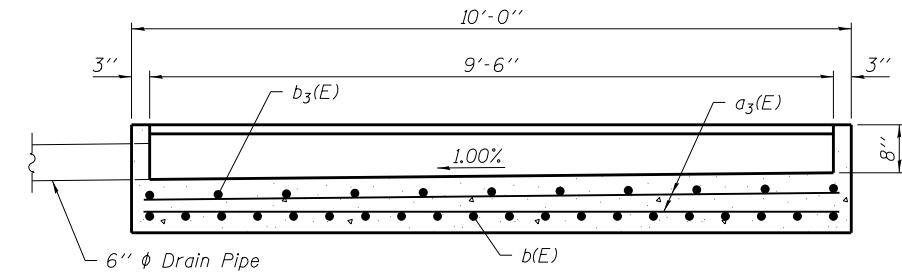
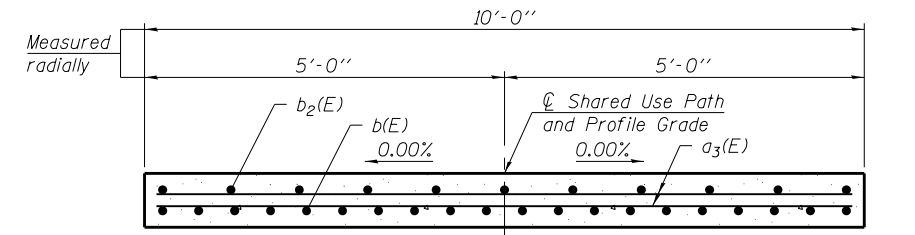
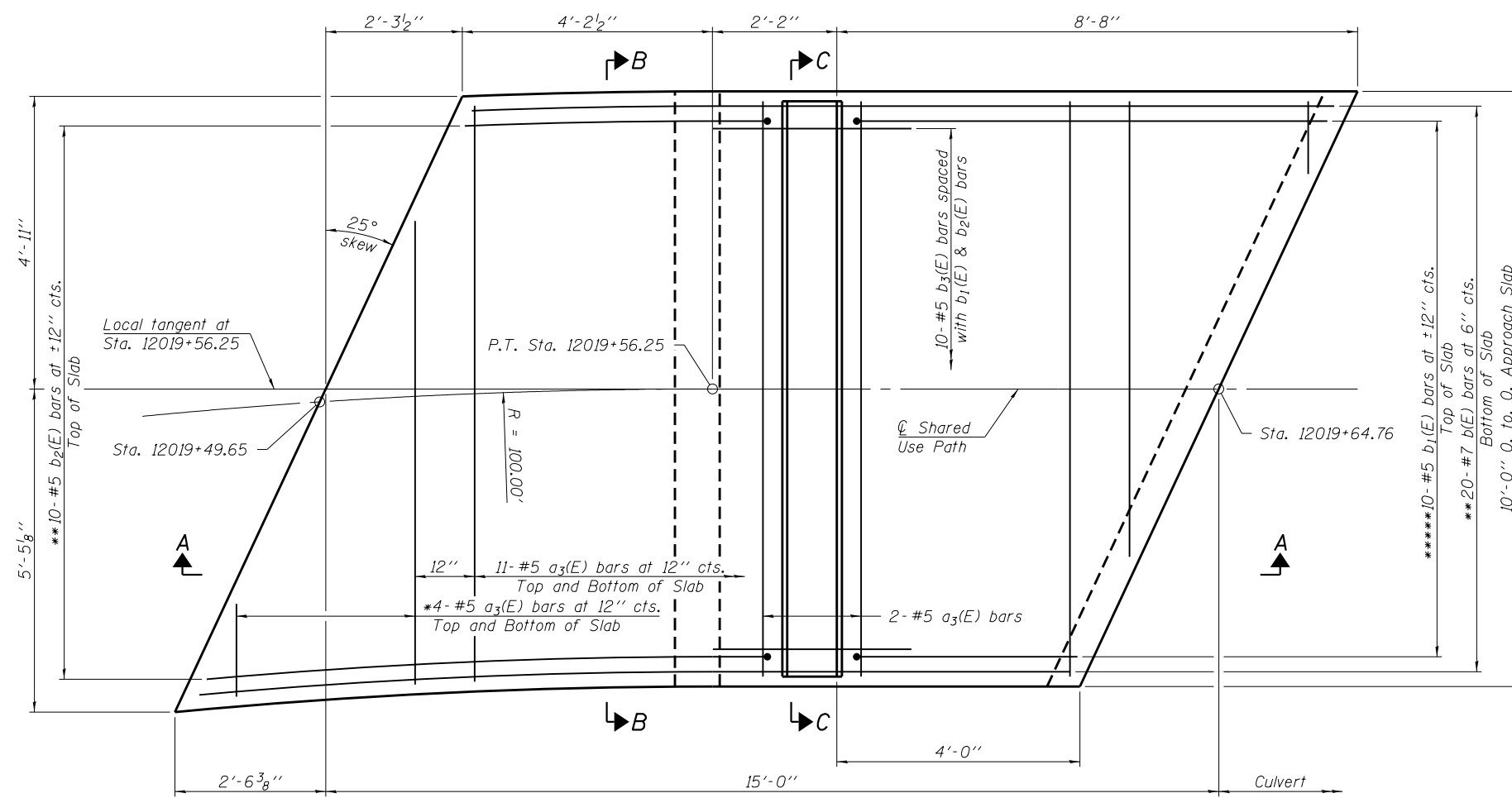
**ANCHOR BOLT DETAILS**

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

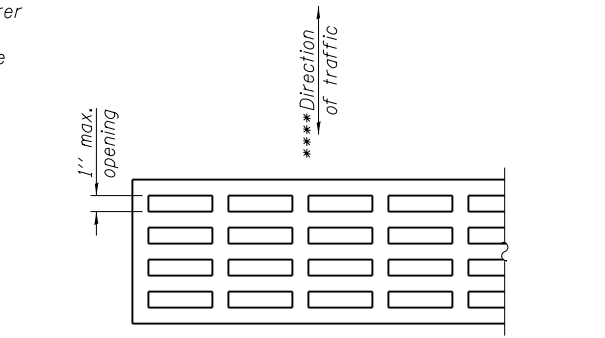
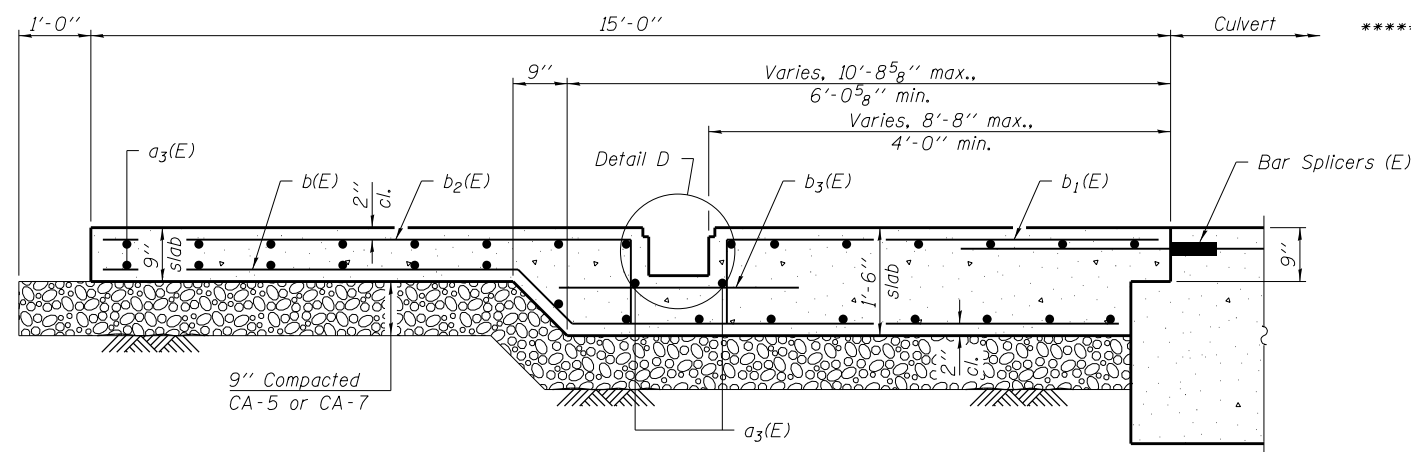
**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	211

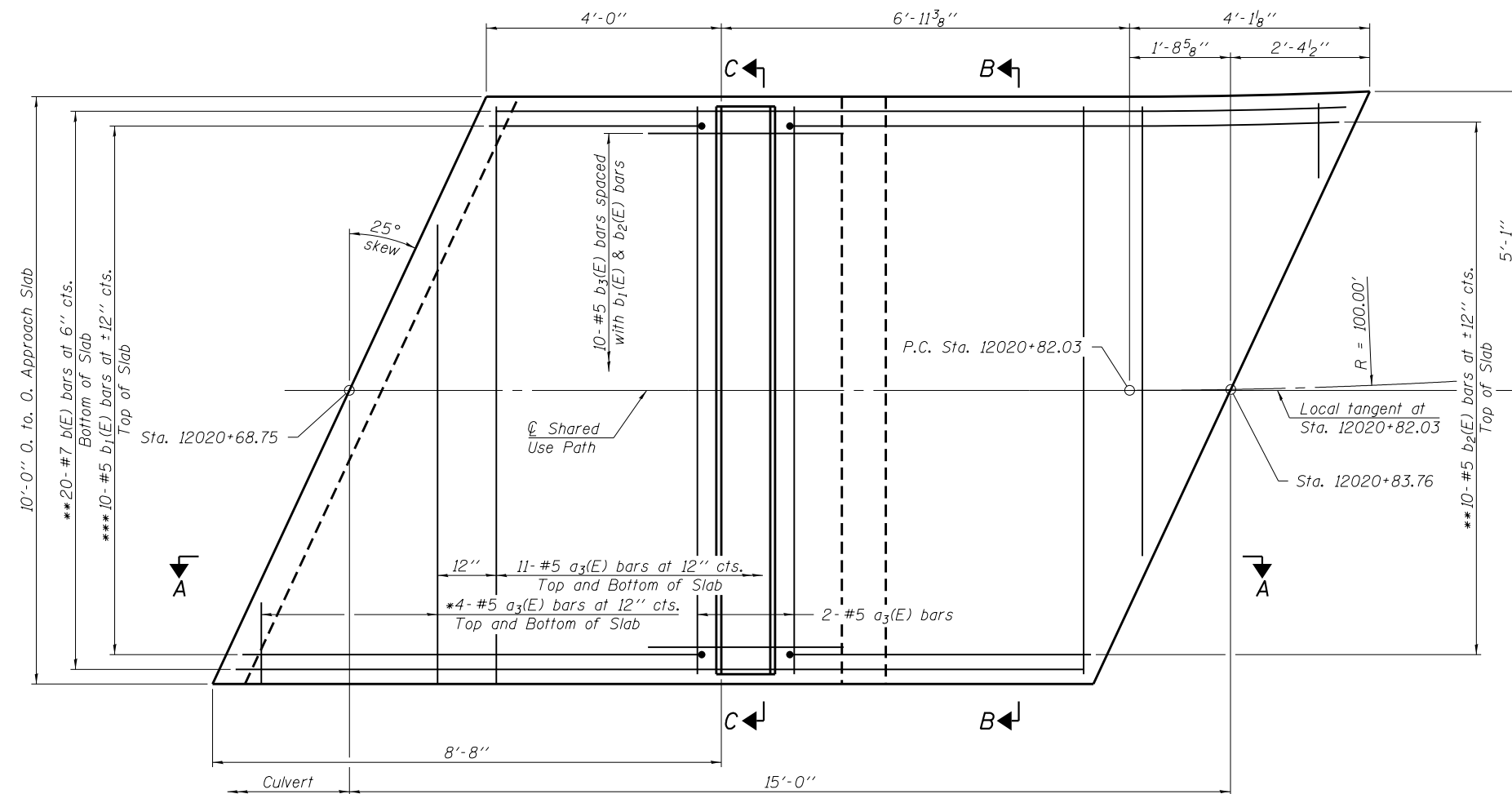




- \* Order  $a_3(E)$  bars full length. Cut to fit skew and use remainder of bars in opposite end.
- \*\* Field bend bars to follow curvature of approach slab. Cut to fit skew.
- \*\*\* Dimension shall be determined by the manufacturer of the cast iron grate and frame.
- \*\*\*\* Long dimension of slots in drain grate are to be set perpendicular to traffic.
- \*\*\*\*\* Cut to fit skew.

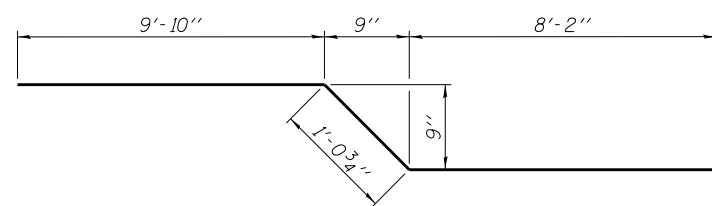


Notes:  
 All cast iron parts of the slotted drain shall be gray iron conforming to the requirements of AASHTO M 105, Class 30.  
 Bolts, washers and nuts shall conform to the requirements of ASTM A 307.  
 All bolts, washers and nuts shall be galvanized according to AASHTO M 232.  
 Approach slab shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 Cost of drain grate, frame, bolts, washers, nuts, drain pipe, and compacted CA-5 or CA-7 including complete installation is included in Concrete Structures.  
 For bar bending details and Bill of Material, see sheet 13 of 20.  
 For bar splicer details, see sheet 14 of 20.

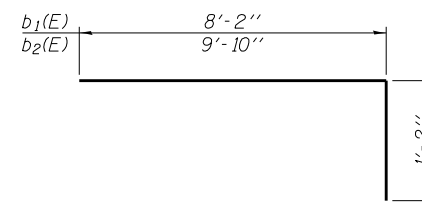


PLAN

\* Order  $a_3(E)$  bars full length. Cut to fit skew and use remainder of bars in opposite end.  
 \*\* Field bend bars to follow curvature of approach slab. Cut to fit skew.  
 \*\*\* Cut to fit skew.



BAR b(E)

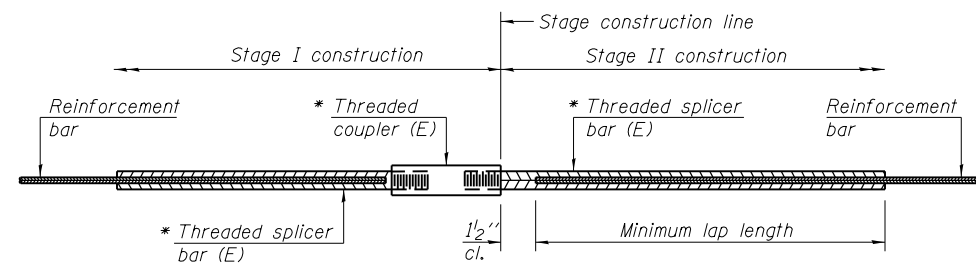


BARS  $b_1(E)$  &  $b_2(E)$

**TWO APPROACHES  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$a_3(E)$	64	#5	9'-9"	—
b(E)	40	#7	19'-1"	—
$b_1(E)$	20	#5	9'-4"	—
$b_2(E)$	20	#5	11'-0"	—
$b_3(E)$	20	#5	3'-4"	—
Concrete Structures			Cu. Yd.	12.5
Reinforcement Bars, Epoxy Coated			Pound	2,700

Notes:  
 For Sections A-A, B-B, and C-C, see sheet 12 of 20.  
 For notes not shown on this sheet, see sheet 12 of 20.



**STANDARD BAR SPLICER ASSEMBLY**

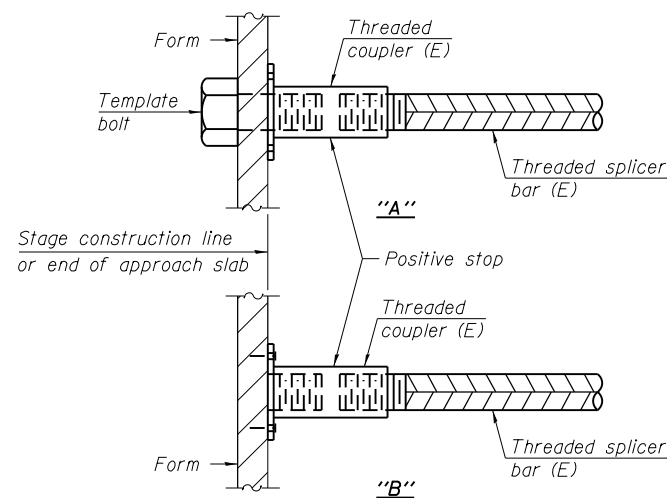
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

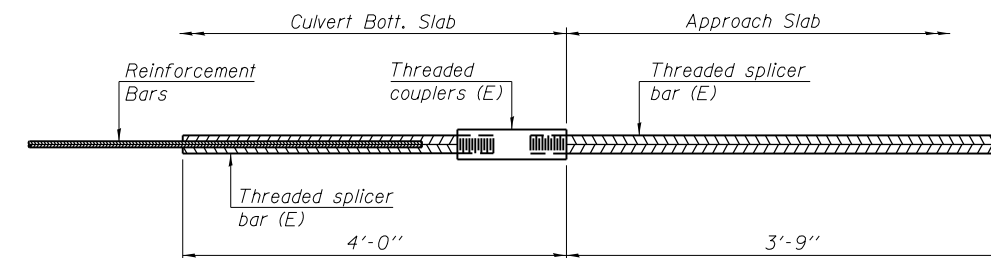
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of Top Slab	#5	11	Table 6
Bott. of Top Slab	#5	30	Table 5
Culvert Walls	#5	22	Table 6
Top of Bott. Slab	#5	30	Table 6
Bott. of Bott. Slab	#5	11	Table 5



**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



**BAR SPLICER ASSEMBLY FOR #5 BAR ON PEDESTRIAN CULVERTS**

No. required = 40

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.



# SOIL BORING LOG

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	
067-2427	2019+30	B-201	2019+17	25 ft LT	625.1 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	Not Obs. ft	580.4 ft	Not Obs. ft	Not Obs. ft	
TOPSOIL - 2 inches										CLAY: Gray, with iron stains, trace sand and gravel [A-7] (continued)						
FILL: Brown, clay, with cinders and crushed rock [A-7]						2		0.8 P	21							
FILL: Brown, silty clay, with cinders and crushed rock, trace gravel [A-6]						2		1.8 P	23							
SILT: Gray, with iron stains [A-4]						2	WOH	0.2 B	28							
CLAY: Gray, with iron stains, trace sand and gravel [A-7-6]						1										
Silty clay layer observed						2	WOH	0.7 B	24							
Trace iron nodules						1		2.7 B	22							
						3		2.1 S/4.7	20							
						5		3.3 B	21							
						7										
						3		3.0 B	20							
						4										
						6										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H H	B L O W S	U C S Qu	M O I S T	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	
067-2427	2019+30	B-201	2019+17	25 ft LT	625.1 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	Not Obs. ft	580.4 ft	Not Obs. ft	Not Obs. ft	
CLAY: Gray, trace sand and gravel [A-7] (continued)										CLAY: Gray, trace sand and gravel [A-7] (continued)						
With sand						2		1.6 B	19							
Auger refusal at 46 ft.						4										
SANDSTONE: Gray						5	50/1"		5							
Sampler refusal at 46.1 ft.																
Boring grouted to 46.1 ft.																

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 04/04/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D	B	U	M		
067-2427	2019+30	B-202	2019+25	11 ft LT	626.0 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	604.5 ft	598.5 ft	Not Obs. ft	(ft)	(/6")	(tsf)	(%)			
ASPHALT - 12 inches										CLAY: Gray, with iron stains, trace sand [A-7] (continued)											
FILL: Gray, silt, trace crushed rock, asphalt and organics [A-4]						3	7	>4.5 P	22								2	3	2.0 B	21	
FILL: Greenish gray, silty clay, trace sand, crushed rock, and cinders [A-6]						2	5	3.3 S/15	18								WOH	3	2.1 B	22	
SILT: Gray [A-4]																2					
CLAY: Gray, with iron stains [A-7]																6		3.5 B	16		
SILTY CLAY: Brownish gray, with iron stains and nodules [A-6]						1	2	1.2 S/15	24							5					
CLAY: Gray, with iron stains, trace sand [A-7]						3	5	2.5 B	22							2					
Trace gravel						2	3	2.5 B	21							2	3	1.4 B	18		
Trace iron nodules																					
With sand, trace gravel						3	6	3.3 B	14							WOH	2	1.2 B	20		

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# SOIL BORING LOG

Date 04/04/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D	B	U	M		
067-2427	2019+30	B-202	2019+25	11 ft LT	626.0 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	604.5 ft	598.5 ft	Not Obs. ft	(ft)	(/6")	(tsf)	(%)			
CLAY: Gray, trace sand, gravel, organics, and coal [A-7] (continued)										CLAY: Gray, trace sand, gravel, organics, and coal [A-7] (continued)											
With sand																					
Auger refusal at 46.5 ft.																					
SANDSTONE: Gray																					
Sampler refusal at 46.7 ft.																					
Boring grouted to 46.7 ft.																					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
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Illinois Department  
of Transportation

Division of Highways  
SCI Engineering

### SOIL BORING LOG

Page 1 of 2

Date 04/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (HHF)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D E P T H	B L O W S	U C S Qu	M O I S T			
						(ft)	(/6")	(tsf)	(%)							(ft)	(/6")	(tsf)	(%)			
ASPHALT - 12 inches										CLAY: Brown and gray, with iron stains, trace sand [A-7] (continued) Trace sand and gravel												
FILL: Brownish gray, silty clay, with crushed rock, trace sand and cinders [A-6]							3 8 10	3.7 S/15	16									2 4 4	1.0 S/20	22		
							2 4 -6	2.2 S/15	23								2 4 -25	2.2 S/15	26			
CLAY: Brownish gray, with iron stains [A-7-8]							1 2 3	0.6 B	24			SILTY CLAY: Gray, trace sand [A-6]										
							1 2 -10	0.8 B	33								2 3 5	2.2 S/20	23			
SILTY CLAY: Brownish gray, with iron stains, trace sand [A-6]							1 2 -10	0.8 B	33								WOH 3 -30	0.9 B	25			
CLAY: Brown and gray, with iron stains, trace sand [A-7]							2 3 5	1.8 B	21			CLAY: Gray, trace sand, gravel, and organics [A-7]										
Trace gravel							2 3 -15	2.5 S/20	20								1 3 -35	0.9 B	19			
Trace iron nodules								1.4 S/4.7	21													
Trace weathered sandstone							3 4 -20	2.3 S/20 2.5	20 19			Trace wood fragments										
																	WOH WOH -40	0.3 B	23			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
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SCI Engineering

### SOIL BORING LOG

Page 2 of 2

Date 04/03/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (HHF)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D E P T H	B L O W S	U C S Qu	M O I S T	
						(ft)	(/6")	(tsf)	(%)							(ft)	(/6")	(tsf)	(%)	
SILTY CLAY: Gray, with sand, trace gravel, trace coal [A-6]								1.4 S/10.2	20											
								0.5 P	40											
Auger refusal at 45.5 ft.																				
SANDSTONE: Brown and tan, fine-grained								50/3"	18											
Sampler refusal at 45.8 ft.																				
Boring grouted to 45.8 ft.																				

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# SOIL BORING LOG

Date 4/3-4/2012

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After 22 Hrs.	
067-2427	2019+30	B-204	2019+44	25 ft RT	624.7 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft		603.0 ft	603.5 ft	619.7 ft	
						(ft)	(/6")	(tsf)	(%)							
CRUSHED ROCK - 12 inches																
FILL: Brown and gray, silty clay, trace crushed rock [A-6]							3	3.5 P	21							
FILL: Gray, silt [A-4]							6	3.0 S/10	20							
SILTY CLAY: Brown, with iron stains [A-6]							5									
Becomes brown and gray, with iron stains							2	1.2 S/15	26							
Trace sand							3	1.2 B	25							
CLAY: Gray, with iron stains and nodules, trace sand [A-7]							2	3.2 B	21							
CLAY: Gray, with sand, trace gravel and shale fragments [A-7]							1	1.6 B	18							
With sand, trace gravel							4									
Trace sand, gravel, and sandstone fragments							3	2.4 S/15	22							
							6									
							7									
							3									
							6									
							7									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
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# SOIL BORING LOG

Date 4/3-4/2012

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After 22 Hrs.	
067-2427	2019+30	B-204	2019+44	25 ft RT	624.7 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft		603.0 ft	603.5 ft	619.7 ft	
						(ft)	(/6")	(tsf)	(%)							
CLAY: Gray, with sand, trace gravel and shale fragments [A-7] (continued)																
Auger refusal at 41.5 ft.																
SANDSTONE: Gray							50/4"		7							
Sampler refusal at 41.8 ft.																
Boring grouted to 41.8 ft.																

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 04/09/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D	B	U	M
067-2427	2019+30	B-205	2018+93	48 ft LT	619.4 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	601.9 ft	594.9 ft	Not Obs. ft	(ft)	(/6")	(tsf)	(%)	
CLAY: Brown and gray [A-7]							2	1.7 B	27	CLAY: Gray, with fine to medium sand and fine sand layers [A-7]						4	4.3 B	18	
SILTY CLAY: Gray and brown, with iron stains, trace sand [A-6]							1	0.5 B	29	SANDY SILT: Gray, with fine sand layers [A-4]						7	1.5 S/20	17	
CLAY: Gray, with iron stains, trace sand [A-7]							1	1.6 B	22	CLAY: Gray, with sand [A-7]						4	2.5 S/20	19	
Trace gravel								1.0 S/20	21	Boring terminated at 30.0 ft.						2	1.9 B	19	
SANDY CLAY: Gray, with iron stains, trace gravel [A-6]							2	1.2 B	18	Boring grouted to 30.0 ft.									
CLAY: Gray, with iron stains, trace sand [A-7]							1	0.8 S/20	20										
SILTY CLAY: Gray, with iron stains and sand, trace organics [A-6]							1	2.3 B	23										
SILT: Brown [A-4]							5	1.1 S/20	24										
With sand and gravel							10												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 04/06/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D	B	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.	D	B	U	M
067-2427	2019+30	B-206	2019+20	56 ft LT	619.2 ft	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	Not Obs. ft	Not Obs. ft	Not Obs. ft	(ft)	(/6")	(tsf)	(%)	
SILTY CLAY: Brownish gray, with iron stains, trace sand, organics and iron nodules [A-6]							1	0.8 B	23	CLAY: Gray and brown, trace sand and iron nodules [A-7] (continued)						5	1.7 B	18	
Becomes gray, trace gravel							2			Becomes gray, trace gravel						6	1.7 B	18	
							3									8			
							1	1.0 B	26							2	1.9 B	18	
							1									4			
							-5	2								-26	5		
CLAY: Gray and brown, trace sand and iron nodules [A-7]							1	2.2 S/20	21	CLAY: Gray and brown, trace sand and iron nodules [A-7]						2	1.3 B	18	
							3									3			
							4									4			
Becomes gray, with iron stains							2	3.1 B	20	Becomes gray, with iron stains						2	1.6 B	20	
							4									3			
							5									5			
							-10									-30			
							2	2.9 B	19	Boring terminated at 30.0 ft.									
							4			Boring grouted to 30.0 ft.									
							6												
							3	3.2 B	20										
							3												
							-15	6								-36			
							7	5.7 B	16	Becomes brown and gray, with sand						7			
							7									7			
							10									10			
							4	5.1 S/20	21							4			
							6									6			
							-20									-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)





# SOIL BORING LOG

Date 04/05/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH	BULGE	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	GROUNDWATER ELEV.	DEPTH	BULGE	UCS	MOIST
067-2427	2019+30	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	First Encounter	(ft)	(/6")	(tsf)	(%)
BORING NO.	Station	Offset										
B-207	2019+42	74 ft RT										
Ground Surface Elev.		624.6 ft										
SILTY CLAY: Brown [A-6]						CLAY: Gray, trace sand and iron nodules [A-7] (continued)						
CLAY: Gray and brown, trace iron nodules and organics [A-7]		2		3.1 S/15	25	Trace gravel and sand layers			2		8.0 S/20	17
		4							6			
		5							9			
SILTY CLAY: Gray, with iron stains, trace organics [A-6]		1		1.2 B	26				4		4.9 B	20
		3							5			
		-5							-25			
Trace sand		2		1.1 B	26	Becomes gray			3		2.3 B	17
		2							5			
		4							7			
		2							2			
		3		1.5 B	24	Trace organics			5		2.7 B	18
		-10							-30			
CLAY: Gray, trace sand and iron nodules [A-7]		2		2.5 B	21	Boring terminated at 30.0 ft.						
		4				Boring grouted to 30.0 ft.						
		5										
		2										
		4		3.3 B	23							
		-15							-35			
Trace sandstone fragments		2										
		4		2.5 B	22							
		4										
With sand and iron stains		3										
		4		2.5 B	21							
		-20							-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



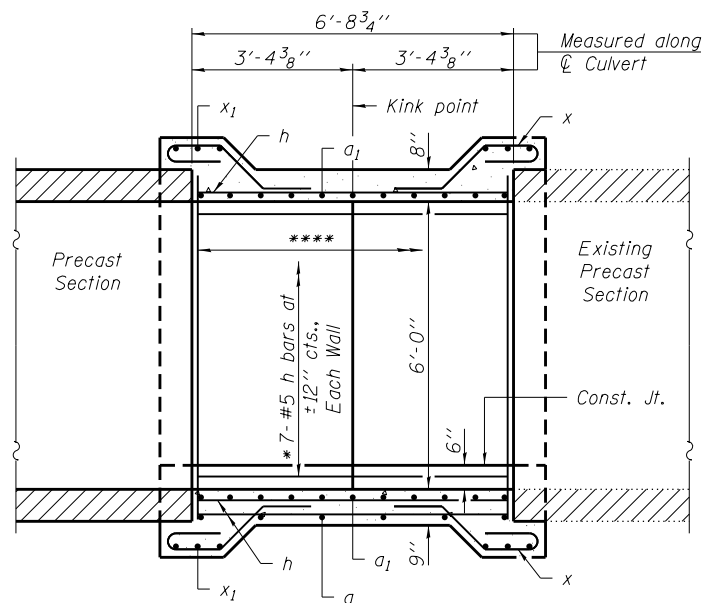
# SOIL BORING LOG

Date 04/05/12

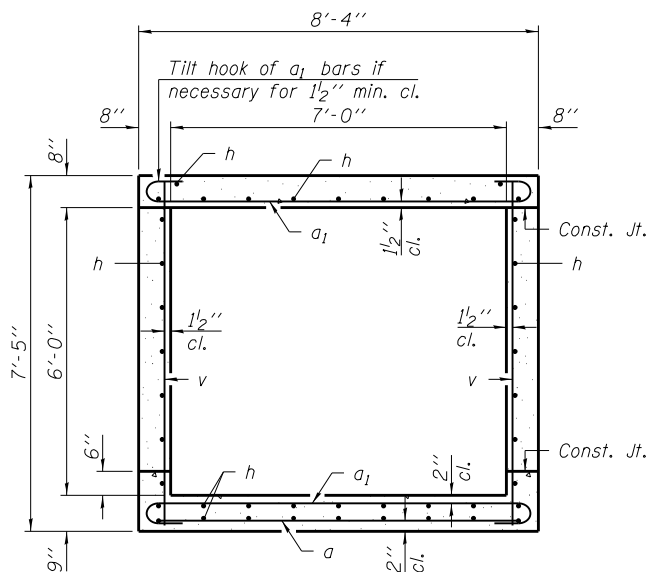
ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Shared Use Culvert Boring LOGGED BY SCI (TT)  
SECTION 68-WRS-1 LOCATION NW 1/4 of the NE 1/4, SEC. 36, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 750 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH	BULGE	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	GROUNDWATER ELEV.	DEPTH	BULGE	UCS	MOIST
067-2427	2019+30	(ft)	(/6")	(tsf)	(%)	N/A ft	N/A ft	First Encounter	(ft)	(/6")	(tsf)	(%)
BORING NO.	Station	Offset										
B-208	2019+71	48 ft RT										
Ground Surface Elev.		620.4 ft										
SILTY CLAY: Brown and gray [A-6]						CLAY: Gray, trace sand and iron nodules [A-7] (continued)						
		1		1.1 B	25	Trace gravel			8		5.1 S/20	18
		3							9			
		3							15			
Trace sand		1				Becomes gray			3		3.6 S/20	18
		3		1.1 B	25				6			
		-5							-25			
CLAY: Gray, trace sand and iron nodules [A-7]		2		2.1 B	22				3			
		4							4		1.8 B	18
		5							5			
				2.0 S/3.7	20	With sandstone fragments			3			
									33		2.9 B	8
		-10							-30			
With iron stains		3		3.4 B	22	Boring terminated at 30.0 ft.						
		5				Boring grouted to 30.0 ft.						
		7										
		2										
		3		2.4 B	22							
		-15							-35			
With sand		1										
		2		1.1 B	22							
		4										
Trace sandstone fragments		4		6.1 B	16							
		9										
		-20							-40			

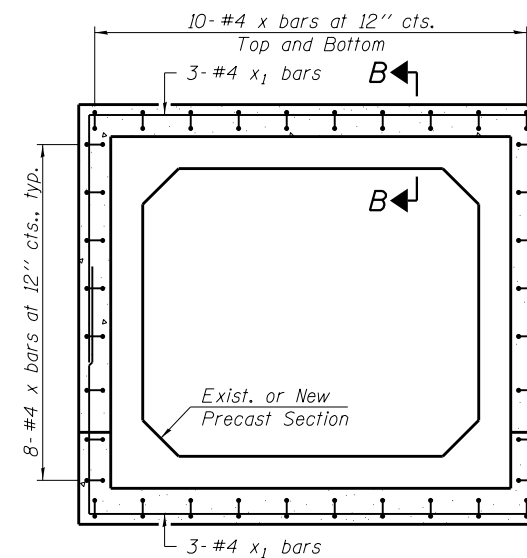
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



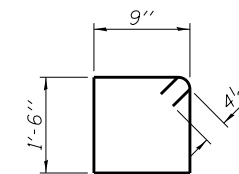
**LONGITUDINAL SECTION**



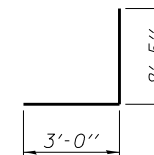
**SECTION THRU BARREL**



**SECTION A-A**

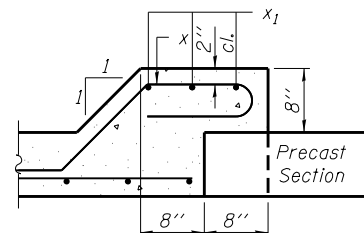


**BAR s**

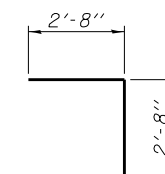


**BAR v1**

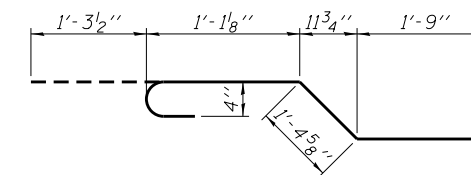
- \* Cut bars to fit.
- \*\* 6-#6 a1 bars at 8" cts., Bottom of Top Slab & Top of Bottom Slab
- \*\*\* 3-#4 a bars at 1'-8" cts., Bottom of Bottom Slab
- \*\*\*\* 7-#5 v bars at ±12" cts., Short Wall
- 8-#5 v bars at ±12" cts., Long Wall



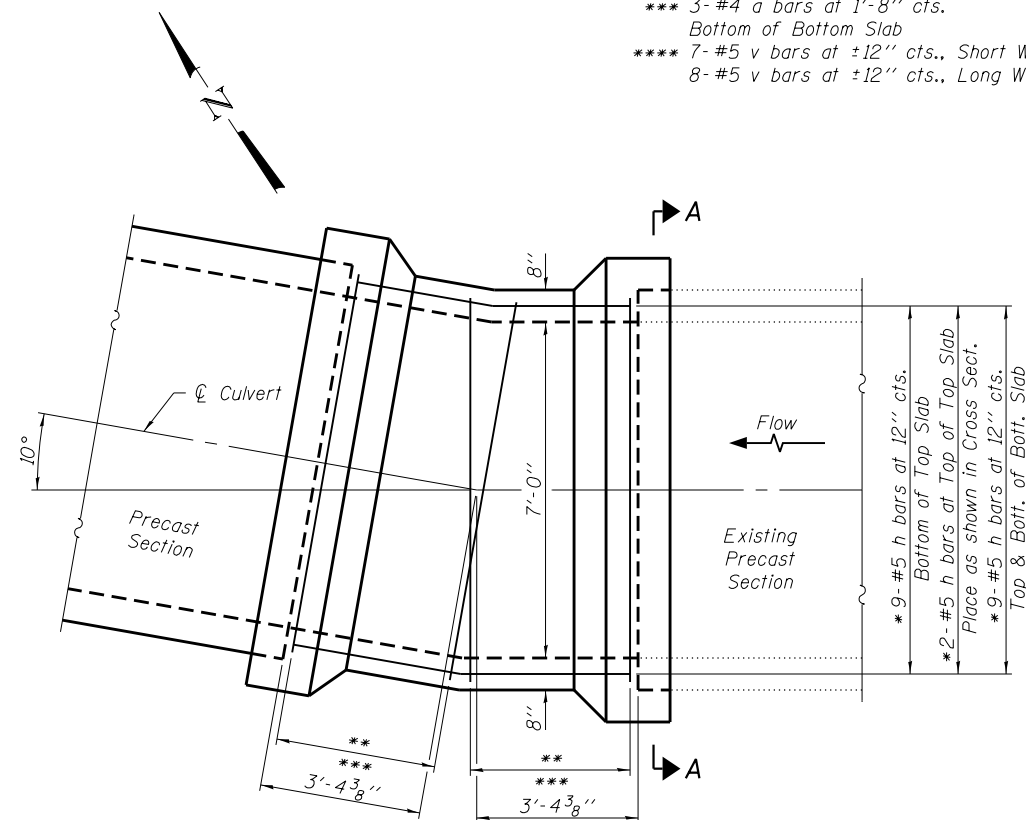
**SECTION B-B**



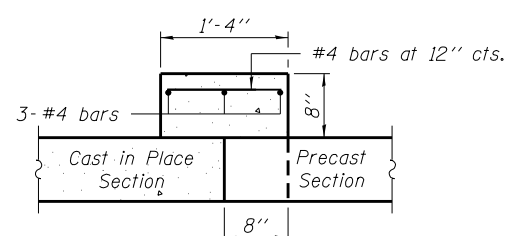
**BAR d**



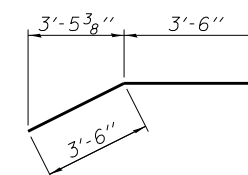
**BAR x**



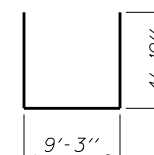
**PLAN**



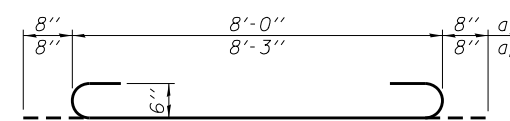
**ALTERNATE SECTION B-B**



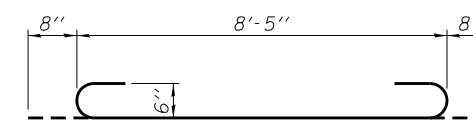
**BAR h**



**BAR x1**



**BARS a1 & a2**



**BAR h1**

Note:  
For Bill of Material, see sheet 2 of 3.

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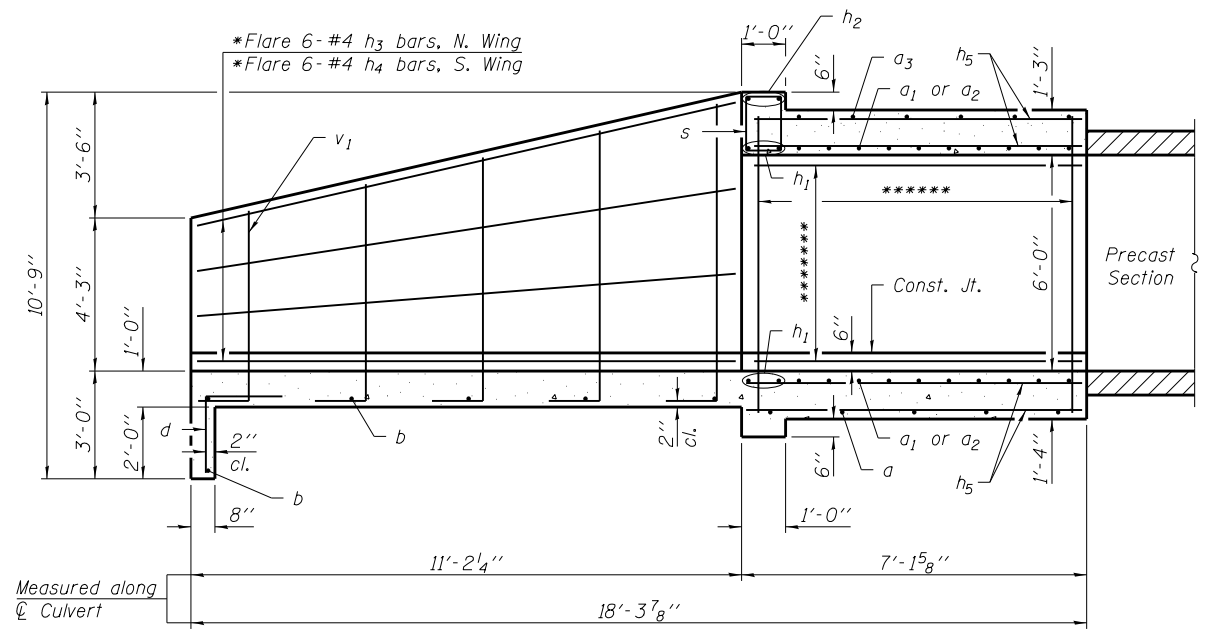
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

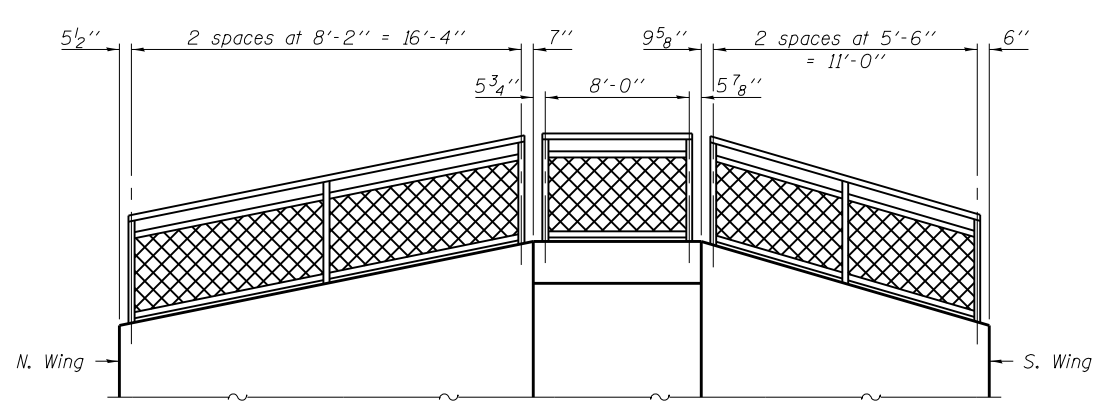
**HORNER &  
SHIFRIN, INC.  
ENGINEERS**

**KINK DETAILS**  
CULVERT AT STA. 2016+44.66  
SCALE: SHEET NO. 1 OF 3 SHEETS STA. 2015+24.21 TO STA. 2017+98.20

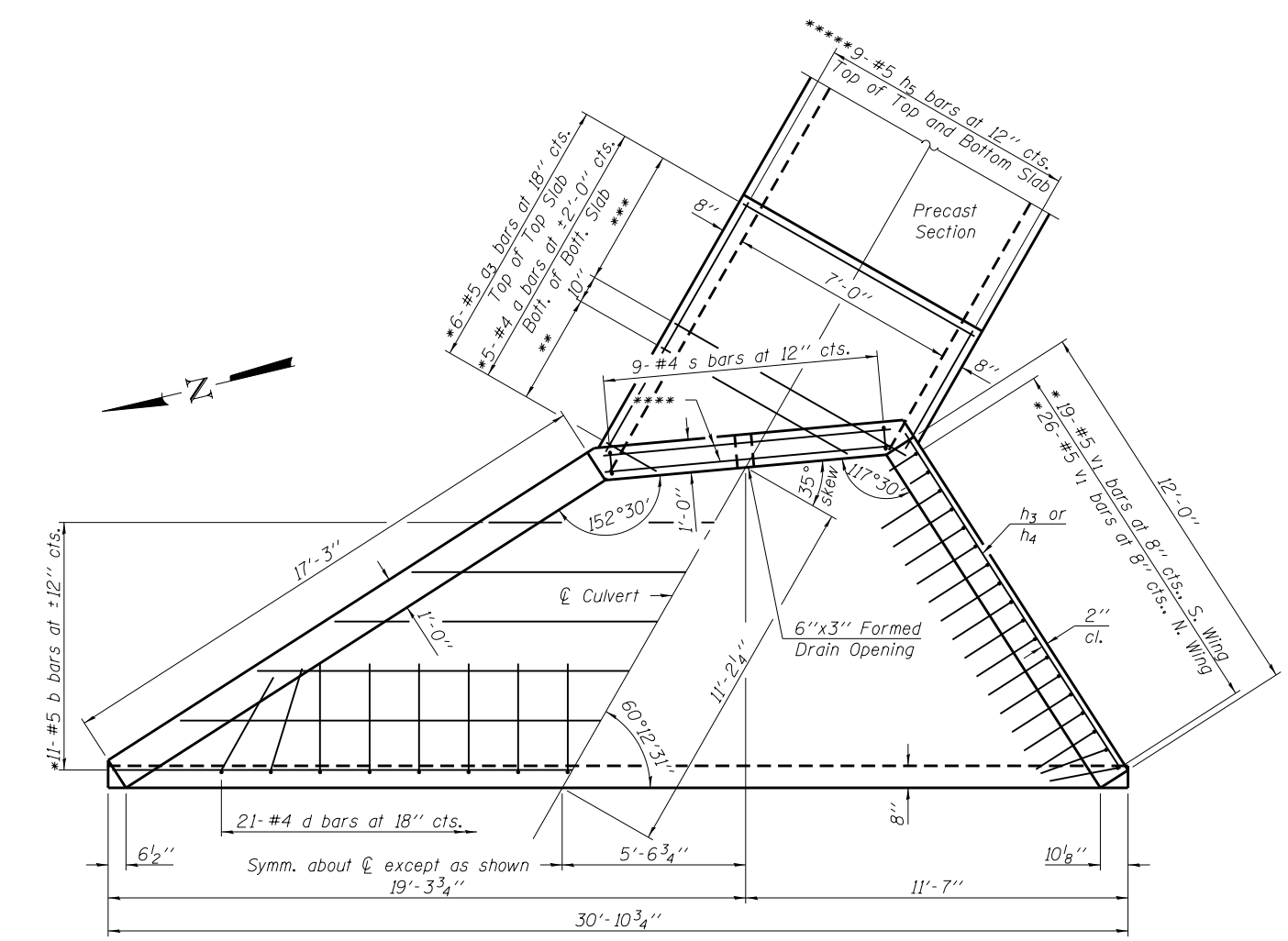
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	434
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	



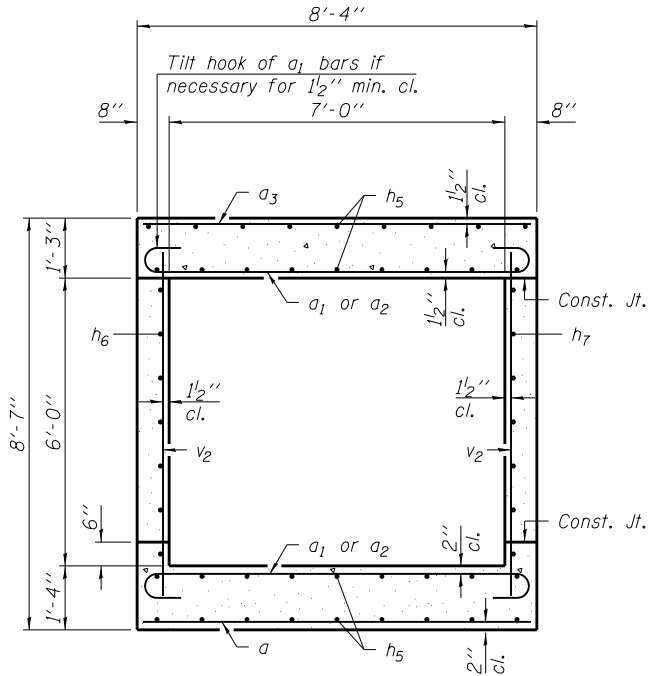
**LONGITUDINAL SECTION**



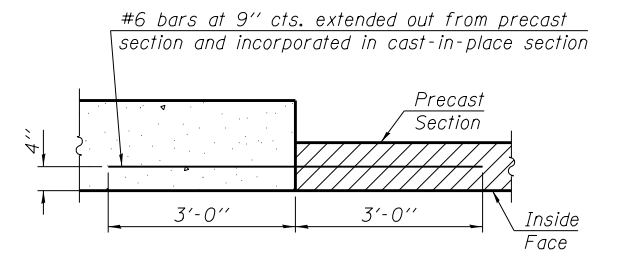
**DEVELOPED ELEVATION**



**PLAN**



**SECTION THRU BARREL**



**PRECAST TO CAST-IN-PLACE CONNECTION**  
(Barrel reinforcement not shown for clarity)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	11	#4	8'-0"	—
a1	36	#6	9'-4"	U
a2	5	#6	9'-7"	U
a3	6	#5	8'-0"	—
b	12	#5	30'-7"	—
d	21	#4	5'-4"	J
h	43	#5	7'-0"	—
h1	4	#6	9'-9"	U
h2	2	#6	8'-5"	—
h3	6	#4	17'-3"	—
h4	6	#4	12'-0"	—
h5	18	#5	13'-8"	—
h6	7	#5	9'-6"	—
h7	7	#5	4'-6"	—
s	9	#4	5'-3"	□
v	15	#5	7'-2"	—
v1	45	#5	11'-5"	J
v2	15	#5	8'-3"	—
x	36	#4	5'-6"	—
x1	12	#4	18'-11"	—
Reinforcement Bars		Pound	3,110	
Concrete Box Culverts		Cu. Yd.	34.0	

- \* Cut bars to fit.
- \*\* 5-#6 a2 bars at 10" cts., Bott. of Top Slab Cut to fit skew and place remainder in Top of Bott. Slab. Place hooked end along outside edge of slab.
- \*\*\* 6-#6 a1 bars at 10" cts., Bott. of Top Slab and Top of Bottom Slab
- \*\*\*\* 2-#6 h1 bars in Bott. of Headwall and Top of Bott. Slab
- 2-#6 h2 bars in Top of Headwall
- \*\*\*\*\* Cut to fit skew and place remainder in Bottom of Top and Bott. Slab
- \*\*\*\*\* 10-#5 v2 bars at 12" cts., N. Wall
- 5-#5 v2 bars at 12" cts., S. Wall
- \*\*\*\*\* 7-#5 h6 bars at ±12" cts., N. Wall
- 7-#5 h7 bars at ±12" cts., S. Wall

Notes:  
For bar bending diagrams, see sheet 1 of 3.  
For bicycle railing details, see sheet 3 of 3.

