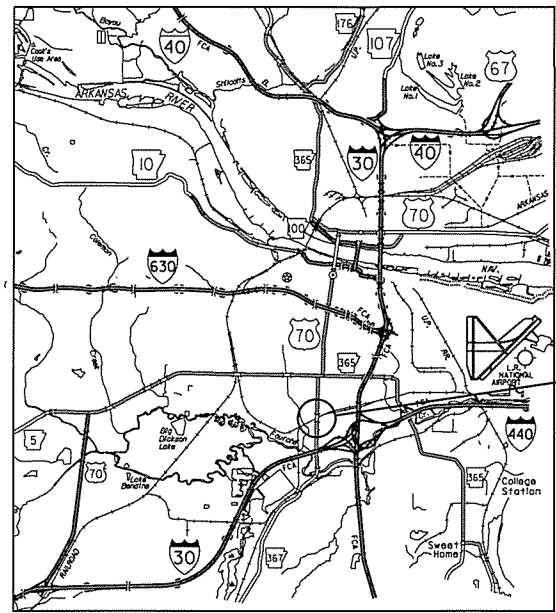


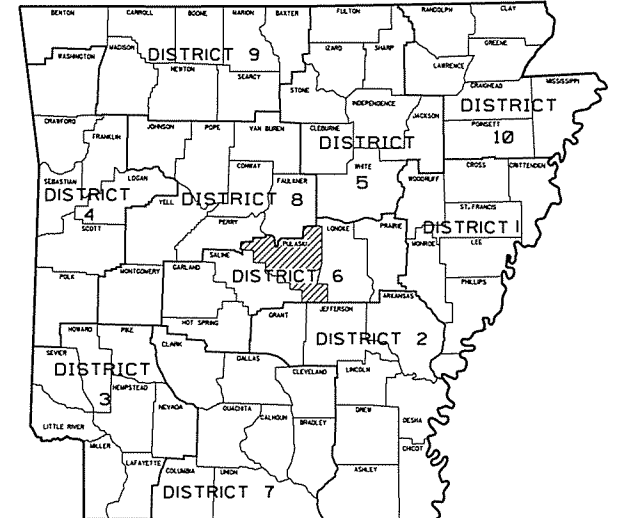
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				6	ARK.				
JOB NO.							060395	1	141
② UNION PACIFIC RR OVERPASS (ARCH ST.) (LR) (S)									



VICINITY MAP

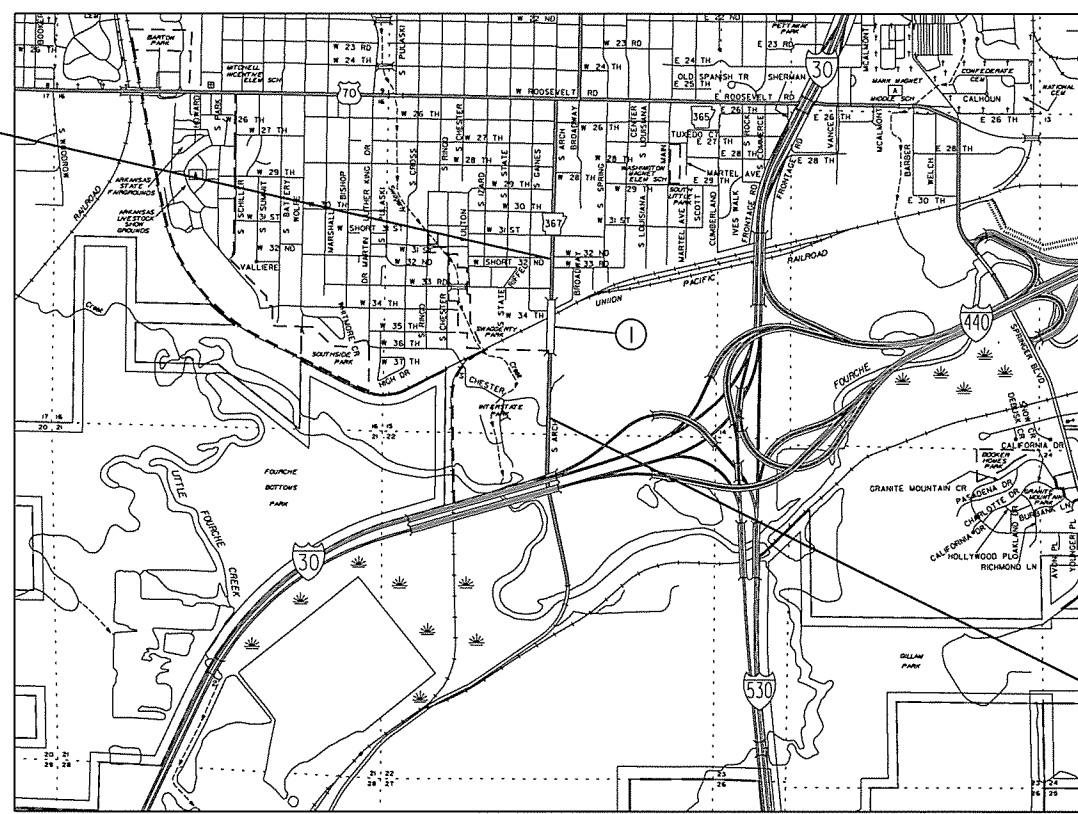
PROJECT LOCATION

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
 CONSTRUCTION PLANS FOR STATE HIGHWAY  
**UNION PACIFIC RR OVERPASS**  
**(ARCH ST.) (LR) (S)**  
 PULASKI COUNTY  
 ROUTE 367 SECTION 13  
 FEDERAL AID PROJECT BRN-STP-STPF-9253(62)  
 JOB 060395



ARKANSAS HIGHWAY DISTRICT 6

STA. 37+80.00  
 END JOB 060395  
 L.M. 10.20



R 12 W  
 NOT TO SCALE

STA. 13+50.00  
 BEGIN JOB 060395  
 L.M. 9.74

DESIGN TRAFFIC DATA

DESIGN YEAR	-----	2034
2014 ADT	-----	7,700
2034 ADT	-----	9,800
2034 DHV	-----	1,078
DIRECTIONAL DISTRIBUTION	-----	60%
TRUCKS	-----	3%
DESIGN SPEED	-----	40 MPH

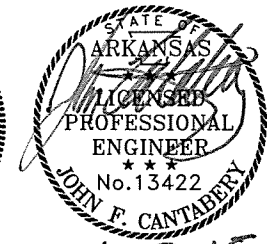
BRIDGE DATA

- ① STA. 19+98.53 BRIDGE END  
 BRIDGE NO. 07298 OVER UNION PACIFIC R.R.  
 736'-0" CONT. COMP. PRESTRESSED  
 CONCRETE GIRDER UNIT (4 @ 184')  
 415'-0" CONT. COMP. PLATE GIRDER UNIT  
 32'-0" CLEAR ROADWAY  
 1153'-3 7/8" BRIDGE LENGTH  
 STA. 31+51.85 BRIDGE END

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 34°42'39"	N 34°42'51"	N 34°43'03"
LONGITUDE	W 92°16'51"	W 92°16'50"	W 92°16'49"
STATION	13+50.00	25+65.00	37+80.00

GROSS LENGTH OF PROJECT	2,430.00 FEET OR 0.460 MILES
NET LENGTH OF ROADWAY	1,276.68 FEET OR 0.242 MILES
NET LENGTH OF BRIDGES	1,153.32 FEET OR 0.218 MILES
NET LENGTH OF PROJECT	2,430.00 FEET OR 0.460 MILES



9-28-15

P.E. JOB 060395

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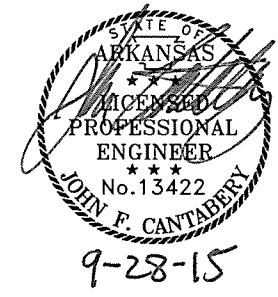
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				6	ARK.			
							JOB NO. 060395	2
							INDEX OF SHEETS	

2

SHEET NO.	TITLE	BRIDGE NO.	DRAWING NO.	DATE
1	TITLE SHEET			
2	INDEX OF SHEETS			
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES			
4-7	TYPICAL SECTIONS OF IMPROVEMENT			
8-9	SPECIAL DETAILS			
10-14	TEMPORARY EROSION CONTROL DETAILS			
15-18	MAINTENANCE OF TRAFFIC DETAILS			
19	PERMANENT PAVEMENT MARKING DETAILS			
20	SOIL BORING LOG			
21-23	QUANTITIES			
24	SCHEDULE OF BRIDGE QUANTITIES	07298	54811	
25	SUMMARY OF QUANTITIES AND REVISIONS			
26-27	SURVEY CONTROL DETAILS			
28-29	PLAN AND PROFILE - HWY. 367			
30	PLAN AND PROFILE - 33RD ST.			
31	PLAN AND PROFILE - 34TH ST.			
32	DRIVEWAY PROFILES			
33	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 1 OF 5)	07298	54812	
34	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 2 OF 5)	07298	54813	
35	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 3 OF 5)	07298	54814	
36	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 4 OF 5)	07298	54815	
37	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 5 OF 5)	07298	54816	
38	EXHIBIT A - LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 1 OF 3)	07298	54817	
39	EXHIBIT A - LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 2 OF 3)	07298	54818	
40	EXHIBIT A - LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD (SHEET 3 OF 3)	07298	54819	
41	DETAILS OF END BENT NO. 1 (SHEET 1 OF 3)	07298	54820	
42	DETAILS OF END BENT NO. 1 (SHEET 2 OF 3)	07298	54821	
43	DETAILS OF END BENT NO. 1 (SHEET 3 OF 3)	07298	54822	
44	DETAILS OF END BENT NO. 12 (SHEET 1 OF 3)	07298	54823	
45	DETAILS OF END BENT NO. 12 (SHEET 2 OF 3)	07298	54824	
46	DETAILS OF END BENT NO. 12 (SHEET 3 OF 3)	07298	54825	
47	DETAILS OF TRANSITIONAL APPROACH RAILING	07298	54826	
48	DETAILS OF INTERMEDIATE BENT NOS. 2-8 (SHEET 1 OF 2)	07298	54827	
49	DETAILS OF INTERMEDIATE BENT NOS. 2-8 (SHEET 2 OF 2)	07298	54828	
50	DETAILS OF INTERMEDIATE BENT NO. 9 (SHEET 1 OF 2)	07298	54829	
51	DETAILS OF INTERMEDIATE BENT NO. 9 (SHEET 2 OF 2)	07298	54830	
52	DETAILS OF INTERMEDIATE BENT NOS. 10 & 11 (SHEET 1 OF 2)	07298	54831	
53	DETAILS OF INTERMEDIATE BENT NOS. 10 & 11 (SHEET 2 OF 2)	07298	54832	
54	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 1 OF 7)	07298	54833	
55	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 2 OF 7)	07298	54834	
56	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 3 OF 7)	07298	54835	
57	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 4 OF 7)	07298	54836	
58	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 5 OF 7)	07298	54837	
59	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 6 OF 7)	07298	54838	
60	DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT (SHEET 7 OF 7)	07298	54839	
61	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 1 OF 13)	07298	54840	
62	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 2 OF 13)	07298	54841	
63	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 3 OF 13)	07298	54842	
64	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 4 OF 13)	07298	54843	
65	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 5 OF 13)	07298	54844	
66	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 6 OF 13)	07298	54845	
67	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 7 OF 13)	07298	54846	
68	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 8 OF 13)	07298	54847	
69	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 9 OF 13)	07298	54848	
70	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 10 OF 13)	07298	54849	
71	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 11 OF 13)	07298	54850	
72	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 12 OF 13)	07298	54851	
73	DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (SHEET 13 OF 13)	07298	54852	

SHEET NO.	TITLE	BRIDGE NO.	DRAWING NO.	DATE
74	DETAILS OF POURED SILICONE JOINT	07298	54853	
75	DETAILS OF STRIP SEAL JOINT (SHEET 1 OF 2)	07298	54854	
76	DETAILS OF STRIP SEAL JOINT (SHEET 2 OF 2)	07298	54855	
77	DETAILS OF ELASTOMERIC BEARINGS (SHEET 1 OF 2)	07298	54856	
78	DETAILS OF ELASTOMERIC BEARINGS (SHEET 2 OF 2)	07298	54857	
79	DETAILS OF TYPE H BRIDGE RAILING	07298	54858	
80	DETAILS OF CHAIN LINK FENCE	07298	54859	
81	DETAILS OF DECK DRAINS (SHEET 1 OF 2)	07298	54860	
82	DETAILS OF DECK DRAINS (SHEET 2 OF 2)	07298	54861	
83	DETAILS OF MSE RETAINING WALL (SHEET 1 OF 5)	07298	54862	
84	DETAILS OF MSE RETAINING WALL (SHEET 2 OF 5)	07298	54863	
85	DETAILS OF MSE RETAINING WALL (SHEET 3 OF 5)	07298	54864	
86	DETAILS OF MSE RETAINING WALL (SHEET 4 OF 5)	07298	54865	
87	DETAILS OF MSE RETAINING WALL (SHEET 5 OF 5)	07298	54865a	
88	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS		55000	2-27-14
89	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES		55001	2-27-14
90	STANDARD DETAILS FOR CONCRETE RIPRAP		55002	2-27-14
91	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS		55005	2-27-14
92	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE		55010	1-14-15
93	STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASEMENTS		55020	2-27-14
94	CONCRETE DITCH PAVING		CDP-1	11-17-10
95	CURBING DETAILS		CG-1	11-29-07
96	DETAILS OF DRIVEWAYS & ISLANDS		DR-1	2-27-14
97	FLARED END SECTION		FES-1	10-18-96
98	FLARED END SECTION		FES-2	10-18-96
99	DETAILS OF DROP INLETS & JUNCTION BOXES		FPC-9	11-16-01
100	DETAILS OF DROP INLETS (TYPE C)		FPC-9E	8-22-02
101	DETAILS OF DROP INLETS (TYPE MO)		FPC-9M	8-22-02
102	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	2-27-14
103	METAL PIPE CULVERT FILL HEIGHTS & BEDDING		PCM-1	2-27-14
104	PAVEMENT MARKING DETAILS		PM-1	9-12-13
104A	DETAILS OF PIPE UNDERDRAIN		PU-1	4-10-03
105	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC		SE-2	10-18-96
106	DETAILS OF SPECIAL ITEMS		SI-1	9-12-13
107	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	9-2-15
108	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-2	9-2-15
109	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-3	9-2-15
110	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER		TC-4	2-27-14
111	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER		TC-5	10-15-09
112	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
113	TEMPORARY EROSION CONTROL DEVICES		TEC-2	6-2-94
114	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
115	TEMPORARY EROSION CONTROL DEVICES		TEC-4	7-26-12
116	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS		WR-1	11-10-05
117-141	CROSS SECTIONS			

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD ON REQUEST.



INDEX OF SHEETS

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				6	ARK.			
				JOB NO.		060395	3	141

2 GOV. SPECS. & GEN. NOTES



10-27-15

GOVERNING SPECIFICATIONS

ARKANSAS HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

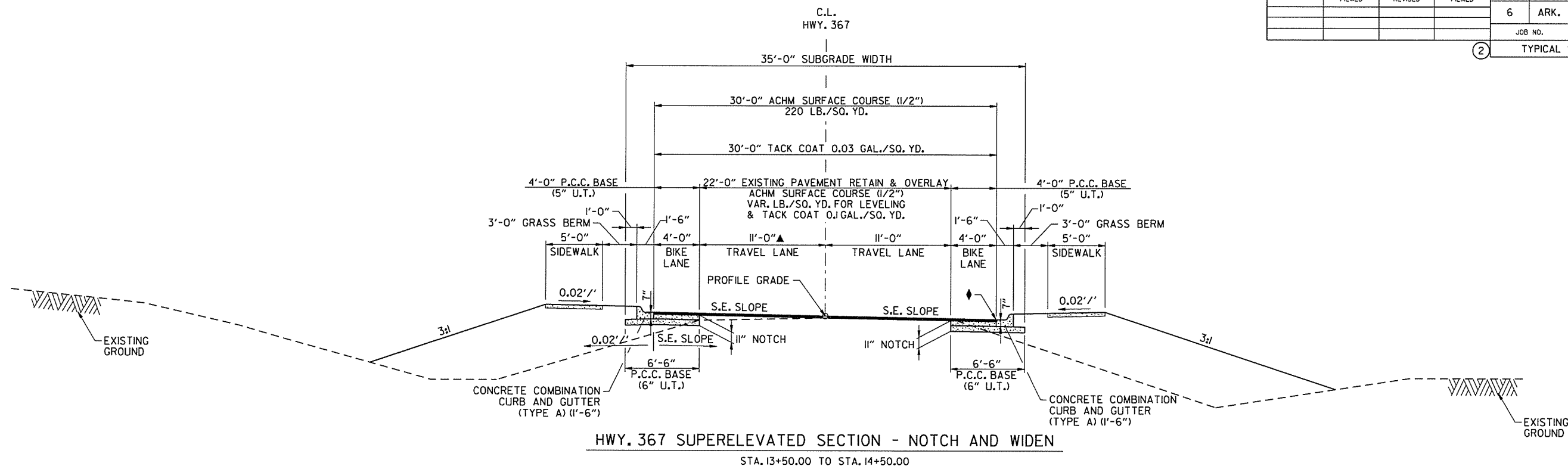
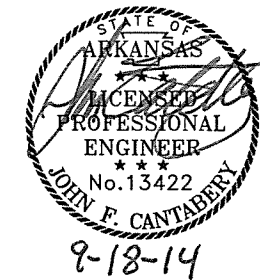
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 060395
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
108-1	LIQUIDATED DAMAGES
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 060395	AIRPORT CLEARANCE REQUIREMENTS
JOB 060395	BIDDING REQUIREMENTS AND CONDITIONS
JOB 060395	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 060395	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 060395	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 060395	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 060395	EXCAVATION AND EMBANKMENT
JOB 060395	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 060395	HIGH PERFORMANCE PAVEMENT MARKING
JOB 060395	INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (UPRR)
JOB 060395	MAINTENANCE OF TRAFFIC
JOB 060395	MANDATORY ELECTRONIC CONTRACT
JOB 060395	NESTING SITES OF MIGRATORY BIRDS
JOB 060395	PARTNERING REQUIREMENTS
JOB 060395	PRE-BID ON SITE INVESTIGATION OF SOIL CONDITIONS
JOB 060395	PROSECUTION AND PROGRESS
JOB 060395	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 060395	RETAINING WALLS
JOB 060395	SECTION 404 NATIONWIDE 23 PERMIT REQUIREMENTS
JOB 060395	SHORING
JOB 060395	SHORING FOR CULVERTS
JOB 060395	SITE USE (A+C METHOD)
JOB 060395	SOIL STABILIZATION
JOB 060395	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES OVER ROADWAYS
JOB 060395	STORM WATER POLLUTION PREVENTION PLAN
JOB 060395	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 060395	UTILITY ADJUSTMENTS
JOB 060395	VALUE ENGINEERING
JOB 060395	WARM MIX ASPHALT
JOB 060395	WORK RESTRICTIONS

GENERAL NOTES:

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - EXCAVATION AND EMBANKMENT, UNLESS OTHERWISE NOTED.

GOVERNING SPECIFICATIONS & GENERAL NOTES

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				6	ARK.			
				JOB NO.	060395	4	141	
				2 TYPICAL SECTIONS OF IMPROVEMENT				

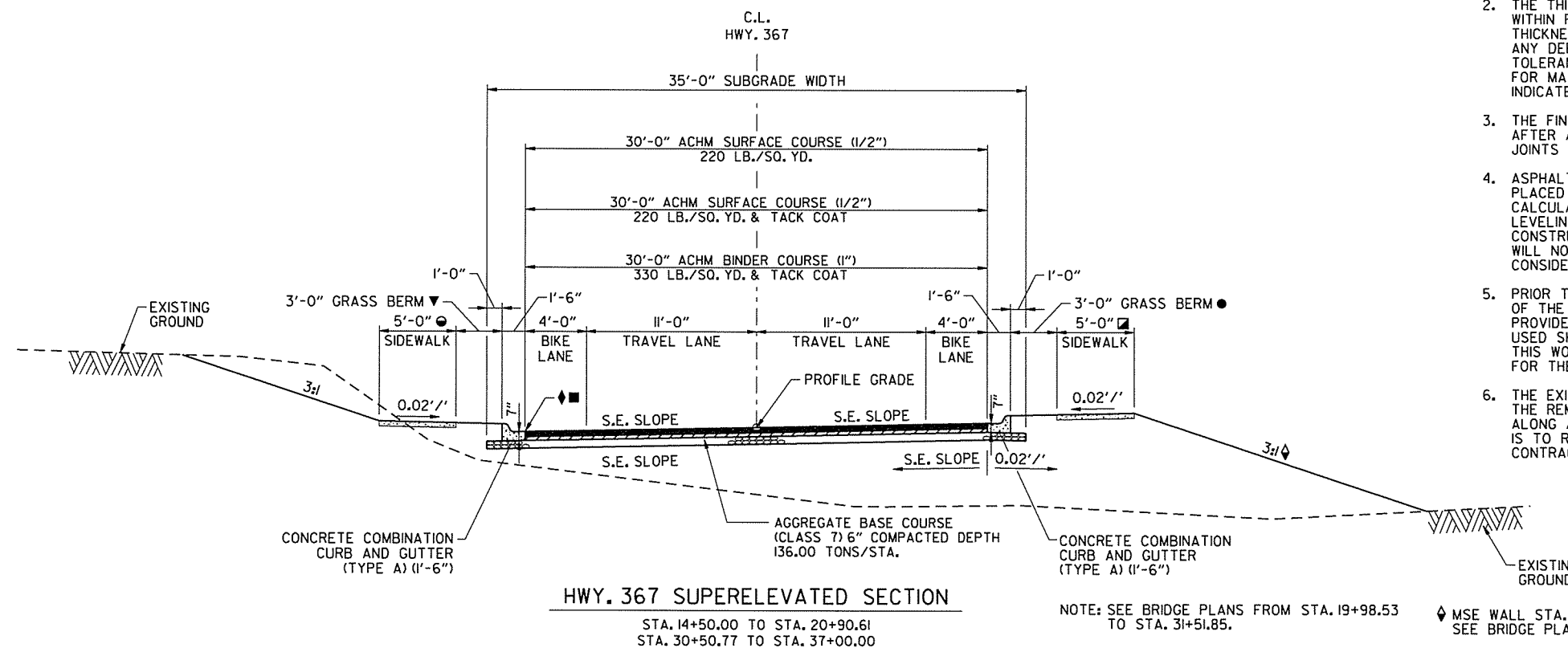


**HWY. 367 SUPERELEVATED SECTION - NOTCH AND WIDEN**  
STA. 13+50.00 TO STA. 14+50.00

- ▲ TRANSITION TRAVEL LANE FROM 22.00' AT STA. 13+50.00 TO 11.00' AT STA. 14+50.00
- ◆ POINT OF SUPERELEVATION ROTATION (0.30' BELOW PROFILE GRADE)

**NOTES:**

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
4. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
5. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
6. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. ANY DAMAGE TO THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



**HWY. 367 SUPERELEVATED SECTION**  
STA. 14+50.00 TO STA. 20+90.61  
STA. 30+50.77 TO STA. 37+00.00

NOTE: SEE BRIDGE PLANS FROM STA. 19+98.53 TO STA. 31+51.85.

◆ MSE WALL STA. 31+34.00 TO STA. 33+64.96  
SEE BRIDGE PLANS FOR MSE WALL DETAILS

- TRANSITION SIDEWALK FROM 5'-0" AT STA. 19+67.49 TO 6'-0" AT STA. 19+87.49 AND 6'-0" AT STA. 31+54.54 TO 5'-0" AT STA. 31+74.54

- ▼ THERE IS NO GRASS BERM FROM STA. 19+67.49 TO STA. 31+74.54

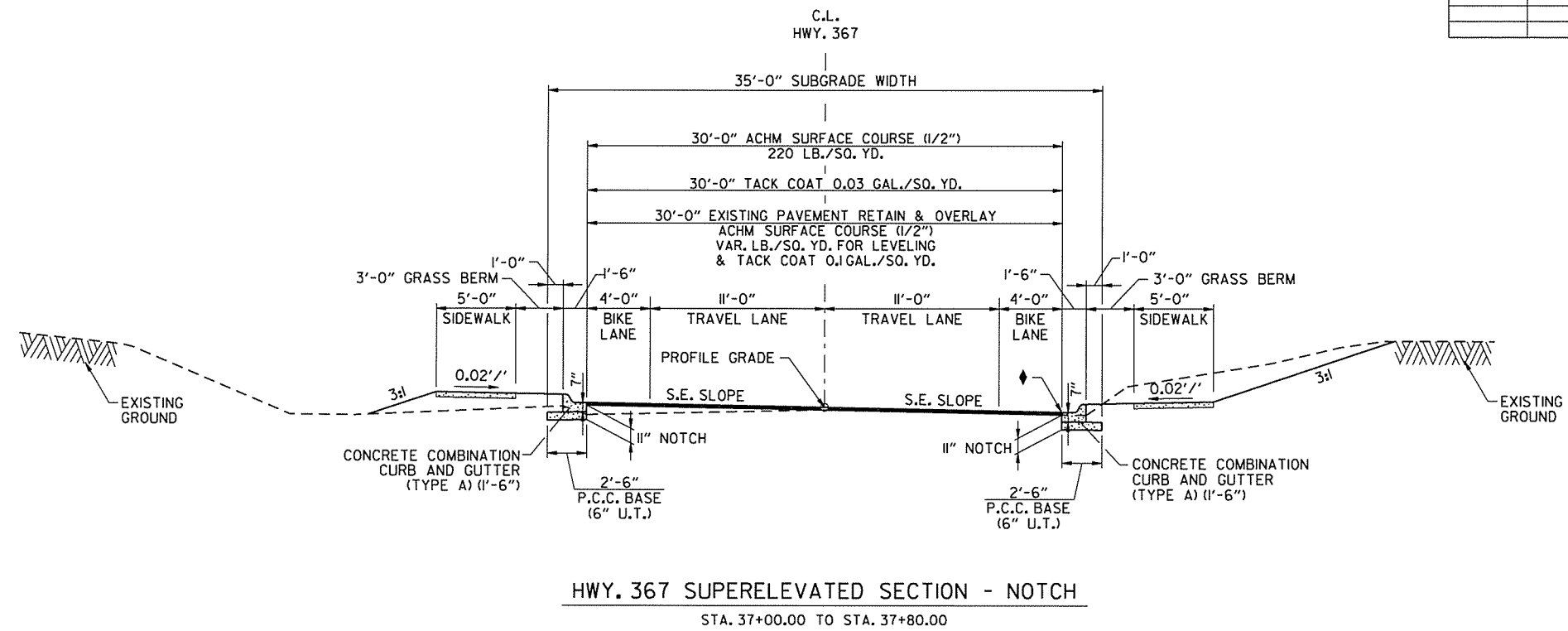
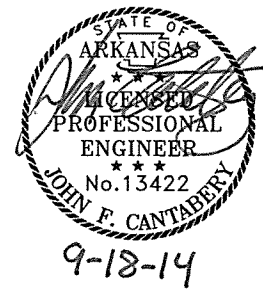
- ◆ POINT OF SUPERELEVATION ROTATION (0.30' BELOW PROFILE GRADE)
- POINT OF SUPERELEVATION ROTATION:  
RT. EDGE OF BIKE LANE: 14+50.00 TO 17+07.88  
34+40.70 TO 37+00.00  
LT. EDGE OF BIKE LANE: 17+07.88 TO 20+90.61  
30+50.77 TO 34+40.70

- THERE IS NO GRASS BERM FROM STA. 19+67.49 TO STA. 33+85.00

- TRANSITION SIDEWALK FROM 5'-0" AT STA. 19+67.49 TO 6'-0" AT STA. 19+87.49 AND 6'-0" AT STA. 33+65.00 TO 5'-0" AT STA. 33+85.00

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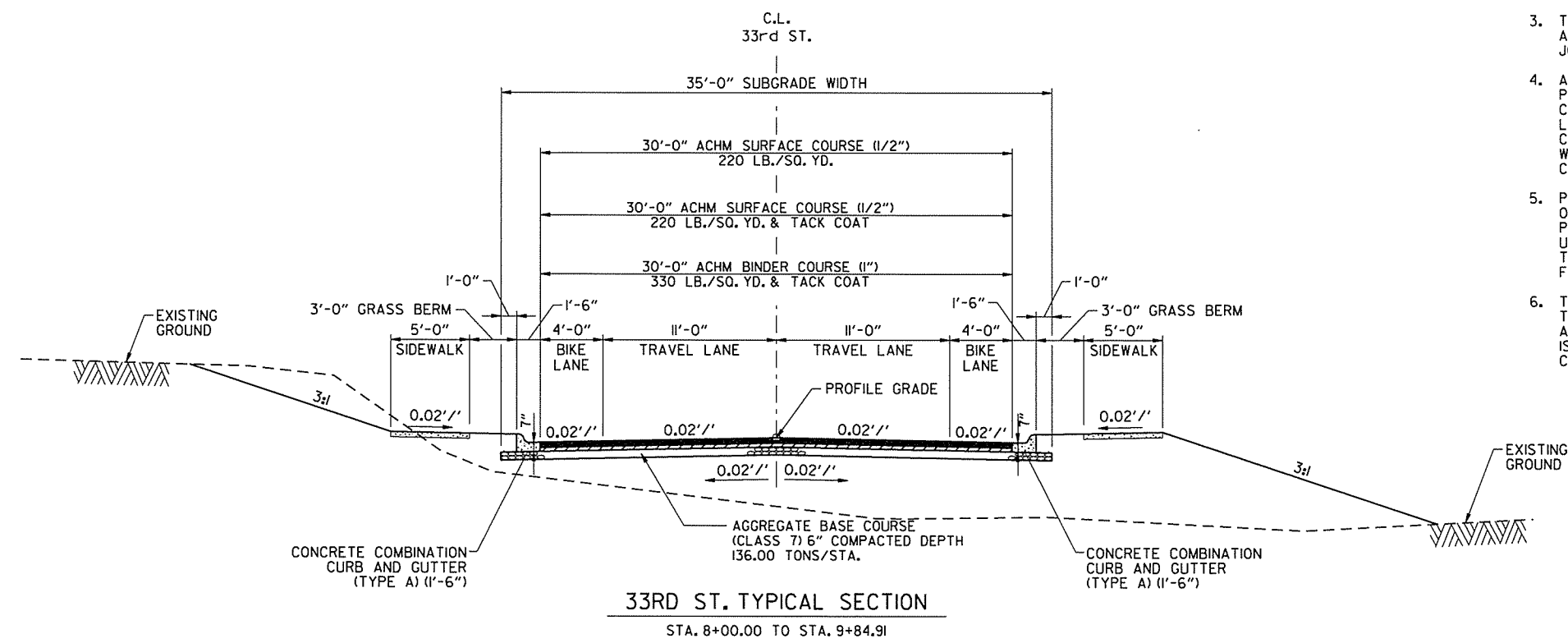
2 TYPICAL SECTIONS OF IMPROVEMENT



HWY. 367 SUPERELEVATED SECTION - NOTCH  
STA. 37+00.00 TO STA. 37+80.00

◆ POINT OF SUPERELEVATION ROTATION (0.30' BELOW PROFILE GRADE)

- NOTES:
- REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
  - THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
  - THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
  - ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
  - PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
  - THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. ANY DAMAGE TO THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



33RD ST. TYPICAL SECTION  
STA. 8+00.00 TO STA. 9+84.91

TYPICAL SECTIONS OF IMPROVEMENT

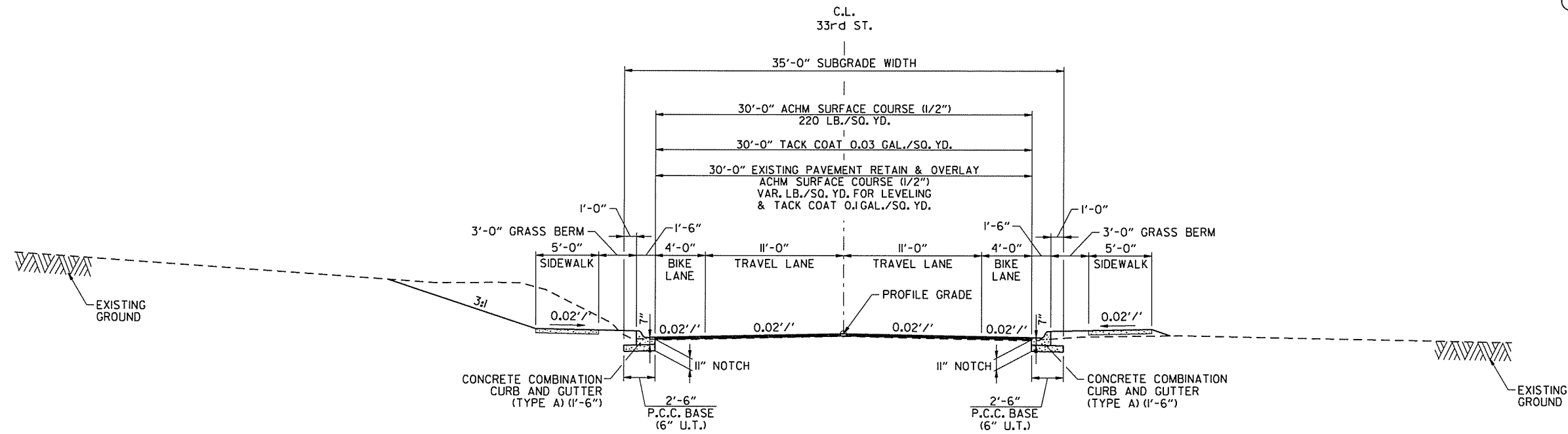
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DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	6	141	

2 TYPICAL SECTIONS OF IMPROVEMENT

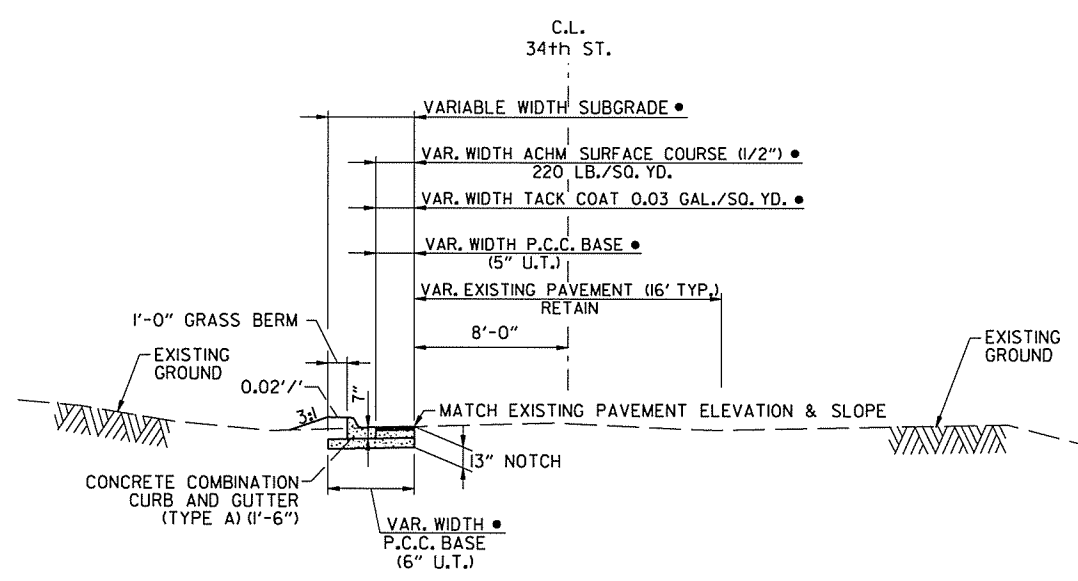


9-18-14



33RD ST. TYPICAL SECTION - NOTCH  
STA. 7+00.00 TO STA. 8+00.00

- NOTES:
- REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES, NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
  - THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
  - ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
  - PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
  - THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. ANY DAMAGE TO THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



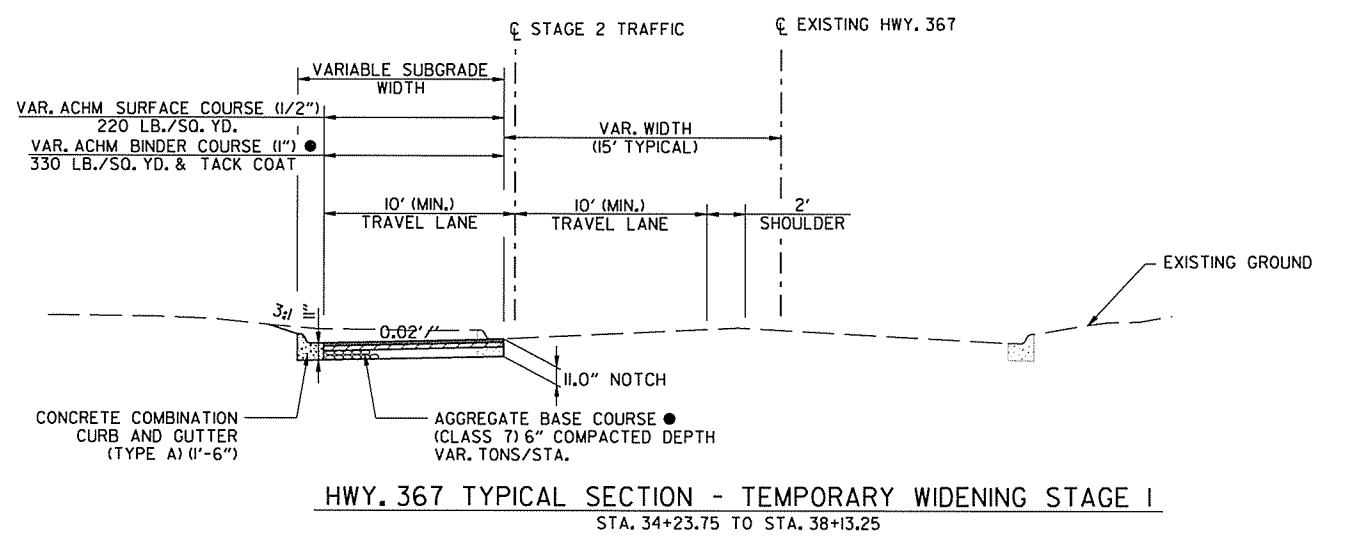
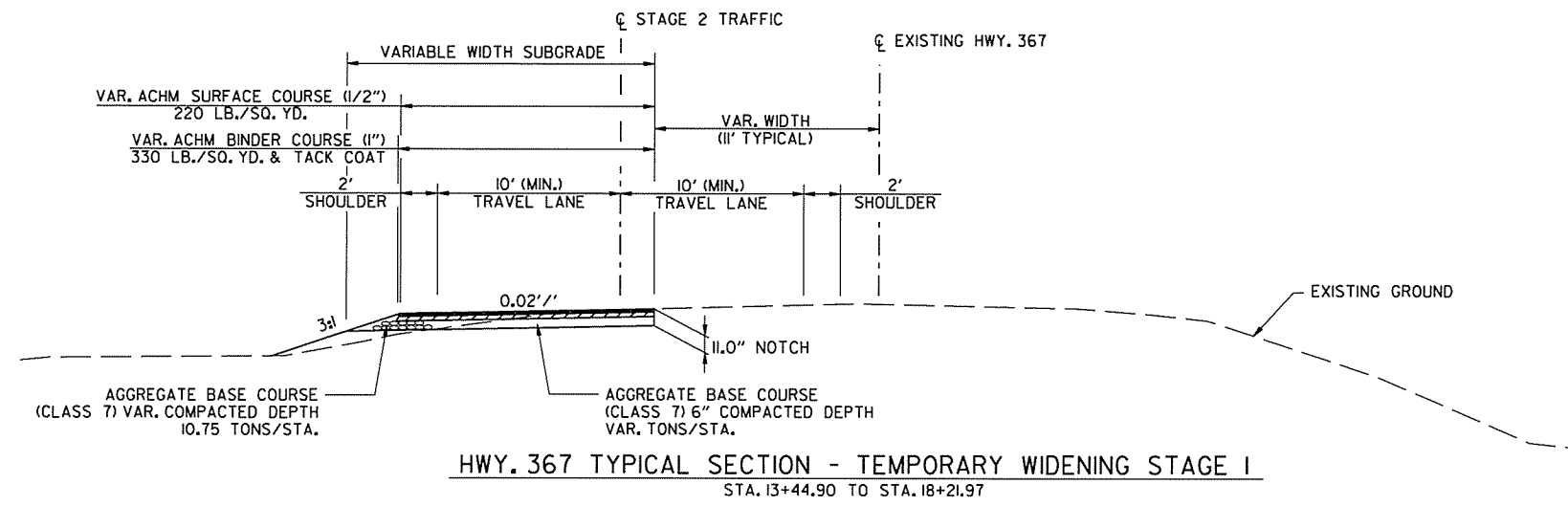
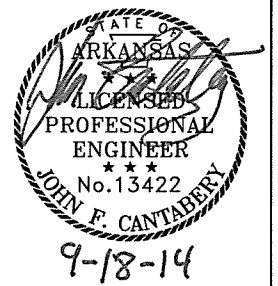
34TH ST. TYPICAL SECTION - NOTCH AND WIDEN  
STA. 9+86.64 TO STA. 10+83.67

• SEE SPECIAL DETAILS FOR PAVEMENT WIDTHS FOR 34TH STREET NOTCH AND WIDENING.

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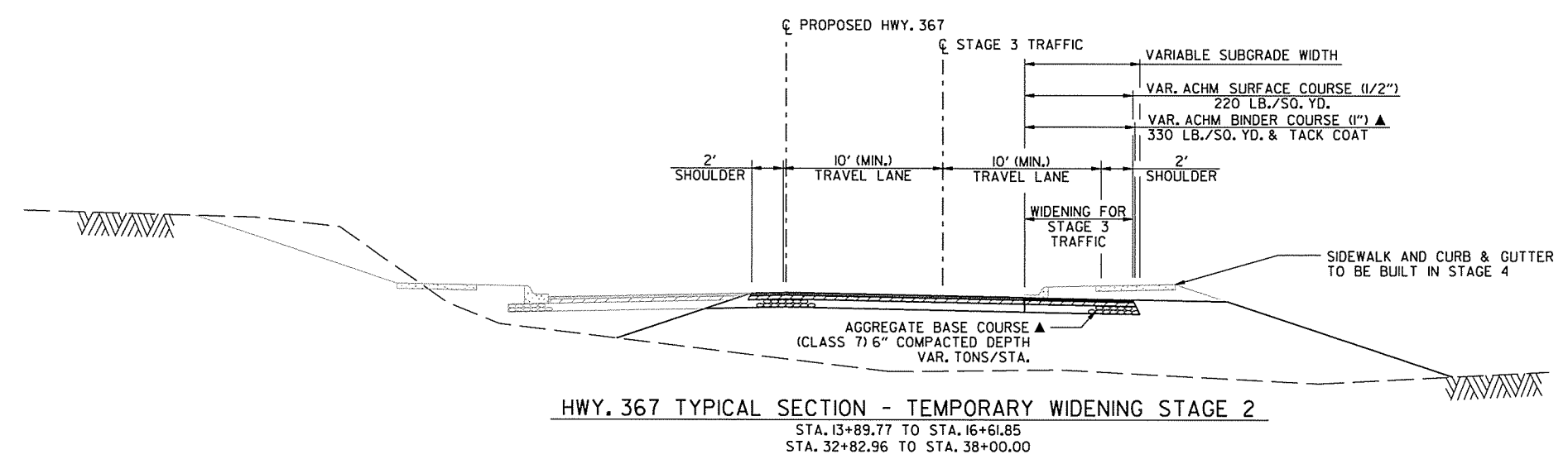
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				6	ARK.			
						JOB NO.	060395	7
						TYPICAL SECTIONS OF IMPROVEMENT		

2 TYPICAL SECTIONS OF IMPROVEMENT



- NOTES:
- REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
  - THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
  - THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. ANY DAMAGE TO THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

● NOTE: FROM STA. 34+23.75 TO STA. 34+82.59 AND STA. 37+58.58 TO STA. 38+13.25, 9" P.C.C. BASE MAY BE UTILIZED IN PLACE OF ACHM BINDER COURSE AND AGGREGATE BASE COURSE.

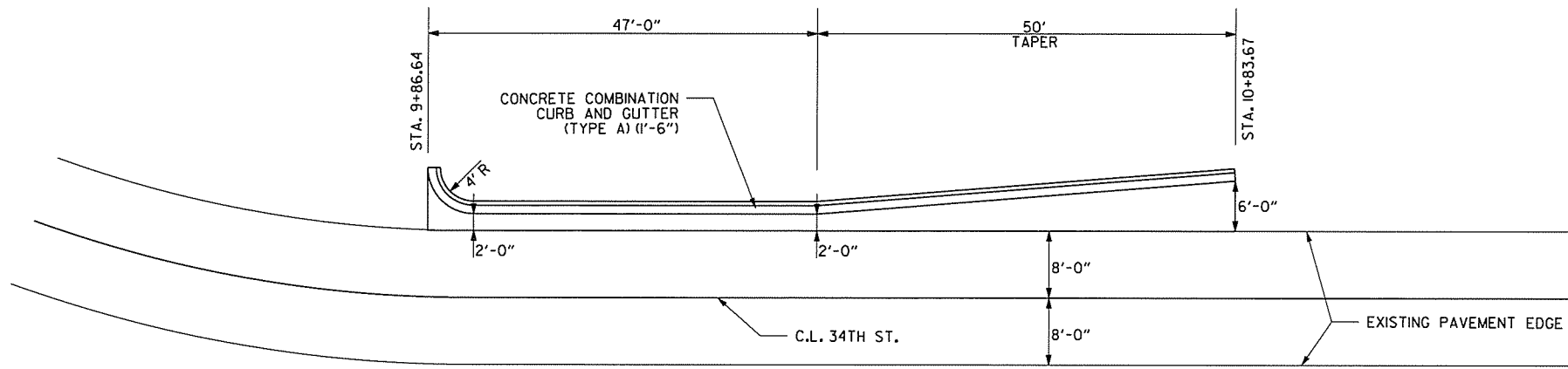


▲ NOTE: FROM STA. 13+89.77 TO STA. 14+50.00, 9" P.C.C. BASE MAY BE UTILIZED IN PLACE OF ACHM BINDER COURSE AND AGGREGATE BASE COURSE.

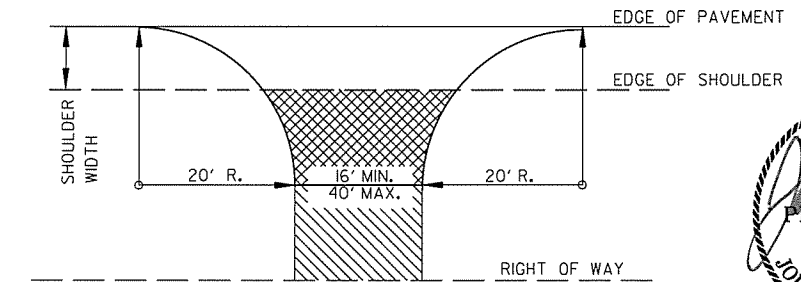
TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
						JOB NO.	060395	8
						SPECIAL DETAILS		



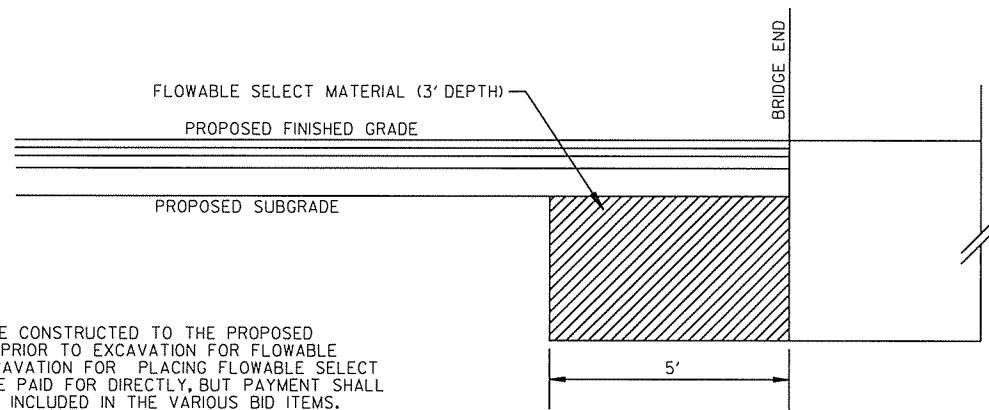
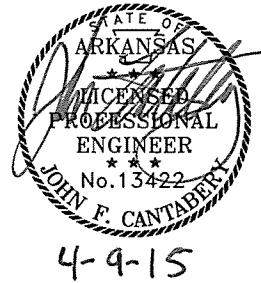
DETAIL FOR NOTCH AND WIDEN SECTION  
34TH ST. STA. 9+86.64 TO STA. 10+83.67



ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH

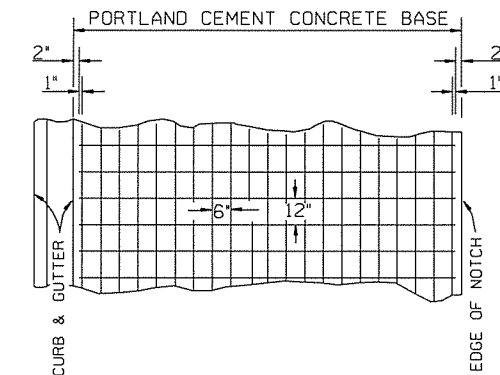
AGGREGATE BASE COURSE (CLASS 7) 9" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY.

DETAIL FOR DRIVEWAY TURNOUTS  
(34TH STREET AND 33RD STREET ALLEY)



NOTE: EMBANKMENT SHALL BE CONSTRUCTED TO THE PROPOSED SUBGRADE ELEVATION PRIOR TO EXCAVATION FOR FLOWABLE SELECT MATERIAL. EXCAVATION FOR PLACING FLOWABLE SELECT MATERIAL WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT SHALL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS BID ITEMS.

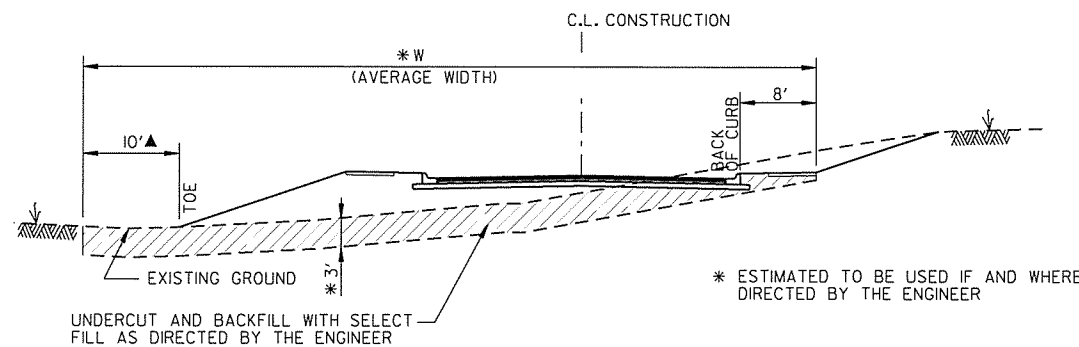
FLOWABLE SELECT MATERIAL AT PROPOSED BRIDGE ENDS



6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ.YD.