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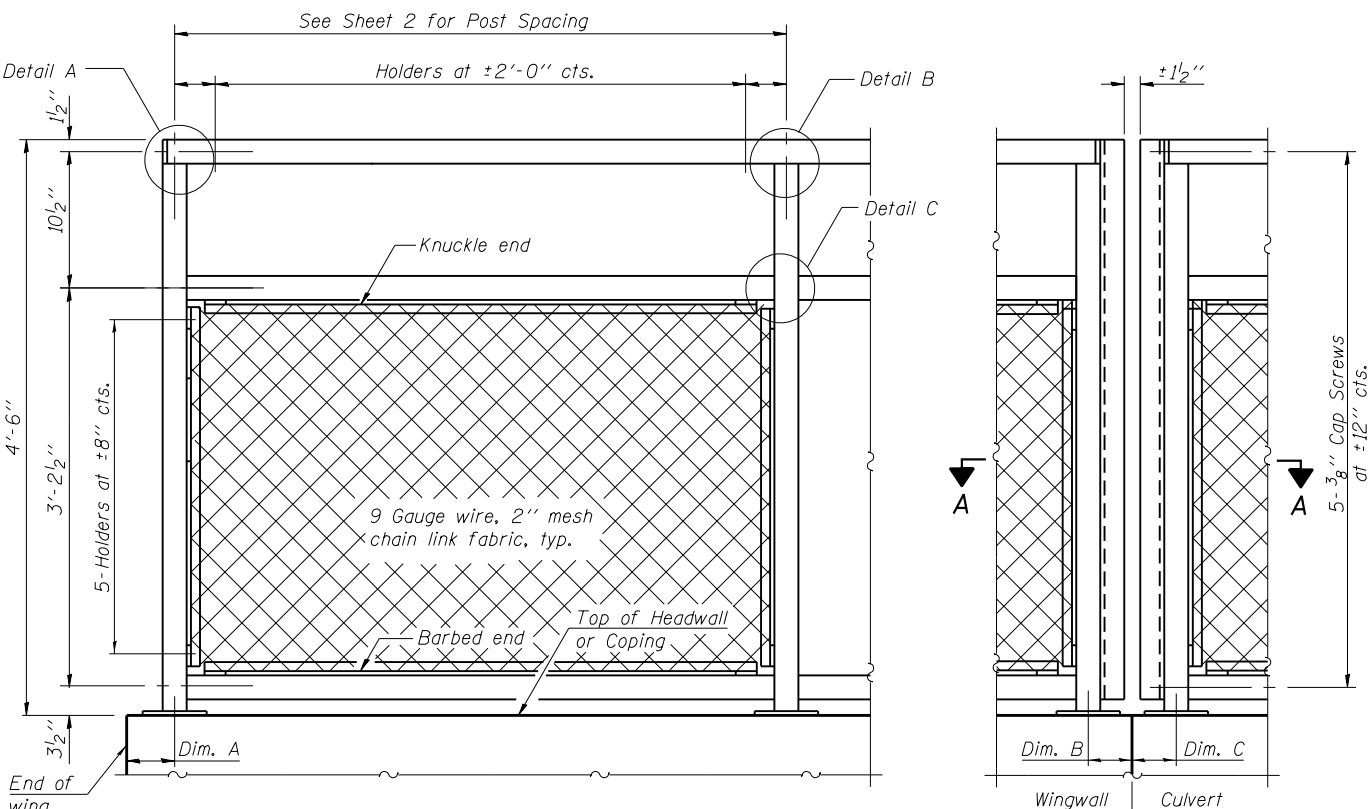
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIFRIN, INC.  
ENGINEERS**

**APRON DETAILS**  
CULVERT AT STA. 2016+44.66

F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	68-WRS-1	MONROE	760	435
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 2 OF 3 SHEETS STA. 2015+24.21 TO STA. 2017+98.20



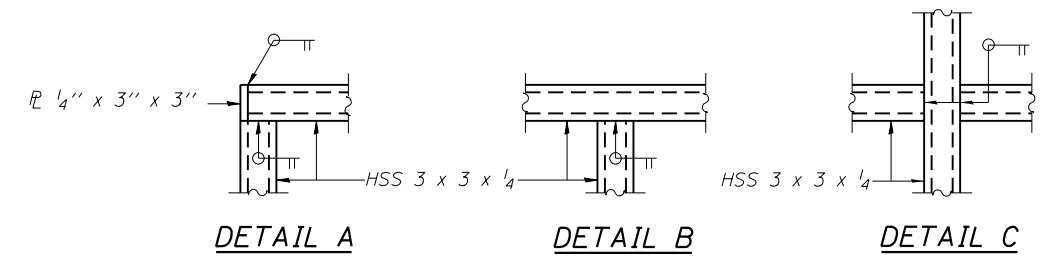
**BICYCLE RAILING**

**BICYCLE RAILING**

**TABLE OF VARIABLE DIMENSIONS**

	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E
N. Wing	5 1/2"	7"	5 3/4"	5 5/8"	6 3/4"
S. Wing	6"	9 5/8"	5 1/8"	6"	9 3/4"

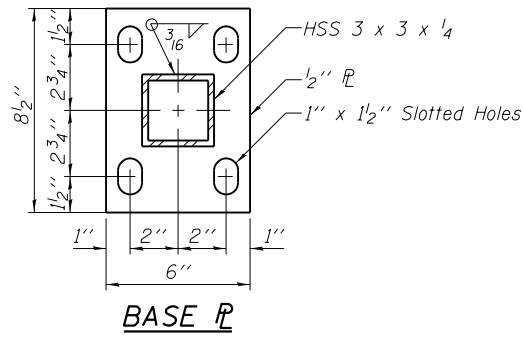
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



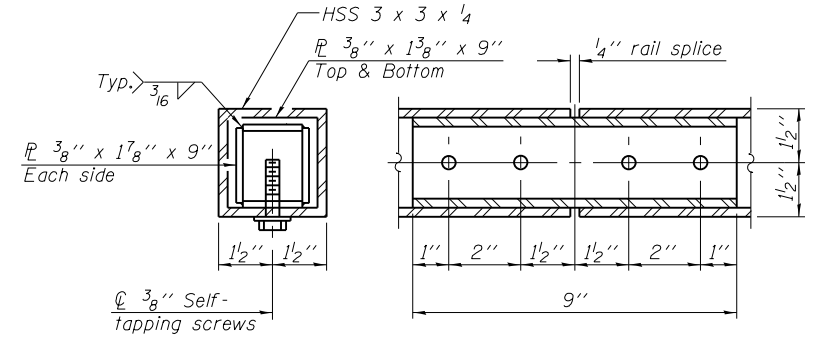
**DETAIL A**

**DETAIL B**

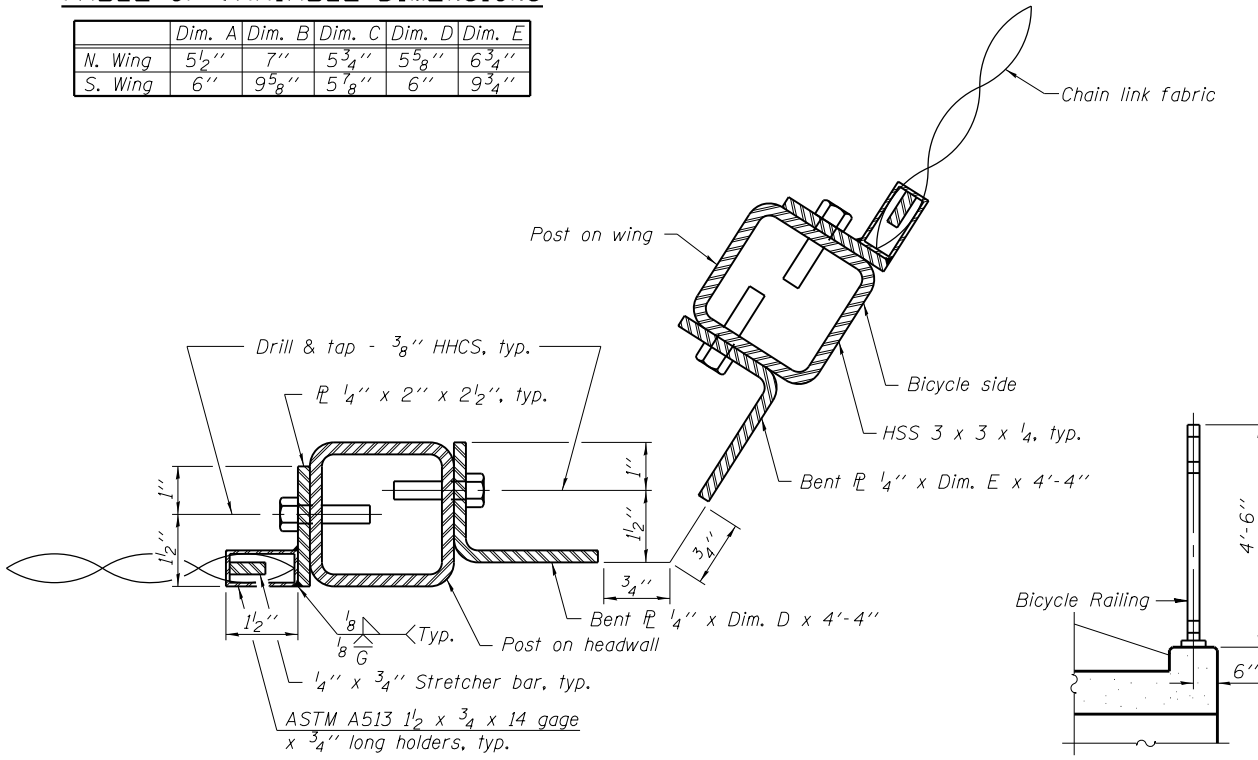
**DETAIL C**



**BASE PL**



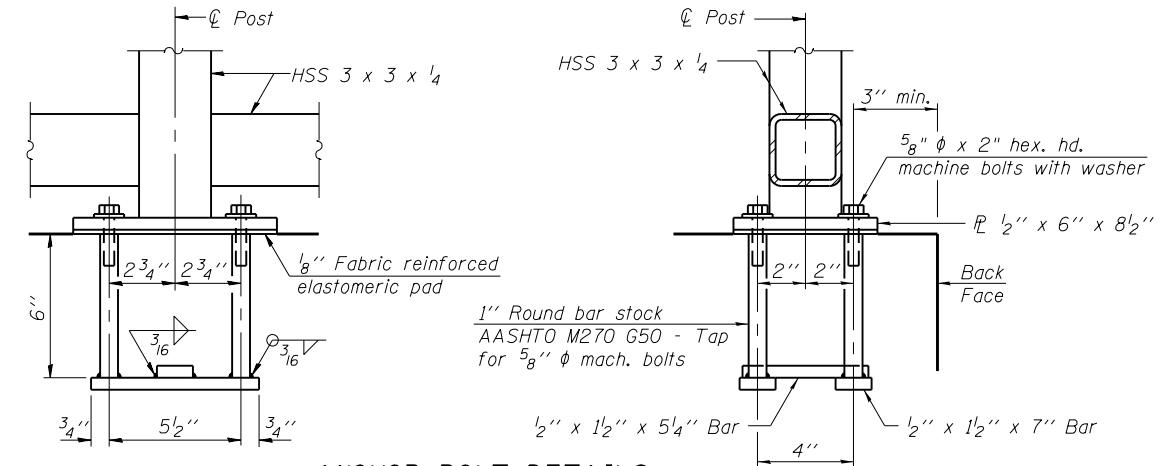
**RAIL SPLICE**



**SECTION A-A**

**SECTION THRU HEADWALL**

**SECTION THRU WING**



**ANCHOR BOLT DETAILS**

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

**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	35

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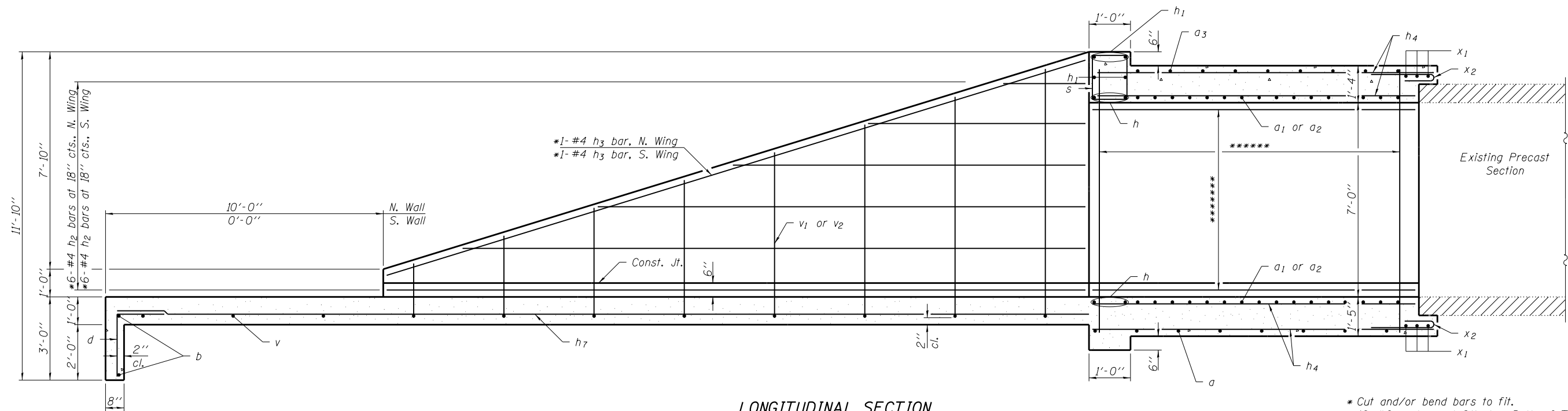
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**BICYCLE RAILING DETAILS**  
CULVERT AT STA. 2016+44.66

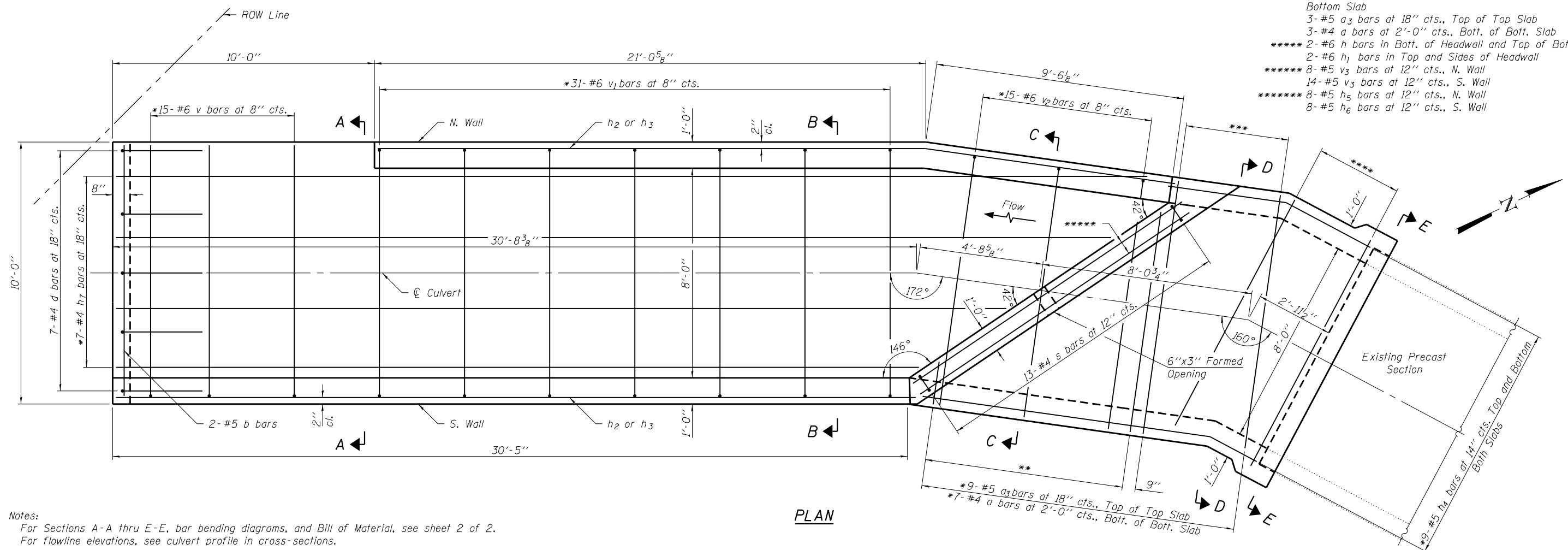
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F.A.P. R.E. = 312	SECTION = 68-WRS-1	COUNTY = MONROE	TOTAL SHEETS = 760	SHEET NO. = 436
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



LONGITUDINAL SECTION

- \* Cut and/or bend bars to fit.
- \*\* 12-#6 a<sub>2</sub> bars at 9" cts., Bott. of Top Slab. Cut to fit skew and place remainder in Top of Bott. Slab. Place hooked end along outside edge of slab.
- \*\*\* 6-#6 a<sub>1</sub> bars at 9" cts., Bott. of Top Slab and Top of Bottom Slab
- \*\*\*\* 5-#6 a<sub>1</sub> bars at 9" cts., Bott. of Top Slab and Top of Bottom Slab
- 3-#5 a<sub>3</sub> bars at 18" cts., Top of Top Slab
- 3-#4 a bars at 2'-0" cts., Bott. of Bott. Slab
- \*\*\*\*\* 2-#6 h bars in Bott. of Headwall and Top of Bott. Slab.
- \*\*\*\*\* 8-#5 v<sub>3</sub> bars at 12" cts., N. Wall
- 14-#5 v<sub>3</sub> bars at 12" cts., S. Wall
- \*\*\*\*\* 8-#5 h<sub>5</sub> bars at 12" cts., N. Wall
- 8-#5 h<sub>6</sub> bars at 12" cts., S. Wall



PLAN

Notes:  
 For Sections A-A thru E-E, bar bending diagrams, and Bill of Material, see sheet 2 of 2.  
 For flowline elevations, see culvert profile in cross-sections.

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		CHECKED E.M. Lagemann	REVISED -
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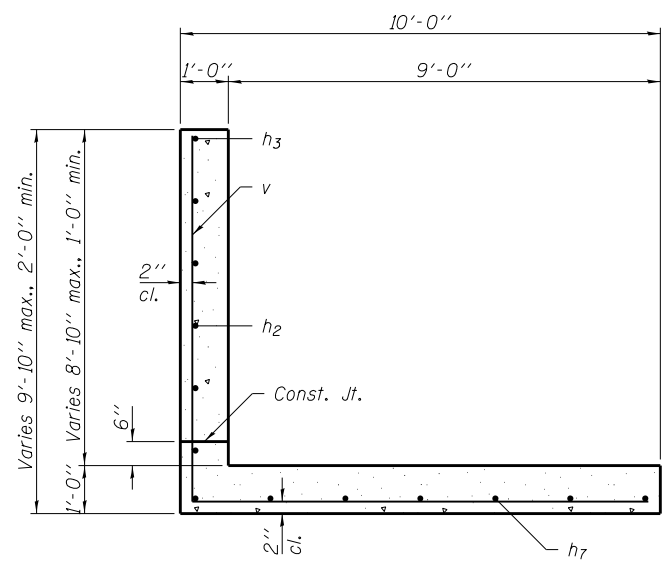
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HORNER &  
 SHIRIN, INC.  
 ENGINEERS

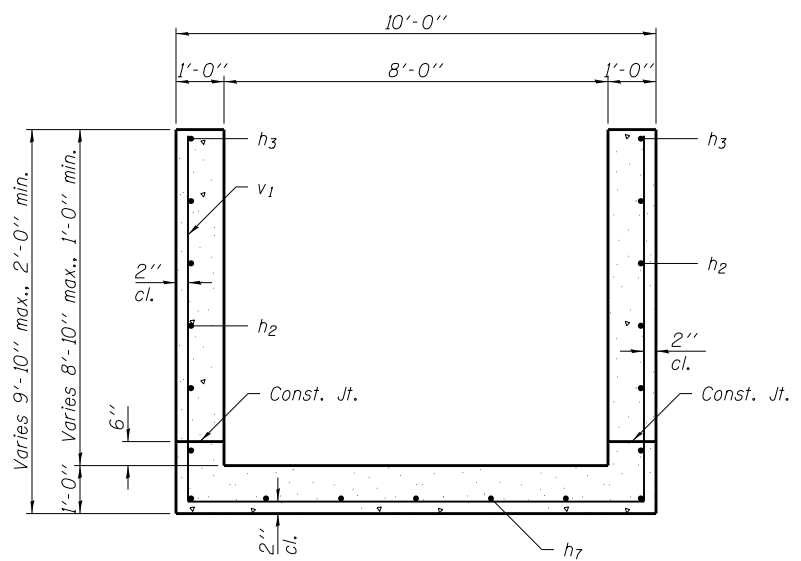
DOWNSTREAM APRON DETAILS  
 CULVERT AT STA. 2028+57.35

SCALE: SHEET NO. 1 OF 2 SHEETS STA. 2027+92.00 TO STA. 2028+94.45

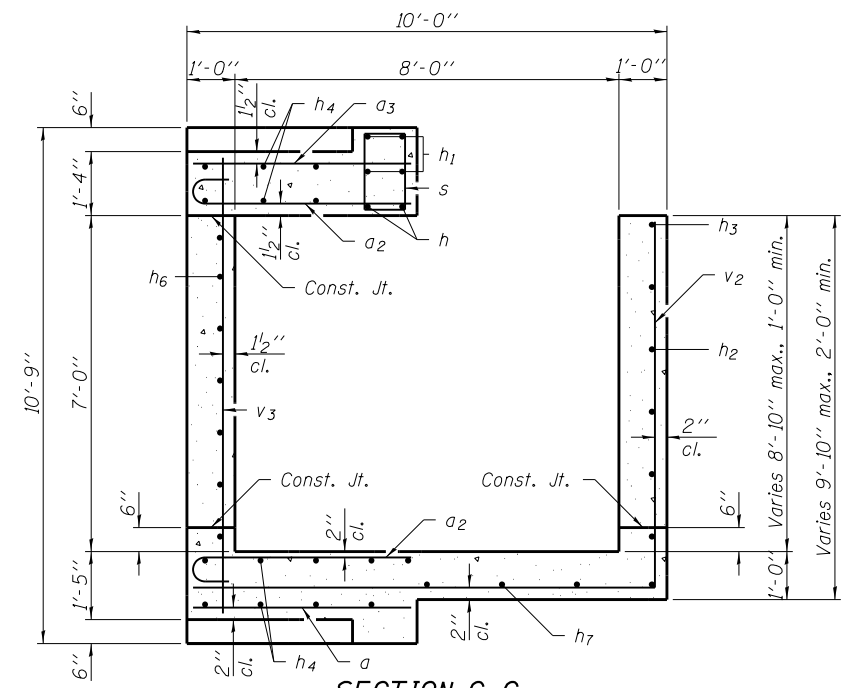
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CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



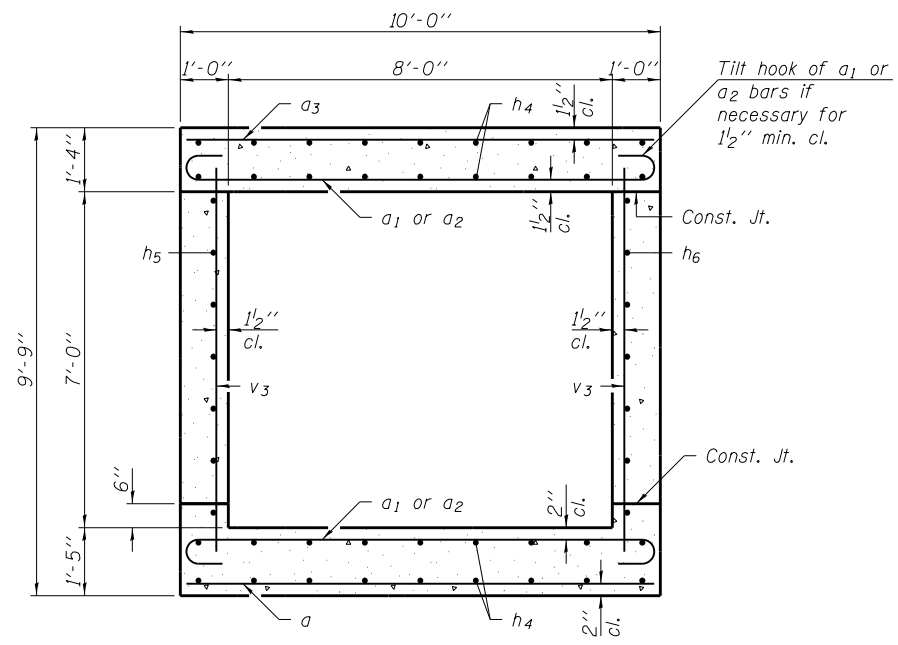
SECTION A-A



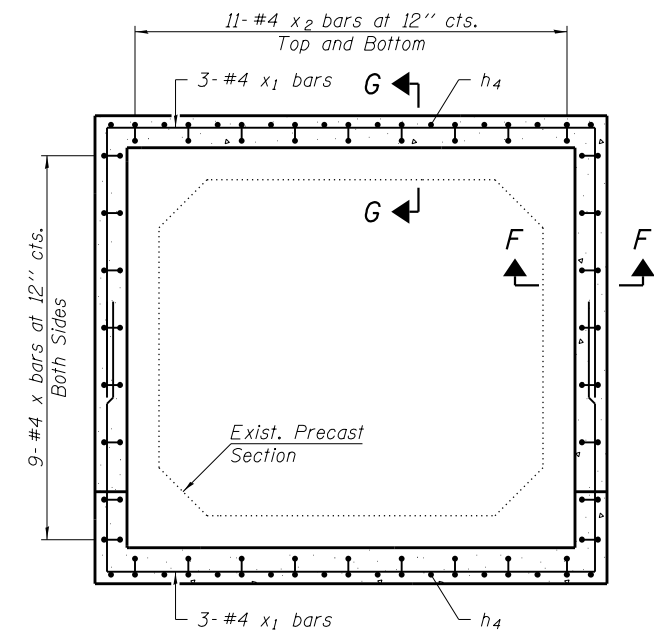
SECTION B-B



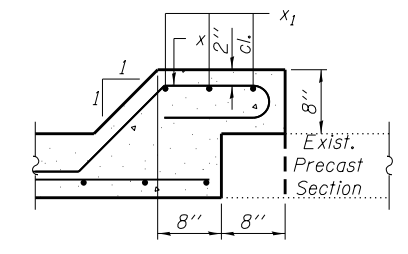
SECTION C-C



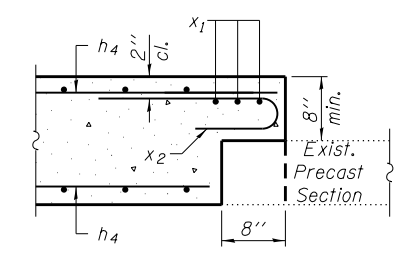
SECTION D-D



SECTION E-E



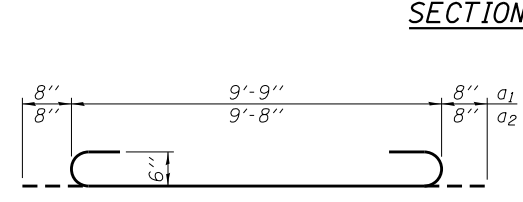
SECTION F-F



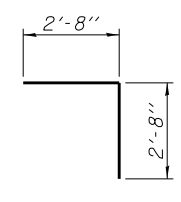
SECTION G-G

BILL OF MATERIAL

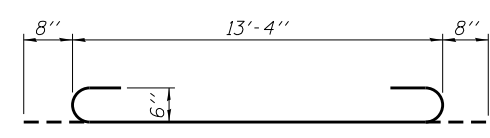
Bar	No.	Size	Length	Shape
a	10	#4	9'-8"	U
a1	22	#6	11'-1"	U
a2	12	#6	11'-0"	U
a3	12	#5	9'-9"	U
b	2	#5	9'-8"	U
d	7	#4	5'-4"	J
h	4	#6	14'-8"	U
h1	4	#6	13'-4"	U
h2	12	#4	30'-3"	U
h3	2	#4	31'-3"	U
h4	36	#5	14'-2"	U
h5	8	#5	14'-4"	U
h6	8	#5	8'-10"	U
h7	7	#4	40'-2"	U
s	13	#4	5'-5"	□
v	15	#6	13'-10"	J
v1	31	#6	26'-1"	U
v2	15	#6	19'-2"	J
v3	22	#5	9'-5"	U
x	18	#4	5'-6"	U
x1	6	#4	22'-1"	U
x2	22	#4	4'-3"	U
Reinforcement Bars			Pound	4,600
Concrete Box Culverts			Cu. Yd.	43.0



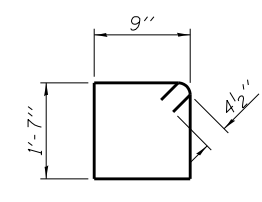
BARS a1 & a2



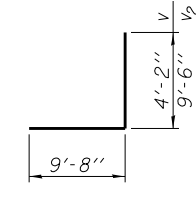
BAR d



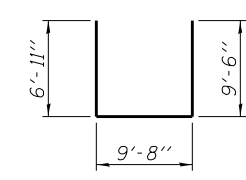
BAR h



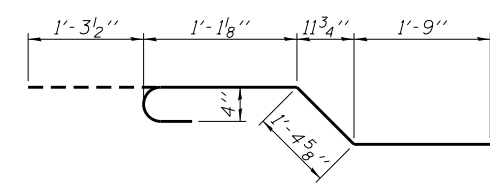
BAR s



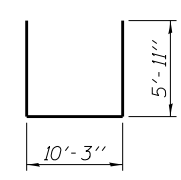
BAR v & v2



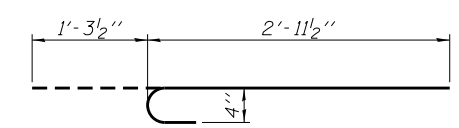
BAR v1



BAR x



BAR x1



BAR x2

Note: For Plan & Longitudinal Section, see sheet 1 of 2.

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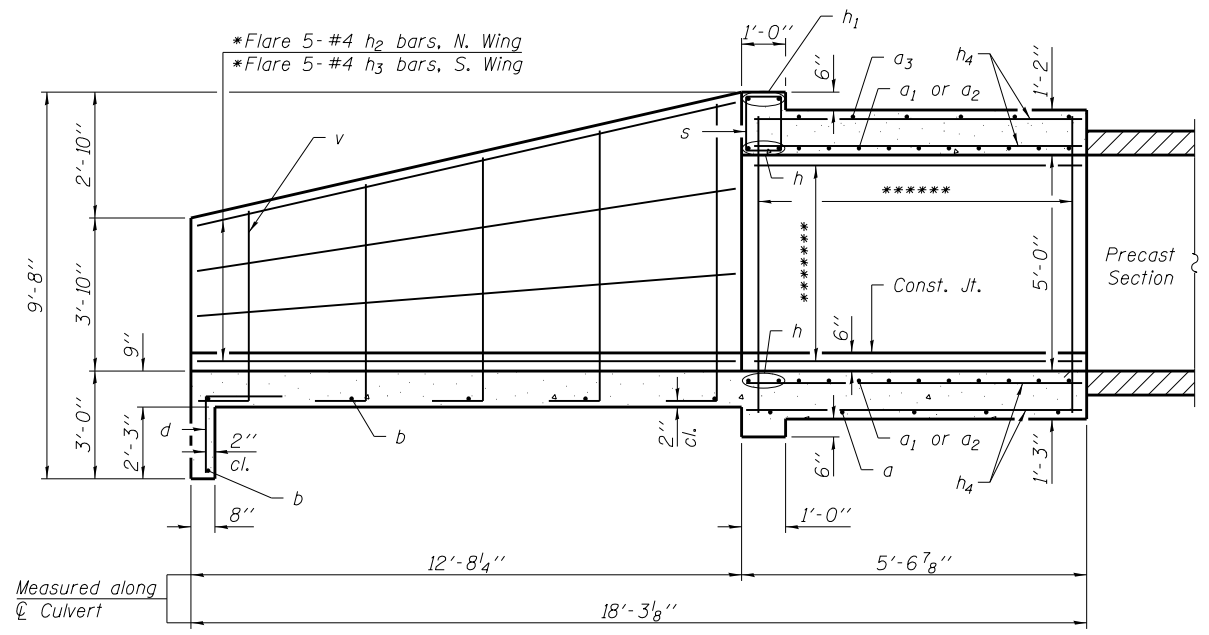
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HORNER &  
 SHIRIN, INC.  
 ENGINEERS

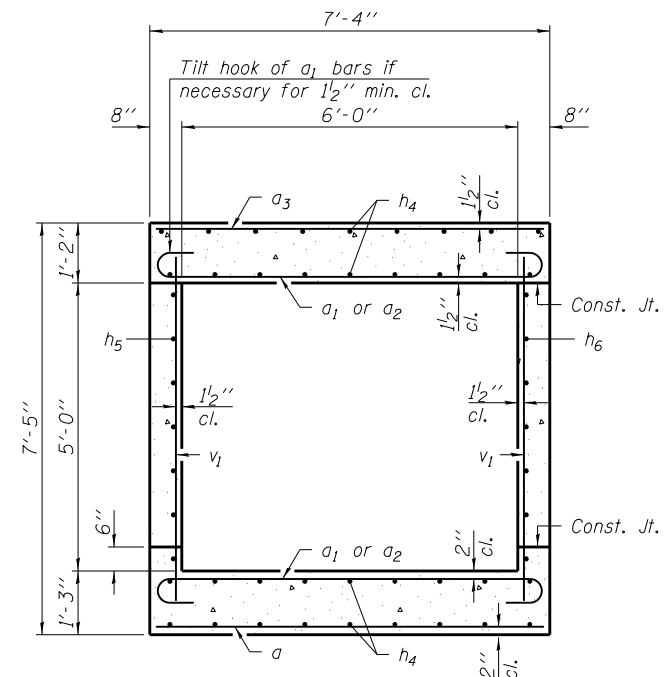
DOWNSTREAM APRON DETAILS  
 CULVERT AT STA. 2028+57.35

SCALE: SHEET NO. 2 OF 2 SHEETS STA. 2027+92.00 TO STA. 2028+94.45

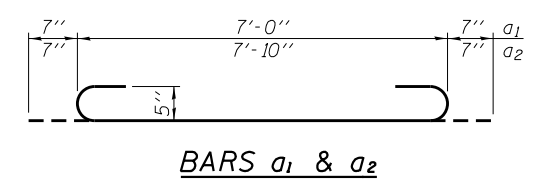
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312	68-WRS-1	MONROE	760	438
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



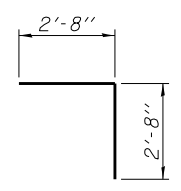
**LONGITUDINAL SECTION**



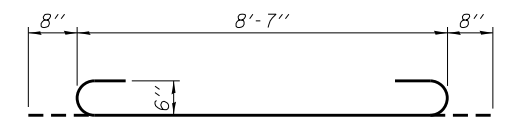
**SECTION THRU BARREL**  
(Looking upstream)



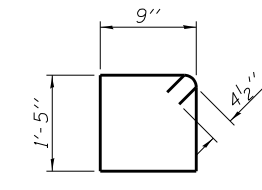
**BARS a1 & a2**



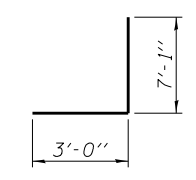
**BAR d**



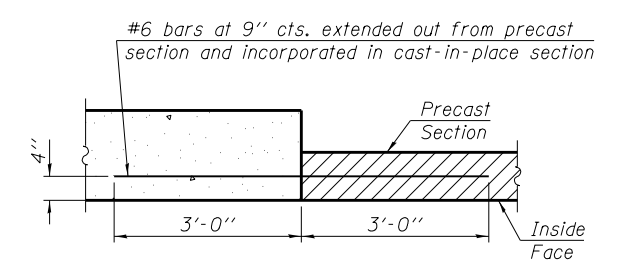
**BAR h**



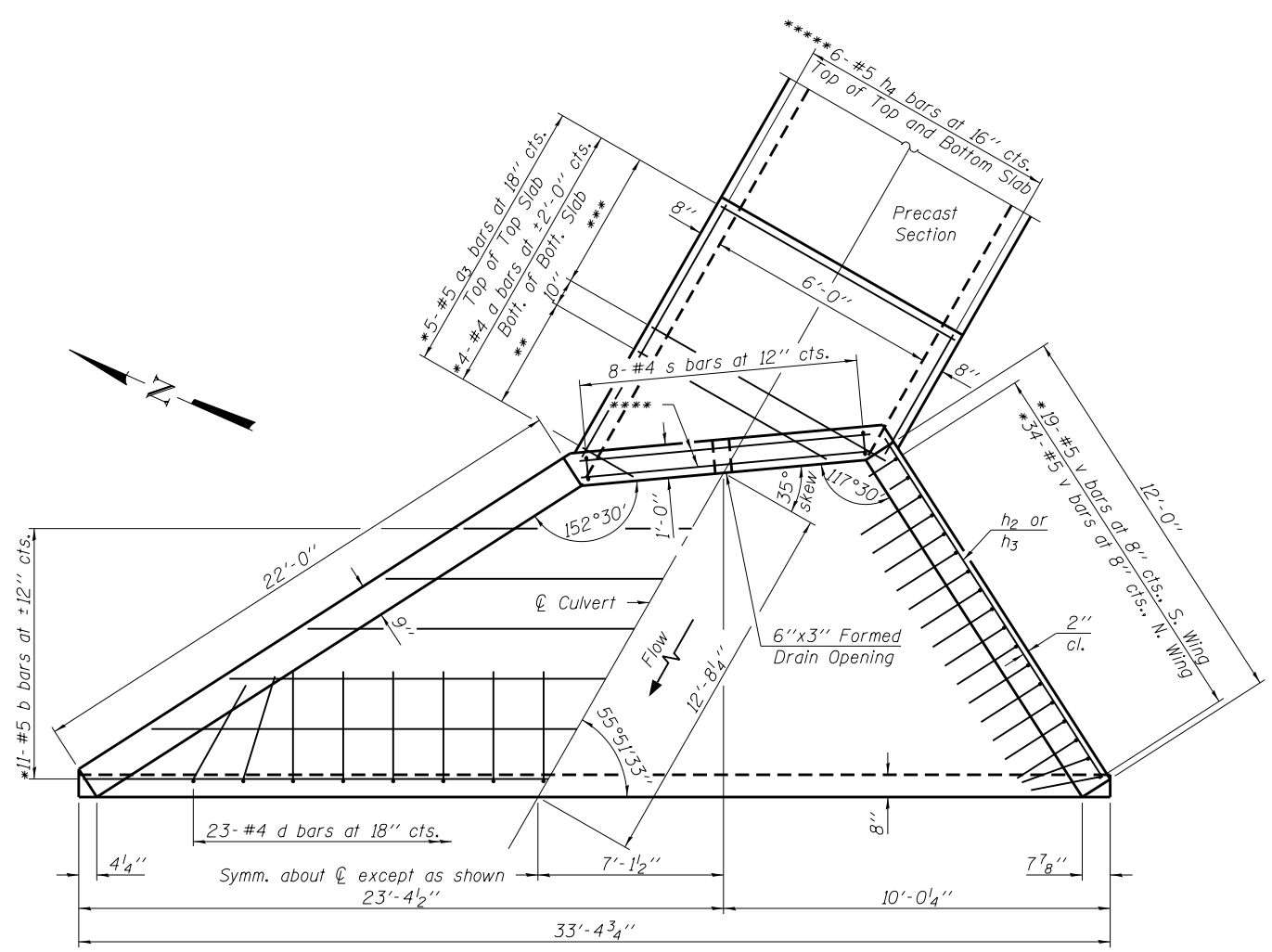
**BAR s**



**BAR v**



**PRECAST TO CAST-IN-PLACE CONNECTION**  
(Barrel reinforcement not shown for clarity)



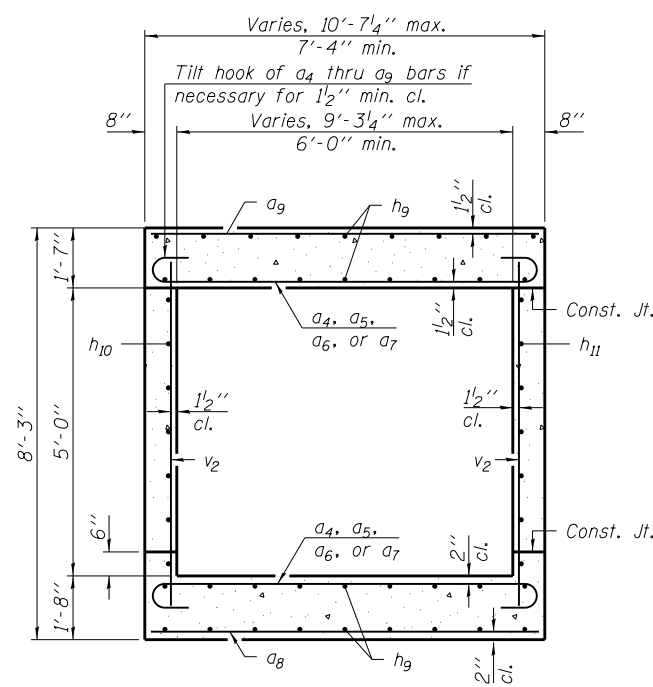
**PLAN**

- \* Cut bars to fit.
- \*\* 5-#5 a2 bars at 10" cts., Bott. of Top Slab  
Cut to fit skew and place remainder in Top of Bott. Slab. Place hooked end along outside edge of slab.
- \*\*\* 4-#5 a1 bars at 10" cts., Bott. of Top Slab and Top of Bottom Slab
- \*\*\*\* 2-#6 h bars in Bott. of Headwall and Top of Bott. Slab  
2-#6 h1 bars in Top of Headwall
- \*\*\*\*\* Cut to fit skew and place remainder in Bottom of Top and Bott. Slab
- \*\*\*\*\* 8-#5 v1 bars at 12" cts., N. Wall  
4-#5 v1 bars at 12" cts., S. Wall
- \*\*\*\*\* 6-#5 h5 bars at ±12" cts., N. Wall  
6-#5 h6 bars at ±12" cts., S. Wall

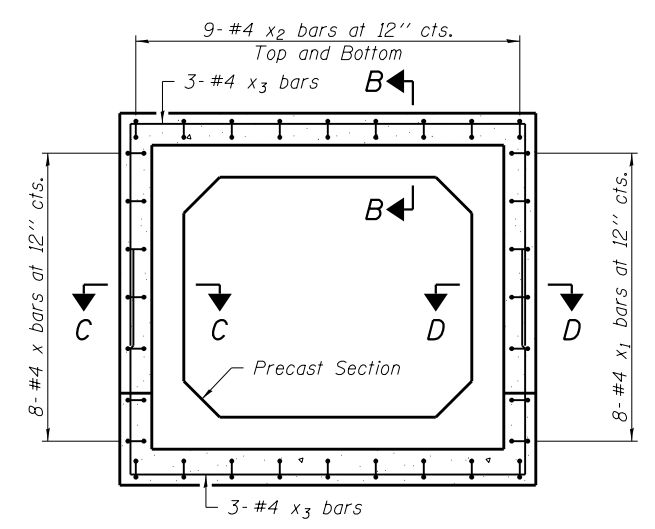
Notes:  
For Bill of Materials, see sheet 3 of 3.  
For flowline elevations not shown, see roadway cross-sections.

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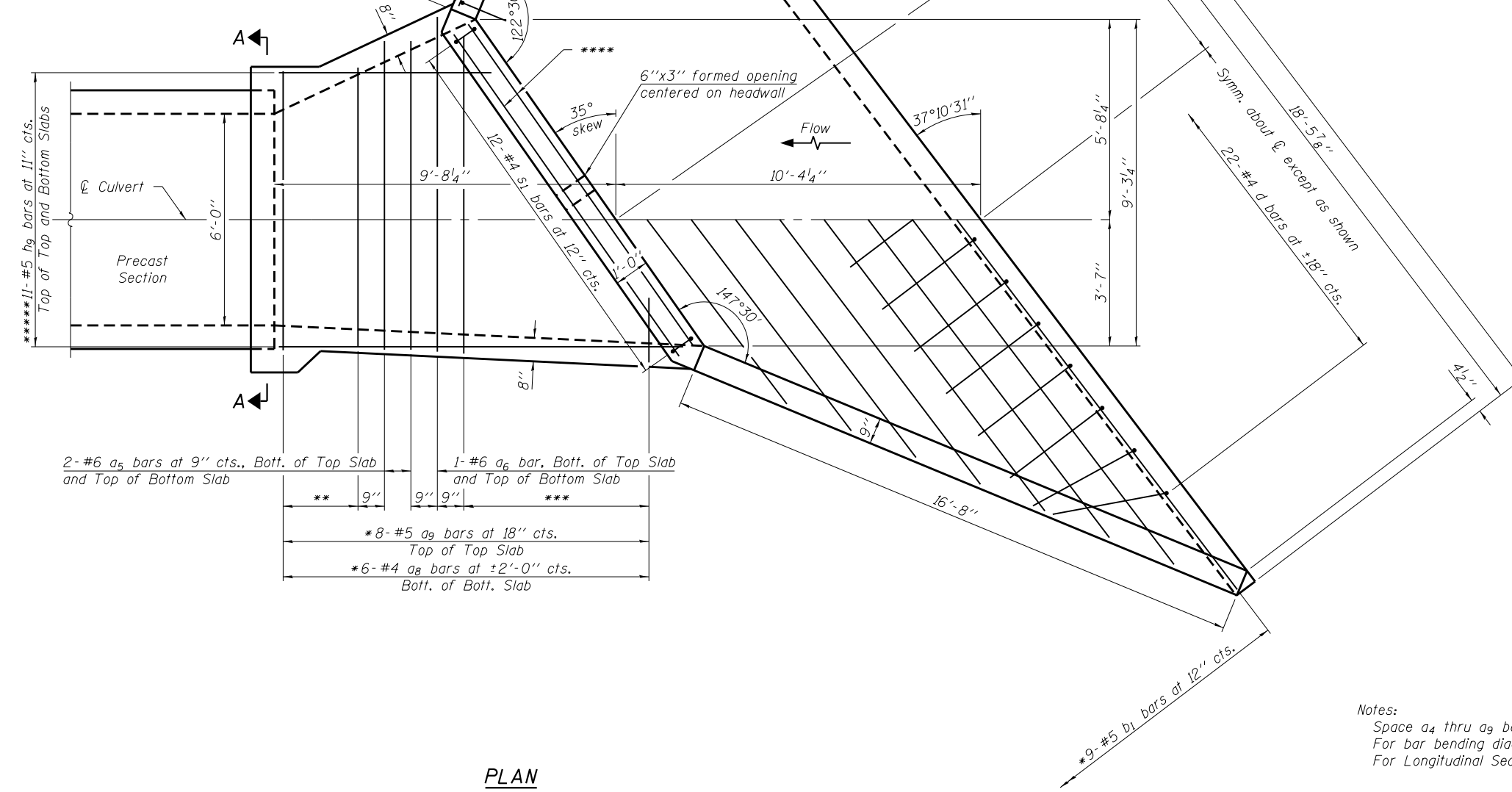
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PLOT DATE = 1/23/2013 11:46:22 AM	DATE 1/10/13	REVISOR -	ILLINOIS FED. AID PROJECT								



**SECTION THRU BARREL**  
(Looking downstream)



**SECTION A-A**



**PLAN**

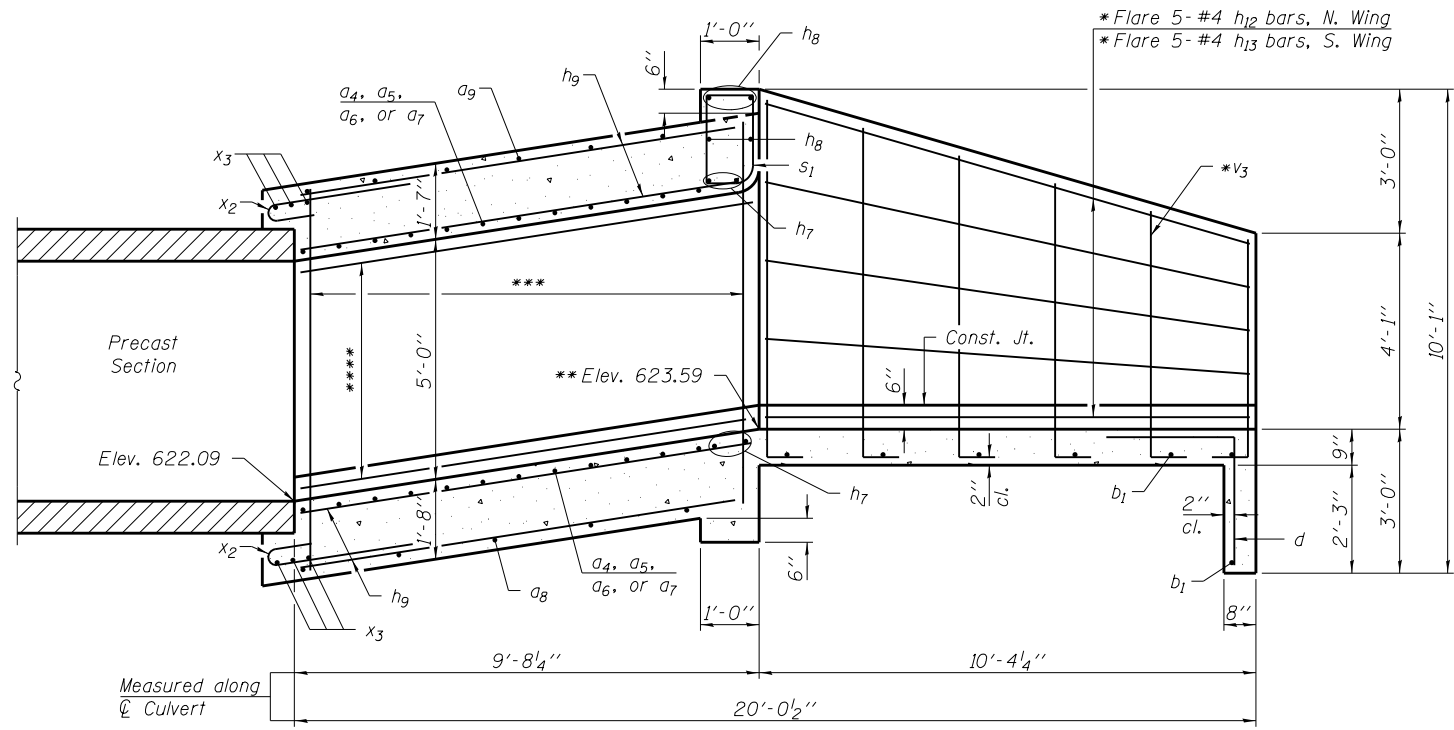
- \* Cut bars to fit.
- \*\* 4-#6  $a_4$  bars at 9" cts., Bott. of Top Slab and Top of Bottom Slab
- \*\*\* 8-#6  $a_7$  bars at 9" cts., Bott. of Top Slab Cut to fit skew and place remainder in Top of Bott. Slab. Place hooked end along outside edge of slab.
- \*\*\*\* 2-#6  $h_7$  bars in Bott. of Headwall and Top of Bott. Slab
- 2-#6  $h_8$  bars in Top and Sides of Headwall
- \*\*\*\*\* Cut to fit skew and place remainder in Bottom of Top and Bott. Slab

Notes:  
Space  $a_4$  thru  $a_9$  bars perpendicular to  $\varnothing$  Culvert.  
For bar bending diagrams and Bill of Materials, see sheet 3 of 3.  
For Longitudinal Section and Sections B-B, C-C, and D-D, see sheet 3 of 3.

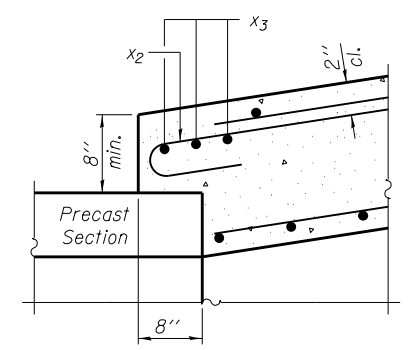
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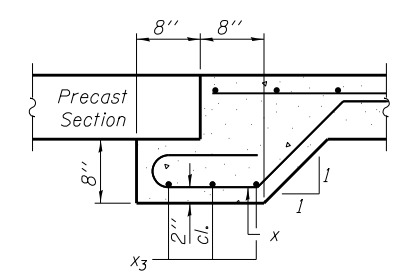




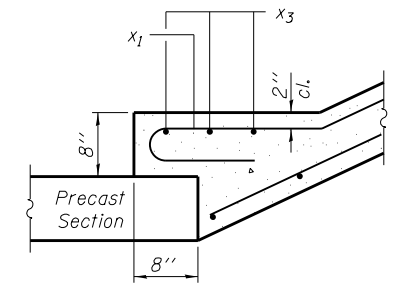
**LONGITUDINAL SECTION**



**SECTION B-B**



**SECTION C-C**

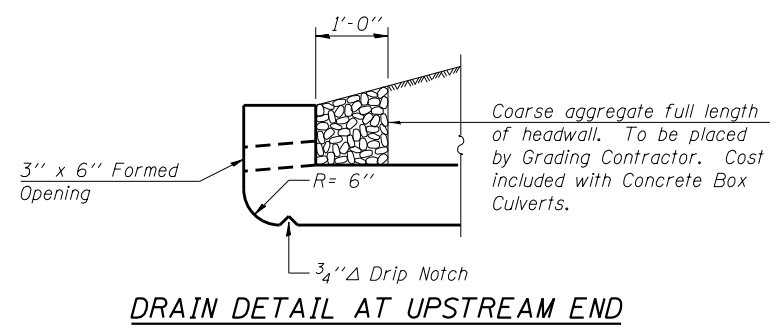


**SECTION D-D**

- \* Cut bars to fit.
- \*\* Elev. 623.48, N. Corner
- Elev. 623.66, S. Corner
- \*\*\* 7-#5 v2 bars at 12" cts., N. Wall
- 13-#5 v2 bars at 12" cts., S. Wall
- \*\*\*\* 6-#5 h11 bars at 12" cts., N. Wall
- 6-#5 h10 bars at 12" cts., S. Wall

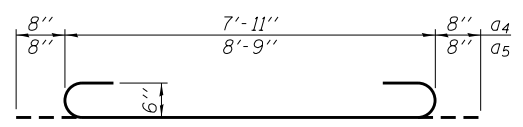
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	4	#4	7'-0"	—
a1	8	#5	8'-2"	U
a2	5	#5	9'-0"	U
a3	5	#5	7'-0"	—
a4	8	#6	9'-3"	U
a5	4	#6	10'-1"	U
a6	2	#6	10'-10"	U
a7	8	#6	12'-2"	U
a8	6	#4	9'-6"	—
a9	8	#5	9'-6"	—
b	12	#5	33'-1"	—
b1	10	#5	31'-0"	—
d	45	#4	5'-4"	J
h	4	#6	9'-11"	U
h1	2	#6	7'-0"	—
h2	5	#4	21'-9"	—
h3	5	#4	11'-11"	—
h4	12	#5	10'-2"	—
h5	6	#5	7'-6"	—
h6	6	#5	3'-3"	—
h7	4	#6	13'-4"	U
h8	4	#6	11'-1"	—
h9	22	#5	17'-5"	—
h10	6	#5	12'-0"	—
h11	6	#5	5'-11"	—
h12	5	#4	9'-0"	—
h13	5	#4	16'-5"	—
s	8	#4	5'-1"	□
s1	12	#4	5'-9"	□
v	53	#5	10'-1"	J
v1	12	#5	7'-1"	—
v2	20	#5	7'-11"	—
v3	41	#6	10'-6"	J
x	8	#4	5'-6"	U
x1	8	#4	4'-3"	U
x2	18	#4	4'-3"	U
x3	6	#4	16'-7"	L
Reinforcement Bars		Pound	4,370	
Concrete Box Culverts		Cu. Yd.	43.6	

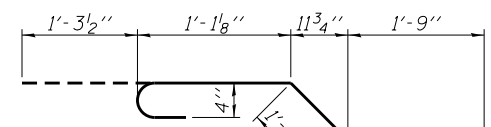


**DRAIN DETAIL AT UPSTREAM END**

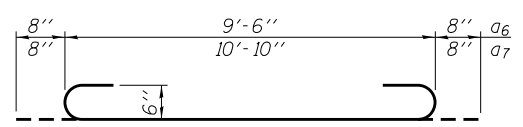
Notes:  
 For Plan, Section Thru Barrel, and Section A-A, see sheet 2 of 3.  
 For Bar d bending diagram, see sheet 1 of 3.  
 For flowline elevations not shown, see roadway cross-sections.



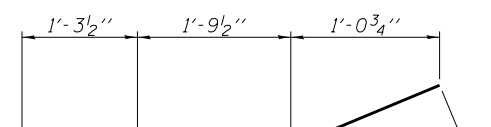
**BARS a4 & a5**



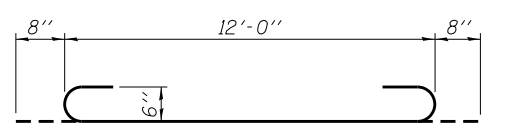
**BAR x**



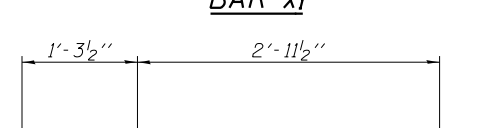
**BARS a6 & a7**



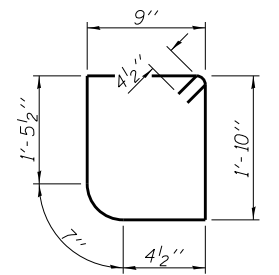
**BAR x1**



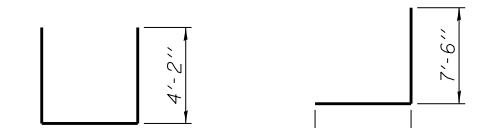
**BAR h7**



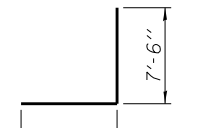
**BAR x2**



**BAR s1**



**BAR x3**



**BAR v3**

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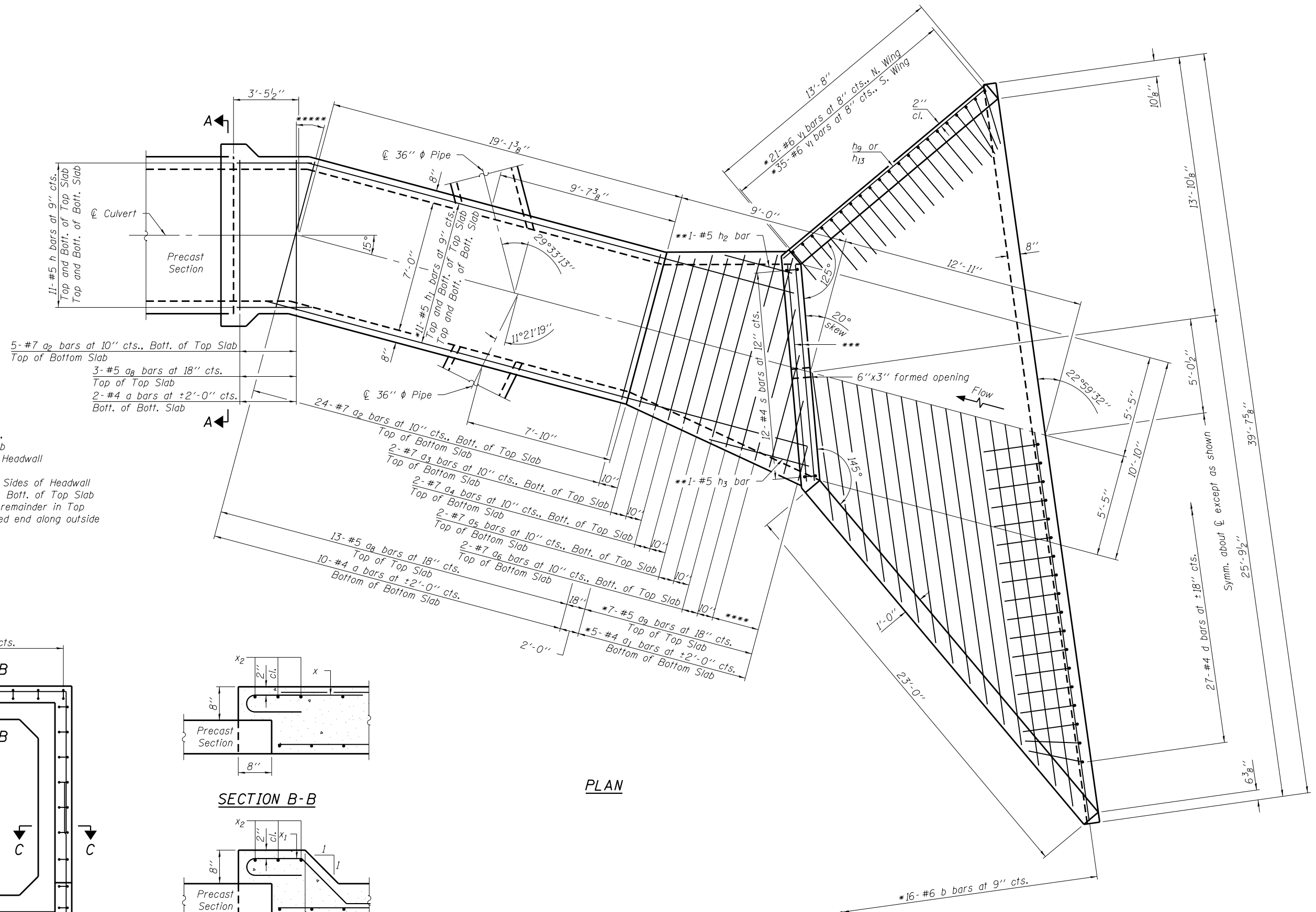
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIFRIN, INC.  
 ENGINEERS**

**SLOPED TAPERED INLET DETAILS  
 CULVERT AT STA. 2042+25.02**

SCALE: SHEET NO. 3 OF 3 SHEETS STA. 2041+57.71 TO STA. 2043+11.81

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 441
				CONTRACT NO. 76817
ILLINOIS FED. AID PROJECT				

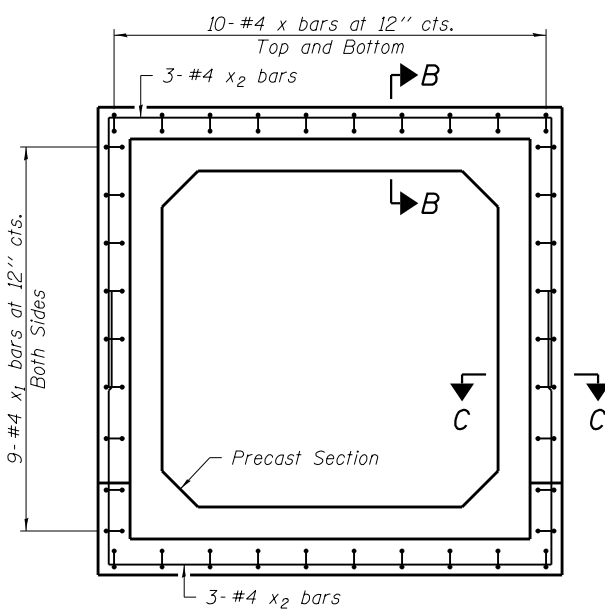


5-#7 a<sub>2</sub> bars at 10" cts., Bott. of Top Slab  
Top of Bottom Slab

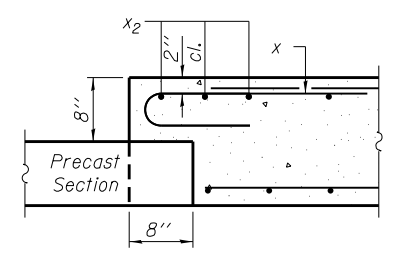
3-#5 a<sub>8</sub> bars at 18" cts.  
Top of Top Slab

2-#4 a bars at ±2'-0" cts.  
Bott. of Bott. Slab

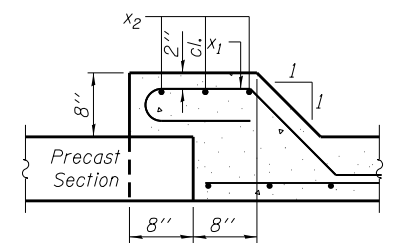
- \* Cut or bend bars to fit.
- \*\* Top and Bott. of Top Slab  
Top and Bott. of Bott. Slab
- \*\*\* 2-#6 h<sub>4</sub> bars in Bott. of Headwall  
and Top of Bott. Slab
- 2-#6 h<sub>5</sub> bars in Top and Sides of Headwall
- \*\*\*\* 4-#7 a<sub>7</sub> bars at 10" cts., Bott. of Top Slab  
Cut to fit skew and place remainder in Top  
of Bott. Slab. Place hooked end along outside  
edge of slab.
- \*\*\*\*\* 2'-0" for a bars  
10" for a<sub>2</sub> bars  
18" for a<sub>8</sub> bars



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**PLAN**

Notes:  
For Longitudinal Section, see sheet 2 of 2.  
For Bending Diagrams and Bill of Material, see sheet 2 of 2.