NOTES:

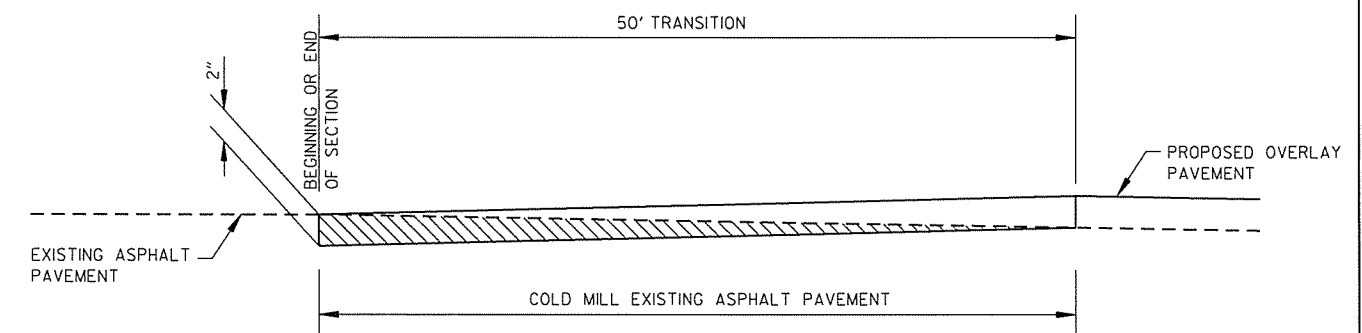
- LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
- MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
- MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (5" & 6" U.T.)



▲ TRANSITION FROM 10' TO 0' TO STAY WITHIN R/W AS NEEDED

DETAIL OF UNDERCUT

HWY. 367 STA. 13+50 TO STA. 19+98.53 W = 119'  
HWY. 367 STA. 31+51.85 TO STA. 37+80 W = 99'  
33RD ST. STA. 7+00 TO STA. 9+84.91 W = 65'

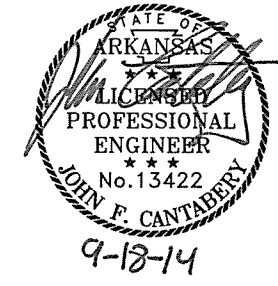


DETAIL FOR TRANSITIONS

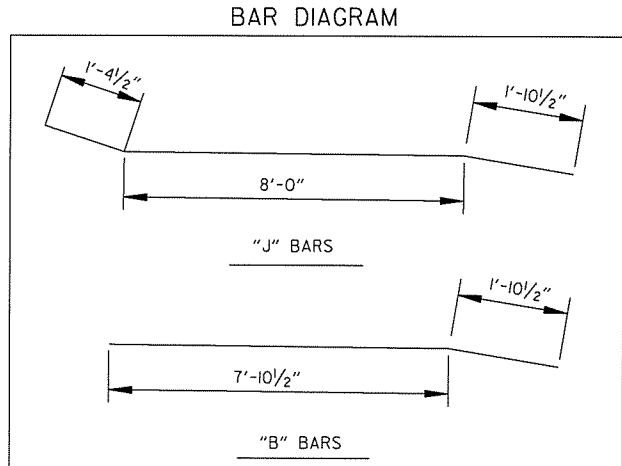
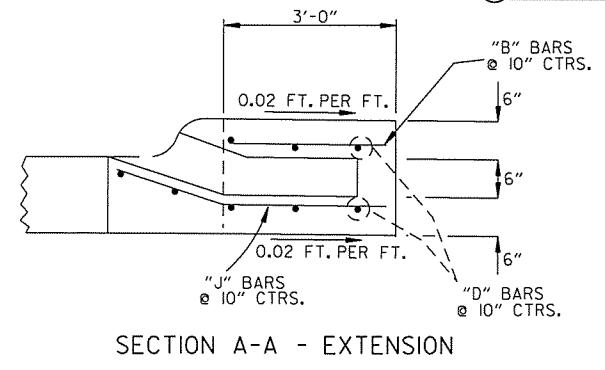
SPECIAL DETAILS



DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		9	141
				JOB NO.	060395		9	141

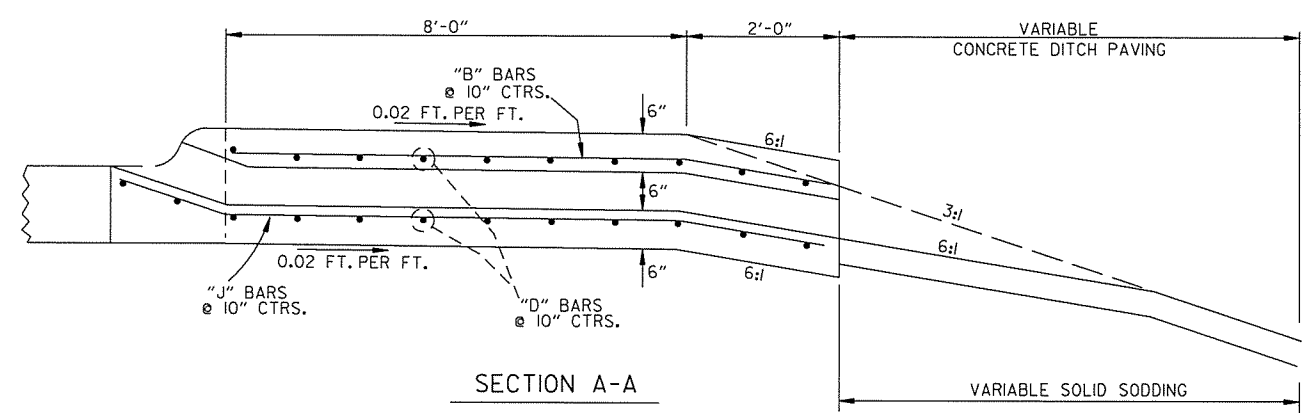
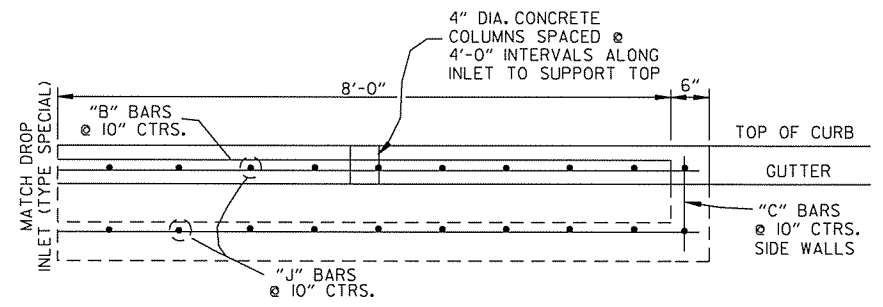
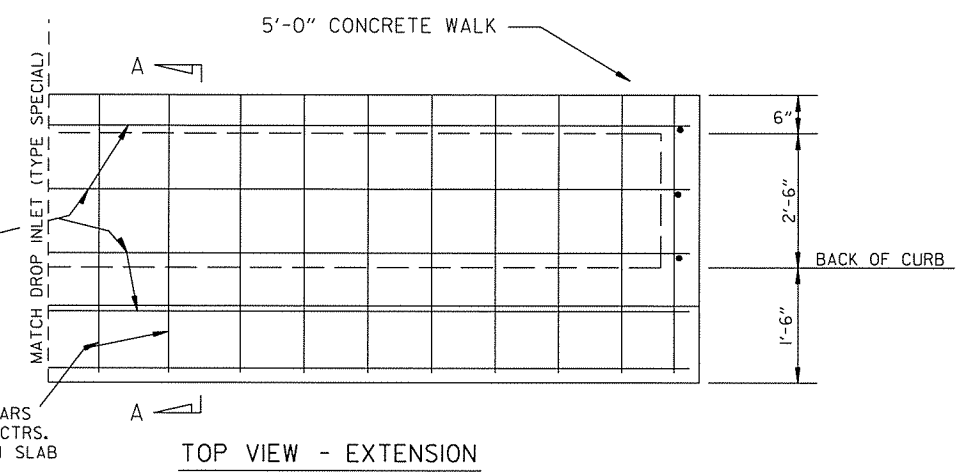
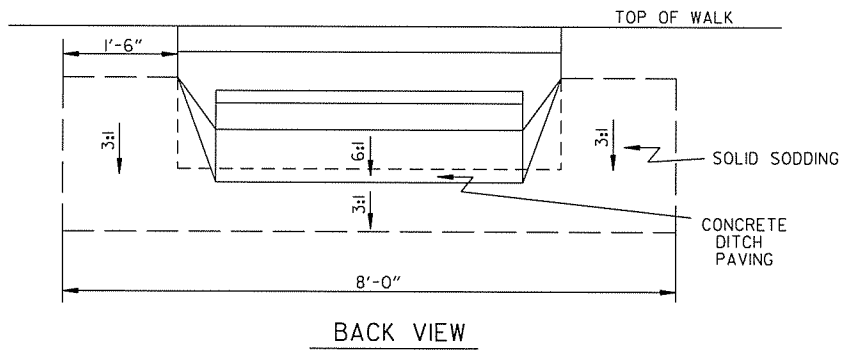
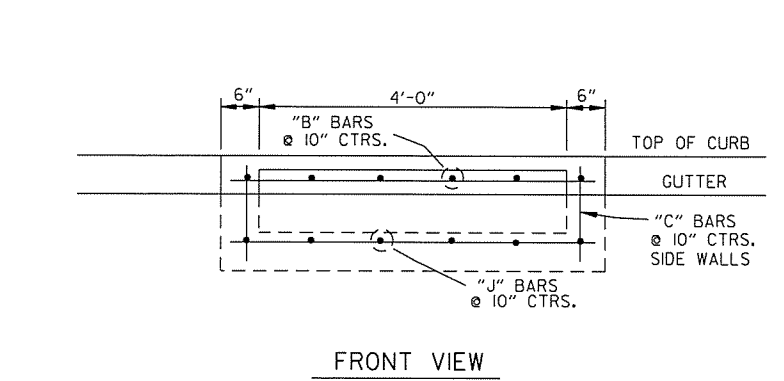
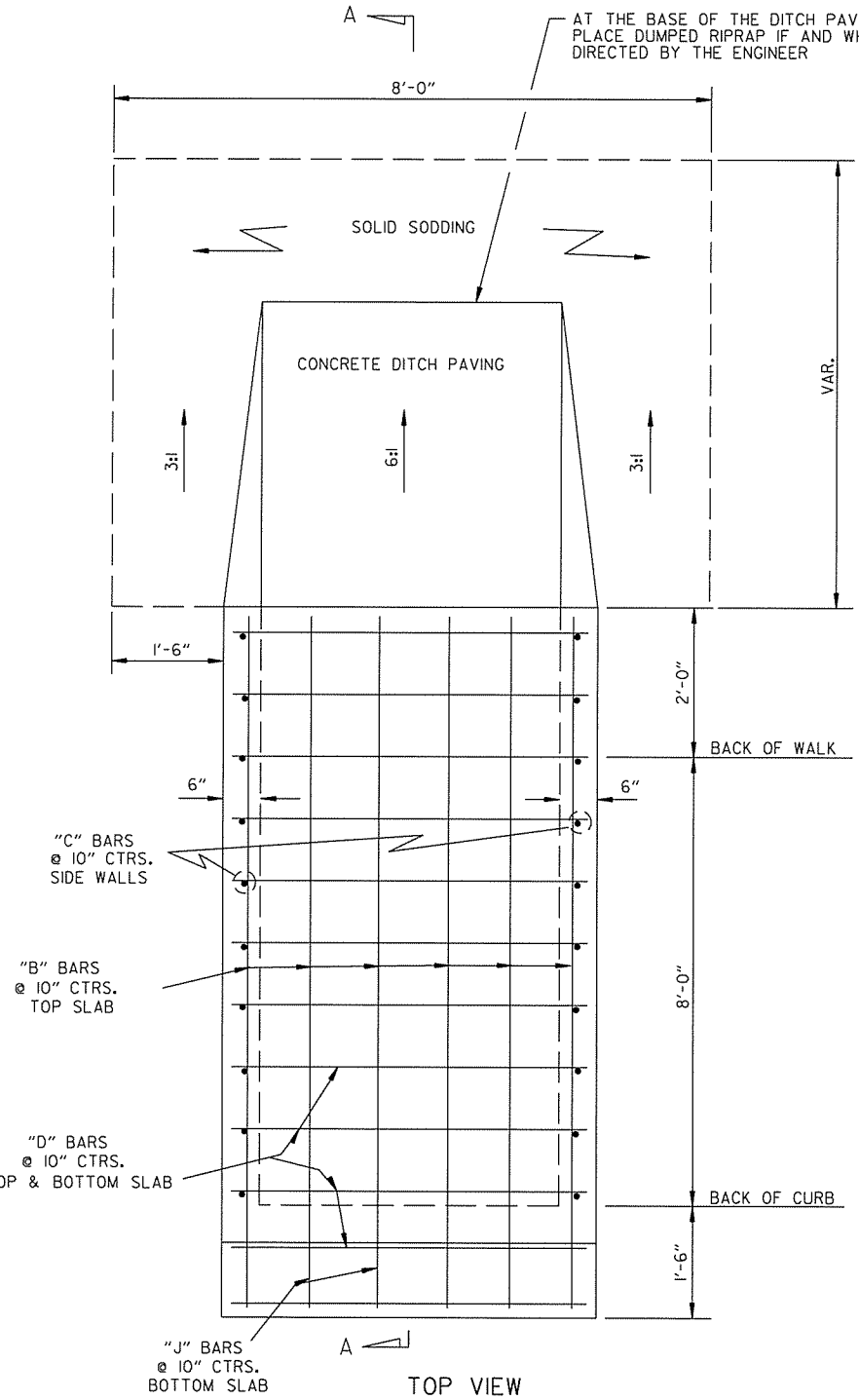


2 SPECIAL DETAILS



CLASS A CONC.	REINF. STEEL-ROWY GRADE 60
CU. YDS.	POUND
2.53	207

QUANTITIES FOR INFORMATION ONLY  
DROP INLET (TYPE SPECIAL)



DROP INLET (TYPE SPECIAL)

GENERAL NOTES:

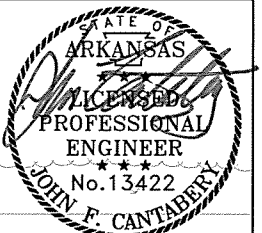
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
- ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
- DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
- DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
- PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
- CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
- CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.
- ANY VERTICAL SIDEWALK TRANSITIONS REQUIRED TO MATCH INLET ELEVATIONS SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 12H:1V.

SPECIAL DETAILS

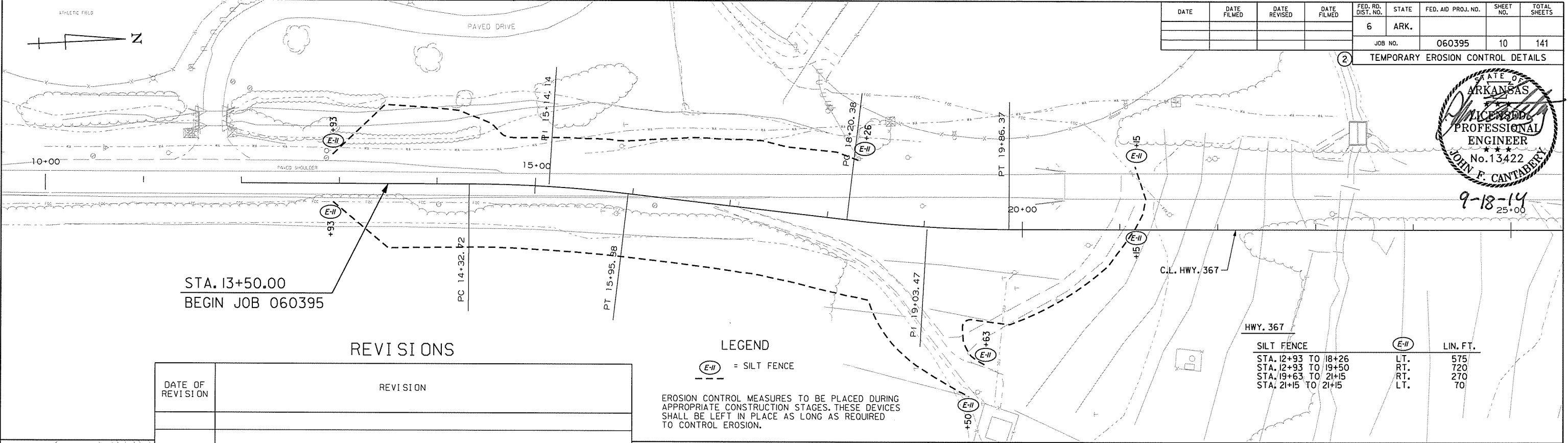
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				6	ARK.			
							JOB NO. 060395	10 141

2 TEMPORARY EROSION CONTROL DETAILS



9-18-14  
25+00



STA. 13+50.00  
BEGIN JOB 060395

REVISIONS

DATE OF REVISION	REVISION

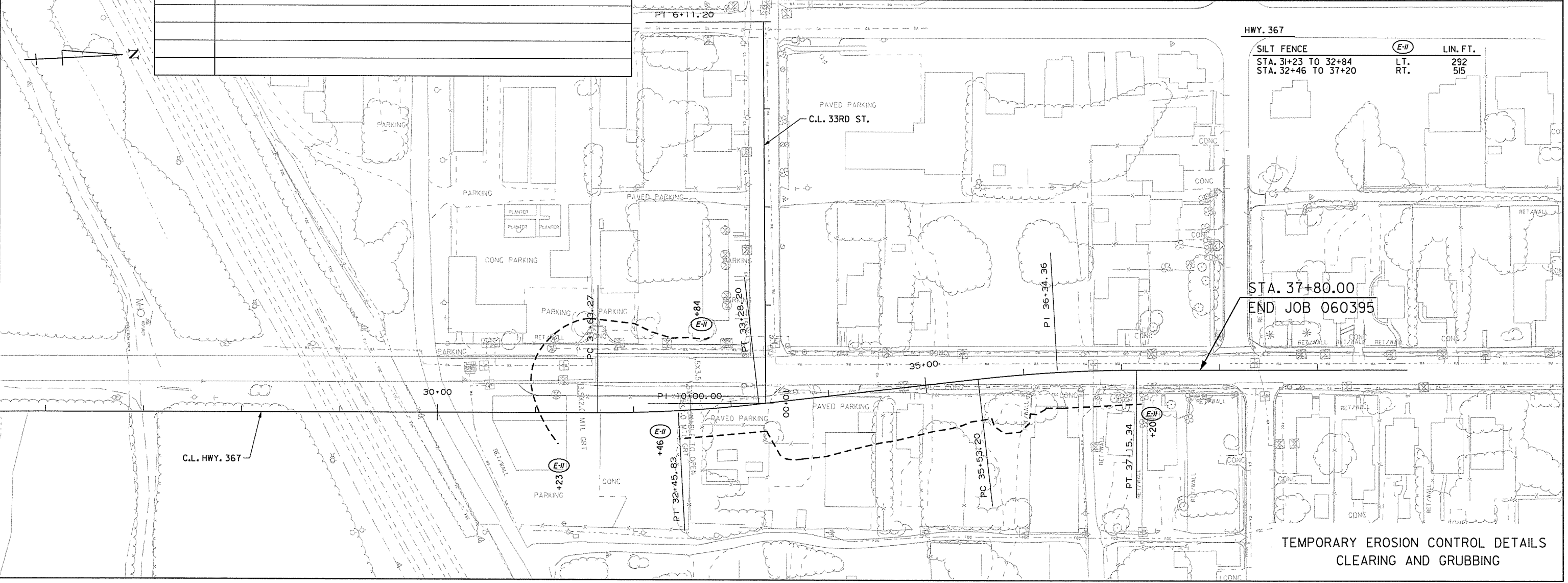
LEGEND

(E-II) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 12+93 TO 18+26	LT.	575
STA. 12+93 TO 19+50	RT.	720
STA. 19+63 TO 21+15	RT.	270
STA. 21+15 TO 21+15	LT.	70



HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 31+23 TO 32+84	LT.	292
STA. 32+46 TO 37+20	RT.	515

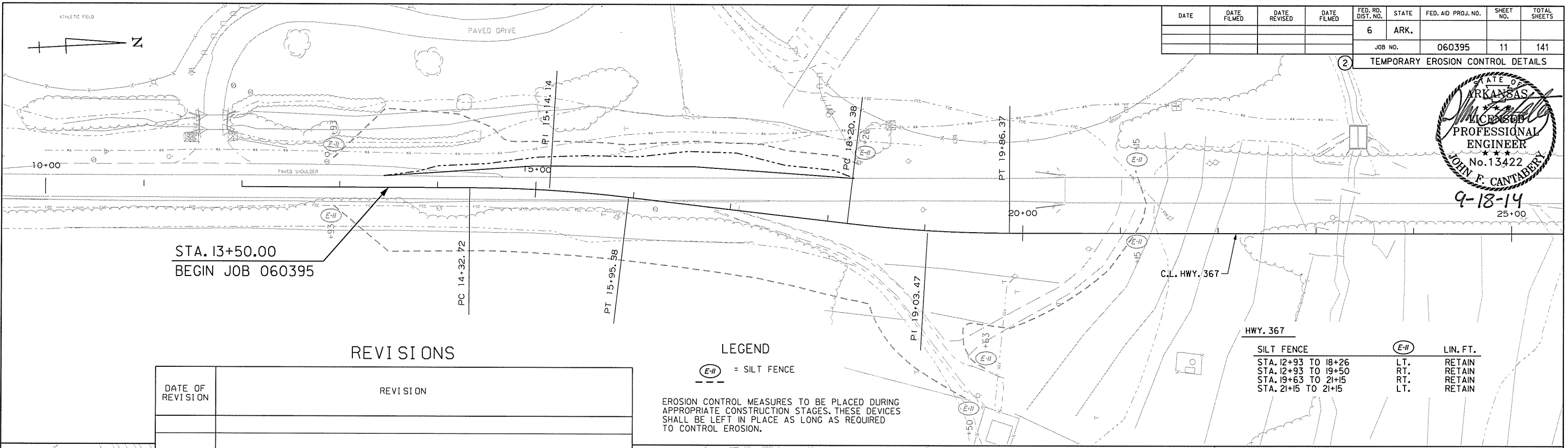
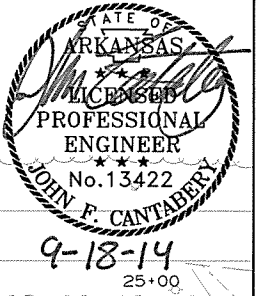
STA. 37+80.00  
END JOB 060395

TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING

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				6	ARK.			
JOB NO. 060395							11	141

2 TEMPORARY EROSION CONTROL DETAILS



STA. 13+50.00  
BEGIN JOB 060395

REVISIONS

DATE OF REVISION	REVISION

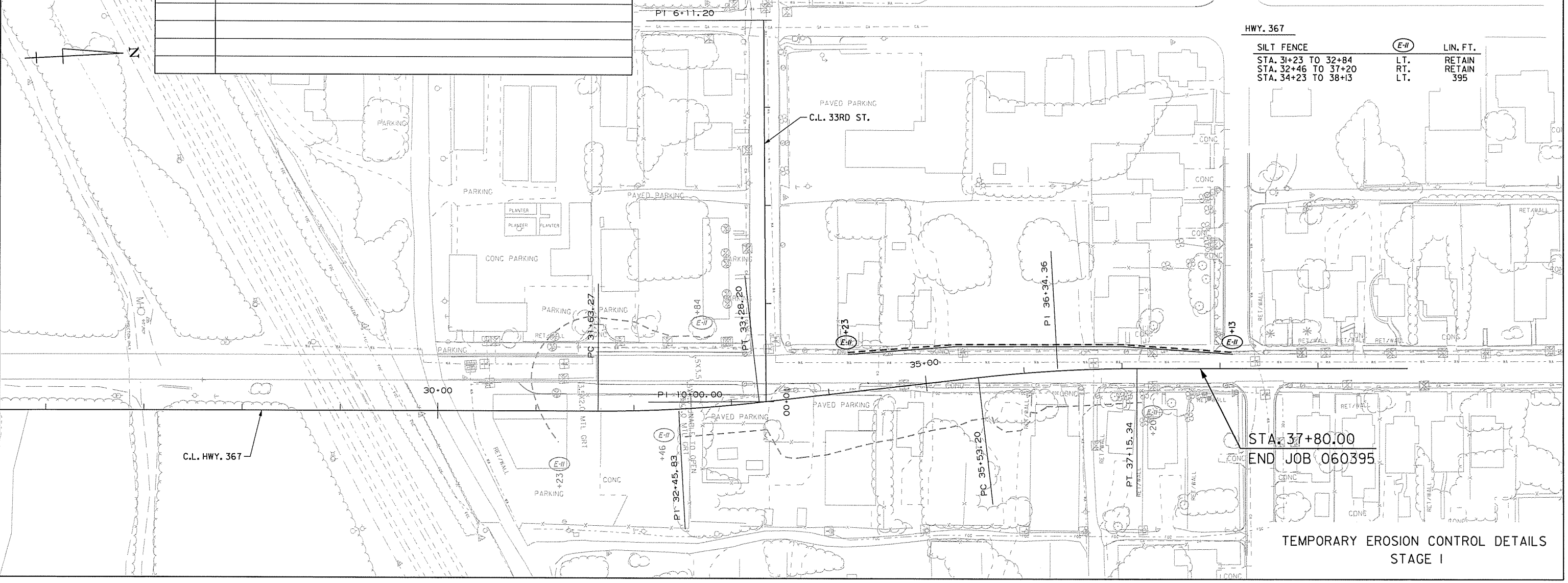
LEGEND

(E-II) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 12+93 TO 18+26	LT.	RETAIN
STA. 12+93 TO 19+50	RT.	RETAIN
STA. 19+63 TO 21+15	RT.	RETAIN
STA. 21+15 TO 21+15	LT.	RETAIN



HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 31+23 TO 32+84	LT.	RETAIN
STA. 32+46 TO 37+20	RT.	RETAIN
STA. 34+23 TO 38+13	LT.	RETAIN 395

STA. 37+80.00  
END JOB 060395

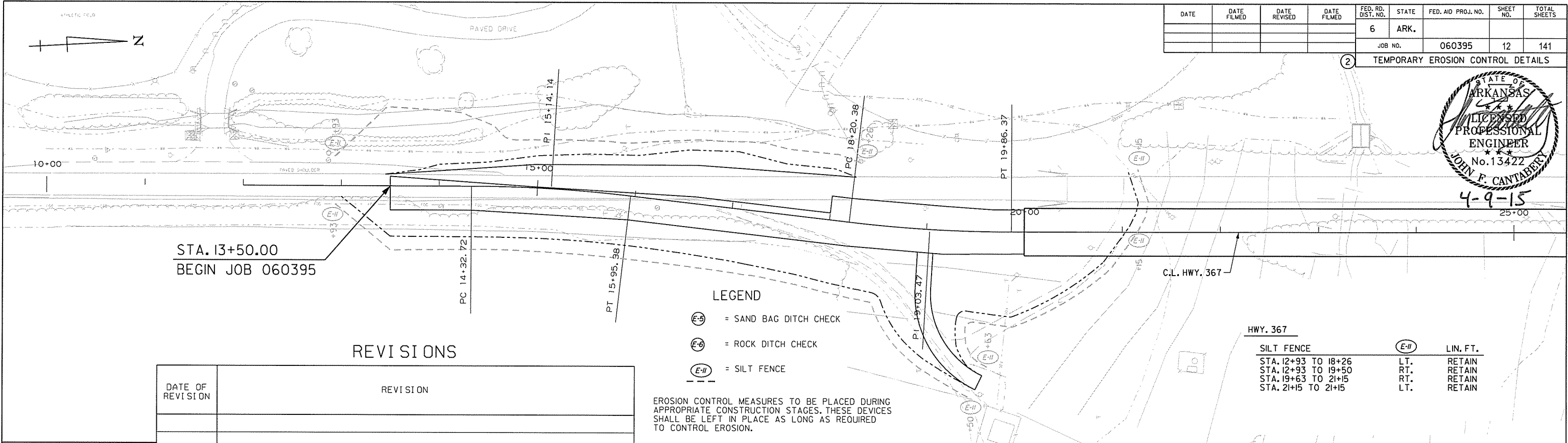
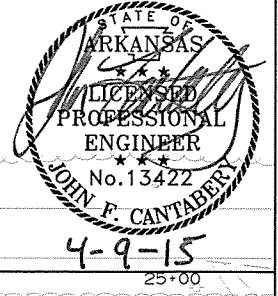
TEMPORARY EROSION CONTROL DETAILS  
STAGE I

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				6	ARK.			

JOB NO. 060395 SHEET NO. 12 TOTAL SHEETS 141

2 TEMPORARY EROSION CONTROL DETAILS



STA. 13+50.00  
BEGIN JOB 060395

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-II) = SILT FENCE

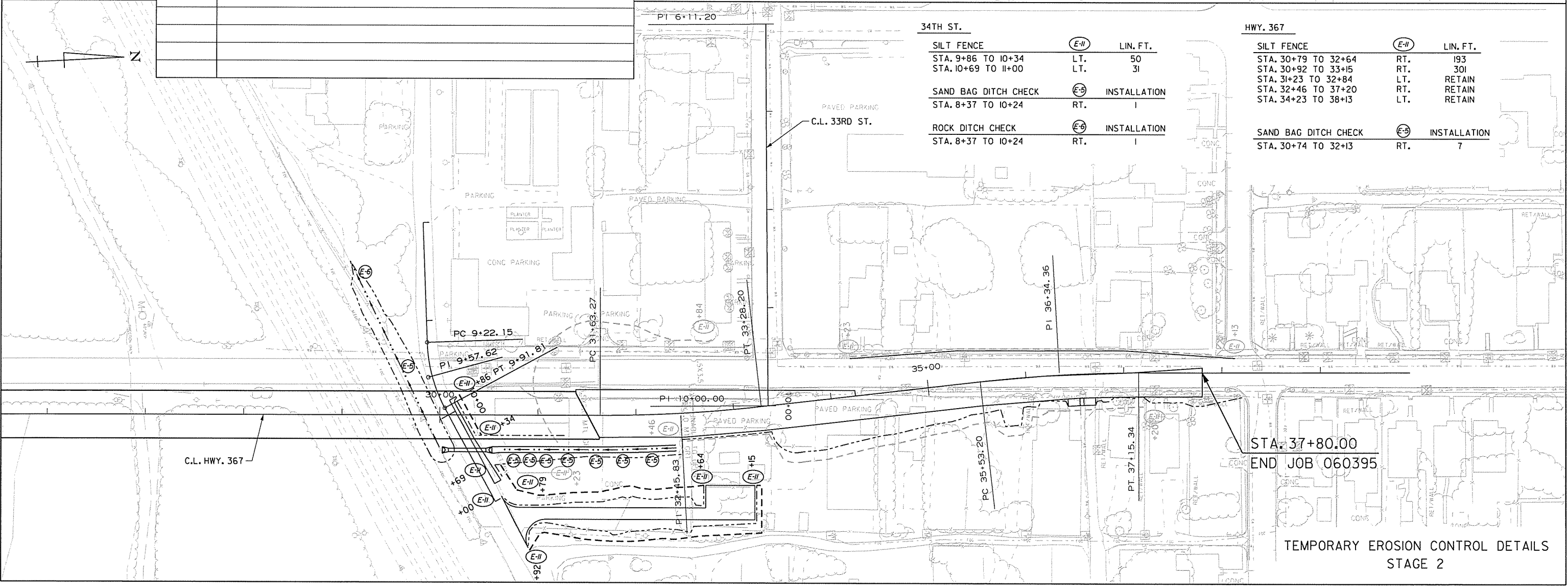
EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 12+93 TO 18+26	LT.	RETAIN
STA. 12+93 TO 19+50	RT.	RETAIN
STA. 19+63 TO 21+15	RT.	RETAIN
STA. 21+15 TO 21+15	LT.	RETAIN

REVISIONS

DATE OF REVISION	REVISION



34TH ST.

SILT FENCE	(E-II)	LIN. FT.
STA. 9+86 TO 10+34	LT.	50
STA. 10+69 TO 11+00	LT.	31
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 8+37 TO 10+24	RT.	1
ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 8+37 TO 10+24	RT.	1

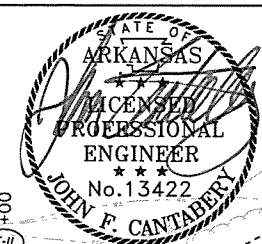
HWY. 367

SILT FENCE	(E-II)	LIN. FT.
STA. 30+79 TO 32+64	RT.	193
STA. 30+92 TO 33+15	RT.	301
STA. 31+23 TO 32+84	LT.	RETAIN
STA. 32+46 TO 37+20	RT.	RETAIN
STA. 34+23 TO 38+13	LT.	RETAIN
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 30+74 TO 32+13	RT.	7

STA. 37+80.00  
END JOB 060395

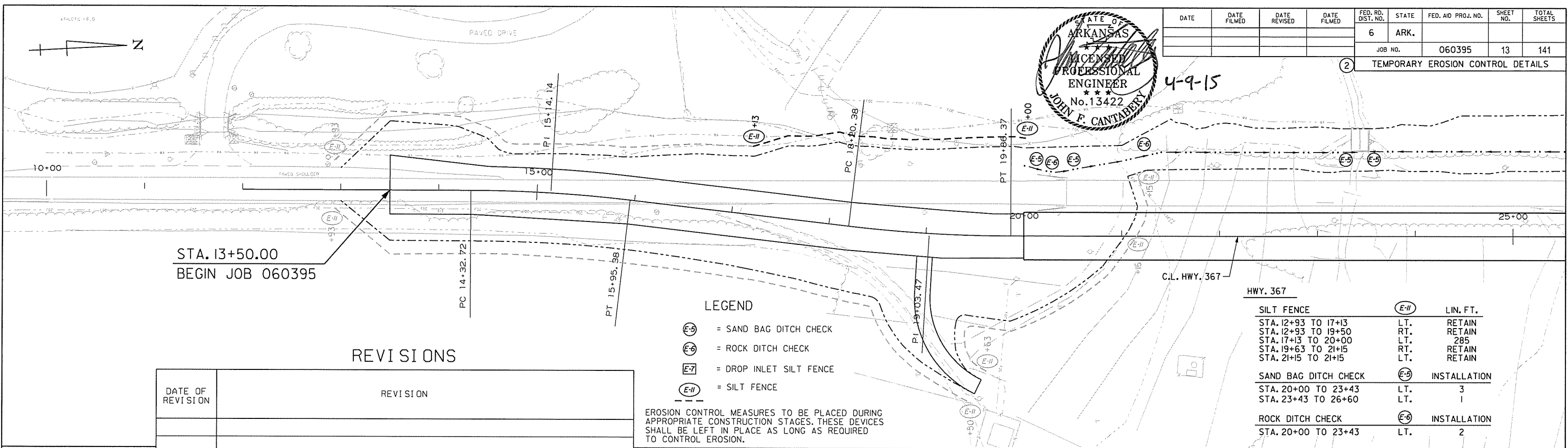
TEMPORARY EROSION CONTROL DETAILS  
STAGE 2

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				6	ARK.			
JOB NO. 060395							13	141

2 TEMPORARY EROSION CONTROL DETAILS



STA. 13+50.00  
BEGIN JOB 060395

REVISIONS

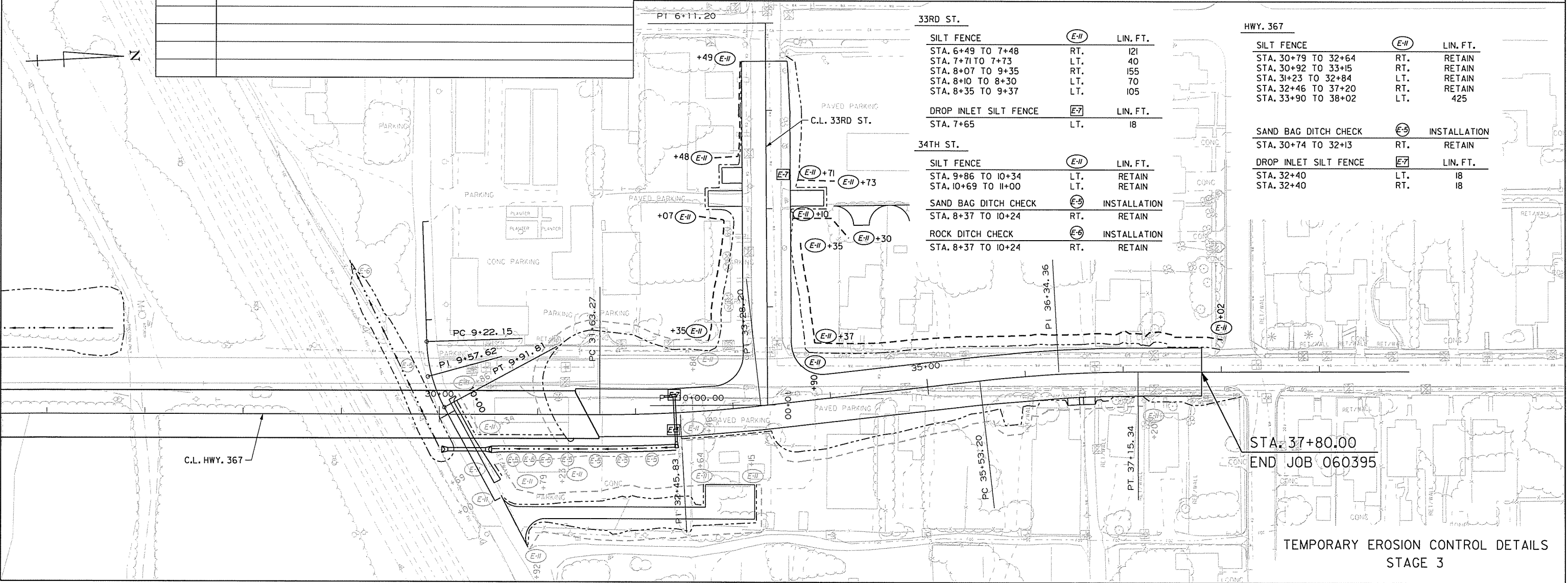
DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

HWY. 367	MEASURE	TYPE	LINE	LENGTH (LIN. FT.)
HWY. 367	SILT FENCE	(E-11)	LT.	RETAIN
	STA. 12+93 TO 17+13	RT.	RETAIN	
	STA. 12+93 TO 19+50	LT.	RETAIN	285
	STA. 17+13 TO 20+00	RT.	RETAIN	
HWY. 367	SILT FENCE	(E-11)	LT.	RETAIN
	STA. 19+63 TO 21+15	RT.	RETAIN	
HWY. 367	SAND BAG DITCH CHECK	(E-5)	LT.	INSTALLATION
	STA. 20+00 TO 23+43	RT.	INSTALLATION	3
HWY. 367	SAND BAG DITCH CHECK	(E-5)	LT.	INSTALLATION
	STA. 23+43 TO 26+60	RT.	INSTALLATION	1
HWY. 367	ROCK DITCH CHECK	(E-6)	LT.	INSTALLATION
	STA. 20+00 TO 23+43	RT.	INSTALLATION	2



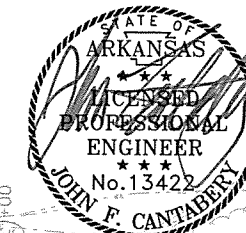
33RD ST.	MEASURE	TYPE	LINE	LENGTH (LIN. FT.)
33RD ST.	SILT FENCE	(E-11)	RT.	RETAIN
	STA. 6+49 TO 7+48	LT.	RETAIN	121
	STA. 7+71 TO 7+73	RT.	RETAIN	40
	STA. 8+07 TO 9+35	LT.	RETAIN	155
	STA. 8+10 TO 8+30	RT.	RETAIN	70
33RD ST.	SILT FENCE	(E-11)	LT.	RETAIN
	STA. 8+35 TO 9+37	RT.	RETAIN	105
33RD ST.	DROP INLET SILT FENCE	(E-7)	LT.	INSTALLATION
	STA. 7+65	RT.	INSTALLATION	18
34TH ST.	SILT FENCE	(E-11)	LT.	RETAIN
	STA. 9+86 TO 10+34	RT.	RETAIN	
34TH ST.	SILT FENCE	(E-11)	LT.	RETAIN
	STA. 10+69 TO 11+00	RT.	RETAIN	
34TH ST.	SAND BAG DITCH CHECK	(E-5)	RT.	INSTALLATION
	STA. 8+37 TO 10+24	LT.	INSTALLATION	
34TH ST.	ROCK DITCH CHECK	(E-6)	RT.	INSTALLATION
	STA. 8+37 TO 10+24	LT.	INSTALLATION	

HWY. 367	MEASURE	TYPE	LINE	LENGTH (LIN. FT.)
HWY. 367	SILT FENCE	(E-11)	RT.	RETAIN
	STA. 30+79 TO 32+64	LT.	RETAIN	
	STA. 30+92 TO 33+15	RT.	RETAIN	
	STA. 31+23 TO 32+84	LT.	RETAIN	
HWY. 367	SILT FENCE	(E-11)	RT.	RETAIN
	STA. 32+46 TO 37+20	LT.	RETAIN	425
HWY. 367	SAND BAG DITCH CHECK	(E-5)	RT.	INSTALLATION
	STA. 30+74 TO 32+13	LT.	INSTALLATION	
HWY. 367	DROP INLET SILT FENCE	(E-7)	LT.	INSTALLATION
	STA. 32+40	RT.	INSTALLATION	18
HWY. 367	DROP INLET SILT FENCE	(E-7)	LT.	INSTALLATION
	STA. 32+40	RT.	INSTALLATION	18

STA. 37+80.00  
END JOB 060395

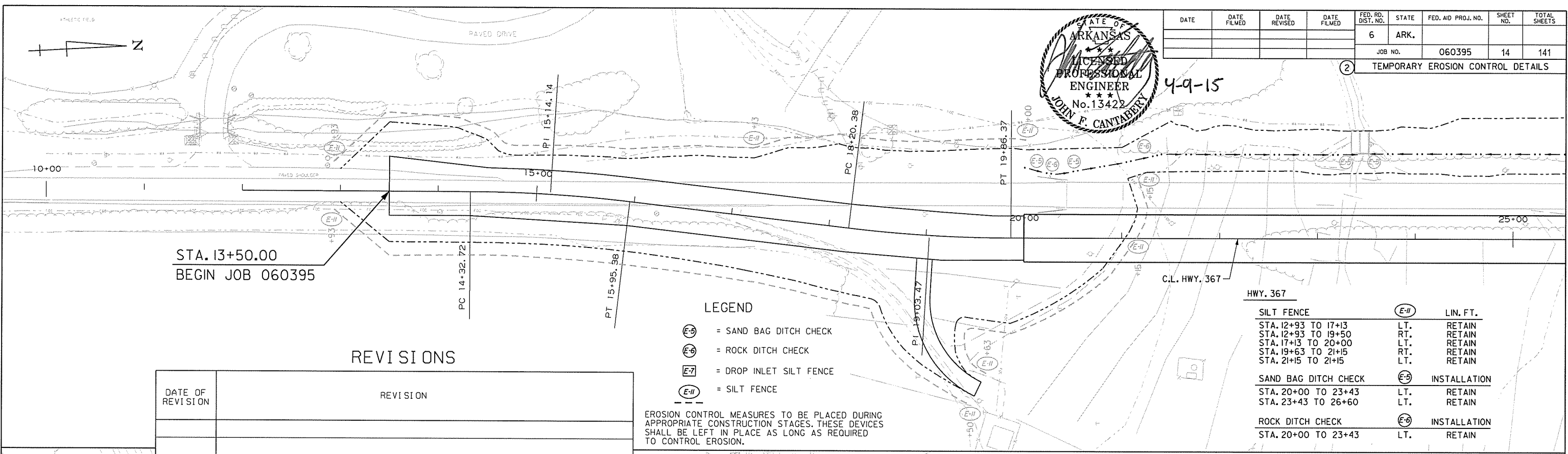
TEMPORARY EROSION CONTROL DETAILS  
STAGE 3

JFCantabery 4/9/2015 9:43:03 AM  
 WORKSPACE: AHTD  
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 REVISION DATE:



DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		14	141

② TEMPORARY EROSION CONTROL DETAILS



STA. 13+50.00  
BEGIN JOB 060395

REVISIONS

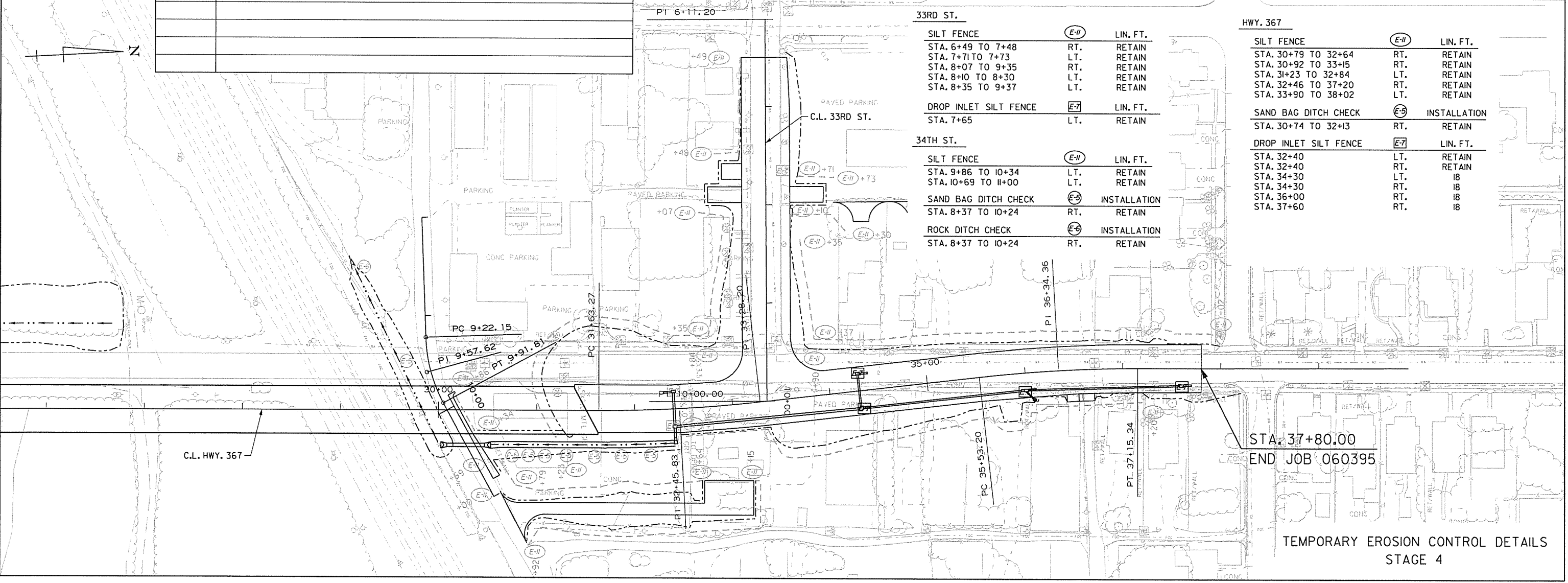
DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE CONSTRUCTION STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

SILT FENCE	(E-11)	LIN. FT.
STA. 12+93 TO 17+13	LT.	RETAIN
STA. 12+93 TO 19+50	RT.	RETAIN
STA. 17+13 TO 20+00	LT.	RETAIN
STA. 19+63 TO 21+15	RT.	RETAIN
STA. 21+15 TO 21+15	LT.	RETAIN
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 20+00 TO 23+43	LT.	RETAIN
STA. 23+43 TO 26+60	LT.	RETAIN
ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 20+00 TO 23+43	LT.	RETAIN



SILT FENCE	(E-11)	LIN. FT.
STA. 30+79 TO 32+64	RT.	RETAIN
STA. 30+92 TO 33+15	RT.	RETAIN
STA. 31+23 TO 32+84	LT.	RETAIN
STA. 32+46 TO 37+20	RT.	RETAIN
STA. 33+90 TO 38+02	LT.	RETAIN
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 30+74 TO 32+13	RT.	RETAIN
DROP INLET SILT FENCE	(E-7)	LIN. FT.
STA. 32+40	LT.	RETAIN
STA. 32+40	RT.	RETAIN
STA. 34+30	LT.	18
STA. 34+30	RT.	18
STA. 36+00	RT.	18
STA. 37+60	RT.	18

SILT FENCE	(E-11)	LIN. FT.
STA. 6+49 TO 7+48	RT.	RETAIN
STA. 7+71 TO 7+73	LT.	RETAIN
STA. 8+07 TO 9+35	RT.	RETAIN
STA. 8+10 TO 8+30	LT.	RETAIN
STA. 8+35 TO 9+37	LT.	RETAIN
DROP INLET SILT FENCE	(E-7)	LIN. FT.
STA. 7+65	LT.	RETAIN
SILT FENCE	(E-11)	LIN. FT.
STA. 9+86 TO 10+34	LT.	RETAIN
STA. 10+69 TO 11+00	LT.	RETAIN
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 8+37 TO 10+24	RT.	RETAIN
ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 8+37 TO 10+24	RT.	RETAIN

STA. 37+80.00  
END JOB 060395

TEMPORARY EROSION CONTROL DETAILS  
STAGE 4

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 REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							15	141

2 MAINTENANCE OF TRAFFIC DETAILS



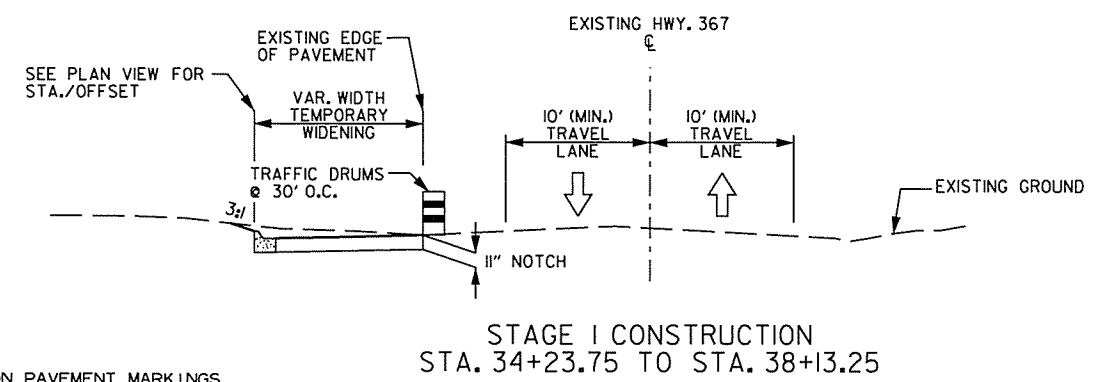
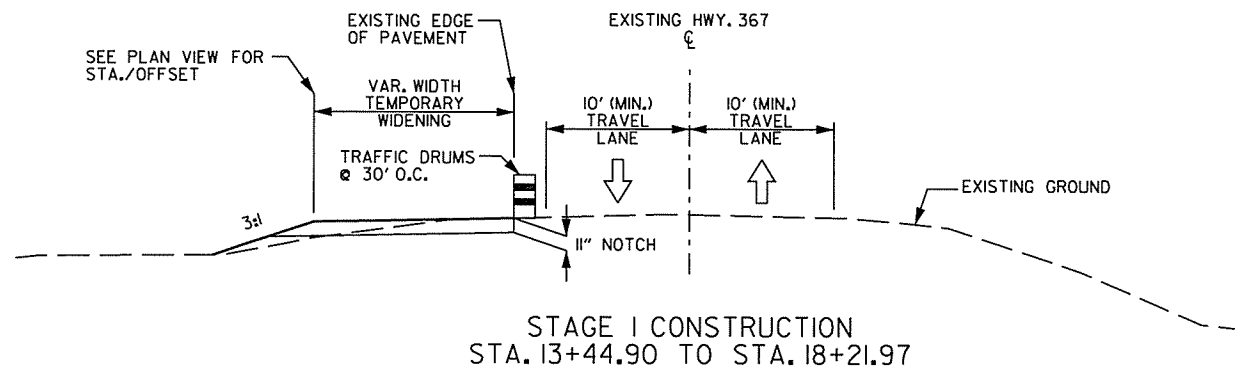
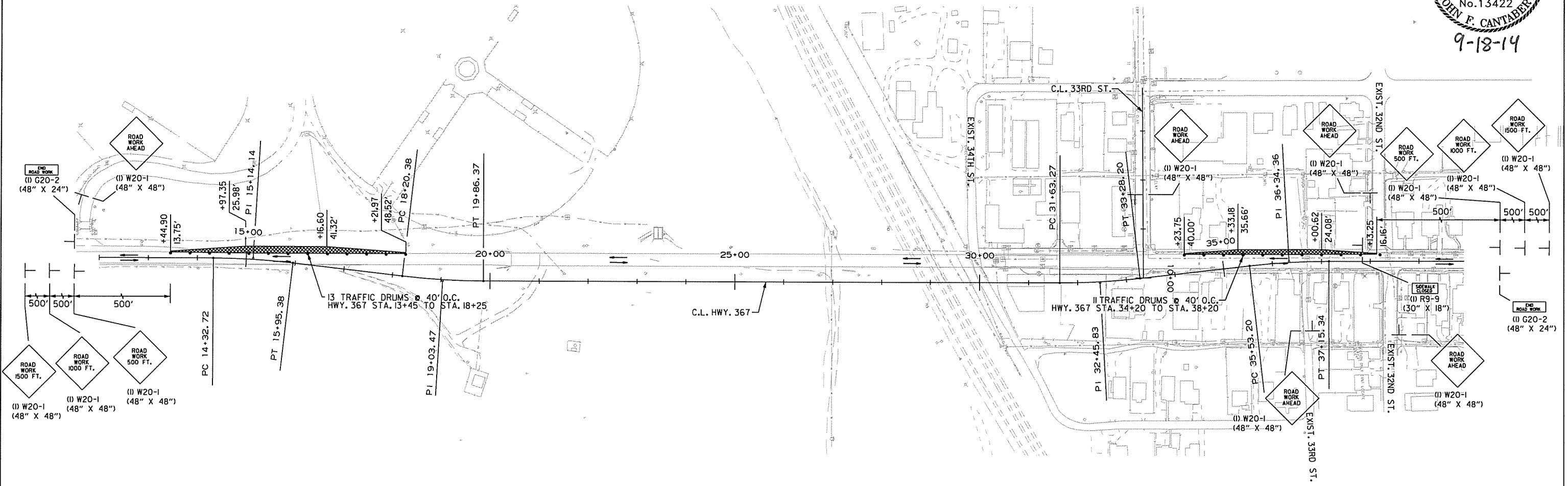
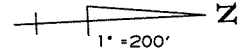
9-18-14

STAGE I  
CONSTRUCTION SEQUENCE NOTES

1. INSTALL ADVANCE WARNING SIGNS AND DEVICES AS SHOWN.
2. MAINTAIN TRAFFIC ON EXISTING HWY. 367.
3. CONSTRUCT TEMPORARY WIDENING STA. 13+44.90 TO STA. 18+21.97 AND STA. 34+23.75 TO STA. 38+13.25. MAINTAIN ACCESS TO EXISTING DRIVEWAYS DURING CONSTRUCTION.
4. PLACE CONSTRUCTION PAVEMENT MARKINGS PRIOR TO OPENING TO STAGE 2 TRAFFIC CONFIGURATION.

DO NOT PASS (2) R4-1 (24" X 30")  
SHOULDER CLOSED (2) RSP-1 (48" X 30")

NOTE: THESE SIGNS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



STAGE I - CONSTRUCTION PAVEMENT MARKINGS  
 HWY. 367 STA. 13+18.92 TO STA. 18+41.84  
 WHITE EDGE LINES AND DOUBLE YELLOW = 2100 L.F.  
 HWY. 367 STA. 33+51.96 TO STA. 38+79.97  
 WHITE EDGE LINES AND DOUBLE YELLOW = 2128 L.F.

STAGE I - REMOVAL OF PERMANENT PAVEMENT MARKINGS  
 HWY. 367 STA. 13+18.92 TO STA. 18+41.84  
 WHITE EDGE LINES AND DOUBLE YELLOW = 2092 L.F.  
 HWY. 367 STA. 33+51.96 TO STA. 38+79.97  
 DOUBLE YELLOW CENTERLINE = 1056 L.F.

Grading and Paving symbol  
Traffic symbol

MAINTENANCE OF TRAFFIC DETAILS  
STAGE I

JFCantabery 9/17/2014 7:16:14 PM  
 WORKSPACE: AHTD  
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 REVISED DATE:

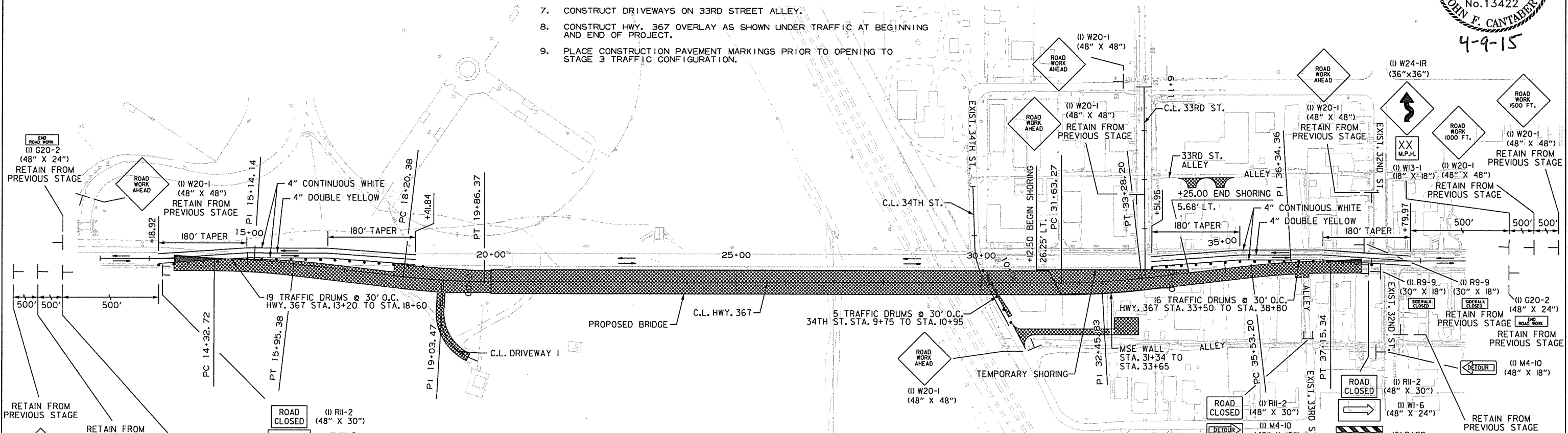
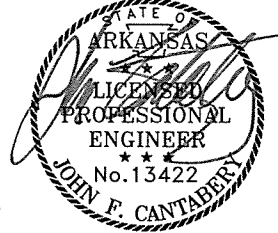
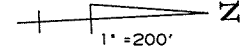
STAGE 2  
CONSTRUCTION SEQUENCE NOTES

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		16	141

DO NOT PASS (2) R4-1 (24" X 30")  
SHOULDER CLOSED (2) RSP-1 (48" X 30")

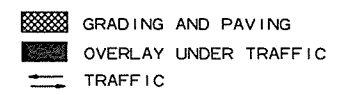
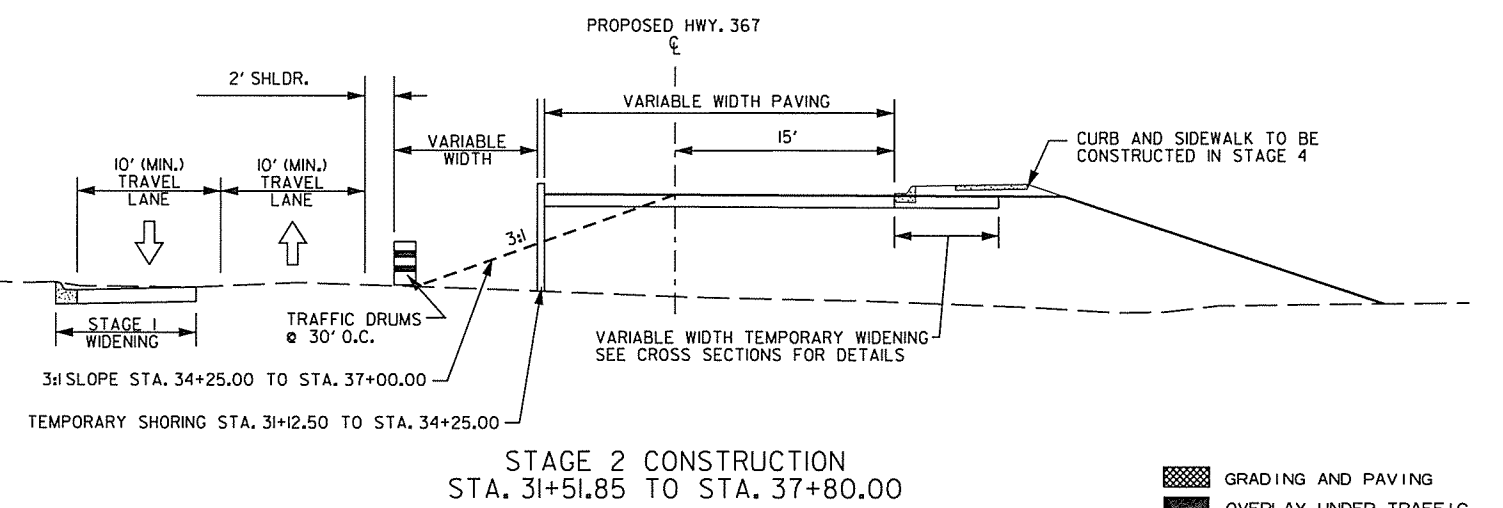
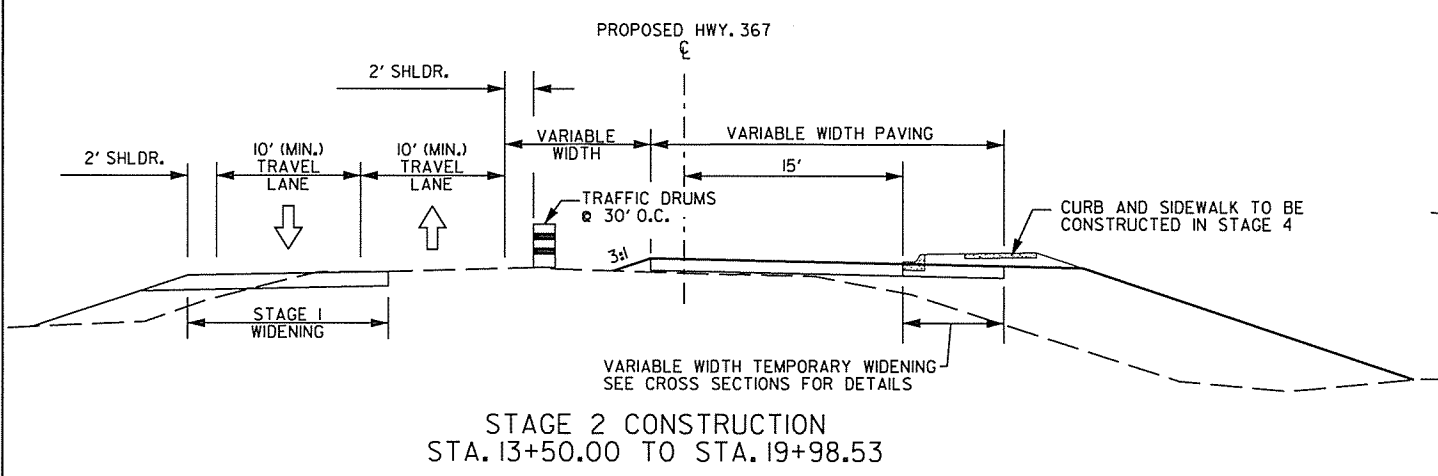
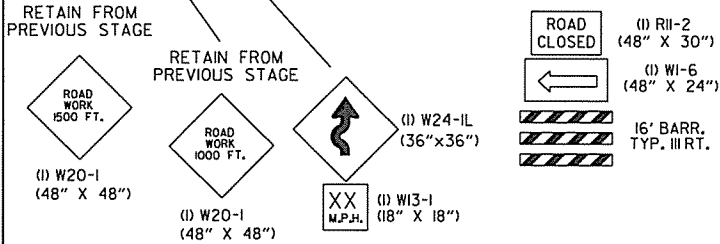
NOTE: THESE SIGNS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

1. RETAIN AND PLACE NEW ADVANCE WARNING SIGNS AND DEVICES AS SHOWN.
2. SHIFT TRAFFIC TO WIDENING CONSTRUCTED IN STAGE 1.
3. CONSTRUCT DRIVEWAY ON 34TH STREET.
4. CONSTRUCT TEMPORARY SHORING STA. 31+12.50 TO 34+25.00.
5. CONSTRUCT GRADING AND PAVING LIMITS AS SHOWN ON HWY. 367. CERTAIN SECTIONS OF CURB AND GUTTER TO BE CONSTRUCTED IN STAGE 4 AS SHOWN IN DETAILS BELOW. MAINTAIN ACCESS TO EXISTING DRIVEWAYS DURING CONSTRUCTION.
6. CONSTRUCT GRADING AND PAVING OF 34TH STREET IMPROVEMENTS.
7. CONSTRUCT DRIVEWAYS ON 33RD STREET ALLEY.
8. CONSTRUCT HWY. 367 OVERLAY AS SHOWN UNDER TRAFFIC AT BEGINNING AND END OF PROJECT.
9. PLACE CONSTRUCTION PAVEMENT MARKINGS PRIOR TO OPENING TO STAGE 3 TRAFFIC CONFIGURATION.



**STAGE 2 - CONSTRUCTION PAVEMENT MARKINGS**  
 HWY. 367 STA. 13+18.92 TO STA. 19+98.53  
 WHITE EDGE LINES AND DOUBLE YELLOW = 2718 L.F.  
 HWY. 367 STA. 31+51.85 TO STA. 38+79.97  
 WHITE EDGE LINES AND DOUBLE YELLOW = 2912 L.F.

**STAGE 2 - REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS**  
 HWY. 367 STA. 13+18.92 TO STA. 13+50  
 EDGE LINES AND DOUBLE YELLOW = 124 L.F.  
 HWY. 367 STA. 37+80 TO STA. 38+79.97  
 EDGE LINES AND DOUBLE YELLOW = 400 L.F.



MAINTENANCE OF TRAFFIC DETAILS  
STAGE 2

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 REVISED DATE:



STAGE 3  
CONSTRUCTION SEQUENCE NOTES

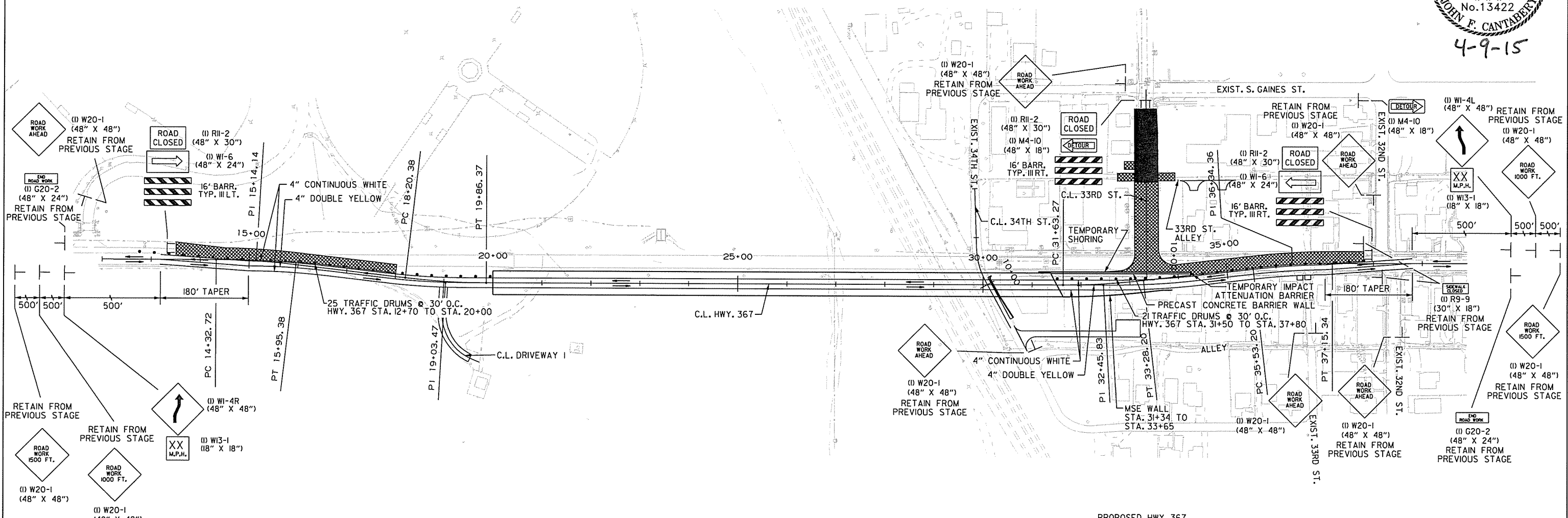
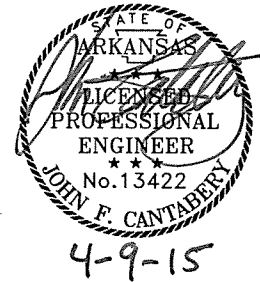
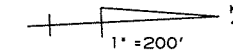
1. RETAIN AND PLACE NEW ADVANCE WARNING SIGNS AND DEVICES AS SHOWN.
2. SHIFT TRAFFIC TO SECTION CONSTRUCTED IN STAGE 2.
3. MAINTAIN ACCESS TO DRIVEWAYS DURING CONSTRUCTION.
4. CONSTRUCT PORTIONS OF HWY. 367 AND 33RD STREET AS SHOWN.

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							17	141
(2) MAINTENANCE OF TRAFFIC DETAILS								

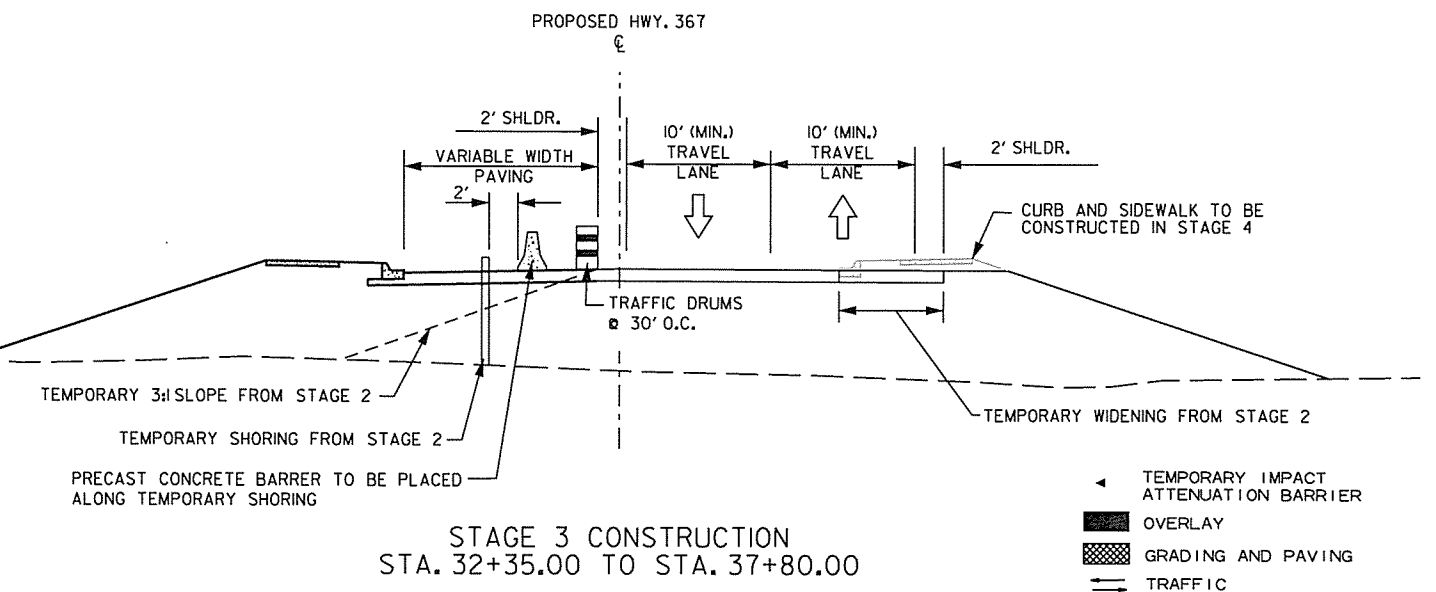
DO NOT PASS (2) R4-1 (24" X 30")

SHOULDER CLOSED (2) RSP-1 (48" X 30")

NOTE: THESE SIGNS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



STAGE 3 CONSTRUCTION  
STA. 13+50.00 TO STA. 18+00.00



STAGE 3 CONSTRUCTION  
STA. 32+35.00 TO STA. 37+80.00

MAINTENANCE OF TRAFFIC DETAILS  
STAGE 3

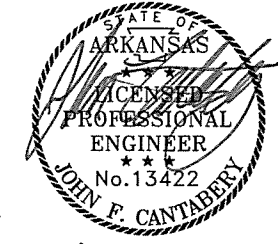
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STAGE 4  
CONSTRUCTION SEQUENCE NOTES

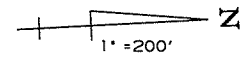
1. RETAIN AND PLACE NEW ADVANCE WARNING SIGNS AND DEVICES, AS SHOWN.
2. SHIFT TRAFFIC TO PROPOSED HWY. 367.
3. SAW CUT AND REMOVE TEMPORARY WIDENING CONSTRUCTED IN STAGE 2 AND CONSTRUCT REMAINING PORTIONS OF CURB AND SIDEWALK OMITTED IN STAGE 2.
4. PLACE FINAL 2" LIFT OF ASPHALT SURFACE.
5. COMPLETE REMAINING PROJECT CONSTRUCTION.
6. REMOVE ALL ADVANCE WARNING SIGNS.

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 060395	18 141

② MAINTENANCE OF TRAFFIC DETAILS

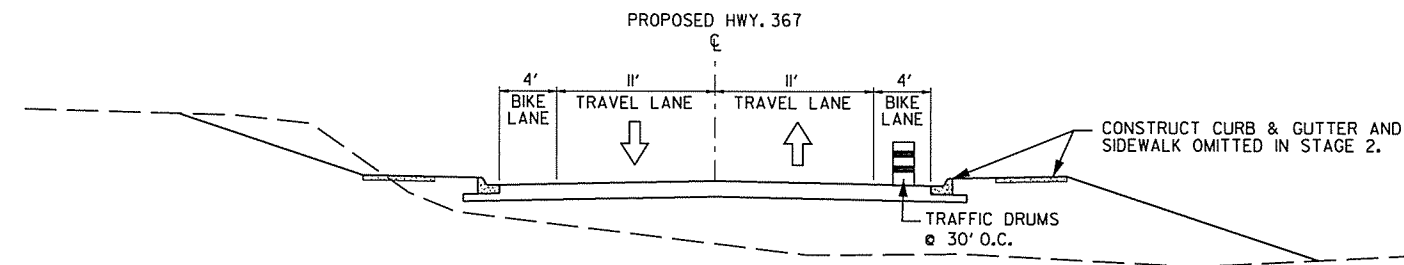
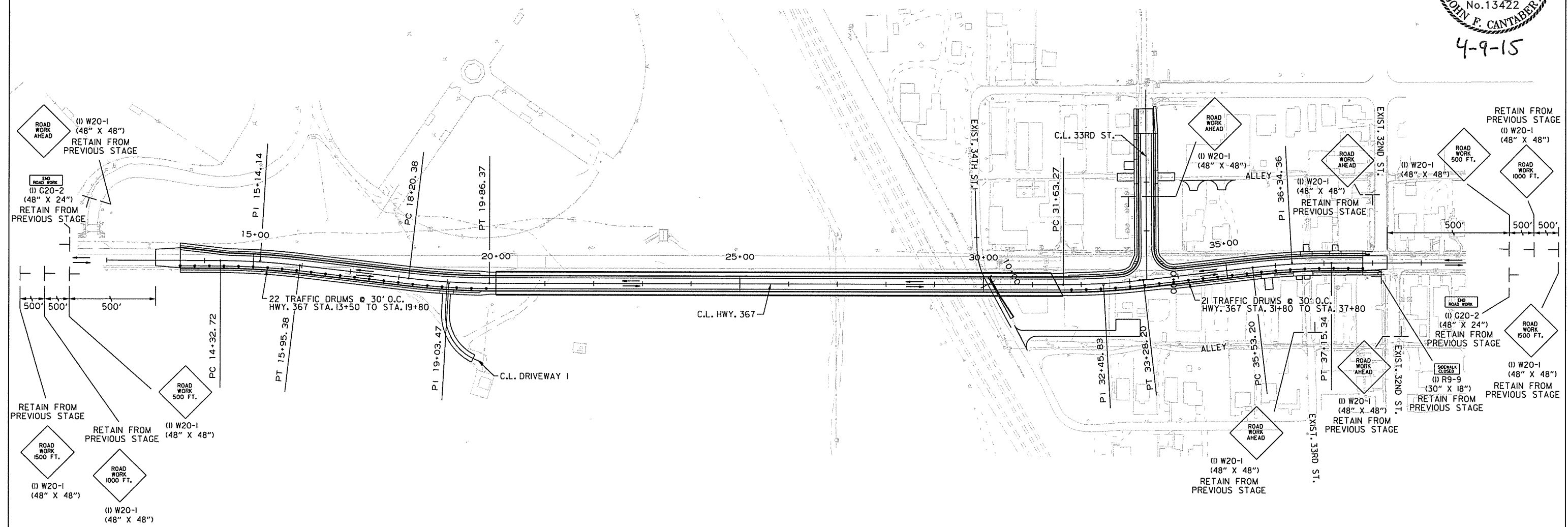


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DO NOT PASS (2) R4-1 (24" X 30")  
SHOULDER CLOSED (2) RSP-1 (48" X 30")

NOTE: THESE SIGNS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



STAGE 4 CONSTRUCTION  
STA. 13+50.00 TO STA. 19+80.00  
STA. 31+80.00 TO STA. 37+80.00

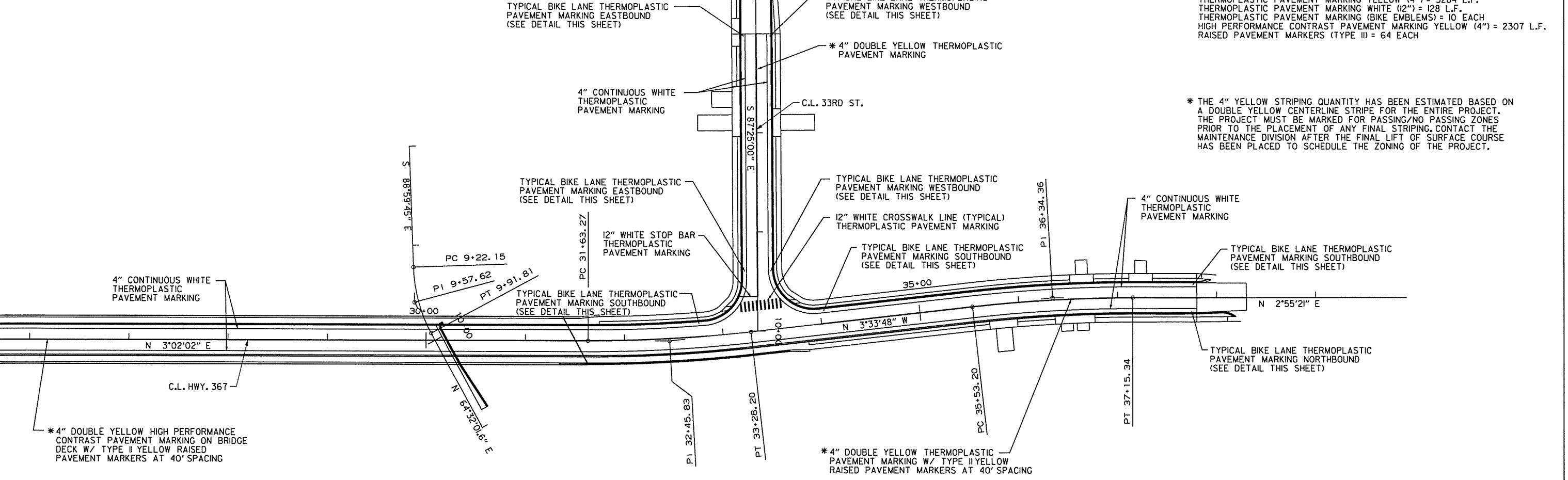
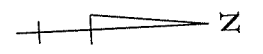
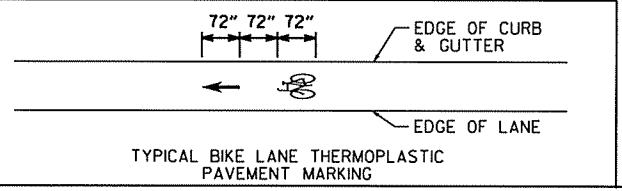
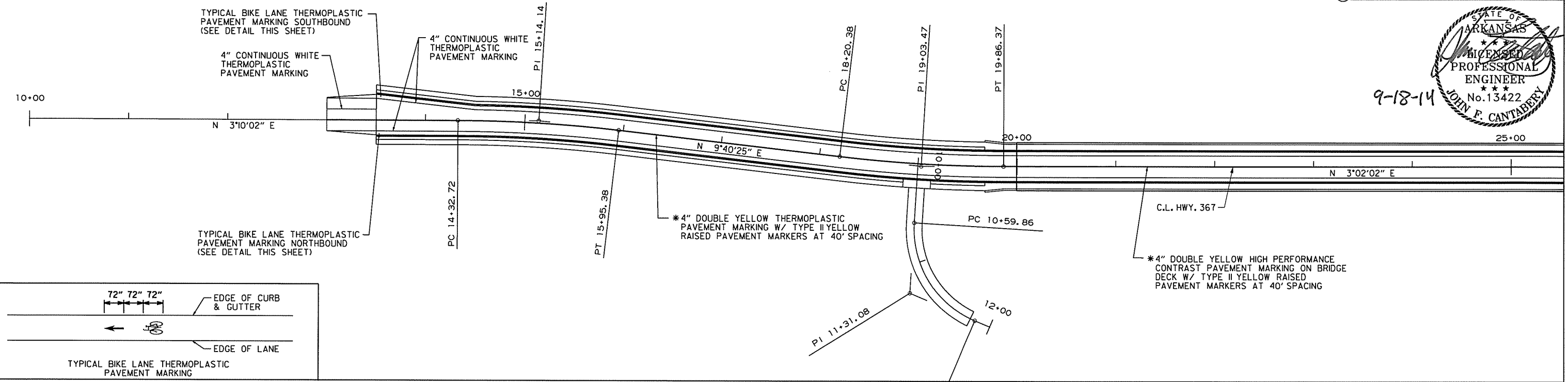
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MAINTENANCE OF TRAFFIC DETAILS  
STAGE 4

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DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							19	141

PERMANENT PAVEMENT MARKING DETAILS



PERMANENT PAVEMENT MARKING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4")	= 5476 L.F.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	= 3284 L.F.
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	= 128 L.F.
THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)	= 10 EACH
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")	= 2307 L.F.
RAISED PAVEMENT MARKERS (TYPE II)	= 64 EACH

\* THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

JFCantabery 9/17/2014 7:16:20 PM  
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 REVISED DATE:

PERMANENT PAVEMENT MARKING DETAILS

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	20	141

2 SOIL BORING LOG



9-18-14

SOIL BORING LOG											
BORING NO.	APPROX. STATION (ft)	OFFSET	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS		UNIFIED CLASS.	AASHTO CLASS.
					LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	#4, %	#200, %		
1	20+86	18 ft Lt	9.5-10	30	57	21	36	---	99	CH	A-7-6
1	20+86	18 ft Lt	34-35	21	---	---	---	36	2	SP	A-2-4
2	21+88	18 ft Lt	5-5.5	39	84	25	59	---	98	CH	A-7-6
2	21+88	18 ft Lt	14-15	16	23	12	11	9	37	SC	A-6
2	21+88	18 ft Lt	19-20	16	28	13	15	---	44	SC	A-6
2	21+88	18 ft Lt	23.5-24.5	9	---	---	---	57	5	GP-GM	A-2-4
2	21+88	18 ft Lt	33.5-39	32	46	22	24	---	75	SYENITE	
2	21+88	18 ft Lt	48.5-49	---	30	16	14	---	---	SYENITE	
3	22+78	10ft Lt	18.5-19	21	30	13	17	37	18	SC	A-2-6
3	22+78	10ft Lt	23.5-24	21	---	---	---	50	12	GP-GM	A-2-4
3	22+78	10ft Lt	38.5-39	---	44	15	29	---	---	SYENITE	
3	22+78	10ft Lt	48.5-49	39	52	14	38	---	29	SYENITE	
3	22+78	10ft Lt	53.5-54	---	33	16	17	---	---	SYENITE	
4	23+83	20 ft Lt	14-15	15	22	13	9	---	40	CL	A-6
4	23+83	20 ft Lt	28.5-29.5	---	27	13	14	12	21	SC	A-2-6
4	23+83	20 ft Lt	38.5-44	23	- NON PLASTIC -			---	20	SM	A-1-b
4	23+83	20 ft Lt	53.5-54	---	30	20	10	---	---	SYENITE	
4	23+83	20 ft Lt	68.5-69	---	31	19	12	---	---	SYENITE	
5	24+83	18 ft Lt	9-10	21	34	13	21	---	67	CL	A-6
5	24+83	18 ft Lt	24-25	19	26	14	12	---	55	CL	A-6
5	24+83	18 ft Lt	33.5-34.5	24	---	---	---	13	18	SM	A-2-4
5	24+83	18 ft Lt	38.5-39	---	27	19	8	---	---	SHALE	
5	24+83	18 ft Lt	53.5-54	---	29	19	10	---	---	SHALE	
6	25+82	17 ft Lt	0.5-1.5	36	56	20	36	---	94	CH	A-7-6
6	25+82	17 ft Lt	14-15	13	39	14	25	---	68	CL	A-7-6
6	25+82	17 ft Lt	38.5-39.5	28	52	21	31	---	81	CH	A-7-6
6	25+82	17 ft Lt	44-45	19	- NON PLASTIC -			---	21	SM	A-2-4
6	25+82	17 ft Lt	58.5-59	22	37	27	10	---	---	SHALE	
7	26+80	20 ft Lt	0.5-1.5	20	43	18	25	---	71	CL	A-7-6
7	26+81	21 ft Lt	9.5-10	20	49	17	32	---	81	CL	A-7-6
7	26+82	22 ft Lt	33.5-34.5	19	---	---	---	31	6	SP-SM	A-2-4
7	26+83	23 ft Lt	44-45	21	---	---	---	---	22	SM	A-2-4
7	26+84	24 ft Lt	48.5-59	---	29	22	7	---	---	SHALE	
8	28+15	20 ft Lt	0.5-1.5	20	30	19	11	---	48	SC	A-6
8	28+15	20 ft Lt	9-10	24	55	19	36	---	78	CH	A-7-6
8	28+15	20 ft Lt	19.5-20	22	32	16	16	---	86	CL	A-6
8	28+15	20 ft Lt	34-35	10	---	---	---	66	9	GP-GM	A-2-4

SOIL BORING LOG											
BORING NO.	APPROX. STATION (ft)	OFFSET	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS		UNIFIED CLASS.	AASHTO CLASS.
					LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	#4, %	#200, %		
9	30+38	11 ft Lt	14-15	20	39	18	21	19	53	CL	A-6
9	30+38	11 ft Lt	24-25	18	23	16	7	---	28	SC-SM	A-2-4
9	30+38	11 ft Lt	28.5-29.5	---	31	22	9	---	---	SHALE	
10	31+15	29 ft Lt	2.5-3.5	23	48	20	28	---	54	CL	A-7-6
10	31+15	29 ft Lt	7-7.5	21	47	18	29	---	59	CH	A-7-6
10	31+15	29 ft Lt	14.5-15	24	64	21	43	---	76	CH	A-7-6
10	31+15	29 ft Lt	23.5-24	20	27	19	8	---	---	SHALE	
11	31+79	98 ft Lt	5-5.5	36	88	29	59	---	91	CH	A-7-6
11	31+79	98 ft Lt	9.5-10	31	54	24	30	---	84	CH	A-7-6
11	31+79	98 ft Lt	14-15	24	- NON PLASTIC -			---	18	SM	A-2-4
12	32+38	10 ft Lt	7-7.5	21	68	22	46	---	39	GC	A-7-6
12	32+38	10 ft Lt	14-15	21	22	15	7	---	27	SC	A-2-4
12	32+38	10 ft Lt	19-20	13	22	14	8	---	---	SHALE	
13	32+63	118 ft Lt	4.5-5.5	15	36	17	19	13	64	CL	A-6
13	32+63	118 ft Lt	9-10	24	50	20	30	---	66	CH	A-7-6
13	32+63	118 ft Lt	14.5-15	41	74	25	49	---	91	CH	A-7-6
13	32+63	118 ft Lt	19-20	24	- NON PLASTIC -			---	21	SM	A-2-4
13	32+63	118 ft Lt	24-25	24	- NON PLASTIC -			---	17	SM	A-2-4
14	32+06	77 ft Lt	6.5-7.5	24	64	25	39	---	67	CH	A-7-6
14	32+06	77 ft Lt	14.5-15	26	46	21	25	---	68	CL	A-7-6
14	32+06	77 ft Lt	19-20	26	21	19	2	1	19	SM	A-1-b
14	32+06	77 ft Lt	24-25	15	---	---	---	---	36	SM	A-4
15	35+15	3 ft Lt	0.5-1.5	12	31	15	16	---	28	SC	A-2-6
15	35+15	3 ft Lt	9-10	33	80	23	57	---	92	CH	A-7-6
16	20+28	50 ft Rt	5-5.5	40	87	26	61	---	99	CH	A-7-6
16	20+28	50 ft Rt	24-25	14	18	14	4	31	20	SM-SC	A-1-b
16	20+28	50 ft Rt	28.5-29.5	19	22	19	3	30	5	SW-SM	A-1-a
16	20+28	50 ft Rt	43.5-44	---	35	15	20	---	37	SYENITE	
17	18+21	6 ft Lt	6.5-7.5	29	64	24	40	---	76	CH	A-7-6
18	16+40	5 ft Lt	0.5-1.5	25	57	20	37	---	92	CH	A-7-6
18	16+40	5 ft Lt	4.5-5.5	30	84	26	58	---	98	CH	A-7-6
18	16+40	5 ft Lt	14-15	41	89	31	58	---	98	CH	A-7-5
19	12+15	10 ft Lt	2.5-3.5	3	- NON PLASTIC -			60	8	SP-SM	A-1-a
19	12+15	10 ft Lt	6.5-7.5	43	75	26	49	---	98	CH	A-7-6
20	34+18	30 ft Rt	4-5	24.7	48	20	28	16	27	SC	A-7-6
21	36+46	36 ft Lt	2.5-3.5	17.1	42	19	23	14	53	CL	A-7-6
22	2+72	6 ft Rt	2.5-3.5	19.9	- NON PLASTIC -			---	6	SM	A-3

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMIT SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

JFCantabery 9/17/2014 7:33:21 PM  
 WORKSPACE\_AHTD  
 \\gord-verinc\ltp\projects\2011\017505 - Arch Street Bridge Replacement\Drawings\ASB\_SBL.dwg  
 REVISION DATE:





DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	23	141	

2 QUANTITIES



4-9-15

BASE & SURFACING																			
STATION	STATION	LOCATION	LENGTH FEET	ACHM SURFACE COURSE (1/2")				ACHM BINDER COURSE (1")				AGGREGATE BASE COURSE (CLASS 7)		TACK COAT					
				AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	TONS PER STATION	TON	AVG. WIDTH FEET	SQUARE YARDS	0.03 G/SY GAL	AVG. WIDTH FEET	SQUARE YARDS	0.1 G/SY GAL
				13+00.00	13+50.00	HWY. 367 - TRANSITION	50.00	37.35	207.50	220	22.83								
13+50.00	14+50.00	HWY. 367	100.00	35.50	394.44	220	43.39												
13+50.00	14+50.00	HWY. 367 - LEVELING	100.00	22.00	244.44	VAR	36.00												
14+50.00	19+98.53	HWY. 367	548.53	60.00	3656.87	220	402.26	30.00	1828.43	330	301.69	136.00	746.00	60.00	3656.87	109.71			
31+51.85	37+00.00	HWY. 367	548.15	60.00	3654.33	220	401.98	30.00	1827.17	330	301.48	136.00	745.48	60.00	3654.33	109.63			
37+00.00	37+80.00	HWY. 367	80.00	30.00	266.67	220	29.33							30.00	266.67	8.00			
37+00.00	37+80.00	HWY. 367 - LEVELING	80.00	30.00	266.67	VAR	38.00										30.00	266.67	26.67
37+80.00	38+30.00	HWY. 367 - TRANSITION	50.00	27.77	154.28	220	16.97										27.77	154.28	15.43
6+50.00	7+00.00	33RD ST. - TRANSITION	50.00	29.73	165.17	220	18.17												
7+00.00	8+00.00	33RD ST.	100.00	30.00	333.33	220	36.67							30.00	333.33	10.00			
7+00.00	8+00.00	33RD ST. - LEVELING	100.00	30.00	333.33	VAR	69.00										30.00	333.33	33.33
8+00.00	9+37.09	33RD ST.	137.09	60.00	913.93	220	100.53	30.00	456.97	330	75.40	136.00	186.44	60.00	913.93	27.42			
9+37.09	9+84.91	33RD ST. & TURNOUTS	47.82	VAR.	480.30	220	52.83	VAR.	240.15	330	39.62	VAR.	84.05	VAR.	480.30	14.41			
9+86.64	9+92.14	34TH ST.	5.50	VAR.	1.95	220	0.21							VAR.	1.95	0.06			
9+92.14	10+33.67	34TH ST.	41.53	2.00	9.23	220	1.02							2.00	9.23	0.28			
10+33.67	10+83.67	34TH ST.	50.00	4.00	22.22	220	2.44							4.00	22.22	0.67			
13+44.90	18+21.97	HWY. 367 TEMP. WIDENING STAGE 1	477.07	VAR.	520.18	220	57.22	VAR.	520.18	330	85.83	VAR.	233.72	VAR.	520.18	15.61			
34+23.75	38+13.25	HWY. 367 TEMP. WIDENING STAGE 1	389.50	VAR.	309.21	220	34.01	VAR.	309.21	330	51.02	VAR.	108.44	VAR.	309.21	9.28			
13+89.77	16+61.85	HWY. 367 TEMP. WIDENING STAGE 2	272.08	VAR.	143.91	220	15.83	VAR.	143.91	330	23.75	VAR.	50.47	VAR.	143.91	4.32			
32+82.96	38+00.00	HWY. 367 TEMP. WIDENING STAGE 2	517.04	VAR.	456.50	220	50.22	VAR.	456.50	330	75.32	VAR.	160.08	VAR.	456.50	13.70			
* ENTIRE PROJECT	IF AND WHERE DIRECTED BY ENGINEER			VAR.	VAR.	VAR.	50.00	VAR.	VAR.	VAR.	50.00	VAR.	50.00	VAR.	VAR.	20.00			
TOTALS:					12534.46		1478.01		5782.52		1004.11		2364.68		11163.07	354.92		1371.39	137.14

BASIS OF ESTIMATE:

ACHM BINDER COURSE (1"): 4.2% ASPHALT BINDER (PG 64-22), 95.8% MINERAL AGGREGATE, N<sub>max</sub> = 115 FOR PG 64-22

ACHM SURFACE COURSE (1/2"): 4.9% ASPHALT BINDER (PG 64-22), 95.1% MINERAL AGGREGATE, N<sub>max</sub> = 115 FOR PG 64-22

\* QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

BASE & SURFACING - DRIVEWAYS									
STATION	SIDE	LOCATION	WIDTH FEET	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY SQ. YD.	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7) TON
				STATION	STATION		SQ. YD.	TON	
				19+00.00	RT.		HWY. 367	16	
35+83.00	RT.	HWY. 367	16	35+61.00	36+05.00	39.11			14.62
36+47.84	RT.	HWY. 367	12	36+27.84	36+67.84	36.13			
36+64.24	RT.	HWY. 367	12	36+44.24	36+84.24	35.01			
36+64.24	LT.	HWY. 367	12	36+44.24	36+84.24	35.56	19.34	2.13	7.90
37+23.40	LT.	HWY. 367	12	37+03.40	37+43.40	52.71			
6+98.64	RT.	33RD ST.	16	6+76.64	7+20.64	39.11			
7+66.00	RT.	33RD ST.	16	7+44.00	7+88.00	65.59			
7+89.57	RT.	33RD ST.	16	7+67.57	8+11.57	30.04	61.78	6.80	25.23
7+89.57	LT.	33RD ST.	16	7+67.57	8+11.57	39.11	60.80	6.69	24.83
7+97.00	LT.	33RD ST.	16				54.78	6.03	22.37
7+97.38	LT.	33RD ST.	16				54.78	6.03	22.37
11+17.78	LT.	34TH ST.	12				78.32	8.62	248.50
* ENTIRE PROJECT - TEMPORARY DRIVES									20.00
TOTALS:						411.48	329.80	36.30	481.88

\* QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

\*\* FOR INFORMATION ONLY

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (1/2"): 4.9% ASPHALT BINDER (PG 64-22), 95.1% MINERAL AGGREGATE, N<sub>max</sub> = 115 FOR PG 64-22

CONCRETE BASE									
STATION	STATION	LOCATION	LENGTH FEET	PORTLAND CEMENT CONCRETE BASE					
				AVG. WID. FEET	5" U.T. SQ. YD.	AVG. WID. FEET	6" U.T. SQ. YD.		
				13+50.00	14+50.00	HWY. 367 NOTCH AND WIDEN ON LT.	100.00	4	44.44
13+50.00	14+50.00	HWY. 367 NOTCH AND WIDEN ON RT.	100.00	4	44.44	6.50	72.22		
37+00.00	37+80.00	HWY. 367 NOTCH ON LT.	80.00			2.50	22.22		
37+00.00	37+80.00	HWY. 367 NOTCH ON RT.	80.00			2.50	22.22		
7+00.00	8+00.00	33RD ST. NOTCH ON LT.	100.00			2.50	27.78		
7+00.00	8+00.00	33RD ST. NOTCH ON RT.	100.00			2.50	27.78		
9+86.64	9+92.14	34TH ST. NOTCH AND WIDEN ON LT.	5.50	VAR.	1.95	VAR.	4.19		
9+92.14	10+33.67	34TH ST. NOTCH AND WIDEN ON LT.	41.53	2	9.23	4.50	20.77		
10+33.67	10+83.67	34TH ST. NOTCH AND WIDEN ON LT.	50.00	4	22.22	6.50	36.11		
* ENTIRE PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER					10.00	10.00		
TOTALS:						132.28	315.51		

\* QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

COLD MILLING ASPHALT PAVEMENT				
STATION	STATION	LOCATION	WIDTH FEET	SQ. YD.
13+00.00	13+50.00	HWY. 367	37.00	205.56
37+80.00	38+30.00	HWY. 367	30.00	166.67
06+50.00	07+00.00	33RD ST.	30.00	166.67
TOTAL:				538.90

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	24	141
				① 07298		QUANTITIES		54811

SCHEDULE OF BRIDGE QUANTITIES FOR JOB 060395

BRIDGE NO. CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	619	801	802	802	802	803	804	804	805	805	806	806	807	808	809	809	
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. I)	7" STEEL CHAIN LINK FENCE	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS (S/AE) CONCRETE - BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE IV)	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL PILING (HP12X53) *	STEEL PILING (HP14X73) *	METAL BRIDGE RAILING (TYPE H)	TRANSITIONAL APPROACH RAILING	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)	ELASTOMERIC BEARINGS	ARMORED JOINT WITH NEOPRENE STRIP SEAL	SILICONE JOINT SEALANT	
			UNIT	LUMP SUM	LINEAR FOOT	CUBIC YARD	CUBIC YARD	CUBIC YARD	LINEAR FOOT	GALLON	POUND	POUND	LINEAR FOOT	LINEAR FOOT	LINEAR FOOT	EACH	POUND	CUBIC INCH	LINEAR FOOT	LINEAR FOOT	
07298 X371	HWY. 367 OVER UNION PACIFIC RAILROAD	BENT NO. 1					55.39			0.5	6,765		605		22	2	955	3,422.3			
		BENT NO. 2				163	133.87					16,963		837				6,844.5			
		BENT NO. 3				167	140.86					18,267		810				6,844.5			
		BENT NO. 4				173	147.14					19,441		810				6,844.5			
		BENT NO. 5				202	154.12					20,745		1,188				6,844.5			
		BENT NO. 6				171	152.72					20,484		1,080				6,844.5			
		BENT NO. 7				177	162.50					22,309		999				6,844.5			
		BENT NO. 8				165	163.77					22,570		1,053				6,844.5			
		BENT NO. 9				184	164.73					23,018		1,107				11,054.2			
		BENT NO. 10				328	190.99					33,567			912			5,148.0			
		BENT NO. 11				255	173.45					29,763			600			5,148.0			
		BENT NO. 12							60.56			0.6	7,528		449	15	2	1,022	7,632.0		
		4 - 184'-0" CONT. PRESTRESSED CONCRETE GIRDER UNITS								1,500.57	4,368	86.2		349,452		1,472		23,377			191
415'-0" CONT. COMP. PLATE GIRDER UNIT				292				743.73		48.6		173,978		537		774,516		100			
EXISTING BRIDGE NO. 02066 (SITE NO. I) ***				1																	
TOTALS FOR JOB 060395				1	292	1,985	1,700.10	2,244.30	4,368	135.9	241,420	523,430	8,938	1,512	2,046	4	799,870	80,316.0	100	191	

SCHEDULE OF BRIDGE QUANTITIES FOR JOB 060395

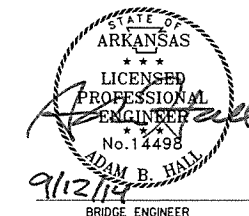
BRIDGE NO. CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	812	816	816	816	SP JOB 060395	
			ITEM	BRIDGE NAME PLATE (TYPE D)	CONCRETE RIPRAP	FILTER BLANKET	DUMPED RIPRAP	SHORING	
			UNIT	EACH	CUBIC YARD	SQUARE YARD	CUBIC YARD	LUMP SUM	
07298 X371	HWY. 367 OVER UNION PACIFIC RAILROAD	BENT NO. 1				723	382		
		BENT NO. 2							
		BENT NO. 3				16**	5**		
		BENT NO. 4							
		BENT NO. 5				16**	5**		
		BENT NO. 6							
		BENT NO. 7				16**	5**		
		BENT NO. 8							
		BENT NO. 9							
		BENT NO. 10				16**	5**		
		BENT NO. 11							
		BENT NO. 12				44	16**	5**	
		4 - 184'-0" CONT. PRESTRESSED CONCRETE GIRDER UNITS				1			
415'-0" CONT. COMP. PLATE GIRDER UNIT									
EXISTING BRIDGE NO. 02066 (SITE NO. I)									
TOTALS FOR JOB 060395				1	44	803	407	1	

\* Steel piles are required to be Grade 50 and have special points which will not be paid for directly but shall be considered subsidiary to the item "STEEL PILING (HP12x53)" or "STEEL PILING (HP14x73)". See SP Job 060395 "WORK RESTRICTIONS" for information pertaining to noise restrictions.