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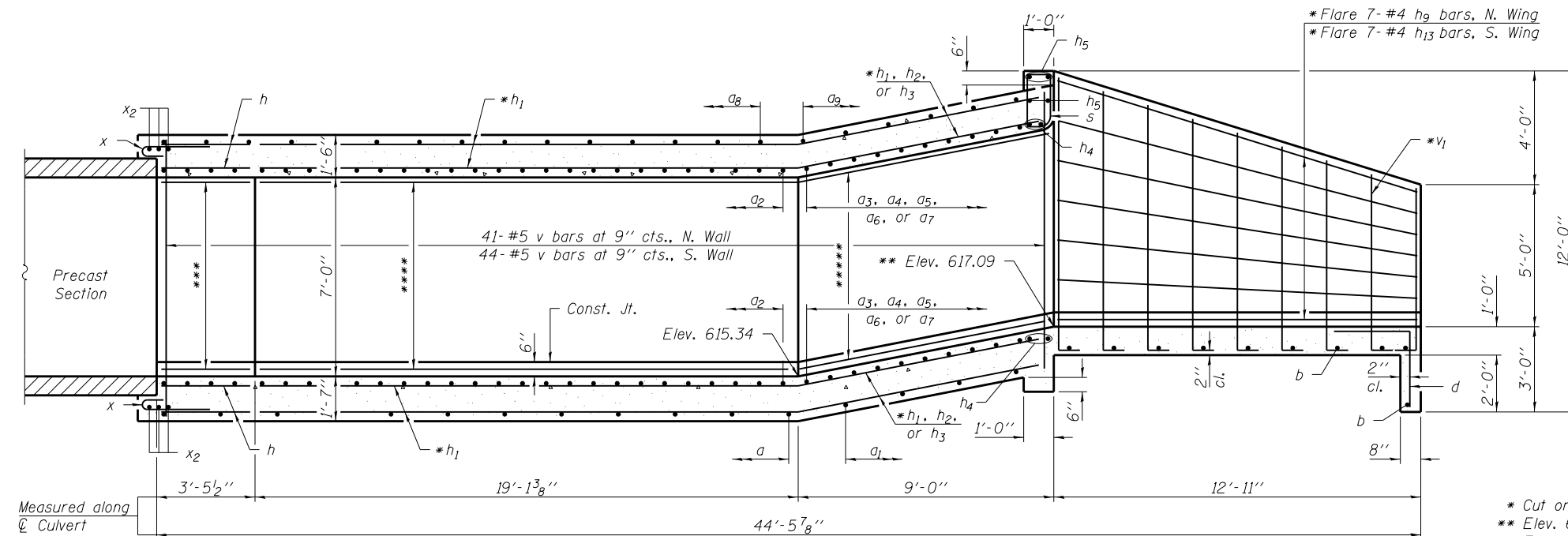
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



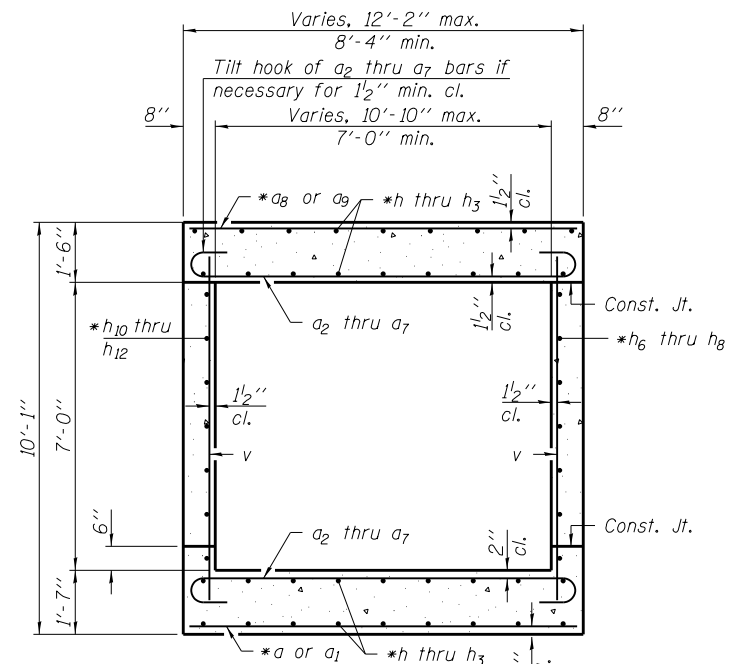
**SLOPED TAPERED INLET DETAILS**  
CULVERT AT STA. 2074+48.31

SCALE: SHEET NO. 1 OF 2 SHEETS STA. 2074+05.94 TO STA. 2074+65.32

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 442
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



**LONGITUDINAL SECTION**  
(36" φ pipe not shown for clarity, see detail)

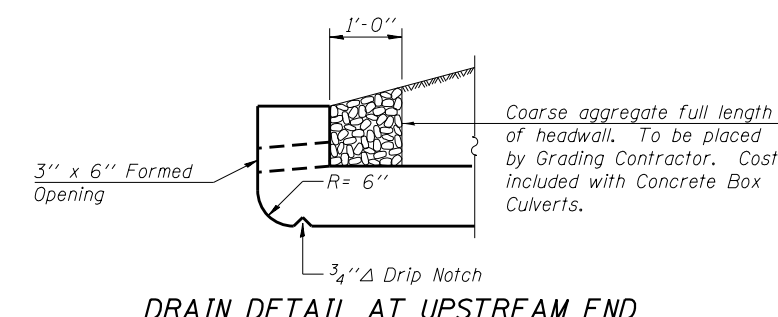


**SECTION THRU BARREL**  
(Looking downstream)

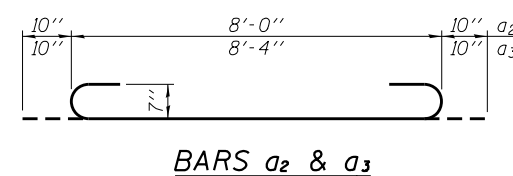
- \* Cut or bend bars to fit.
- \*\* Elev. 616.87, N. Corner
- Elev. 617.31, S. Corner
- \*\*\* 8-#5 h<sub>6</sub> bars at 12" cts., N. Wall
- 8-#5 h<sub>10</sub> bars at 12" cts., S. Wall
- \*\*\*\* 8-#5 h<sub>7</sub> bars at 12" cts., N. Wall
- 8-#5 h<sub>11</sub> bars at 12" cts., S. Wall
- \*\*\*\*\* 8-#5 h<sub>8</sub> bars at 12" cts., N. Wall
- 8-#5 h<sub>12</sub> bars at 12" cts., S. Wall

**BILL OF MATERIAL**

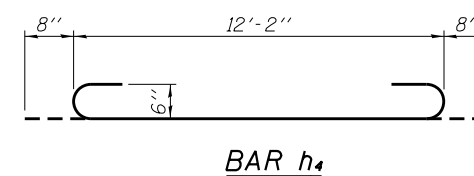
Bar	No.	Size	Length	Shape
a	12	#4	8'-0"	—
a <sub>1</sub>	5	#4	11'-0"	—
a <sub>2</sub>	58	#7	9'-8"	U
a <sub>3</sub>	4	#7	10'-0"	U
a <sub>4</sub>	4	#7	10'-9"	U
a <sub>5</sub>	4	#7	11'-6"	U
a <sub>6</sub>	4	#7	12'-3"	U
a <sub>7</sub>	4	#7	11'-11"	U
a <sub>8</sub>	16	#5	8'-0"	—
a <sub>9</sub>	7	#5	11'-0"	—
b	17	#6	39'-3"	—
d	27	#4	5'-4"	J
h	44	#5	4'-0"	—
h <sub>1</sub>	44	#5	30'-8"	—
h <sub>2</sub>	4	#5	3'-9"	—
h <sub>3</sub>	4	#5	5'-6"	—
h <sub>4</sub>	4	#6	13'-6"	U
h <sub>5</sub>	4	#6	11'-5"	—
h <sub>6</sub>	8	#5	6'-2"	—
h <sub>7</sub>	8	#5	22'-0"	—
h <sub>8</sub>	8	#5	7'-1"	—
h <sub>9</sub>	7	#4	13'-8"	—
h <sub>10</sub>	8	#5	5'-2"	—
h <sub>11</sub>	8	#5	21'-0"	—
h <sub>12</sub>	8	#5	11'-0"	—
h <sub>13</sub>	7	#4	23'-0"	—
s	12	#4	5'-9"	D
v	93	#5	9'-9"	—
v <sub>1</sub>	56	#6	13'-3"	J
x	20	#4	4'-3"	—
x <sub>1</sub>	18	#4	5'-6"	—
x <sub>2</sub>	6	#4	20'-11"	—
x <sub>3</sub>	8	#5	7'-6"	—
Reinforcement Bars	Pound	7,890		
Concrete Box Culverts	Cu. Yd.	68.0		



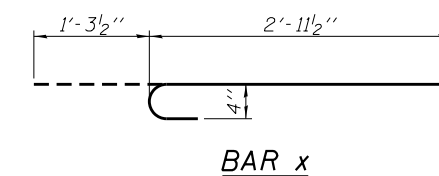
**DRAIN DETAIL AT UPSTREAM END**



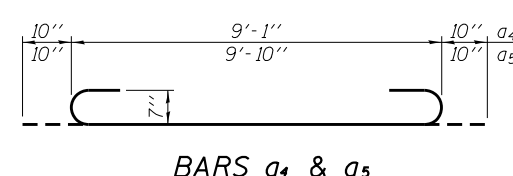
**BARS a<sub>2</sub> & a<sub>3</sub>**



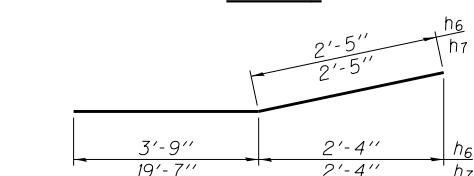
**BAR h<sub>4</sub>**



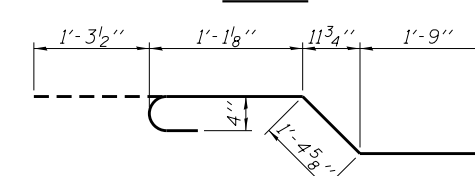
**BAR x**



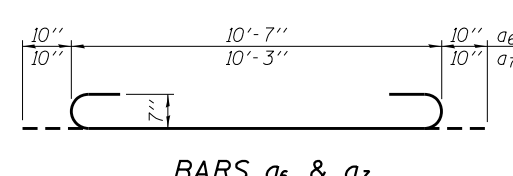
**BARS a<sub>4</sub> & a<sub>5</sub>**



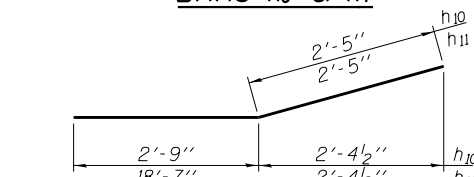
**BARS h<sub>6</sub> & h<sub>7</sub>**



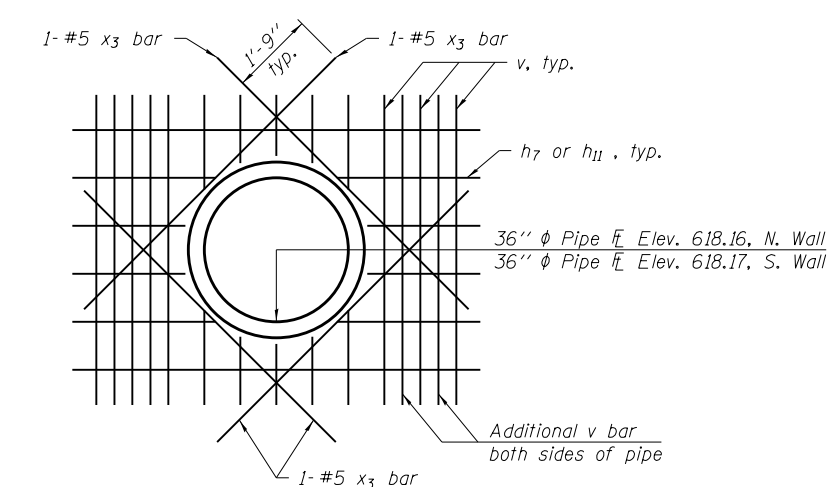
**BAR x<sub>1</sub>**



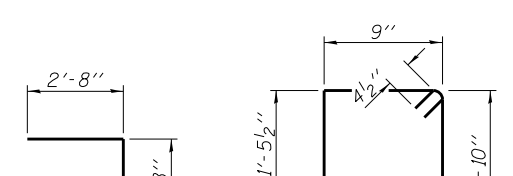
**BARS a<sub>6</sub> & a<sub>7</sub>**



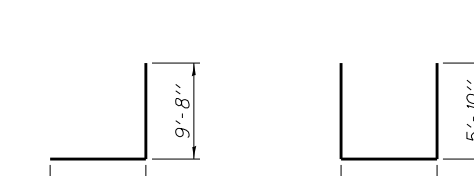
**BARS h<sub>10</sub> & h<sub>11</sub>**



**PIPE CULVERT THRU WALL DETAIL**



**BAR d**



**BAR v<sub>1</sub>**

**BAR x<sub>2</sub>**

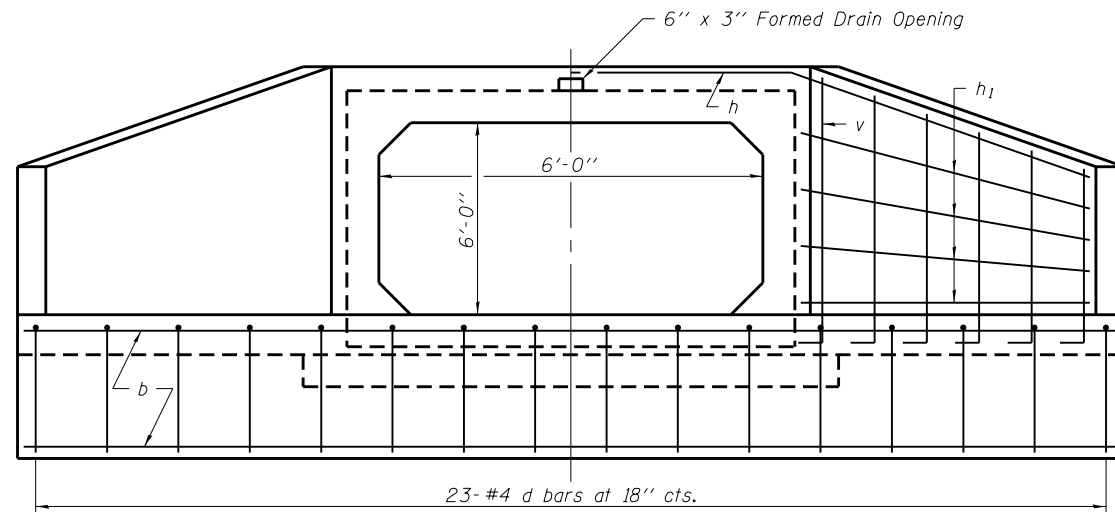


**BAR s**

Notes:  
Cut bars to provide 2" min. clearance to pipe.  
For Plan of Sloped Tapered Inlet, see sheet 1 of 2.  
For flowline elevations not shown, see roadway cross-sections.

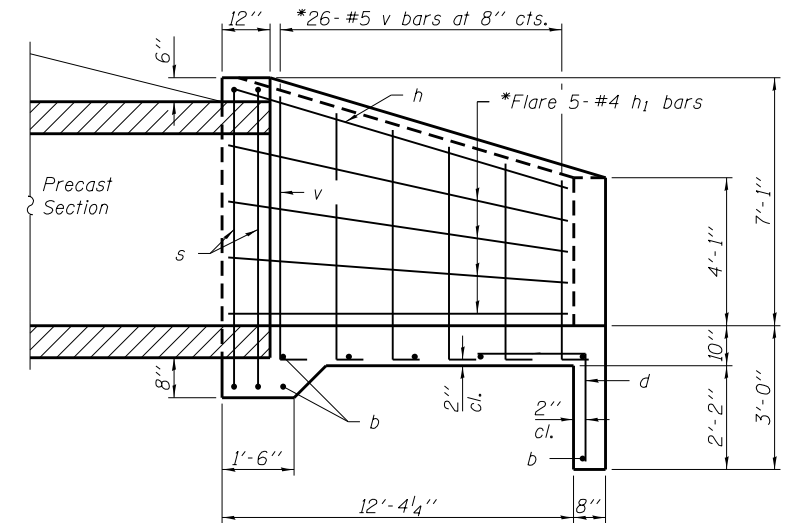
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PLOT SCALE = 0:2.0000 '1' / in.	CHECKED K.L. Hayes	REVISOR -	SCALE:				SHEET NO. 2 OF 2 SHEETS	STA. 2074+05.94 TO STA. 2074+65.32	CONTRACT NO. 76817		ILLINOIS FED. AID PROJECT		
PLOT DATE = 1/23/2013 11:46:25 AM	DATE = 1/15/13	REVISOR -											

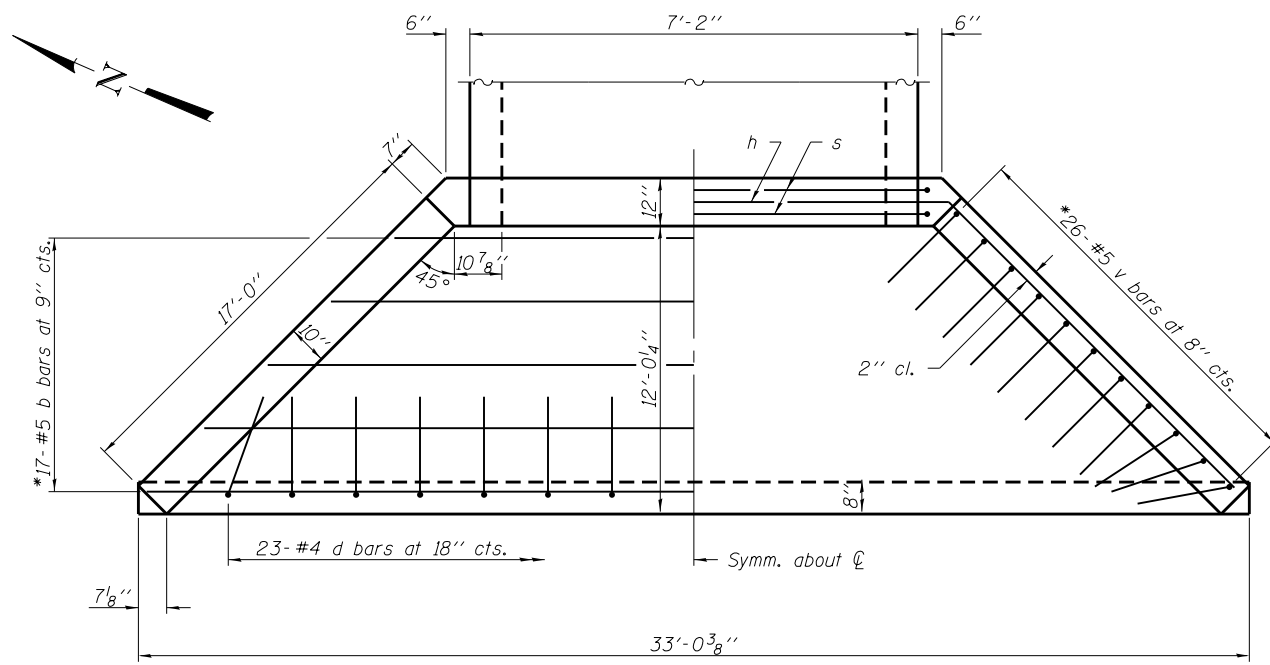


**END ELEVATION**

\* Cut or Bend to fit



**HALF SIDE ELEVATION**



**PLAN**

Notes:  
 For bar bending diagrams, see sheet 3 of 3.  
 For sloped tapered inlet details, see sheets 2 and 3 of 3.

LAST SAVED = 1/23/2013  
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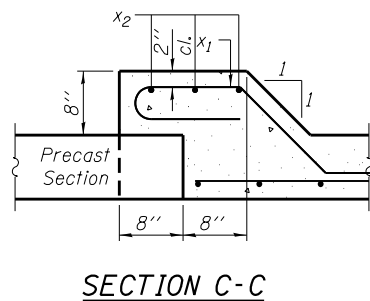
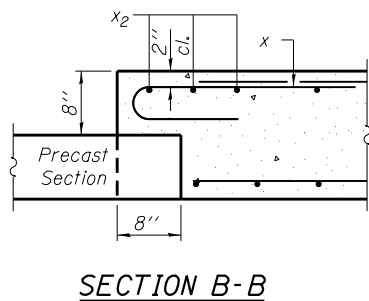
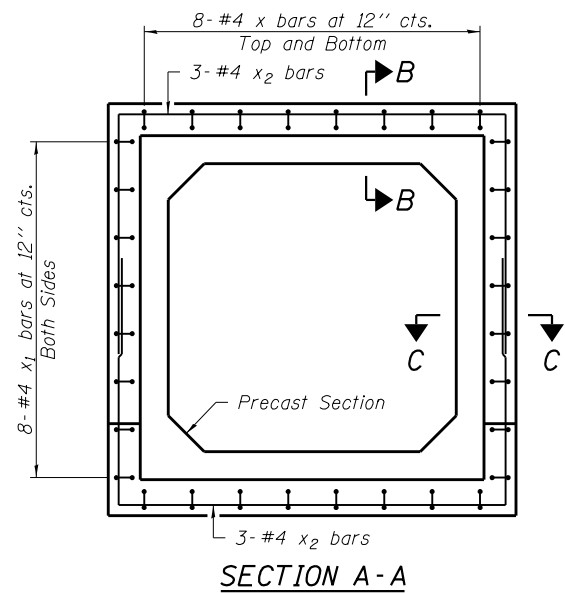
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HORNER &  
 SHIRIN, INC.  
 ENGINEERS

DOWNSTREAM APRON DETAILS  
 CULVERT AT STA. 2089+50.12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	444
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

SCALE: SHEET NO. 1 OF 3 SHEETS STA. 2089+33.39 TO STA. 2089+79.02



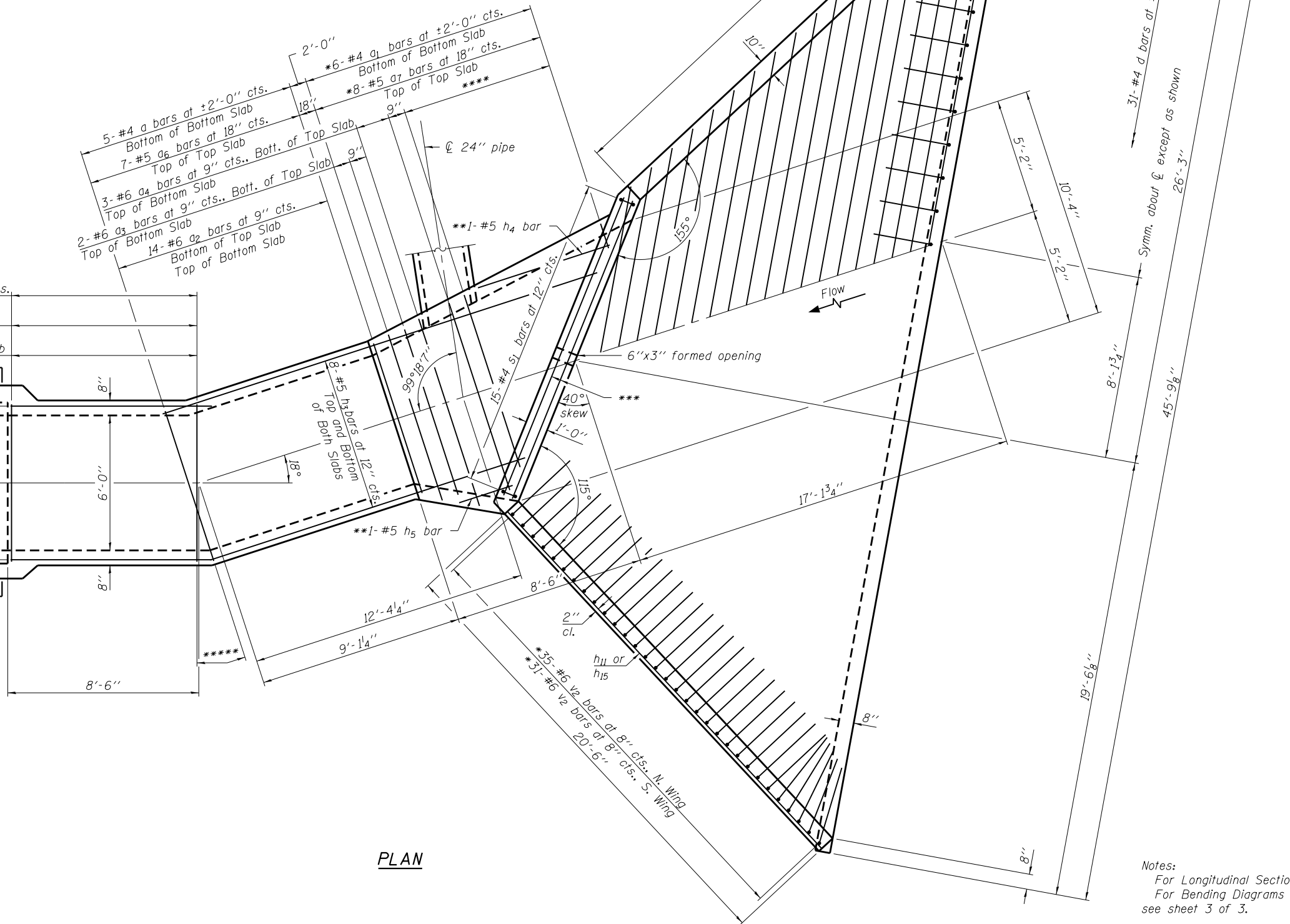
5-#4 a bars at ±2'-0" cts.  
Bottom of Bottom Slab  
7-#5 a6 bars at 18" cts.  
Top of Top Slab  
12-#6 a2 bars at 9" cts., Bott. of Top Slab  
Top of Bottom Slab

8-#5 h2 bars at 12" cts.  
Top and Bottom of Both Slabs

5-#4 a bars at ±2'-0" cts.  
Bottom of Bottom Slab  
7-#5 a6 bars at 18" cts.  
Top of Top Slab  
3-#6 a4 bars at 9" cts., Bott. of Top Slab  
Top of Bottom Slab  
2-#6 a3 bars at 9" cts.  
Top of Bottom Slab  
14-#6 a2 bars at 9" cts.  
Bottom of Bottom Slab  
Top of Bottom Slab

- \* Cut or bend bars to fit.
- \*\* Top and Bott. of Top Slab,  
Top and Bott. of Bott. Slab
- \*\*\* 2-#7 h6 bars in Bott. of Headwall  
and Top of Bott. Slab
- 2-#6 h7 bars in Top and Sides of Headwall
- \*\*\*\* 10-#6 a5 bars at 9" cts., Bott. of Top Slab  
Cut to fit skew and place remainder in Top  
of Bott. Slab. Place hooked end along outside  
edge of slab.
- \*\*\*\*\* 2'-0" for a bars  
9" for a2 bars  
18" for a6 bars

PLAN



Notes:  
For Longitudinal Section, see sheet 3 of 3.  
For Bending Diagrams and Bill of Material,  
see sheet 3 of 3.

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		CHECKED K.L. Hayes	REVISED -
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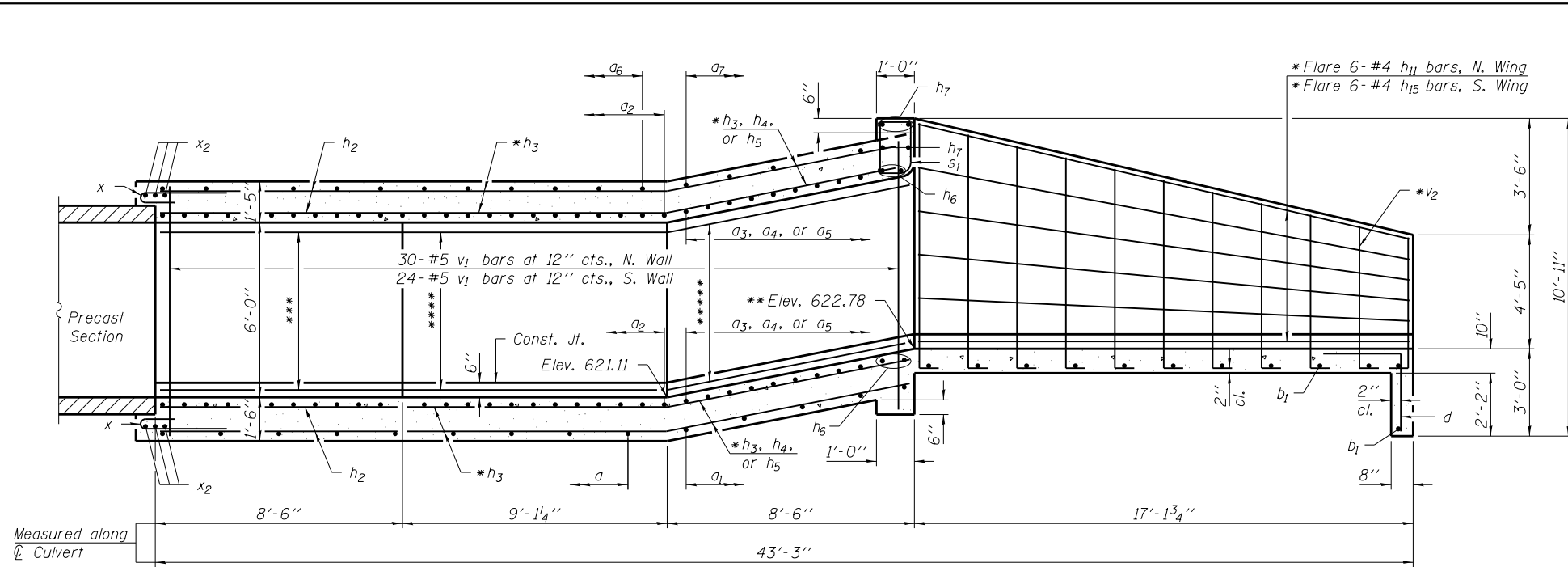
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



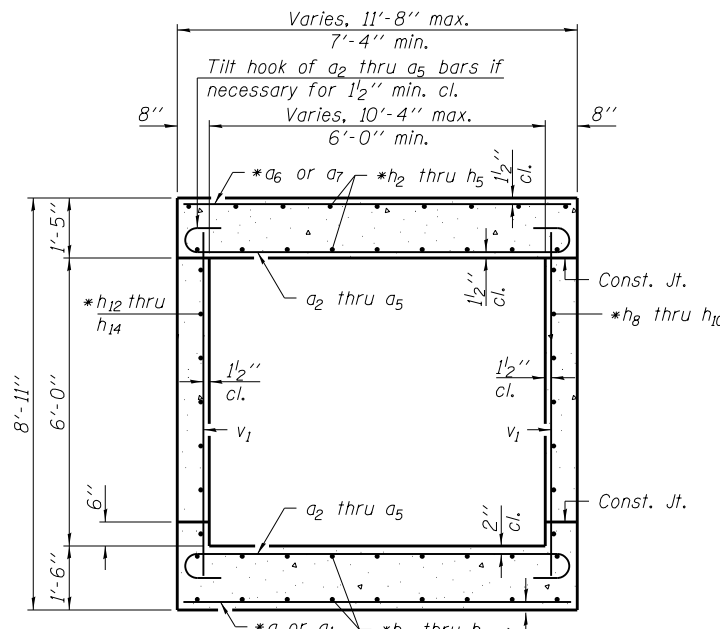
SLOPED TAPERED INLET DETAILS  
CULVERT AT STA. 2089+50.12

SCALE: SHEET NO. 2 OF 3 SHEETS STA. 2089+33.39 TO STA. 2089+79.02

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	445
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	



**LONGITUDINAL SECTION**  
(24"  $\phi$  pipe not shown for clarity, see detail)

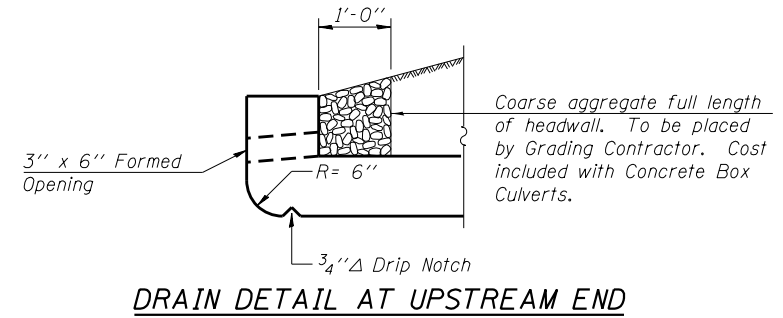


**SECTION THRU BARREL**  
(Looking downstream)

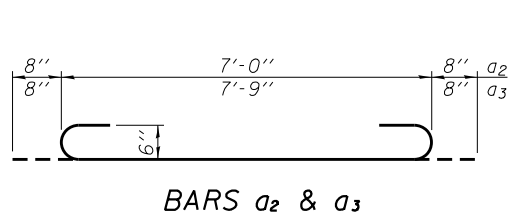
- \* Cut or bend bars to fit.
- \*\* Elev. 622.81, N. Corner  
Elev. 622.75, S. Corner
- \*\*\* 7-#5  $h_8$  bars at 12" cts., N. Wall  
7-#5  $h_{12}$  bars at 12" cts., S. Wall
- \*\*\*\* 7-#5  $h_9$  bars at 12" cts., N. Wall  
7-#5  $h_{13}$  bars at 12" cts., S. Wall
- \*\*\*\*\* 7-#5  $h_{10}$  bars at 12" cts., N. Wall  
7-#5  $h_{14}$  bars at 12" cts., S. Wall

**BILL OF MATERIAL**

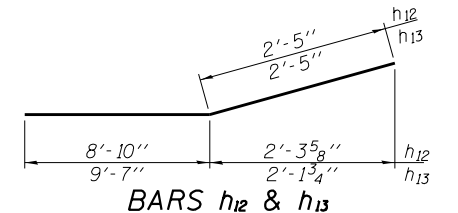
Bar	No.	Size	Length	Shape
a	10	#4	7'-0"	—
a1	6	#4	9'-6"	—
a2	52	#6	8'-4"	U
a3	4	#6	9'-1"	U
a4	6	#6	10'-1"	U
a5	10	#6	10'-6"	U
a6	13	#5	7'-0"	—
a7	8	#5	9'-4"	—
b	19	#5	32'-9"	—
b1	23	#6	45'-6"	—
d	54	#4	5'-4"	J
h	1	#4	43'-0"	—
h1	10	#4	17'-5"	—
h2	32	#5	9'-0"	—
h3	32	#5	20'-6"	—
h4	4	#5	6'-2"	—
h5	4	#5	2'-6"	—
h6	4	#7	16'-7"	U
h7	4	#6	14'-4"	—
h8	7	#5	10'-3"	—
h9	7	#5	11'-0"	—
h10	7	#5	12'-11"	—
h11	6	#4	22'-8"	—
h12	7	#5	11'-3"	—
h13	7	#5	12'-0"	—
h14	7	#5	4'-7"	—
h15	6	#4	20'-6"	—
s	2	#4	32'-1"	□
s1	15	#4	5'-9"	□
v	52	#5	10'-7"	J
v1	58	#5	8'-7"	—
v2	66	#6	12'-0"	J
x	16	#4	4'-3"	—
x1	16	#4	5'-6"	—
x2	6	#4	18'-9"	—
x3	4	#5	6'-4"	—
Reinforcement Bars		Pound	8,200	
Concrete Box Culverts		Cu. Yd.	74.8	



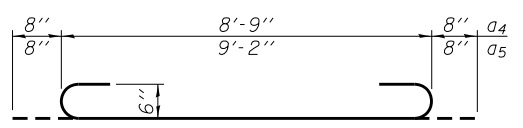
**DRAIN DETAIL AT UPSTREAM END**



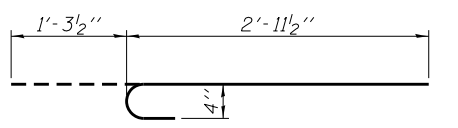
**BARS a2 & a3**



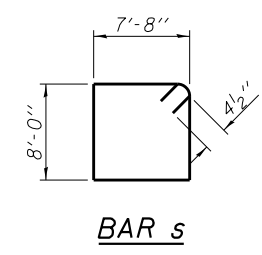
**BARS h12 & h13**



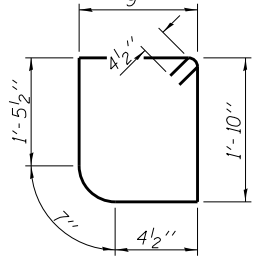
**BARS a4 & a5**



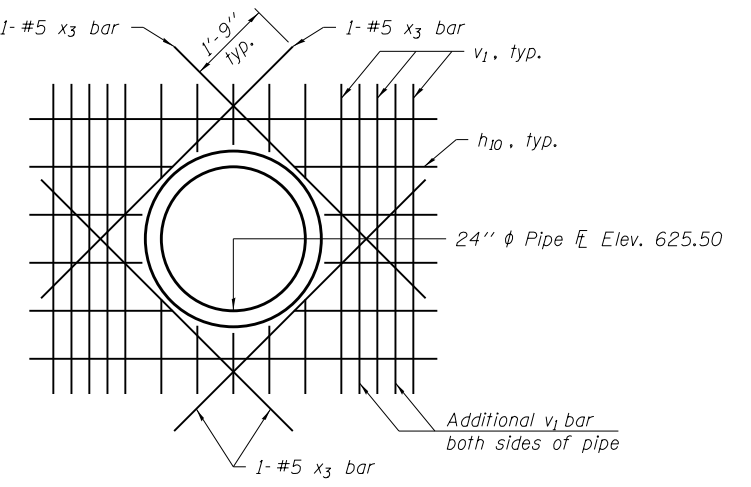
**BAR x**



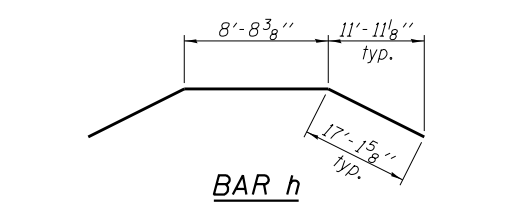
**BAR s**



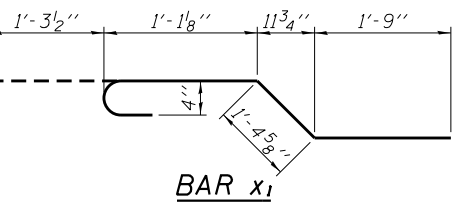
**BAR s1**



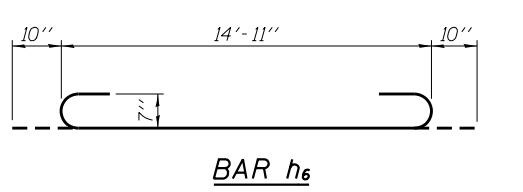
**PIPE CULVERT THRU WALL DETAIL**



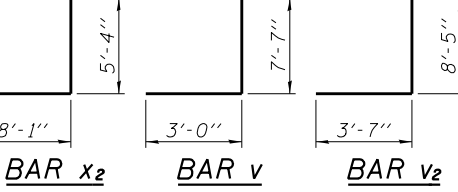
**BAR h**



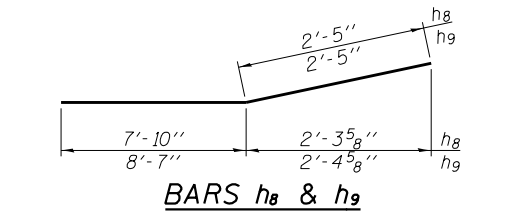
**BAR x1**



**BAR h6**



**BARS x2, v, v2**



**BARS h8 & h9**

- Notes:  
 Cut bars to provide 2" min. clearance to pipe.  
 For Downstream Apron Details, see sheet 1 of 3.  
 For Plan of Sloped Tapered Inlet, see sheet 2 of 3.  
 For flowline elevations not shown, see roadway cross-section.

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		DATE -	REVISED -

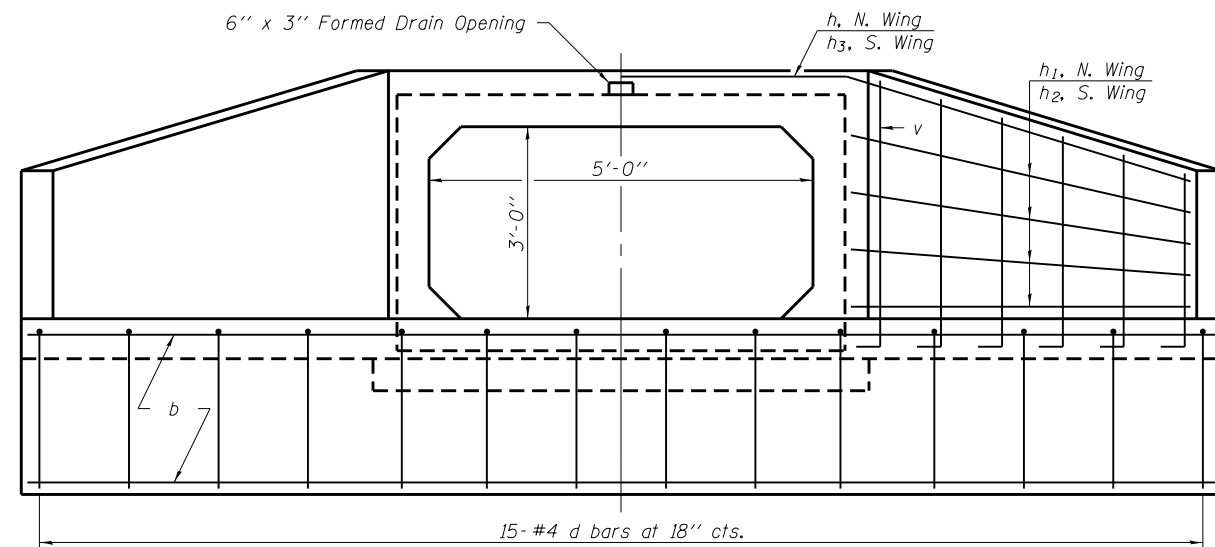
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

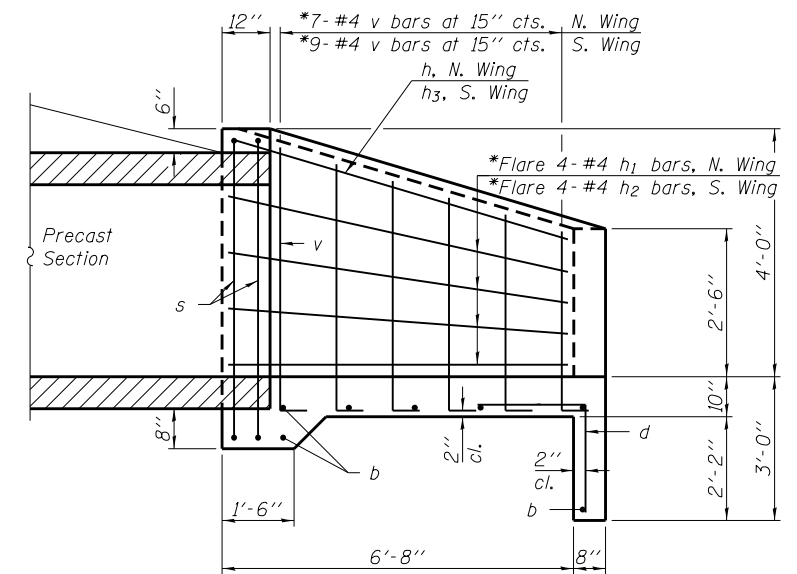
**SLOPED TAPERED INLET DETAILS**  
CULVERT AT STA. 2089+50.12

SCALE: SHEET NO. 3 OF 3 SHEETS STA. 2089+33.39 TO STA. 2089+79.02

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 446
CONTRACT NO. 76817				ILLINOIS FED. AID PROJECT

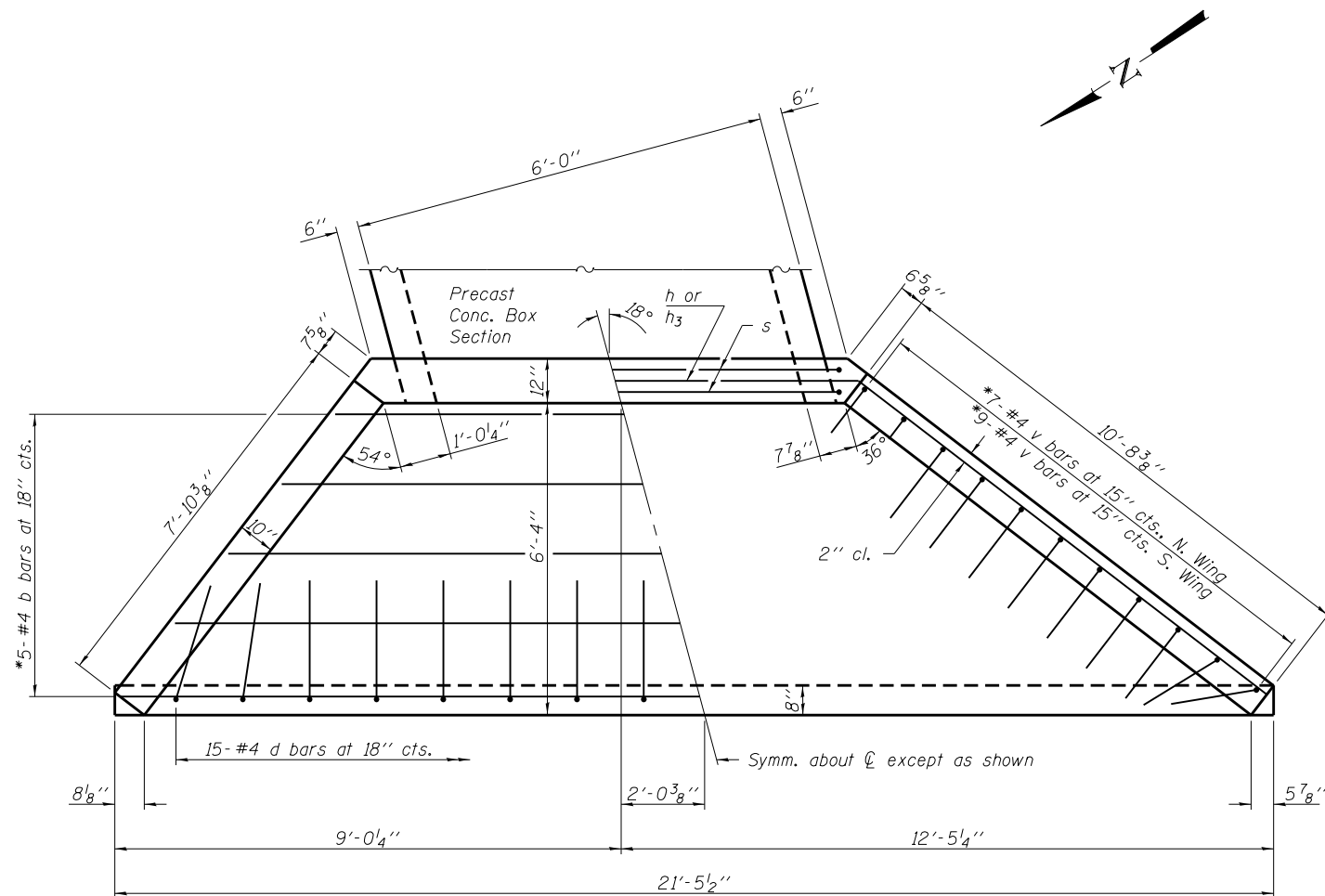


**END ELEVATION**



**HALF SIDE ELEVATION**

\* Cut or Bend to fit



**PLAN**

Note:  
For Upstream cast-in-place apron end, bar bending diagrams, and Bill of Material, see sheet 2 of 2.

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	PLOT DATE = 1/23/2013 11:46:29 AM	DATE 01/09/2013	REVISED -

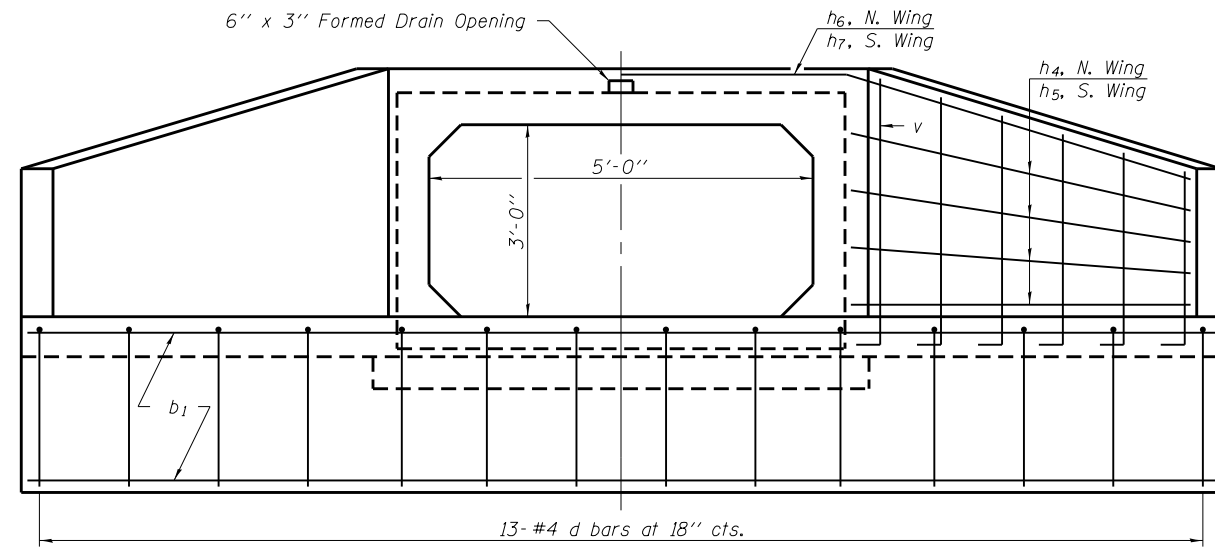
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

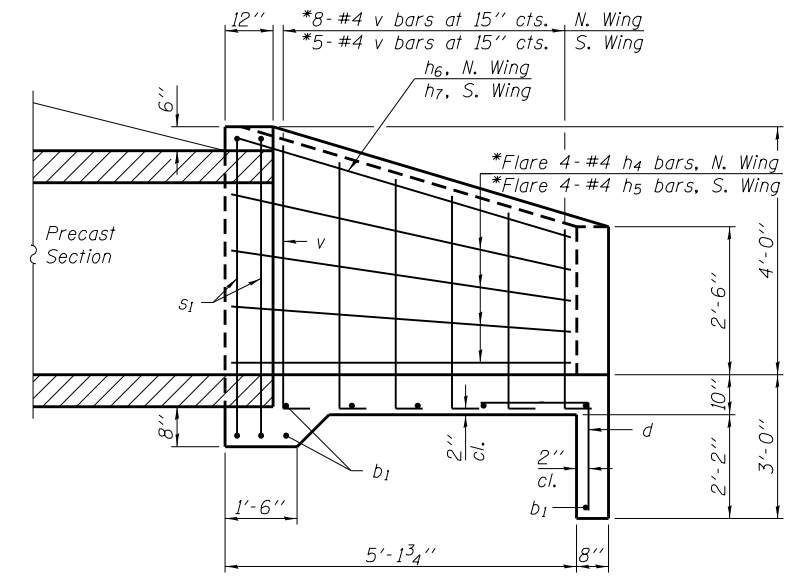
**DOWNSTREAM APRON DETAILS**  
CULVERT AT STA. 2115+79.04

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	447
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

SCALE: SHEET NO. 1 OF 2 SHEETS STA. 2115+42.18 TO STA. 2116+19.32

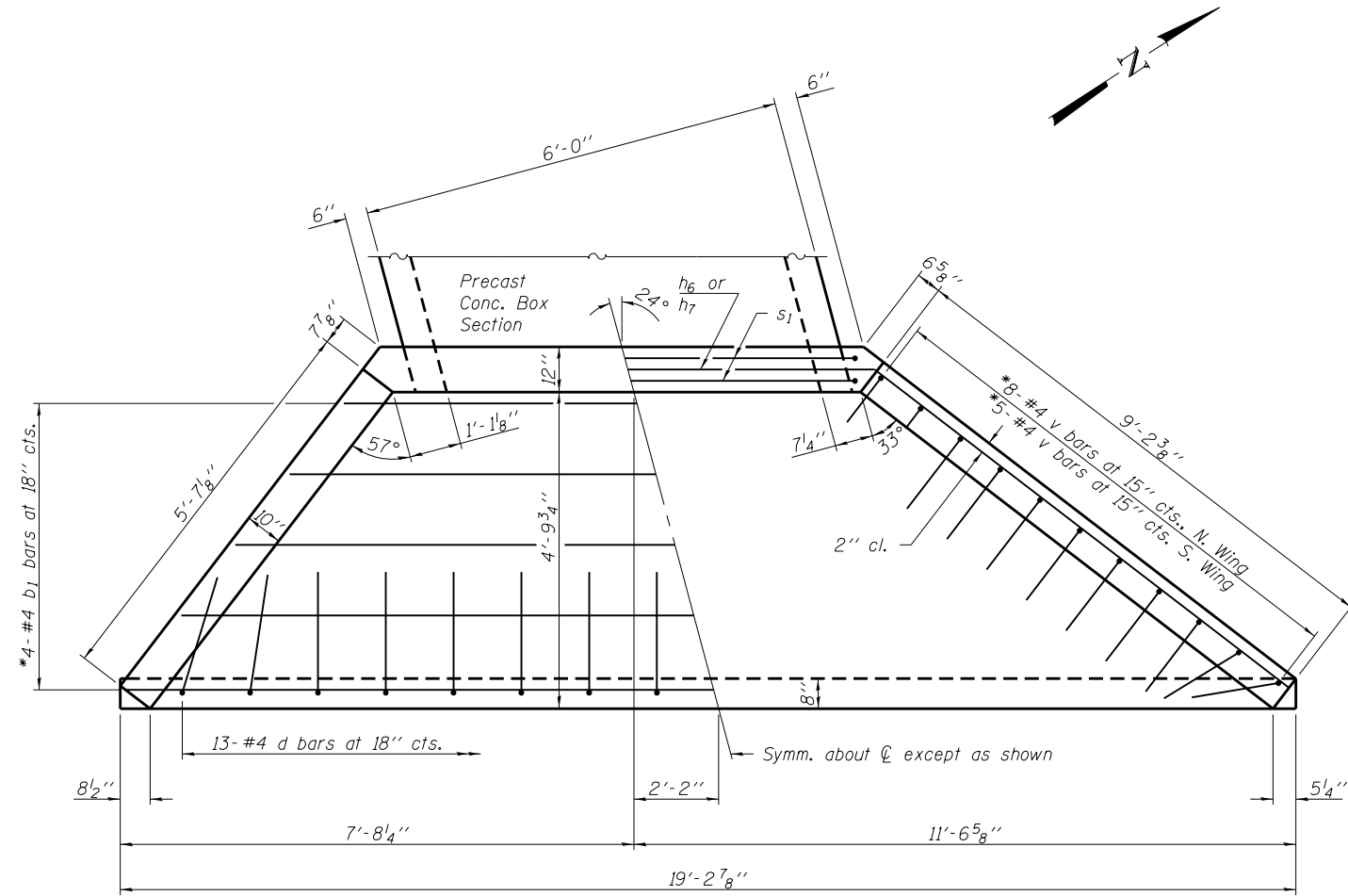


**END ELEVATION**

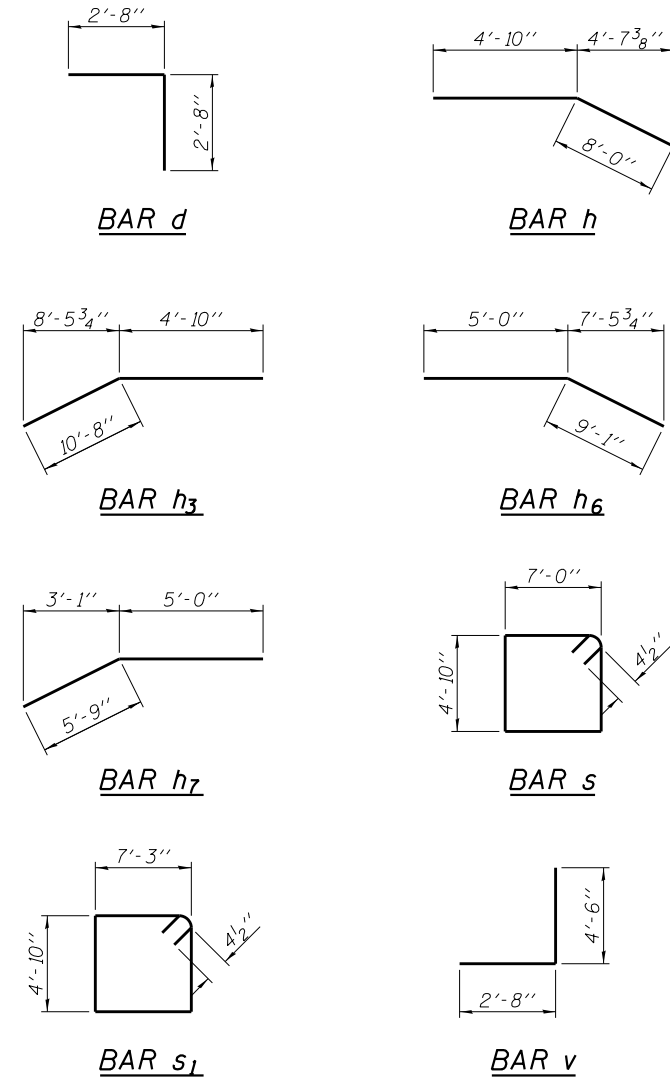


**HALF SIDE ELEVATION**

\* Cut or Bend to fit



**PLAN**



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
b	7	#4	21'-1"	—
b1	6	#4	18'-10"	—
d	28	#4	5'-4"	J
h	1	#4	12'-10"	┌
h1	4	#4	7'-8"	—
h2	4	#4	10'-6"	—
h3	1	#4	15'-6"	┌
h4	4	#4	9'-0"	—
h5	4	#4	5'-5"	—
h6	1	#4	14'-1"	┌
h7	1	#4	10'-9"	┌
s	2	#4	24'-5"	□
s1	2	#4	24'-11"	□
v	29	#4	7'-2"	J
Reinforcement Bars			Pound	600
Concrete Box Culverts			Cu. Yd.	12.2

Note: For Downstream cast-in-place apron end, see sheet 1 of 2.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

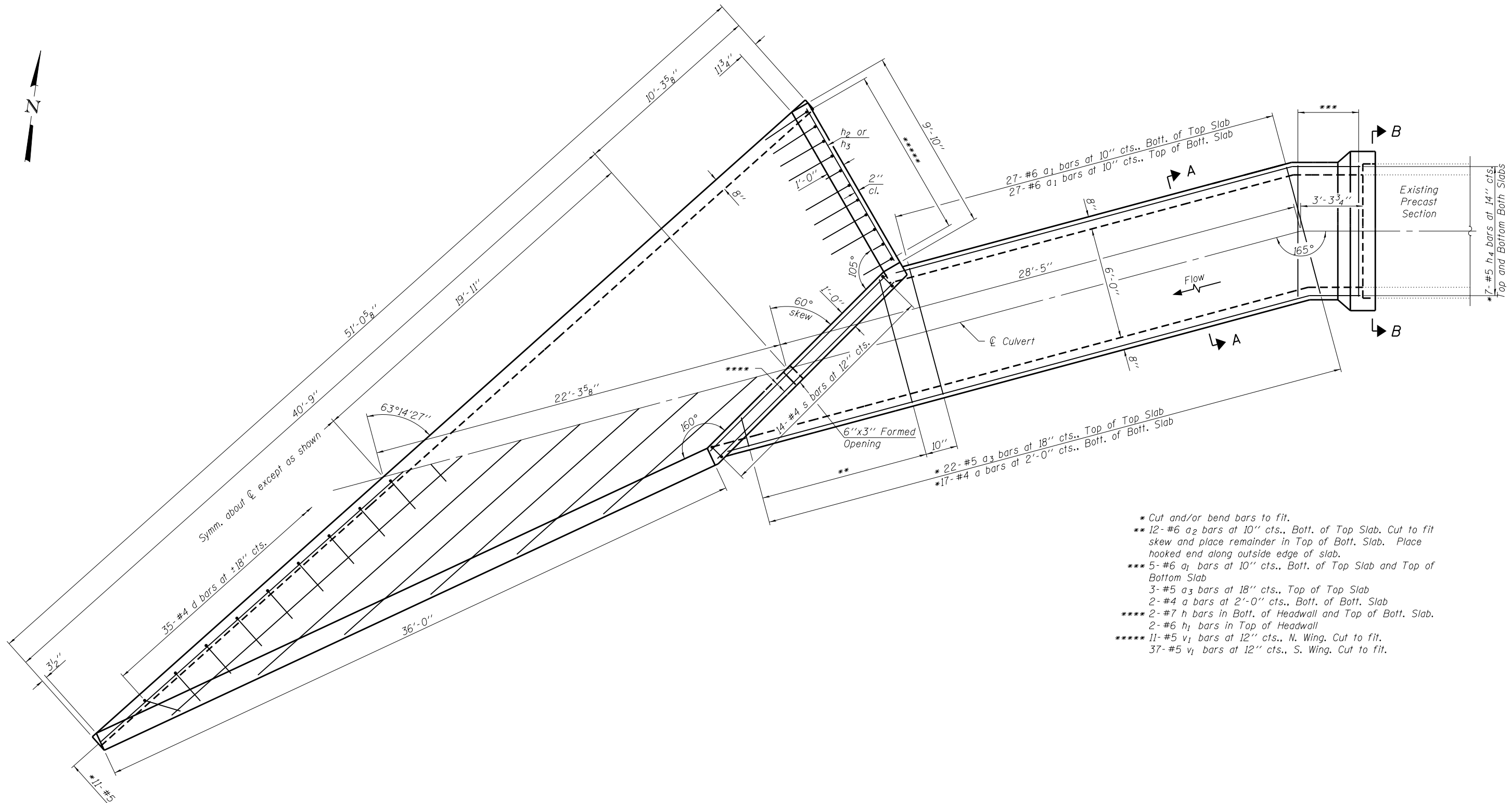
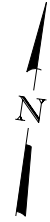
**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**UPSTREAM APRON DETAILS**  
CULVERT AT STA. 2115+79.04

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	448
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 2 OF 2 SHEETS STA. 2115+42.18 TO STA. 2116+19.32





PLAN

- \* Cut and/or bend bars to fit.
- \*\* 12-#6 a<sub>2</sub> bars at 10" cts., Bott. of Top Slab. Cut to fit skew and place remainder in Top of Bott. Slab. Place hooked end along outside edge of slab.
- \*\*\* 5-#6 a<sub>1</sub> bars at 10" cts., Bott. of Top Slab and Top of Bottom Slab
- 3-#5 a<sub>3</sub> bars at 18" cts., Top of Top Slab
- 2-#4 a bars at 2'-0" cts., Bott. of Bott. Slab
- \*\*\*\* 2-#7 h bars in Bott. of Headwall and Top of Bott. Slab.
- 2-#6 h<sub>1</sub> bars in Top of Headwall
- \*\*\*\*\* 11-#5 v<sub>1</sub> bars at 12" cts., N. Wing. Cut to fit.
- 37-#5 v<sub>1</sub> bars at 12" cts., S. Wing. Cut to fit.

Notes:  
 For Longitudinal Section, Sections A-A & B-B, and Details, see sheet 2 of 4.  
 For Sloped Tapered Inlet Details, see sheets 3 & 4 of 4.  
 For bar bending diagrams and Bill of Material, see sheet 4 of 4.

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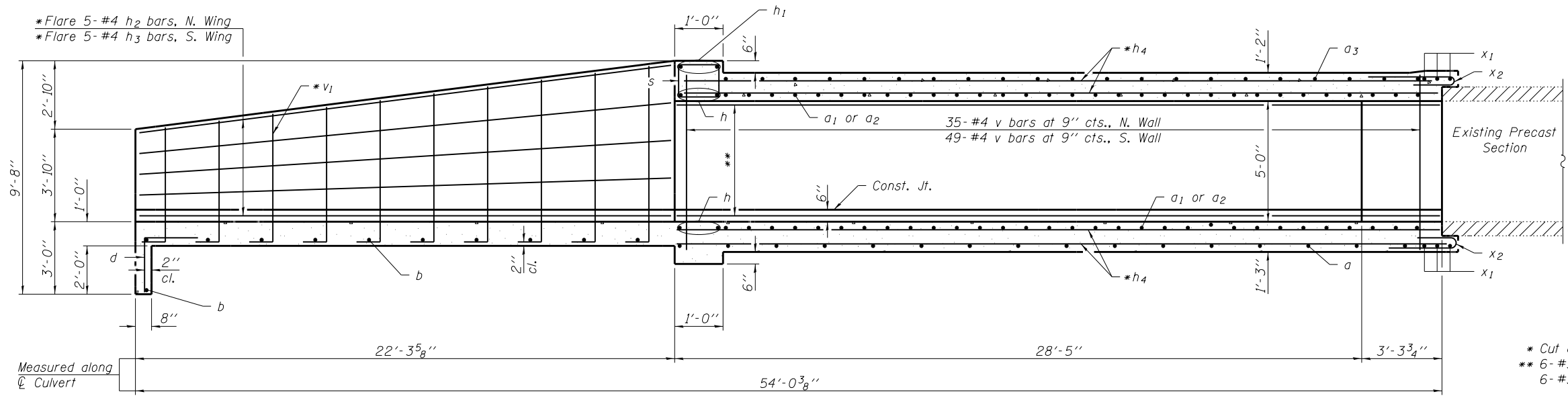
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



DOWNSTREAM APRON DETAILS  
 CULVERT AT STA. 2130+98.50

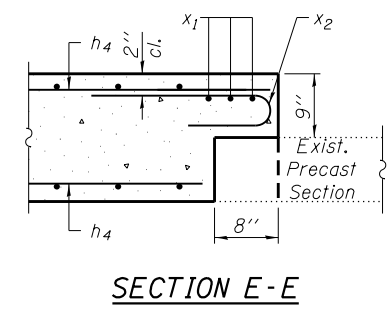
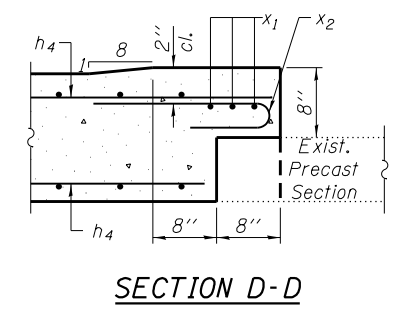
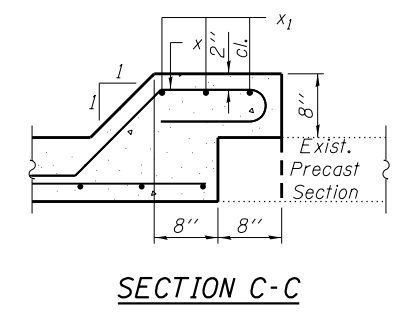
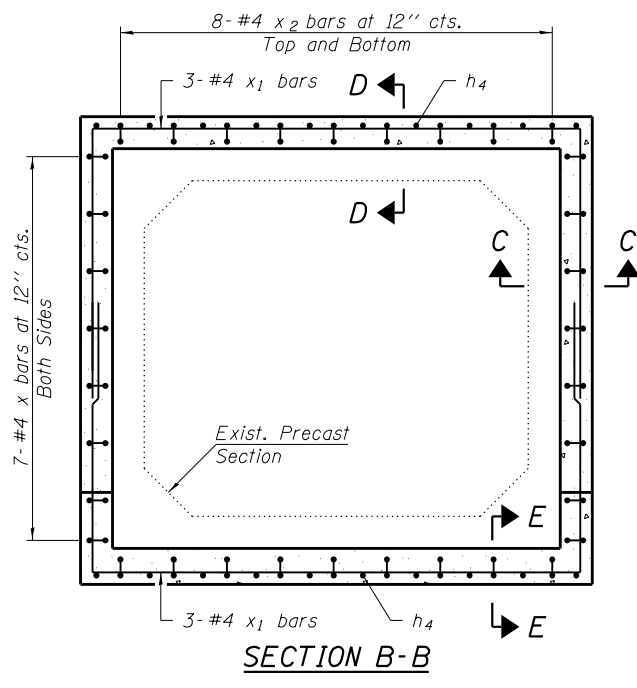
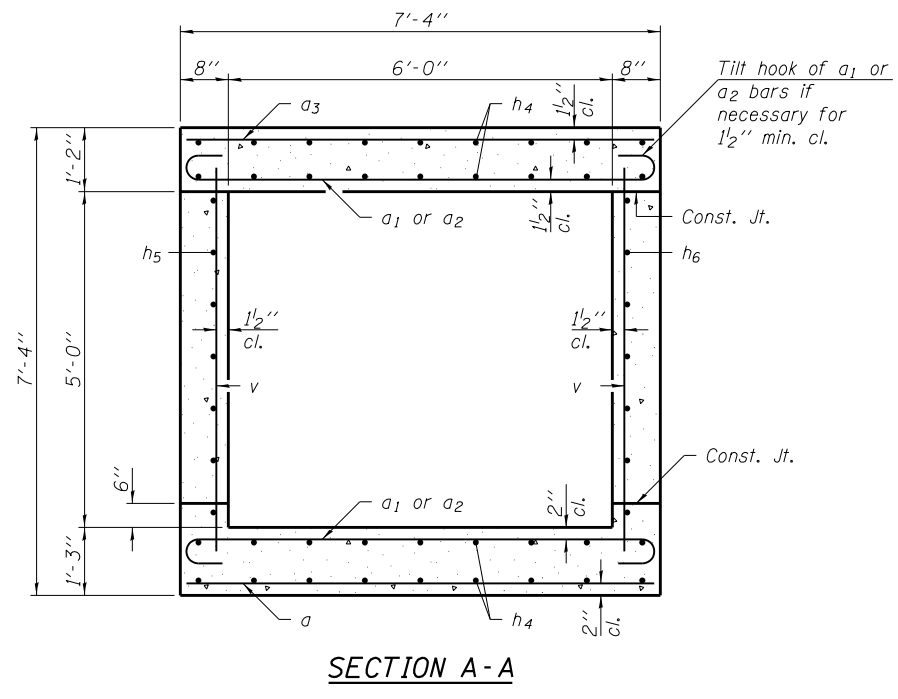
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CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 1 OF 4 SHEETS STA. 2129+64.94 TO STA. 2131+84.96



**LONGITUDINAL SECTION**

\* Cut and/or bend bars to fit.  
\*\* 6- #5 h<sub>5</sub> bars at 12" cts., N. Wall  
6- #5 h<sub>6</sub> bars at 12" cts., S. Wall



Notes:  
For Plan, see sheet 1 of 4.  
For Sloped Tapered Inlet Details, see sheets 3 & 4 of 4.  
For bar bending diagrams and Bill of Material, see sheet 4 of 4.  
For flowline elevations not shown, see roadway cross-sections.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

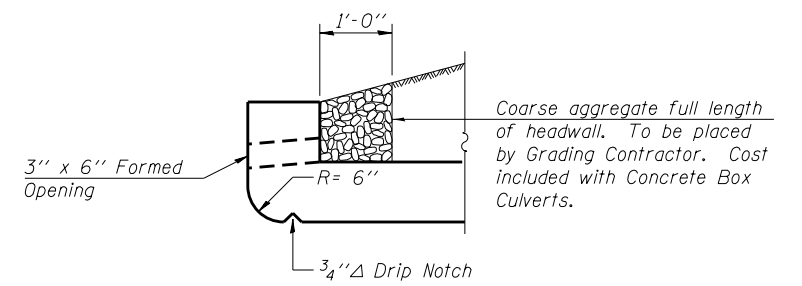
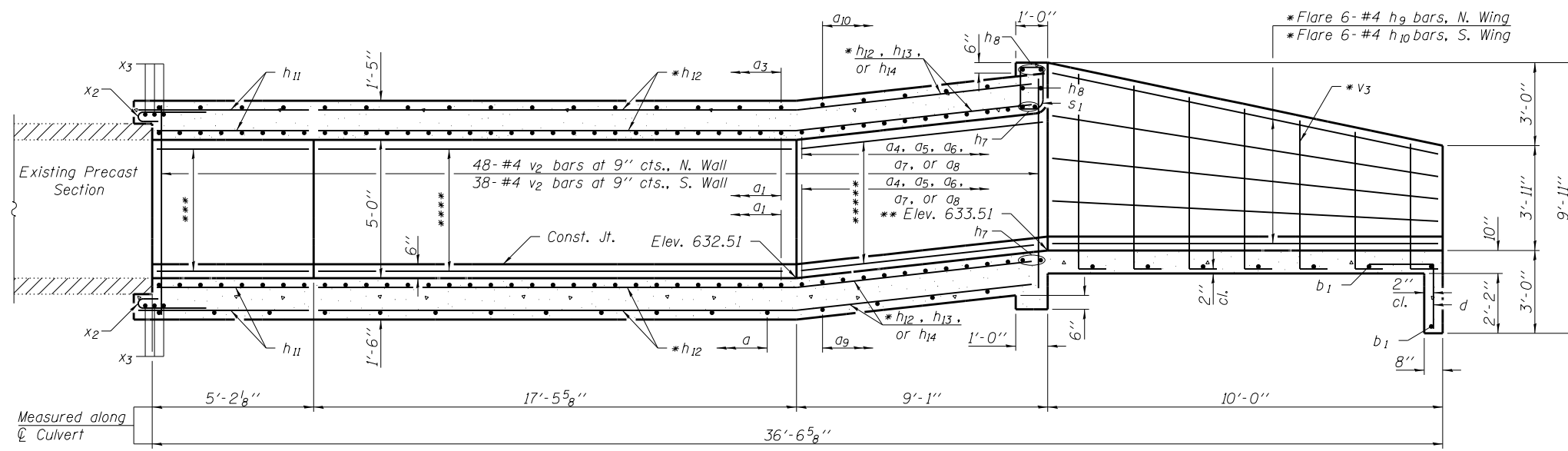
HORNER & SHIRIN, INC.  
ENGINEERS

DOWNSTREAM APRON DETAILS  
CULVERT AT STA. 2130+98.50

SCALE: SHEET NO. 2 OF 4 SHEETS STA. 2129+64.94 TO STA. 2131+84.96

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	450
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



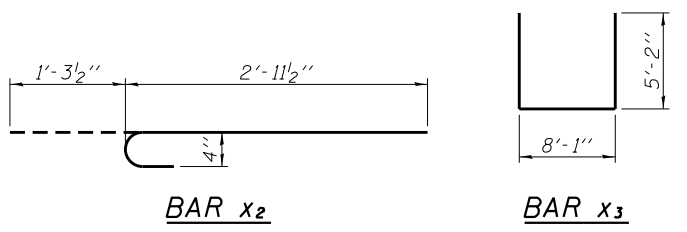
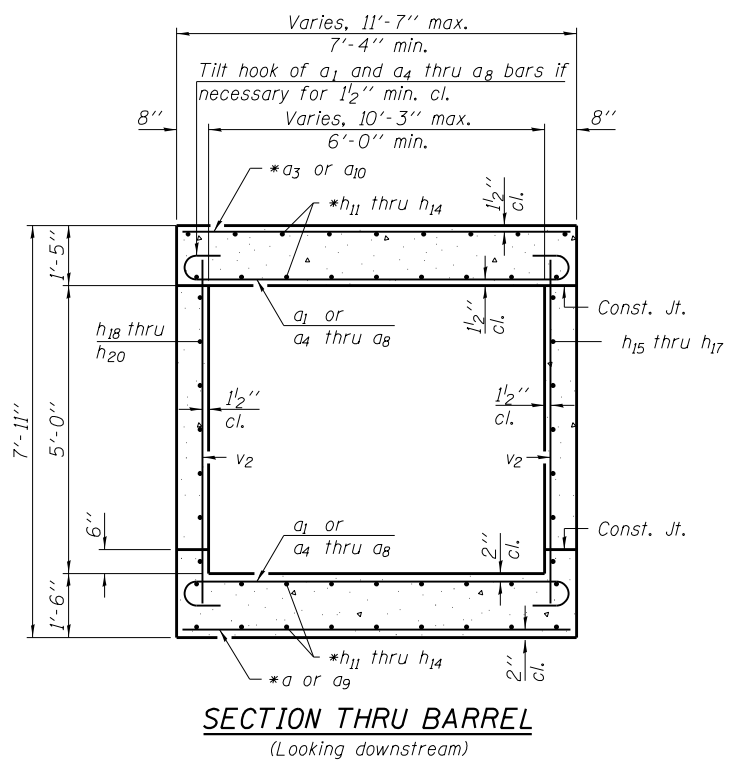
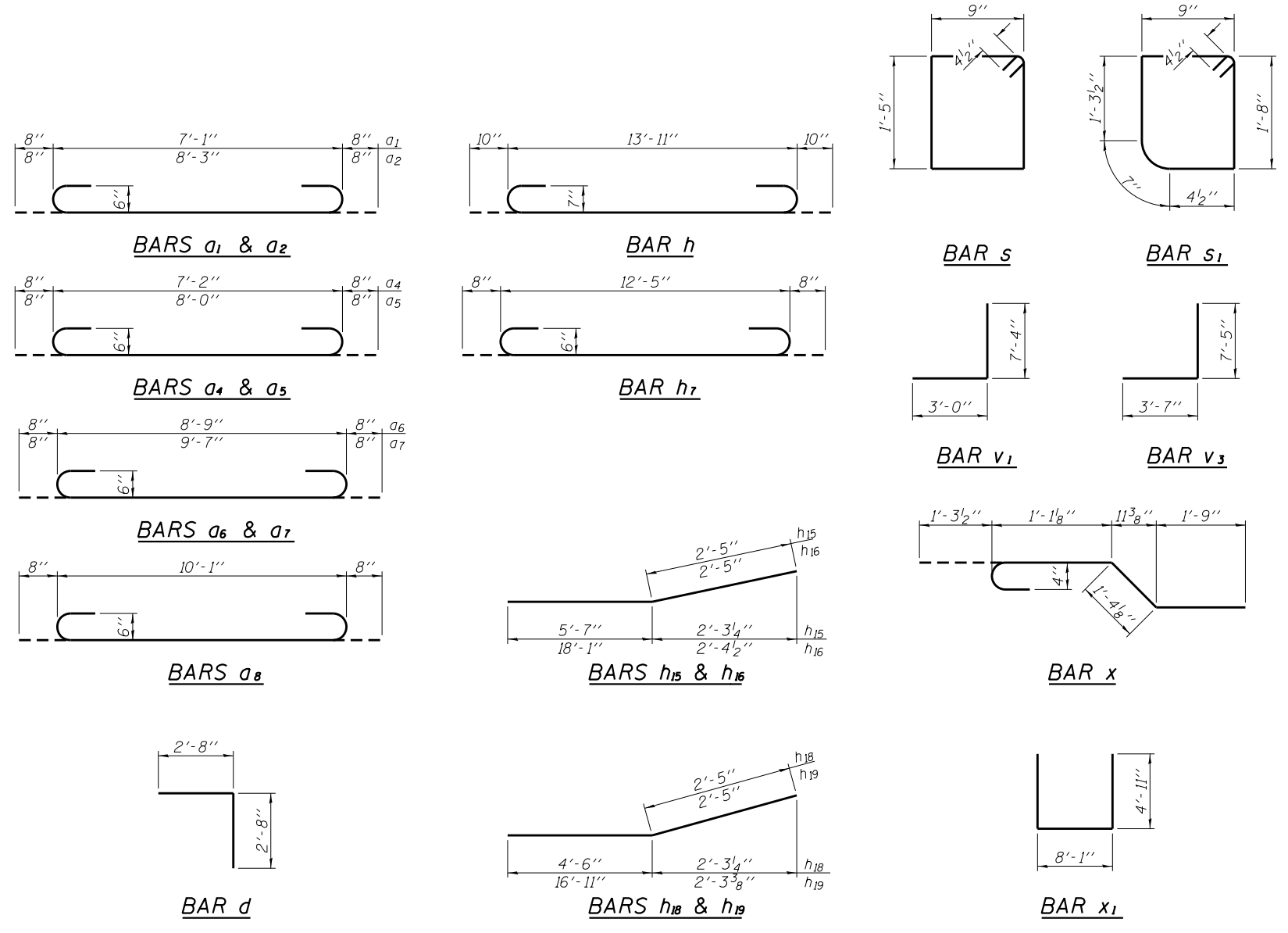


- \* Cut or bend bars to fit.
- \*\* Elev. 633.53, N. Corner  
Elev. 633.49, S. Corner
- \*\*\* 6-#5 h15 bars at 12" cts., N. Wall
- 6-#5 h18 bars at 12" cts., S. Wall
- \*\*\*\* 6-#5 h16 bars at 12" cts., N. Wall
- 6-#5 h19 bars at 12" cts., S. Wall
- \*\*\*\*\* 6-#5 h17 bars at 12" cts., N. Wall
- 6-#5 h20 bars at 12" cts., S. Wall

**BILL OF MATERIAL**

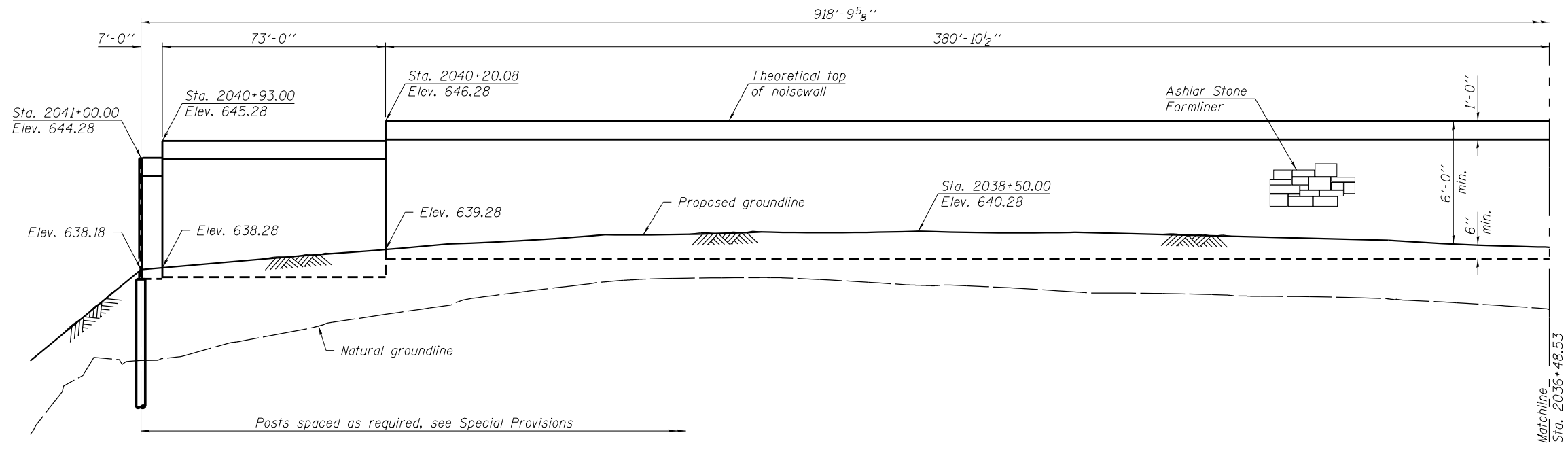
Bar	No.	Size	Length	Shape
a	31	#4	7'-0"	—
a1	128	#6	8'-5"	U
a2	12	#6	9'-7"	U
a3	41	#5	7'-1"	—
a4	4	#6	8'-6"	U
a5	4	#6	9'-4"	U
a6	4	#6	10'-1"	U
a7	4	#6	10'-11"	U
a8	7	#6	11'-5"	U
a9	6	#4	9'-3"	—
a10	8	#5	9'-7"	—
b	12	#5	50'-8"	—
b1	13	#6	32'-2"	—
d	57	#4	5'-4"	J
h	4	#7	15'-7"	U
h1	2	#6	13'-9"	—
h2	5	#4	9'-10"	—
h3	5	#4	36'-0"	—
h4	28	#5	35'-7"	—
h5	6	#5	25'-9"	—
h6	6	#5	35'-10"	—
h7	4	#6	13'-9"	U
h8	4	#6	11'-8"	—
h9	6	#4	16'-5"	—
h10	6	#4	10'-7"	—
h11	28	#5	5'-7"	—
h12	28	#5	28'-7"	—
h13	4	#5	4'-7"	—
h14	4	#5	2'-6"	—
h15	6	#5	8'-0"	—
h16	6	#5	20'-6"	—
h17	6	#5	12'-0"	—
h18	6	#5	6'-11"	—
h19	6	#5	19'-4"	—
h20	6	#5	6'-3"	—
s	14	#4	5'-1"	□
s1	12	#4	5'-5"	□
v	84	#4	7'-1"	—
v1	48	#5	10'-4"	J
v2	86	#4	7'-7"	—
v3	35	#6	11'-0"	J
x	28	#4	5'-6"	—
x1	6	#4	17'-11"	—
x2	32	#4	4'-3"	—
x3	6	#4	18'-5"	—
Reinforcement Bars			Pound	10,020
Concrete Box Culverts			Cu. Yd.	104.2

**LONGITUDINAL SECTION**



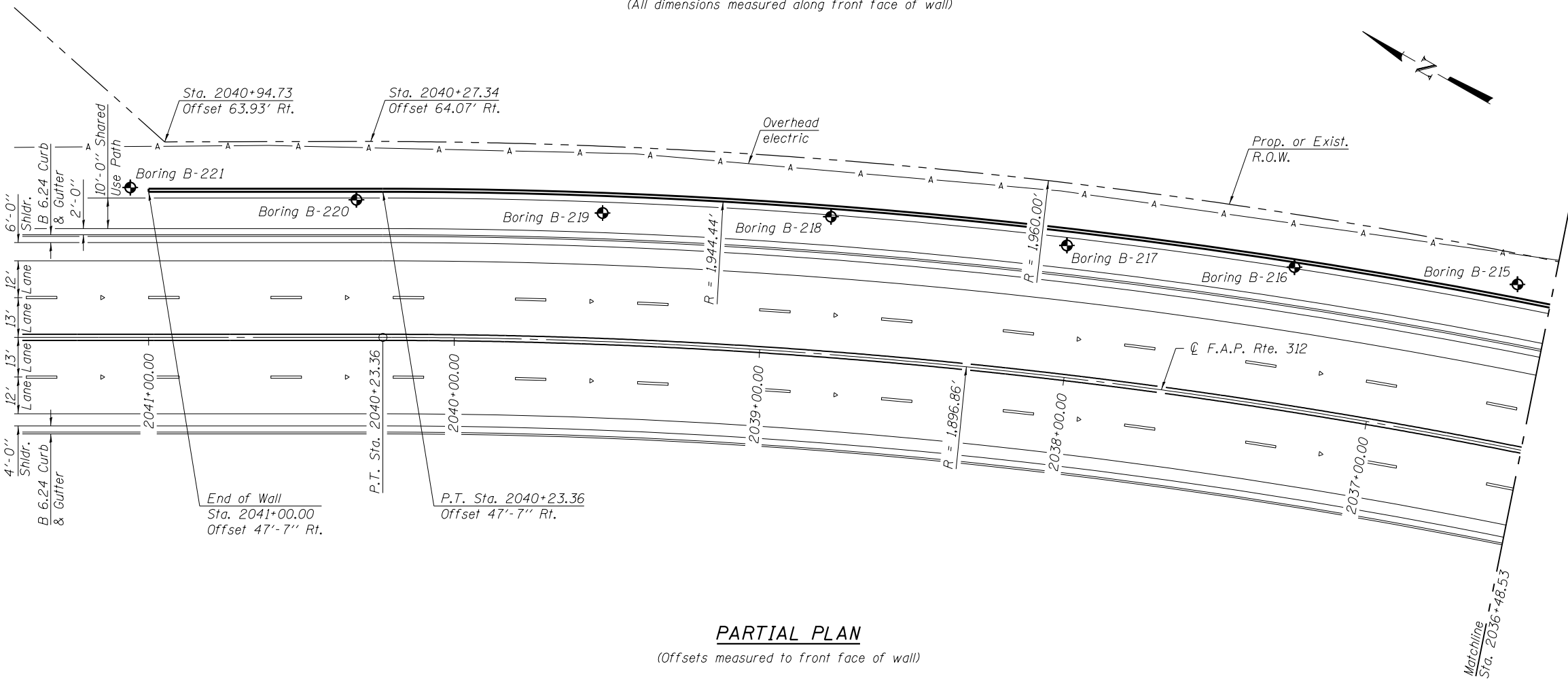
Notes:  
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 For Downstream Apron, see sheets 1 & 2 of 4.  
 For flowline elevations not shown, see roadway cross-sections.

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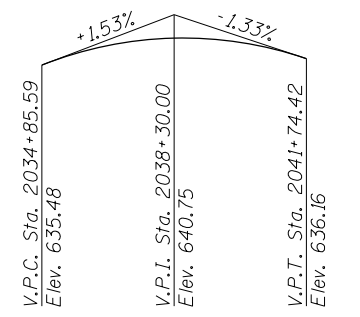
**DEVELOPED PARTIAL ELEVATION**

(Looking East)  
(All dimensions measured along front face of wall)



**PARTIAL PLAN**

(Offsets measured to front face of wall)



**PROFILE GRADE**  
(Along @ F.A.P. Rte. 312)

**LOADING**

Wind Load = 25 psf

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition  
2002 AASHTO "Guide Specifications for Structural Design of Sound Barriers"

**DESIGN STRESSES**

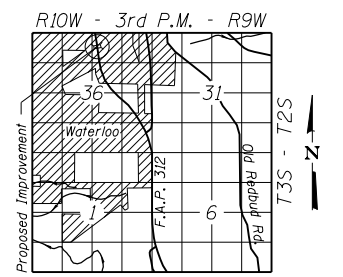
**FIELD UNITS**

$f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement)  
 $f_y$  = 50,000 psi (M270 Grade 50)

**F.A.P. Rte. 312**

**CURVE CENSHT31 DATA**

P.I. Sta. = 2036+53.48  
 $\Delta$  = 22° 38' 38" (Lt.)  
 $D$  = 3° 01' 14"  
 $R$  = 1,896.86'  
 $T$  = 379.79'  
 $L$  = 749.66'  
 $E$  = 37.65'  
P.C. Sta. = 2032+73.70  
P.T. Sta. = 2040+23.36  
S.E. = 5.00%

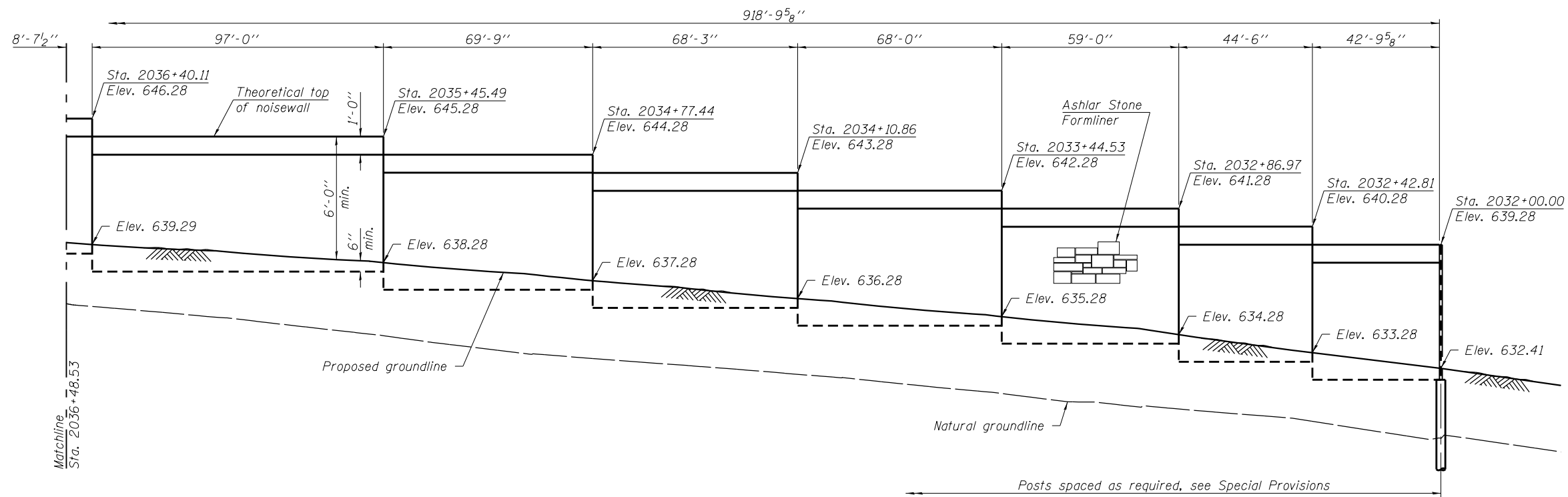


**LOCATION SKETCH**

Note:  
For Typical Section, see sheet 3 of 10.

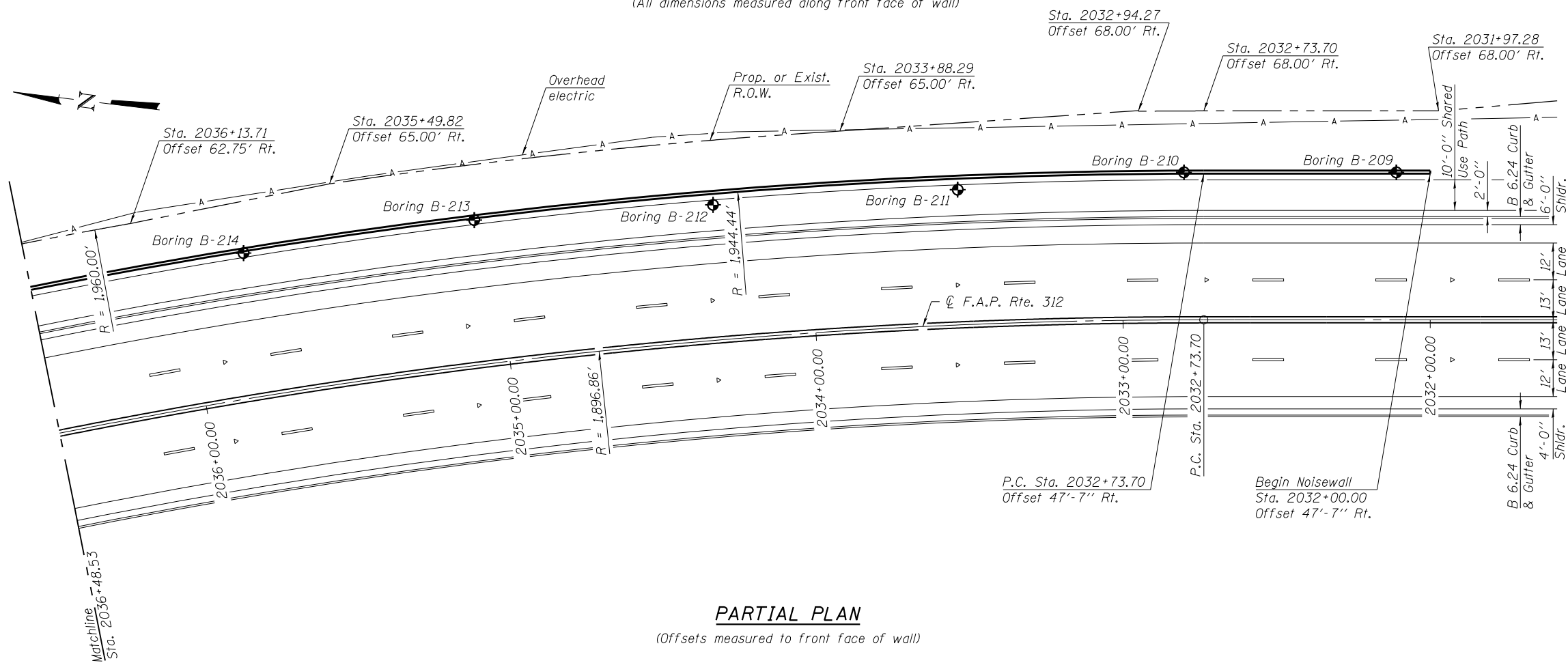
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CHECKED K.L. Hayes	DATE 12/14/12	REVISOR	REVISOR										



**DEVELOPED PARTIAL ELEVATION**

(Looking East)  
(All dimensions measured along front face of wall)



**PARTIAL PLAN**

(Offsets measured to front face of wall)

Note:  
For Typical Section, see sheet 3 of 10.

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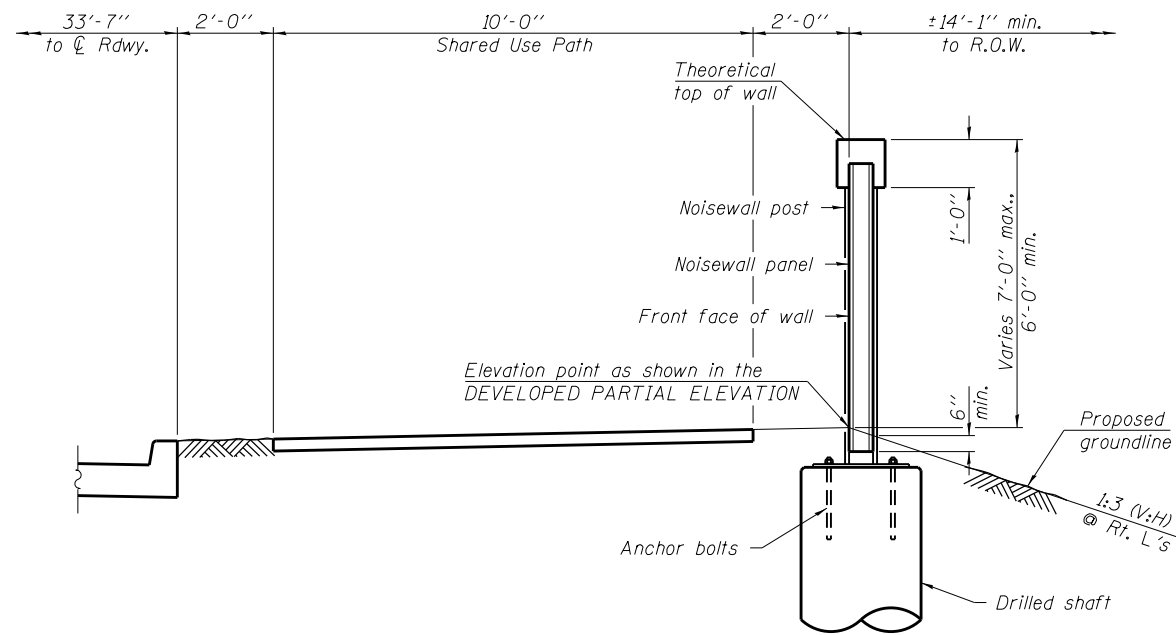
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HORNER &  
SHIRIN, INC.  
ENGINEERS

GENERAL PLAN & ELEVATION II  
NOISEWALL

SCALE: SHEET NO. 2 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	454
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



**TYPICAL SECTION**

**BILL OF MATERIAL**

Item	Unit	Quantity
Noise Abatement Wall, Ground Mounted	Sq. Ft.	6.350

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**DETAILS & NOTES  
NOISEWALL**

SCALE: SHEET NO. 3 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	455
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				









# SOIL BORING LOG

SCI No. 2004-3089.51  
 Page 1 of 1  
 Date 10/08/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)  
 SECTION 68-WRS-1 LOCATION SW 1/4 of the SE 1/4, SEC. 25, TWP. 2S, RNG. 10W  
 COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H  (ft)	B L O W S  (/6")	U C S Qu (tsf)	M O I S T  (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.
N/A	N/A	B-213	2035+06	47 ft RT	633.3					N/A ft	N/A ft		NONE ft	NONE ft	N/A ft
FILL: Dark brown, silty clay, trace crushed rock [A-6] 632.3 FILL: Gray, silt, trace iron stains [A-4] 632.4 CLAY: Gray, trace fine sand and iron nodules [A-7] 630.3 SILTY CLAY: Gray, with iron nodules, trace fine sand [A-6] Boring terminated at 10.0 ft.															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

SCI No. 2004-3089.51  
 Page 1 of 1  
 Date 10/08/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)  
 SECTION 68-WRS-1 LOCATION SW 1/4 of the SE 1/4, SEC. 25, TWP. 2S, RNG. 10W  
 COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H  (ft)	B L O W S  (/6")	U C S Qu (tsf)	M O I S T  (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.
N/A	N/A	B-214	2035+80	47 ft RT	635.2					N/A ft	N/A ft		NONE ft	NONE ft	N/A ft
SILT: Gray, trace iron nodules and roots [A-4] CLAY: Gray, with iron nodules, trace fine sand [A-7] SILTY CLAY: Gray, with iron stains, trace fine sand [A-6] CLAY: Gray, with iron stains, trace fine sand and roots [A-7] Trace fine to coarse sand and gravel Boring terminated at 15.0 ft.															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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	PLOT DATE = 1/23/2013 12:01:11 PM	DATE 12/14/12	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



BORING LOGS  
 NOISEWALL

SCALE: SHEET NO. 6 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	458
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

**SOIL BORING LOG**

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)

SECTION 68-WRS-1 LOCATION SW 1/4 of the SE 1/4, SEC. 25, TWP. 2S, RNG. 10W

COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H  ft	B L O W S  (ft)	U C S  Qu (/6")	M O I S T  (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.
N/A	N/A	B-215	2036+60	53 ft RT	636.1					N/A ft	N/A ft		NONE ft	NONE ft	N/A ft
FILL: Dark brown, silty clay, trace crushed rock and asphalt [A-6] 635.6 CLAY: Brown and gray, trace fine sand, roots, and iron nodules [A-7] 633.1 SILTY CLAY: Brown and gray, trace fine sand and iron nodules [A-4] Boring terminated at 10.0 ft. 626.1 -10 -15 -20															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

**SOIL BORING LOG**

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)

SECTION 68-WRS-1 LOCATION SW 1/4 of the SE 1/4, SEC. 25, TWP. 2S, RNG. 10W

COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	D E P T H  ft	B L O W S  (ft)	U C S  Qu (/6")	M O I S T  (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After -- Hrs.
N/A	N/A	B-216	2037+31	46 ft RT	636.7					N/A ft	N/A ft		NONE ft	NONE ft	N/A ft
FILL: Dark brown, silty clay, trace crushed rock [A-6] 635.7 SILTY CLAY: Brown and gray, trace fine sand [A-6] 633.7 SILT: Brown and gray, with fine sand [A-4] SILTY CLAY: Brown, trace fine sand, roots, iron stains, and sandstone fragments [A-6] 631.2 CLAY: Reddish brown and gray, trace sand, gravel, and shale fragments [A-7] 628.7 Boring terminated at 15.0 ft. 621.7 -15 -20															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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		DATE 12/14/12	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



BORING LOGS  
NOISEWALL

SCALE: SHEET NO. 7 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	459
CONTRACT NO. 76817				

ILLINOIS FED. AID PROJECT





# SOIL BORING LOG

SCI No. 2004-3089.51

Page 1 of 1

Date 10/08/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)  
 SECTION 68-WRS-1 LOCATION SE 1/4 of the SW 1/4, SEC. 25, TWP. 2S, RNG. 10W  
 COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.
N/A	N/A					N/A ft	N/A ft
BORING NO.	Station					Groundwater Elev.:	
B-219	2039+53					First Encounter	NONE ft
	Offset					Upon Completion	NONE ft
	42 ft RT					After -- Hrs.	N/A ft
	Ground Surface Elev.						
	637.0 ft	(ft)	(/6")	(tsf)	(%)		
FILL: Dark brown, silty clay, trace crushed rock [A-6] 636.0							
SILTY CLAY: Brown, trace fine sand [A-4]							
		3	1.4	21			
		4	S/15				
		6					
		2	1.6	21			
		3	S/15				
		4					
		-5					
CLAY: Reddish brown, trace sand and gravel [A-7] 630.8							
		3	4.3	20			
		3	P				
		5					
		2	1.6	53			
		3	B				
		5					
		-10					
Boring terminated at 10.0 ft. 627.0							
		-15					
		-20					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

SCI No. 2004-3089.51

Page 1 of 1

Date 10/08/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)  
 SECTION 68-WRS-1 LOCATION SE 1/4 of the SW 1/4, SEC. 25, TWP. 2S, RNG. 10W  
 COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.
N/A	N/A					N/A ft	N/A ft
BORING NO.	Station					Groundwater Elev.:	
B-220	2040+32					First Encounter	NONE ft
	Offset					Upon Completion	NONE ft
	45 ft RT					After -- Hrs.	N/A ft
	Ground Surface Elev.						
	635.4 ft	(ft)	(/6")	(tsf)	(%)		
FILL: Brown, silty clay, with roots, trace gravel and crushed rock [A-4] 634.9							
FILL: Brown and gray, clay, trace roots [A-7]							
		3	2.4	25			
		4	S/20				
		9					
SILT: Gray and brown, trace sand and roots [A-4] 632.4							
		7	>4.5	12			
		14	P				
		-5					
		5	>4.5	15			
		7	P				
		8					
With iron stains							
Trace gravel 626.4							
CLAY: Brown, trace sand and gravel [A-7]							
		4	5.0	22			
		7	S/10				
		-10					
SHALEY CLAY: Brown, trace sand, gravel, and limestone fragments [A-7] 624.9							
		3	2.8	34			
		7	S/5				
		5					
CLAY: Gray, trace sand [A-7] 622.4							
1.5-inch sand layer 621.3							
LIMESTONE FRAGMENTS 621.2							
Sampler refusal at 14.3 ft. -15							
		-15					
		-20					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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		CHECKED K.L. Hayes	REVISED -
		DATE 12/14/12	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



BORING LOGS  
 NOISEWALL

SCALE: SHEET NO. 9 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	461
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



# SOIL BORING LOG

SCI No. 2004-3089.51

Page 1 of 1

Date 10/08/12

ROUTE FAP 312 DESCRIPTION Waterloo Bypass - Noise Wall Boring LOGGED BY SCI (JAS)  
SECTION 68-WRS-1 LOCATION SE 1/4 of the SW 1/4, SEC. 25, TWP. 2S, RNG. 10W  
COUNTY Monroe DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.
N/A	N/A					N/A ft	N/A ft
BORING NO.	Station	Offset	Ground Surface Elev.			Groundwater Elev.:	
B-221	2041+06	49 ft RT	633.3 ft			First Encounter	NONE ft
						Upon Completion	NONE ft
						After -- Hrs.	N/A ft
FILL: Dark brown, silty clay, with roots, trace crushed rock and cinders [A-6]		632.3	3	3.0 P	30		
SILTY CLAY: Gray, with iron stains, trace fine sand [A-6]		630.3	3				
SILT: Gray, with iron stains and sand, trace organics [A-4]			2	0.4 B	27		
Trace fine sand and iron nodules			2	0.6 S/15	24		
CLAY: Gray, trace fine sand and iron nodules [A-7]		625.3	3	1.7 B	23		
Boring terminated at 10.0 ft.		623.3	-10				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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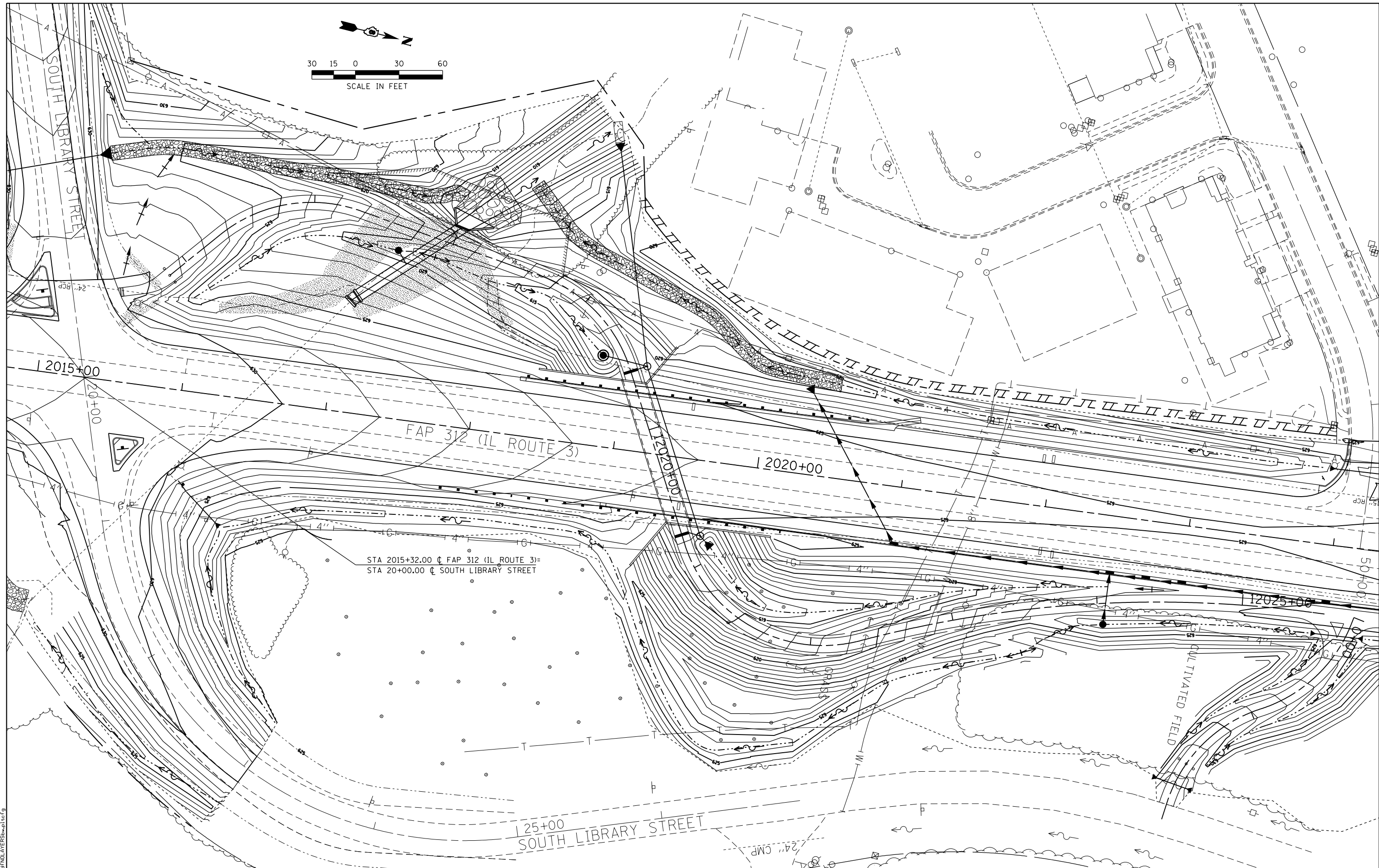
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



BORING LOGS  
NOISEWALL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	462
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 10 OF 10 SHEETS STA. 2032+00.00 TO STA. 2041+00.00



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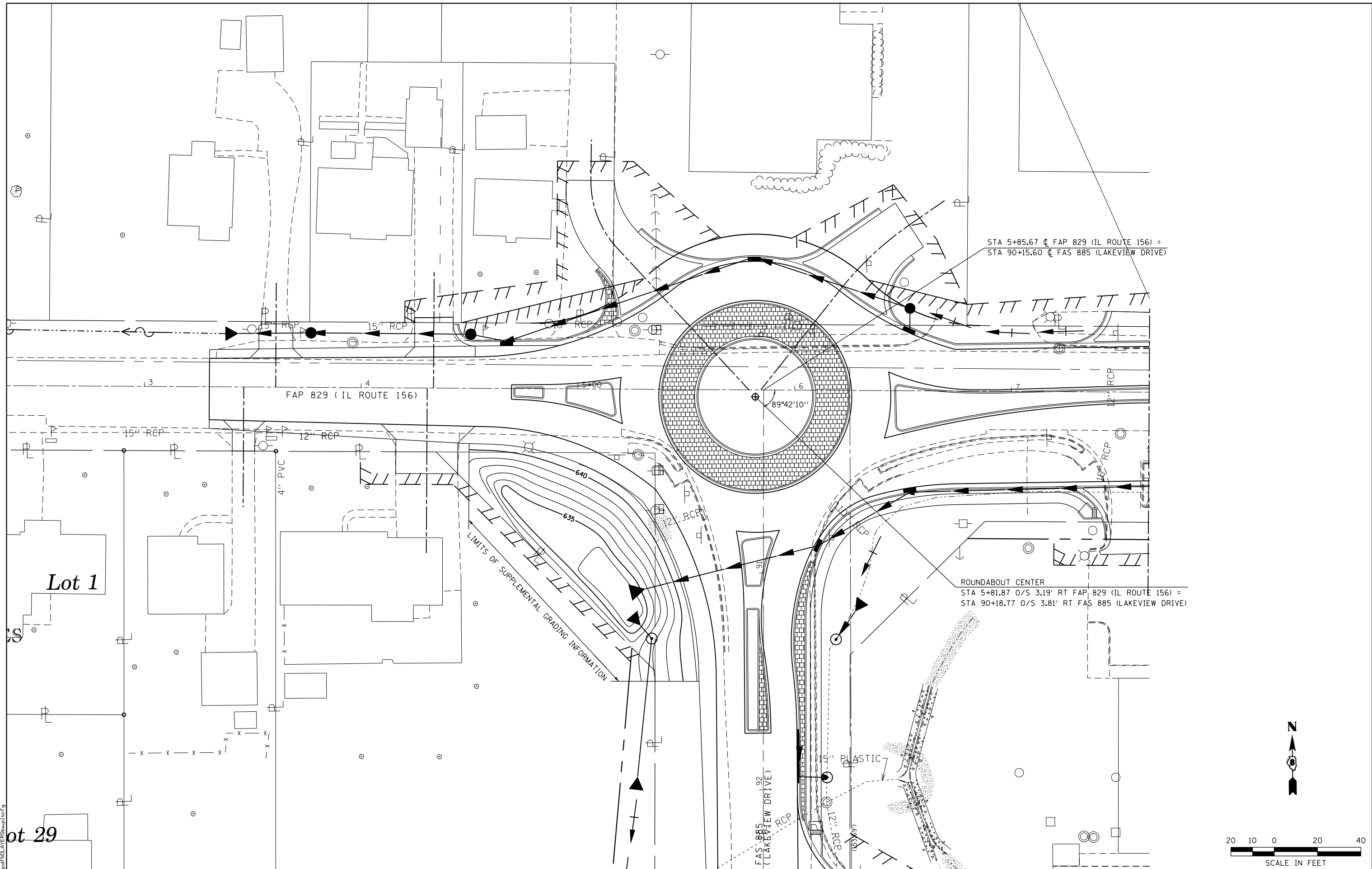
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**HORNER & SHIRIN, INC.**  
**ENGINEERS**

**GRADING DETAILS**  
 SHARED-USE PATH - FAP 312 (IL ROUTE 3)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	463
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 30'    SHEET NO. 1 OF 2 SHEETS    STA. TO STA.



STA 5+85.67  $\dot{C}$  FAP 829 (IL ROUTE 156) =  
STA 90+15.60  $\dot{C}$  FAS 885 (LAKEVIEW DRIVE)

ROUNABOUT CENTER  
STA 5+81.87 O/S 3.19' RT FAP 829 (IL ROUTE 156) =  
STA 90+18.77 O/S 3.81' RT FAS 885 (LAKEVIEW DRIVE)

Lot 1

Lot 29

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

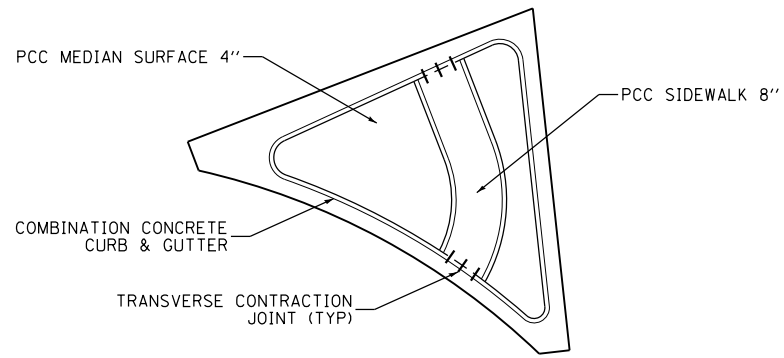
**HORNER & SHIRIN, INC.**  
ENGINEERS

**GRADING DETAILS**  
SOUTHWEST QUADRANT - IL ROUTE 156 & LAKEVIEW DRIVE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	464
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

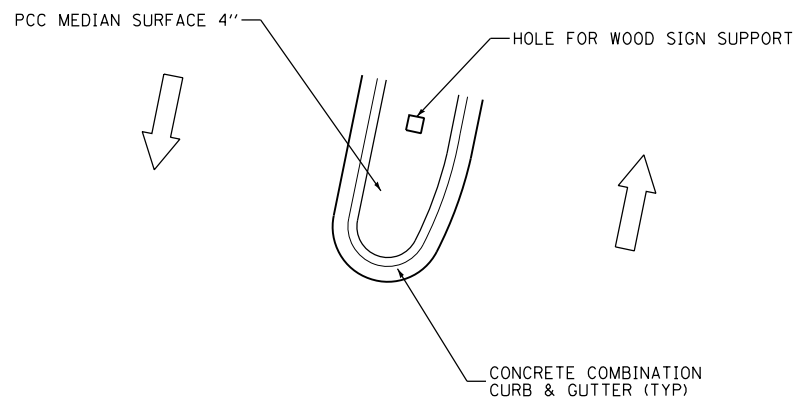
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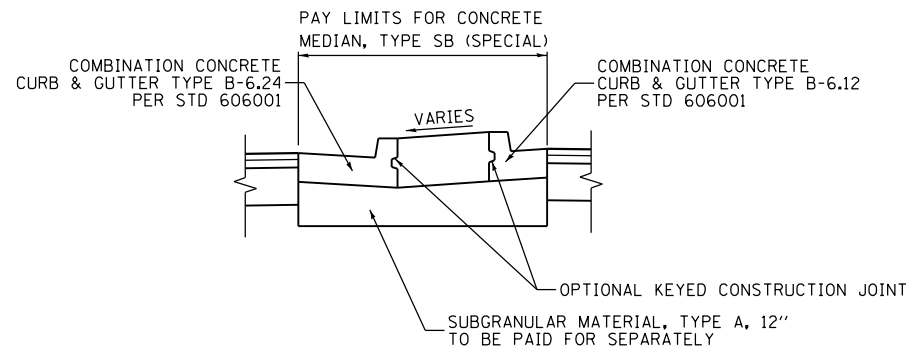
**PCC SIDEWALK 8" DETAILS**

JOINT CONSTRUCTION WILL NOT BE PAID FOR SEPARATELY, BUT IS INCLUDED IN THE COST OF THE PCC SIDEWALK 8" BEING CONSTRUCTED. SEE STANDARD 420001 FOR JOINT DETAILS.