\*\* Quantity for Riprap Splash

\*\*\* Existing retaining walls and any items that are attached to the retaining walls near the north abutment shall be included in Existing Bridge No. 02066 (Site No. I).

SCHEDULE OF BRIDGE QUANTITIES  
UNION PACIFIC RR OVERPASS  
(ARCH ST.) (LR) (S)  
PULASKI COUNTY  
ROUTE 367 SEC. 13  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.



DRAWN BY: ABH DATE: NOV. 2013 FILENAME: B060395\_Q.DGN  
CHECKED BY: DRG DATE: JAN. 2014 SCALE: NONE  
DESIGNED BY: ABH DATE: NOV. 2013  
BRIDGE NO. 07298 DRAWING NO. 54811





DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	26	141	

2 SURVEY CONTROL DETAILS



9-18-14

MIDPOINT:  
LAT: 34-42-53  
LONG: 092-16-50

SURVEY CONTROL COORDINATES

Project Name: 060395  
Date: 10/02/2012  
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.  
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	2056355.1802	1227909.1774	247.98	CTL	5/8" REBAR W/2" CAP
2	2057044.1027	1227959.2951	267.41	CTL	5/8" REBAR W/2" CAP
3	2057203.4575	1227948.7546	242.06	CTL	5/8" REBAR W/2" CAP
4	2057859.3857	1228005.5719	255.37	CTL	5/8" REBAR W/2" CAP
5	2057984.6817	1227987.6013	256.27	CTL	5/8" REBAR W/2" CAP
6	2058384.3342	1228018.9846	277.01	CTL	5/8" REBAR W/2" CAP
7	2058789.5736	1228082.8925	304.34	CTL	5/8" REBAR W/2" CAP
8	2058963.9755	1228167.9524	243.02	CTL	5/8" REBAR W/2" CAP
9	2057205.2168	1227842.0350	250.34	CTL	5/8" REBAR W/2" CAP
100	2061206.5940	1232131.0906	276.22	GPS	AHTD GPS 600064
101	2062714.0917	1232776.4286	297.16	GPS	AHTD GPS 600064
102	2070178.2754	1213451.1134	405.81	GPS	AHTD GPS 600027A
901	2047281.5061	1223009.8733	294.58	TBM	5/8" REBAR W/2" CAP TBM-901
902	2049604.1583	1223935.1867	270.70	TBM	CHISELED SQ TBM-902
903	2051722.5161	1225611.2848	255.57	TBM	5/8" REBAR W/2" CAP
905	2055962.4788	1227877.4425	247.74	TBM	5/8" REBAR W/2" CAP TBM-905
906	2058590.8811	1227968.1419	287.39	TBM	5/8" REBAR W/2" CAP TBM-906
907	2060309.1483	1228139.8104	341.51	TBM	5/8" REBAR W/2" CAP TBM-907
908	2060316.3425	1225552.0363	270.85	TBM	5/8" REBAR W/2" CAP TBM-908
909	2060929.8777	1223132.9755	301.38	TBM	5/8" REBAR W/2" CAP TBM-909
910	2061943.3264	1222301.1866	278.28	TBM	5/8" REBAR W/2" CAP TBM-910
911	2064269.1567	1222141.0624	329.46	TBM	5/8" REBAR W/2" CAP TBM-911
912	2066192.0603	1221479.0119	329.79	TBM	5/8" REBAR W/2" CAP TBM-912
913	2068515.9356	1221986.6093	296.65	TBM	5/8" REBAR W/2" CAP TBM-913
914	2068610.2601	1224323.6209	355.97	TBM	5/8" REBAR W/2" CAP TBM-914
9900	2040212.3969	1220316.3293	265.26	BM	NGS-F 320, DISK IN STONE
9901	2044857.2962	1222251.1613	267.33	BM	NGS-PAGIS 2023, DISK IN CONCRETE
9903	2068606.7020	1225575.4319	340.65	BM	NGS-LITTLE ROCK RM
9904	2071534.0111	1227252.6281	268.65	BM	NGS MARK A 290

\*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped  
\*(standard markings common to all caps), or as indicated  
(other markings indicated in the point description of the individual point).  
ALL DISTANCES ARE GROUND.  
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.  
A PROJECT CAF OF 0.9999736533 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.  
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.  
GRID DISTANCE = GROUND DISTANCE X CAF  
GROUND COORDINATES ARE PROJECTED FROM AR. STATE PLANE GRID COORDINATES BY SCALING ALL X, Y  
COORDINATE VALUES WITH THE INVERSE (1/CAF) OF THE COMBINED ADJUSTMENT FACTOR (CAF) ABOUT X=0, Y=0.

GRID COORDINATES ARE STORED UNDER FILE NAME: s060395gi.CTL  
HORIZONTAL DATUM: NAD 83 (1997)  
VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 1-8, 100-102, AND 901-9904 WERE ESTABLISHED BY  
3-WIRE LEVEL TECHNIQUES FROM NGS BENCHMARKS.

POSITIONAL ACCURACY:  
HORIZONTAL-GPS (POINTS 100-102): 1.0CM +10PPM, PRIMARY CONTROL (POINTS 1-9): 2.0CM +20PPM  
VERTICAL-POSITIONAL ACCURACY IS THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT

BASIS OF BEARING:  
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE  
DETERMINED FROM GPS CONTROL POINTS: 600064 - 600064A, 600027A  
CONVERGENCE ANGLE: 00-09-26 LEFT AT PN: 4  
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

PN: 4  
LT: 34-42-53.8 LG: 092-16-50.5  
GRID NORTHING: 2057805.1679 GRID EASTING: 1227973.2180  
GROUND NORTHING: 2057859.3857 GROUND EASTING: 1228005.5719

ALIGNMENT NAME: HWY. 367

POINT	STATION	TYPE	NORTHING	EASTING
8000	10+00.00	POB	2056012.8748	1227917.3500
8001	14+32.72	PC	2056444.9373	1227941.2586
8002	15+14.14	PI	2056526.2284	1227945.7569
8003	15+95.38	PT	2056606.4862	1227959.4375
8004	18+20.38	PC	2056828.2870	1227997.2451
8005	19+03.47	PI	2056910.1955	1228011.2071
8006	19+86.37	PT	2056993.1690	1228015.6046
8007	31+63.27	PC	2058168.4184	1228077.8915
8008	32+45.83	PI	2058250.8577	1228082.2607
8009	33+28.20	PT	2058333.2531	1228077.1297
8010	35+53.20	PC	2058557.8181	1228063.1456
8011	36+34.36	PI	2058638.8194	1228058.1015
8012	37+15.34	PT	2058719.8720	1228062.2392
8013	39+91.80	POE	2058995.9650	1228076.3336

ALIGNMENT NAME: 33RD ST.

POINT	STATION	TYPE	NORTHING	EASTING
8020	6+11.20	POB	2058357.7040	1227688.2934
8021	10+00.00	POE	2058340.1798	1228076.6984

ALIGNMENT NAME: 34TH ST.

POINT	STATION	TYPE	NORTHING	EASTING
8030	8+00.00	POB	2057998.4122	1227872.7288
8031	9+22.15	PC	2057996.2711	1227994.8636
8032	9+57.62	PI	2057995.6496	1228030.3208
8033	9+91.81	PT	2058010.8978	1228062.3379
8034	11+00.00	POE	2058057.4160	1228160.0135

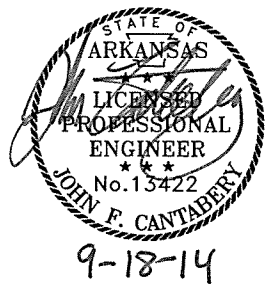
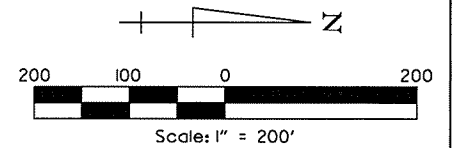
ALIGNMENT NAME: DRIVEWAY 1

POINT	STATION	TYPE	NORTHING	EASTING
8040	10+00.00	POB	2056907.1068	1228008.4364
8041	10+59.86	PC	2056900.3422	1228067.9133
8042	11+31.08	PI	2056892.2941	1228138.6742
8043	11+83.78	PT	2056956.3830	1228169.7305
8044	12+00.00	POE	2056970.9786	1228176.8033

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DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	141

2 SURVEY CONTROL DETAILS

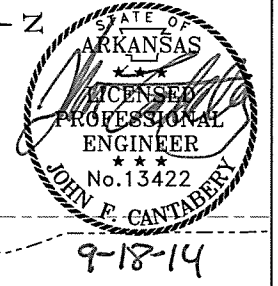


CURVE DATA										
CURVE	PC	PI	PT	Δ	D	TANGENT	LENGTH	e	Ls	DESIGN SPEED
						FEET	FEET	FT./FT.	FEET	
367-1	14+32.72	15+14.14	15+95.38	6°30'22" RT.	4°00'00"	81.42	162.66	0.030	150	40 MPH
367-2	18+20.38	19+03.47	19+86.37	6°38'23" LT.	4°00'00"	83.09	165.99	0.030	150	40 MPH
367-3	31+63.27	32+45.83	33+28.20	6°35'50" LT.	4°00'00"	82.56	164.93	0.030	150	40 MPH
367-4	35+53.20	36+34.36	37+15.34	6°29'09" RT.	4°00'00"	81.16	162.14	0.030	150	40 MPH
34-1	9+22.15	9+57.62	9+91.81	26°28'14" LT.	38°00'00"	35.46	69.66	N/A	N/A	20 MPH
DW-1	10+59.86	11+31.08	11+83.78	70°38'05" LT.	57°00'00"	71.22	123.92	N/A	N/A	N/A

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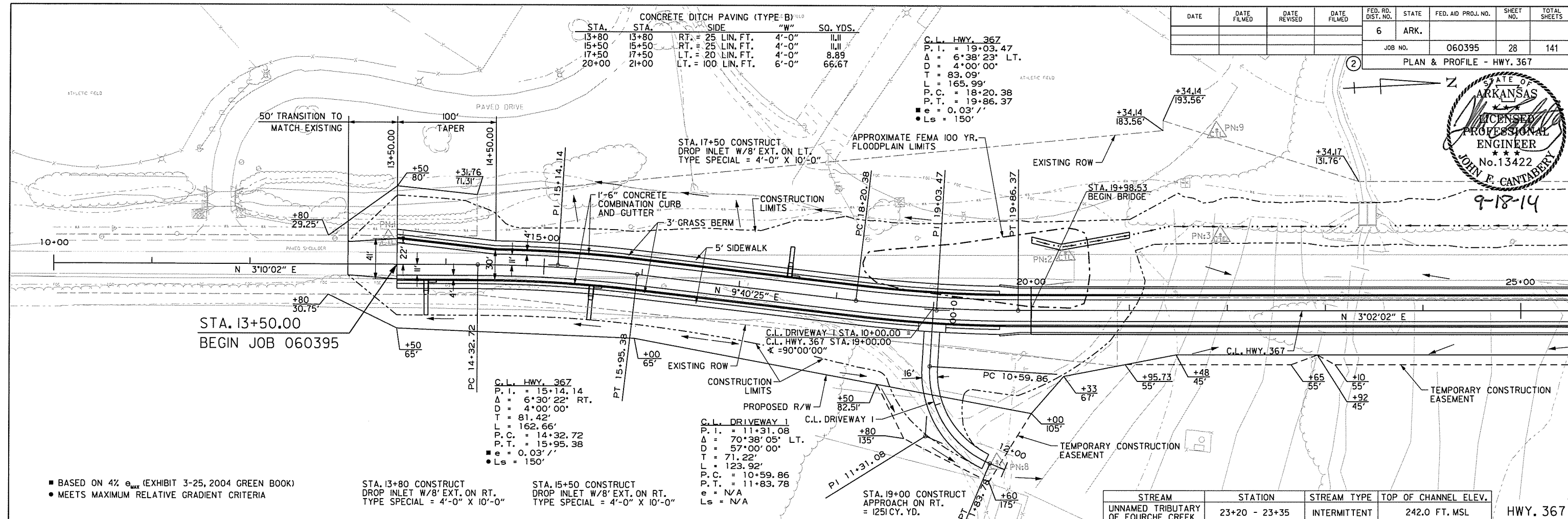
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				6	ARK.		28	141

PLAN & PROFILE - HWY. 367



STA.	STA.	SIDE	"W"	SQ. YDS.
13+80	13+80	RT. = 25 LIN. FT.	4'-0"	11.11
15+50	15+50	RT. = 25 LIN. FT.	4'-0"	11.11
17+50	17+50	LT. = 20 LIN. FT.	4'-0"	8.89
20+00	21+00	LT. = 100 LIN. FT.	6'-0"	66.67

C.L. HWY. 367  
 P.I. = 19+03.47  
 Δ = 6°38'23" LT.  
 D = 4°00'00"  
 T = 83.09'  
 L = 165.99'  
 P.C. = 18+20.38  
 P.T. = 19+86.37  
 e = 0.03' /'  
 Ls = 150'



- BASED ON 4% e<sub>max</sub> (EXHIBIT 3-25, 2004 GREEN BOOK)
- MEETS MAXIMUM RELATIVE GRADIENT CRITERIA

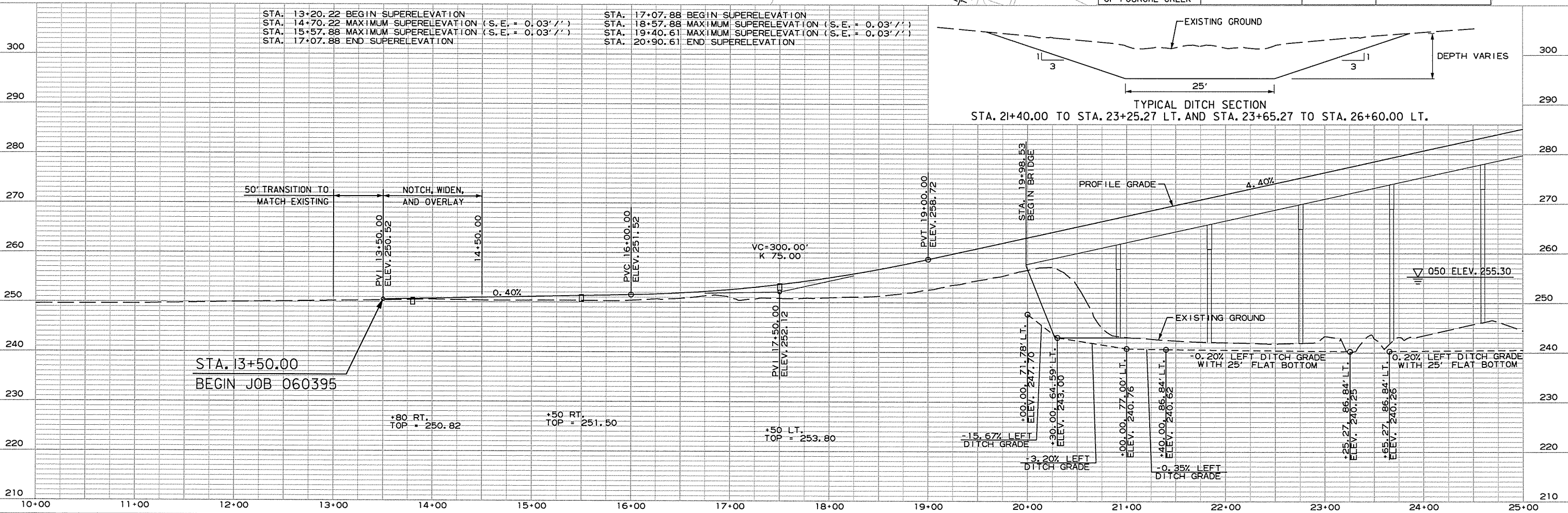
STA. 13+80 CONSTRUCT DROP INLET W/8' EXT. ON RT. TYPE SPECIAL = 4'-0" X 10'-0"

STA. 15+50 CONSTRUCT DROP INLET W/8' EXT. ON RT. TYPE SPECIAL = 4'-0" X 10'-0"

STA. 19+00 CONSTRUCT APPROACH ON RT. = 1251 CY. YD.

C.L. HWY. 367  
 P.I. = 15+14.14  
 Δ = 6°30'22" RT.  
 D = 4°00'00"  
 T = 81.42'  
 L = 162.66'  
 P.C. = 14+32.72  
 P.T. = 15+95.38  
 e = 0.03' /'  
 Ls = 150'

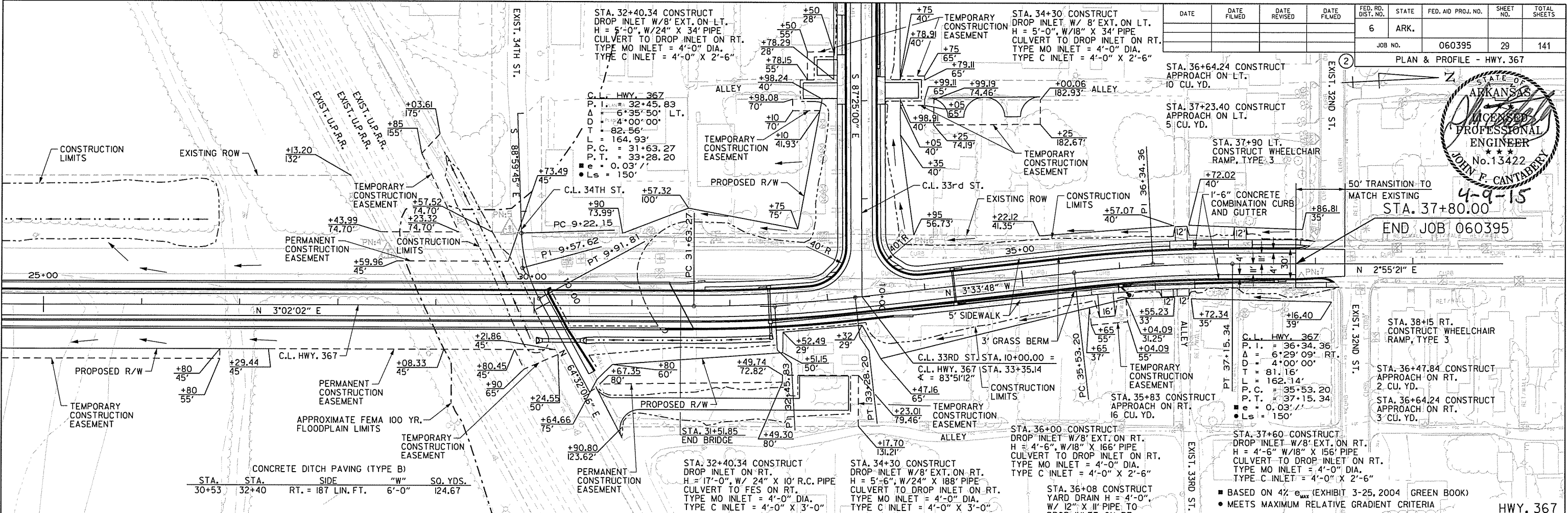
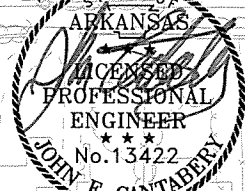
C.L. DRIVEWAY 1  
 P.I. = 11+31.08  
 Δ = 70°38'05" LT.  
 D = 57°00'00"  
 T = 71.22'  
 L = 123.92'  
 P.C. = 10+59.86  
 P.T. = 11+83.78  
 e = N/A  
 Ls = N/A



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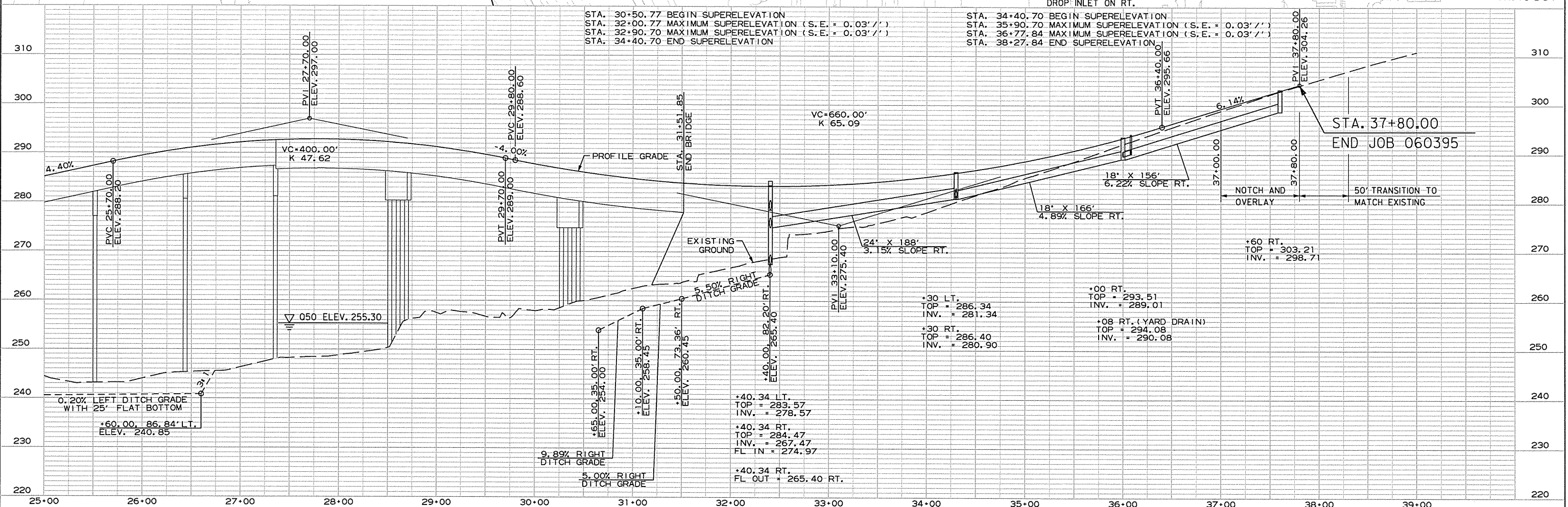
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				6	ARK.			
				JOB NO.	060395		29	141

PLAN & PROFILE - HWY. 367

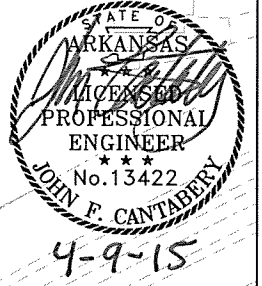


STA.	STA.	SIDE	"W"	SO. YDS.
30+53	32+40	RT. = 187 LIN. FT.	6'-0"	124.67

STA. 30+50.77 BEGIN SUPERELEVATION  
 STA. 32+00.77 MAXIMUM SUPERELEVATION (S.E. = 0.03'/'')  
 STA. 32+90.70 MAXIMUM SUPERELEVATION (S.E. = 0.03'/'')  
 STA. 34+40.70 END SUPERELEVATION

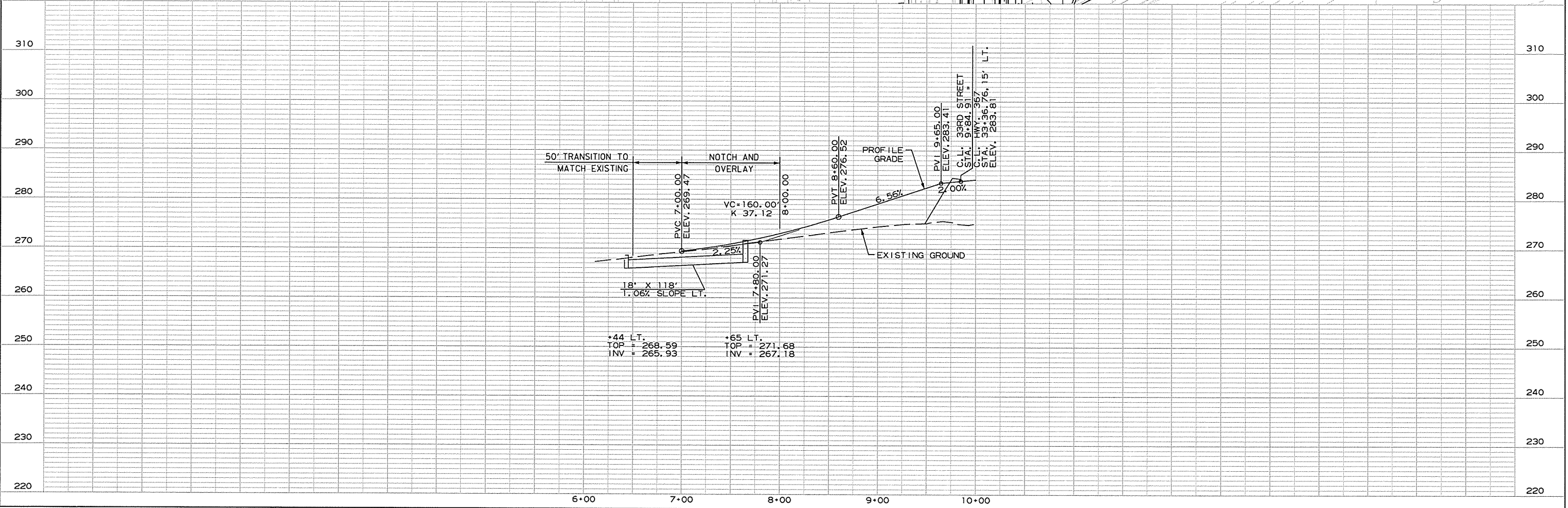
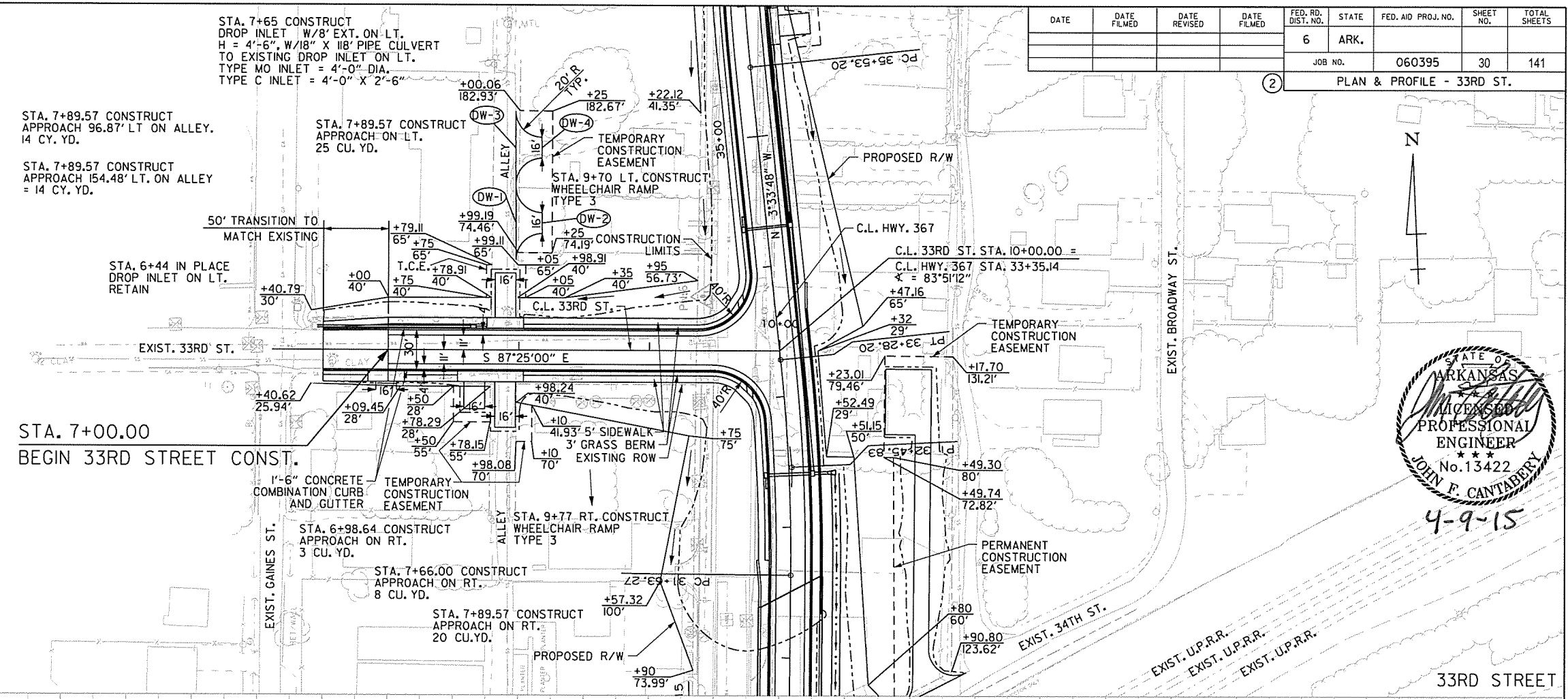


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				6	ARK.			
						JOB NO.	060395	30
						PLAN & PROFILE - 33RD ST.		



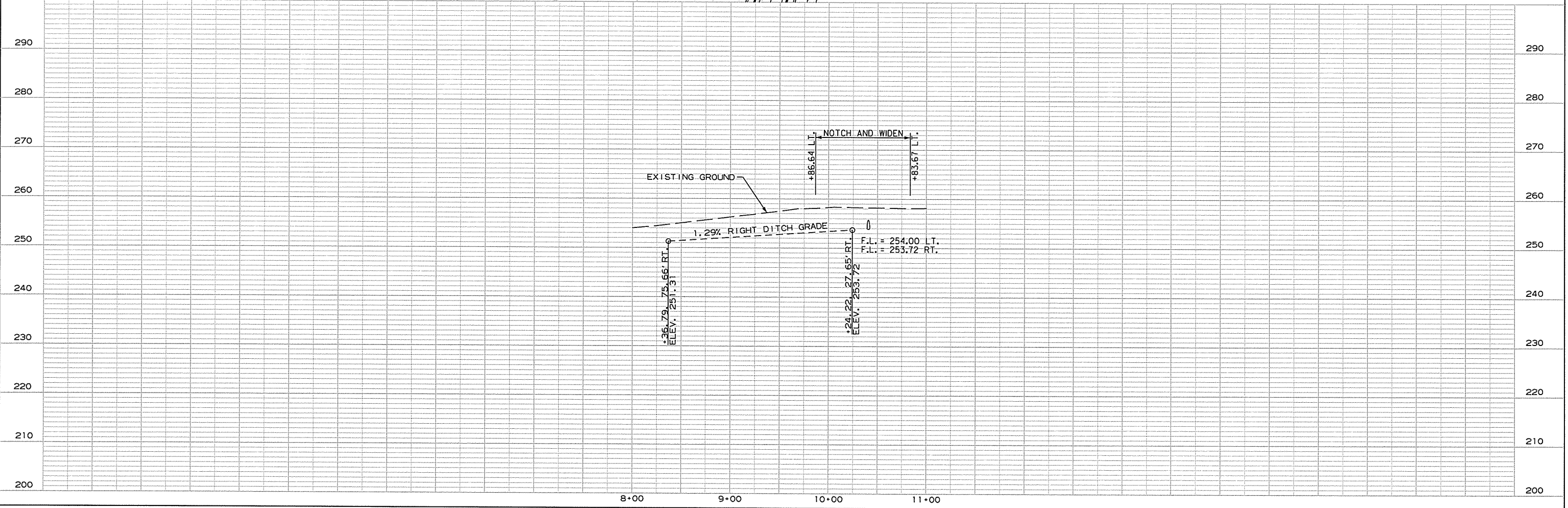
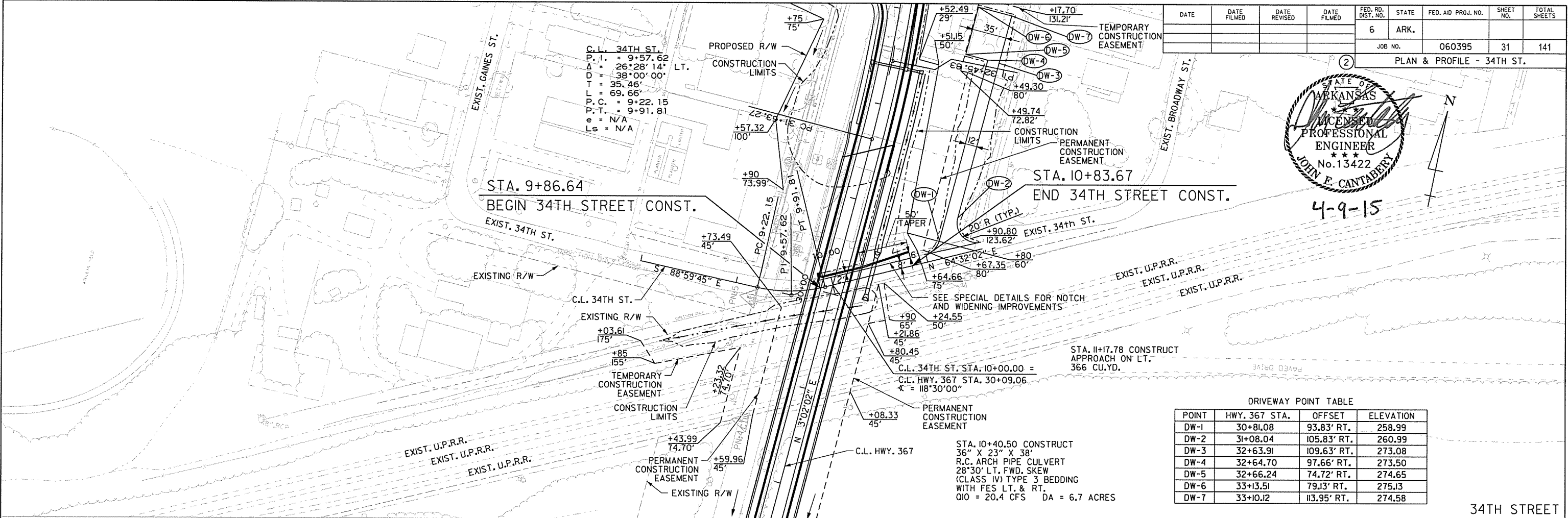
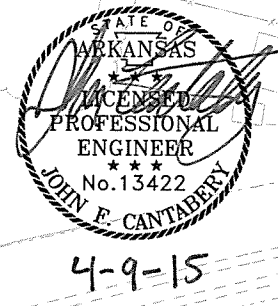
DRIVEWAY POINT TABLE - 33RD STREET ALLEY

POINT	33RD ST. STA.	OFFSET	ELEVATION
DW-1	7+97.38	96.87 LT.	278.41
DW-2	8+17.41	97.00 LT.	279.65
DW-3	7+97.00	154.48 LT.	283.08
DW-4	8+17.00	154.61 LT.	283.57



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				JOB NO.		060395	31	141
PLAN & PROFILE - 34TH ST.								



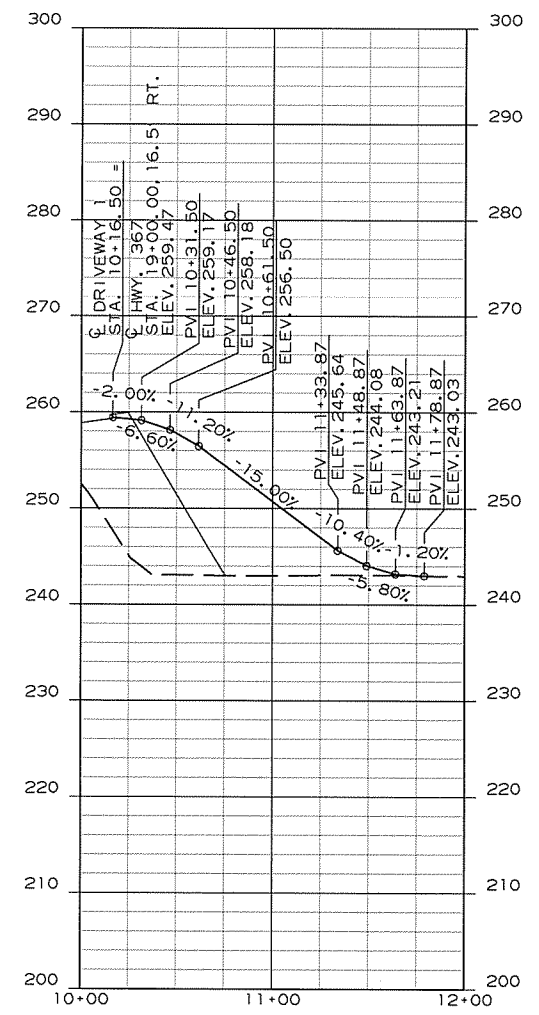
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				JOB NO.		060395	32	141

② DRIVEWAY PROFILES



9-18-14



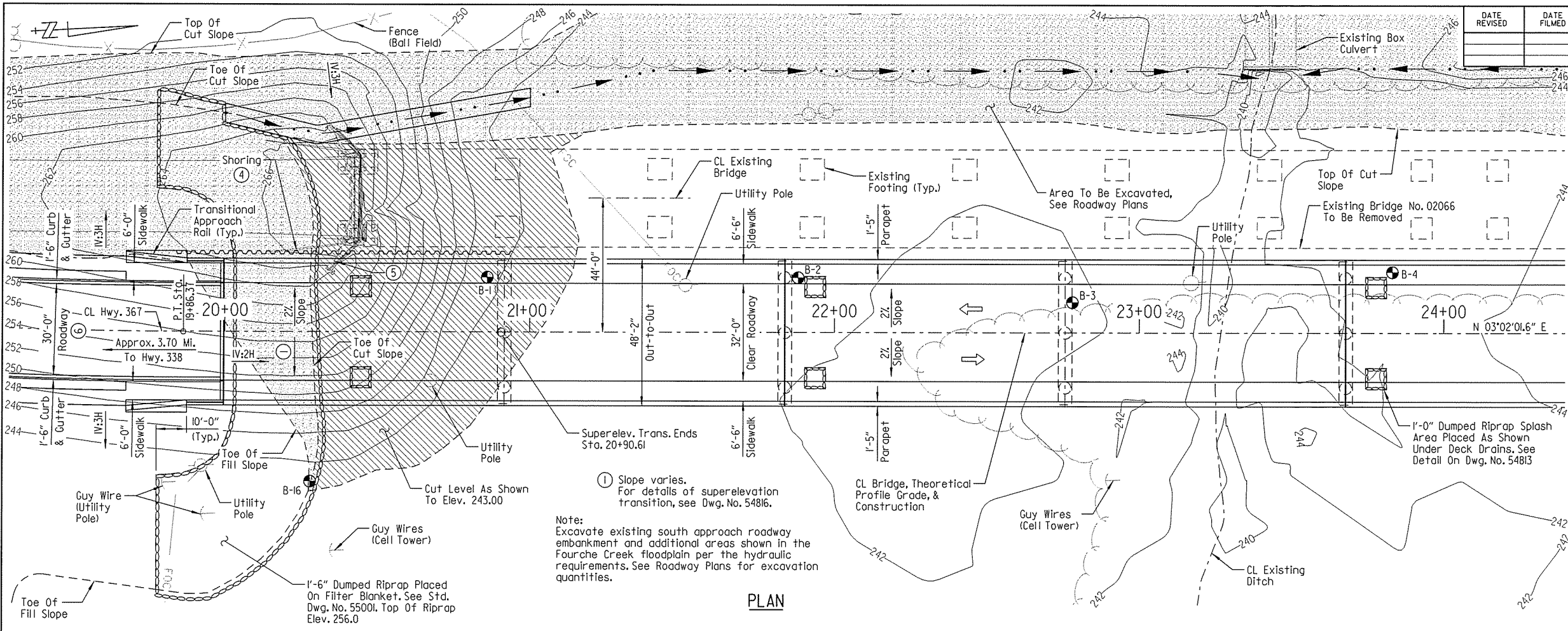
DRIVEWAY I  
HWY. 367 STA. 19+00

DRIVEWAY PROFILES

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REVISED DATE:



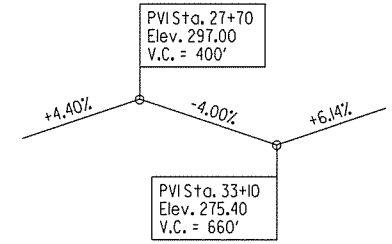
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				6	ARK.			
				JOB NO.		060395	33	141
				07298		LAYOUT		54812



**FOR R/W DATA, SEE ROADWAY PLANS**

Note:  
For "LOCATION SKETCH," "BORING LEGEND" & "N VALUES", see Dwg. No. 54815.

For "GENERAL NOTES" & "HYDRAULIC DATA", see Dwg. No. 54816.



**VERTICAL CURVE DATA**

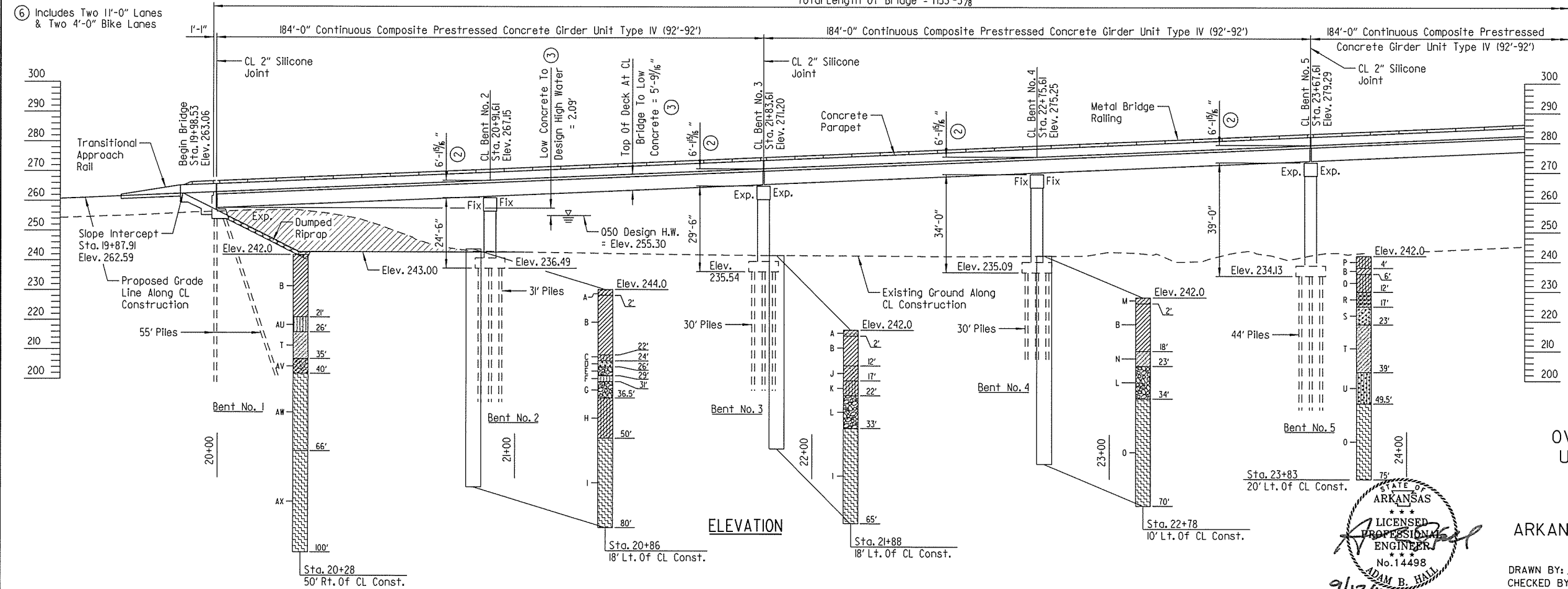
State Highway 367 (Arch Street)  
(Theoretical Profile  
Grade Along CL Bridge)

**HORIZONTAL CURVE DATA**

State Highway 367 (Arch St.)  
 PI = 19+03.47  
 Δ = 6°38'23.1" Lt.  
 D = 4°00'00"  
 T = 83.09'  
 L = 165.99'  
 e = 0.033'/"  
 R = 1432.39'

**PLAN**

Total Length Of Bridge = 1153'-3 7/8"



**ELEVATION**

**LEGEND**

FOC = Underground Fiber Optic Cable

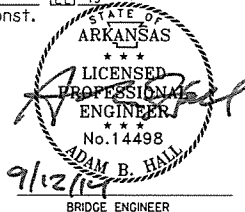
Note:  
Stations and elevations shown are along CL Bridge. For Bents in normal crown, elevations shown are at Working Point.

- (2) Dimension taken from top of deck at CL Bridge & CL Bent to low side top of cap
- (3) Low bridge chord elevation of 257.39 occurs 21.0' left of CL Construction at Sta. 20+00.61
- (4) Shoring will be required. See Special Provision Job 060395 "SHORING."
- (5) Existing abutment wing to be removed as required for shoring installation.

SHEET 1 OF 5  
 LAYOUT OF BRIDGE  
 OVER UNION PACIFIC RAILROAD  
 UNION PACIFIC RR OVERPASS  
 (ARCH ST.) (LR) (S)  
 PULASKI COUNTY

ROUTE 367 SEC. 13  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

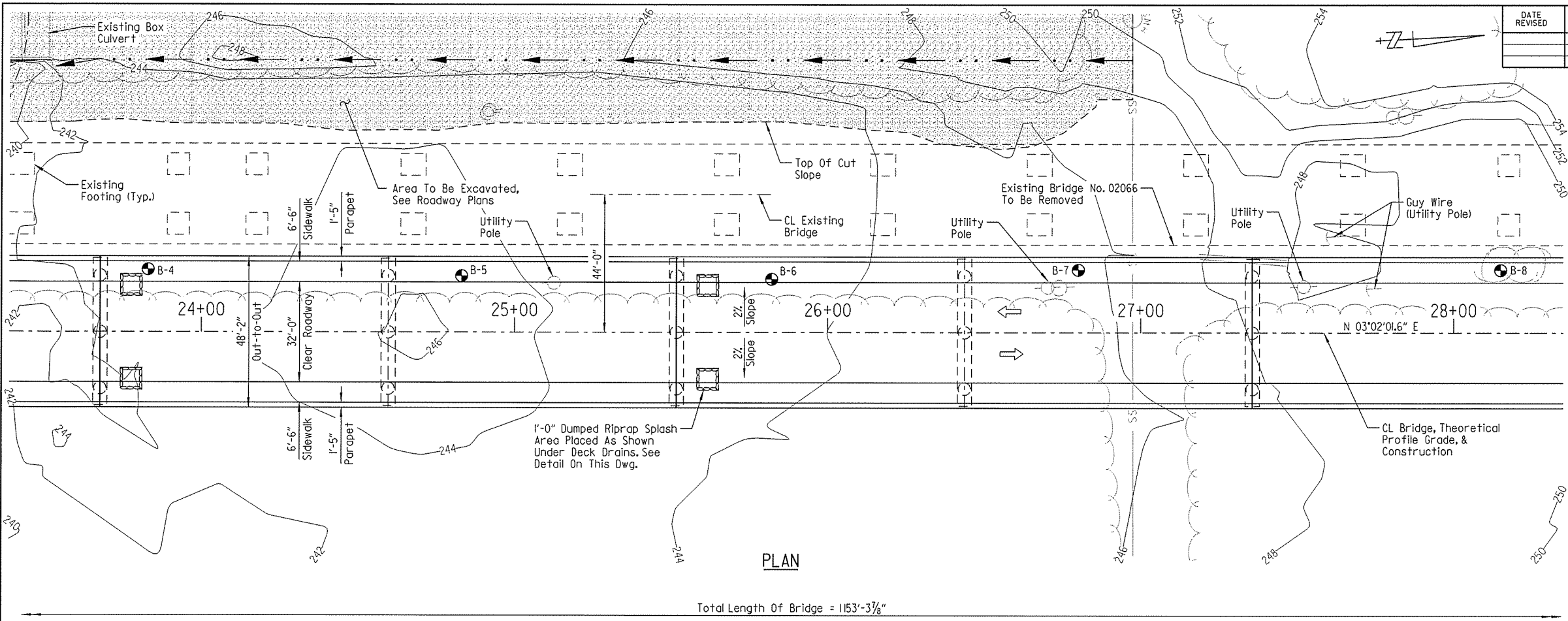
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 CHECKED BY: JHR DATE: JAN. 2014 SCALE: 1"=20'  
 DESIGNED BY: ABH DATE: APR. 2012  
 BRIDGE NO. 07298 DRAWING NO. 54812



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 REVISED DATE:

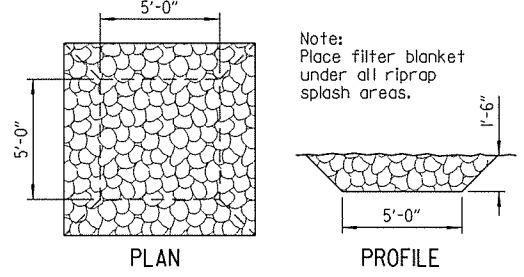
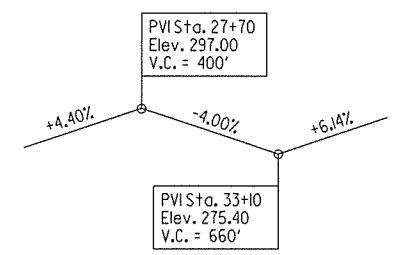
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	34	141
				①	07298	LAYOUT		54813



**FOR R/W DATA, SEE ROADWAY PLANS**

Note:  
 For "LOCATION SKETCH," "BORING LEGEND" & "N VALUES", see Dwg. No. 54815.  
 For "GENERAL NOTES" & "HYDRAULIC DATA", see Dwg. No. 54816.