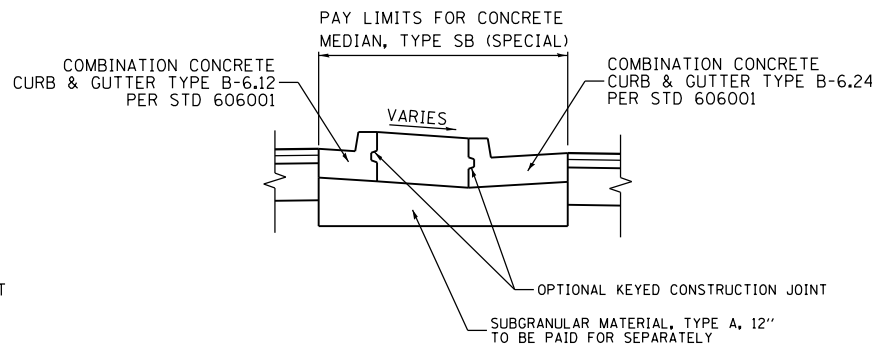


**HOLE FOR WOOD SIGN SUPPORT IN MEDIAN DETAIL**

HOLE TO BE FORMED IN MEDIAN INCLUDED IN THE COST OF PCC MEDIAN. SIZE OF HOLE AND FILL TO BE CONSTRUCTED ACCORDING TO ARTICLE 730.04 OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

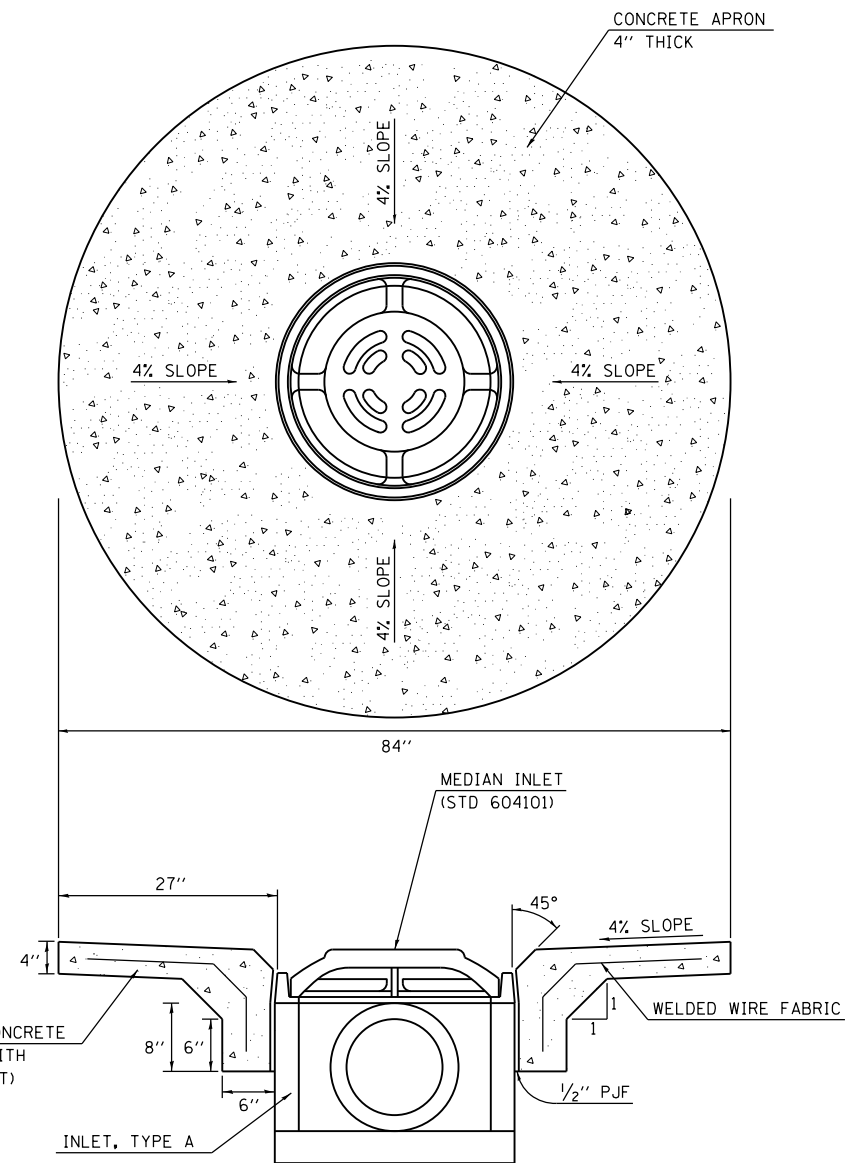


FROM STA 2155+84.29 TO STA 2158+14.60



FROM STA 2159+39.02 TO STA 2167+10.19

**CONCRETE MEDIAN, TYPE SB (SPECIAL)**



**APRON FOR INLET**

STA 2108+84.46

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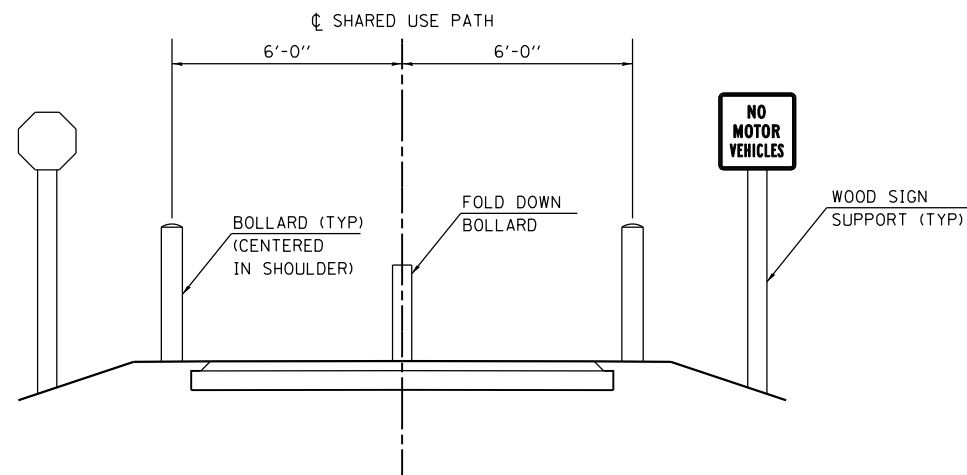
HORNER &  
 SHIRIN, INC.  
 ENGINEERS

**MISCELLANEOUS DETAILS**

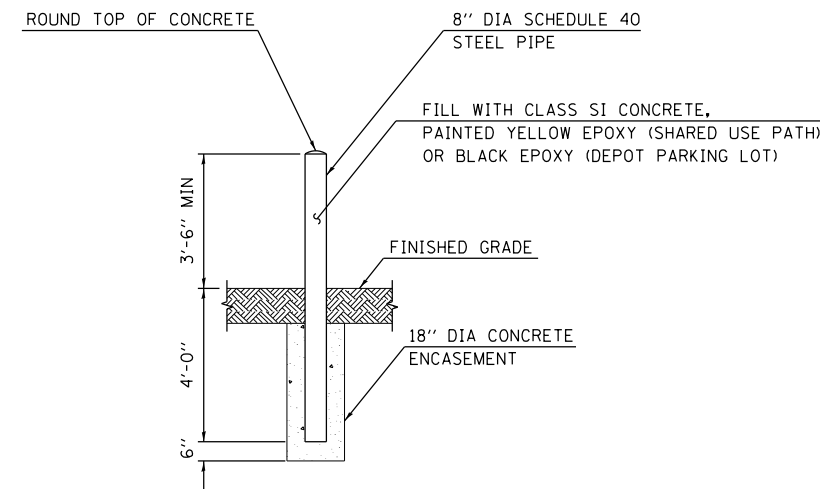
MEDIAN INLET DETAIL

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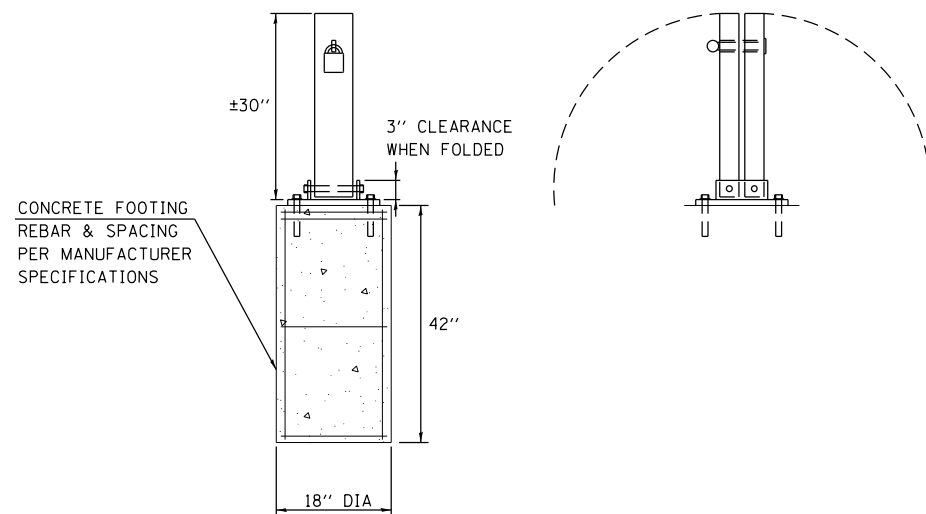
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	465
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



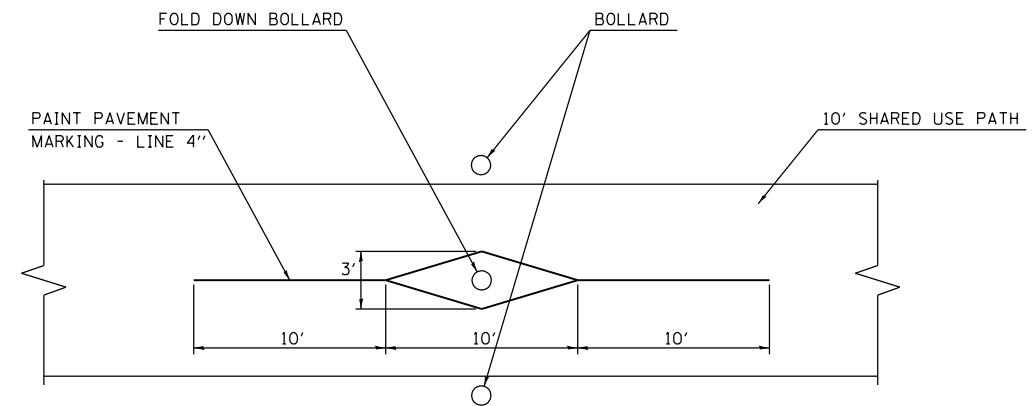
**SIGN & BOLLARD PLACEMENT**



**BOLLARD DETAIL**



**FOLD DOWN BOLLARD DETAIL**



**TYPICAL PAVEMENT MARKINGS AT BOLLARDS**

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC.  
 ENGINEERS**

**MISCELLANEOUS DETAILS**

BOLLARD DETAILS

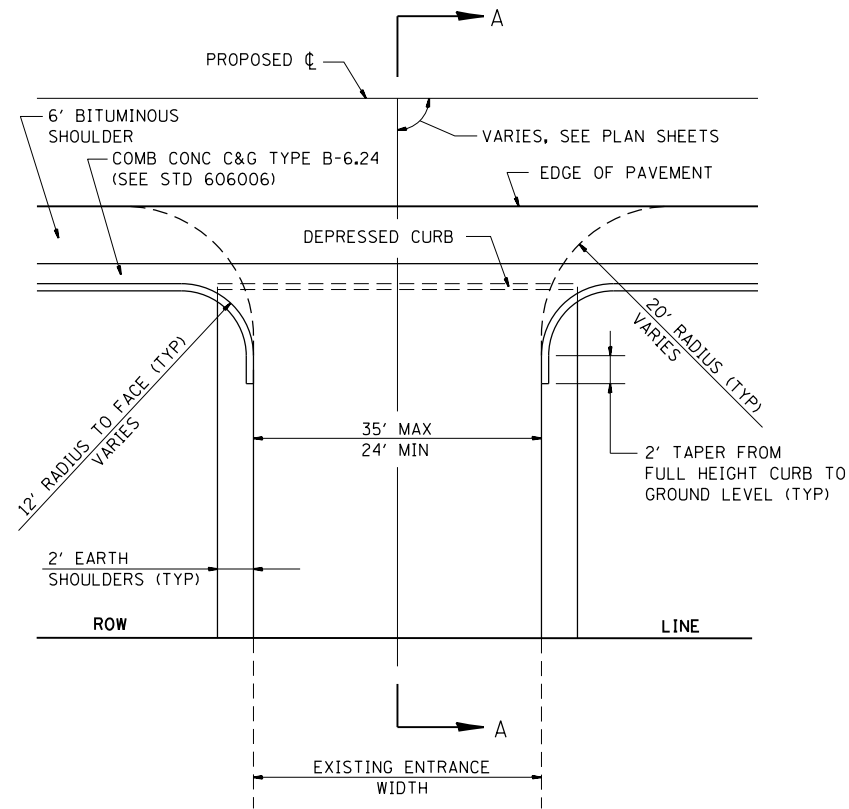
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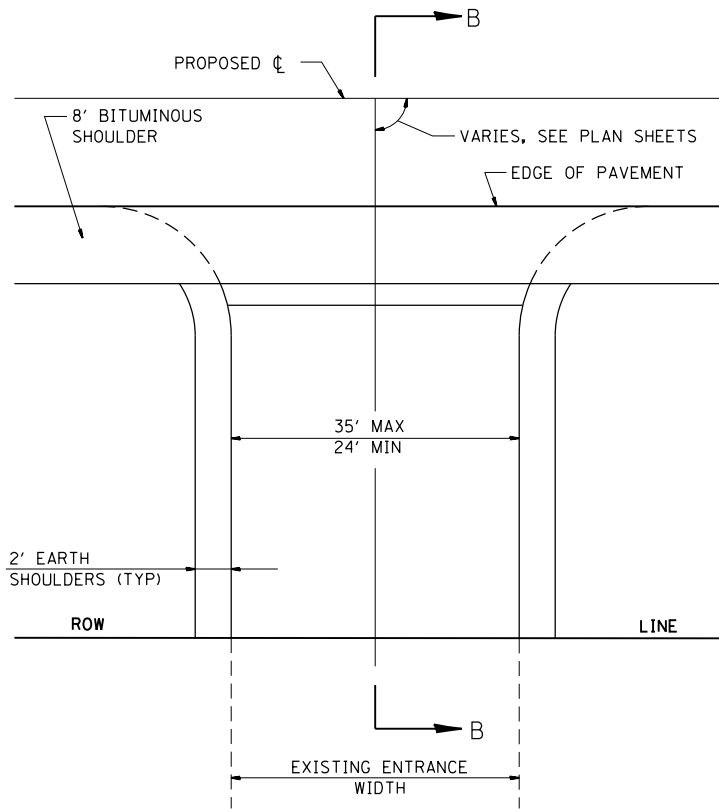
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TO STA.

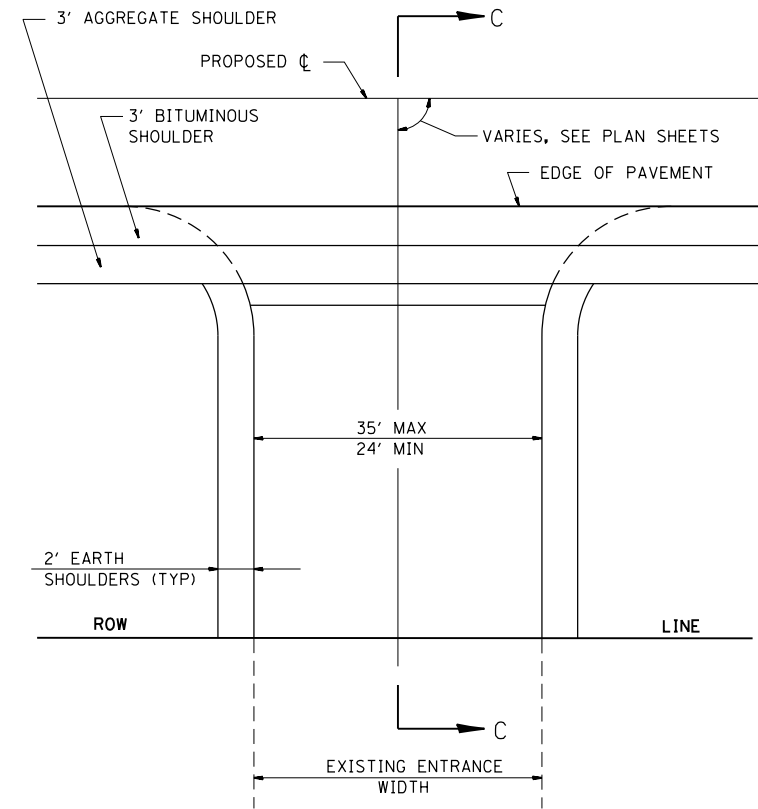
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	466
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



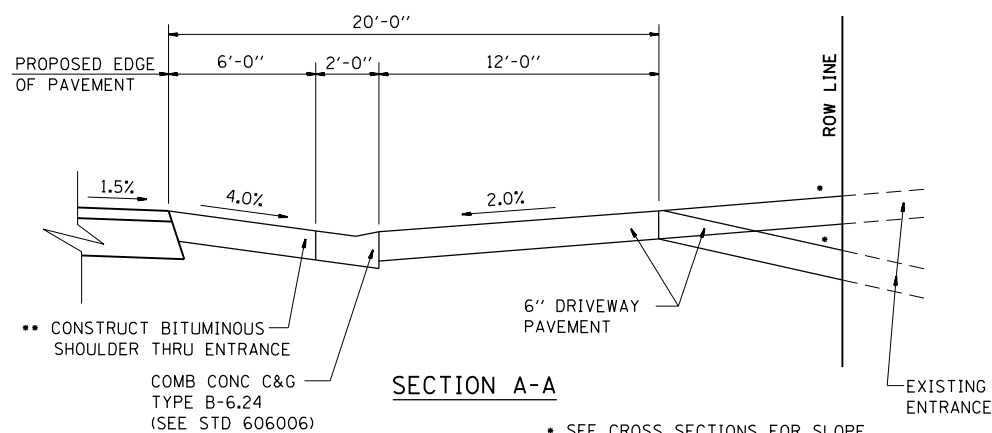
**CE DETAIL A**  
 COMMERCIAL ENTRANCE ADJACENT TO BITUMINOUS SHOULDER AND COMBINATION CONCRETE CURB & GUTTER TYPE B-6.24



**CE DETAIL B**  
 COMMERCIAL ENTRANCE ADJACENT TO BITUMINOUS SHOULDER

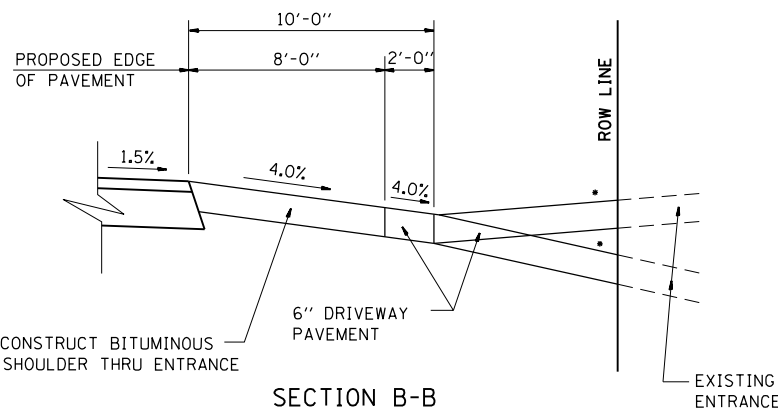


**CE DETAIL C**  
 COMMERCIAL ENTRANCE ADJACENT TO COMBINATION BITUMINOUS AND AGGREGATE SHOULDERS



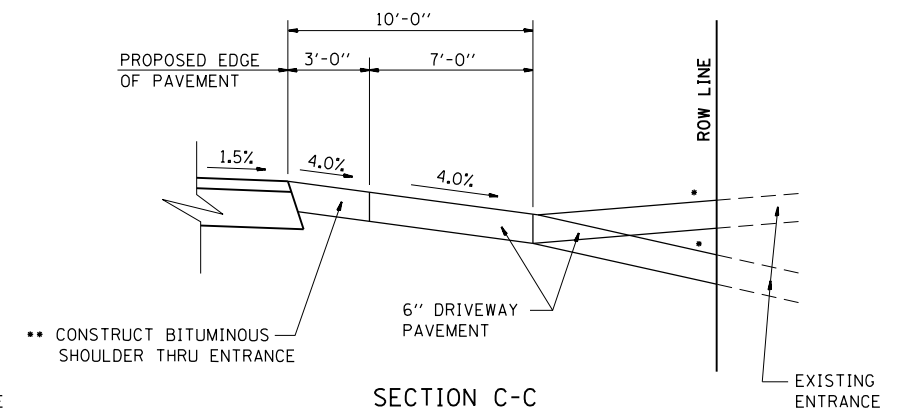
**SECTION A-A**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION B-B**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION C-C**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE

TYPE OF ENTRANCE	EXISTING MATERIAL	NEW ENTRANCE MATERIAL (BEYOND RADIUS RETURNS OR TAPERS)				
		PCC DRIVEWAY PAVEMENT (6")	PCC DRIVEWAY PAVEMENT (8")	INCIDENTAL BITUMINOUS CONC SURFACING (12")	AGGREGATE BASE COURSE TYPE B (6")	AGGREGATE SURFACE COURSE TYPE B (6")
PRIVATE	CONCRETE	X				
	BITUMINOUS			X	X	
	AGGREGATE					X
COMMERCIAL	CONCRETE		X			
	BITUMINOUS		X			
	AGGREGATE		X			

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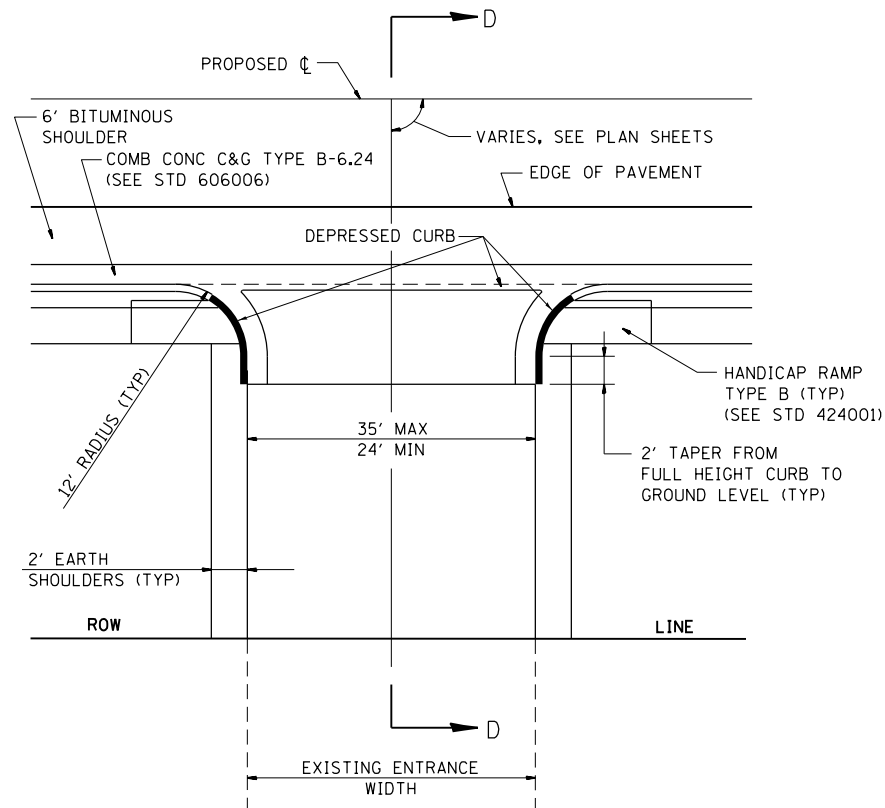
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC.  
 ENGINEERS**

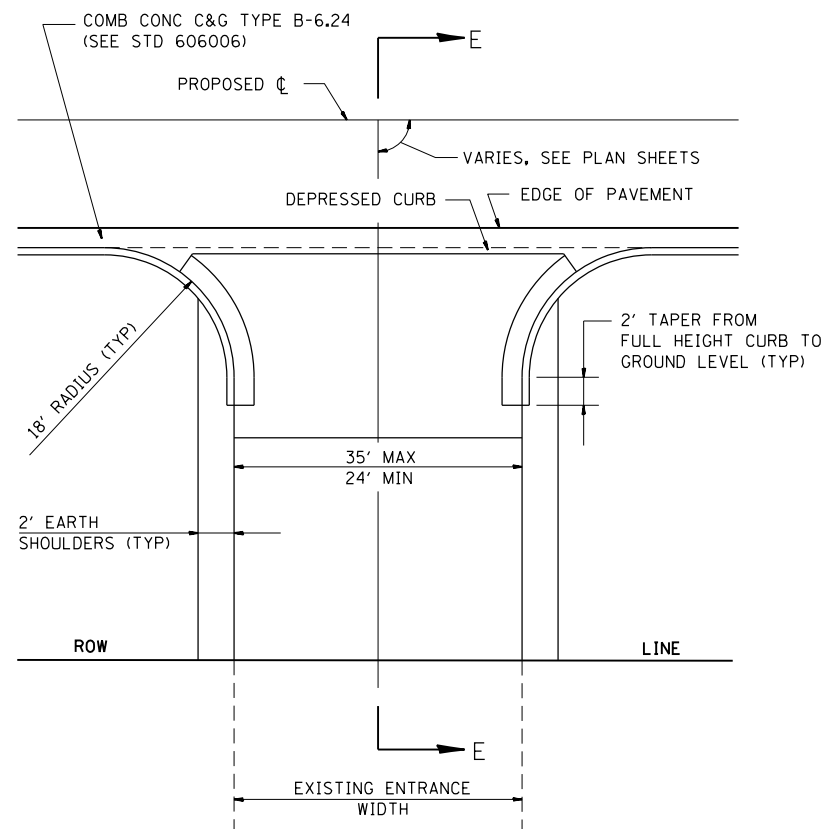
**MISCELLANEOUS DETAILS  
 ENTRANCE DETAILS**

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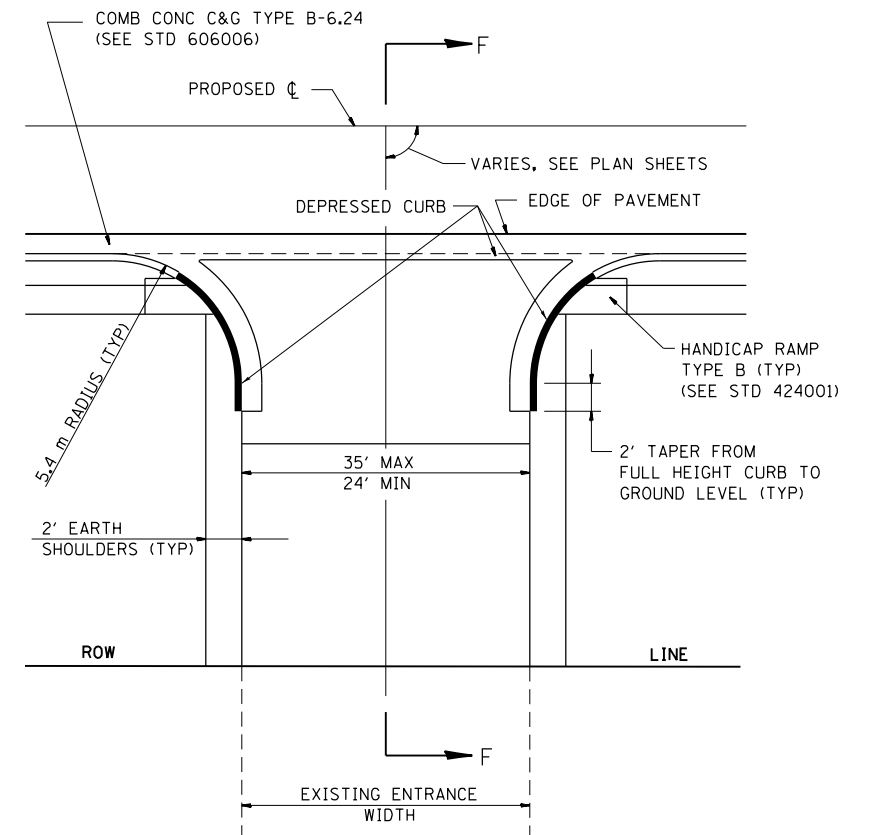
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	467
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



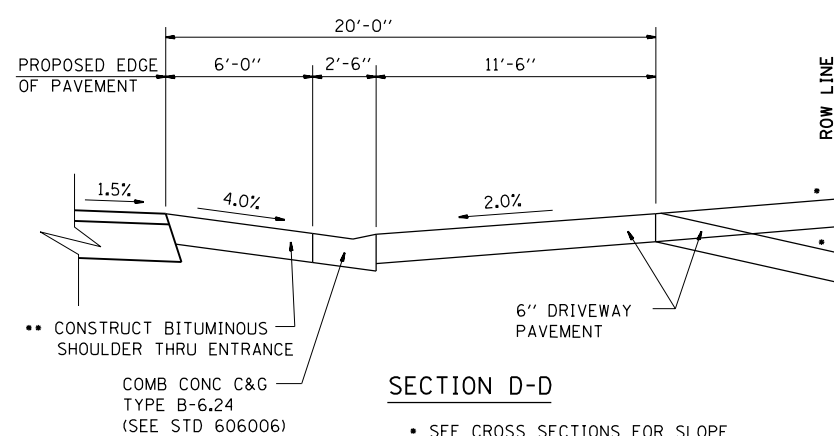
**CE DETAIL D**  
 COMMERCIAL ENTRANCE WITH PCC SIDEWALK ADJACENT TO BITUMINOUS SHOULDER AND COMBINATION CONCRETE CURB & GUTTER TYPE B-6.24



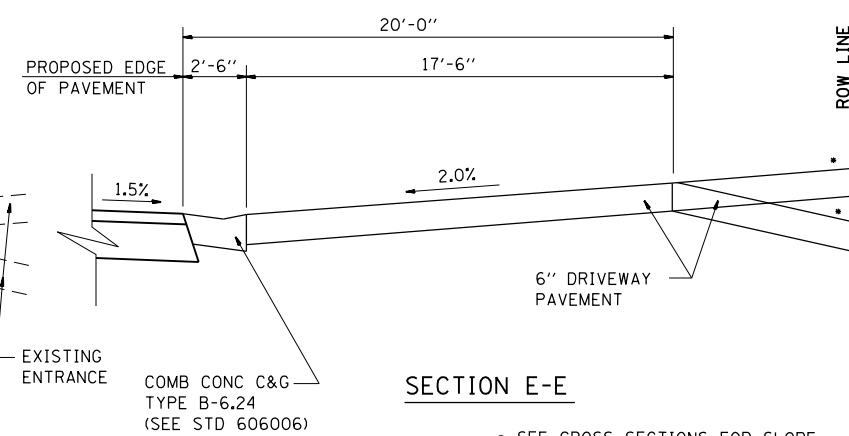
**CE DETAIL E**  
 COMMERCIAL ENTRANCE ADJACENT TO ROADWAY PAVEMENT WITH CONCRETE CURB & GUTTER TYPE B-6.24



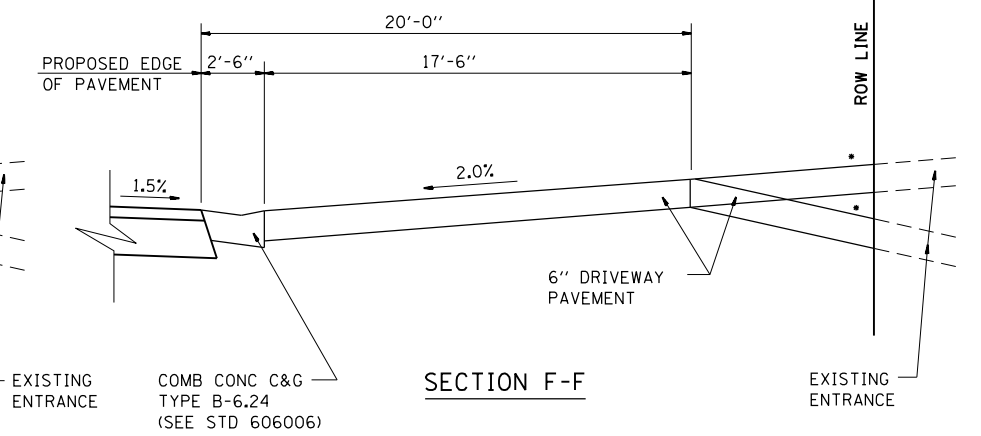
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 COMMERCIAL ENTRANCE WITH PCC SIDEWALK ADJACENT TO ROADWAY PAVEMENT WITH CONCRETE CURB & GUTTER TYPE B-6.24



**SECTION D-D**  
 • SEE CROSS SECTIONS FOR SLOPE  
 • OMIT AT CONCRETE ENTRANCES  
 SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION E-E**  
 • SEE CROSS SECTIONS FOR SLOPE  
 SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION F-F**  
 • SEE CROSS SECTIONS FOR SLOPE  
 SEE PLANS FOR EXISTING SURFACE TYPE

TYPE OF ENTRANCE	EXISTING MATERIAL	NEW ENTRANCE MATERIAL (BEYOND RADIUS RETURNS OR TAPERS)				
		PCC DRIVEWAY PAVEMENT (6")	PCC DRIVEWAY PAVEMENT (8")	INCIDENTAL BITUMINOUS CONC SURFACING (2")	AGGREGATE BASE COURSE TYPE B (2")	AGGREGATE SURFACE COURSE TYPE B (2")
PRIVATE	CONCRETE	X				
	BITUMINOUS			X	X	
	AGGREGATE					X
COMMERCIAL	CONCRETE		X			
	BITUMINOUS		X			
	AGGREGATE		X			

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

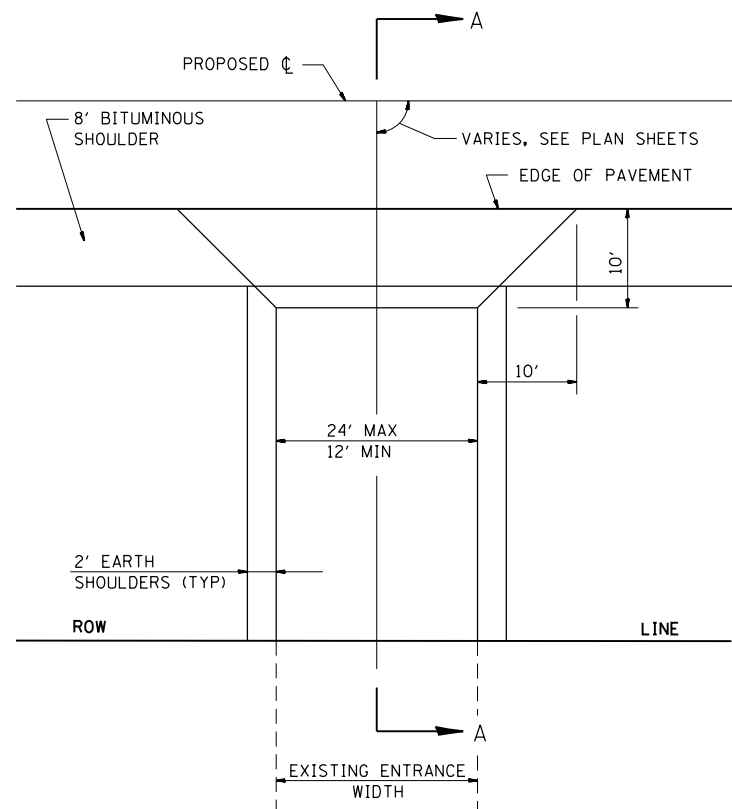
**HORNER & SHIRIN, INC.**  
**ENGINEERS**

**MISCELLANEOUS DETAILS**  
 ENTRANCE DETAILS

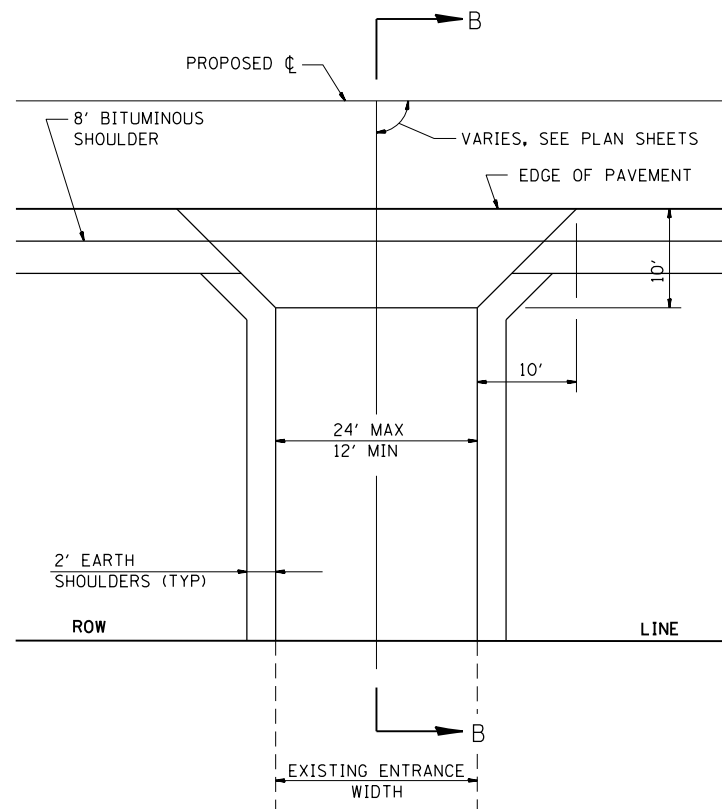
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	468
CONTRACT NO. 76817				

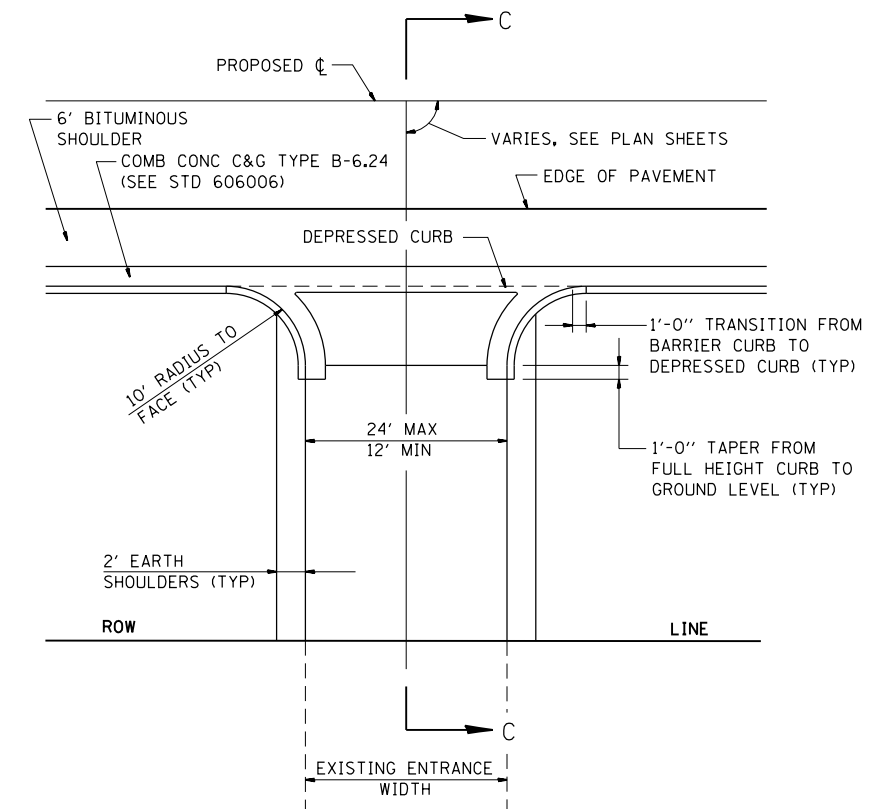
ILLINOIS FED. AID PROJECT



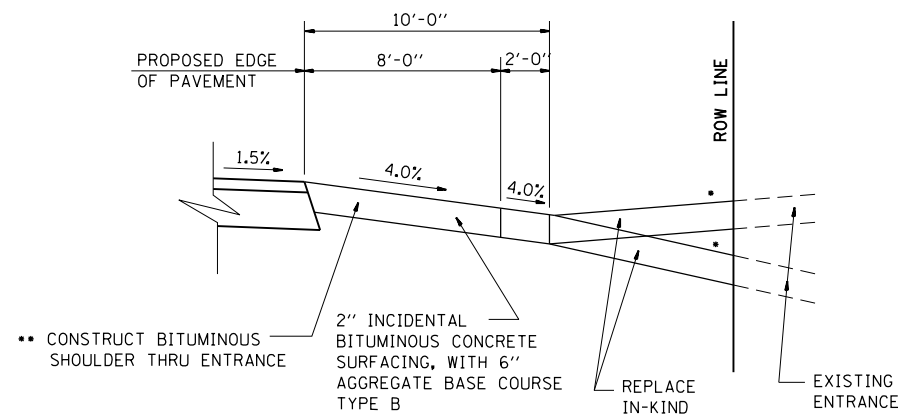
**PE DETAIL A**  
PRIVATE ENTRANCE ADJACENT  
TO BITUMINOUS SHOULDER



**PE DETAIL B**  
PRIVATE ENTRANCE ADJACENT  
TO COMBINATION BITUMINOUS  
AND AGGREGATE SHOULDERS

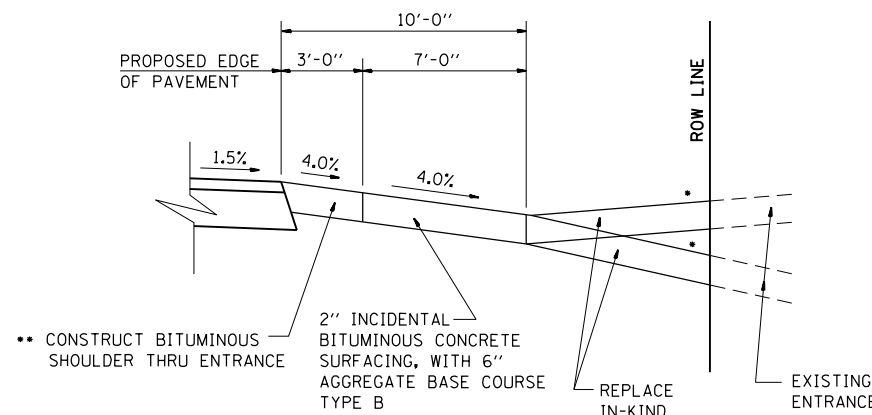


**PE DETAIL C**  
PRIVATE ENTRANCE WITH COMBINATION  
CONCRETE CURB & GUTTER TYPE B-6.24  
ADJACENT TO BITUMINOUS SHOULDER



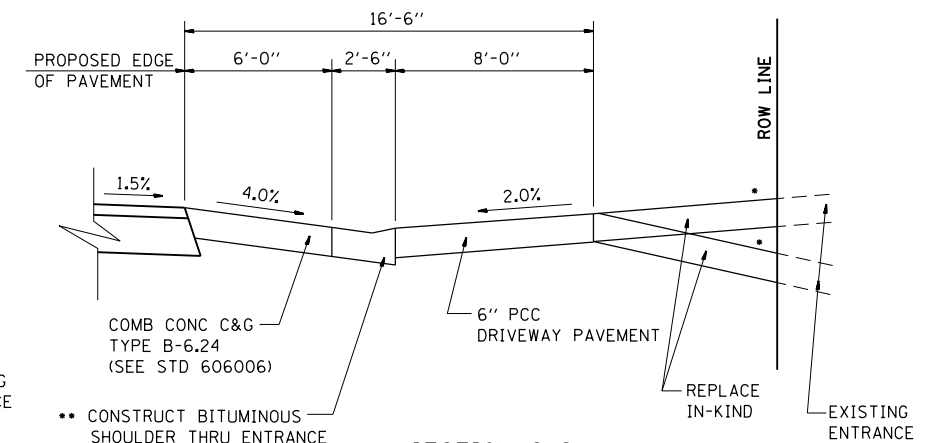
**SECTION A-A**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION B-B**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION C-C**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE

TYPE OF ENTRANCE	EXISTING MATERIAL	NEW ENTRANCE MATERIAL (BEYOND RADIUS RETURNS OR TAPERS)				
		PCC DRIVEWAY PAVEMENT (6")	PCC DRIVEWAY PAVEMENT (8")	INCIDENTAL BITUMINOUS CONC SURFACING, (2")	AGGREGATE BASE COURSE TYPE B (6")	AGGREGATE SURFACE COURSE TYPE B (6")
PRIVATE	CONCRETE	X				
	BITUMINOUS AGGREGATE			X	X	
COMMERCIAL	CONCRETE		X			X
	BITUMINOUS AGGREGATE		X			

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

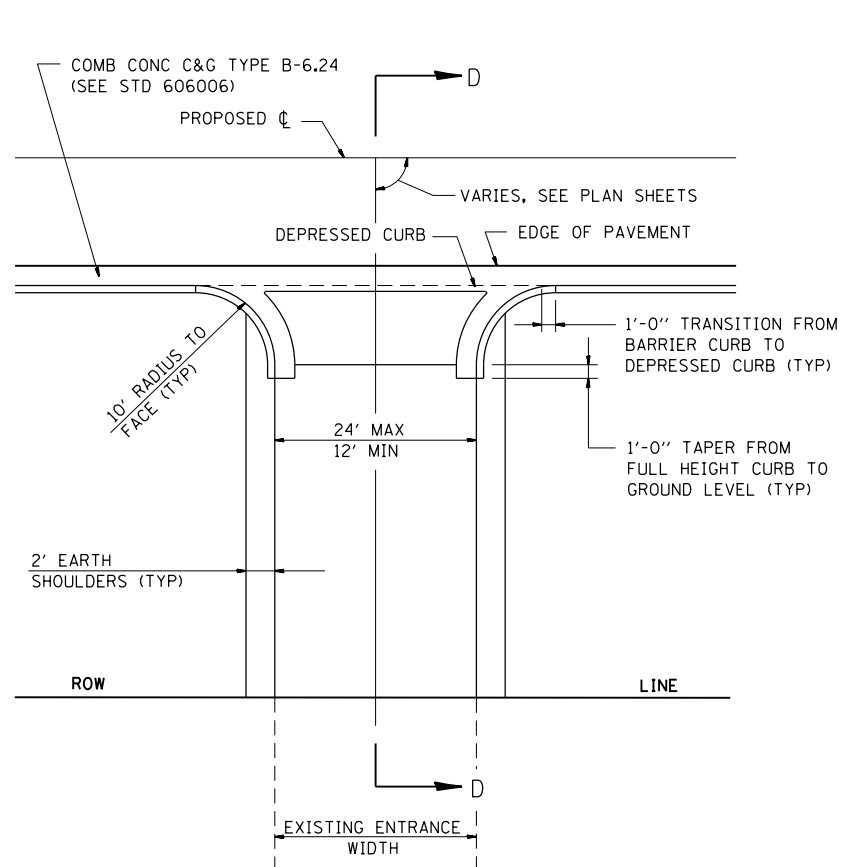
**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**MISCELLANEOUS DETAILS  
ENTRANCE DETAILS**

SCALE: NONE

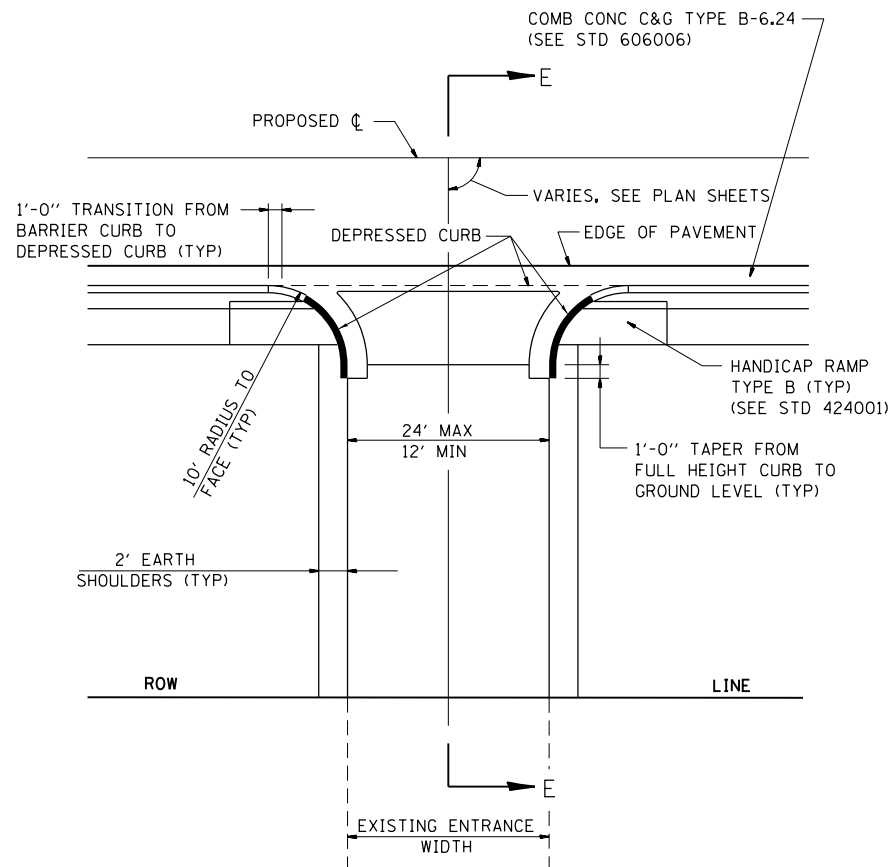
SHEET NO. 5 OF 22 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	469
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



**PE DETAIL D**

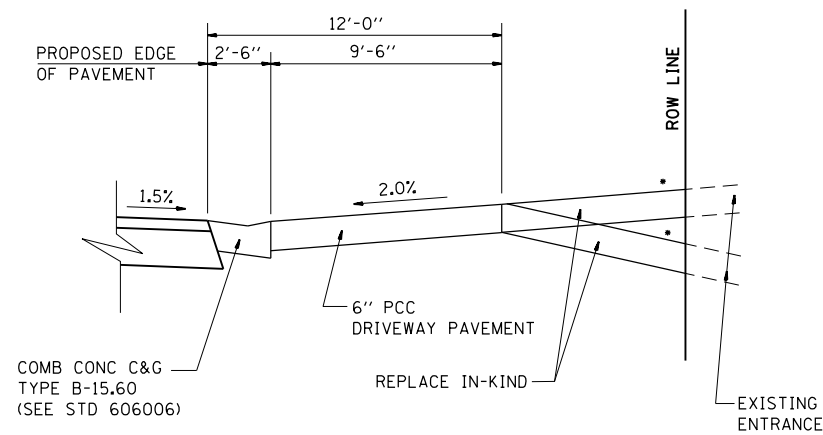
PRIVATE ENTRANCE ADJACENT TO ROADWAY PAVEMENT WITH CONCRETE CURB & GUTTER TYPE B-6.24



**PE DETAIL E**

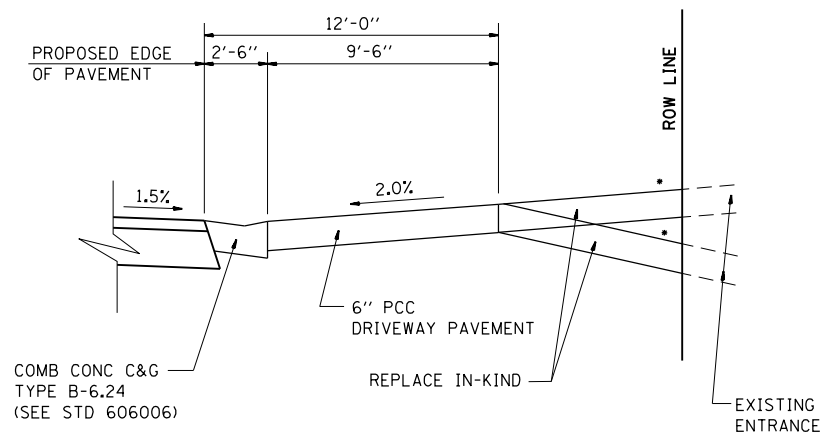
PRIVATE ENTRANCE WITH PCC SIDEWALK ADJACENT TO ROADWAY PAVEMENT WITH CONCRETE CURB & GUTTER TYPE B-6.24

TYPE OF ENTRANCE	EXISTING MATERIAL	NEW ENTRANCE MATERIAL (BEYOND RADIUS RETURNS OR TAPERS)				
		PCC DRIVEWAY PAVEMENT (150 mm)	PCC DRIVEWAY PAVEMENT (200 mm)	INCIDENTAL BITUMINOUS CONC SURFACING, (50 mm)	AGGREGATE BASE COURSE TYPE B (150 mm)	AGGREGATE SURFACE COURSE TYPE B (150 mm)
PRIVATE	CONCRETE	X				
	BITUMINOUS AGGREGATE			X	X	X
COMMERCIAL	CONCRETE		X			
	BITUMINOUS		X			
	AGGREGATE		X			



**SECTION D-D**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE



**SECTION E-E**

- SEE CROSS SECTIONS FOR SLOPE
- OMIT AT CONCRETE ENTRANCES
- SEE PLANS FOR EXISTING SURFACE TYPE

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

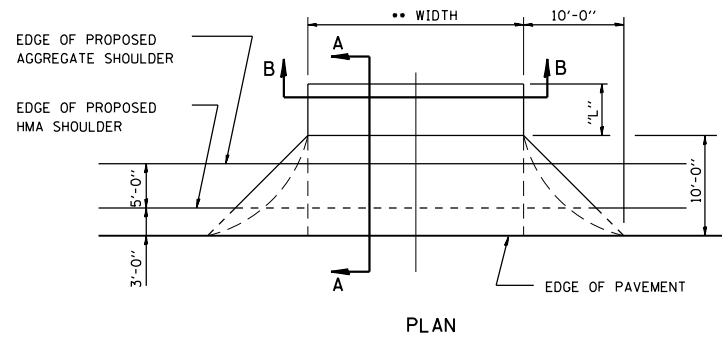
HORNER &  
 SHIRIN, INC.  
 ENGINEERS

MISCELLANEOUS DETAILS  
 ENTRANCE DETAILS

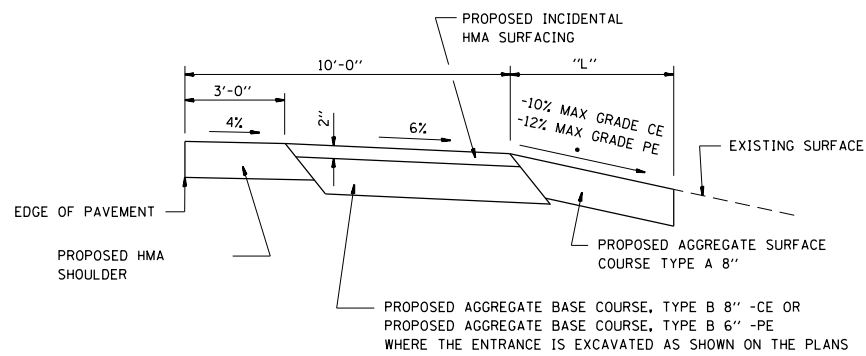
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	470
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

**DETAIL OF AGGREGATE ENTRANCES** \*\* ALLOWABLE ENTRANCE WIDTHS:  
 PRIVATE 12' TO 24'  
 COMMERCIAL 35' MAXIMUM  
 W/ HOT-MIX ASPHALT SHOULDERS  
 ALLOWABLE ENTRANCE WIDTH  
 COMMERCIAL & PRIVATE ENTRANCES SHALL BE INTERPRETED TO BE THE WIDTHS AT THE SPECIFIED COMPLETED RADIUS.

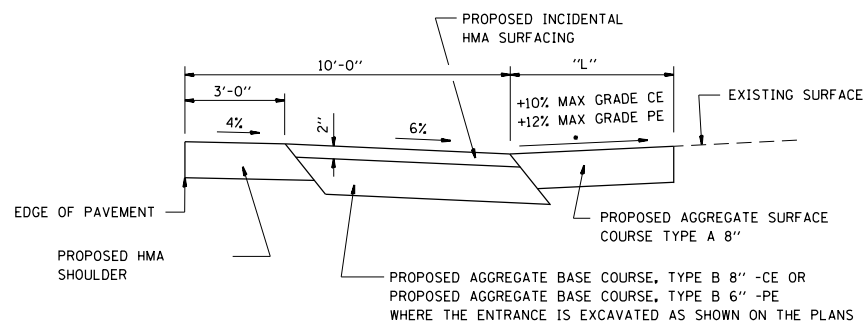


PLAN



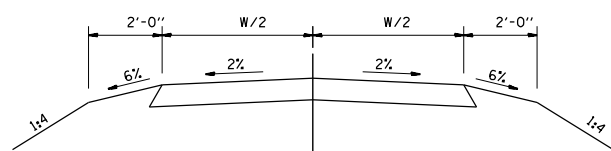
SECTION A-A WITH NEGATIVE GRADE

• SEE CROSS SECTIONS FOR SLOPES



SECTION A-A WITH POSITIVE GRADE

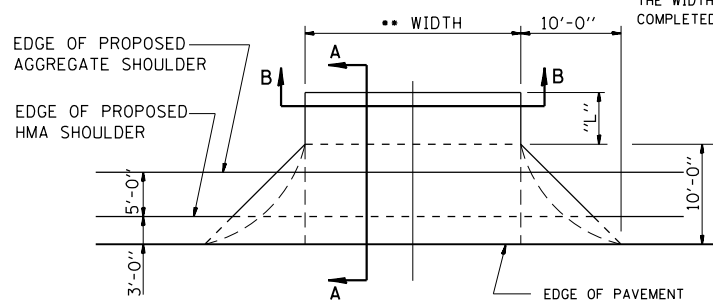
• SEE CROSS SECTIONS FOR SLOPES



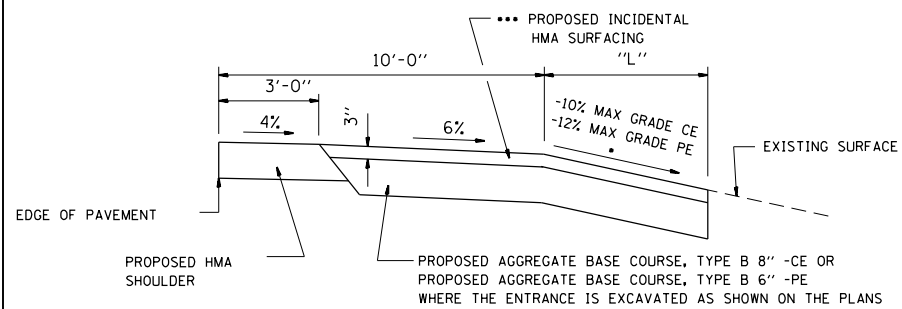
SECTION B-B  
 COMMERCIAL & PRIVATE ENTRANCES

**DETAIL OF HOT-MIX ASPHALT ENTRANCES**  
 W/ HOT-MIX ASPHALT SHOULDERS  
 COMMERCIAL & PRIVATE ENTRANCES

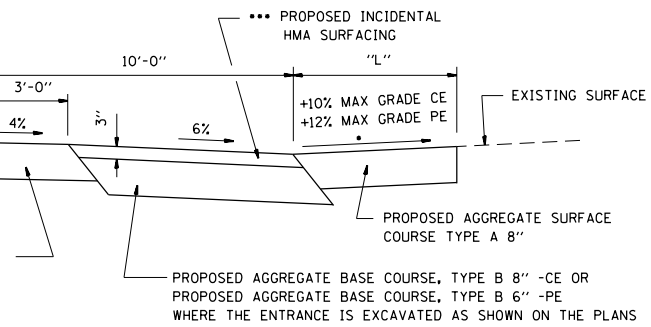
\*\* ALLOWABLE ENTRANCE WIDTHS:  
 PRIVATE 12' TO 24'  
 COMMERCIAL 35' MAXIMUM  
 ALLOWABLE ENTRANCE WIDTH  
 SHALL BE INTERPRETED TO BE THE WIDTHS AT THE SPECIFIED COMPLETED RADIUS.



PLAN



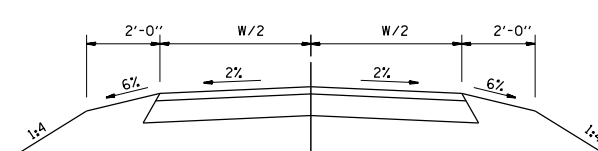
SECTION A-A WITH NEGATIVE GRADE



SECTION A-A WITH POSITIVE GRADE

• SEE CROSS SECTIONS FOR SLOPES

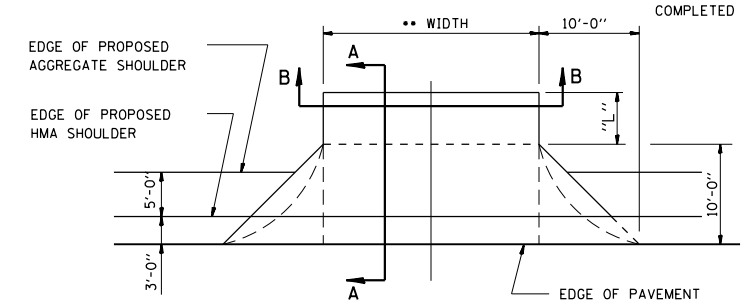
\*\*\* FOR ENTRANCES WITH EXISTING CONCRETE PAVEMENT, THE PROPOSED ENTRANCE SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6"



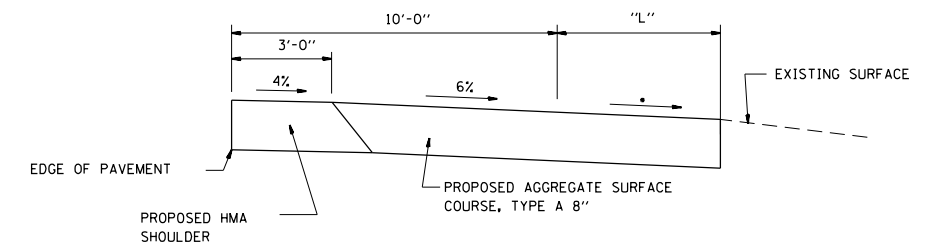
SECTION B-B  
 COMMERCIAL & PRIVATE ENTRANCES

**DETAIL OF FIELD ENTRANCES**  
 W/ HOT-MIX ASPHALT SHOULDERS

\*\* ALLOWABLE ENTRANCE WIDTHS:  
 FIELD 20' MINIMUM  
 ALLOWABLE ENTRANCE WIDTH  
 SHALL BE INTERPRETED TO BE THE WIDTHS AT THE SPECIFIED COMPLETED RADIUS.

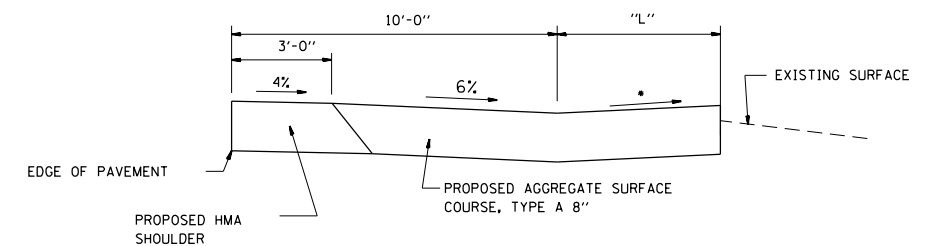


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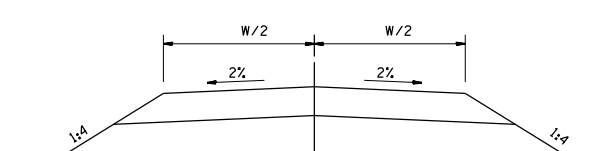
SECTION A-A WITH NEGATIVE GRADE

• SEE CROSS SECTIONS FOR SLOPES



SECTION A-A WITH POSITIVE GRADE

• SEE CROSS SECTIONS FOR SLOPES



SECTION B-B

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HORNER &  
 SHIRIN, INC.  
 ENGINEERS

MISCELLANEOUS DETAILS  
 ENTRANCE DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	471
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				

SCALE: NONE

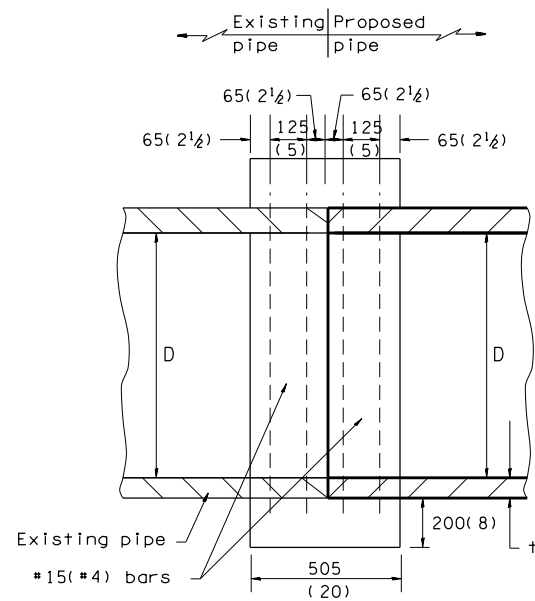
SHEET NO. 7 OF 22 SHEETS

STA.

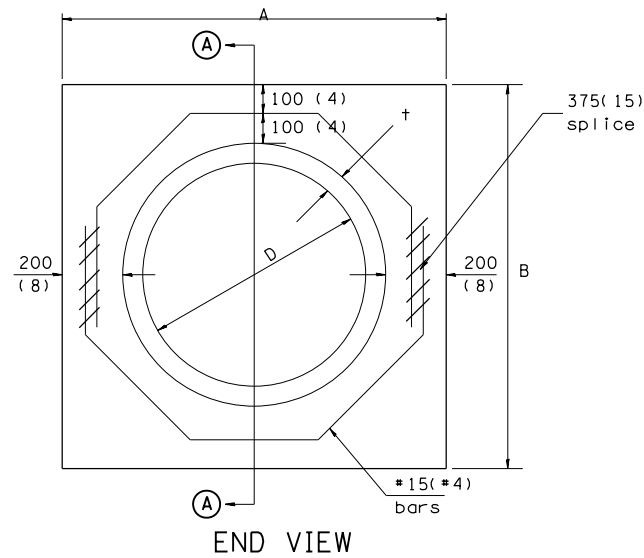
TO STA.

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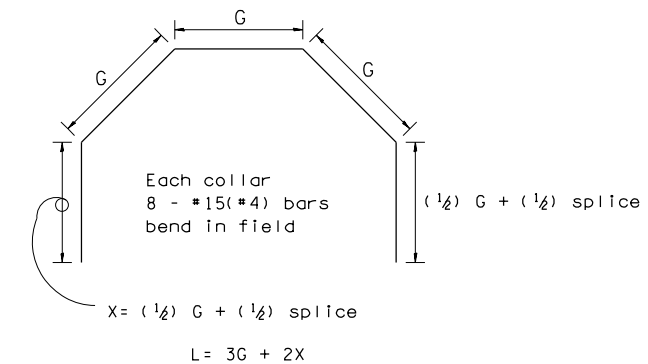
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		CHECKED -	REVISED -
		DATE -	REVISED -
PLOT DATE = 1/25/2013 3:34:56 PM			



SECTION A - A



END VIEW



Each Collar								
Reinforcement Bars								
D	t	A	B	CL. SI CONC.	G	X	L	Weight
m (in)	m (in)	m (ft)	m (ft)	m <sup>3</sup> (cu. yd)	m (in)	m (in)	m (ft)	kg (lb)
300 (12)	51 (2.00)	0.814 (2.67)	0.814 (2.67)	0.270 (0.4)	253 (9 15/16)	317 (12 7/16)	1.393 (4.57)	11 (24)
375 (15)	57 (2.25)	0.902 (2.96)	0.902 (2.96)	0.315 (0.4)	290 (11 3/8)	335 (13 3/16)	1.541 (5.05)	12 (27)
450 (18)	64 (2.50)	0.991 (3.25)	0.991 (3.25)	0.362 (0.5)	327 (12 13/16)	354 (13 7/8)	1.689 (5.54)	14 (30)
525 (21)	70 (2.75)	1.079 (3.54)	1.079 (3.54)	0.411 (0.5)	364 (14 1/4)	372 (14 5/8)	1.836 (6.02)	15 (32)
600 (24)	76 (3.00)	1.167 (3.83)	1.167 (3.84)	0.460 (0.6)	401 (15 11/16)	391 (15 5/16)	1.984 (6.51)	16 (35)
675 (27)	83 (3.25)	1.259 (4.13)	1.259 (4.13)	0.516 (0.7)	438 (17 1/4)	409 (16 1/16)	2.131 (6.99)	17 (37)
750 (30)	89 (3.50)	1.347 (4.42)	1.347 (4.42)	0.570 (0.7)	475 (18 11/16)	428 (16 3/4)	2.279 (7.48)	18 (40)
825 (33)	95 (3.75)	1.436 (4.71)	1.436 (4.71)	0.624 (0.8)	512 (20 1/8)	446 (17 1/2)	2.426 (7.96)	19 (43)
900 (36)	102 (4.00)	1.524 (5.00)	1.524 (5.00)	0.682 (0.9)	549 (21 9/16)	465 (18 3/16)	2.574 (8.44)	20 (45)
1050 (42)	114 (4.50)	1.701 (5.58)	1.701 (5.58)	0.800 (1.0)	622 (24 7/16)	501 (19 3/4)	2.869 (9.41)	23 (50)
1200 (48)	127 (5.00)	1.881 (6.17)	1.881 (6.17)	0.930 (1.2)	696 (27 5/16)	538 (21 3/16)	3.164 (10.38)	25 (55)

GENERAL NOTES

1. THE COLLAR SHALL BE CONSTRUCTED ENTIRELY OF CLASS SI CONCRETE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 503 OF THE STANDARD SPECIFICATIONS. REINFORCEMENT BARS SHALL CONFORM TO SECTION 508.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

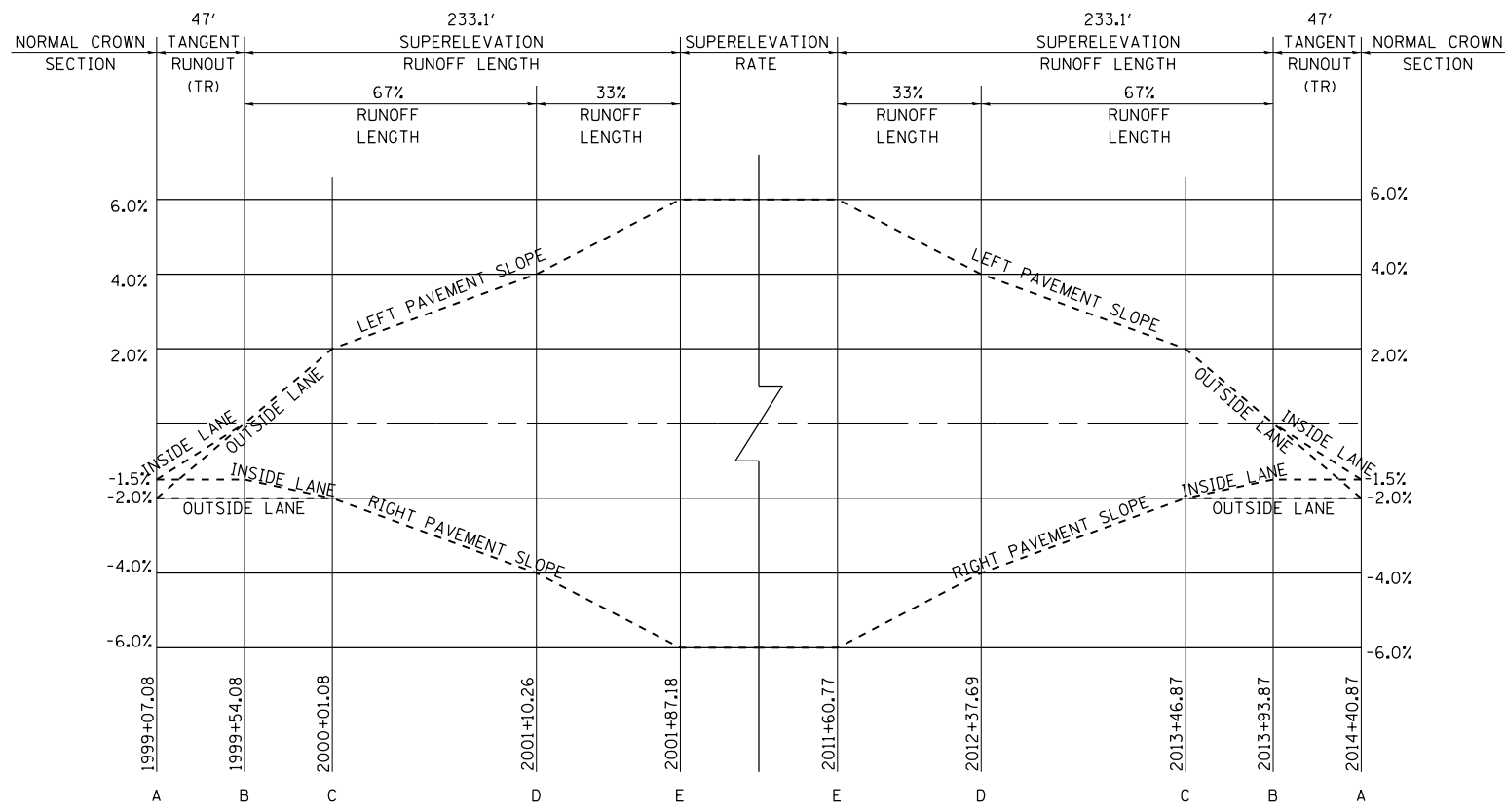
HORNER &  
SHIRIN, INC.  
ENGINEERS

MISCELLANEOUS DETAILS  
CONCRETE COLLAR DETAILS

SCALE: NONE SHEET NO. 8 OF 22 SHEETS STA. TO STA.

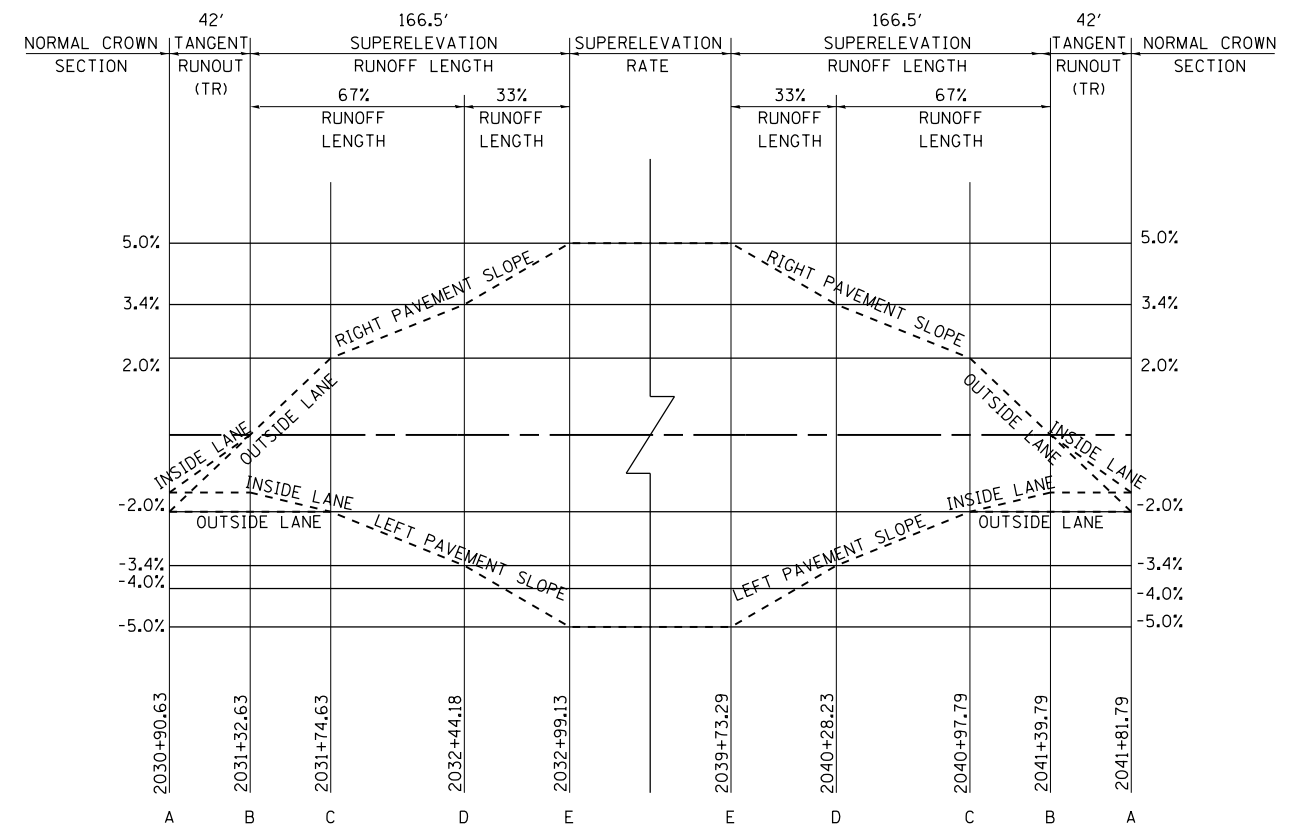
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				





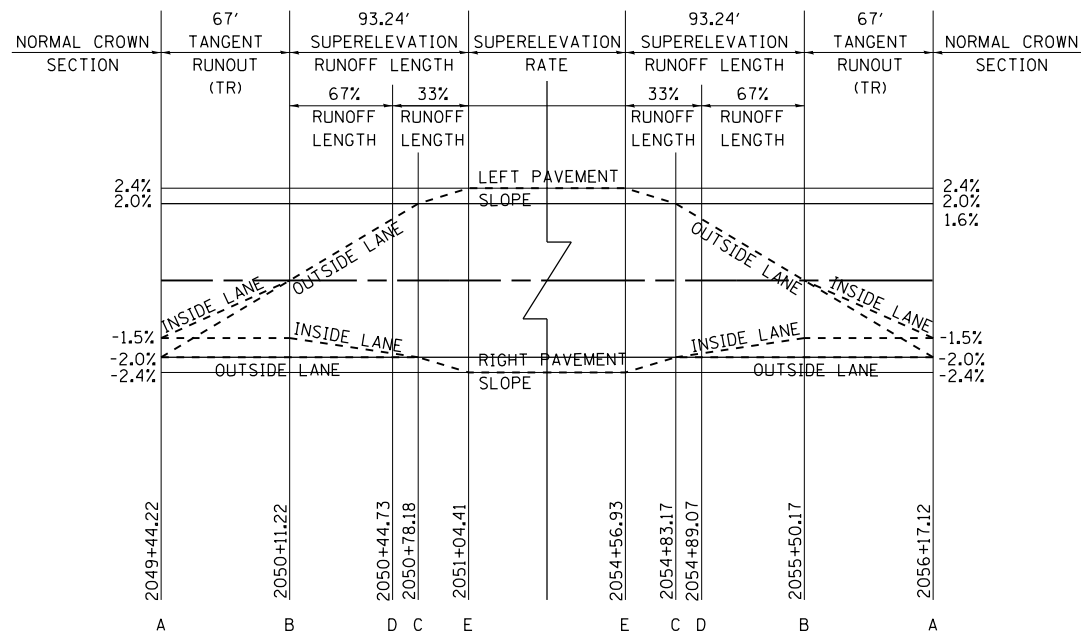
**IL 3 SUPERELEVATION DETAIL**

IL3 CUR 2



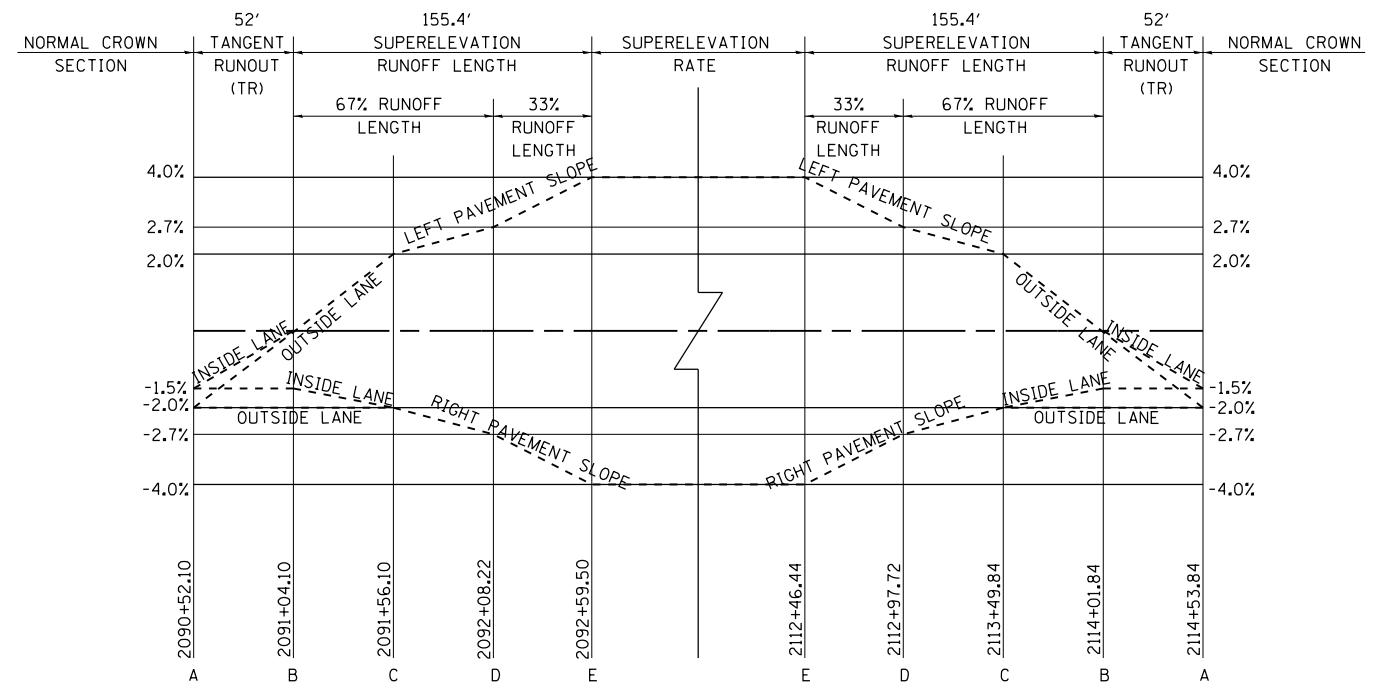
**IL 3 SUPERELEVATION DETAIL**

CURVE CENSHT 31



**IL 3 SUPERELEVATION DETAIL**

CURVE CENSHT 32



**IL 3 SUPERELEVATION DETAIL**

CURVE IL3 CUR 5

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



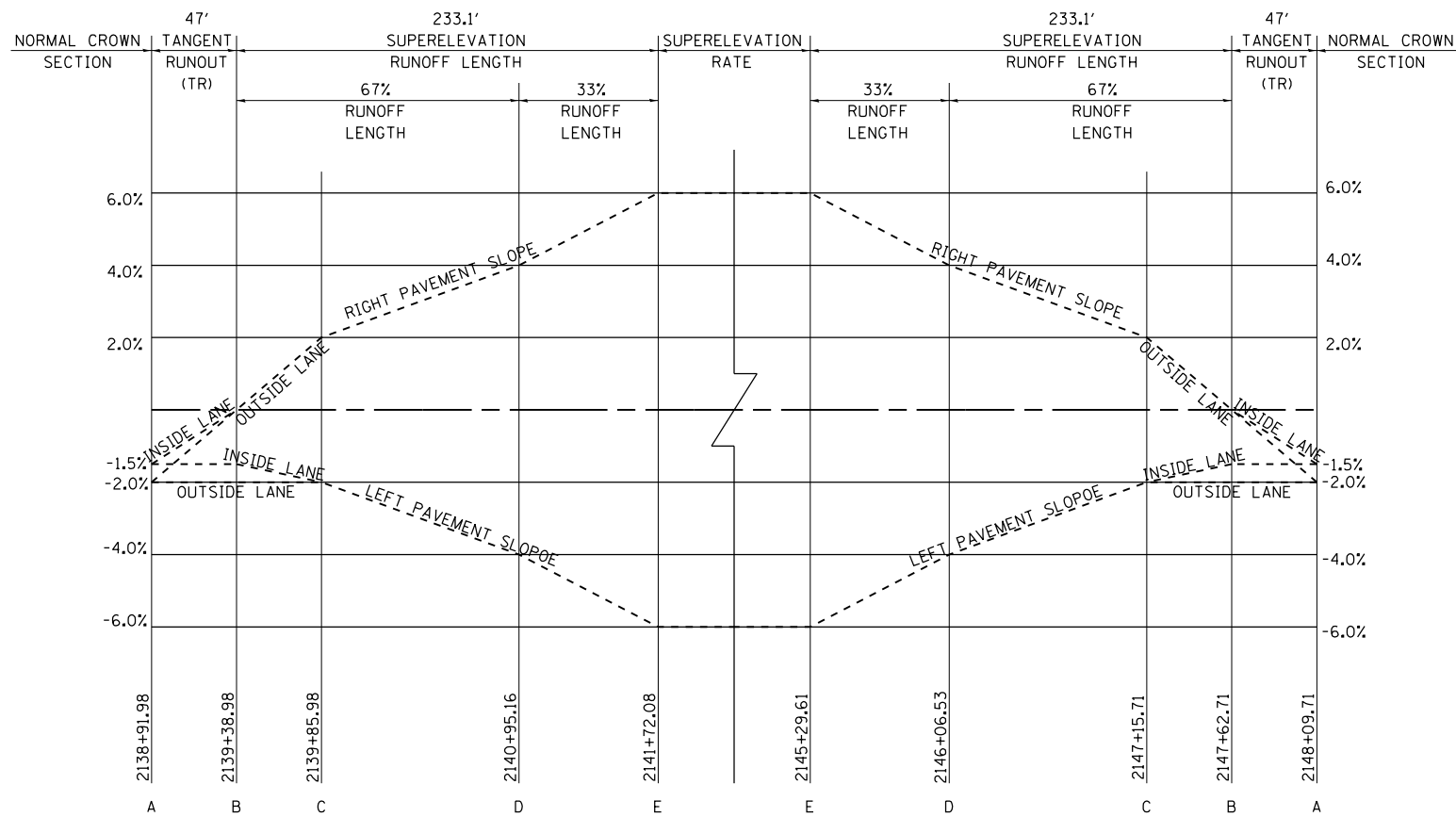
**MISCELLANEOUS DETAILS**  
 SUPERELEVATION DETAILS - IL ROUTE 3

SCALE: NONE

SHEET NO. 9 OF 22 SHEETS

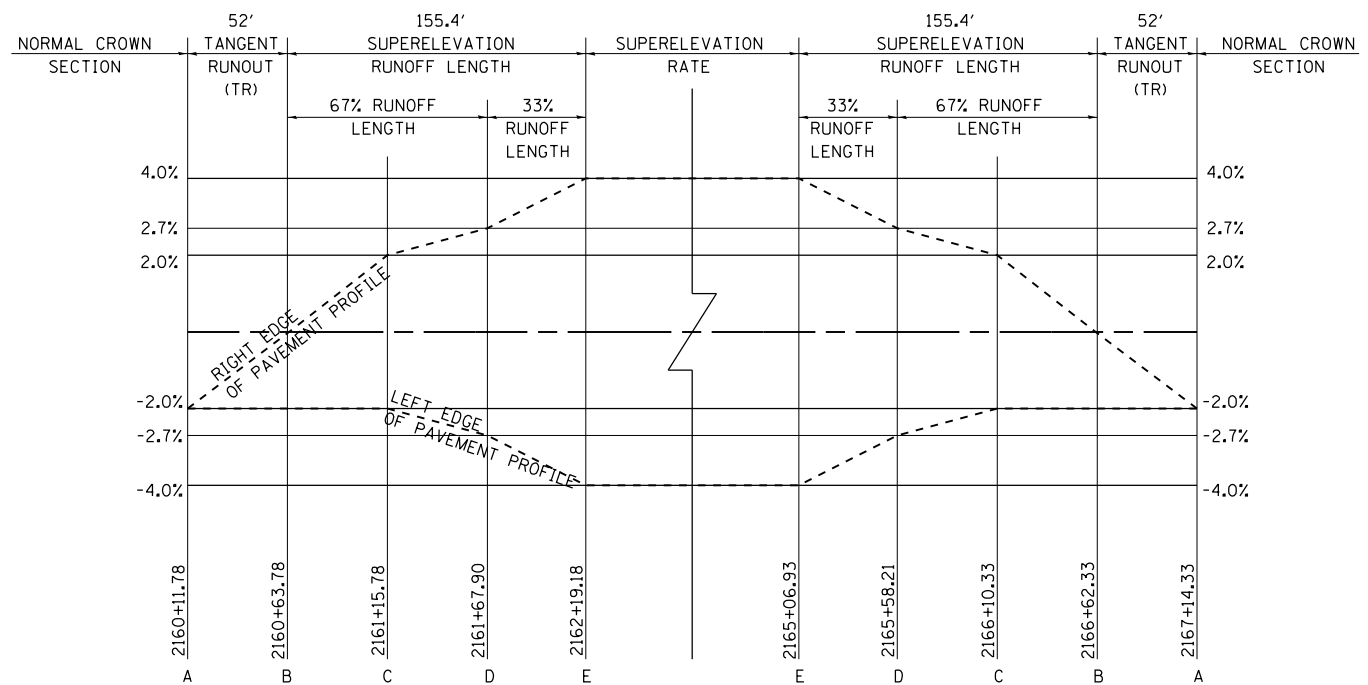
STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



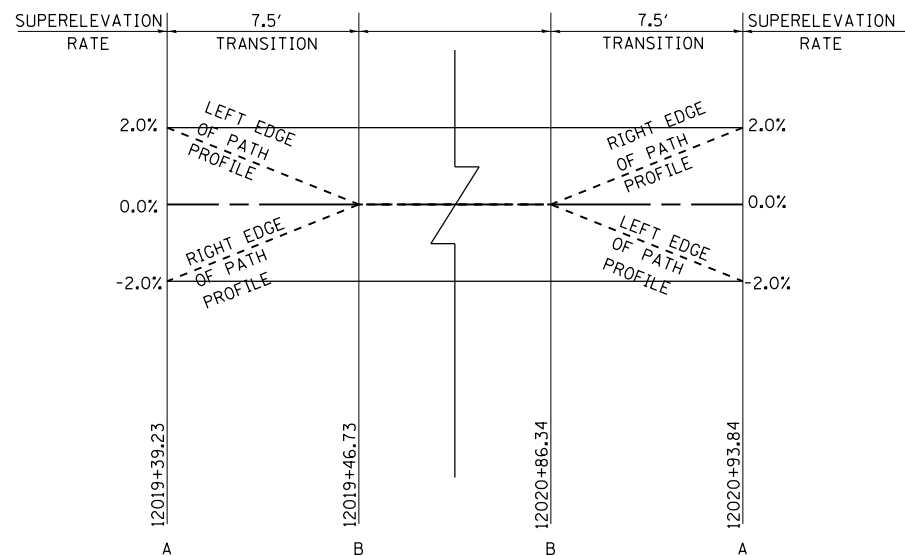
**IL 3 SUPERELEVATION DETAIL**

IL3 CUR 6



**IL 3 SUPERELEVATION DETAIL**

CURVE IL3 CUR 5



**SHARED USE PATH SUPERELEVATION DETAIL**

CURVE SUPC

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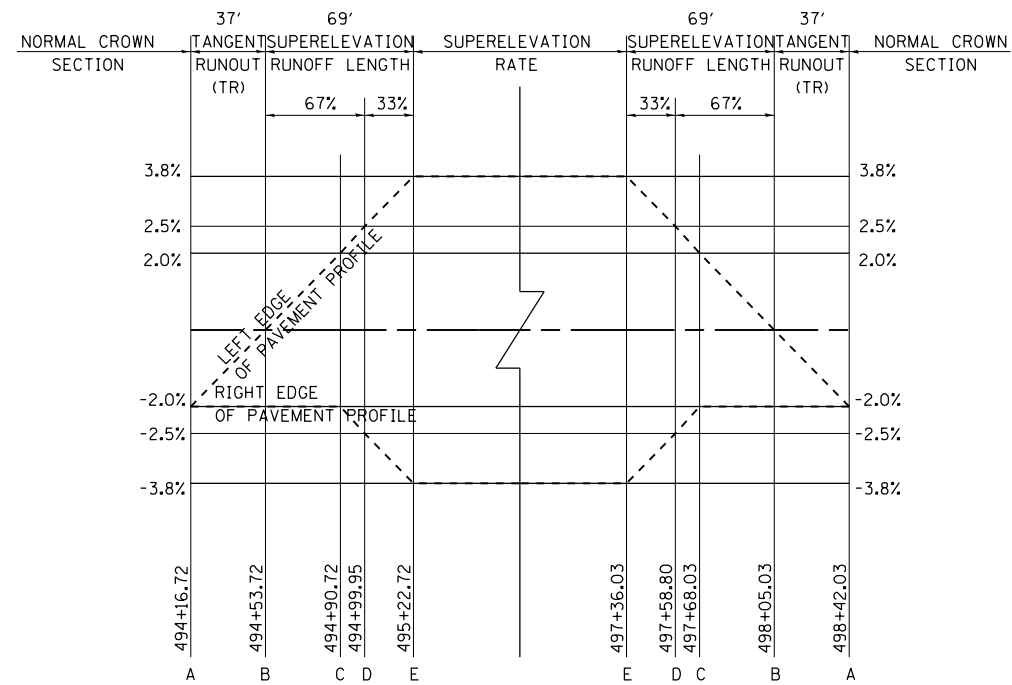
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



MISCELLANEOUS DETAILS  
 SUPERELEVATION DETAILS - IL ROUTE 3

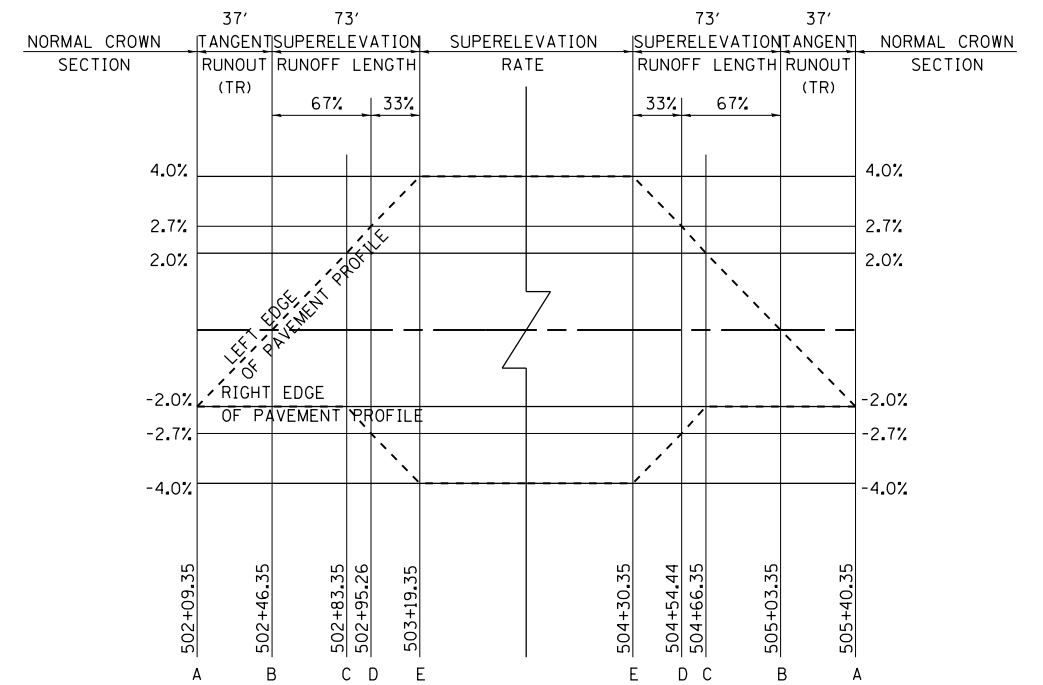
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	474
CONTRACT NO. 76817				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



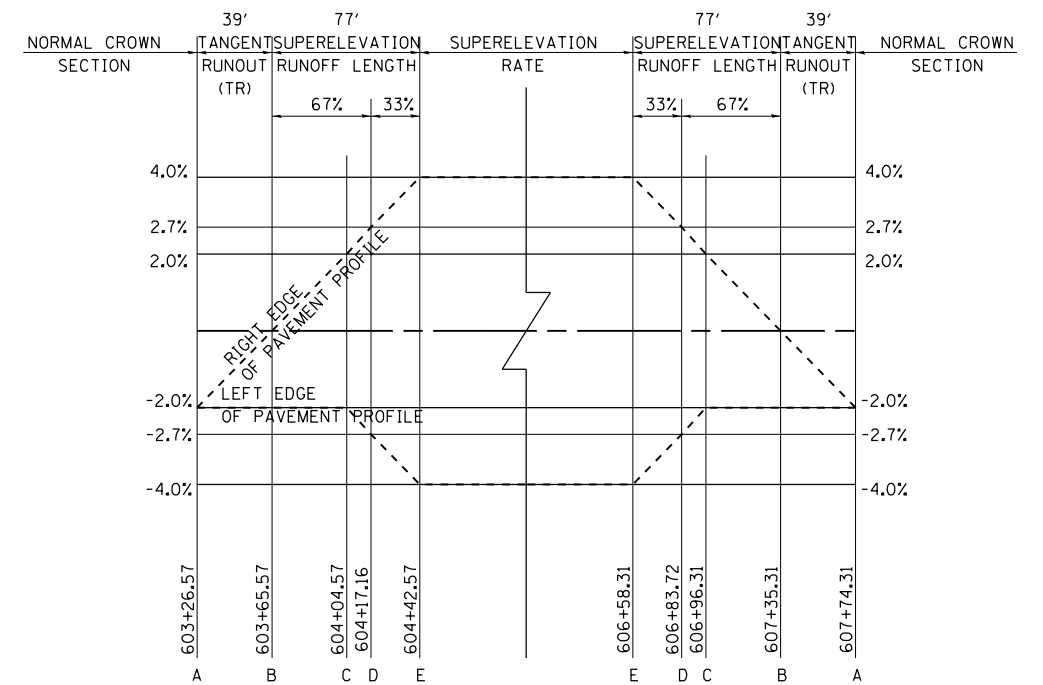
**GALL ROAD /N MOORE STREET DETAIL**

PR\_GLLMR 2



**GALL ROAD /N MOORE STREET DETAIL**

PR\_GLLMR 2



**N MOORE STREET DETAIL**

PR\_NMOORE

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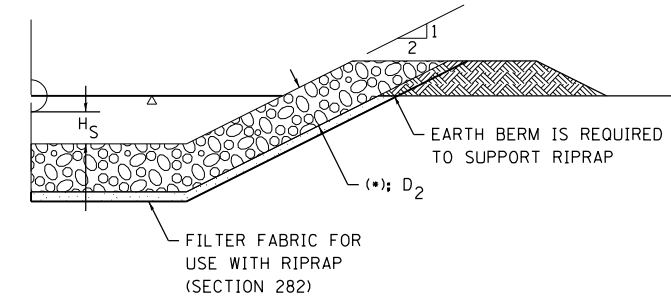
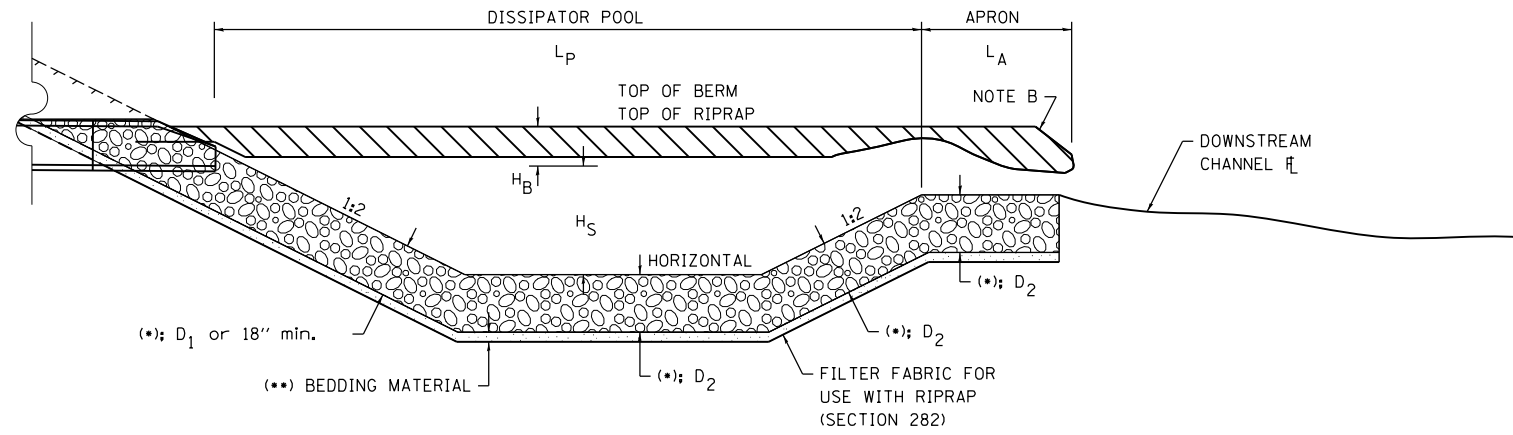
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



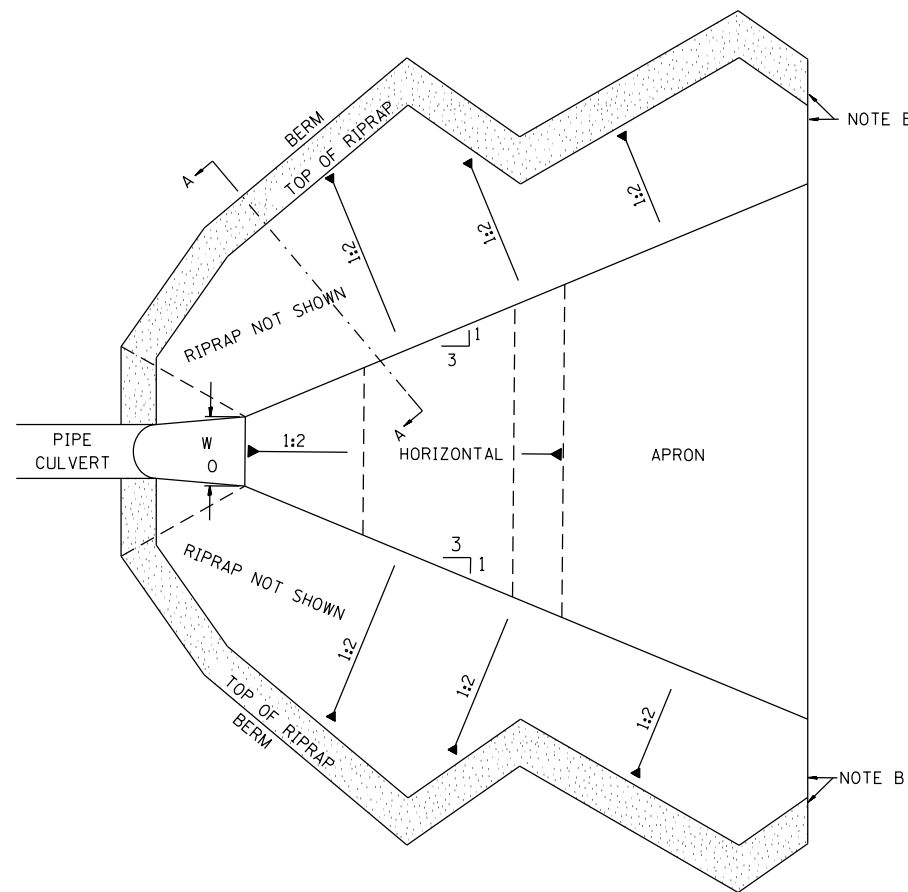
**MISCELLANEOUS DETAILS**  
 SUPERELEVATION DETAILS - GALL/ MOORE RD & N MOORE ST

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	475
CONTRACT NO. 76817				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SCALE: NONE SHEET NO. 11 OF 22 SHEETS STA. TO STA.



**FLOWLINE SECTION**



**TOP VIEW**

ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL

**CULVERTS**

LOCATION	STATION	EXTENSION / NEW CULVERT	W O	L P	L A	H S	H B	(*)			CLASS RIPRAP	LINING LENGTH
								D 1	D 2	D 3		
IL ROUTE 3	1997+84.00 RT	NEW CULVERT						1.33		0.5	A4	30
	2011+03.00 RT	NEW CULVERT						1.33		0.5	A4	25
	2014+87.00 LT	NEW CULVERT						1.33		0.5	A4	35
	2017+00.00 LT	EXTENSION	7.0	21.0	9.0	1.8	6.0	2.5	2.0	0.5	A4	
	2028+31.41 LT	EXTENSION	8.0	24.0	8.0	1.3	7.0	2.5	2.0	0.5	A4	
	2042+74.31 LT	EXTENSION	6.0	35.0	15.0	3.5	5.0	3.0	2.5	0.7	A5	
	2045+73.96 LT	EXTENSION	5.0	40.0	18.0	3.5	5.0	3.0	2.5	0.7	A5	
	2074+55.48 LT	EXTENSION	7.0	62.0	31.0	6.2	7.0	2.5	2.0	0.5	A4	
	2089+49.94 LT	EXTENSION	6.0	18.0	6.0	1.2	5.0	2.5	2.0	0.5	A4	
	2103+18.58 LT	EXTENSION	2.7	8.0	2.7	0.4	2.1	2.0	1.0	0.4	A3	25
	2110+65.00 LT	EXTENSION						1.33		0.5	A4	30
	2113+92.49 LT	NEW CULVERT	3.0	12.0	4.0	1.0	3.0	2.0	1.0	0.4	A3	
	2115+79.00 LT	NEW CULVERT						1.33		0.5	A4	30
	2130+31.83 LT	EXTENSION	6.0	18.0	6.0	1.0	4.0	2.5	2.0	0.5	A4	
	2167+30.00 LT	EXTENSION						1.33		0.5	A4	30
GALL RD/MOORE ST	503+88.00 RT	NEW CULVERT						1.33		0.5	A4	30
N MOORE ST	606+33.97 LT	EXTENSION	10.0	30.0	11.0	2.2	6.0	2.5	2.0	0.5	A4	
N MARKET ST	201+98.00 RT	NEW CULVERT						1.33		0.5	A4	30

**STORM SEWERS**

LOCATION	STATION	TAILWATER						(*)		CLASS RIPRAP	LINING LENGTH
								D 1	D 3		
IL ROUTE 3	2020+25.00 LT	MIN						1.33	0.5	A4	15
	2029+40.00 RT	MIN						1.33	0.5	A4	15
	2030+00.00 LT	MAX						1.33	0.5	A4	15
	2042+00.00 LT	MIN						1.00	0.4	A3	10
	2046+50.00 RT	MIN						1.33	0.5	A4	20
	2073+50.00 LT	MIN						1.00	0.4	A3	10
	2080+50.00 LT	MIN						1.00	0.4	A3	16
	2103+25.00 RT	MAX						1.00	0.4	A3	12
	2111+35.00 RT	MIN						1.00	0.4	A3	10
	2166+25.00 RT	MIN						1.00	0.4	A3	10
N MARKET ST	201+00.00 LT	MAX						1.33	0.5	A4	25
	202+50.00 RT	MAX						1.33	0.5	A4	30

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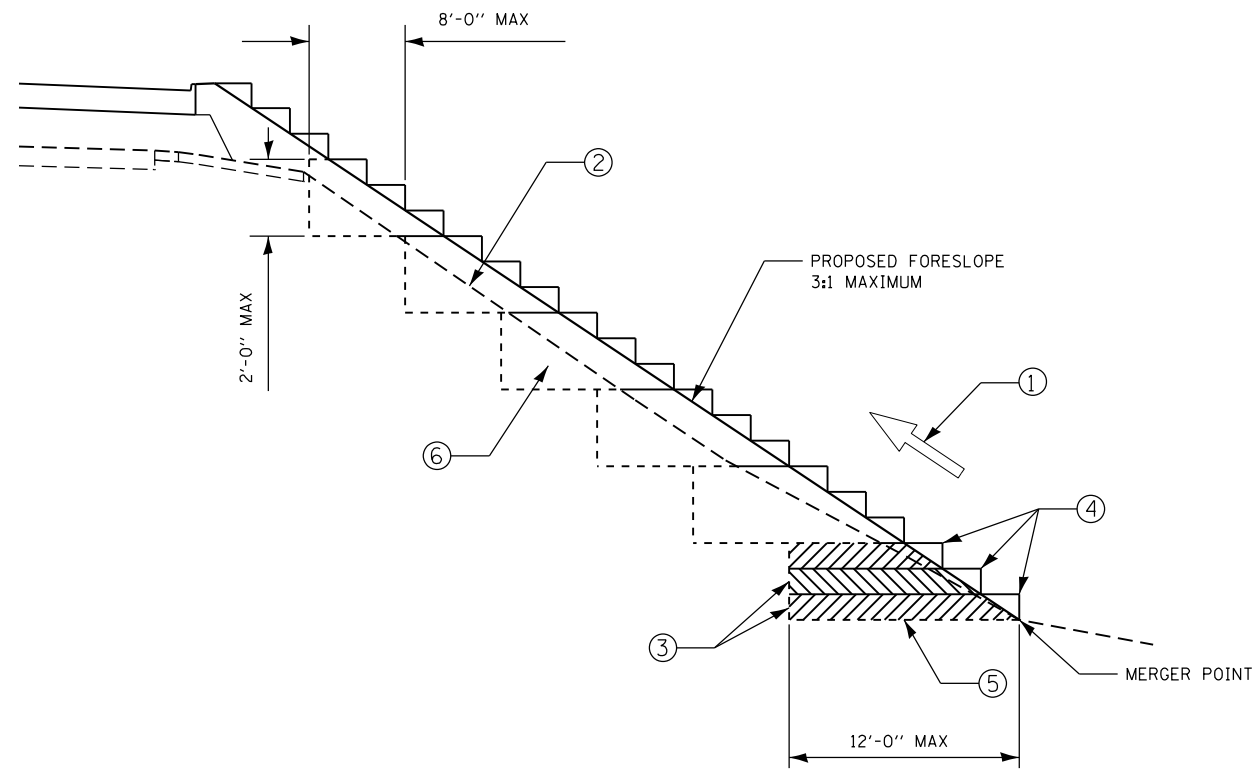
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HORNER &  
 SHIRIN, INC.  
 ENGINEERS

MISCELLANEOUS DETAILS  
 RIPRAP ENERGY DISSIPATOR

SCALE: NONE SHEET NO. 12 OF 22 SHEETS STA. TO STA.

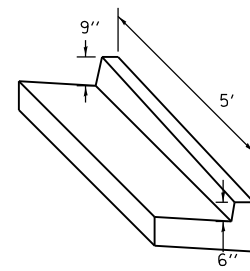
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312	68-WRS-1	MONROE	760	476
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



**TYPICAL BENCHING FOR EMBANKMENT DETAIL**

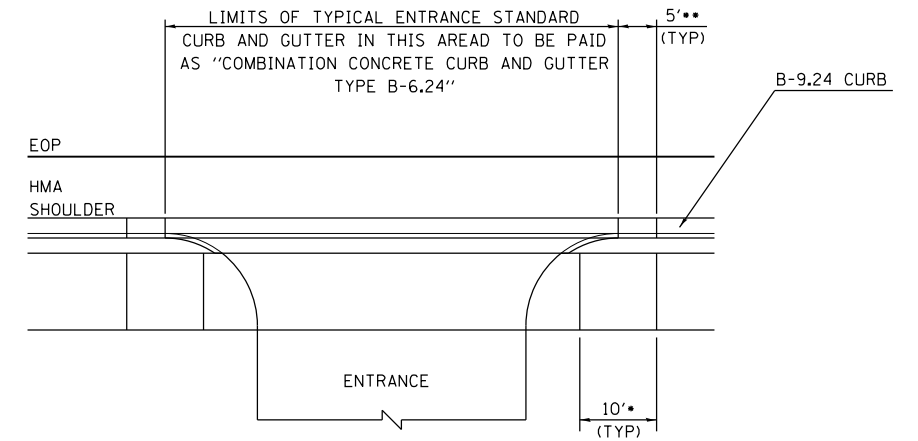
SCALE: NONE

- ① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
- ② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03
- ③ BENCH CUT EXISTING FINAL SLOPE TYPICAL FOR EACH STEP.
- ④ TRIM TO FINAL SLOPE.
- ⑤ EQUAL 8-INCH LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
- ⑥ EXCAVATION OF BENCH CUTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED AS INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION, AND THEIR CONSTRUCTION SHALL BE INCLUDED IN THE PRICES FOR THESE ITEMS.
- ⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5'.



**B-9.24 TO B-6.24 CURB TRANSITION**

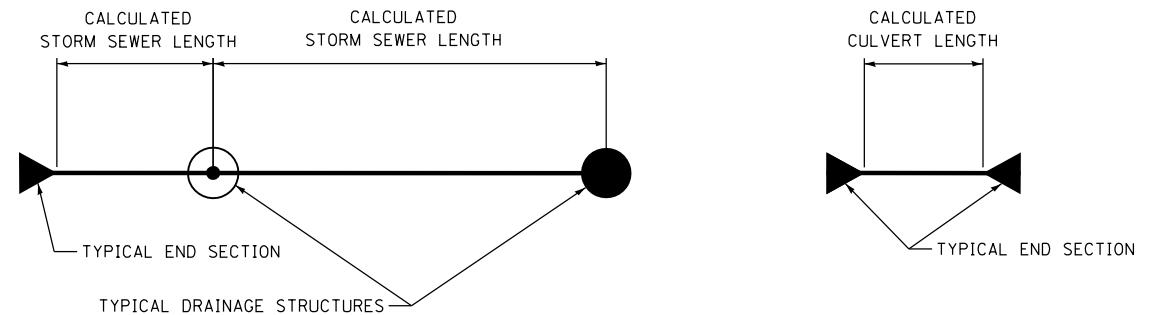
TO BE PAID FOR AS COMBINATION CONCRETE CURB AND GUTTER TYPE B-9.24



- TRANSITION SHARED USE PATH PROFILE AT 5% TIED TO BACK OF CURB
- B-9.24 TO B-6.24 CURB TRANSITION

**B-9.24 CURB TRANSITION FOR ENTRANCES**

STA 2070+89.96 RT  
 STA 2076+51.37 RT  
 STA 2135+30.00 RT  
 STA 2139+25.11 RT



**NOTES:**

- STORM SEWER LENGTHS BETWEEN STRUCTURES ARE CALCULATED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE
- WHEN ENDS SECTIONS ARE USED STORM SEWER LENGTHS ARE CALCULATED FROM CENTER OF STRUCTURE TO JUNCTION OF THE END SECTION AND STORM SEWER
- ALL MANHOLES AND INLETS ARE TO BE CONCENTRIC UNLESS OTHERWISE SPECIFIED.
- PIPE CULVERT LENGTHS ARE CALCULATED FROM THE JUNCTION OF END SECTION AND PIPE CULVERT TO JUNCTION OF END SECTION AND PIPE CULVERT
- WHERE CLASS D PIPE CULVERTS ARE ALLOWED PIPE CULVERT LENGTHS ARE CALCULATED ASSUMING CMP

**STORM SEWER AND PIPE CULVERT LENGTH CALCULATION DETAIL**

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC.  
 ENGINEERS**

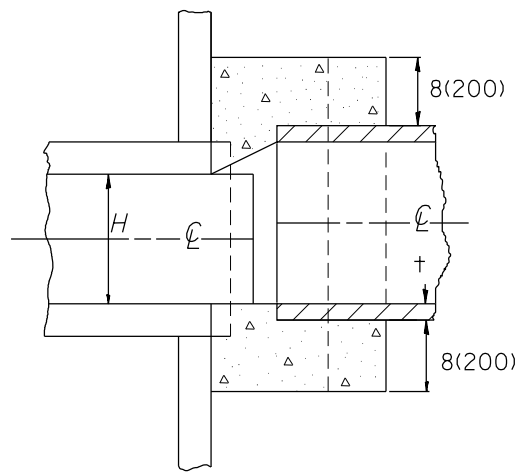
**MISCELLANEOUS DETAILS**  
 BENCHING, B-9.24 TO B-6.24 CURB TRANSITION, B-9.24 CURB TRANSITION FOR ENTRANCES, CULVERT LENGTH DETAIL

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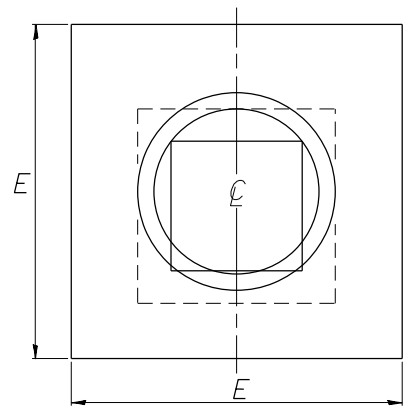
SHEET NO. 13 OF 22 SHEETS

STA. TO STA.