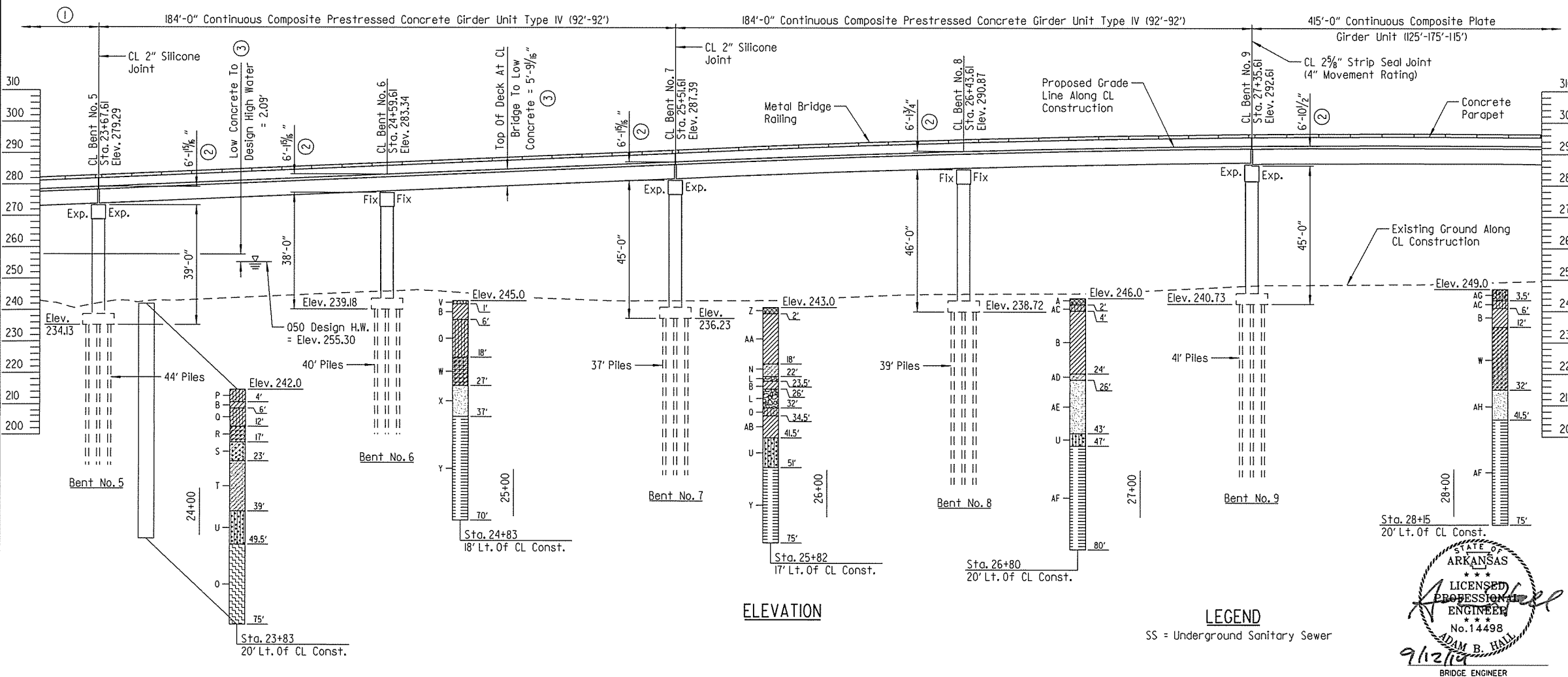
Cost of excavation considered subsidiary to the item "DUMPED RIPRAP".

**RIPRAP SPLASH DETAIL**

(12 Total Required)  
 Scale: 1/4" = 1'-0"

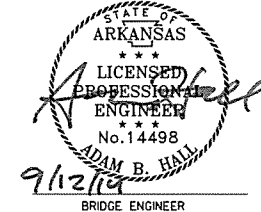
Note:  
 Stations and elevations shown are along CL Bridge. Elevations shown are at Working Point.

- ① 184'-0" Continuous Composite Prestressed Concrete Girder Unit Type IV (92'-92')
- ② Dimension taken from top of deck at CL Bridge & CL Bent to low side top of cap
- ③ Low bridge chord elevation of 257.39 occurs 21.0' left of CL Construction at Sta. 20+00.61



SHEET 2 OF 5  
 LAYOUT OF BRIDGE  
 OVER UNION PACIFIC RAILROAD  
 UNION PACIFIC RR OVERPASS  
 (ARCH ST.) (LR) (S)  
 PULASKI COUNTY  
 ROUTE 367 SEC. 13  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

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 CHECKED BY: JHR      DATE: JAN. 2014      SCALE: 1"=20'  
 DESIGNED BY: ABH      DATE: APR. 2012  
 BRIDGE NO. 07298      DRAWING NO. 54813

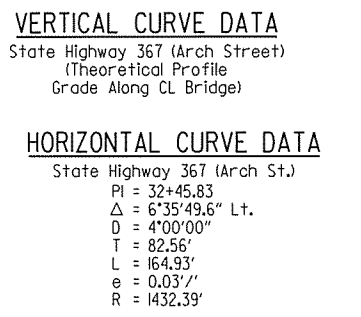
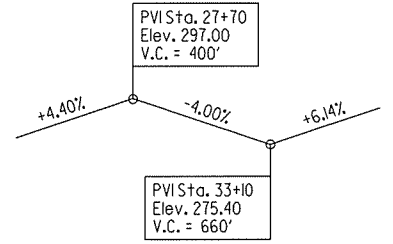
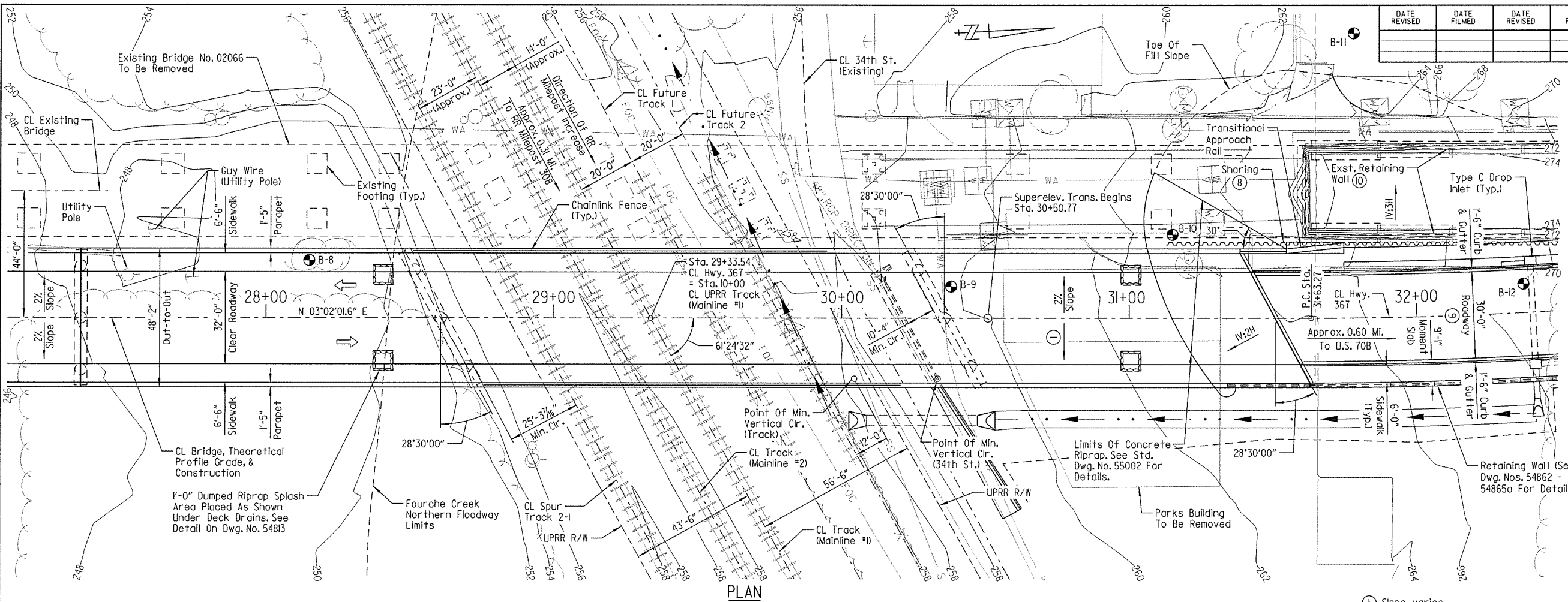


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				07298	LAYOUT			54814

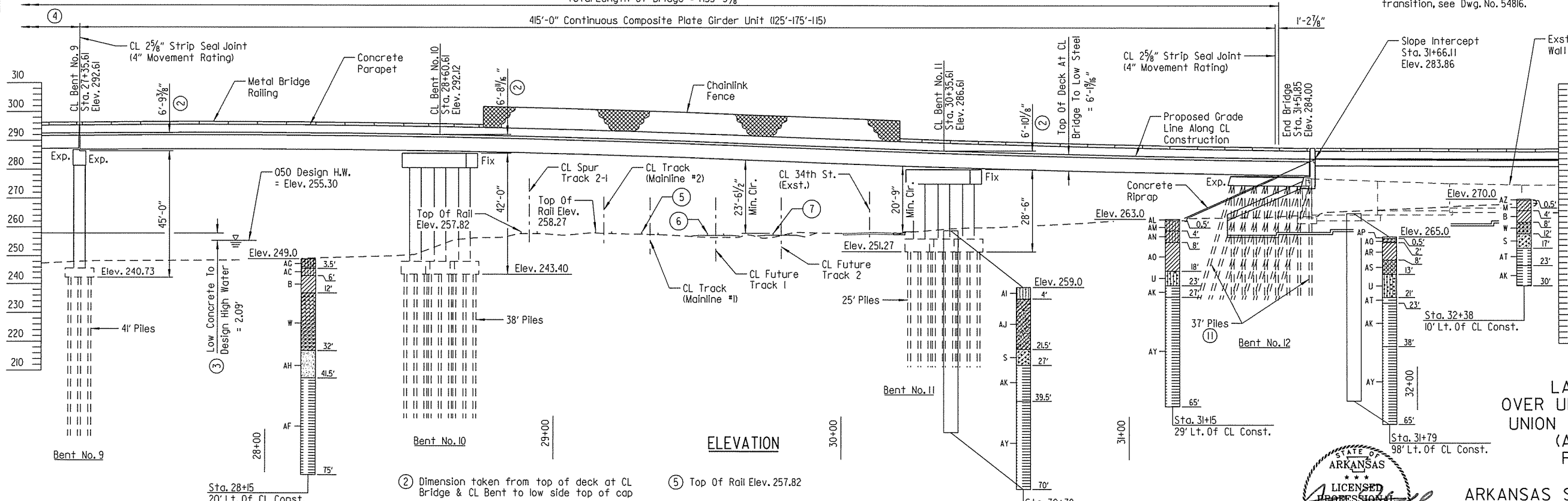
FOR R/W DATA, SEE ROADWAY PLANS

Note: For "LOCATION SKETCH," "BORING LEGEND" & "N VALUES", see Dwg. No. 54815.

For "GENERAL NOTES" & "HYDRAULIC DATA", see Dwg. No. 54816.



Total Length Of Bridge = 1153'-3 7/8"



- (8) Shoring will be required. See Special Provision Job 060395 "SHORING."
- (9) Includes Two 11'-0" Lanes & Two 4'-0" Bike Lanes
- (10) Removal to be included in the lump sum cost of "REMOVAL OF EXISTING BRIDGE (SITE NO. 1)".
- (11) Wing A contains (1) 42' pile.

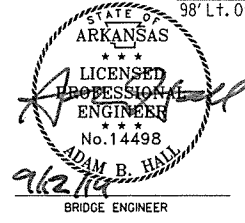
Note: Stations and elevations shown are along CL Bridge. For Bents in normal crown, elevations shown are at Working Point.

LEGEND

FOC = Underground Fiber Optic Cable  
 WA = Underground Water Line  
 SS = Underground Sanitary Sewer  
 GA = Underground Gas Line  
 CM = Gas Meter  
 WM = Water Meter  
 WV = Water Valve

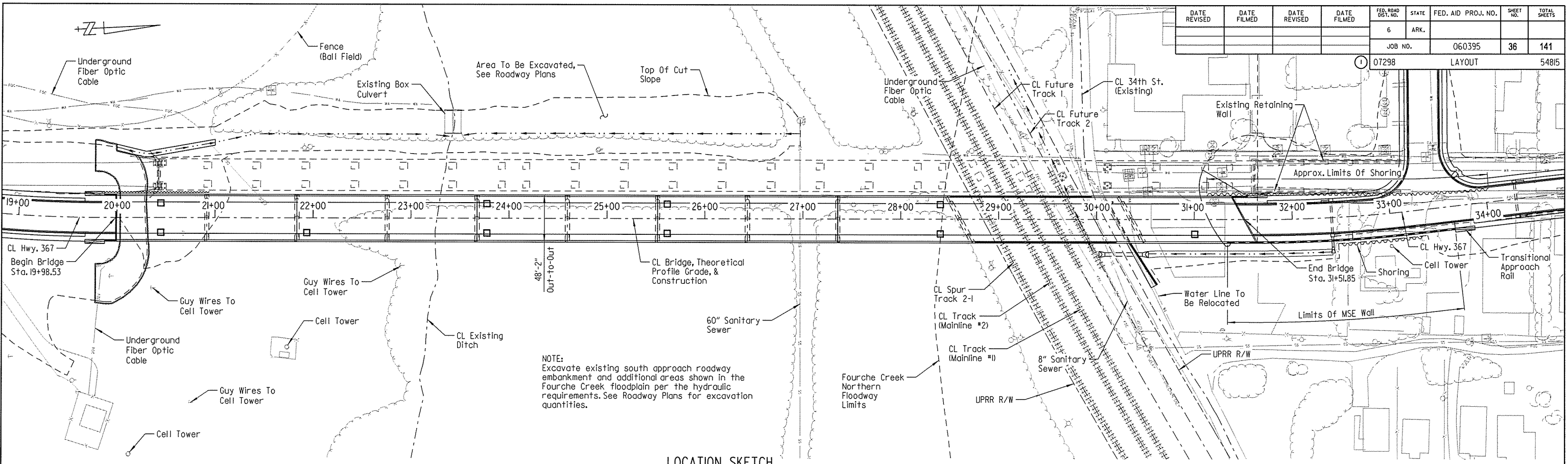
SHEET 3 OF 5  
 LAYOUT OF BRIDGE  
 OVER UNION PACIFIC RAILROAD  
 UNION PACIFIC RR OVERPASS  
 (ARCH ST.) (LR) (S)  
 PULASKI COUNTY  
 ROUTE 367 SEC. 13  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

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 DESIGNED BY: ABH DATE: APR. 2012  
 BRIDGE NO. 07298 DRAWING NO. 54814



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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	36	141	
				07298	LAYOUT	54815		



LOCATION SKETCH

NOTE:  
Excavate existing south approach roadway embankment and additional areas shown in the Fourche Creek floodplain per the hydraulic requirements. See Roadway Plans for excavation quantities.

BORING LEGEND

- A - Firm reddish tan fine sandy clay (fill)
- B - Firm to stiff gray and reddish tan clay w/ ferrous stains
- C - Firm to stiff gray silty clay
- D - Dense gray clayey fine sand with a little fine to coarse gravel
- E - Medium dense brown sandy fine to coarse gravel
- F - Medium dense brown silty fine sand with some fine gravel
- G - Dense to very dense brown fine to coarse sand w/ some fine gravel
- H - Hard light gray silty clay w/ syenite nodules and fragments (completely weathered syenite)
- I - Medium soft tan and gray highly weathered syenite w/ silty clay seams and nepheline crystals
- J - Very soft to hard gray and brown fine sandy clay w/ some fine to coarse gravel
- K - Stiff gray and tan silty clay w/ trace fine gravel
- L - Dense brown sandy fine to coarse gravel
- M - Soft reddish tan and brown fine sandy clay w/ fine to coarse gravel (fill)
- N - Very stiff reddish tan clayey fine sand w/ some fine to coarse gravel
- O - Soft to medium soft tan and gray highly weathered syenite w/ silty clay seams
- P - Firm brown silty clay w/ some trash debris (fill)
- Q - Stiff gray and tan silty clay w/ ferrous nodules and stains
- R - Stiff gray, reddish tan and tan fine sandy clay w/ ferrous nodules and stains
- S - Medium dense gray clayey fine sand
- T - Dense brown clayey fine to coarse sand w/ some fine gravel
- U - Dense gray silty fine sand
- V - Soft dark brown clayey silt
- W - Very stiff gray and brown fine sandy clay w/ ferrous stains
- X - Dense brown and tan fine to coarse sand w/ trace fine gravel
- Y - Soft to medium soft dark gray shale, carbonaceous
- Z - Soft brown fine sandy clay (fill)
- AA - Firm gray and brown clay w/ ferrous stains
- AB - Hard dark gray clay, calcareous
- AC - Soft tan and gray silty clay
- AD - Dense gray and tan clayey fine sand w/ some fine to coarse gravel
- AE - Very dense brown fine to coarse sand w/ fine to coarse gravel
- AF - Soft dark gray shale, carbonaceous
- AG - Firm brown silty clay w/ fine to coarse gravel (fill)
- AH - Dense tan sandy fine to coarse gravel
- AI - Crushed Stone and brown silty fine sand, wet (fill)
- AJ - Firm gray and reddish tan clay w/ ferrous nodules and stains w/ some fine to coarse gravel
- AK - Soft brown and gray weathered shale
- AL - Portland Cement reinforced concrete
- AM - Stiff brown and tan silty clay (fill)
- AN - Soft tan and reddish tan silty clay, slightly sandy w/ trace fine gravel
- AO - Hard red, gray and tan clay w/ a little fine gravel
- AP - Asphalt (2 inches) and Crushed Rock (6 inches)
- AQ - Firm brown sandy clay
- AR - Soft to firm gray and reddish brown clay
- AS - Very stiff gray and tan fine sandy clay, calcareous
- AT - Very soft gray and brown highly weathered shale
- AU - Dense gray silty fine to coarse sand w/ some fine to coarse gravel, clayey
- AV - Dense gray clayey fine to coarse gravel
- AW - Hard light gray highly weathered syenite w/ silty clay seams
- AX - Medium hard to hard gray syenite
- AY - Medium soft to medium hard dark gray shale, carbonaceous
- AZ - Crushed Stone Base
- BA - Loose brown and tan clayey fine sand w/ ferrous nodules
- BB - Firm tan clay w/ ferrous nodules
- BC - Stiff brown and gray clay, sandy, calcareous w/ shell fragments
- BD - Dense to very dense tan clayey fine sand, slightly silty
- BE - Moderately hard brown, gray and dark gray weathered shale

N VALUES

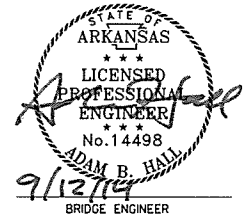
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14.0-15.0, N=26	19.0-20.0, N=12	19.0-20.0, N=18	19.0-20.0, N=16	14.0-15.0, N=12	19.0-20.0, N=24	19.0-20.0, N=50/9"
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98.5-99.0, N=50/0"						

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6.5-7.0, N=11	4.5-5.5, N=13	4.5-5.5, N=9	4.5-5.5, N=5	6.5-7.5, N=12	4.5-5.5, N=9
14.0-15.0, N=18	9.0-10.0, N=16	6.5-7.5, N=12	9.0-10.0, N=50/8"	14.0-15.0, N=33	9.0-10.0, N=26
19.0-20.0, N=17	14.0-15.0, N=34	14.0-15.0, N=24	19.0-20.0, N=43	19.0-20.0, N=38	14.0-15.0, N=26
24.0-25.0, N=30	24.0-25.0, N=16	19.0-20.0, N=27	24.0-25.0, N=50/2"	24.0-24.5, N=50/6"	19.0-20.0, N=40
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44.0-45.0, N=55	44.0-45.0, N=50/8"	39.0-40.0, N=50/7"	43.5-44.0, N=50/0"	43.5-44.0, N=50/0"	
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74.0-75.0, N=25/0"	73.5-74.0, N=25/0"				
79.0-80.0, N=25/0"					

SHEET 4 OF 5  
LAYOUT OF BRIDGE  
OVER UNION PACIFIC RAILROAD  
UNION PACIFIC RR OVERPASS  
(ARCH ST.) (LR) (S)  
PULASKI COUNTY

ROUTE 367 SEC. 13  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ABH DATE: APR. 2012 FILENAME: B060395\_L4.DGN  
CHECKED BY: JHR DATE: JAN. 2014 SCALE: 1"=50'  
DESIGNED BY: ABH DATE: APR. 2012  
BRIDGE NO. 07298 DRAWING NO. 54815



9/12/2014 12:55:52 PM  
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	37	141	
				07298	LAYOUT		54816	

**GENERAL NOTES**

BENCH MARK: PN: 4, PD: 5/8" Rebar With 2" Cap, ST: 28+50.85  
 OF: 55.86' LT.  
 Elevation = 255.37

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, section and subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2012 Edition) with current interim specifications.

LIVE LOADING: HL93

SEISMIC PERFORMANCE ZONE: I  $S_{DI} = 0.15$  Site Class = C

OPERATIONAL IMPORTANCE CATEGORY: TYPICAL

MATERIALS AND STRENGTHS:  
 Class S(AE) Concrete (Superstructure)  $f'c = 4000$  psi  
 Class S Concrete (Prestressed Girders)  $f'c = 7000$  psi  
 Class S Concrete (Substructure)  $f'c = 3500$  psi  
 Reinforcing Steel (AASHTO M31 Or M322 Type A, Gr. 60)  $f_y = 60,000$  psi  
 Structural Steel (AASHTO M270, GR. 50W)  $F_y = 50,000$  psi  
 Structural Steel (AASHTO M270, GR. 36)  $F_y = 36,000$  psi

BORING LOGS: Boring logs may be obtained from Programs and Contracts Division.

STEEL PILING: All piling shall be driven with an approved air, steam or diesel hammer into material designated as syenite or shale bedrock on the boring legend. All piling at Bent Nos. 1-9 & 12 shall be HPI2x53 (Grade 50) and shall be driven to a minimum safe bearing capacity of 95 tons. All piling at Bent Nos. 10 & 11 shall be HPI4x73 (Grade 50) and shall be driven to a minimum safe bearing capacity of 130 tons. It is anticipated that the minimum required rated energy of the hammer to obtain the minimum safe bearing capacity will be 40,000 foot-pounds per blow at Bent No. 1 and 27,000 foot-pounds per blow at Bent Nos. 2-12. Piles in end bents shall be driven after embankment to bottom of cap is in place. All piling shall be driven a minimum of 10 ft. below natural ground. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with Section 805. Actual lengths are to be determined in the field. The Contractor shall use approved steel H-pile driving points. The Contractor shall be responsible for scheduling pile driving operations in accordance with SP Job 060395 "WORK RESTRICTIONS".

PILE FOOTING: The top of all bent footings shall be set a minimum of 2'-0" below finished ground. Foundations for footings shall be prepared in accordance with Subsection 801.04 and backfilled in accordance with Subsection 801.08.

BRIDGE DECK: The concrete bridge deck, except the sidewalks, shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. The sidewalks shall receive a broomed finish as specified for final finishing in Subsection 802.19 for Class 6, Broomed Finish.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I protective surface treatment shall be applied to the roadway surface and to the roadway face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NOS:
End Bents	54820-54825
Transitional Approach Railing	54826
Intermediate Bents	54827-54832
18' Cont. Prestressed Concrete Girder Unit	54833-54839
415' Cont. Comp. Plate Girder Unit	54840-54852
Joint Details	54853-54855
Elastomeric Bearings	54856 & 54857
Handrail Details	54858
Chainlink Fence	54859
Deck Drains	54860 & 54861
Dumped Riprap	55001
Concrete Riprap	55002
Steel Piling	55020

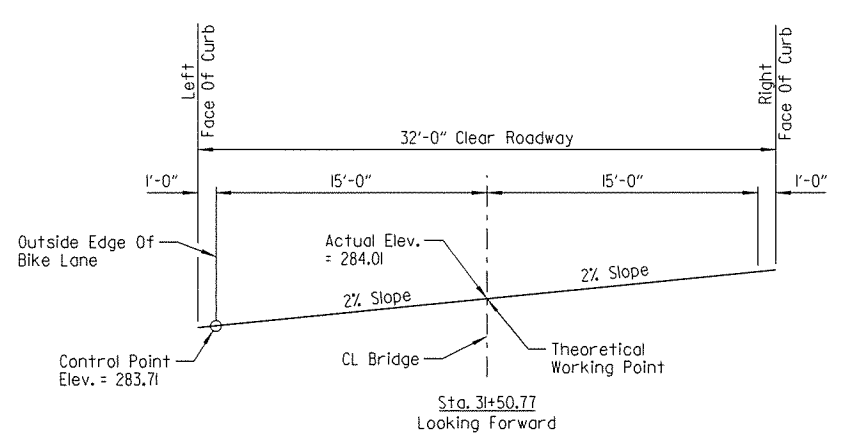
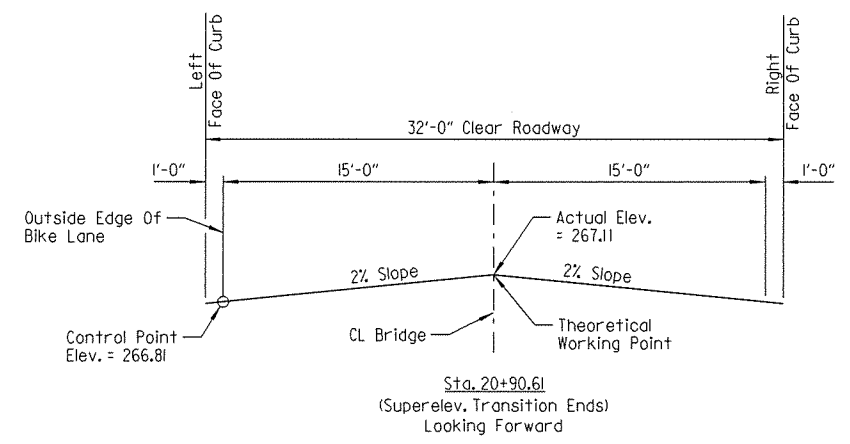
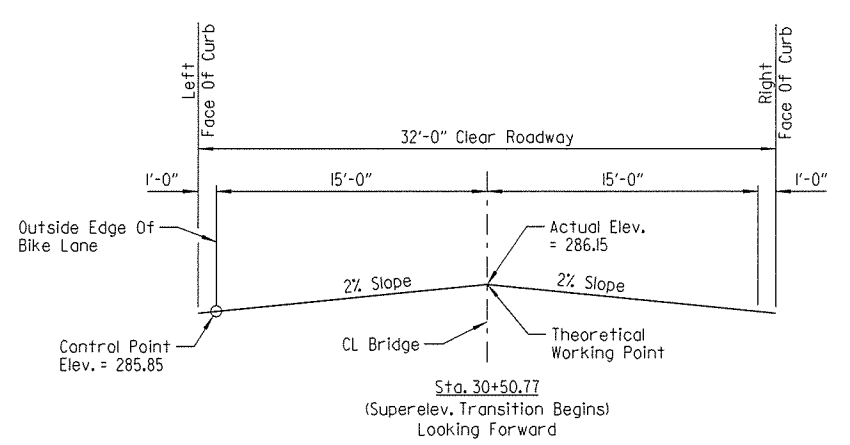
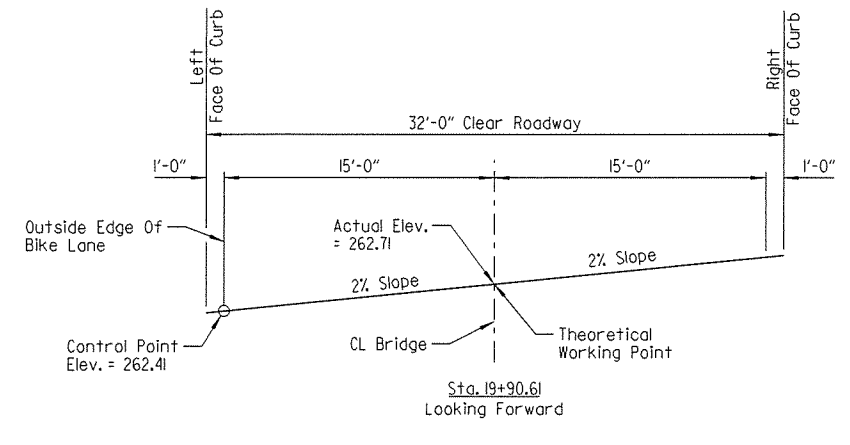
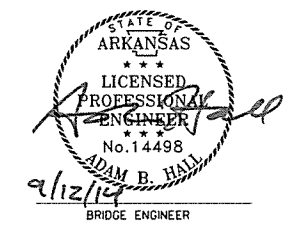
EXISTING BRIDGE: Existing Bridge No. 02066 is 32.17' wide and 1,120.83' long and consists of simple spans with steel beams and a concrete deck supported by concrete substructure elements. Two of the intermediate bents are supported by concrete footings on concrete piling, while all other intermediate bents are supported by spread footings. The South abutment is supported by concrete piles, while the North abutment is supported by a spread footing. The existing bridge is located approximately 44' West of the new bridge.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing Bridge No. 02066 (including retaining walls at the north abutment) shall be removed in accordance with Section 205. All material from the existing bridge shall become property of the Contractor.

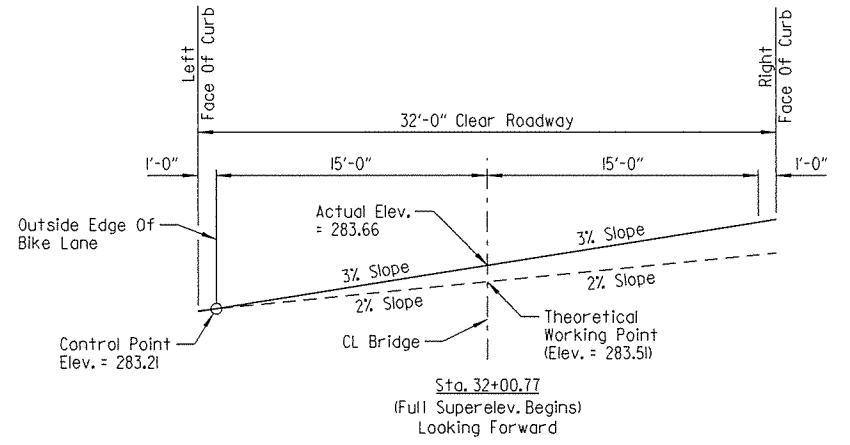
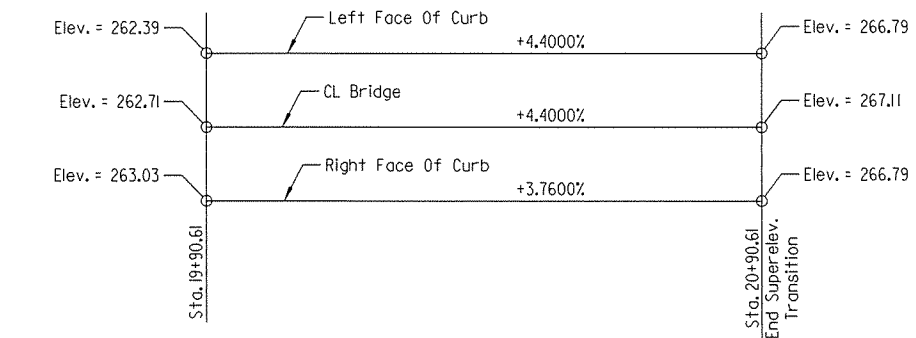
MAINTENANCE OF TRAFFIC: See Roadway Drawings.

SHEET 5 OF 5  
 LAYOUT OF BRIDGE  
 OVER UNION PACIFIC RAILROAD  
 UNION PACIFIC RR OVERPASS  
 (ARCH ST.) (LR) (S)  
 PULASKI COUNTY  
 ROUTE 367 SEC. 13  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: ABH DATE: APR. 2012 FILENAME: B060395\_L5.DGN  
 CHECKED BY: JHR DATE: JAN. 2014 SCALE: NO SCALE  
 DESIGNED BY: ABH DATE: APR. 2012  
 BRIDGE NO. 07298 DRAWING NO. 54816



**SECTIONS**



**SECTIONS**

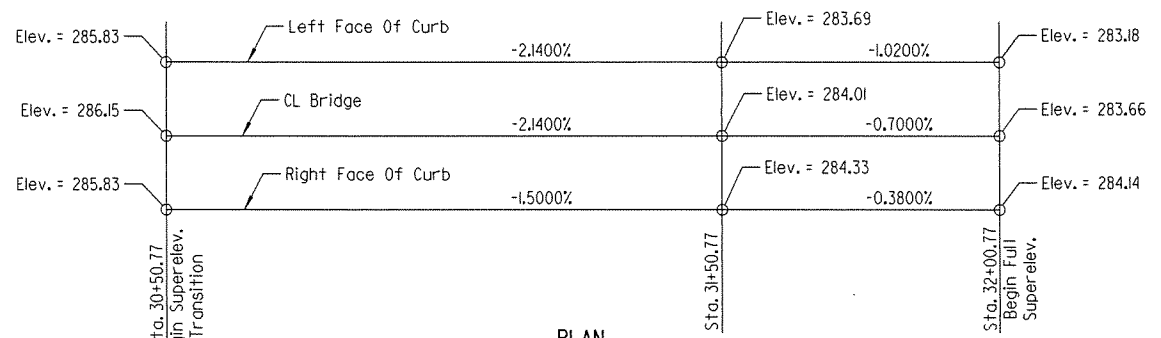
**SUPERELEVATION TRANSITION NEAR BEGIN BRIDGE**

No Scale

**HYDRAULIC DATA**

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	WATER SURFACE ELEVATION WITH BACKWATER
	YEARS	CFS	FEET
DESIGN	50	54,000	255.30
BASE	100	60,000	256.80
EXTREME	500	73,500	259.80
OVERTOPPING	> 500	N/A	N/A

Drainage Area = 97.40 Square Miles.  
 Historical High Water Elev. = 255.10.



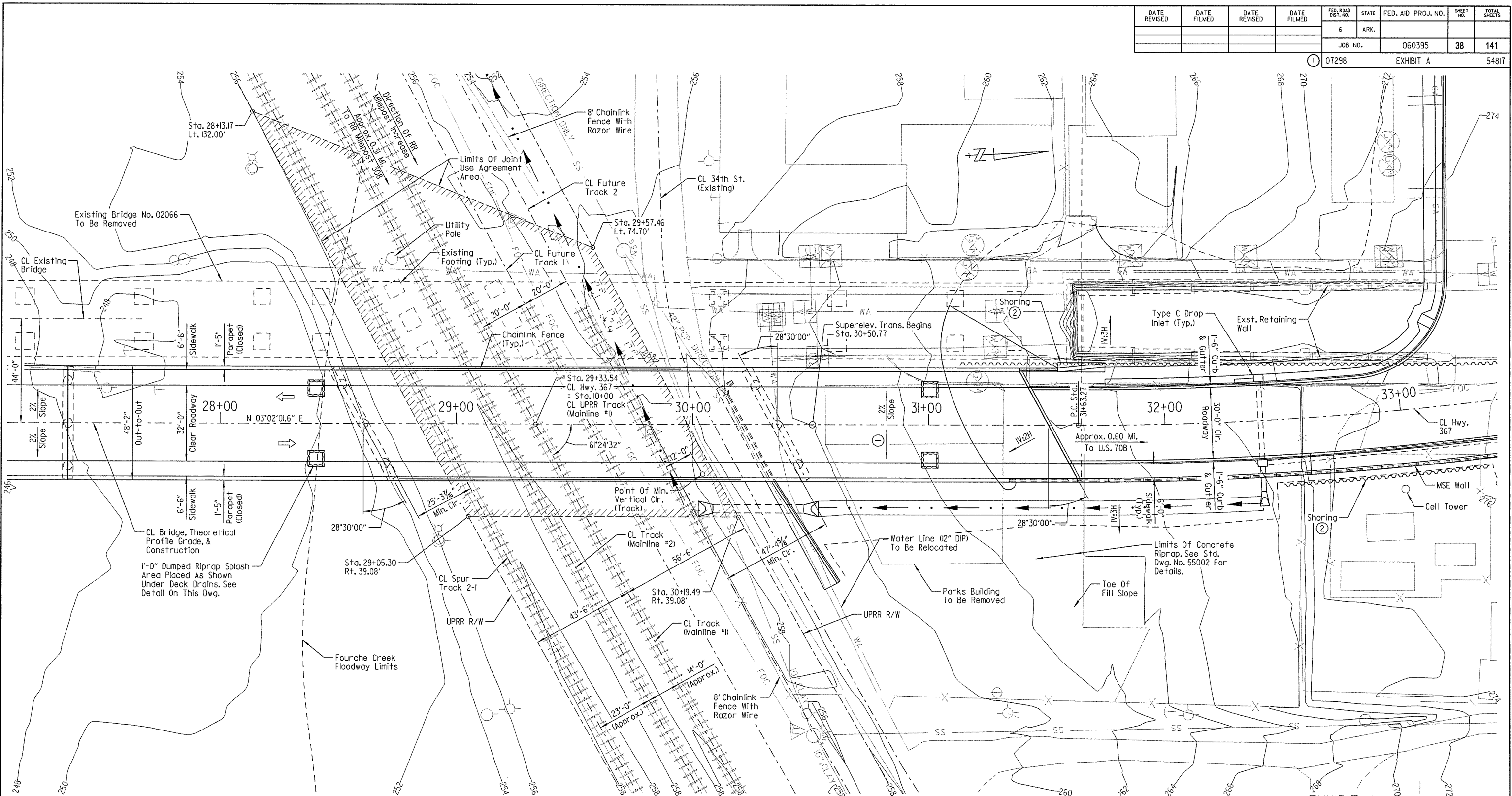
**PLAN**

**SUPERELEVATION TRANSITION NEAR END BRIDGE**

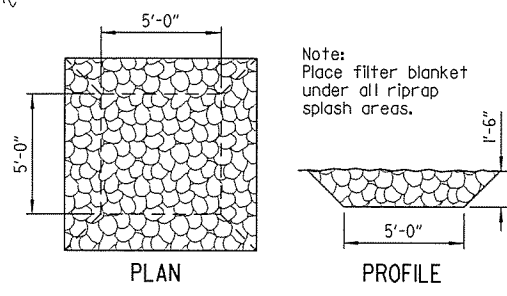
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	38	141
				07298	EXHIBIT A			54817



**PLAN**



**RIPRAP SPLASH DETAIL**  
(12 Total Required)  
Scale: 1/4" = 1'-0"

Note:  
Place filter blanket under all riprap splash areas.

Note:  
Riprap for all splash areas shall be included in the item "DUMPED RIPRAP". Filter blanket for all splash areas shall be included in the item "FILTER BLANKET". Excavation required at riprap splash areas will not be paid for directly but will be considered subsidiary to the item "DUMPED RIPRAP".

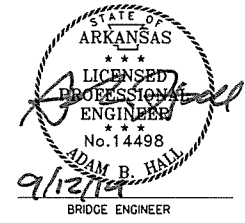
**LEGEND**

- FOC = Underground Fiber Optic Cable
- WA = Underground Water Line
- SS = Underground Sanitary Sewer
- GA = Underground Gas Line
- GM = Gas Meter
- WM = Water Meter
- WV = Water Valve

- ① Slope varies. For details of superelevation transition, see Dwg. No. 54816.
- ② Shoring will be required. See Special Provision Job 060395 "SHORING."

Note:  
No deck drains are to be placed in span over Railroad right-of-way.

Note:  
All permanent clearances shall be verified before project closing.

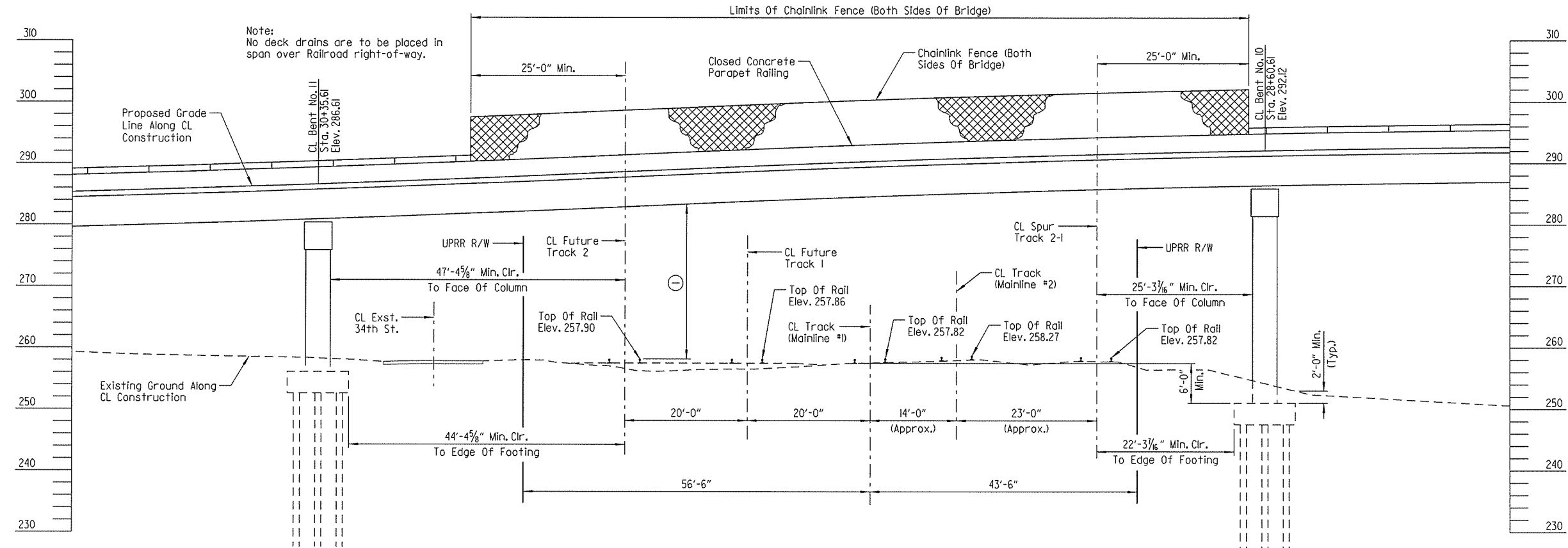


**EXHIBIT A**  
**SHEET 1 OF 3**  
**LAYOUT OF BRIDGE**  
**OVER UNION PACIFIC RAILROAD**  
**UNION PACIFIC RR OVERPASS**  
**(ARCH ST.) (LR) (S)**  
**PULASKI COUNTY**

ROUTE 367 SEC. 13  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: ABH DATE: APR. 2012 FILENAME: B060395\_L6.DGN  
CHECKED BY: JHR DATE: JAN. 2014 SCALE: 1"=20'  
DESIGNED BY: ABH DATE: APR. 2012  
BRIDGE NO. 07298 DRAWING NO. 54817

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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	39	141
				07298	EXHIBIT A			54818



**RAILROAD GENERAL NOTES**

All demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall comply with the Railroad's Demolition Guidelines.

Railroad review and approval of erection and falsework is required. Allow a minimum of four weeks for the review and approval of each submittal.

The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the Railroad's ditches and/or drainage structures.

The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.

Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site, and all personnel must clear the area within 25 feet of the track centerline and secure all equipment when trains are present.

The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.

Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation. Erection over the Railroad's tracks shall be developed such that it enables the tracks to remain open to traffic per the Railroad's requirements.

All construction that may impact the Railroad operations shall be designed to cause no interruption to the Railroad's operation, enabling the tracks to remain open to traffic per the Railroad's requirements.

Closed parapet railing (no deck drains) over Railroad right-of-way on both sides of bridge.

All shoring systems that impact the Railroad's operations and/or support the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.

"The State shall not plow ice, snow or sleet over the sides of the structure. In consideration of this practice, the Carrier waives its request for the State to attach splash boards to sides of the structure." This statement is in the State-Railroad Agreement.

Falsework clearances shall comply with minimum construction clearances.

All permanent clearances shall be verified before project closing.

For Railroad coordination, please refer to the railroad coordination requirements as part of SP Job 060395 "INSURANCE, CONSTRUCTION AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (UPRR)".

① Low Steel To Top Of UPRR Rail At Point Of Minimum Vertical Clearance.

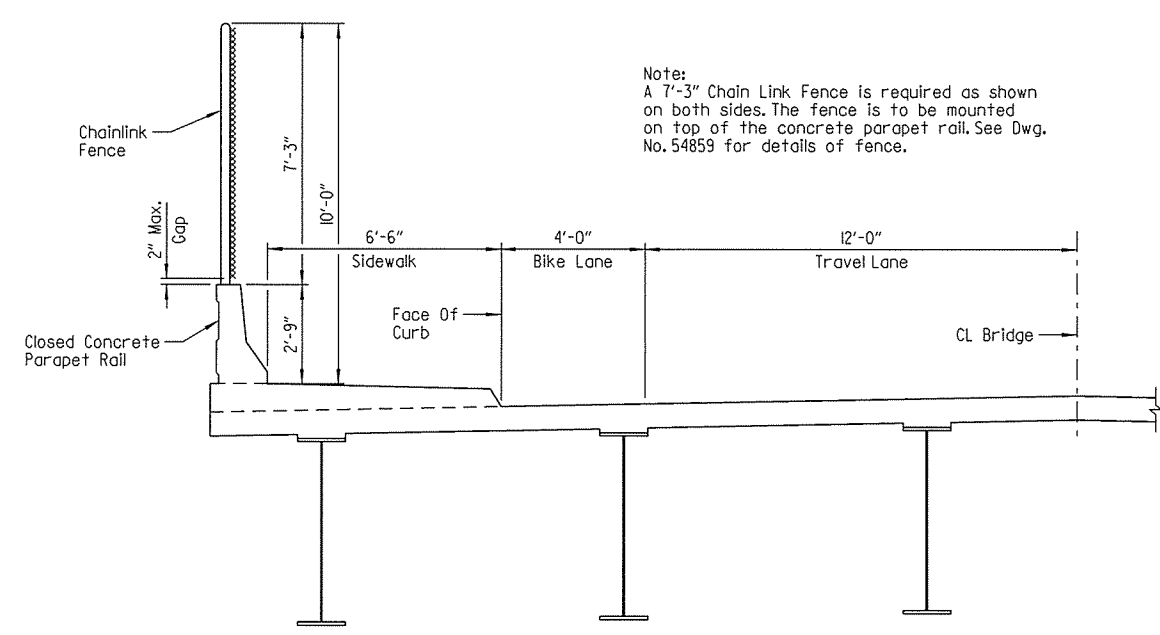
Minimum Vertical Clearance Req'd. = 23'-4"  
 Minimum Vertical Clearance Provided = 23'-6 1/2"  
 Track Elev. 257.98 (At Point Of Min. Clearance)

Track elevation listed is at 21.0' Rt. of CL Bridge. Minimum vertical clearance shown is calculated at 12.0' Lt. of CL Future Track 2.

**ELEVATION SECTION NORMAL TO TRACKS**

Looking In Direction Of Milepost Increase  
 Scale: 1" = 10'-0"

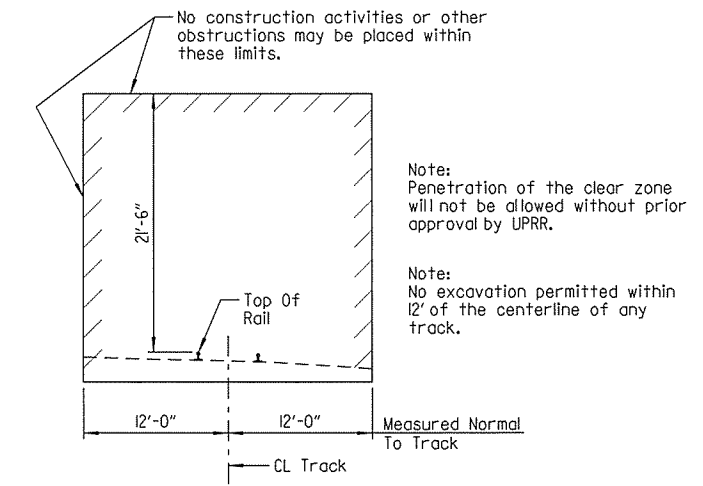
Note: Unless noted otherwise, top of rail elevation shown for each track is located at the intersection of CL Track and CL Bridge.



**TYPICAL SECTION**

Scale: 3/8" = 1'-0"

Note: A 7'-3" Chain Link Fence is required as shown on both sides. The fence is to be mounted on top of the concrete parapet rail. See Dwg. No. 54859 for details of fence.



**MINIMUM CONSTRUCTION CLEARANCES**

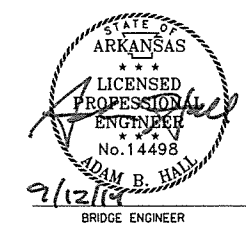
Scale: 1/8" = 1'-0"

Note: Penetration of the clear zone will not be allowed without prior approval by UPRR.

Note: No excavation permitted within 12' of the centerline of any track.

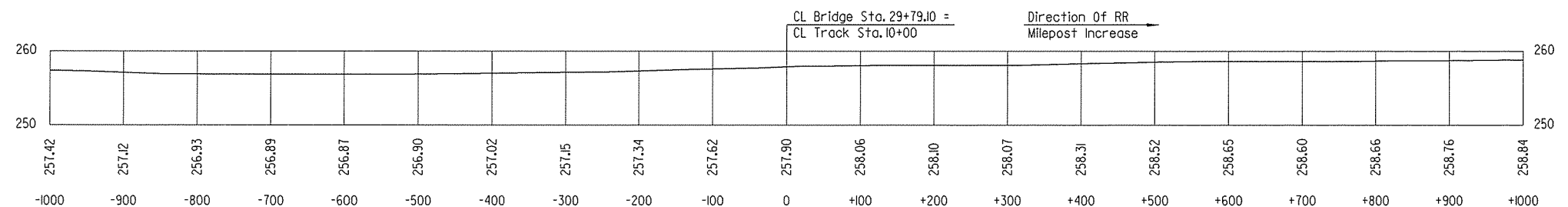
EXHIBIT A  
 SHEET 2 OF 3  
 LAYOUT OF BRIDGE  
 OVER UNION PACIFIC RAILROAD  
 UNION PACIFIC RR OVERPASS  
 (ARCH ST.) (LR) (S)  
 PULASKI COUNTY  
 ROUTE 367 SEC. 13  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: ABH DATE: APR. 2012 FILENAME: B060395\_L7.DGN  
 CHECKED BY: JHR DATE: JAN. 2014 SCALE: AS SHOWN  
 DESIGNED BY: ABH DATE: APR. 2012  
 BRIDGE NO. 07298 DRAWING NO. 54818

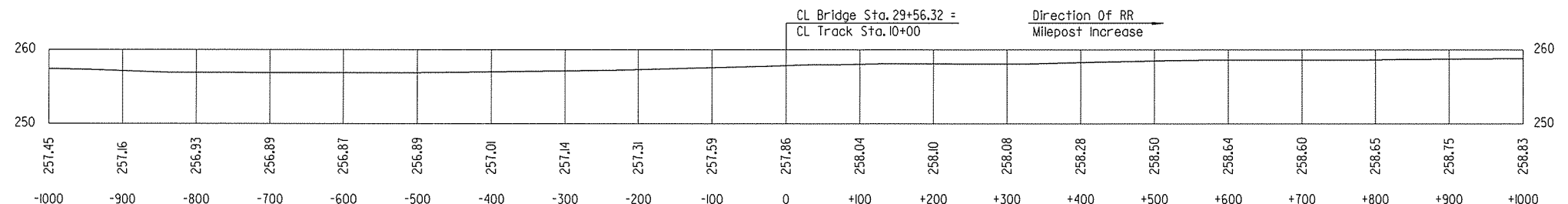


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 REVISED DATE:

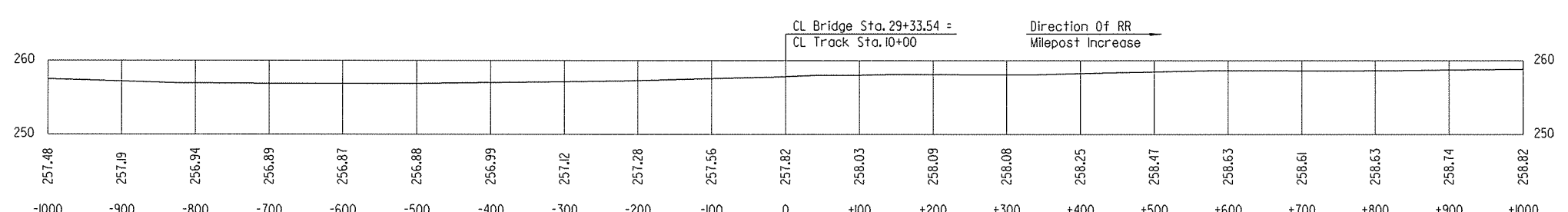
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						060395	40	141
				07298	EXHIBIT A			54819



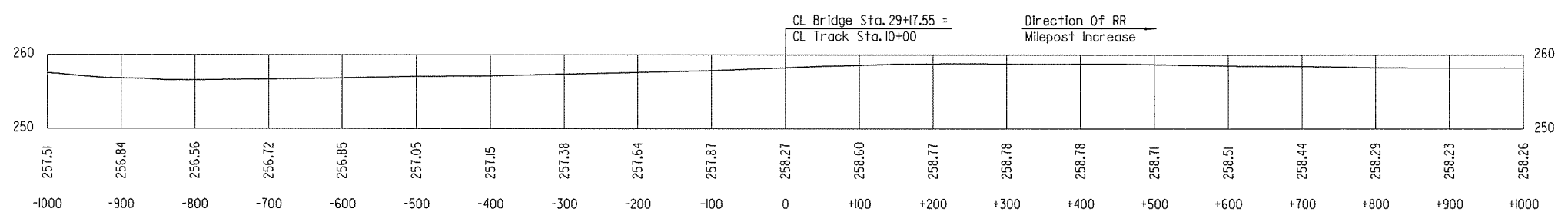
**PROFILE ALONG FUTURE TRACK 2**  
(From West To East)



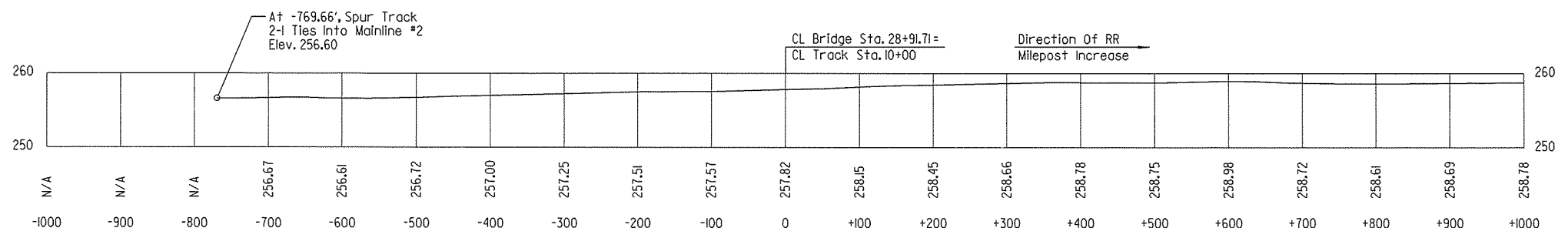
**PROFILE ALONG FUTURE TRACK 1**  
(From West To East)



**PROFILE ALONG TRACK (MAINLINE #1)**  
(From West To East)



**PROFILE ALONG TRACK (MAINLINE #2)**  
(From West To East)



**PROFILE ALONG SPUR TRACK 2-1**  
(From West To East)

Note:  
Profiles of future tracks shown assume future track elevations match elevations of Mainline #1.

Note:  
Elevations shown are taken along the southern-most rail of each track. This rail is the higher rail of each track under the proposed bridge.

Note:  
Elevation of existing top of rail profile shall be verified prior to beginning of construction. Any discrepancies that will decrease the vertical clearances shown in the elevation section shall be brought to the attention of the Railroad prior to construction.

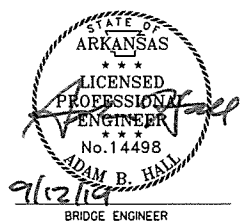
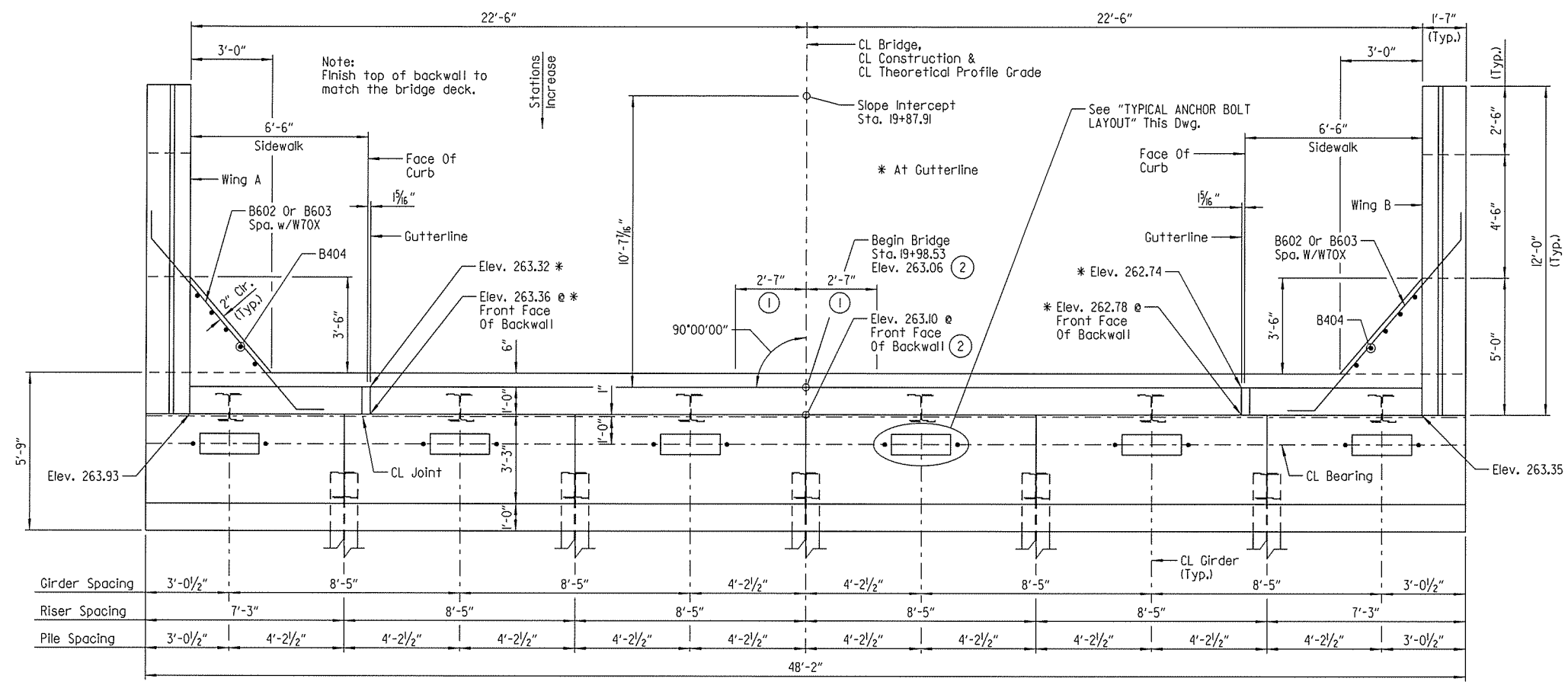


EXHIBIT A  
SHEET 3 OF 3  
LAYOUT OF BRIDGE  
OVER UNION PACIFIC RAILROAD  
UNION PACIFIC RR OVERPASS  
(ARCH ST.) (LR) (S)  
PULASKI COUNTY  
ROUTE 367 SEC. 13  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
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DESIGNED BY: ABH DATE: APR. 2012  
BRIDGE NO. 07298 DRAWING NO. 54819

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 REVISED DATE:



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	41	141
				07298	END BENT DETAILS			54820



**PLAN**  
Scale: 3/8" = 1'-0"

- ① See "ROUNDING DETAIL" On Dwg. No. 54833.
- ② Measured to Working Point - See "ROUNDING DETAIL" on Dwg. No. 54833.

**LEGEND**  
EF = Each Face

**GENERAL NOTES**

All concrete shall be Class "S" and shall be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A Gr. 60.

All piles shall be HPI2x53 (M270, Gr. 50).

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information, see Layout.

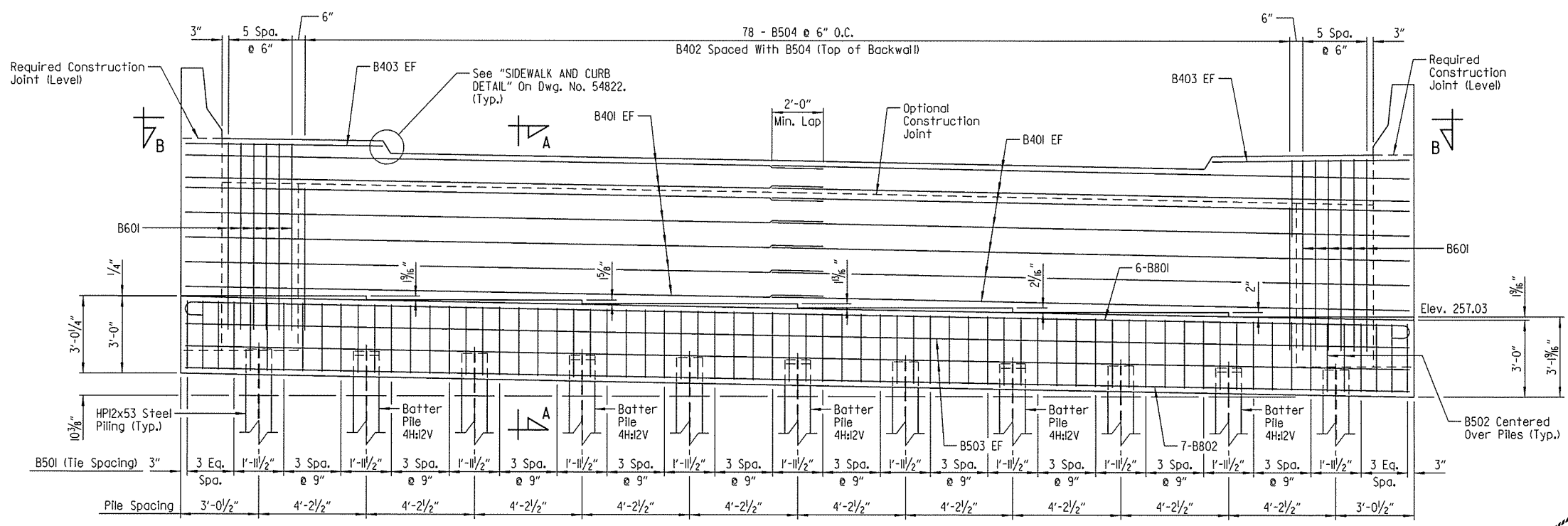
Class I Protective Surface Treatment shall be applied to the top of backwall, sidewalk surface, face and top of rail.

The backwall above the required construction joint shall not be poured until the girders are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. No heavy construction equipment shall be allowed directly behind the backwall until the concrete for the span has been completed. See "DETAILS FOR BLOCKING EXPANSION JOINT DEVICE" on Dwg. No. 54853 for additional information.

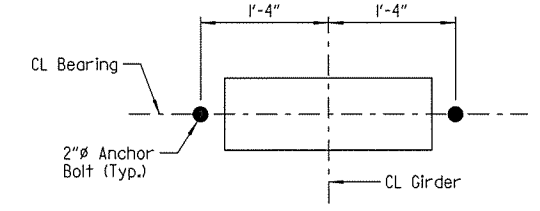
**NOTES:**  
For "SECTION A-A", "VIEW B-B", "BAR LIST" & "BAR BENDING DIAGRAMS", see Dwg. No. 54821.

For details of wing & rail, see Dwg. No. 54822.

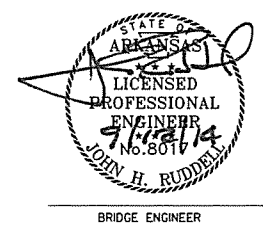
For details of elastomeric bearing pads, see Dwg. No. 54856.



**ELEVATION**  
(Looking Back)  
Scale: 3/8" = 1'-0"



**TYPICAL ANCHOR BOLT LAYOUT**  
Scale: 1" = 1'-0"

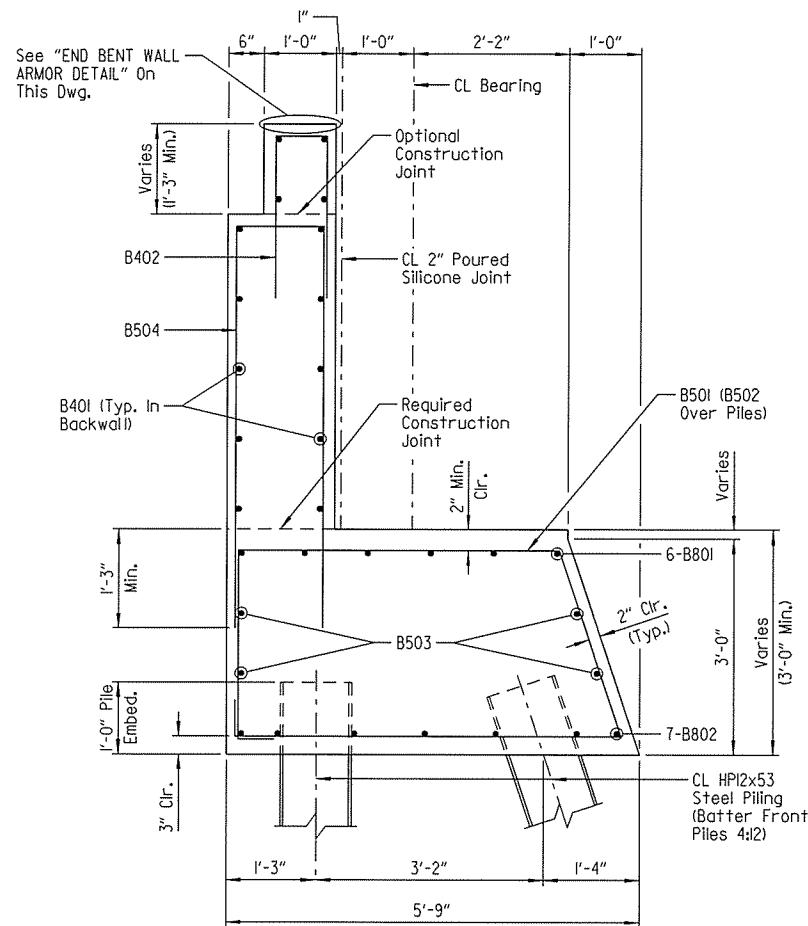


SHEET 1 OF 3  
DETAILS OF END BENT NO. 1  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

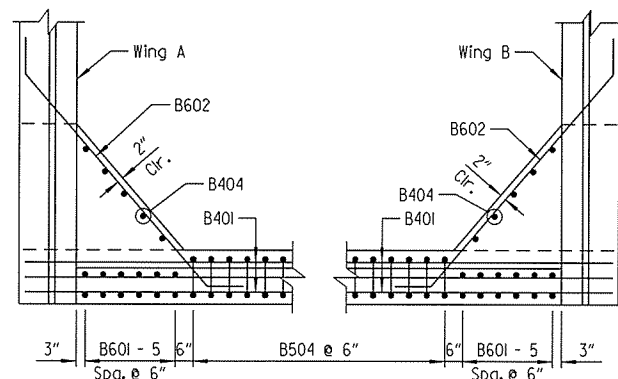
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 REVISED DATE:

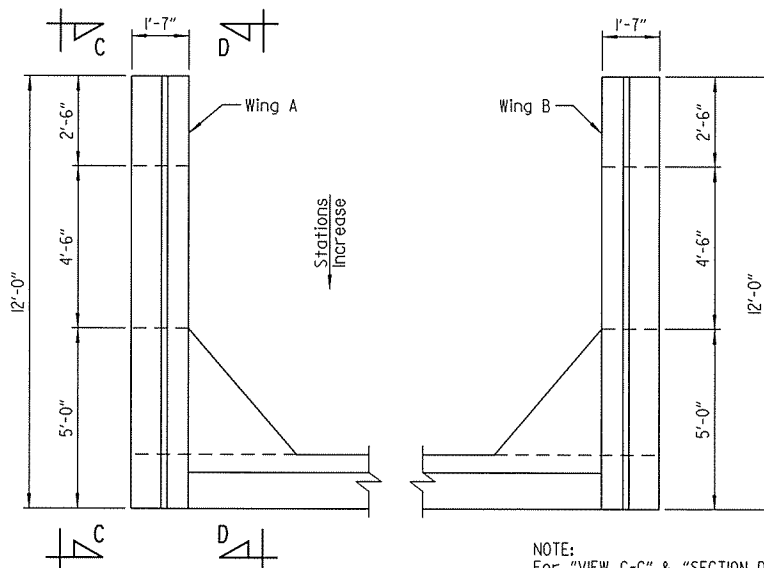
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				6	ARK.			
				JOB NO.	060395	42	141	
				07298	END BENT DETAILS	54821		



**SECTION A-A**  
Scale: 3/4" = 1'-0"



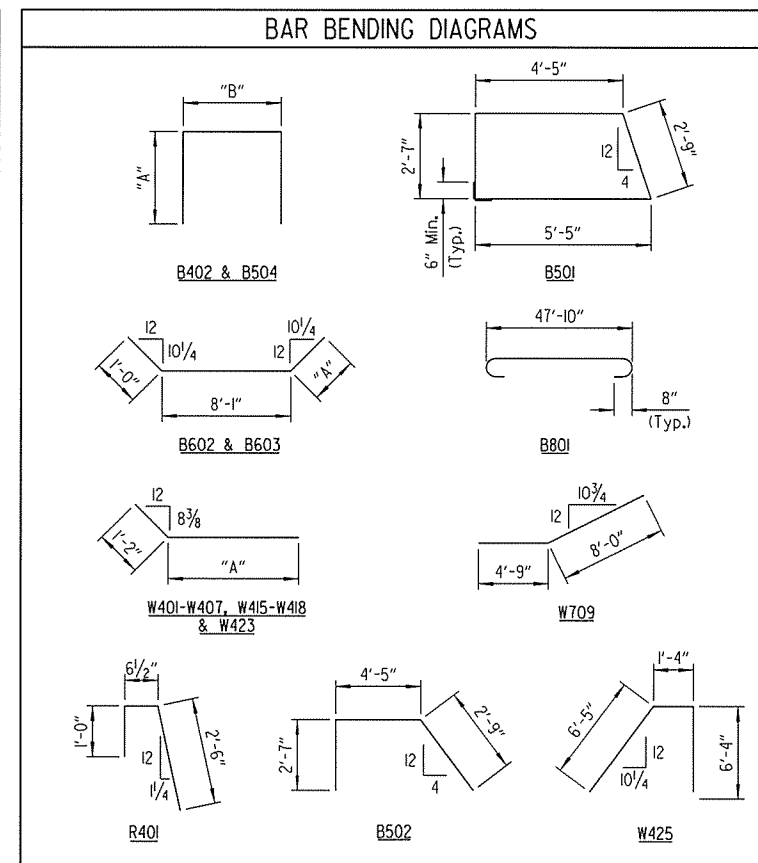
**VIEW B-B**  
Scale: 3/8" = 1'-0"



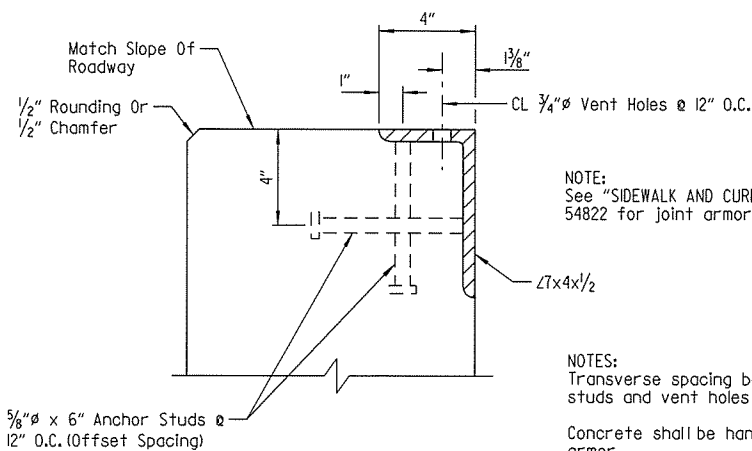
**PLAN OF RAIL**  
Scale: 3/8" = 1'-0"

NOTE:  
For "VIEW C-C" & "SECTION D-D",  
see Dwg. No. 54822.

BAR LIST						
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.	
B401	28	24'-11"			Str.	
B402	78	6'-6"	3'-0"	8"	2"	
B403	4	7'-6"			Str.	
B404	10	6'-0"			Str.	
B501	48	15'-8"			2 1/2"	
B502	22	9'-7"			2 1/2"	
B503	4	47'-10"			Str.	
B504	78	12'-3 1/2"	5'-8"	1'-2"	2 1/2"	
B601	24	7'-6"			Str.	
B602	12	10'-1"	1'-0"		4 1/2"	
B603	2	9'-6 1/2"	6 1/2"		4 1/2"	
B801	6	49'-8"			6"	
B802	7	47'-10"			Str.	
R401	28	3'-10 1/2"			2"	
R402	12	11'-8"			Str.	
W401	To	9'-7"	8'-5"		3"	
W407	To	9'-4 1/2"	8'-2 1/2"			
W408	To	10'-7 1/2"			Str.	
W414	To	10'-5"				
W415	To	8'-6"	7'-4"		3"	
W418	To	5'-0 1/2"	3'-10 1/2"			
W419	To	9'-6 1/2"			Str.	
W422	To	6'-1 1/2"				
W423	6	4'-1"	2'-11"		3"	
W424	6	5'-2"			Str.	
W425	6	13'-11"			3"	
W701	20	11'-8"			Str.	
W702	4	8'-10 1/2"			Str.	
W703	4	8'-4"			Str.	
W704	4	7'-10"			Str.	
W705	4	7'-3 1/2"			Str.	
W706	4	6'-9"			Str.	
W707	4	6'-3 1/2"			Str.	
W708	4	5'-7"			Str.	
W709	4	12'-9"			5 1/4"	



Note:  
Dimensions of bars in bending diagrams are out-to-out.

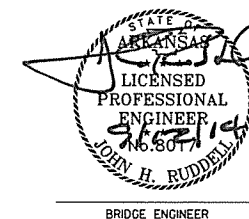


**END BENT WALL ARMOR DETAIL**  
No Scale

NOTE:  
See "SIDEWALK AND CURB DETAIL" on Dwg. No. 54822 for joint armor in sidewalk areas.

NOTES:  
Transverse spacing between vertical anchor studs and vent holes shall be 6".  
Concrete shall be hand packed under joint armor.

Special care shall be taken to properly and thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall, see Subsection 802.09 (a)(3).



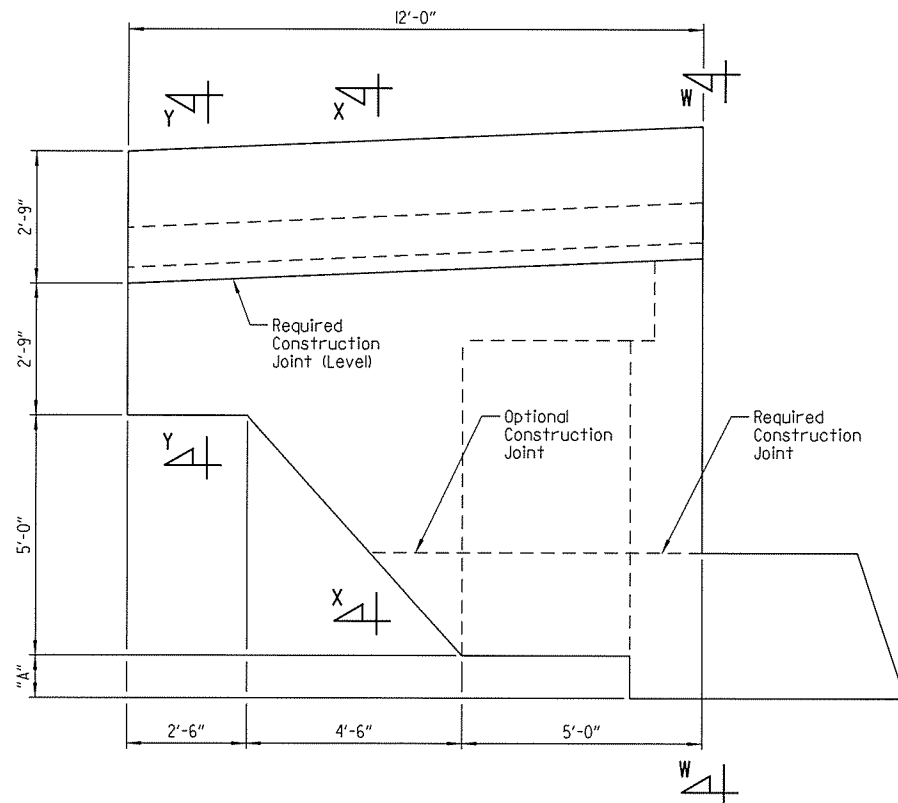
BRIDGE ENGINEER

SHEET 2 OF 3  
DETAILS OF END BENT NO. 1  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

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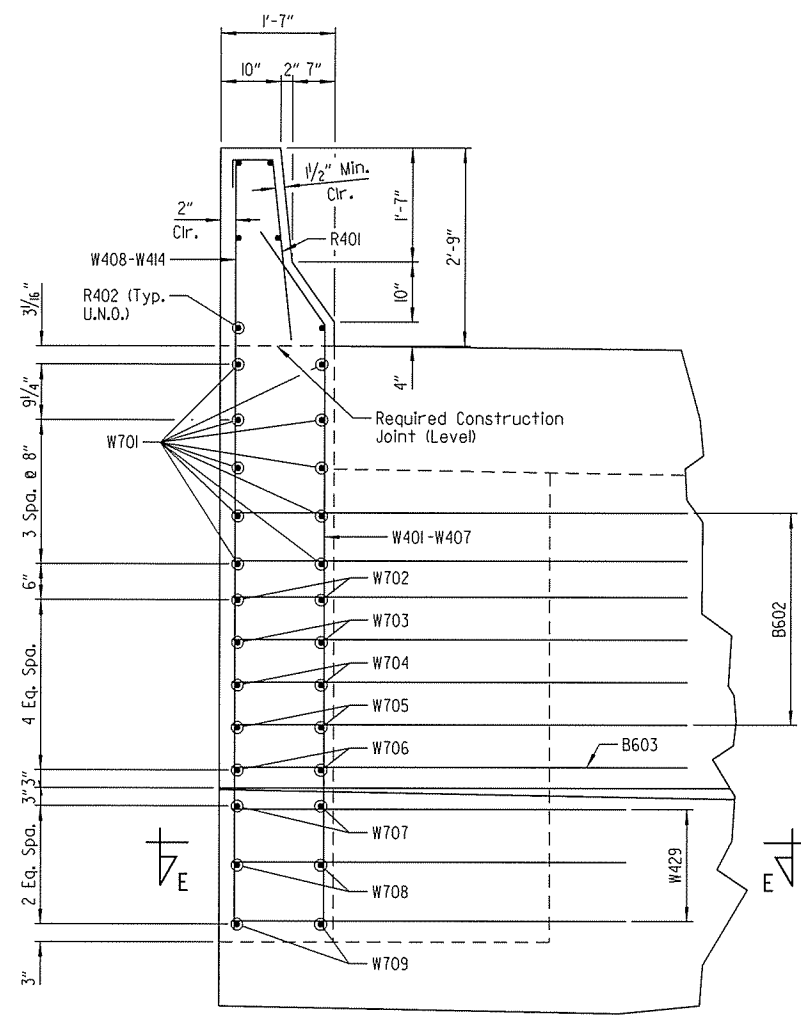
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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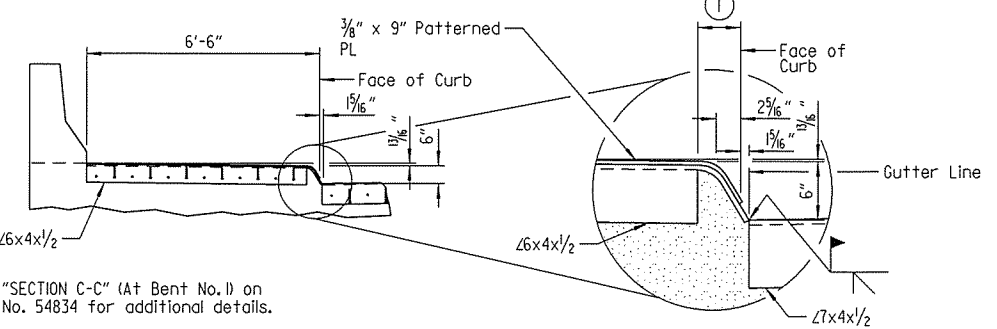


Location	"A"	Elev. "B"
Wing A	11 3/4"	263.49
Wing B	1'-2 5/8"	262.87

VIEW C-C  
Scale: 1/2" = 1'-0"

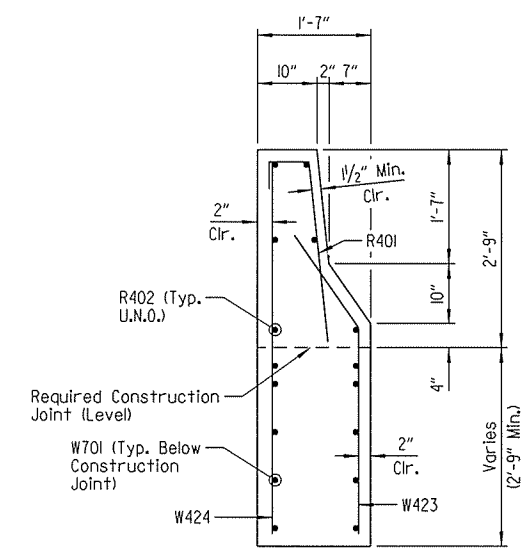


VIEW W-W  
Scale: 3/4" = 1'-0"

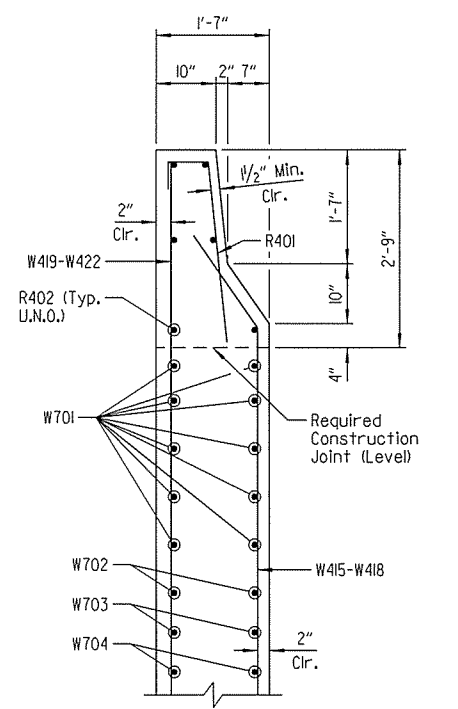


SIDEWALK AND CURB DETAIL  
No Scale

See "SECTION C-C" (At Bent No. 1) on Dwg. No. 54834 for additional details.  
① Cope 6" leg of angle 6" from face of curb and bend 4" leg of angle to conform to curb.

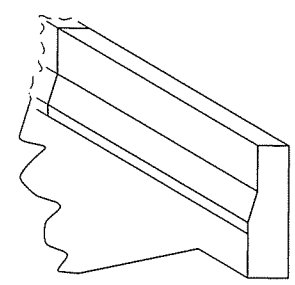


SECTION Y-Y  
Scale: 3/4" = 1'-0"

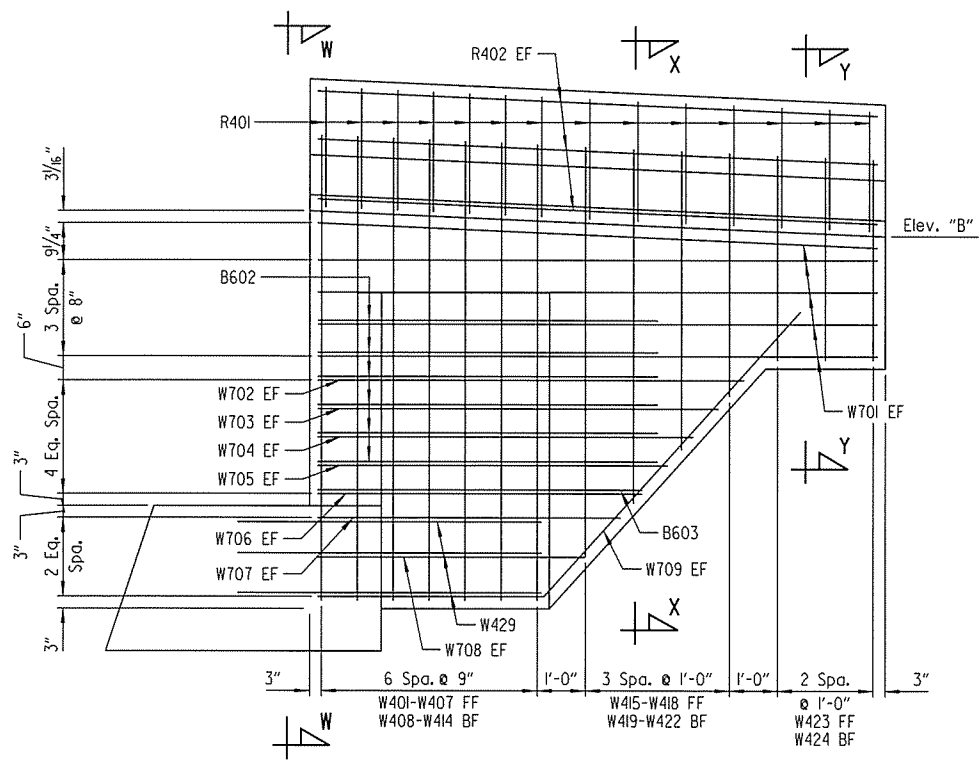


SECTION X-X  
Scale: 3/4" = 1'-0"

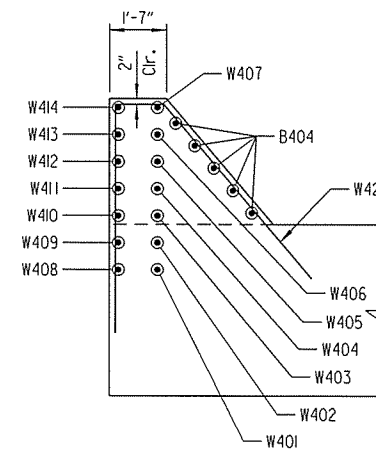
LEGEND  
U.N.O. = Unless Noted Otherwise  
EF = Each Face  
BF = Back Face  
FF = Front Face



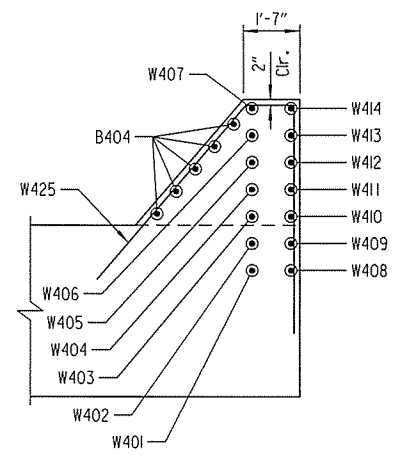
THREE DIMENSIONAL VIEW OF RAIL  
No Scale



SECTION D-D  
Scale: 1/2" = 1'-0"

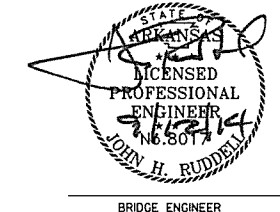


SECTION E-E (WING A)  
Scale: 3/8" = 1'-0"



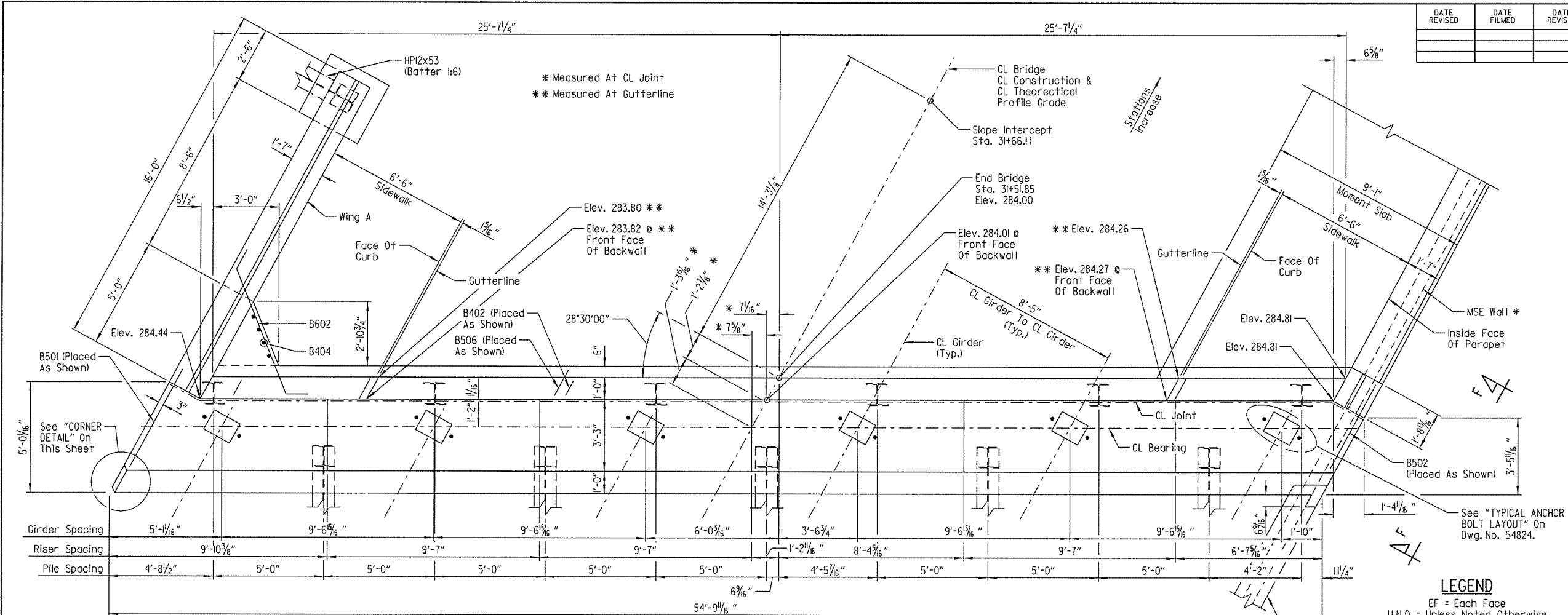
SECTION E-E (WING B)  
Scale: 3/8" = 1'-0"

SHEET 3 OF 3  
DETAILS OF END BENT NO. 1  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: PCC DATE: SEP. 2013 FILENAME: B060395\_A3.DGN  
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	44	141
				07298	END BENT DETAILS			54823



\* For details of MSE Wall & Moment Slab, see Dwg. Nos. 54862-54865a.

NOTES:  
For "SECTION A-A", "VIEW B-B", "VIEW F-F", "BAR LIST" & "BAR BENDING DIAGRAMS", see Dwg. No. 54824.

For "GENERAL NOTES", see Dwg. No. 54820.

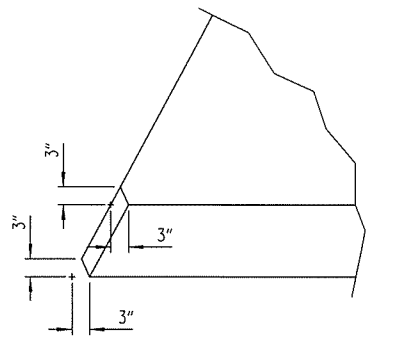
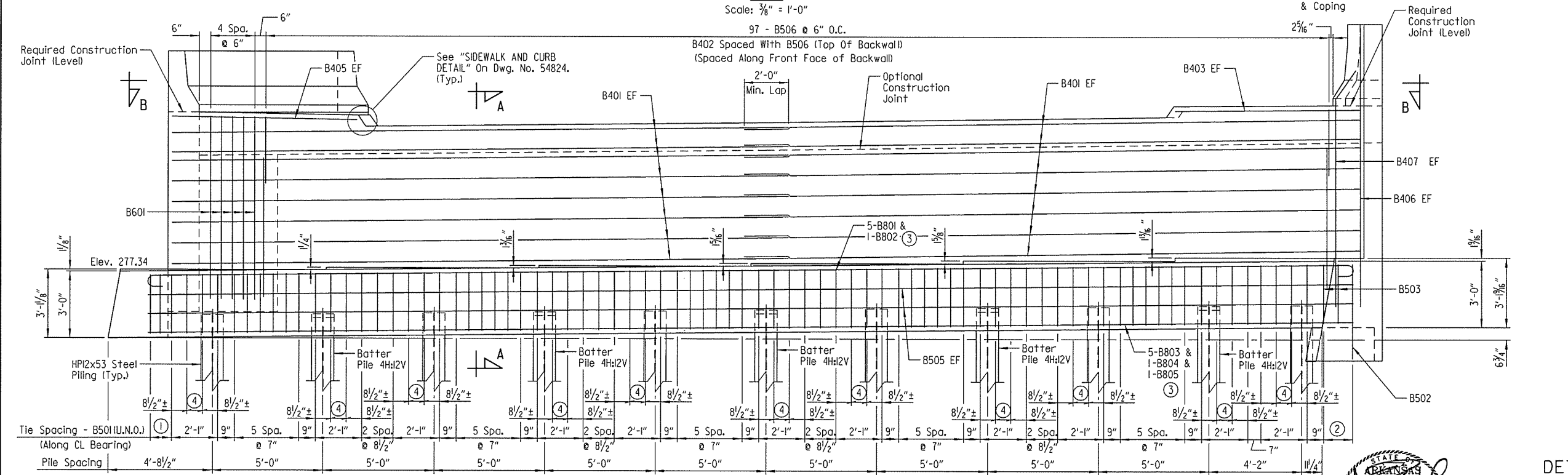
For details of wing & rail, see Dwg. No. 54825.

For details of elastomeric bearing pads, see Dwg. No. 54857.