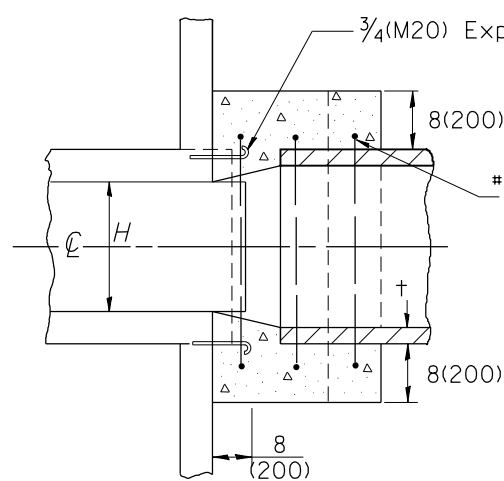
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312	68-WRS-1	MONROE	760	477
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



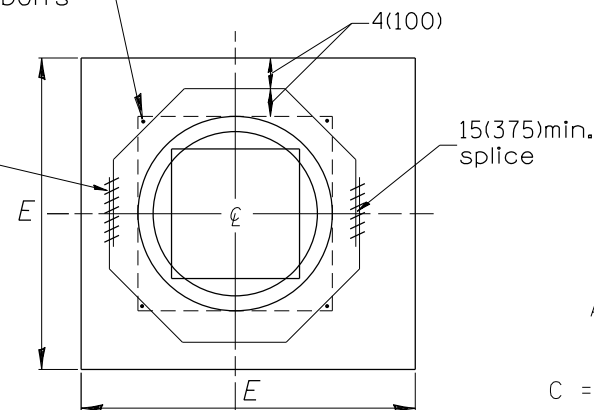
SECTION A-A



END VIEW



SECTION A-A



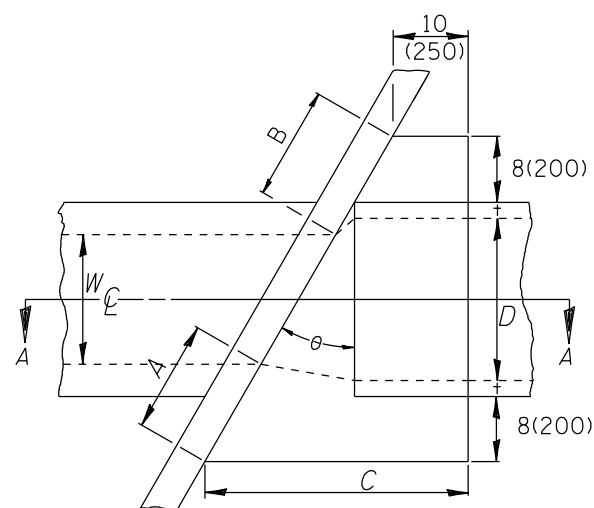
END VIEW

$$A = B = \frac{D - W}{2} + t + 8(200) \cos \theta$$

$$C = \tan \theta [D + 2t + 16(410)] + 10(250)$$

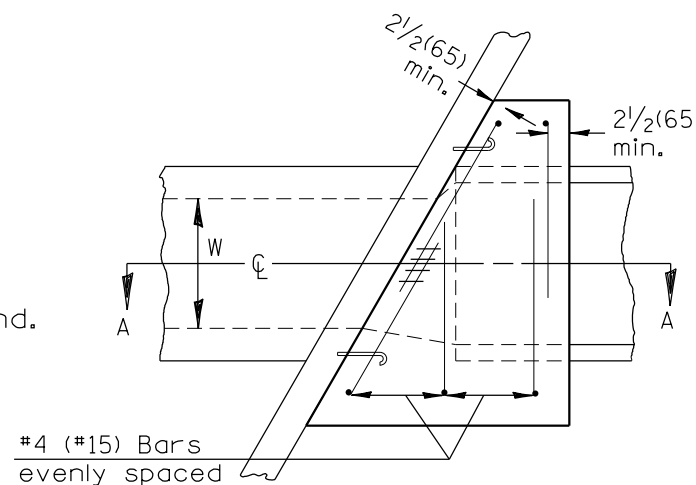
$$G = \frac{D + 2t + 8(200)}{2.4142 [\cos \theta]}$$

(Note: 'G' is based upon maximum skewed length)

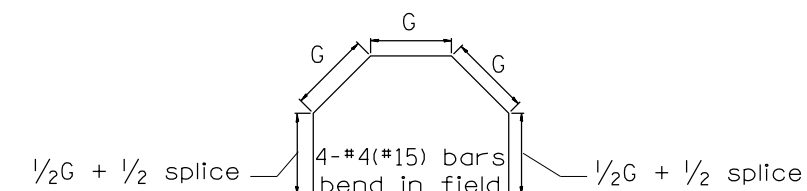


PLAN VIEW UP STREAM

NOTE:  
Dimensions are shown in Plan View of Up Stream End while Reinforcement is shown in plan view of Down Stream End.



PLAN VIEW DOWN STREAM



GENERAL NOTES

- The collar shall be constructed entirely of CLASS SI CONCRETE and in accordance with the applicable portions of section 503 of the Standard Specifications. Reinforcement bars shall conform to section 508.
- Expansion bolts shall consist of approved expansion anchors, and 3/4 (M20) hook bolts which conform to section 1006.09. These bolts shall extend at least 8(200) into the new concrete.

EXISTING CULVERT		EACH COLLAR											
W	H	θ	A	B	C	D	E	†	CONCRETE	REINFORCEMENT BARS		EXPAN. BOLTS	
									CU. YD. (m <sup>3</sup> )	G	L	KG(LBS.)	EACH
36	PIPE	25.4	13.25	13.25	38.5	36	60	4	1.1	23.875	110.5	30	8

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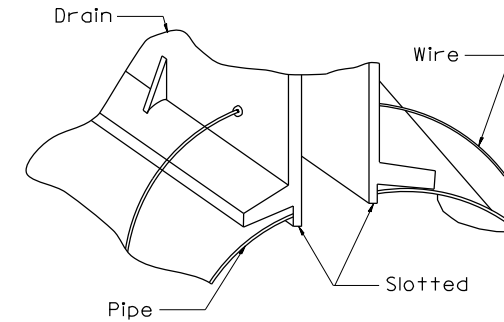
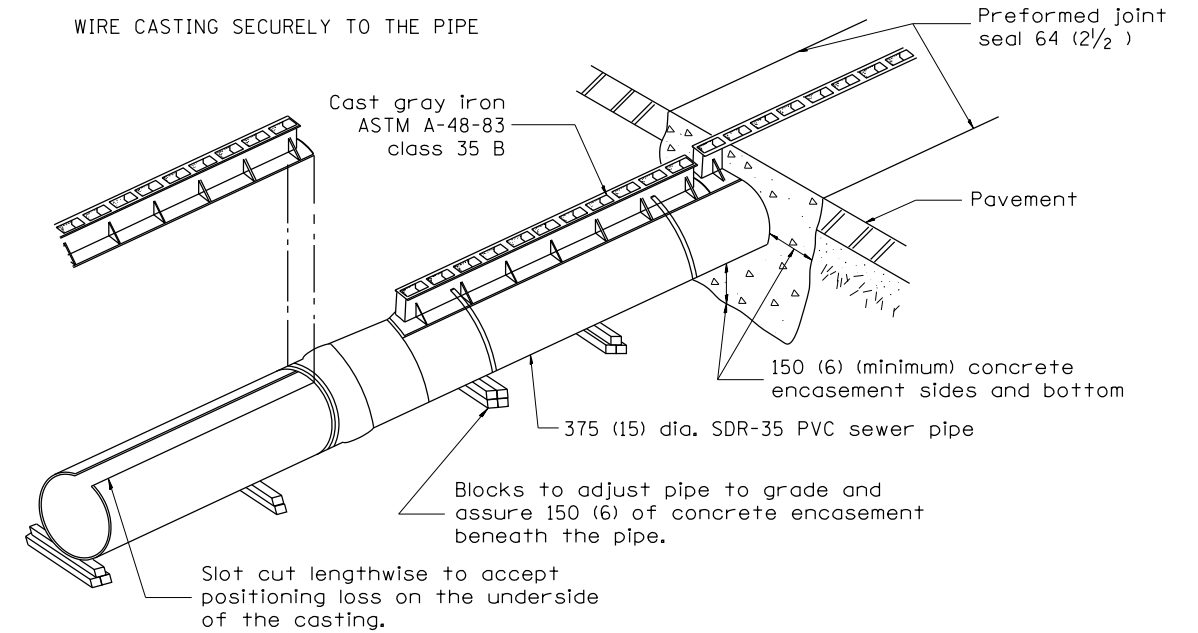
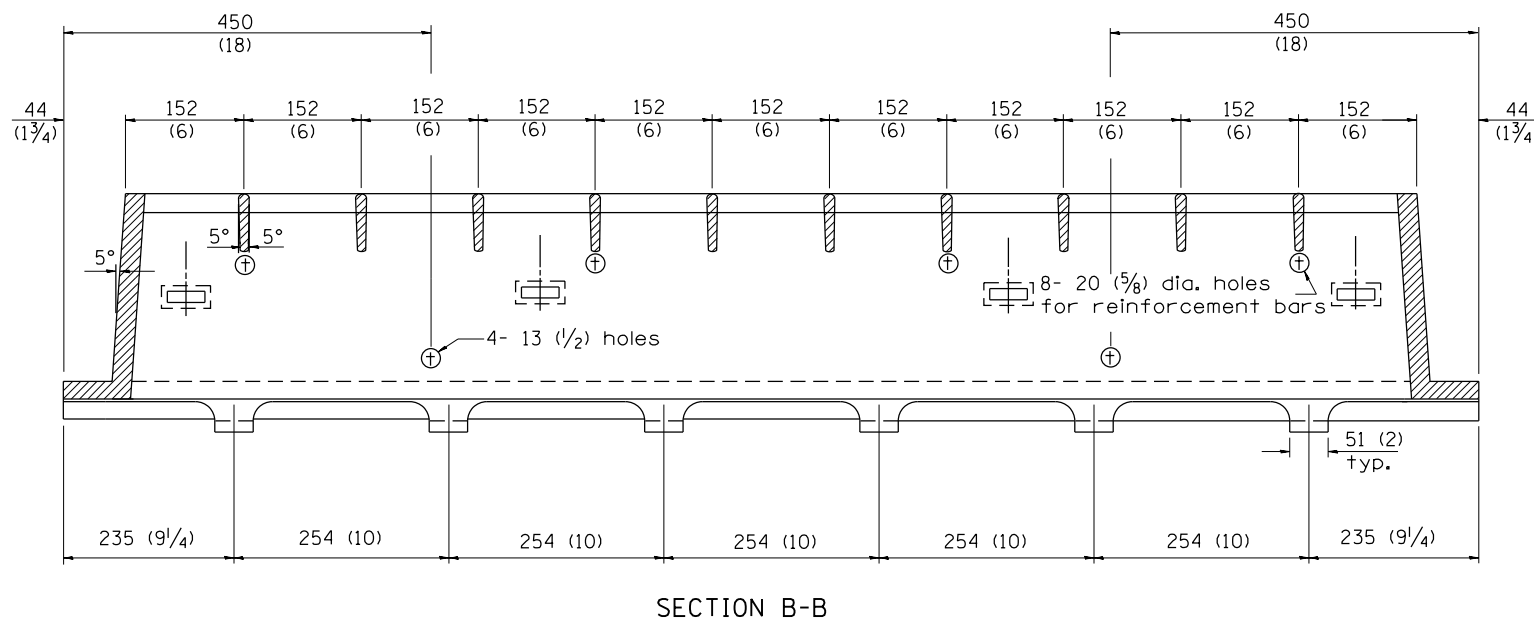
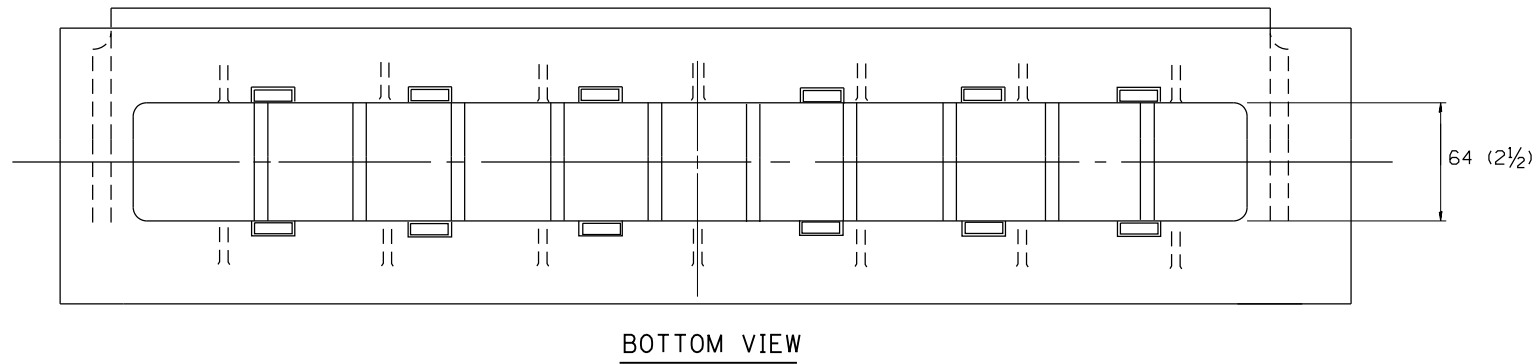
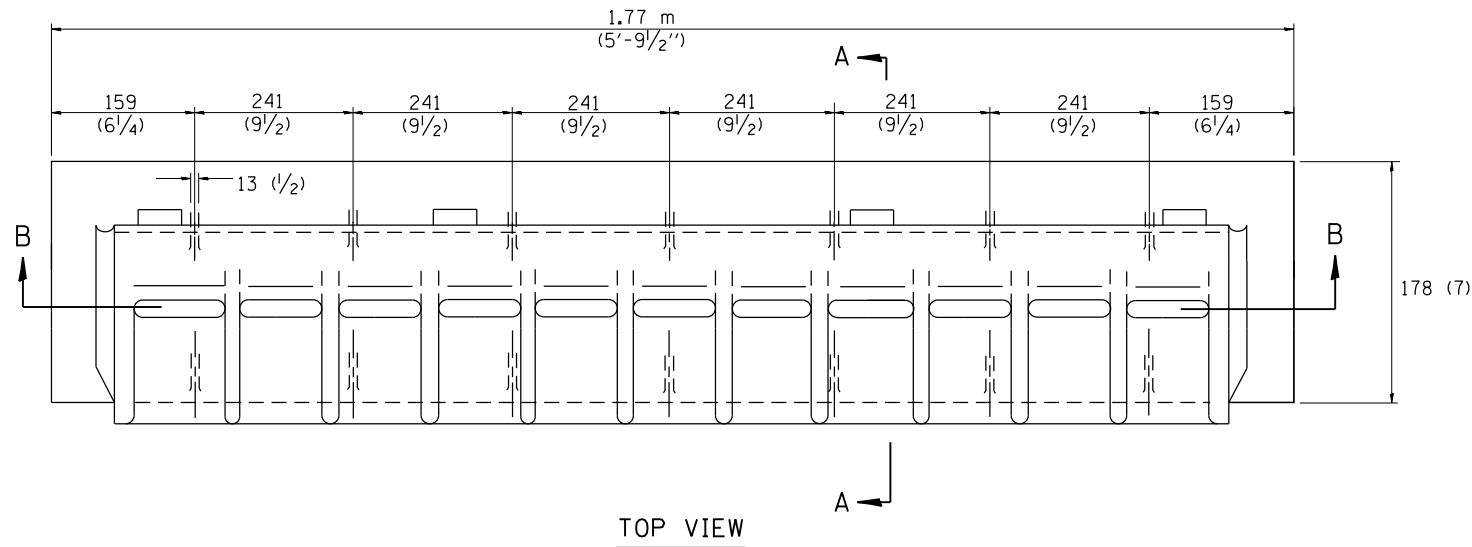
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HORNER &  
SHIRIN, INC.  
ENGINEERS

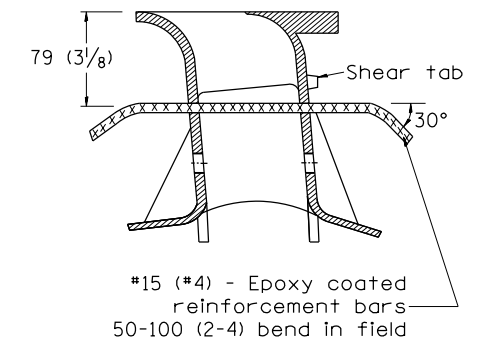
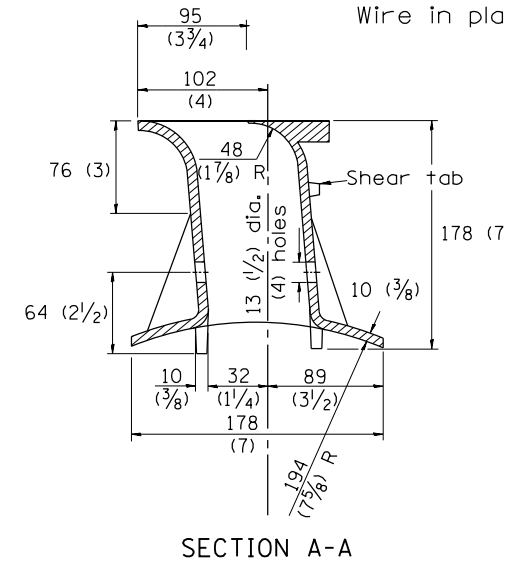
MISCELLANEOUS DETAILS  
SKEWED PIPE CULVERT EXTENSION COLLAR (WITH END SECTION)  
SCALE: NONE SHEET NO. 14 OF 22 SHEETS STA. TO STA.

All dimensions are in inches (millimeters) unless otherwise noted.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	478
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	



NOTE:  
Saw slot in pipe. Insert slotted drain in pipe. Wire in place.



All dimensions are in millimeters (inches) unless otherwise noted.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

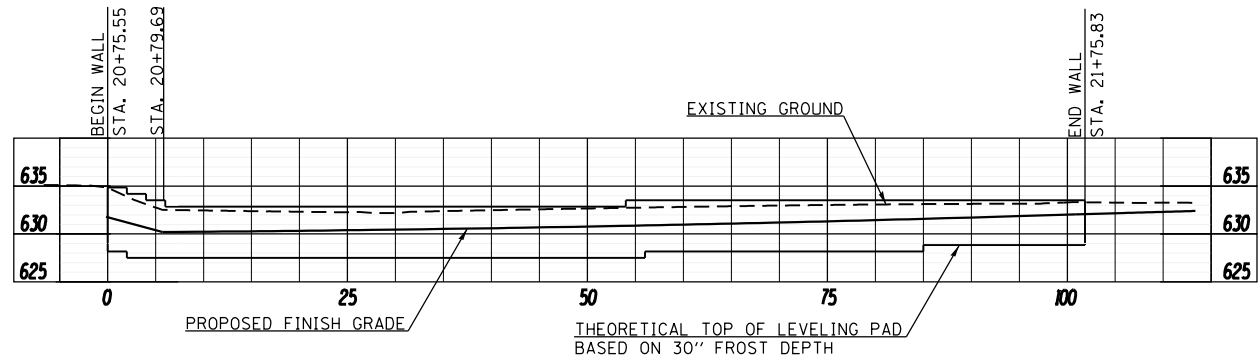
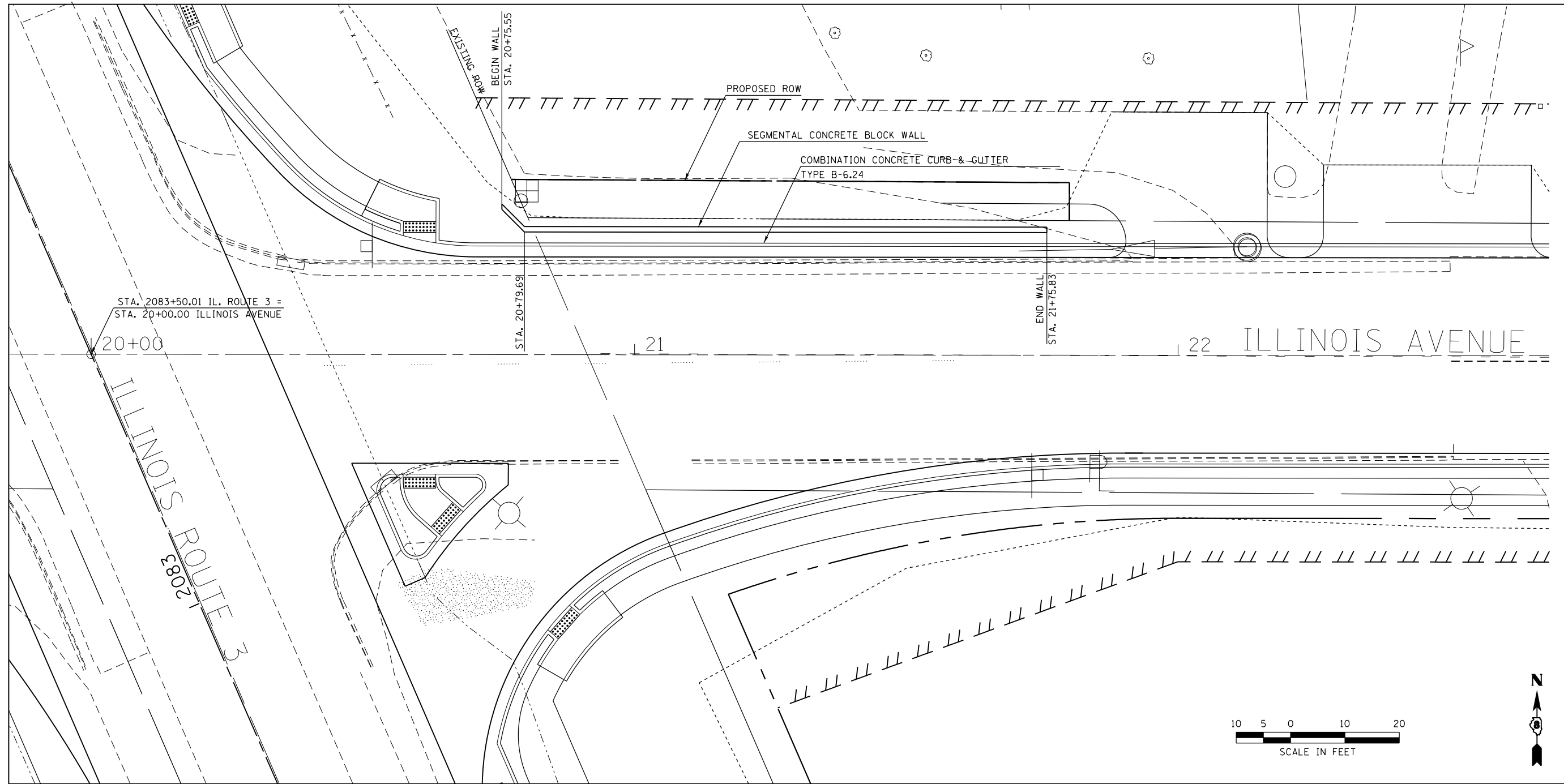
HORNER &  
SHIRIN, INC.  
ENGINEERS

MISCELLANEOUS DETAILS  
SLOTTED VANE DRAIN

SCALE: NONE

SHEET NO. 15 OF 22 SHEETS STA. TO STA.

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



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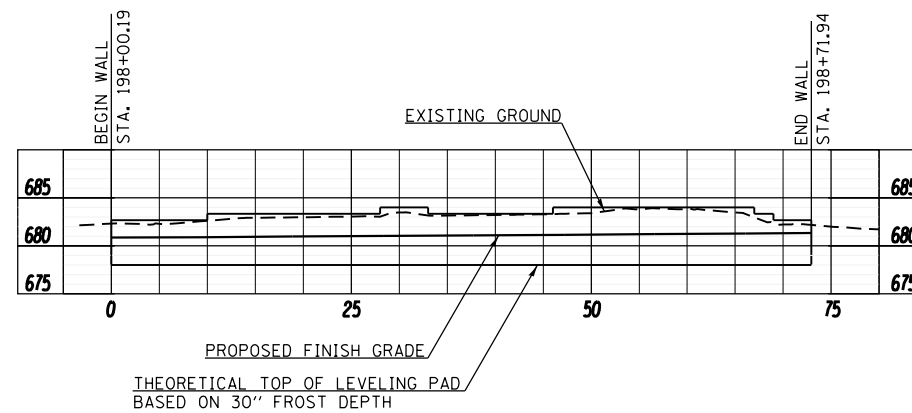
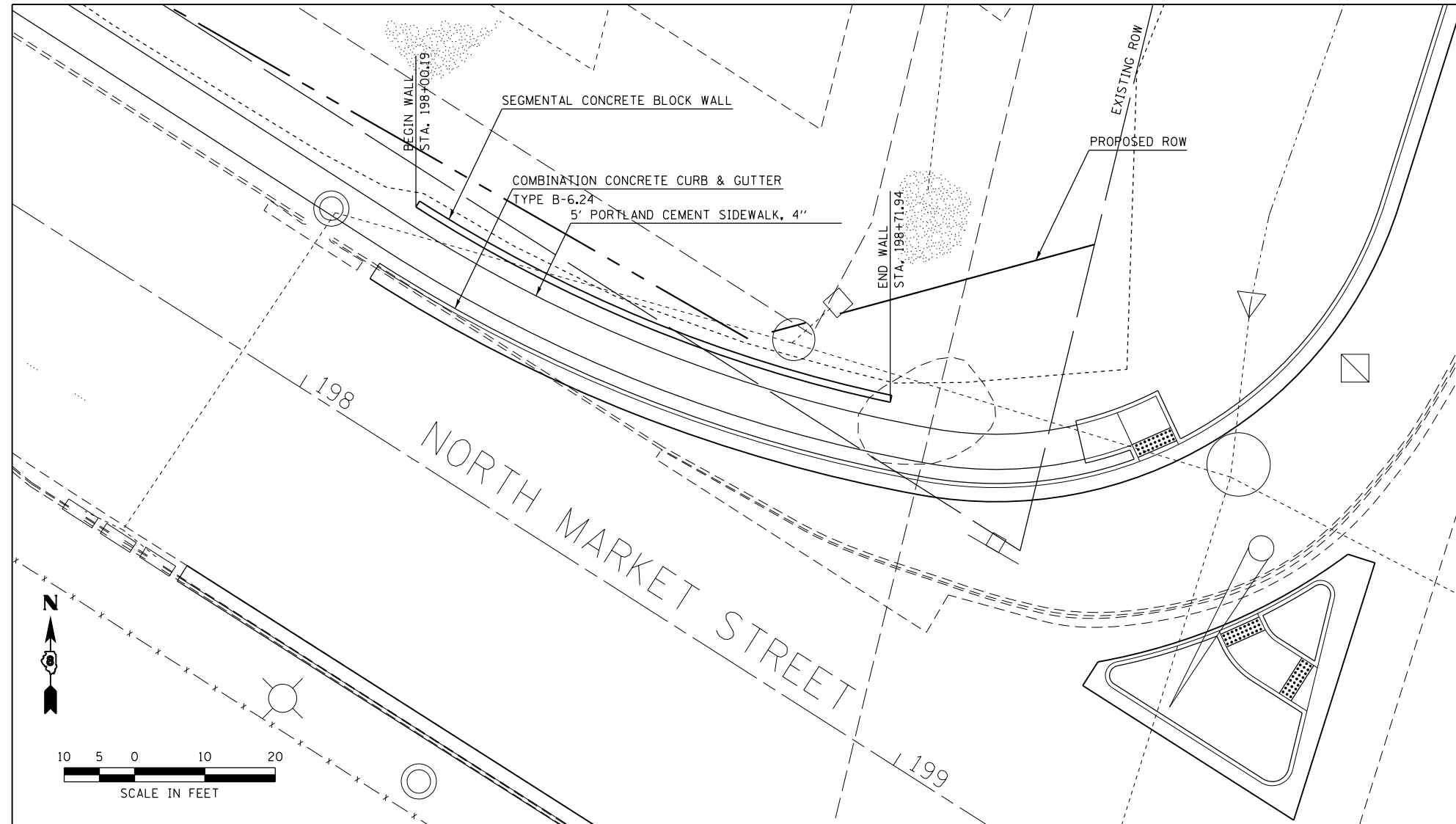
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**HORNER & SHIRIN, INC**  
**ENGINEERS**  
 SCALE: NONE

**MISCELLANEOUS DETAILS**  
 ILLINOIS AVENUE SEGMENTAL CONCRETE BLOCK WALL DETAILS  
 SHEET NO. 16 OF 22 SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76817				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





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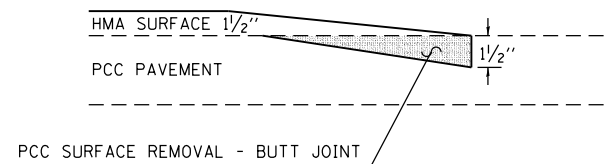
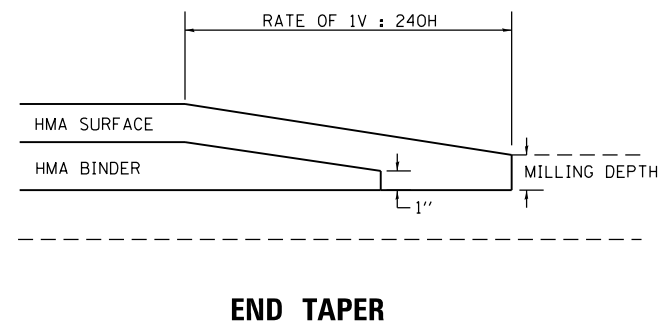
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**HORNER & SHIRIN, INC.**  
**ENGINEERS**

**MISCELLANEOUS DETAILS**  
 NORTH MARKET SEGMENTAL CONCRETE BLOCK WALL DETAILS

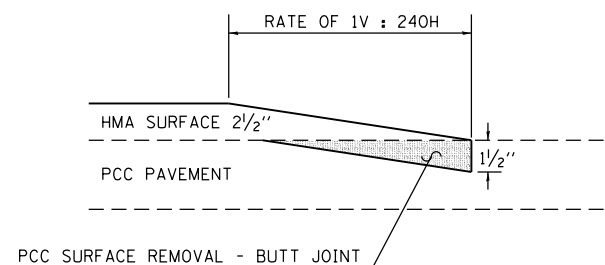
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CONTRACT NO. 76817				
FED. ROAD DIST. NO.    ILLINOIS FED. AID PROJECT				



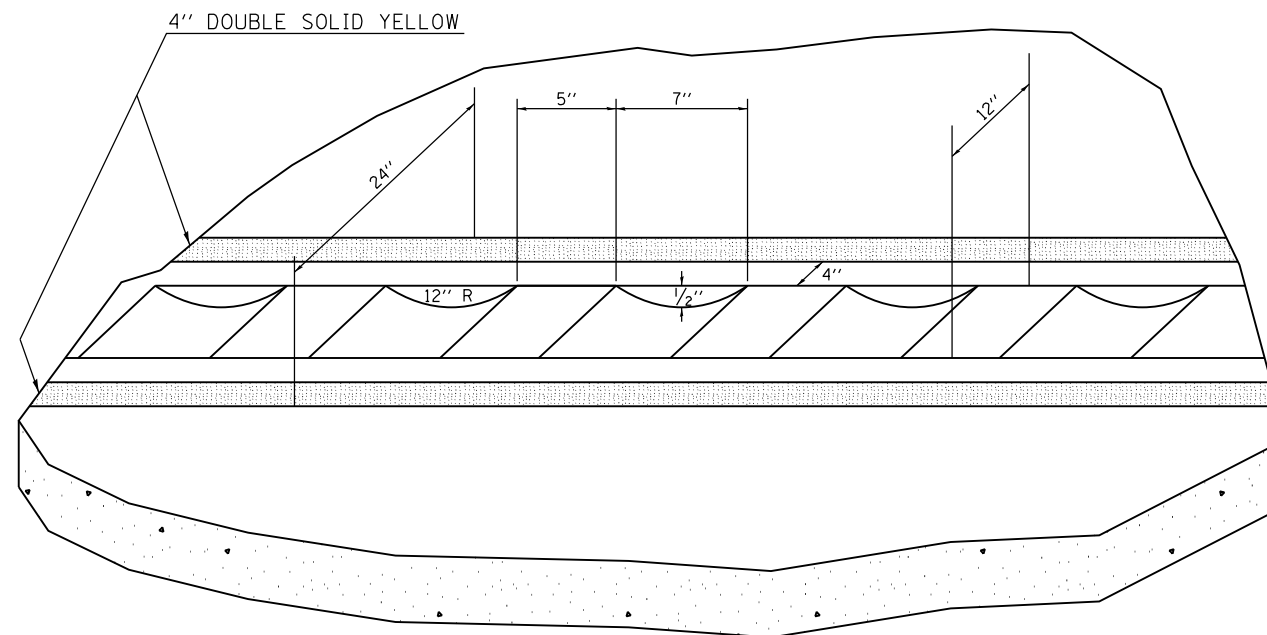
**PCC SURFACE REMOVAL – BUTT JOINT – COLUMBIA AVENUE**

STA 30+36.02 TO STA 30+63.64



**PCC SURFACE REMOVAL – BUTT JOINT – NORTH MARKET STREET**

STA 198+00.15 TO STA 198+50.15



**GENERAL NOTES:**

- THIS WORK WILL BE DONE ACCORDING TO SECTION 642 OF THE SPECIFICATION BOOK EXCEPT AS FOLLOWS:
- SEE STANDARD 780001 FOR STRIPING.
- RUMBLE STRIPS SHALL NOT BE PLACED ON BRIDGES.
- ALL RUMBLE STRIPS SHALL BE MILLED.
- CENTERLINE RUMBLE STRIPS SHALL BE CONTINUOUS THROUGH THE FOLLOWING STATION RANGES:  
 FAP 312 (ILLINOIS ROUTE 3)  
 STATION 2028+85.00 TO STATION 2050+44.73  
 STATION 2067+92.19 TO STATION 2073+95.10
- METHOD OF MEASUREMENT: THIS WORK WILL BE MEASURED FOR PAYMENT IN FEET ALONG THE CENTERLINE.
- THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT - RUMBLE STRIP
- THE PAVEMENT MARKING WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - INLAID - LINE 4 INCH.

**DETAILS OF 2' WIDE RUMBLE STRIP AT CENTERLINE**

FAP 312 (ILLINOIS ROUTE 3)

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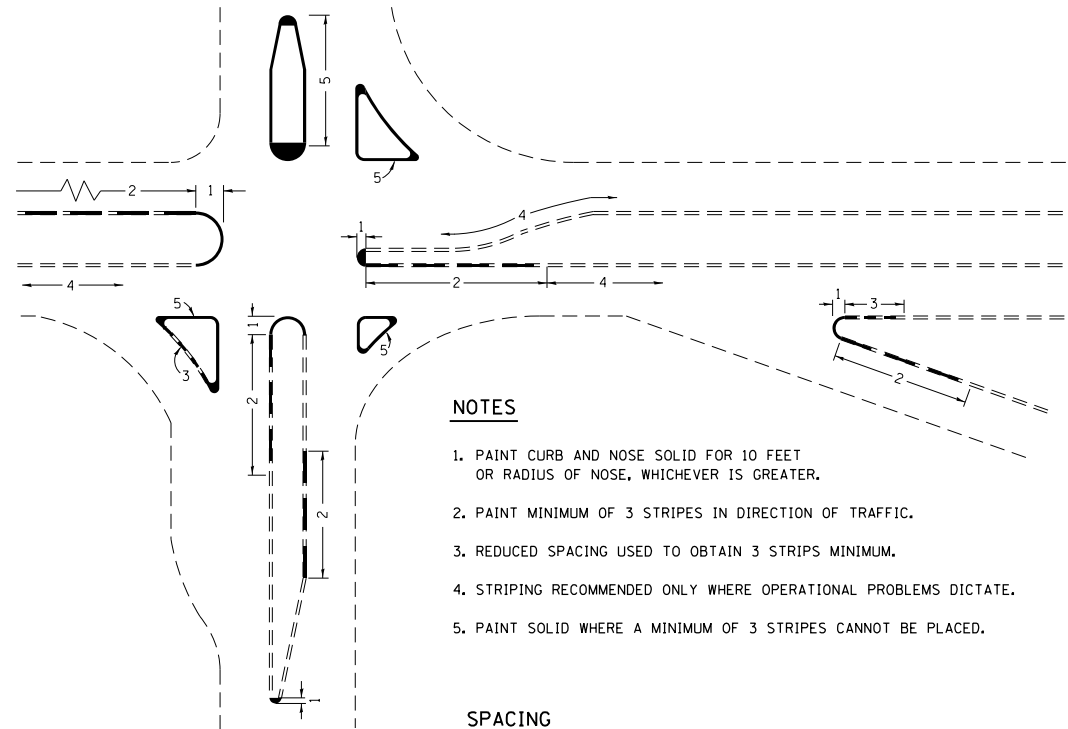
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**MISCELLANEOUS DETAILS**  
END TAPER, BUTT JOINTS AND RUMBLE STRIP

SCALE: NONE SHEET NO. 18 OF 22 SHEETS STA. TO STA.

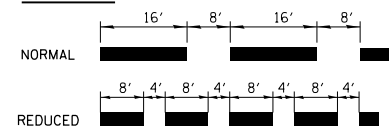
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	482
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 76817	



**NOTES**

1. PAINT CURB AND NOSE SOLID FOR 10 FEET OR RADIUS OF NOSE, WHICHEVER IS GREATER.
2. PAINT MINIMUM OF 3 STRIPES IN DIRECTION OF TRAFFIC.
3. REDUCED SPACING USED TO OBTAIN 3 STRIPES MINIMUM.
4. STRIPING RECOMMENDED ONLY WHERE OPERATIONAL PROBLEMS DICTATE.
5. PAINT SOLID WHERE A MINIMUM OF 3 STRIPES CANNOT BE PLACED.

**SPACING**



**CURB MARKING**

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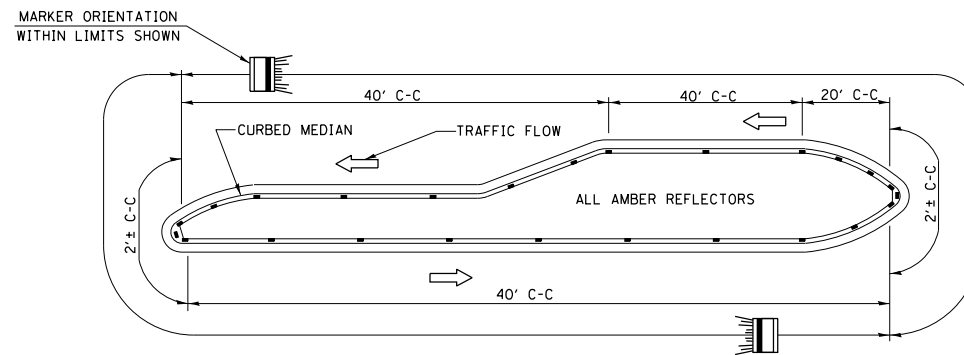
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**HORNER &**  
**SHIRIN, INC.**  
**ENGINEERS**

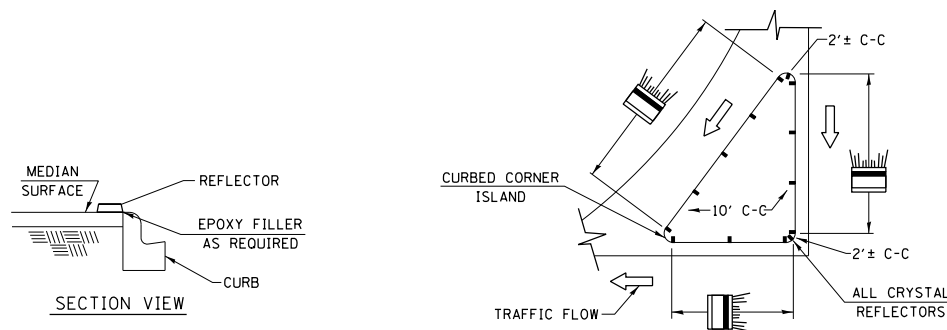
**MISCELLANEOUS DETAILS**  
 CURB MARKING DETAIL

SCALE: NONE      SHEET NO. 19 OF 22 SHEETS      STA.      TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	483
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 76817	



- NOTES**
1. PRISMATIC REFLECTORS SHALL BE MONO-DIRECTIONAL AND POSITIONED SO THAT THE REFLECTIVE FACE IS FACING THE APPROACHING TRAFFIC.
  2. PRISMATIC REFLECTORS SHALL BE SECURED IN PLACE WITH AN EPOXY ADHESIVE.
  3. PRISMATIC REFLECTORS SHALL BE EITHER AMBER OR CRYSTAL IN COLOR.



TYPICAL PLACEMENT OF PRISMATIC REFLECTORS ON CURBS  
(NO SCALE)

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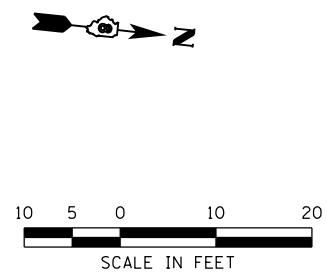
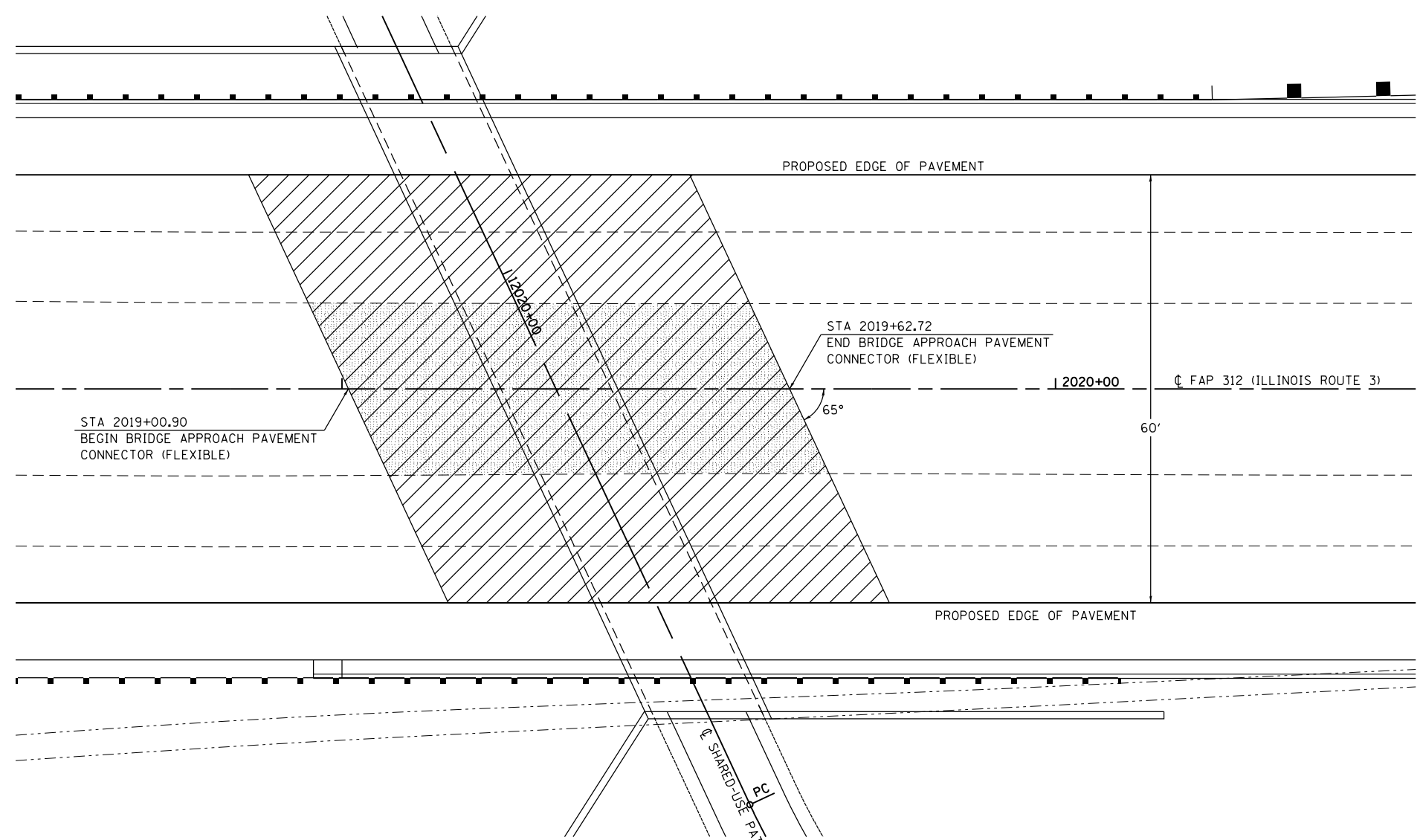
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**HORNER &  
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ENGINEERS

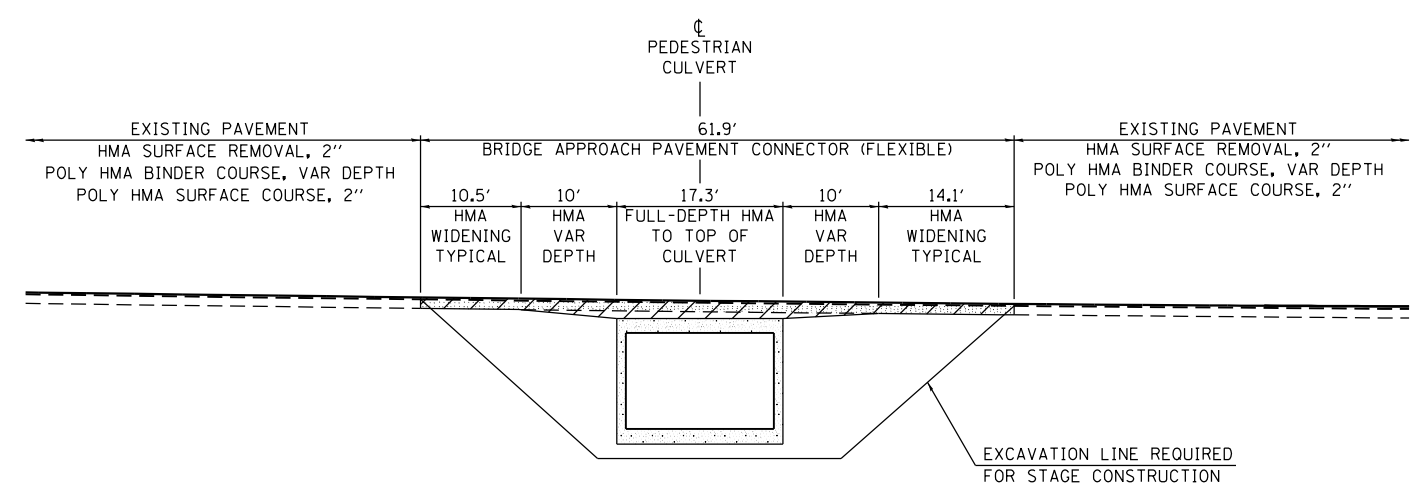
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**MISCELLANEOUS DETAILS**  
TYPICAL PLACEMENT OF PRISMATIC REFLECTORS ON CURBS  
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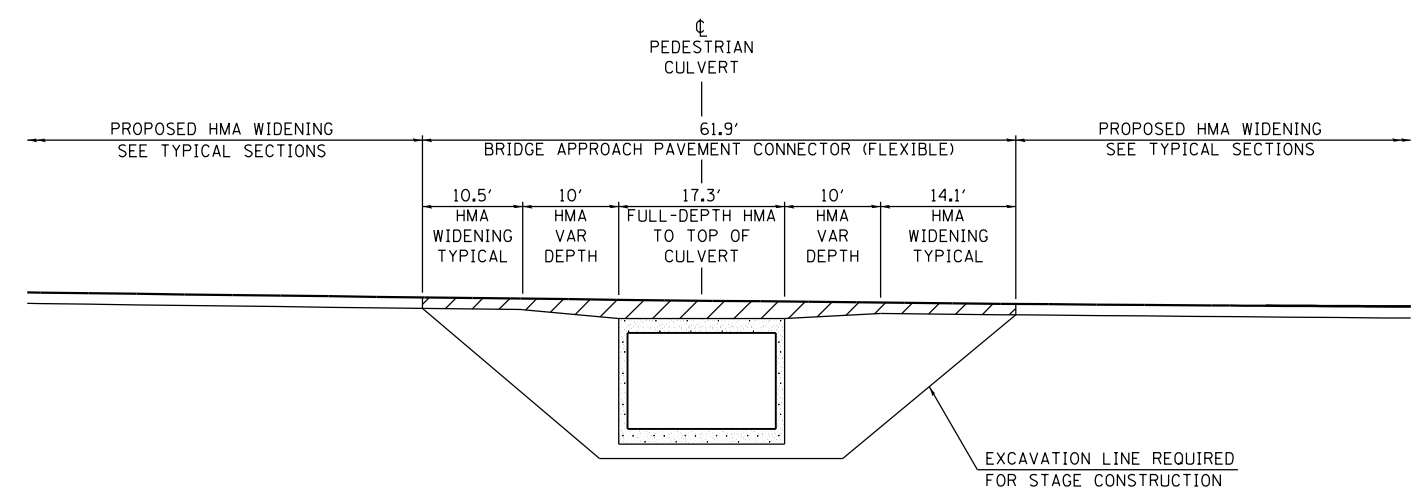
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CONTRACT NO. 76817				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**  
PLAN VIEW



**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**  
PROFILE VIEW ALONG  $\bar{C}$  FAP 312 (ILLINOIS ROUTE 3)



**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**  
PROFILE VIEW ALONG WIDENING

LAST SAVED = 1/25/2013 3:35:10 PM  
 PEN TABLE = V:\p\1141  
 PLOT DRIVER = pdfplotlayers.pltcf9

FILE NAME = AGGREGATE DITCH.dgn	USER NAME = JLM	DESIGNED - KCM	REVISED -
		DRAWN - JLM	REVISED -
		CHECKED - TMM	REVISED -
		DATE -	REVISED -
PLOT SCALE =			
PLOT DATE = 3:35:10 PM			

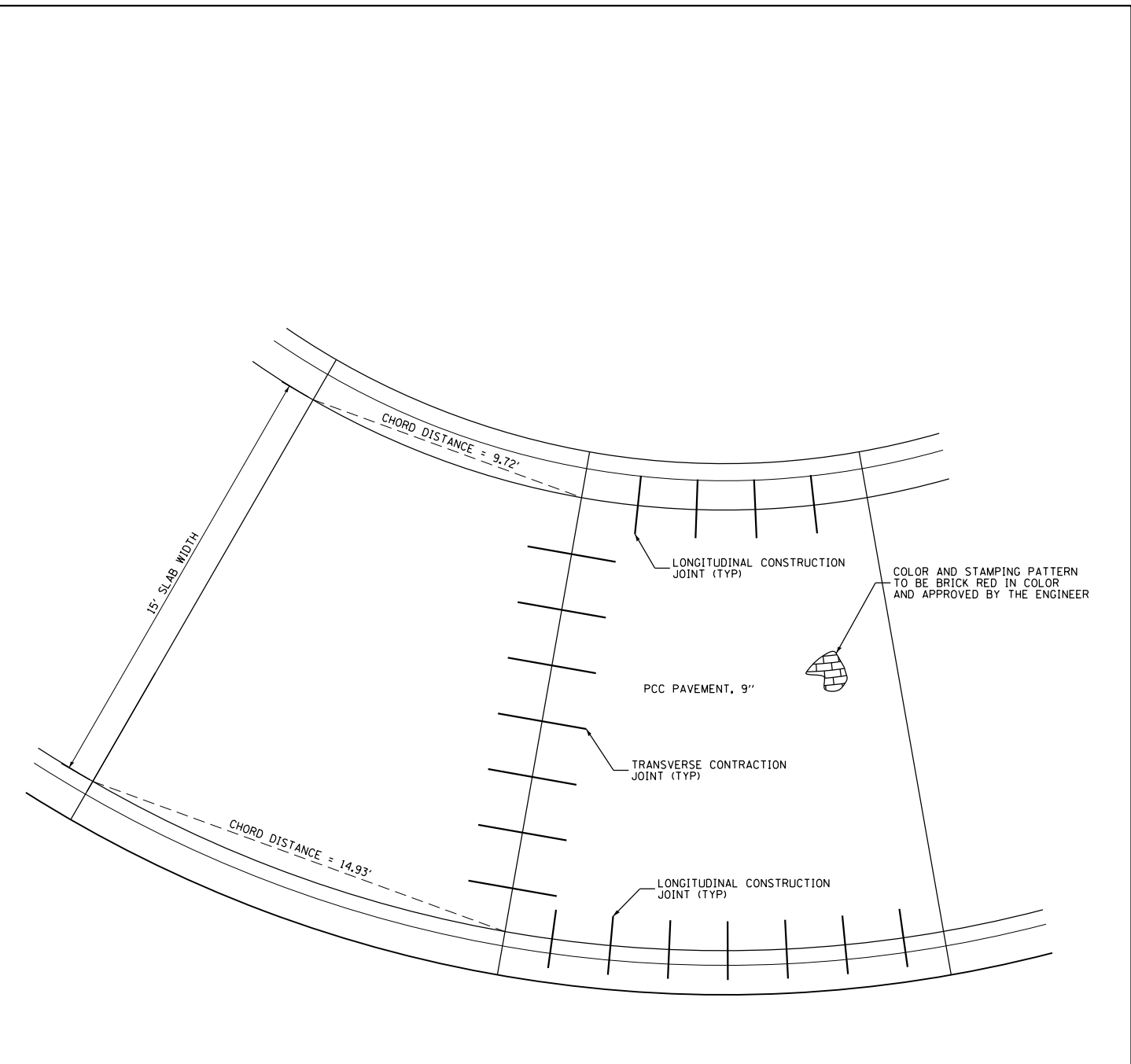
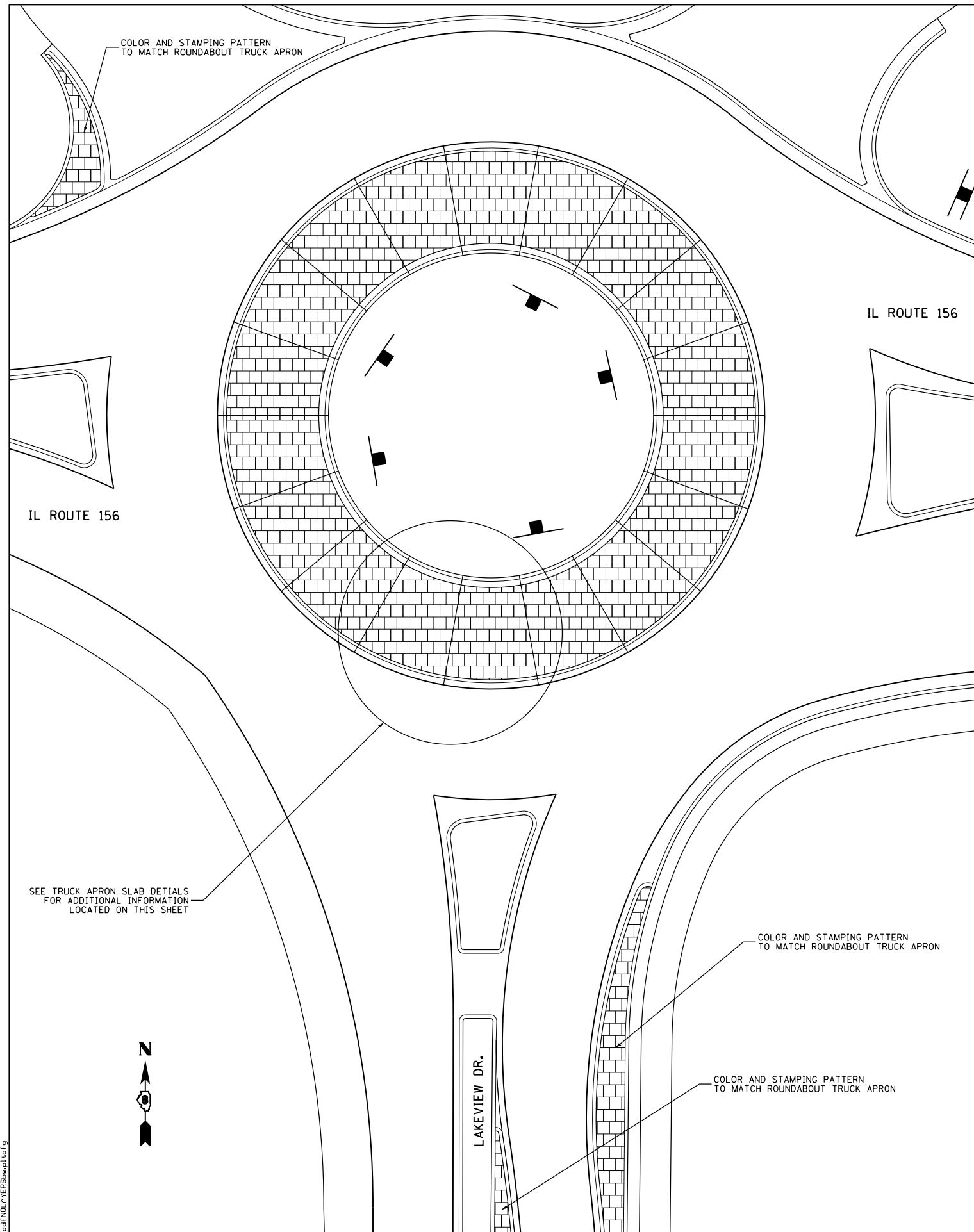
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HORNER &  
SHIRIN, INC.  
ENGINEERS**

**MISCELLANEOUS DETAILS**  
BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 485
CONTRACT NO. 76817				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SCALE: NONE SHEET NO. 21 OF 22 SHEETS STA. TO STA.



JOINT CONSTRUCTION WILL NOT BE PAID FOR SEPARATELY, BUT IS INCLUDED IN THE COST OF THE PAVEMENT OR CURB AND GUTTER BEING CONSTRUCTED. SEE STANDARD 420001 FOR JOINT DETAILS.