**LEGEND**  
EF = Each Face  
U.N.O. = Unless Noted Otherwise

**PLAN**

Scale:  $\frac{3}{16}'' = 1'-0''$

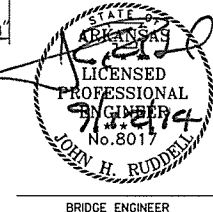


**CORNER DETAIL**  
Scale:  $\frac{3}{4}'' = 1'-0''$

**ELEVATION**

(Looking Forward)  
Scale:  $\frac{3}{16}'' = 1'-0''$

- ① 2 Equal Spaces @  $5\frac{1}{2}'' \pm$
- ② 2 Equal Spaces @  $8'' \pm$
- ③ See "SECTION A-A" for layout of #8 bars, see Dwg. No. 54824.
- ④ 2 - B504 over piles spa. @  $8\frac{1}{2}'' \pm$  measured along CL Bearing



BRIDGE ENGINEER

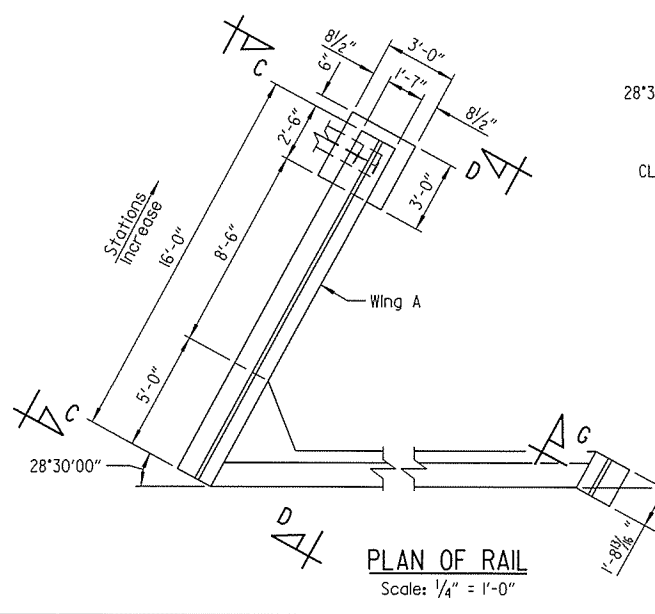
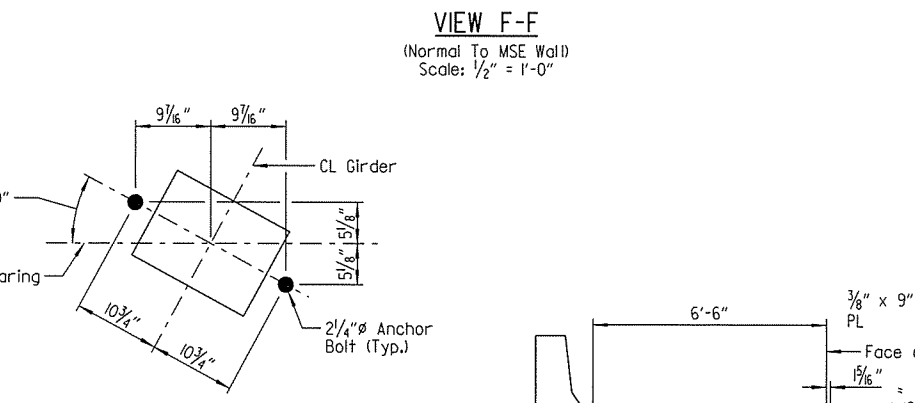
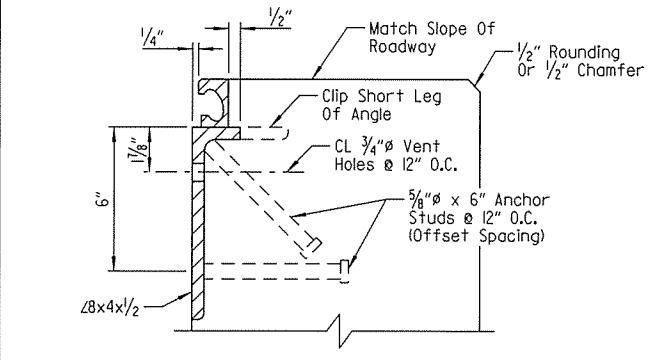
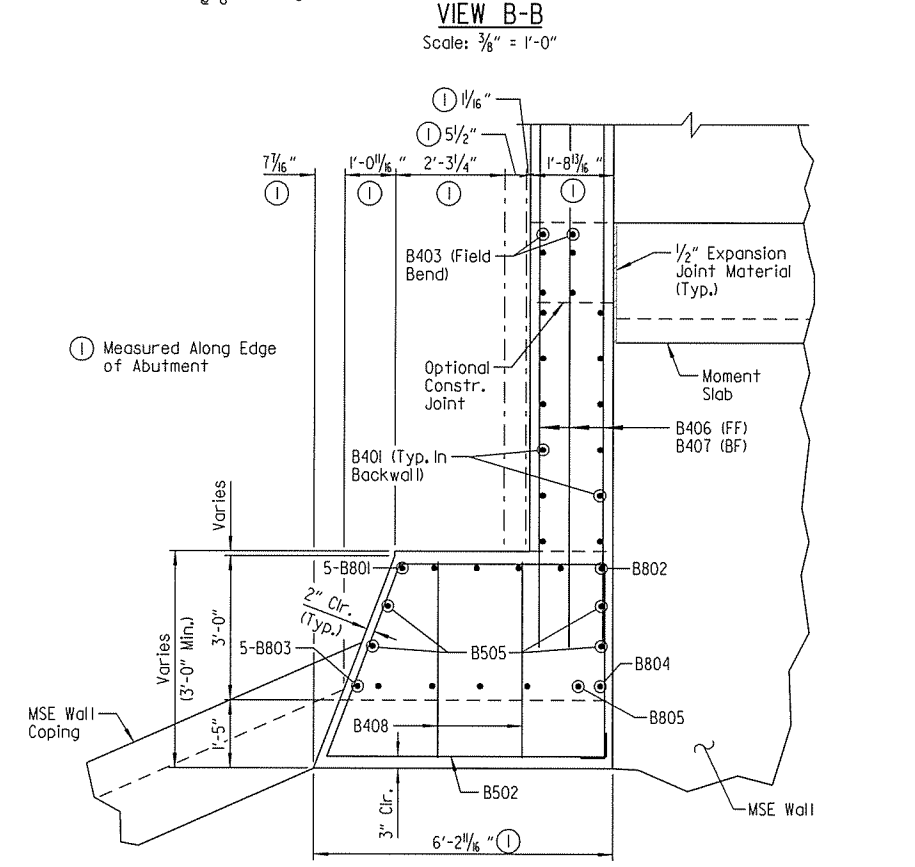
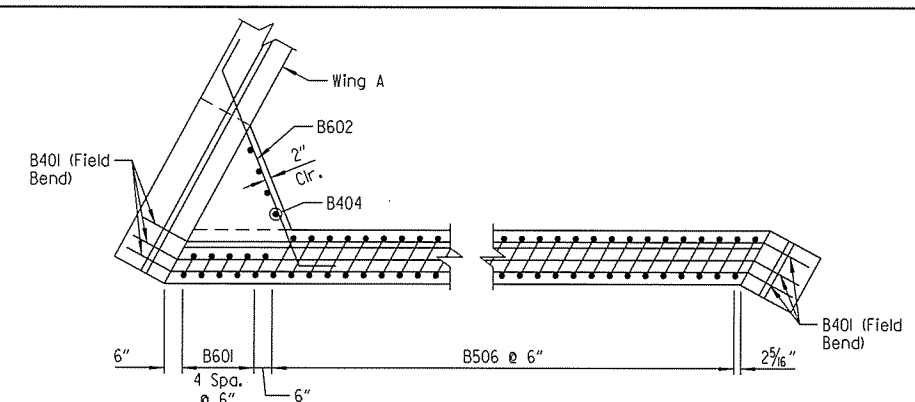
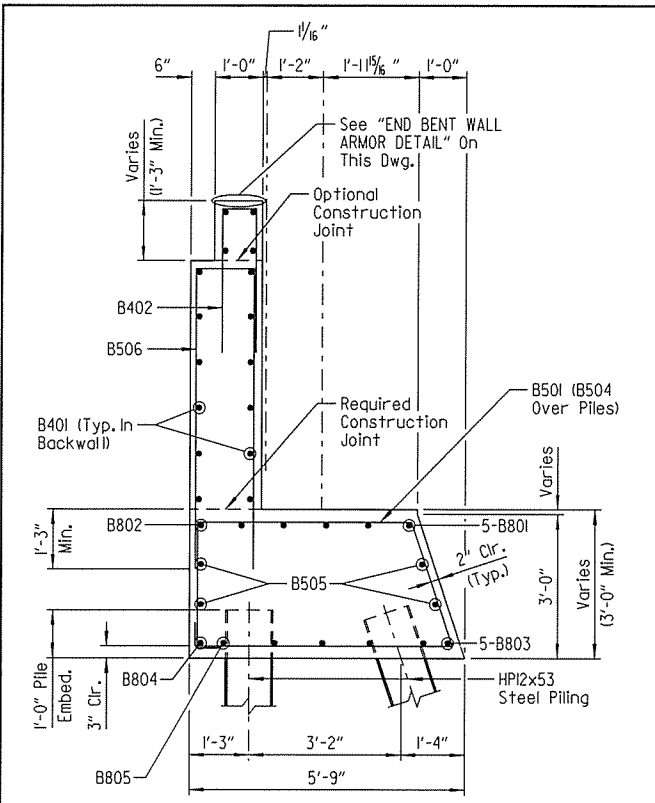
SHEET 1 OF 3  
DETAILS OF END BENT NO. 12

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

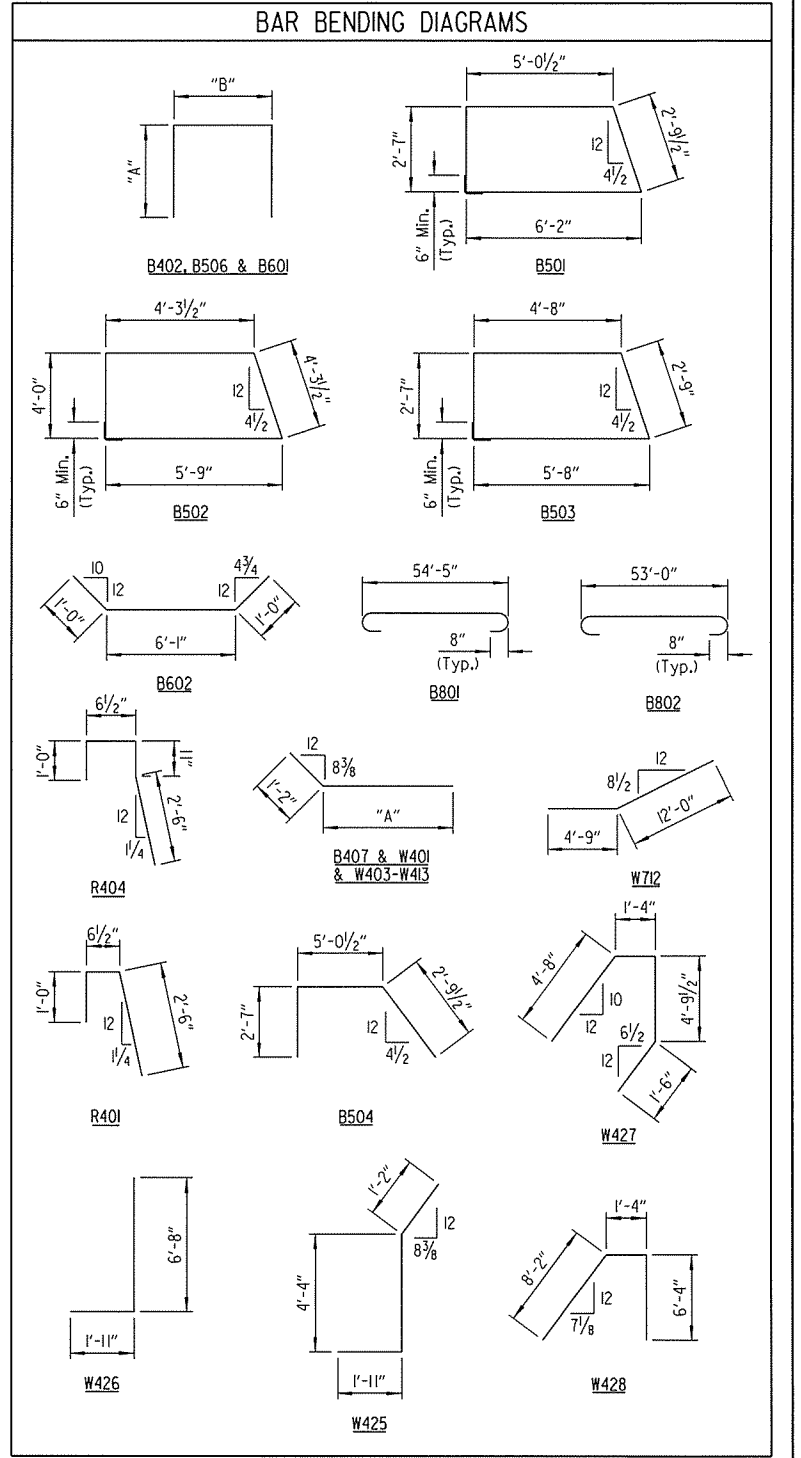
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DESIGNED BY: PCC DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54823

9/12/2014 12:16:00 PM  
 draoad  
 WORKSPACE: AHTD Bridge  
 \CLTDCOR\IT\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\90%\Plans\B060395\_A4.dgn  
 REVISED DATE:

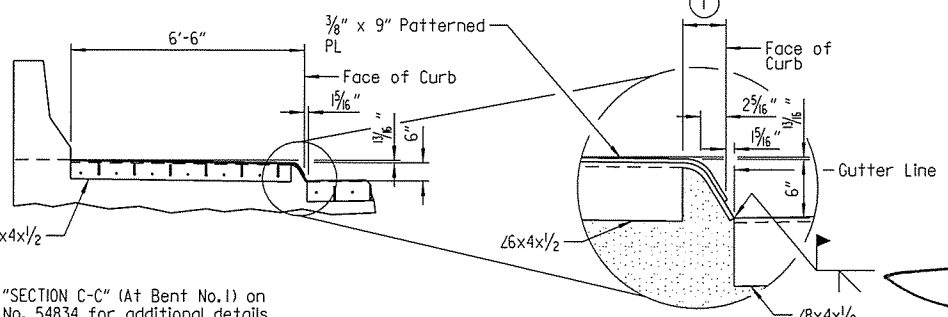
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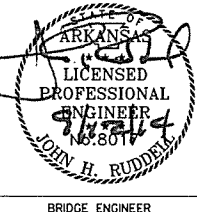
BAR LIST					
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	32	28'-0"			Str.
B402	97	6'-7"	3'-0"	8"	2"
B403	2	8'-8"			Str.
B404	4	6'-7"			Str.
B405	2	8'-5"			Str.
B406	3	12'-6"			Str.
B407	3	10'-6"	9'-4"		3"
B408	2	4'-0"			Str.
B501	58	17'-1"			2 1/2"
B502	1	18'-10"			2 1/2"
B503	2	16'-2"			2 1/2"
B504	22	10'-2 1/2"			2 1/2"
B505	4	54'-5"			Str.
B506	97	14'-1 1/2"	6'-6"	1'-4"	2 1/2"
B601	5	17'-5"	8'-6"	9"	4 1/2"
B602	9	8'-1"			4 1/2"
B801	5	56'-3"			6"
B802	1	54'-10"			6"
B803	5	54'-5"			Str.
B804	1	53'-0"			Str.
B805	1	54'-2 1/2"			Str.
R401	23	3'-10 1/2"			2"
R402	6	15'-8"			Str.
R403	8	1'-4 1/2"			Str.
R404	3	4'-9"			2"
F601	6	2'-8"			Str.
W401	7	10'-6"	9'-4"		3"
W402	7	11'-7"			Str.
W403	1 Each	10'-1"	8'-11"		3"
W413	To	To	To	To	
W414	To	To	To	To	
W424	1 Each	5'-9"			Str.
W425	5	7'-3"			3"
W426	5	8'-5"			3"
W427	4	12'-1 1/2"			3"
W701	12	15'-8"			Str.
W702	2	12'-8 1/2"			Str.
W703	2	11'-10 1/2"			Str.
W704	2	11'-1"			Str.
W705	2	10'-3 1/2"			Str.
W706	2	9'-6"			Str.
W707	2	8'-8 1/2"			Str.
W708	2	7'-11"			Str.
W709	2	7'-2 1/2"			Str.
W710	2	6'-5 1/2"			Str.
W711	2	5'-8"			Str.
W712	2	16'-9"			5 1/4"



NOTE: Dimensions of bars in bending diagrams are out-to-out.



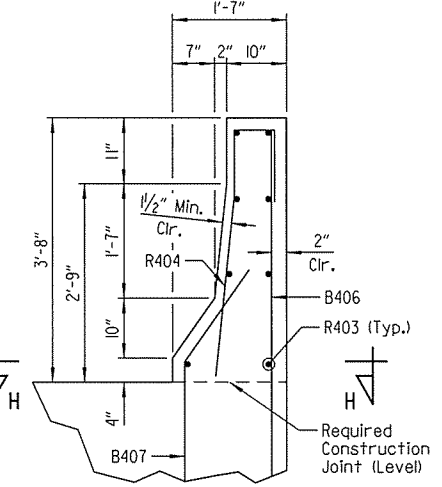
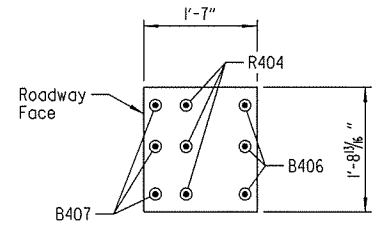
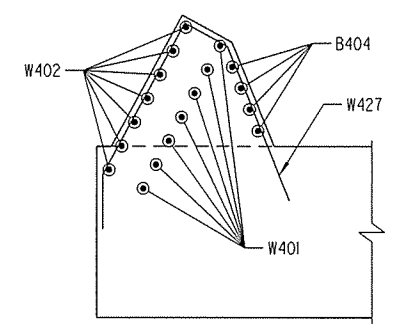
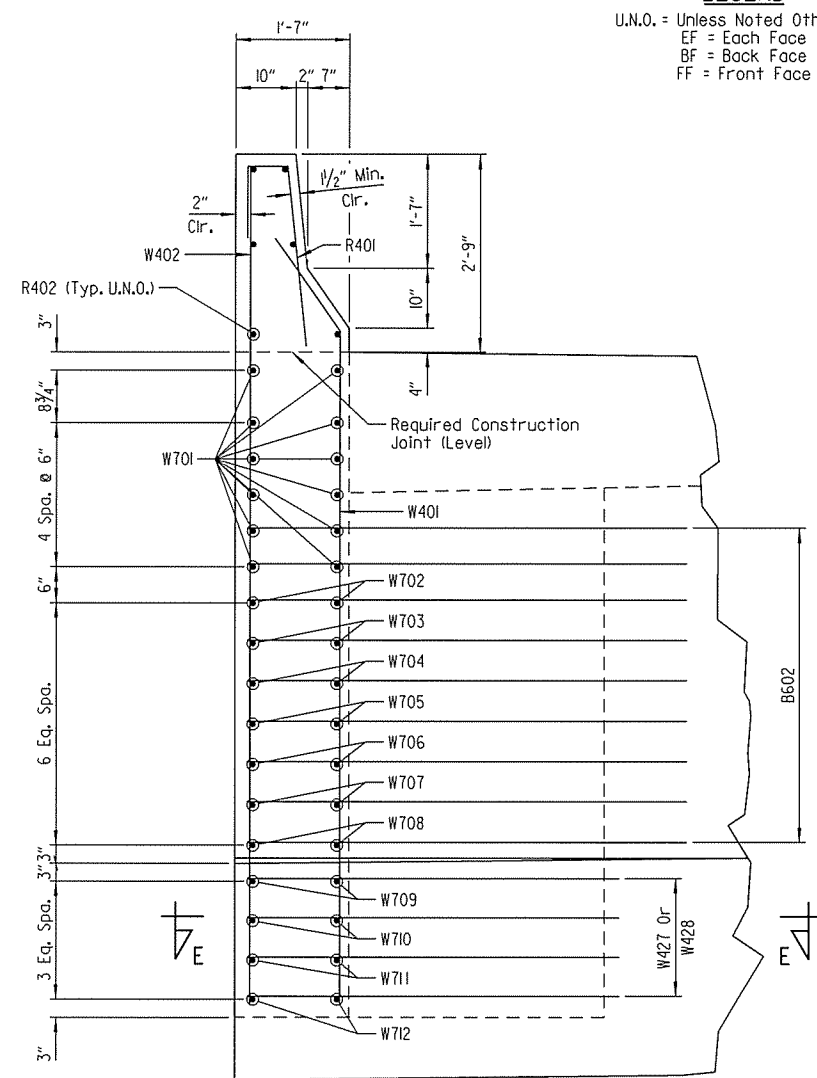
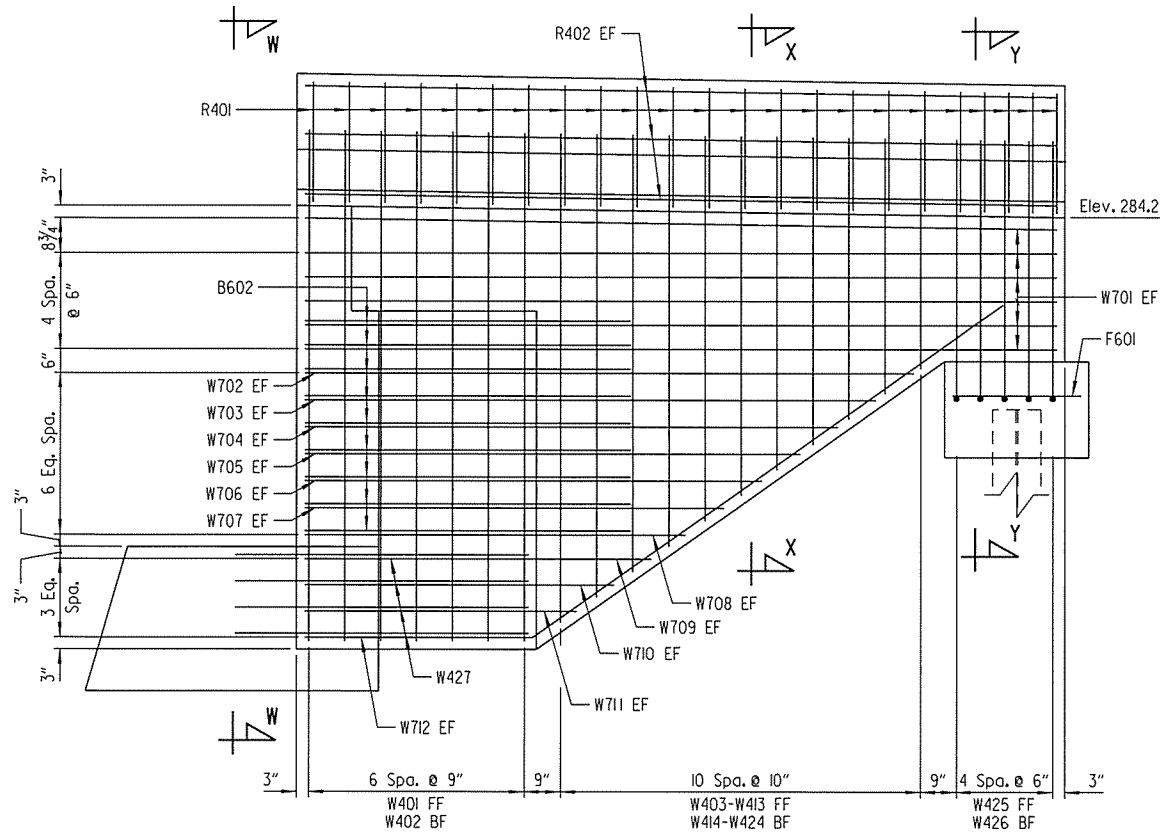
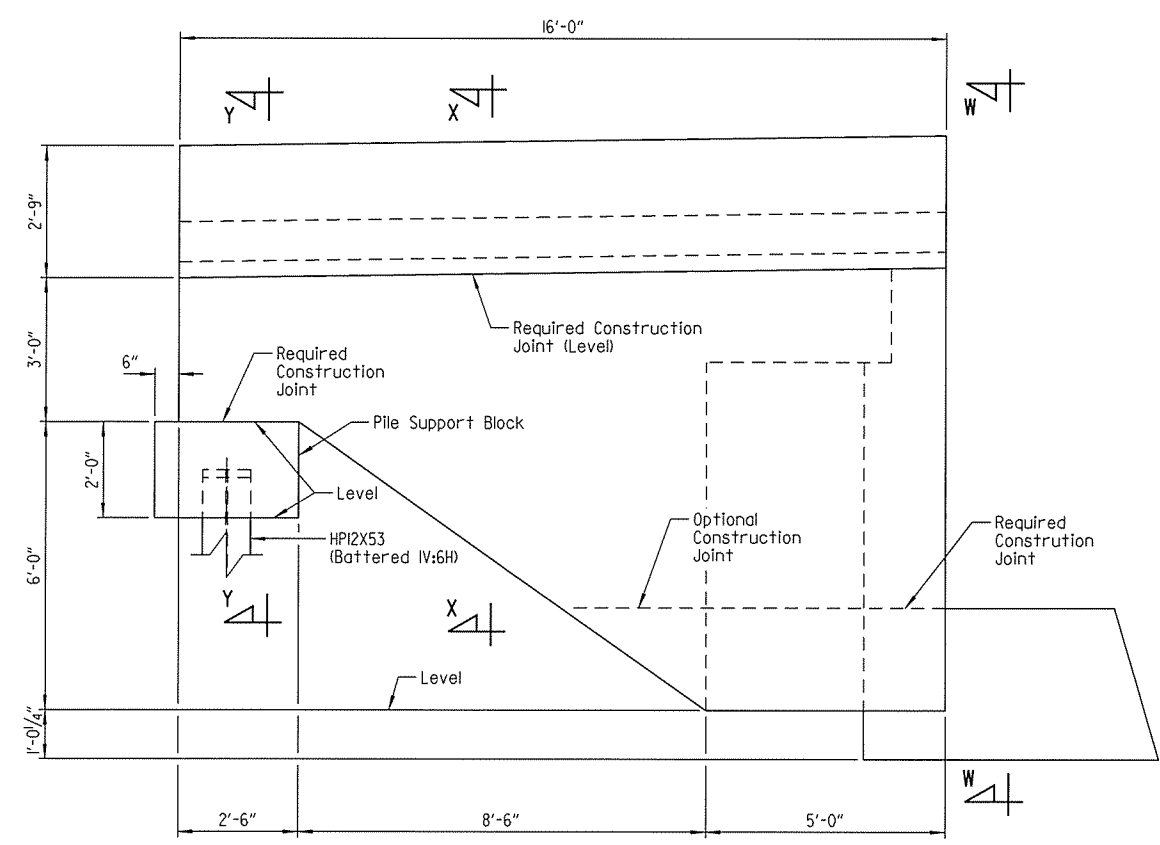
See "SECTION C-C" (At Bent No.1) on Dwg. No. 54834 for additional details.  
 ① Cope 4" leg of angle 6" from face of curb and bend 6" leg of angle to conform to curb.



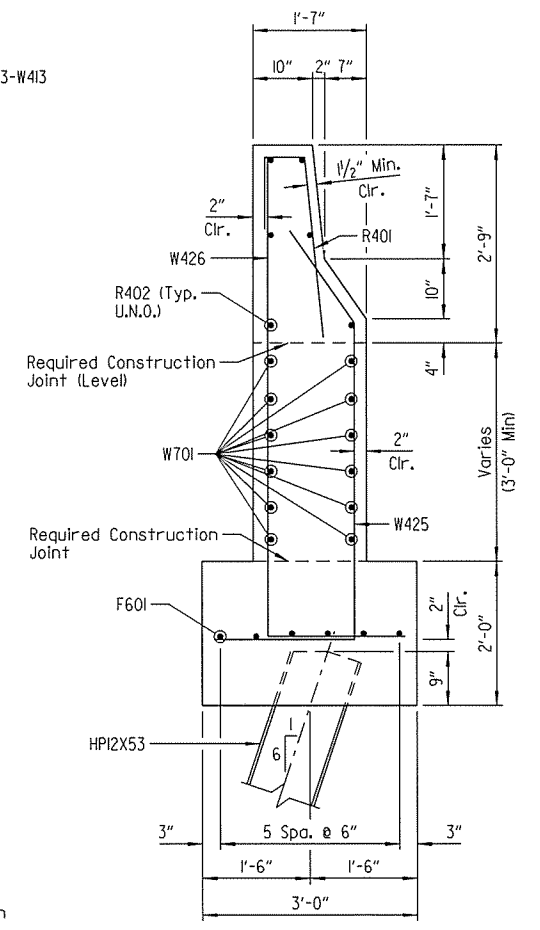
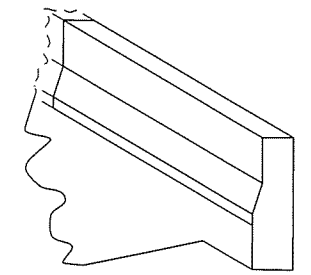
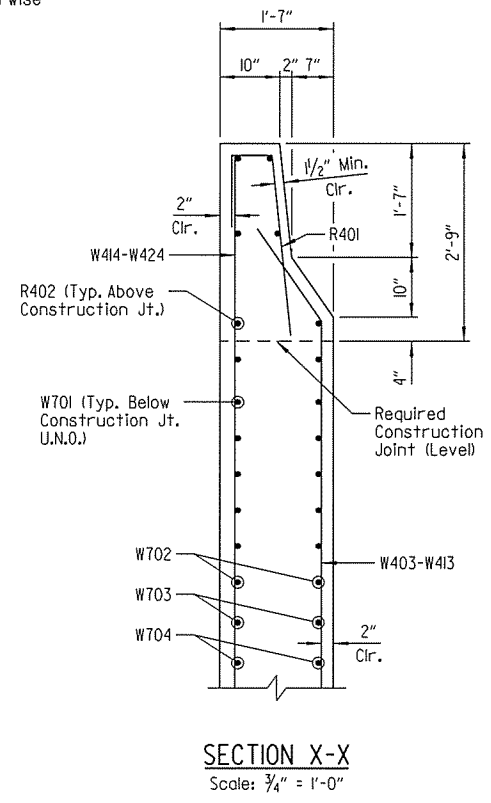
SHEET 2 OF 3  
 DETAILS OF END BENT NO. 12  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
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 DESIGNED BY: PCC DATE: SEP. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54824

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 \CLTIDCON\ITProjects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\90: Plans\B060395\_A5.dgn  
 REVISED DATE:

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				6	ARK.			
				JOB NO.		060395	46	141
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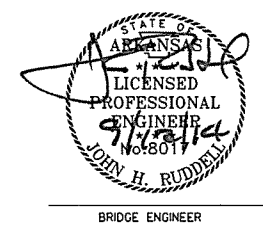
**LEGEND**  
U.N.O. = Unless Noted Otherwise  
EF = Each Face  
BF = Back Face  
FF = Front Face



SHEET 3 OF 3  
DETAILS OF END BENT NO. 12  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

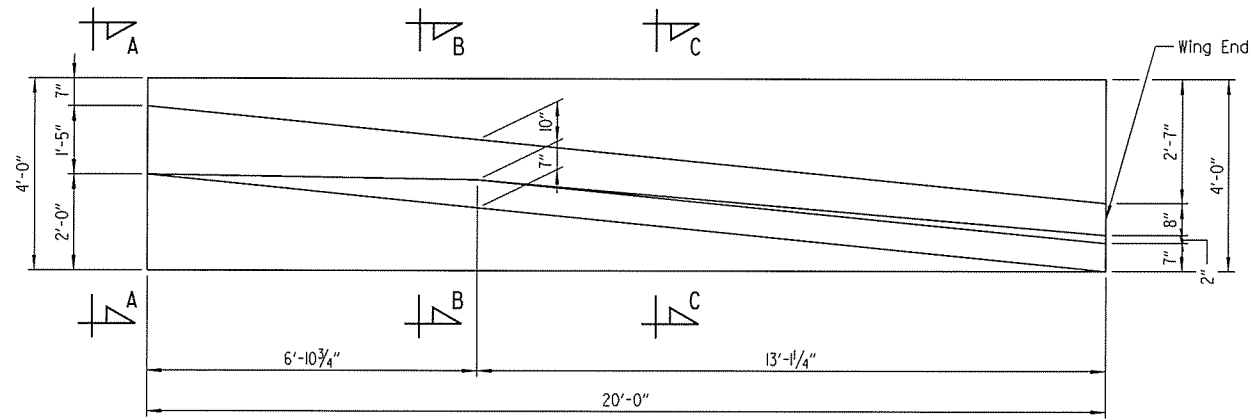
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DESIGNED BY: PCC DATE: SEP. 2013

BRIDGE NO. 07298 DRAWING NO. 54825



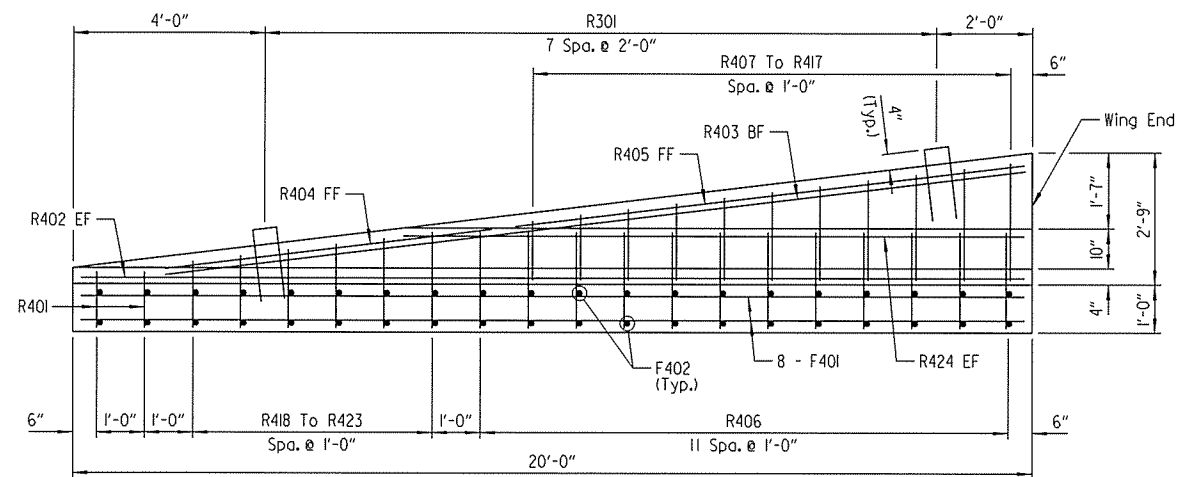
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	47	141	
				07298	TRANS. RAIL		54826	



**PLAN**  
Scale: 1/2" = 1'-0"

NOTE:  
Railings on each side of roadway are opposite hand to each other.



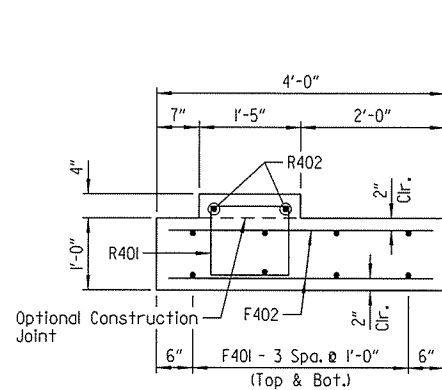
**ELEVATION**  
Scale: 1/2" = 1'-0"

SCHEDULE OF QUANTITIES	
CLASS "S" CONCRETE	REINFORCING STEEL (GRADE 60)
4.20 C.Y.	386.1 Lbs.

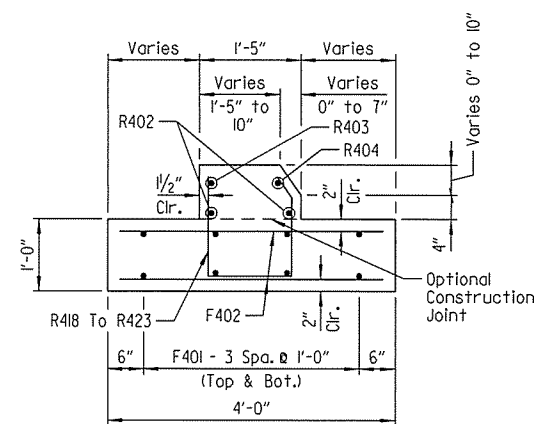
Quantities shown are for one rail unit.

**LEGEND**

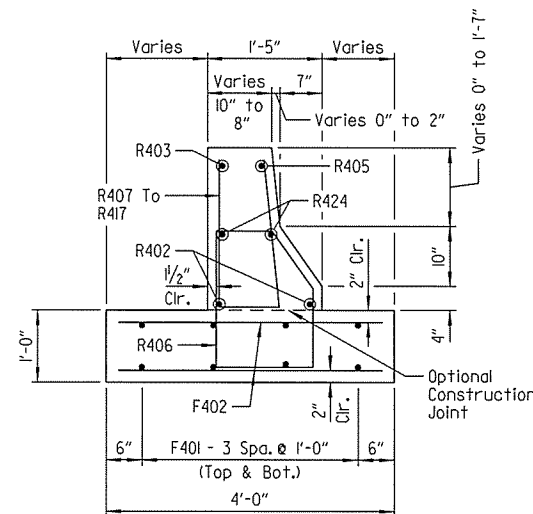
FF = Front Face  
BF = Back Face  
EF = Each Face



**VIEW A-A**  
Scale: 3/4" = 1'-0"



**SECTION B-B**  
Scale: 3/4" = 1'-0"



**SECTION C-C**  
Scale: 3/4" = 1'-0"

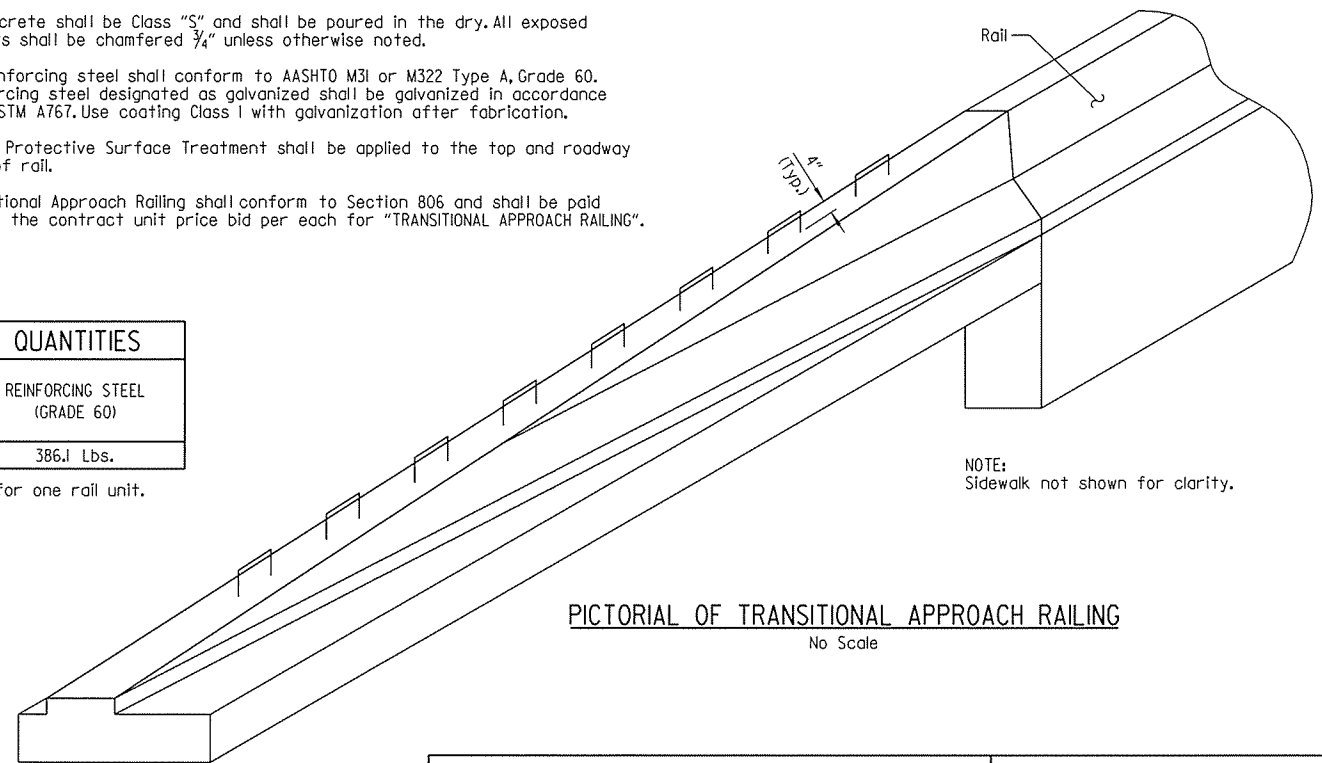
NOTES:  
Transitional Approach Railing shall be placed at ends of turnback wings at locations shown on the layout and at the end of the MSE Wall shown on the MSE Wall sheets.

All concrete shall be Class "S" and shall be poured in the dry. All exposed corners shall be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60. Reinforcing steel designated as galvanized shall be galvanized in accordance with ASTM A767. Use coating Class I with galvanization after fabrication.

Class I Protective Surface Treatment shall be applied to the top and roadway face of rail.

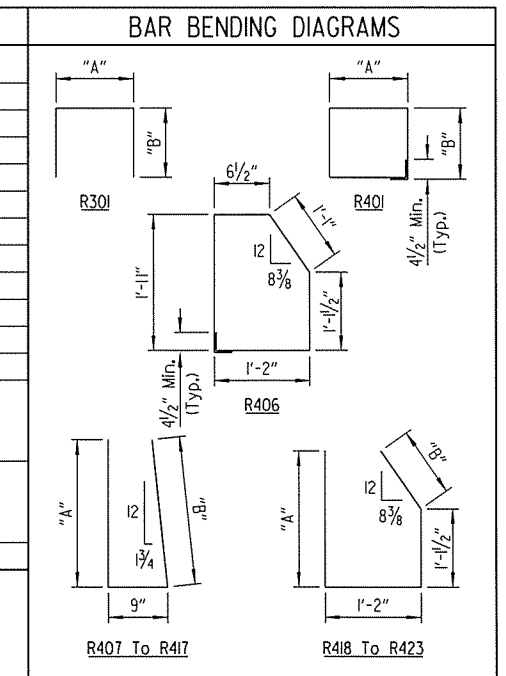
Transitional Approach Railing shall conform to Section 806 and shall be paid for at the contract unit price bid per each for "TRANSITIONAL APPROACH RAILING".



**PICTORIAL OF TRANSITIONAL APPROACH RAILING**  
No Scale

BAR LIST - PER TRANSITIONAL RAIL					
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
F401	8	19'-8"			Str.
F402	40	3'-8"			Str.
* R301	8	3'-4 1/2"	6"	1'-6"	1/2"
R401	2	4'-9"	1'-2"	1'-0 1/2"	2"
R402	2	19'-9"			Str.
R403	1	18'-3"			Str.
R404	1	5'-0"			Str.
R405	1	12'-10"			Str.
R406	12	6'-2"			2"
R407 To R417	1 Ea.	3'-1" To 5'-5"	1'-3" To 2'-5"	1'-3" To 2'-5"	2"
R418 To R423	1 Ea.	3'-8 1/2" To 5'-0"	1'-4" To 1'-11"	3" To 11 1/2"	2"
R424	2	12'-10"			Str.

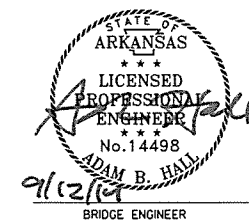
NOTE:  
Number of bars shown is for one transitional approach rail only.  
\* R301 reinforcing steel shall be galvanized.



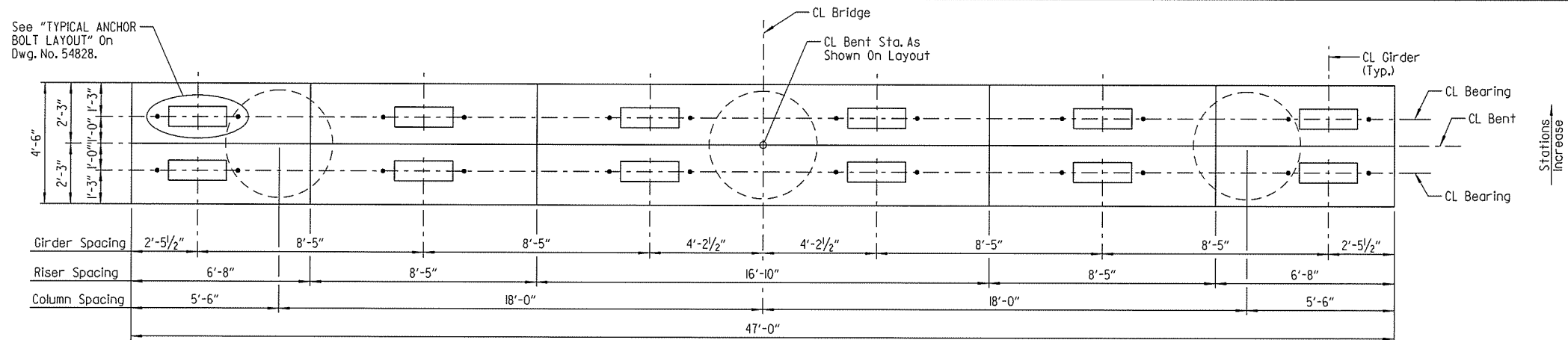
NOTE:  
Dimensions of bars in bending diagrams are out-to-out.

DETAILS OF  
TRANSITIONAL APPROACH RAILING  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

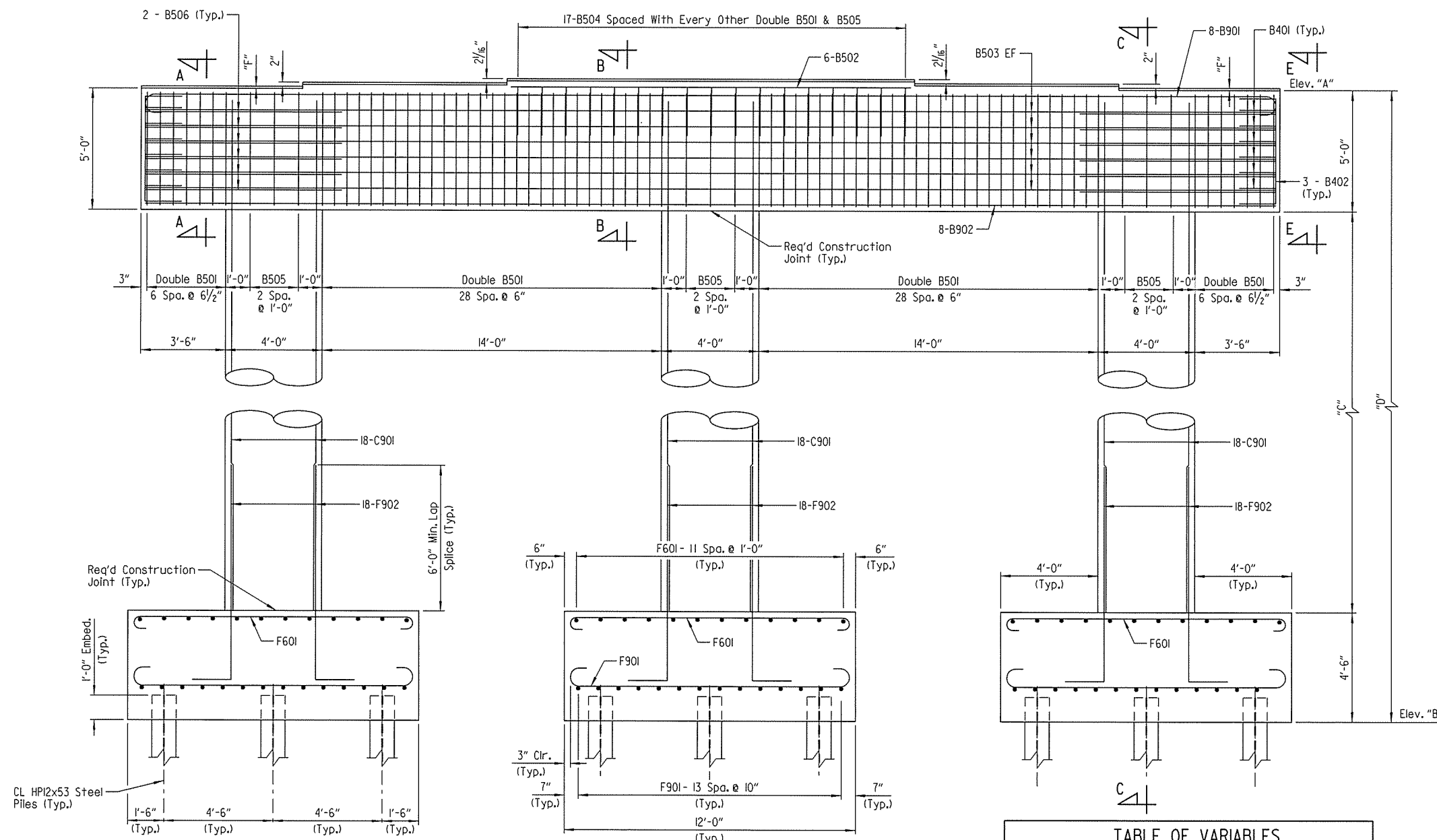
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CHECKED BY: JES DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54826



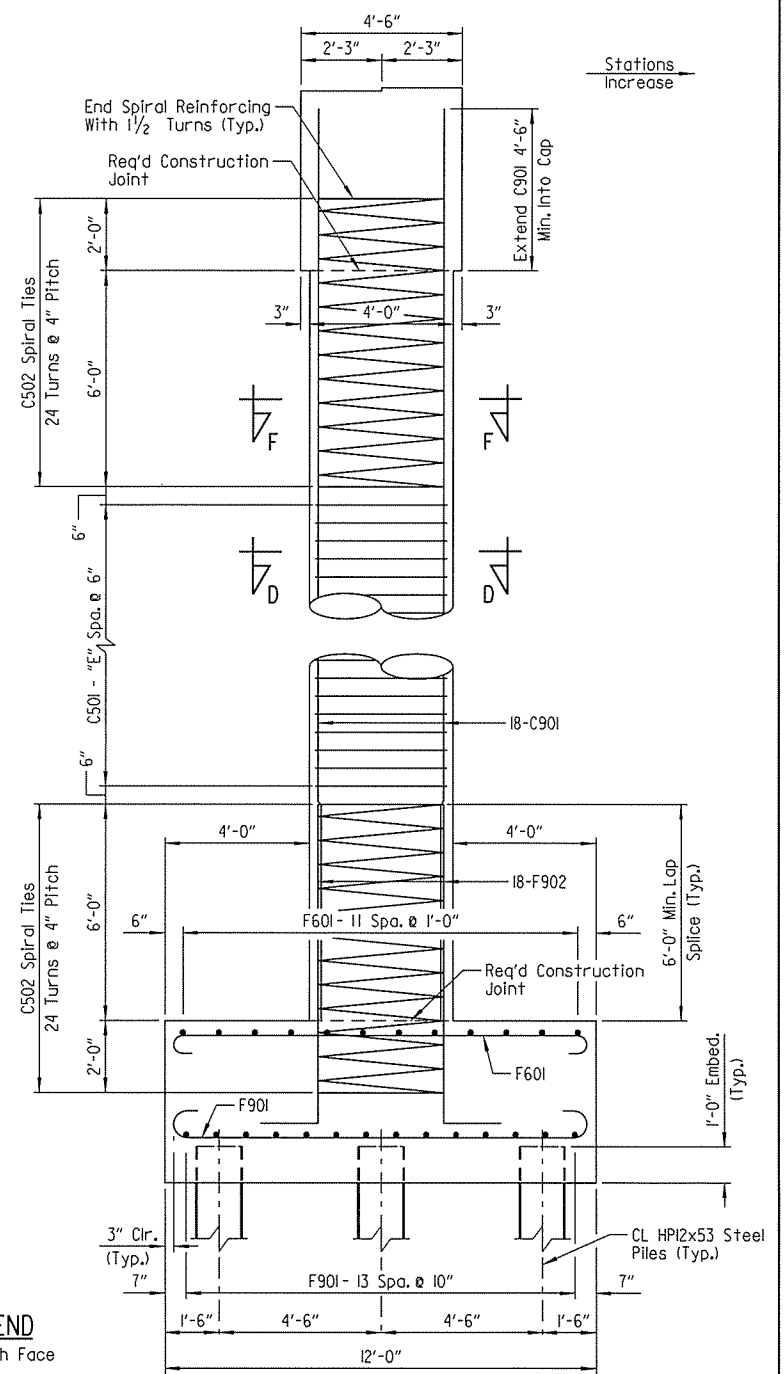
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				6	ARK.			
				JOB NO.	060395	48	141	
				07298	INT. BENT DETAILS		54827	



**PLAN - BENT NOS. 2-8**  
Scale: 3/8" = 1'-0"



**ELEVATION - BENT NOS. 2-8**  
(Looking Forward)  
Scale: 3/8" = 1'-0"

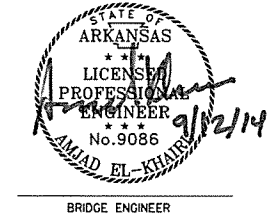


**SECTION C-C**  
Scale: 3/8" = 1'-0"

**LEGEND**  
EF = Each Face

**TABLE OF VARIABLES**

Bent No.	"A"	"B"	"C"	"D"	"E"	"F"
2	260.99	236.49	15'-0"	24'-6"	4	1 1/16"
3	265.04	235.54	20'-0"	29'-6"	14	1 1/16"
4	269.09	235.09	24'-6"	34'-0"	23	1 1/16"
5	273.13	234.13	29'-6"	39'-0"	33	1 1/16"
6	277.18	239.18	28'-6"	38'-0"	31	1 1/16"
7	281.23	236.23	35'-6"	45'-0"	45	1 1/16"
8	284.72	238.72	36'-6"	46'-0"	47	1 1/16"



**SHEET 1 OF 2**  
**DETAILS OF INTERMEDIATE BENT NOS. 2-8**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.

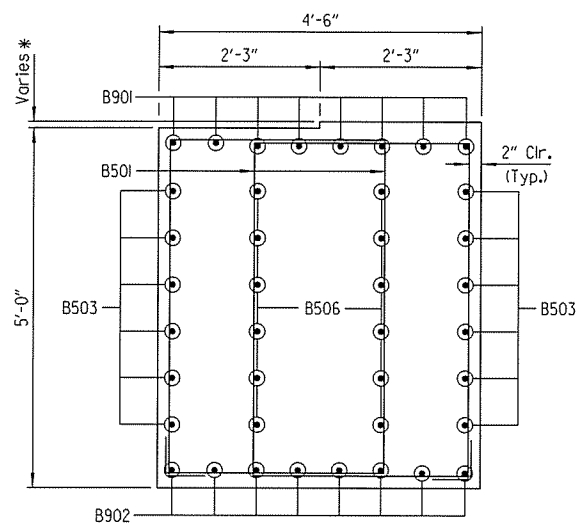
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DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54827

9/12/2014 12:16:02 PM  
 WORKSPACE: AH10 Bridge  
 \\CLTDC01\IT\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\90\ Plans\B060395\_BLDGN  
 REVISED DATE:

**NOTES:**  
For "SECTION A-A", "SECTION B-B", "SECTION D-D" & "VIEW E-E", see Dwg. No. 54828.  
For "BAR LIST - PER BENT", "BAR BENDING DIAGRAM" & "GENERAL NOTES", see Dwg. No. 54828.