**TRUCK APRON SLAB DETAILS**

LAST SAVED = 1/25/2013  
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 PLOT DRIVER = pdfplotlayers.bat

FILE NAME = AGGREGATE DITCH.dgn	USER NAME = JLM	DESIGNED - KCM	REVISED -
		DRAWN - JLM	REVISED -
		CHECKED - TMM	REVISED -
		DATE -	REVISED -
PLOT SCALE =	PLOT DATE = 3:35:11 PM		

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**HORNER &  
 SHIRIN, INC.  
 ENGINEERS**

**MISCELLANEOUS DETAILS  
 TRUCK APRON DETAILS**

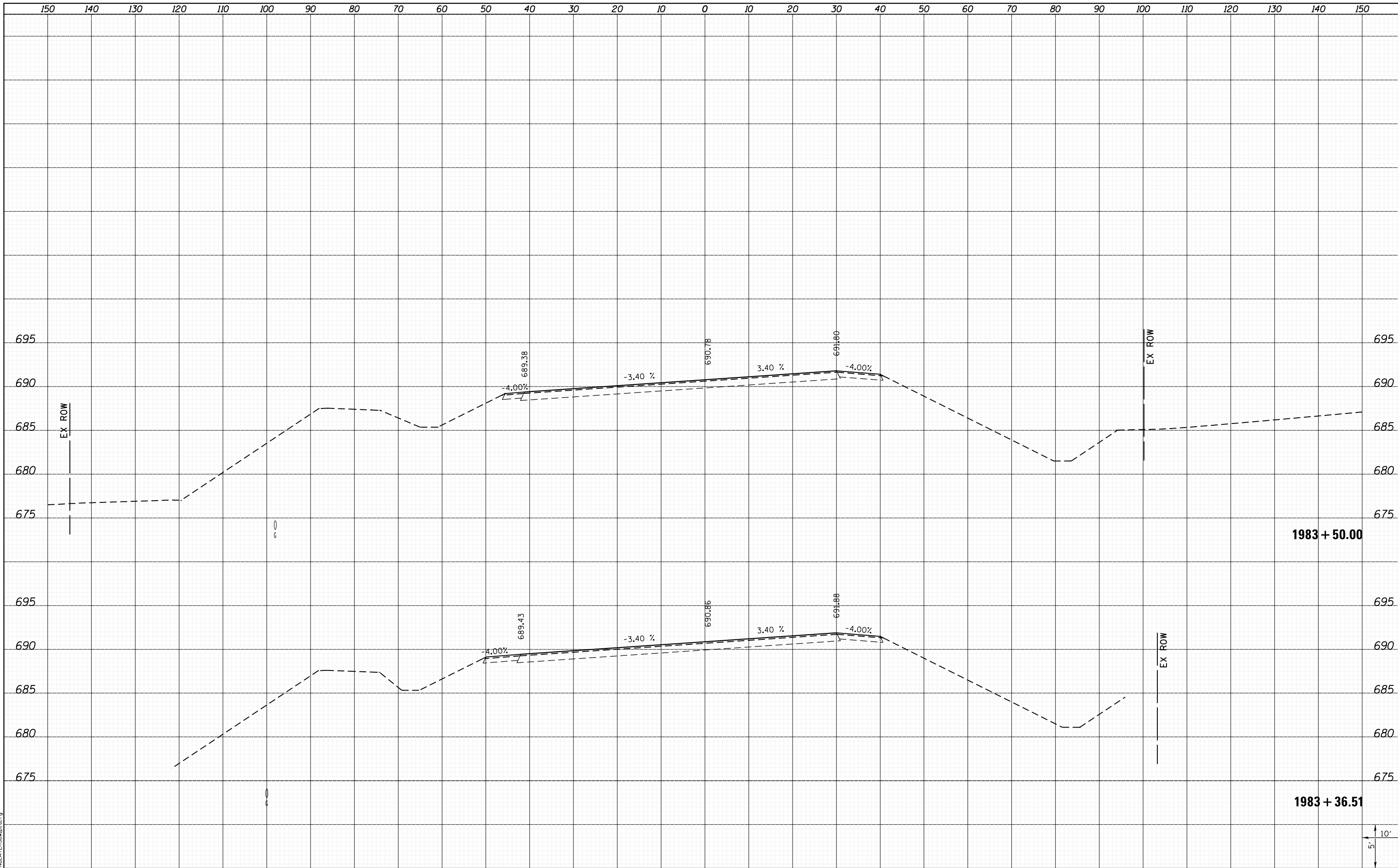
SCALE: NONE SHEET NO. 22 OF 22 SHEETS STA. TO STA.

F.A.P. RTE. 312	SECTION 68-WRS-1	COUNTY MONROE	TOTAL SHEETS 760	SHEET NO. 486
<b>CONTRACT NO. 76817</b>				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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

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

LAST SAVED = 1/25/2013  
 PEN TABLE = 161-Hat1.rdl  
 PLOT DRIVER = PdfPlotterServer.batc9



FILE NAME =	USER NAME = kaklues	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>		<b>CROSS SECTIONS</b> IL ROUTE 3		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I:\1001100\Phase II - 76817\Cad\T\Plans\300.08	I:\1001100\Phase II - 76817\Cad\T\Plans\300.08	DRAWN -	REVISED -					312	68-WRS-1	MONROE	760	487
PLOT SCALE = 20.0000' / in.		CHECKED -	REVISED -					CONTRACT NO. 76817				
PLOT DATE = 1/25/2013 4:49:14 PM		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				

SCALE: SHEET 1 OF 197 SHEETS

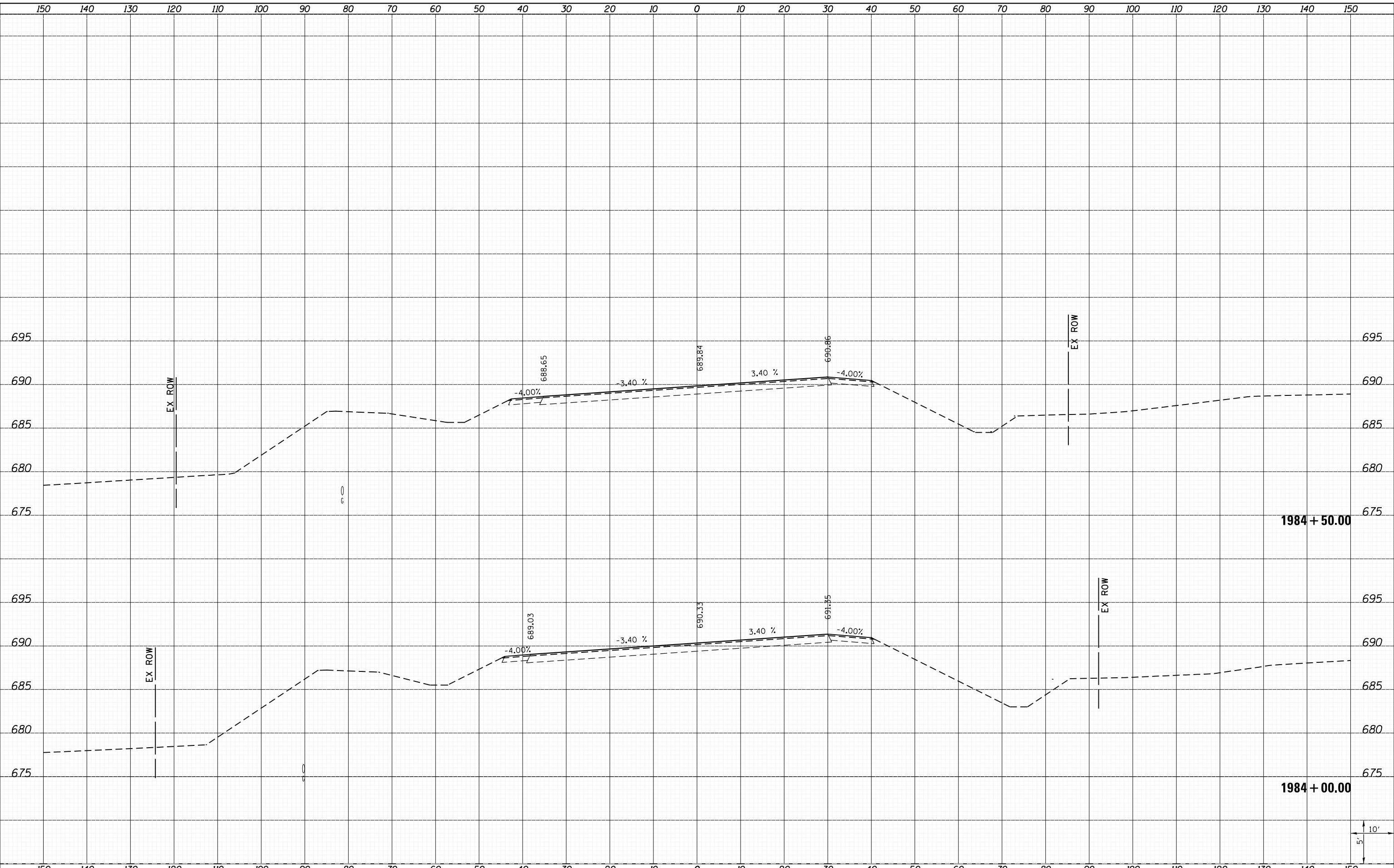
STA. 1983+36.51 TO STA. 1983+50.00



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

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

LAST SAVED = 1/25/2013  
 PEN TABLE = 161-hat.tbl  
 PLOT DRIVER = pdfplotter\$wpcplc9



FILE NAME =	I:\1001100\Phase II - 76817\Cad\T\Plans\300.08
USER NAME =	kaklues
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
PLLOT SCALE =	20.0000' / in.
CHECKED -	REVISIED -
PLLOT DATE =	1/25/2013 4:49:18 PM
DATE -	REVISIED -

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



**CROSS SECTIONS  
 IL ROUTE 3**

SCALE: SHEET 2 OF 197 SHEETS STA. 1984+00.00 TO STA. 1984+50.00

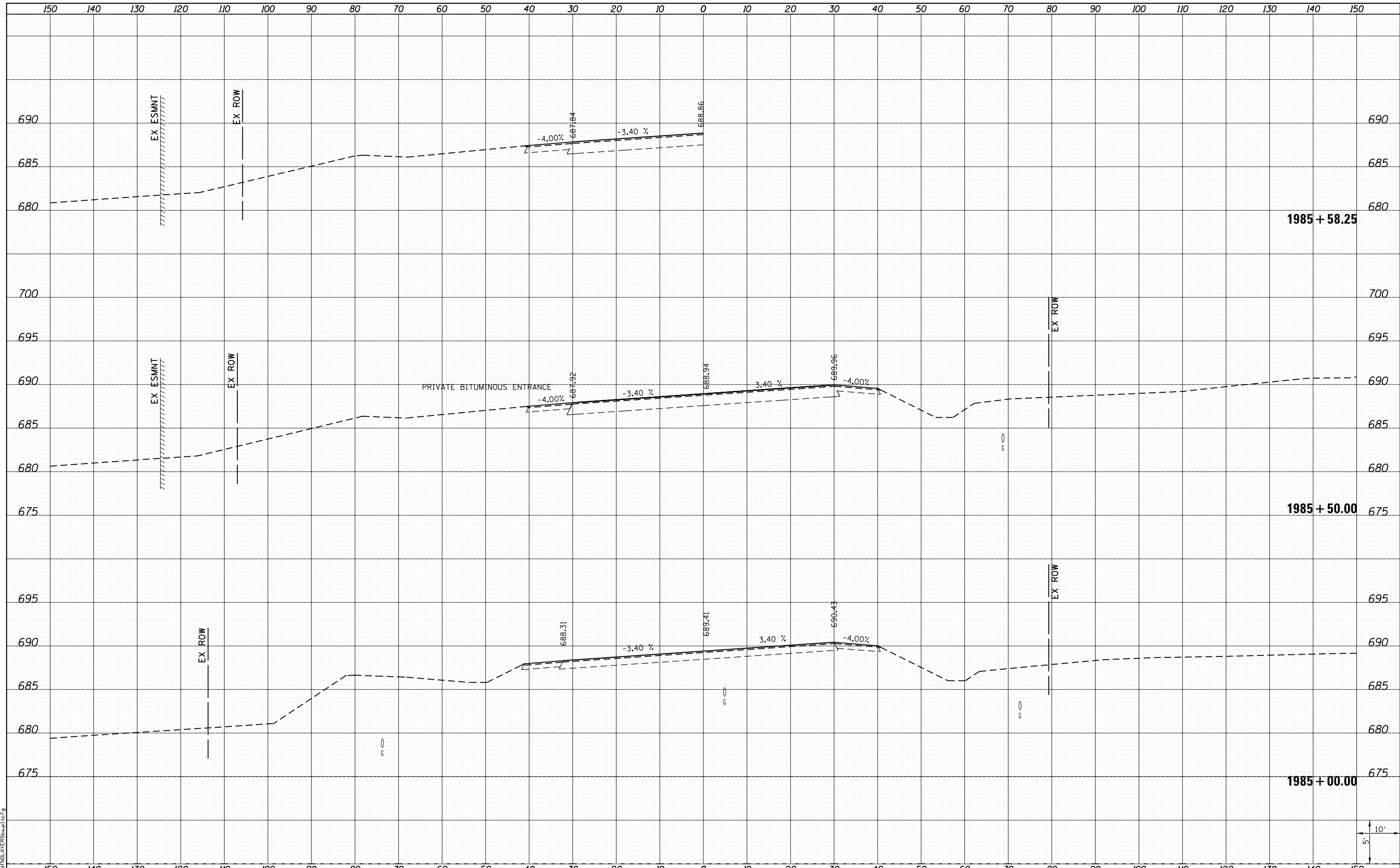
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	488
			CONTRACT NO. 76817	
ILLINOIS FED. AID PROJECT				



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

DATE	
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PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	

LAST SAVED = 1/25/2013  
 PEN TABLE = VBI-HA17-R1  
 PLOT DRIVER = BDFNCLATER50wplc6f9



FILE NAME =	I:\10011001_Phase II - 76817\Cad\T\Plans\300.00
USER NAME =	kaklues
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -
PLOT SCALE =	20.0000' / in.
PLOT DATE =	1/25/2013 4:49:23 PM

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



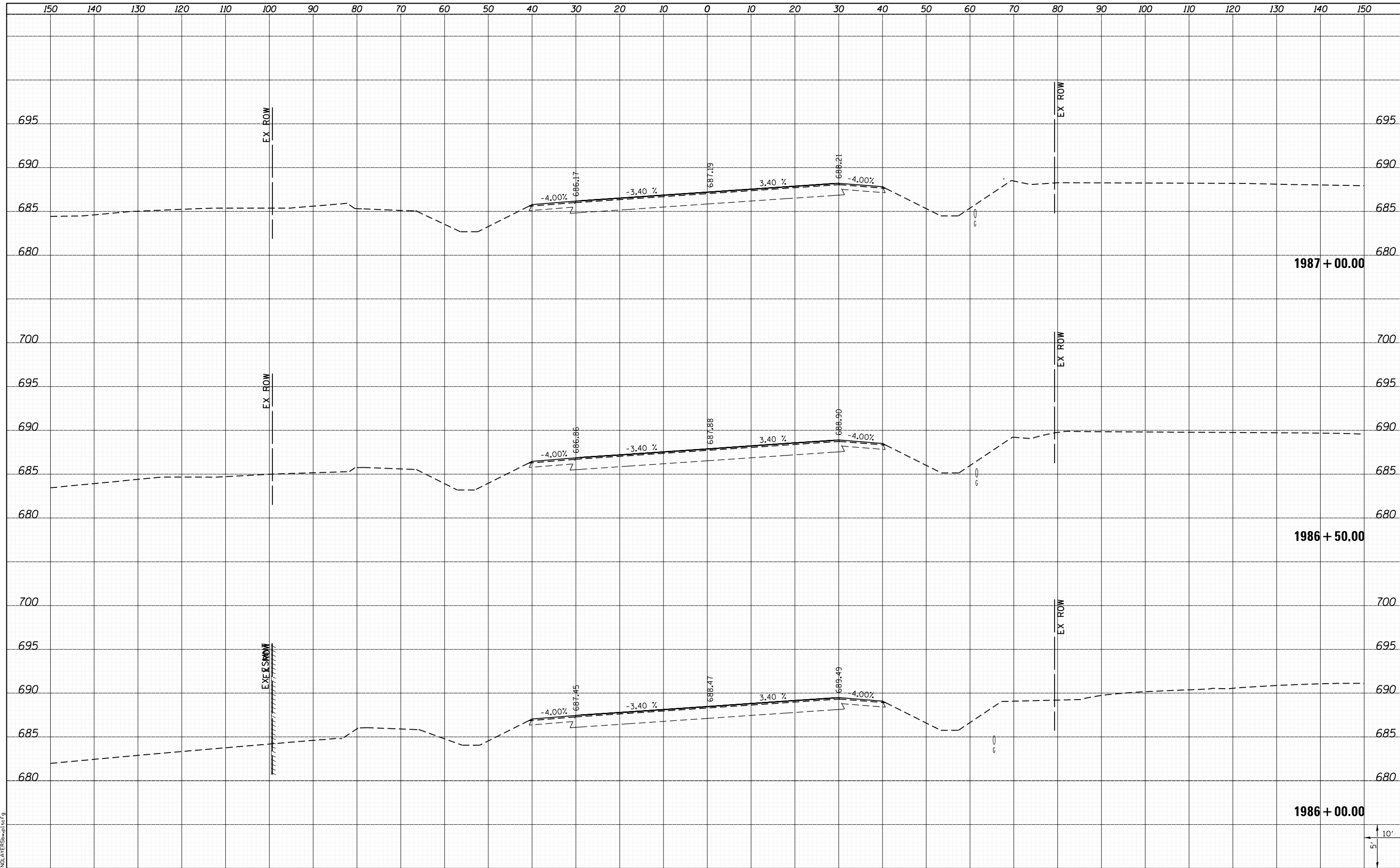
**CROSS SECTIONS**  
 IL ROUTE 3  
 SCALE: SHEET 3 OF 197 SHEETS STA. 1985+00.00 TO STA. 1985+58.25

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	489
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	



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

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



LAST SAVED = 1/25/2013  
 PEN TABLE = 161-HA17-01  
 PLOT DRIVER = B:\PLOTTERS\pwtcf9

FILE NAME = I:\10011001_Phase II - 76817\Cad\T\Plans\300.08	USER NAME = kakluos	DESIGNED -	REVISED -
	76817-sh1-IL3-xssht.dgn	DRAWN -	REVISED -
	PLOT SCALE = 20.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 1/25/2013 4:49:28 PM	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



**CROSS SECTIONS  
 IL ROUTE 3**

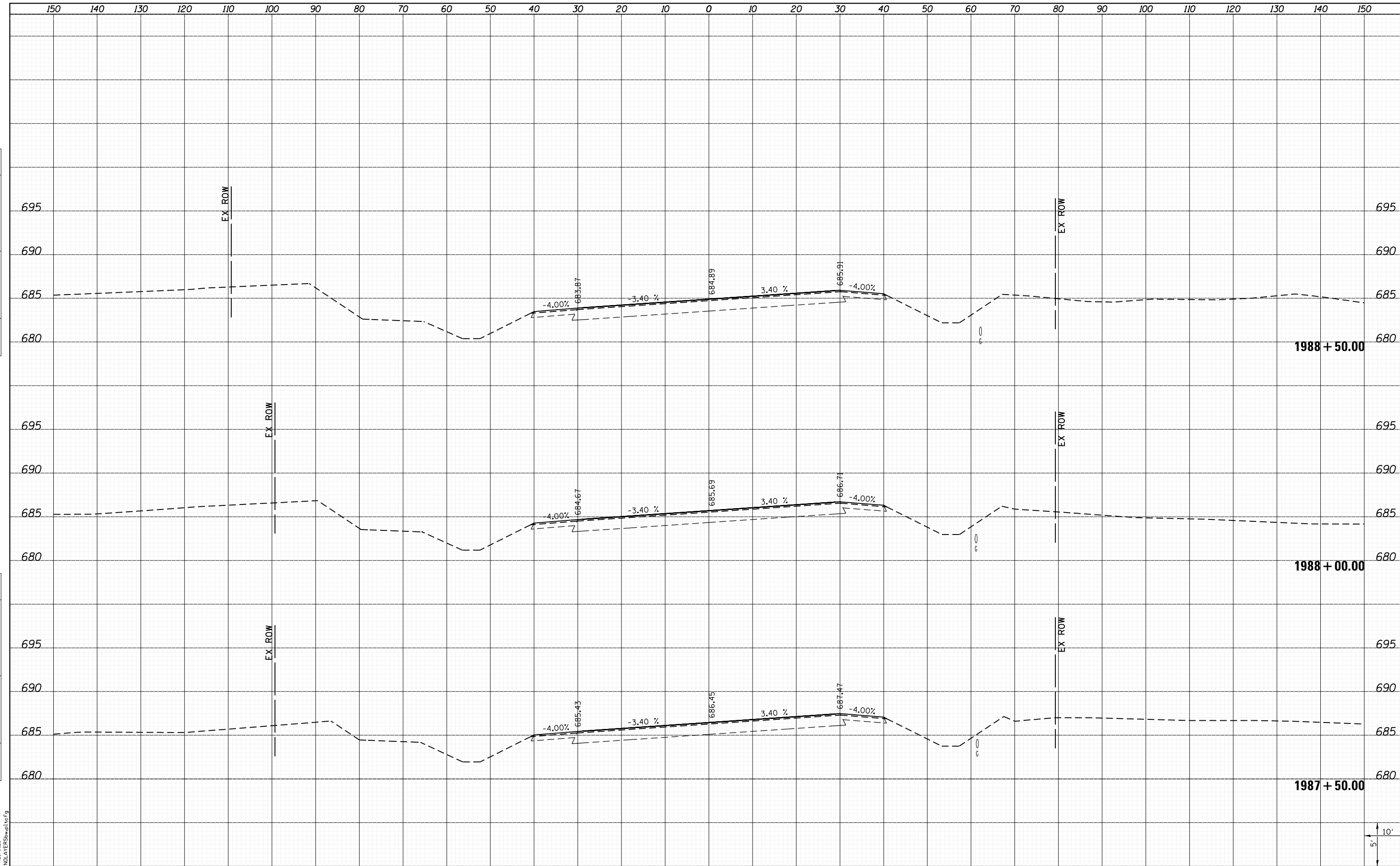
SCALE: SHEET 4 OF 197 SHEETS STA. 1986+00.00 TO STA. 1987+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	490
				CONTRACT NO. 76817
ILLINOIS FED. AID PROJECT				



BY	DATE

BY	DATE



LAST SAVED = 1/25/2013  
 PEN TABLE = VBI-HAIF.tbl  
 PLOT DRIVER = BDFINDLTERSHPLOT.CFG

FILE NAME = I:\10011001_Phase II - 76817\Cad\T\Plans\300.08	USER NAME = kakluos	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -
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PLOT DATE = 1/25/2013 4:49:33 PM			

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

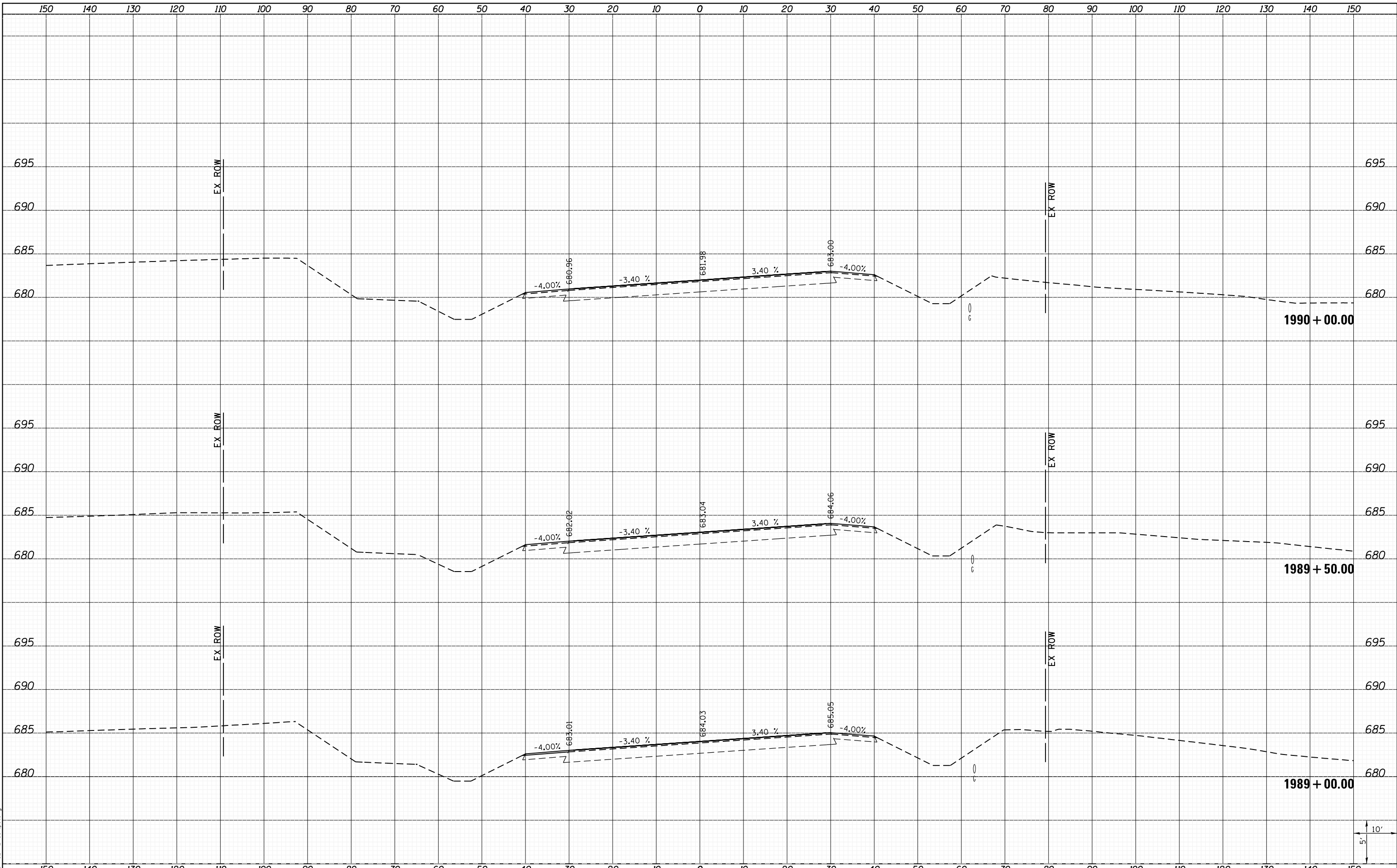
**HORNER & SHIRIN, INC.**  
**ENGINEERS**

**CROSS SECTIONS**  
 IL ROUTE 3  
 SCALE: SHEET 5 OF 197 SHEETS STA. 1987+50.00 TO STA. 1988+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	491
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
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LAST SAVED = 1/25/2013  
 PEN TABLE = 161-hat.tbl  
 PLOT DRIVER = pdmplotter\$pdwplc6fg

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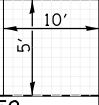
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



**CROSS SECTIONS**  
 IL ROUTE 3

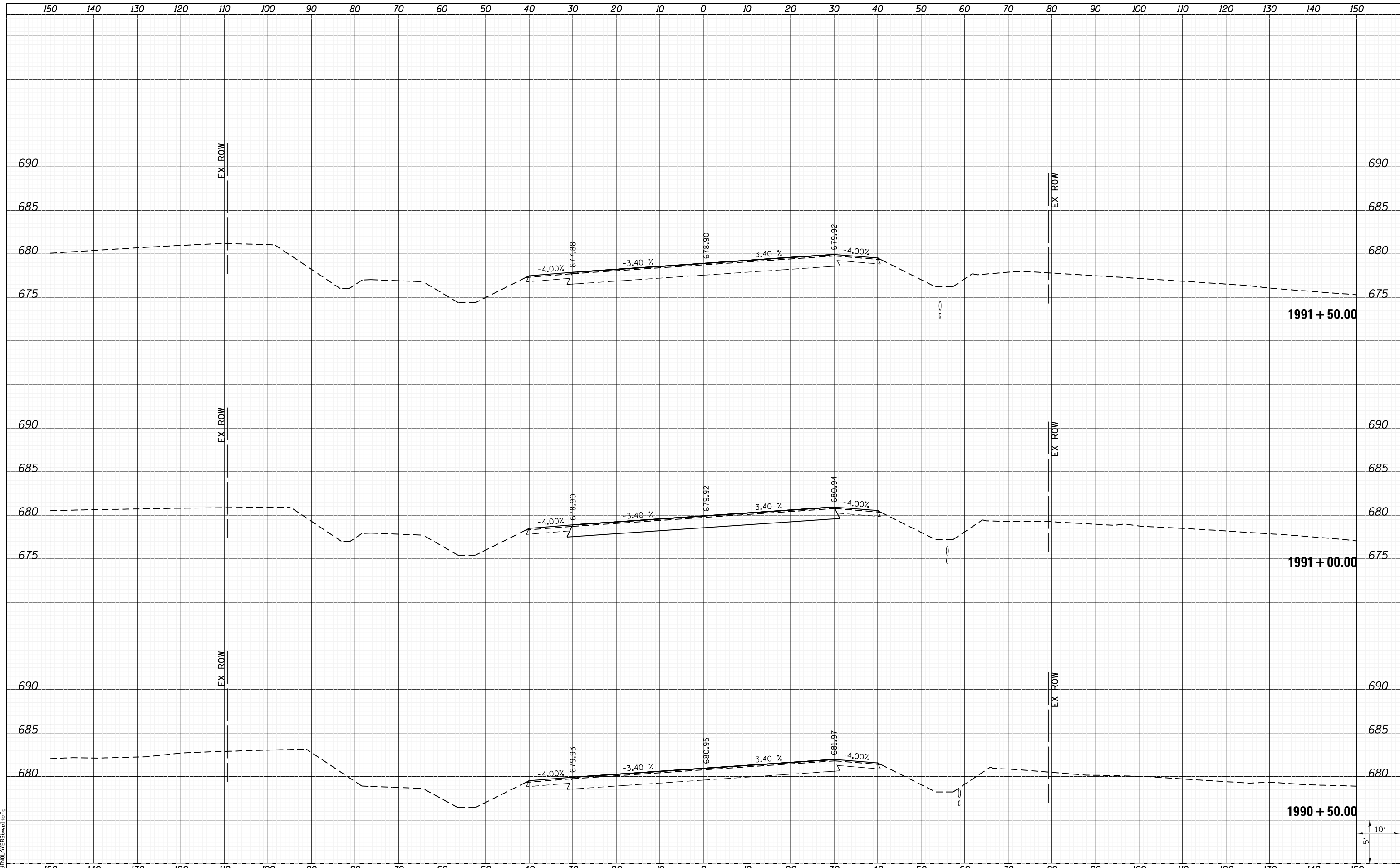
SCALE: SHEET 6 OF 197 SHEETS STA. 1989+00.00 TO STA. 1990+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	492
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



DATE	
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PLOTTED	
TEMPLATE	
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CHECKED	
FINAL SURVEY	
NOTE BOOK	
NO.	

DATE	
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PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



LAST SAVED = 1/25/2013  
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 PLOT DATE = 1/25/2013 4:49:42 PM

DESIGNED	-	REVISIED	-
DRAWN	-	REVISIED	-
CHECKED	-	REVISIED	-
DATE	-	REVISIED	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



**CROSS SECTIONS  
 IL ROUTE 3**

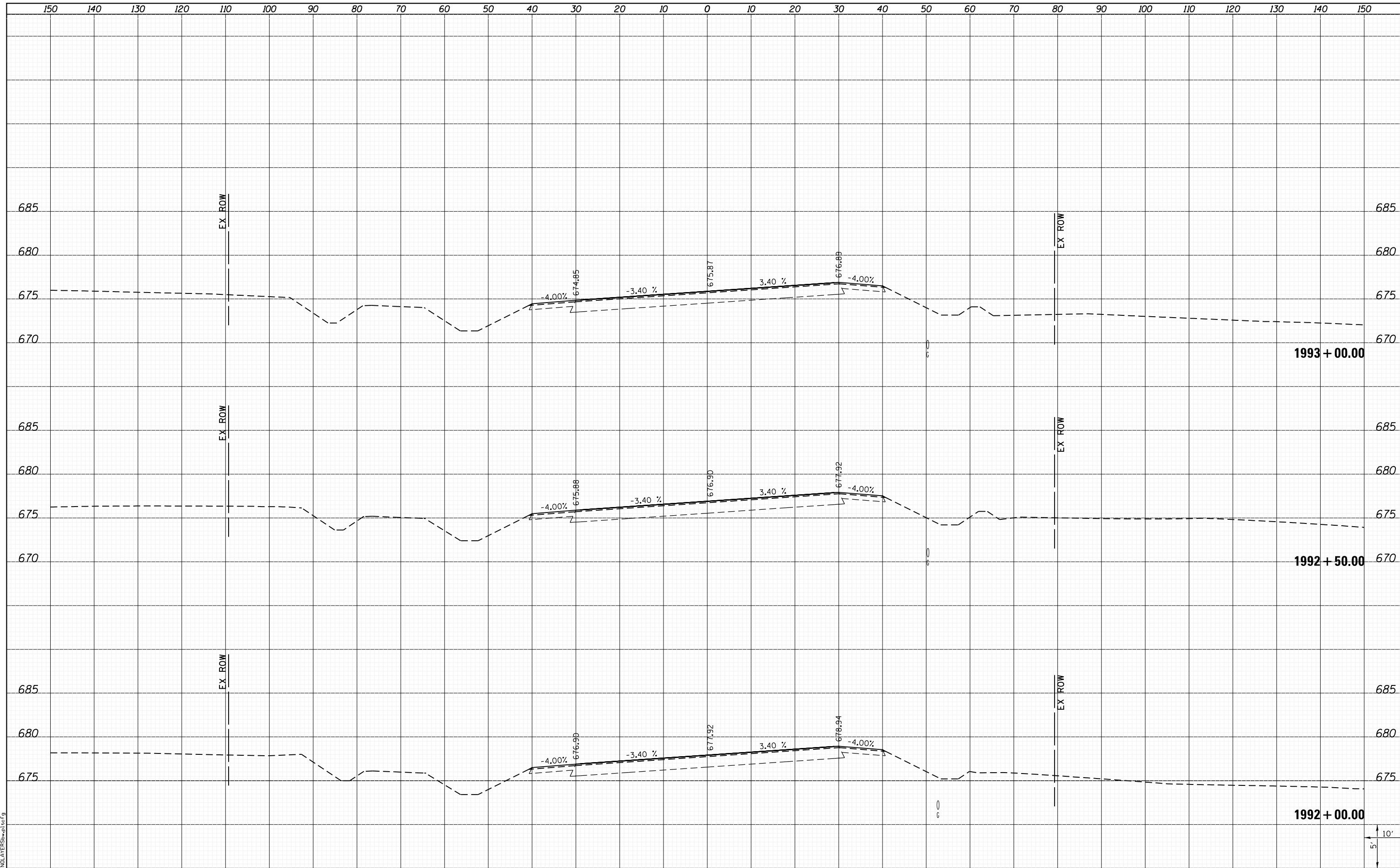
SCALE: SHEET 7 OF 197 SHEETS STA. 1990+50.00 TO STA. 1991+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	493
			CONTRACT NO. 76817	
ILLINOIS FED. AID PROJECT				



BY	DATE
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PLOTTED	
TEMPLATE	
AREAS	CHECKED
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BY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	CHECKED
NO.	



LAST SAVED = 1/25/2013 4:49:47 PM  
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 PLOT DRIVER = PdfPlotterServer.batcf9

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



**CROSS SECTIONS  
IL ROUTE 3**

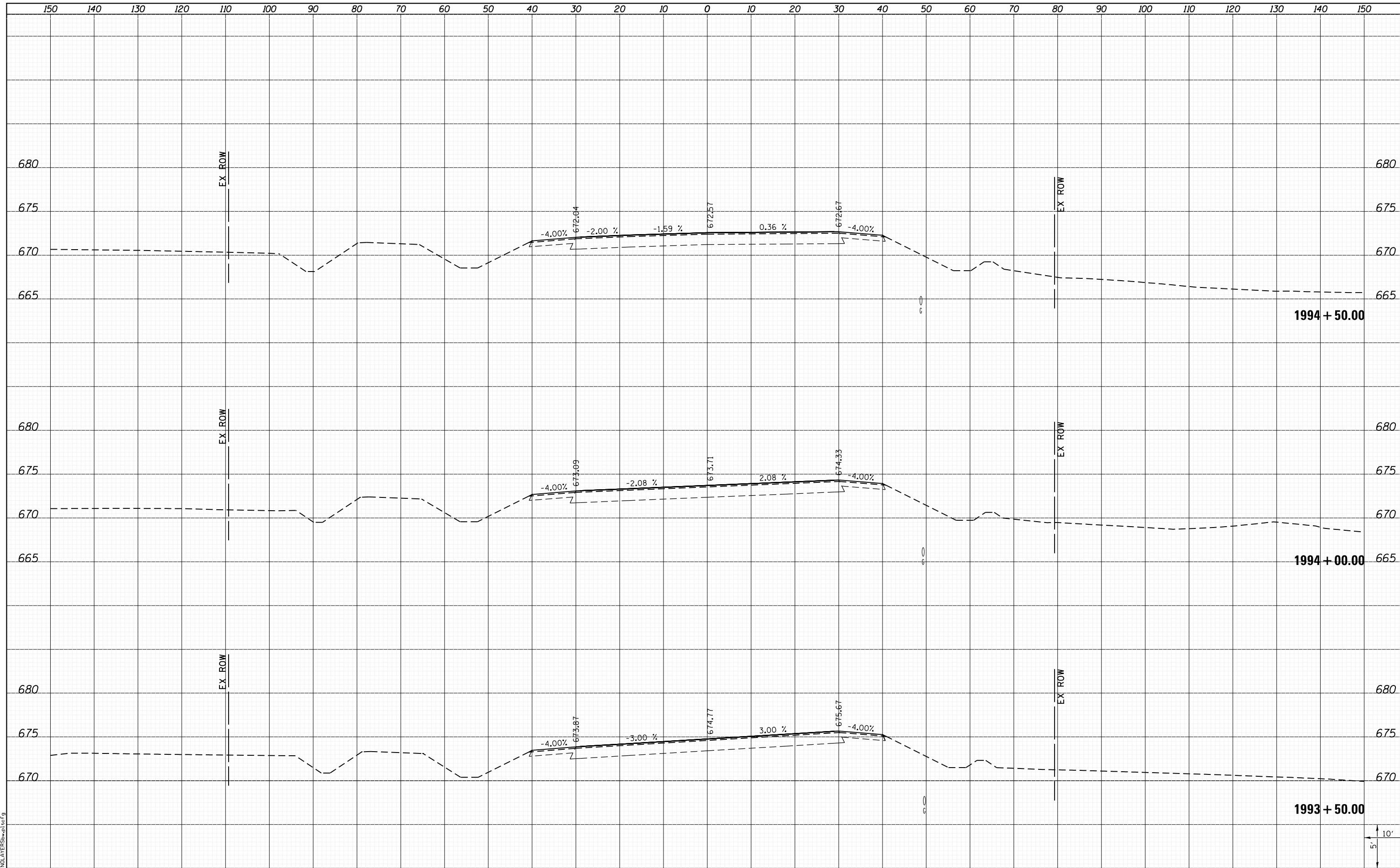
SCALE: SHEET 8 OF 197 SHEETS STA. 1992+00.00 TO STA. 1993+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	494
CONTRACT NO. 76817				
ILLINOIS FED. AID PROJECT				



DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
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DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



LAST SAVED = 1/25/2013  
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 PLOT DRIVER = B:\PLOTTERS\p1c1c9

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



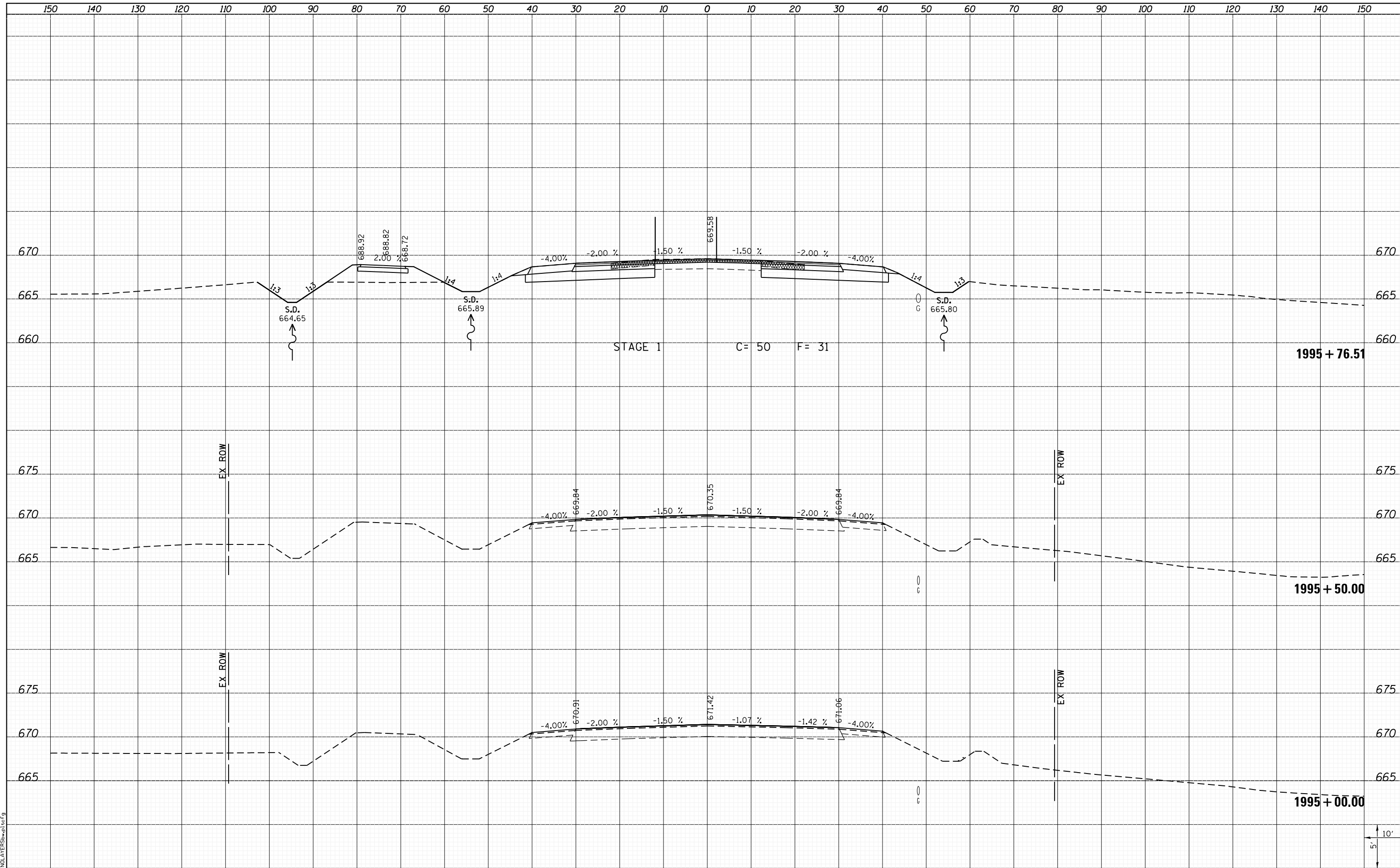
**CROSS SECTIONS  
 IL ROUTE 3**

SCALE: SHEET 9 OF 197 SHEETS STA. 1993+50.00 TO STA. 1994+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	495
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
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DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



LAST SAVED = 1/25/2013  
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 PLOT DRIVER = pdmclaterspwtcf9

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			CHECKED -	REVISIED -
			DATE -	REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



SCALE: SHEET 10 OF 197 SHEETS STA. 1995+00.00 TO STA. 1995+76.51

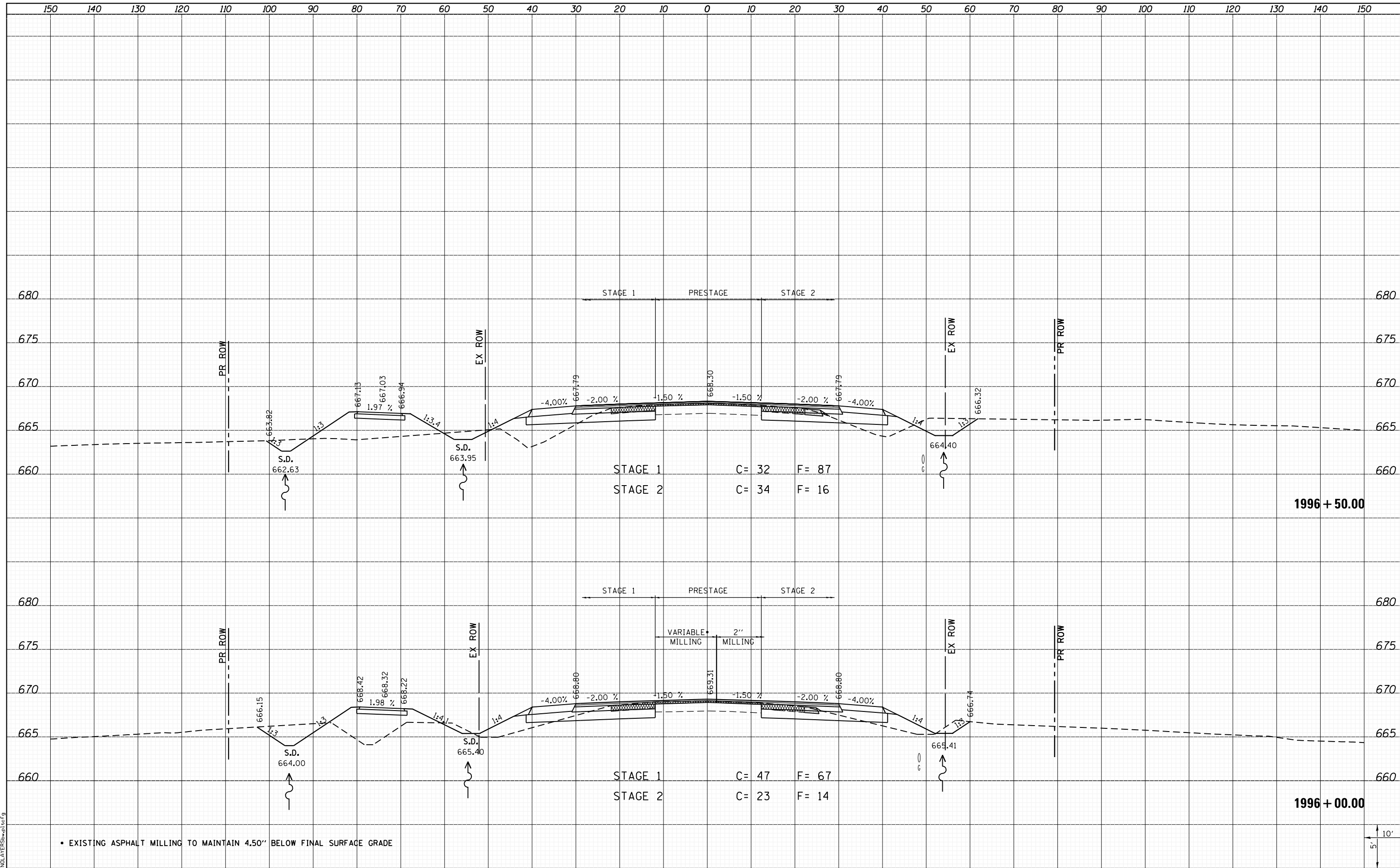
**CROSS SECTIONS  
 IL ROUTE 3**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	496
			CONTRACT NO. 76817	
ILLINOIS FED. AID PROJECT				



DATE	
BY	
FINAL SURVEY	
PLOTTED	
TEMPLATE	
NOTE BOOK	
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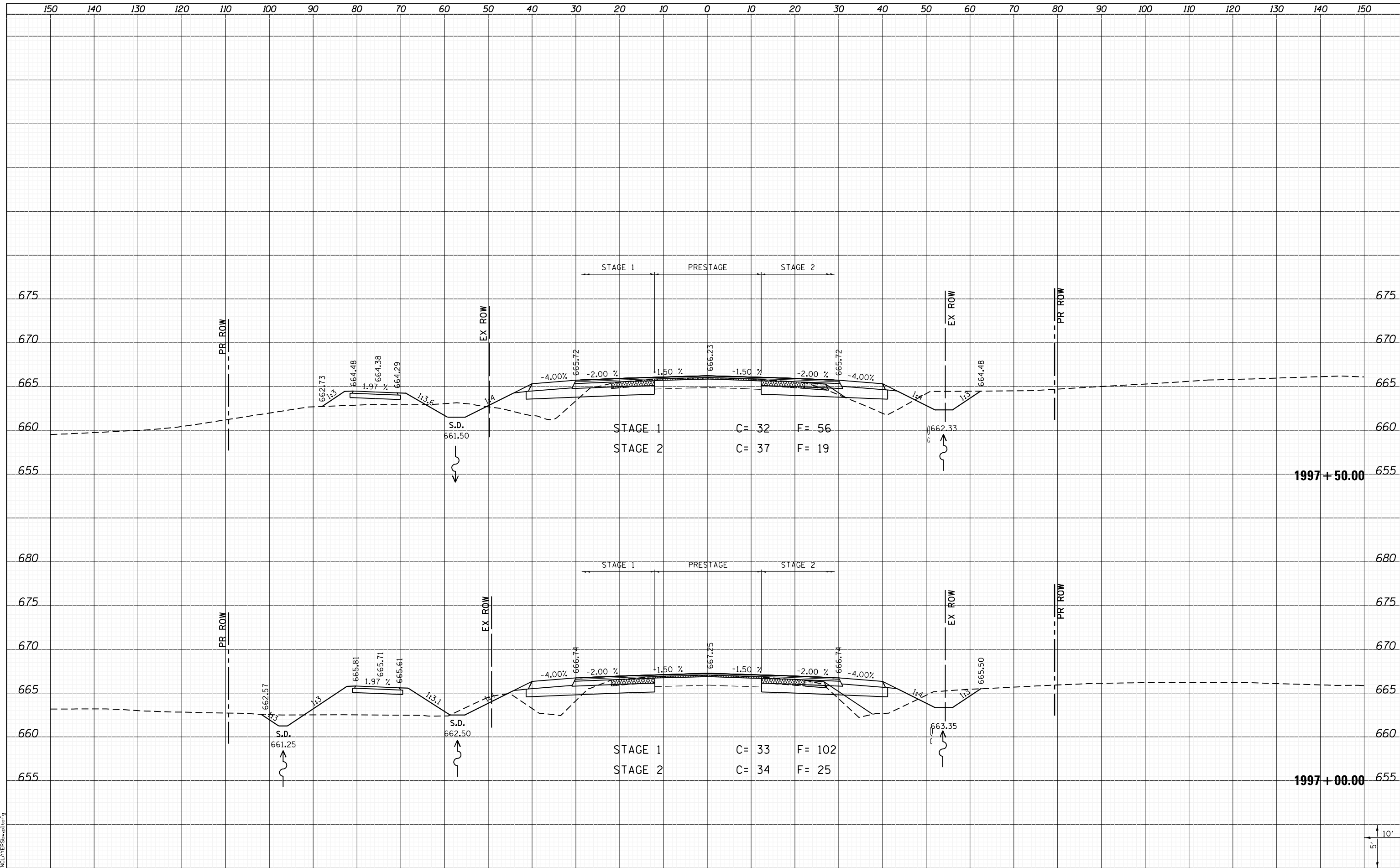
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BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
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LAST SAVED = 1/25/2013  
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 PLOT DRIVER = PdfPlotterServer.exe

DATE	
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SURVEYED	
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TEMPLATE	
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DATE	
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PLOTTED	
TEMPLATE	
AREAS	
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NO.	



LAST SAVED = 1/25/2013  
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FILE NAME =	I:\10011001\Phase II - 76817\Cad\T\Plans\300.08
USER NAME =	kakluos
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
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DESIGNED -	REVISIED -
DRAWN -	REVISIED -
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DATE -	REVISIED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



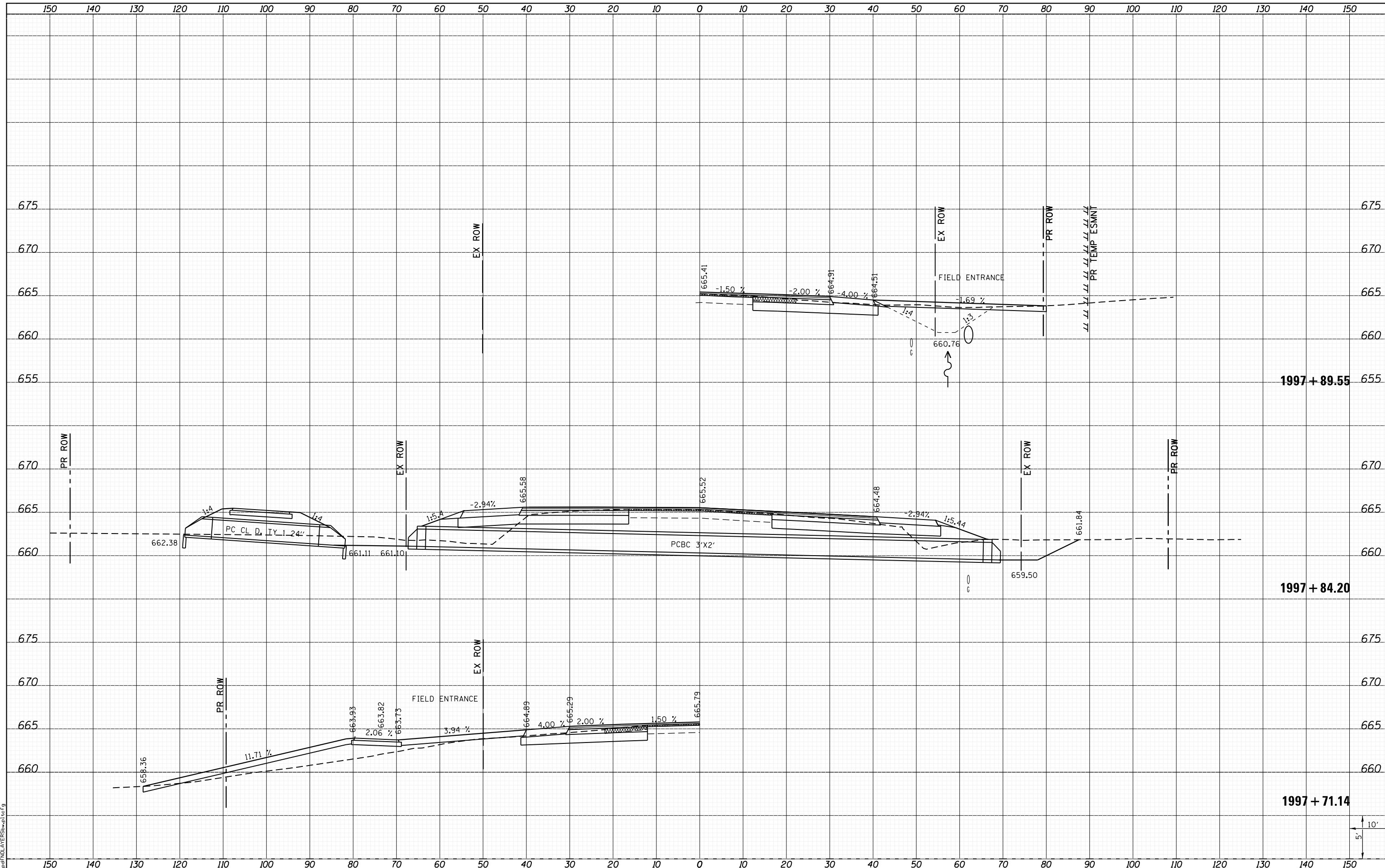
CROSS SECTIONS  
 IL ROUTE 3  
 SCALE: SHEET 12 OF 197 SHEETS STA. 1997+00.00 TO STA. 1997+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	498
				CONTRACT NO. 76817
ILLINOIS FED. AID PROJECT				

DATE	
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TEMPLATE	
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PLOTTED	
TEMPLATE	
AREAS CHECKED	
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LAST SAVED = 1/25/2013 4:50:30 PM  
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FILE NAME =	I:\10011001_Phase II - 76817\Cad\T\Plans\300.08
USER NAME =	kaklues
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -
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PLOT DATE =	1/25/2013 4:50:30 PM

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**



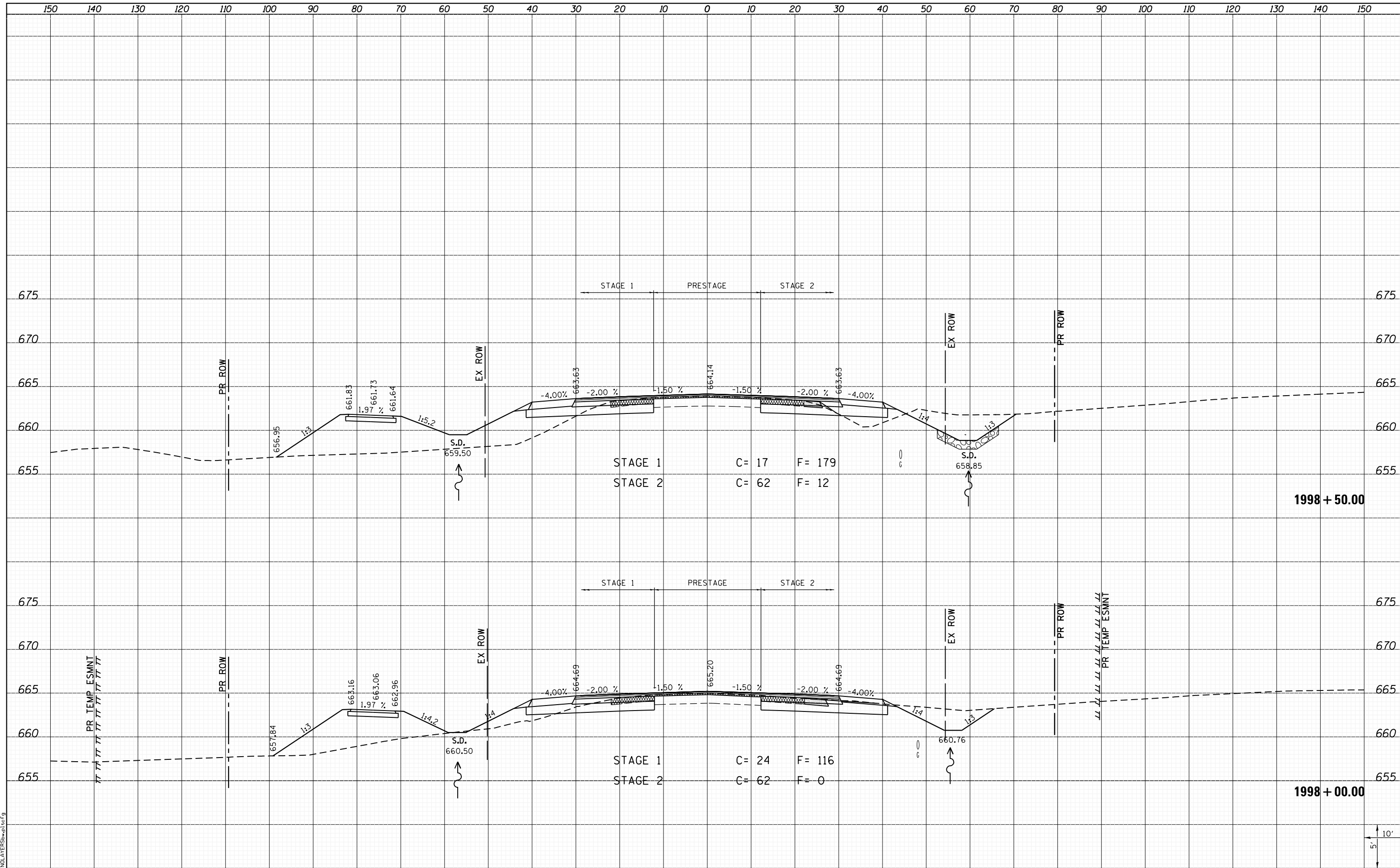
**CROSS SECTIONS**  
IL ROUTE 3

SCALE: SHEET 13 OF 197 SHEETS STA. 1997+71.14 TO STA. 1997+89.55

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	499
				CONTRACT NO. 76817
ILLINOIS FED. AID PROJECT				

DATE	
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PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



1998 + 50.00

1998 + 00.00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



CROSS SECTIONS  
IL ROUTE 3

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	500
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	

LAST SAVED = 1/25/2013  
PEN TABLE = 161-hat.rdi  
PLOT DRIVER = pdmclaterswptc9

FILE NAME = I:\10011001\Phase II - 76817\Cad\T\Plans\300.08\76817-sh1-IL3-xssht.dgn  
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PLOT DATE = 1/25/2013 4:50:35 PM

USER NAME = kakluos	DESIGNED -	REVISED -
DRAWN -	REVISOR -	REVISION -
CHECKED -	DATE -	

SCALE: SHEET 14 OF 197 SHEETS STA. 1998+00.00 TO STA. 1998+50.00