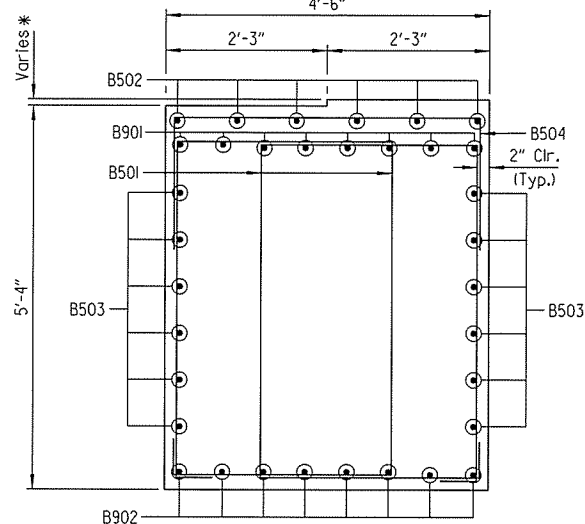


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		060395	49	141
				① 07298		INT. BENT DETAILS		54828

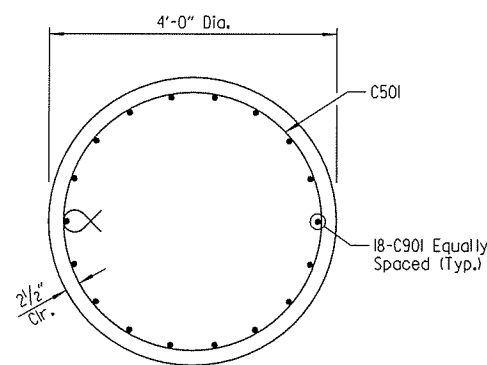


**SECTION A-A**  
Scale: 3/4" = 1'-0"

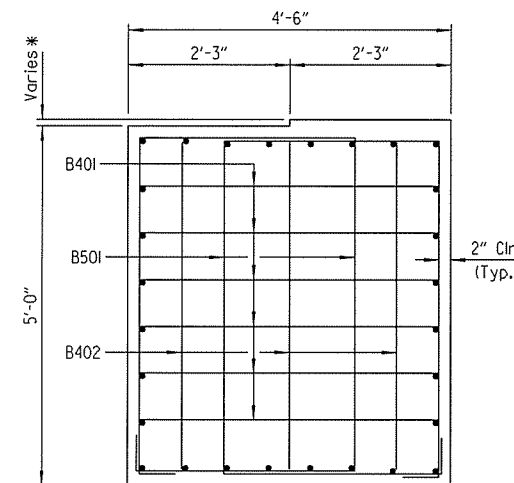
\* For step height, see Dwg. No. 54827.



**SECTION B-B**  
Scale: 3/4" = 1'-0"



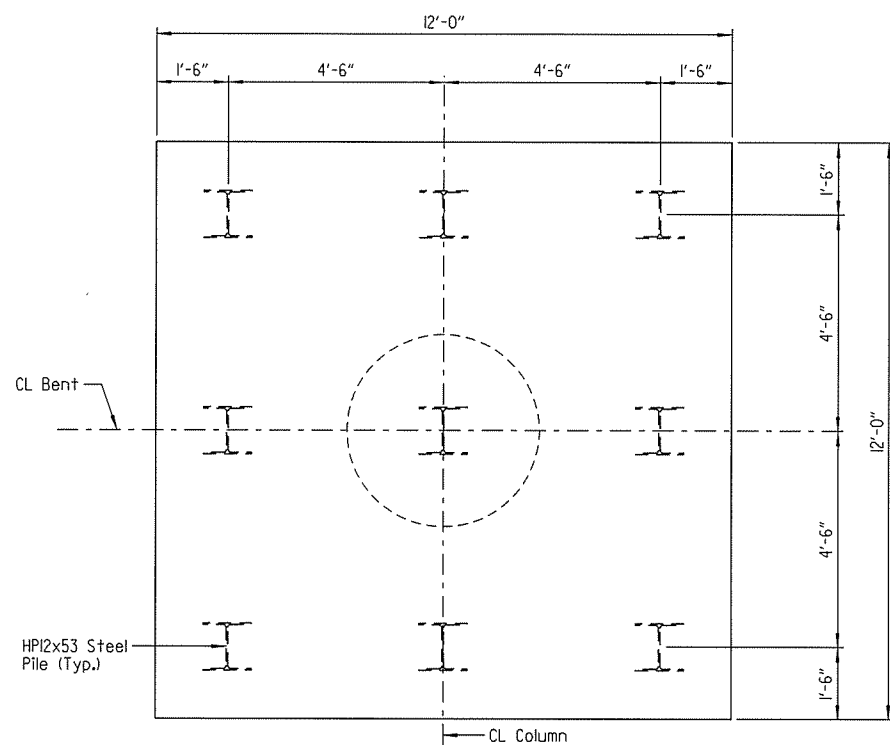
**SECTION D-D**  
Scale: 3/4" = 1'-0"



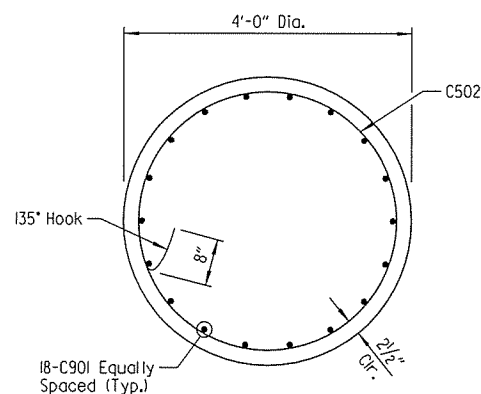
**VIEW E-E**  
Scale: 3/4" = 1'-0"

BAR LIST - PER BENT					
MARK	NO. REQ'D	LENGTH	"D"	"E"	P.D.
B401	12	6'-10 1/2"	4'-0 1/2"		2"
B402	6	7'-4 1/2"	4'-6 1/2"		2"
B501	144	16'-0"			2 1/2"
B502	6	16'-6"			Str.
B503	12	46'-8"			Str.
B504	17	7'-11 1/2"	4'-2"	2'-0"	2 1/2"
B505	9	13'-3 1/2"	4'-2"	4'-8"	2 1/2"
B506	24	8'-4"			Str.
B901	8	49'-2"			9"
B902	8	46'-8"			Str.
F601	72	12'-10"			4 1/2"
F901	84	14'-0"			9"
F902	54	10'-7"			9"
C501	"A"	12'-4"			3 3/4"
C502	6	307'-4"			3 3/4"
C901	54	"B"			Str.

NOTE: Number of bars shown is for one intermediate bent.



**PLAN - FOOTING**  
Scale: 1/2" = 1'-0"



**SECTION F-F**  
Scale: 3/4" = 1'-0"

**GENERAL NOTES**

All concrete shall be Class "S" with a minimum 28-day compressive strength  $f'_c = 3500$  psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered 1/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (Yield Strength = 60,000 psi) except as noted otherwise.

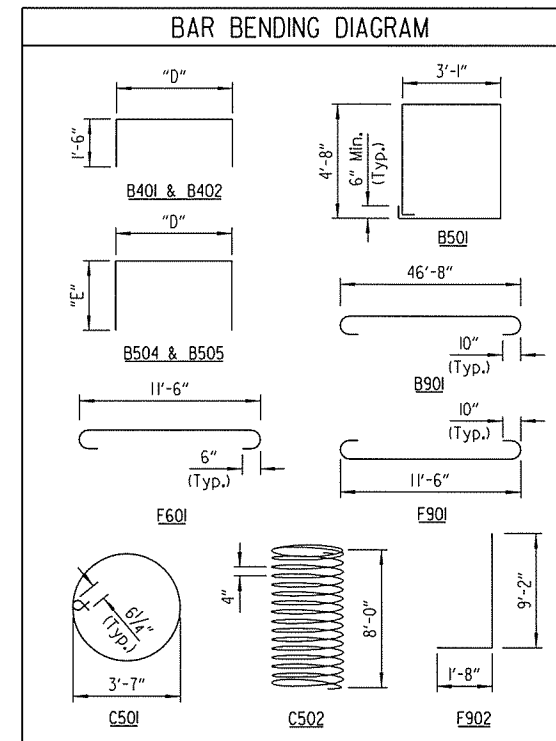
Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

**NOTES FOR SPIRAL REINFORCING:**  
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322 Type A or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

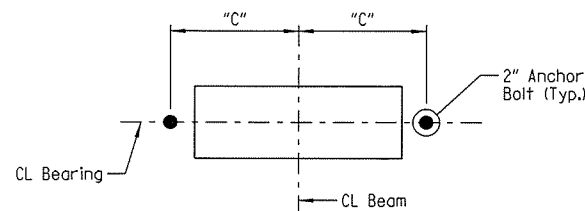
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, additional splices, or bracing needed for assembly, shipping, handling, or erecting.

Ends of spirals shall be terminated with 1/2 turns and a 135° hook with an 8" tail around a vertical bar.



NOTE: Dimensions of bars are out-to-out.

NOTE:  
For details of elastomeric bearings, see Dwg. No. 54856.



**TYPICAL ANCHOR BOLT LAYOUT**  
(Bent Nos. 2-8)  
Scale: 1" = 1'-0"

TABLE OF VARIABLES			
Bent No.	"A"	"B"	"C"
2	15	19'-6"	1'-6 1/16"
3	45	24'-6"	1'-4"
4	72	29'-0"	1'-6 1/16"
5	102	34'-0"	1'-4"
6	96	33'-0"	1'-6 1/16"
7	138	40'-0"	1'-4"
8	144	41'-0"	1'-6 1/16"



BRIDGE ENGINEER

SHEET 2 OF 2  
DETAILS OF INTERMEDIATE  
BENT NOS. 2-8

ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: SEP. 2013 FILENAME: B060395\_B2.DGN

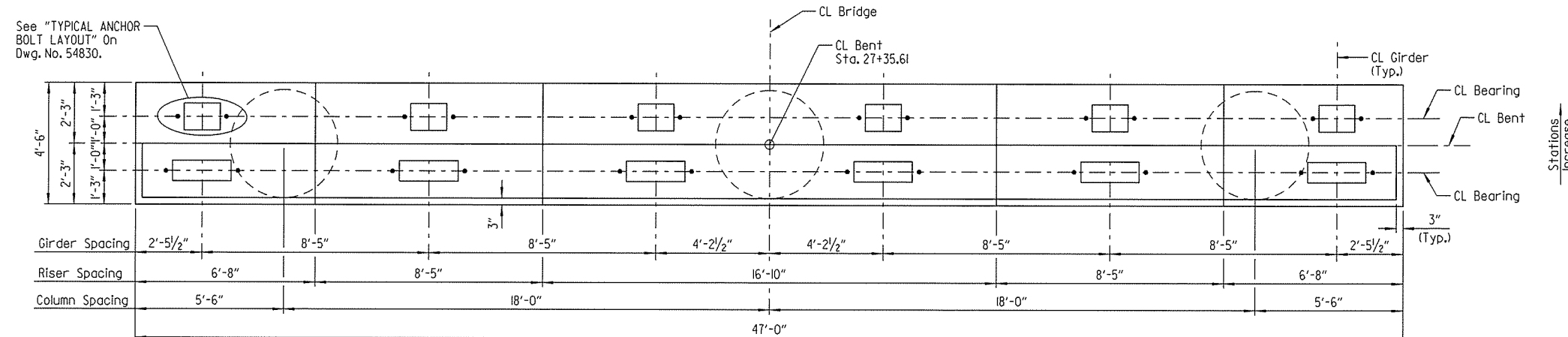
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DESIGNED BY: DRG DATE: SEP. 2013

BRIDGE NO. 07298 DRAWING NO. 54828

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 REVISED DATE:

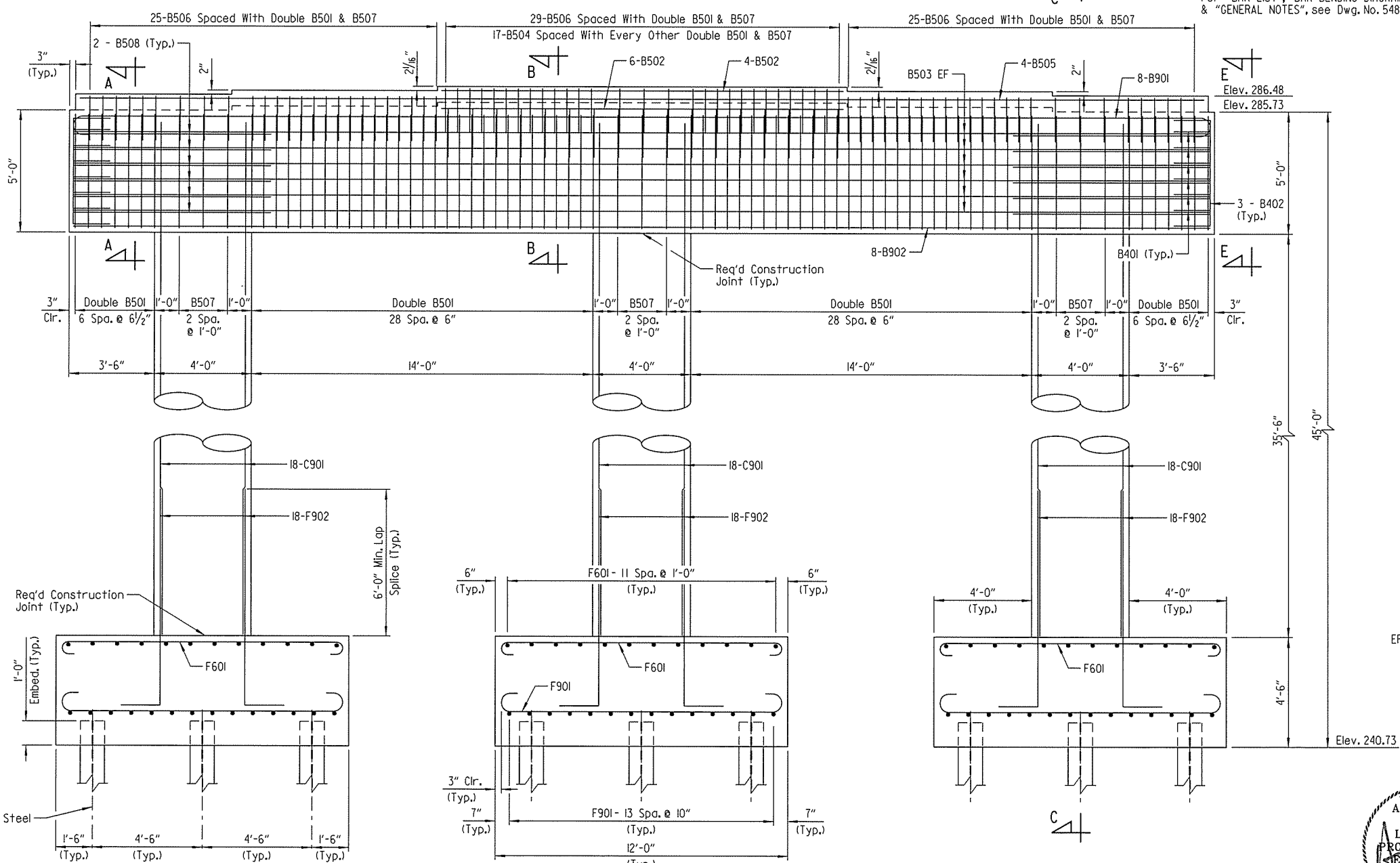
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				6	ARK.			
JOB NO. 060395							50	141
07298 INT. BENT DETAILS								54829



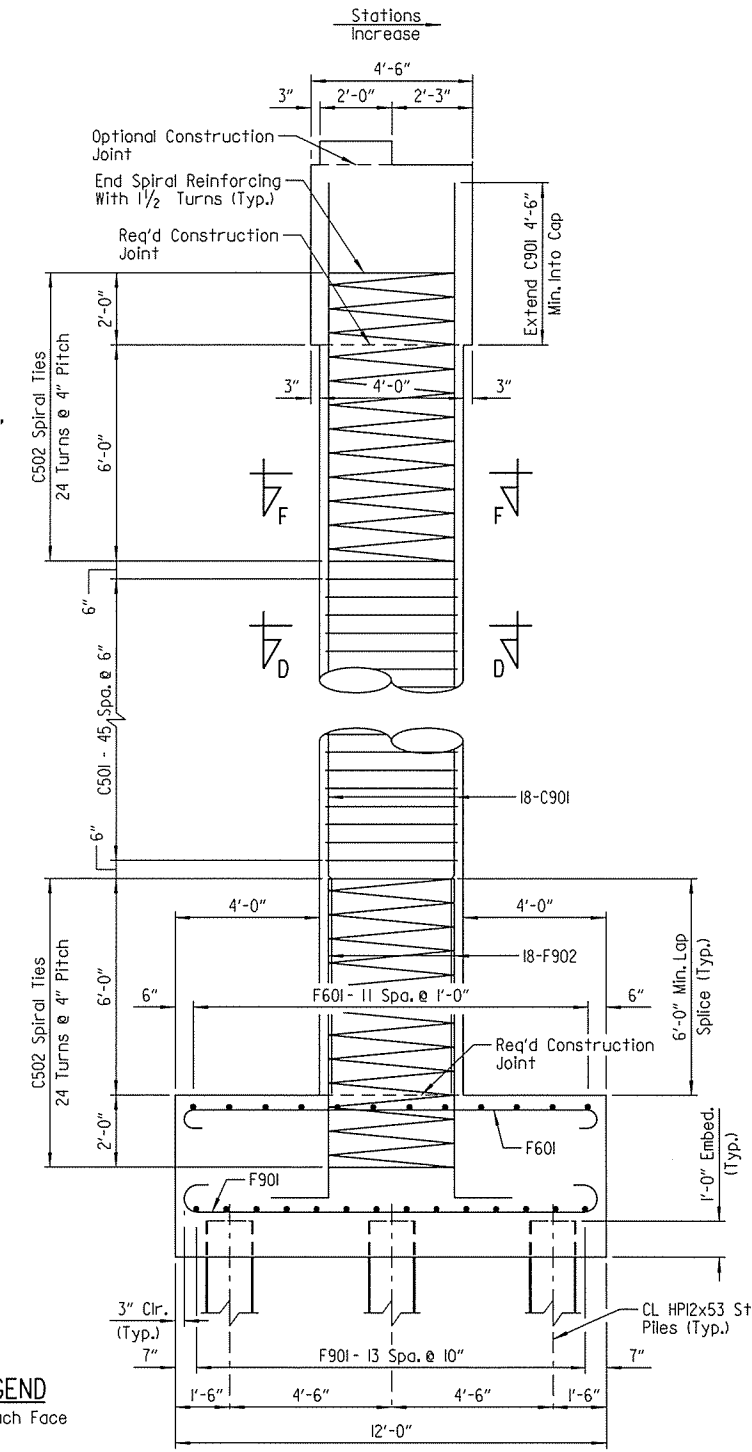
**PLAN - BENT NO. 9**  
Scale: 3/8" = 1'-0"

NOTES:  
For "SECTION A-A", "SECTION B-B", "SECTION D-D", "VIEW E-E" & "SECTION F-F", see Dwg. No. 54830.

For "BAR LIST", "BAR BENDING DIAGRAM" & "GENERAL NOTES", see Dwg. No. 54830.

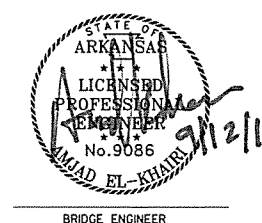


**ELEVATION - BENT NO. 9**  
(Looking Forward)  
Scale: 3/8" = 1'-0"



**SECTION C-C**  
Scale: 3/8" = 1'-0"

**LEGEND**  
EF = Each Face

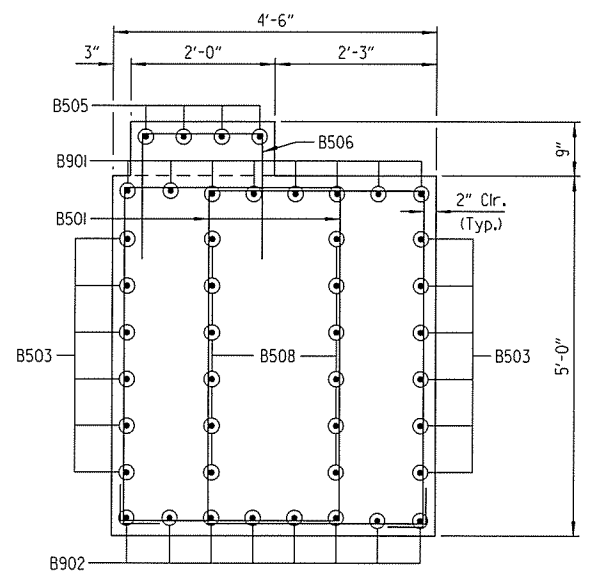


SHEET 1 OF 2  
DETAILS OF INTERMEDIATE BENT NO. 9  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

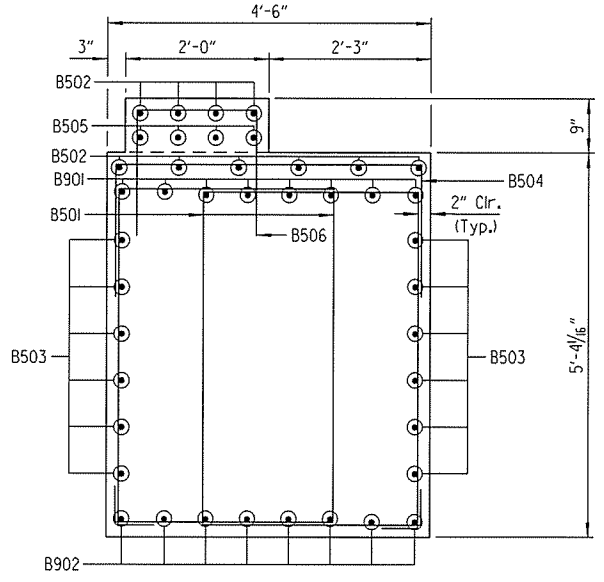
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CHECKED BY: AJK DATE: DEC. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54829

9/12/2014 12:16:04 PM  
 WORKSPACE: AHTD Bridge  
 \\\LITDCON\ITProjects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\90: Plans\B060395\_B3.dgn  
 REVISED DATE:

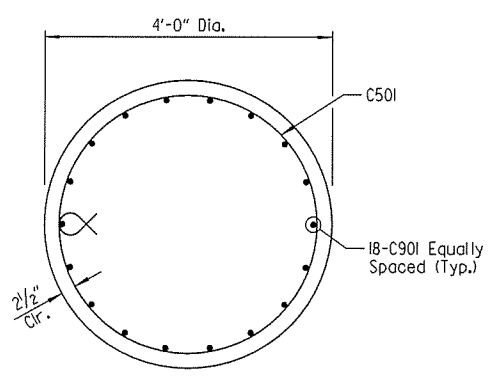
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				6	ARK.			
				JOB NO.		060395	51	141
				① 07298		INT. BENT DETAILS		54830



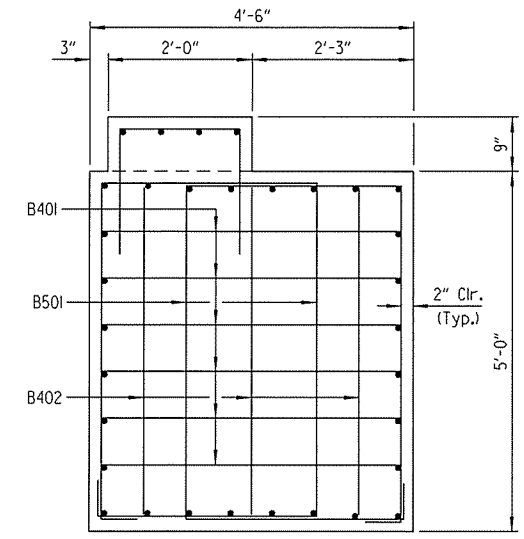
**SECTION A-A**  
Scale: 3/4" = 1'-0"



**SECTION B-B**  
Scale: 3/4" = 1'-0"



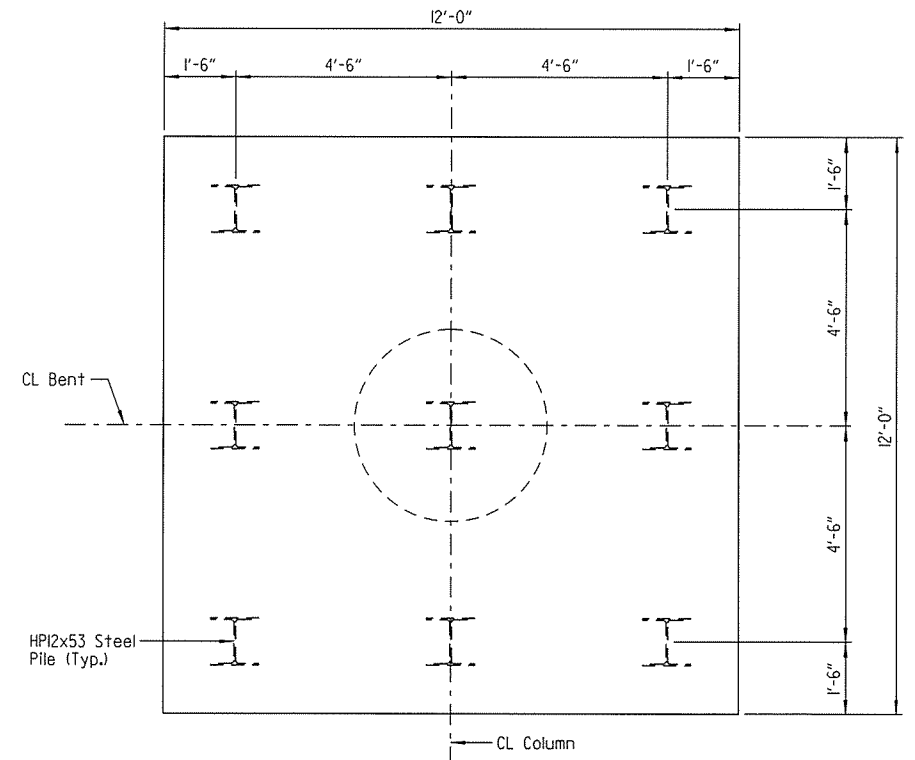
**SECTION D-D**  
Scale: 3/4" = 1'-0"



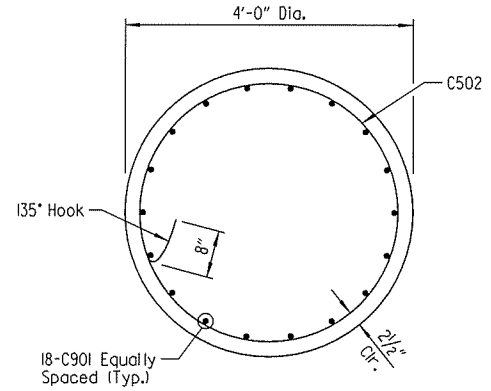
**VIEW E-E**  
Scale: 3/4" = 1'-0"

MARK	NO. REQ'D	LENGTH	"C"	"D"	P.D.
B401	12	6'-10 1/2"	4'-0 1/2"		2"
B402	6	7'-4 1/2"	4'-6 1/2"		2"
B501	144	16'-0"			2 1/2"
B502	6	16'-6"			Str.
B503	12	46'-8"			Str.
B504	17	7'-11 1/2"	2'-0"	4'-2"	2 1/2"
B505	4	46'-2"			Str.
B506	79	6'-1 1/2"	2'-4"	1'-8"	2 1/2"
B507	9	13'-3 1/2"	4'-8"	4'-2"	2 1/2"
B508	24	8'-4"			Str.
B901	8	49'-2"			9"
B902	8	46'-8"			Str.
F601	72	12'-10"			4 1/2"
F901	84	14'-0"			9"
F902	54	10'-7"			9"
C501	138	12'-4"			3 3/4"
C502	6	307'-4"			3 3/4"
C901	54	40'-0"			Str.

NOTE: Number of bars shown is for one intermediate bent.



**PLAN - FOOTING**  
Scale: 1/2" = 1'-0"



**SECTION F-F**  
Scale: 3/4" = 1'-0"

**GENERAL NOTES**

All concrete shall be Class "S" with a minimum 28-day compressive strength  $f'_c = 3500$  psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (Yield Strength = 60,000 psi) except as noted otherwise.

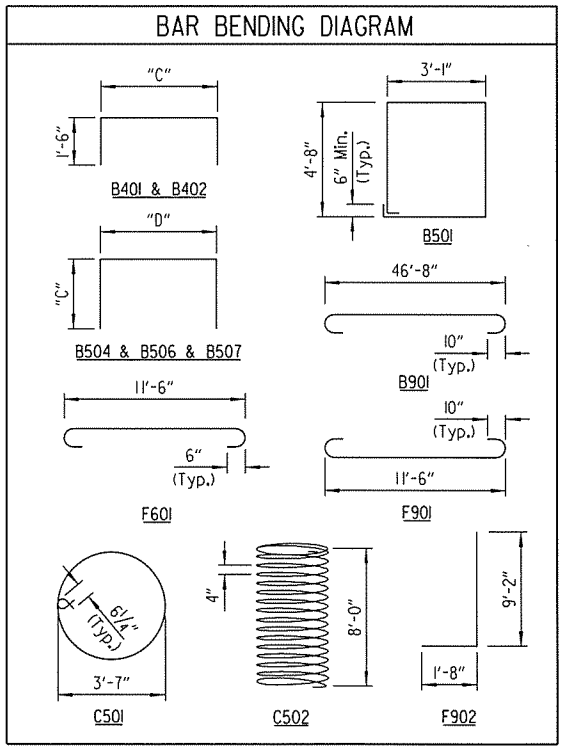
Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

**NOTES FOR SPIRAL REINFORCING:**  
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322 Type A or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

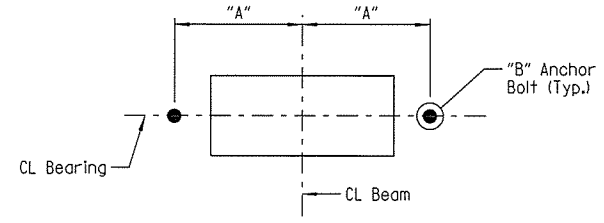
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, additional splices, or bracing needed for assembly, shipping, handling, or erecting.

Ends of spirals shall be terminated with 1 1/2 turns and a 135° hook with an 8" fall around a vertical bar.



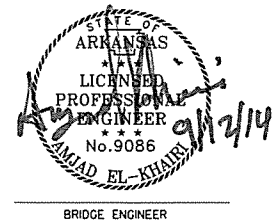
NOTE: Dimensions of bars are out-to-out.

NOTE:  
For details of elastomeric bearings, see Dwg. Nos. 54856 & 54857.



**TYPICAL ANCHOR BOLT LAYOUT**  
(Bent No. 9)  
Scale: 1" = 1'-0"

Bent No.	"A"	"B"
9 - Back	1'-4"	2"
9 - Ahead Girders 1 - 3	10 3/4"	2 1/4"
9 - Ahead Girders 4 - 6	11"	2 1/4"

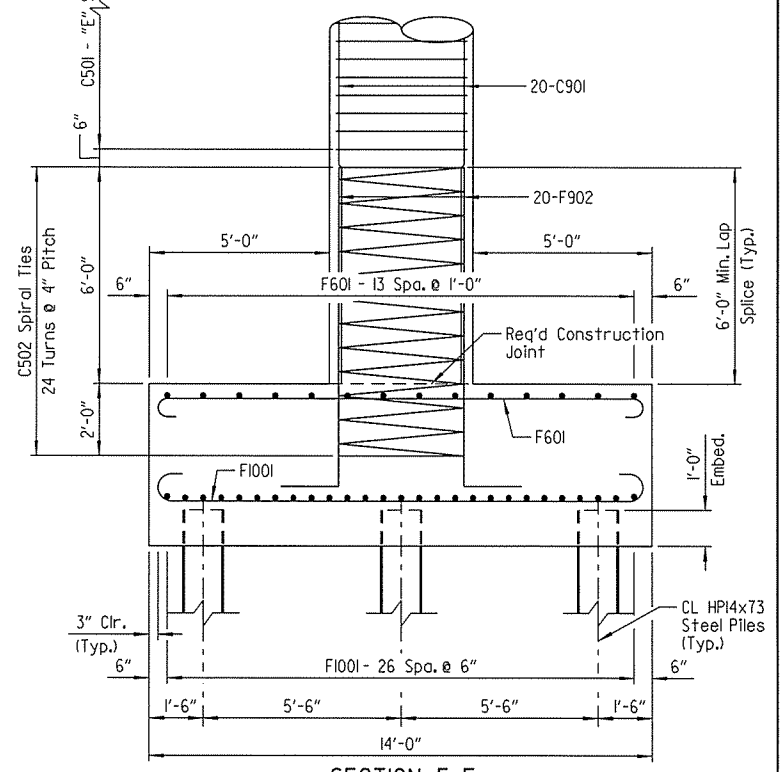
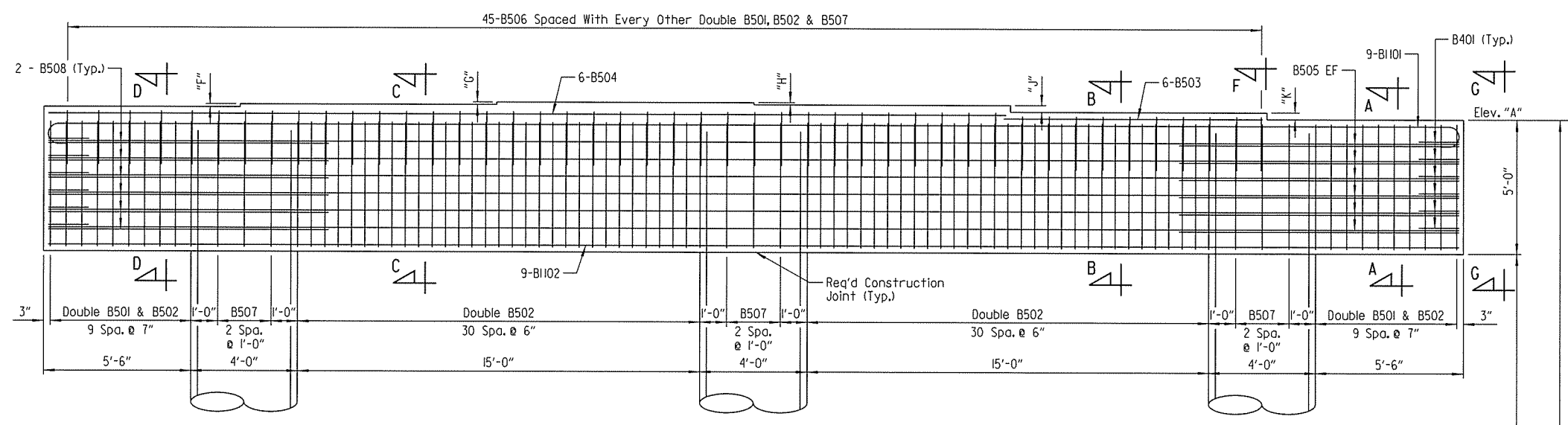
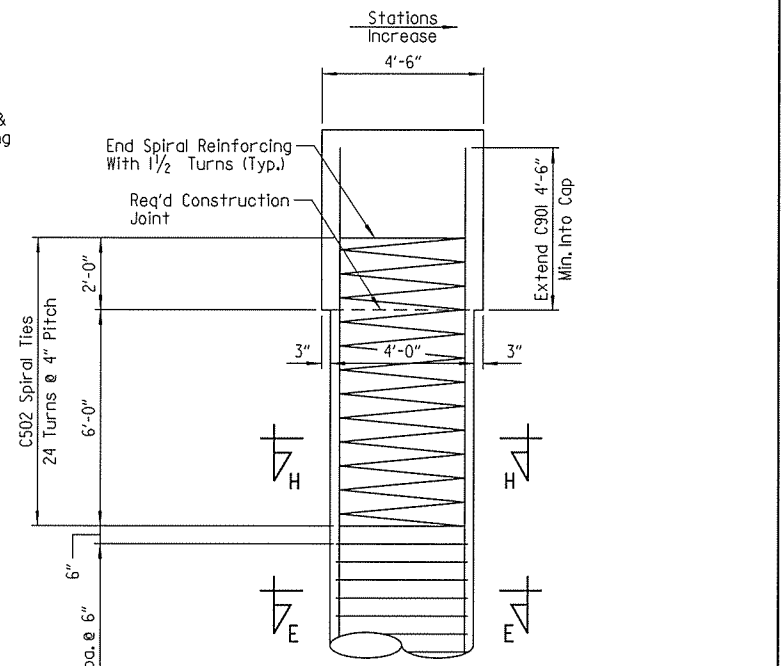
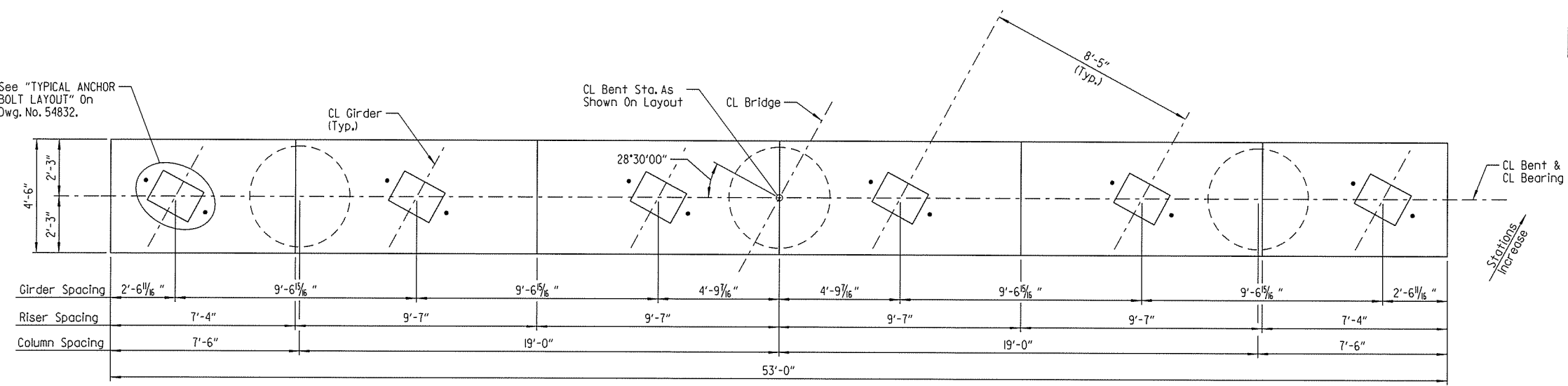


SHEET 2 OF 2  
DETAILS OF INTERMEDIATE BENT NO. 9  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: HEW DATE: SEP. 2013 FILENAME: B060395\_B4.DGN  
CHECKED BY: AJK DATE: DEC. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54830

9/12/2014 12:16:04 PM  
 WORKSPACE: AHTD Bridge  
 \\CLITDCON\ITP\Projects\2011\017505 - Arch Street Bridge Replacement\Drawings\BRO\302\_Plan\B060395\_B4.dgn  
 REVISION DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	52	141	
				07298	INT. BENT DETAILS	54831		

See "TYPICAL ANCHOR BOLT LAYOUT" On Dwg. No. 54832.



LEGEND  
EF = Each Face

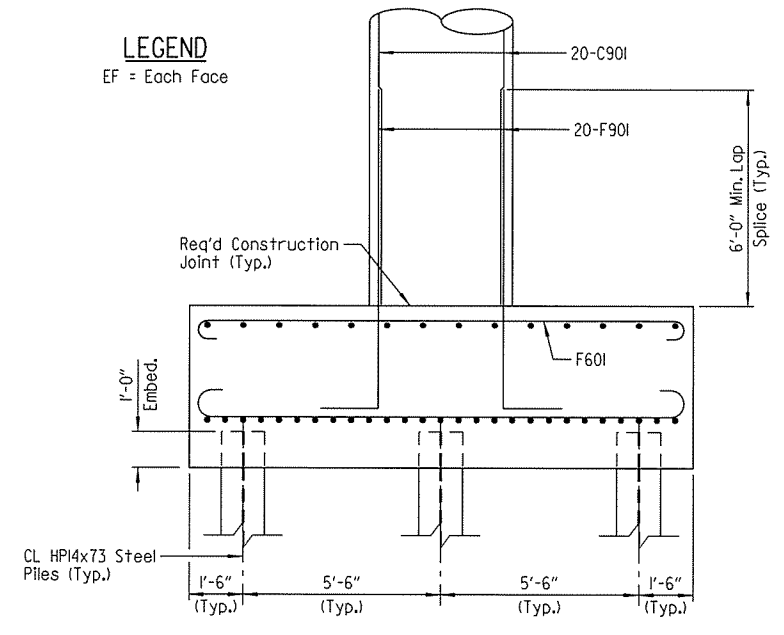
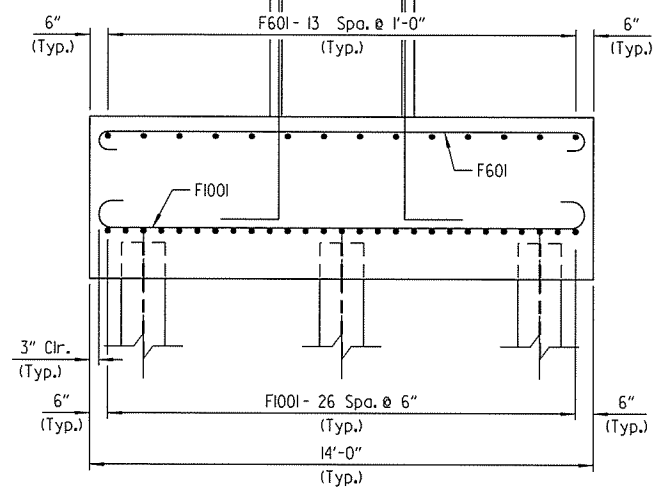
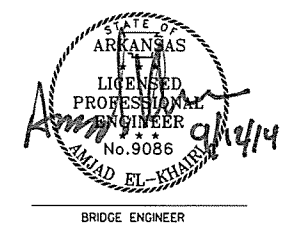


TABLE OF VARIABLES										
Bent No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"
10	285.40	243.40	32'-6"	42'-0"	39	1 1/8"	1 1/8"	5/8"	3"	3 1/8"
11	279.77	251.27	19'-0"	28'-6"	12	3/8"	1/4"	1 3/4"	3 1/8"	3 1/8"



NOTES:  
For "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D", "SECTION E-E", "VIEW G-G" & "SECTION H-H", see Dwg. No. 54832.

For "BAR LIST - PER BENT", "BAR BENDING DIAGRAM" & "GENERAL NOTES", see Dwg. No. 54832.

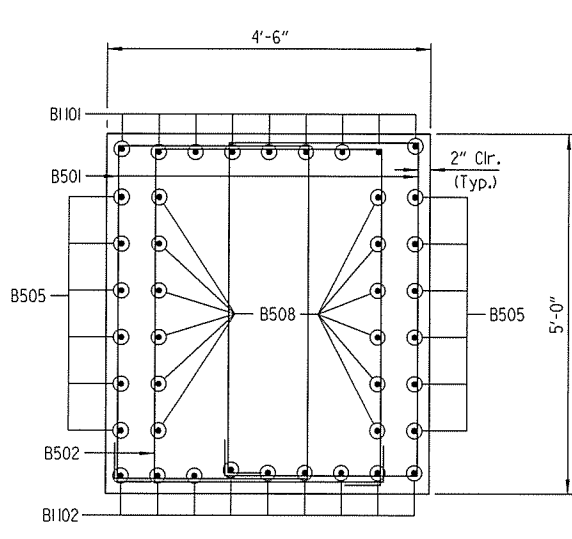


SHEET 1 OF 2  
DETAILS OF INTERMEDIATE BENT NOS. 10 & 11  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

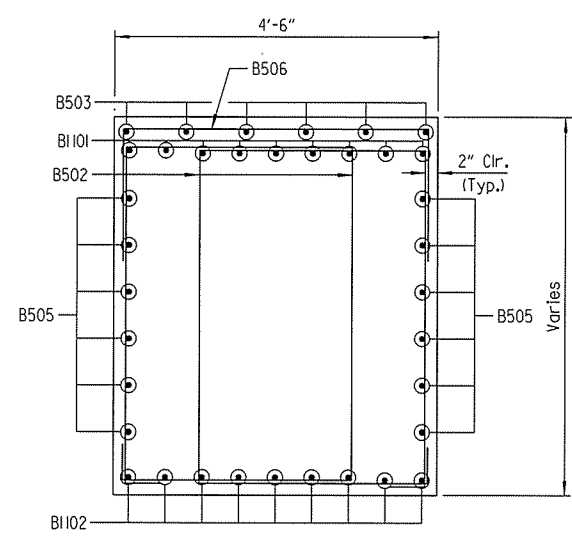
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DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54831

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 REVISED DATE:

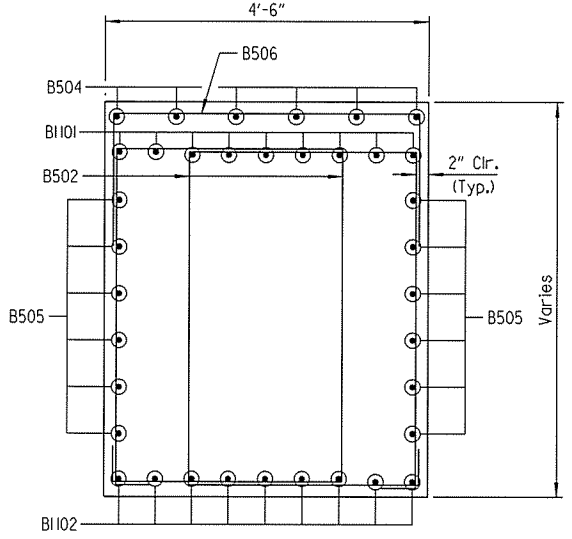
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				6	ARK.			
				JOB NO.	060395	53	141	
				07298	INT. BENT DETAILS	54832		



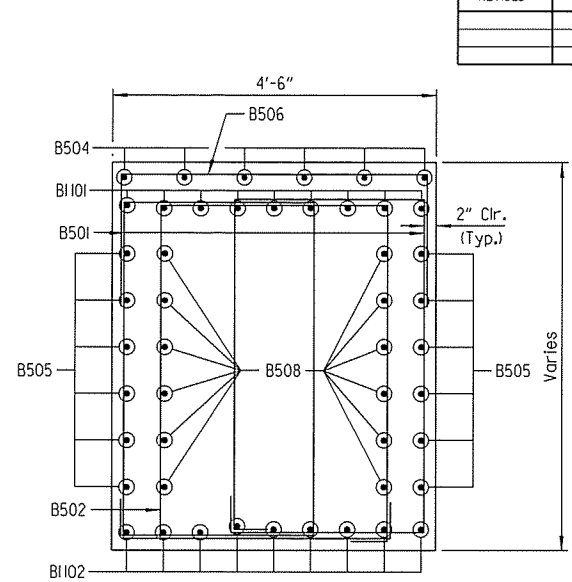
**SECTION A-A**  
Scale: 3/4" = 1'-0"



**SECTION B-B**  
Scale: 3/4" = 1'-0"



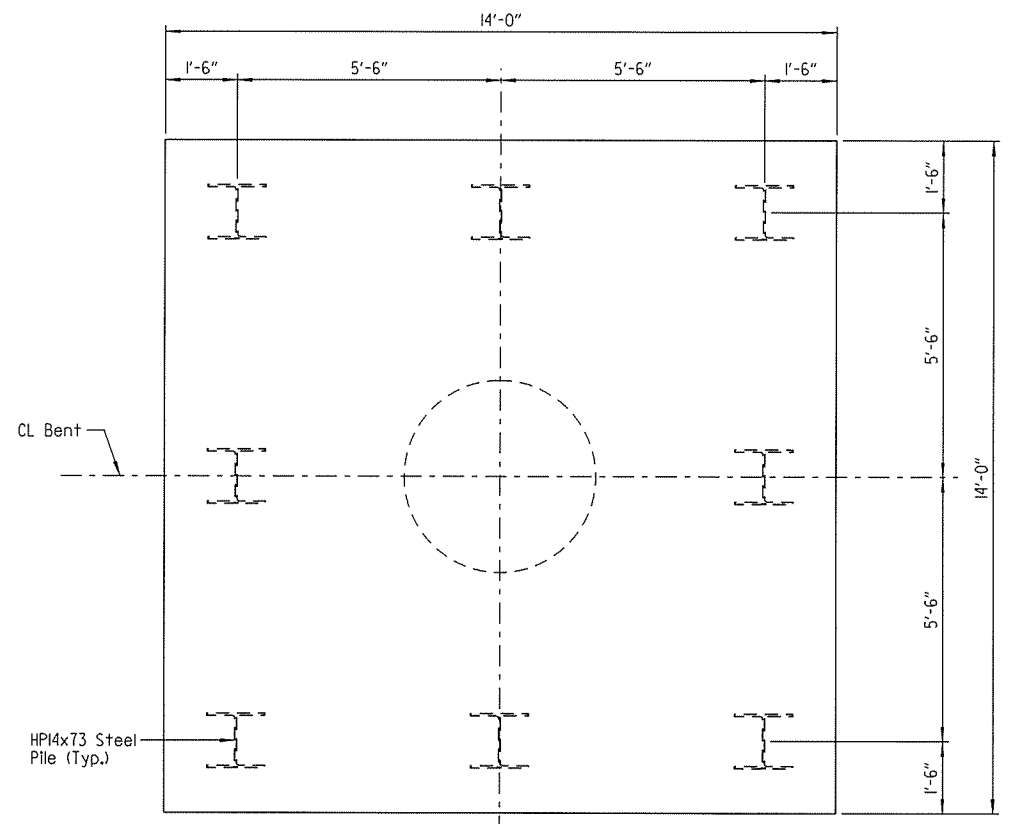
**SECTION C-C**  
Scale: 3/4" = 1'-0"



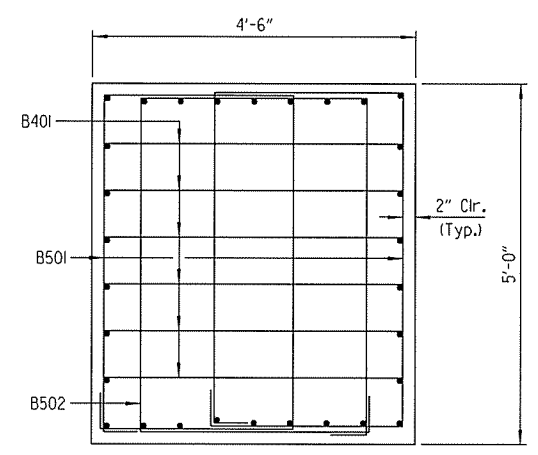
**SECTION D-D**  
Scale: 3/4" = 1'-0"

BAR LIST - PER BENT				
MARK	NO. REQ'D	LENGTH	"C"	P.D.
B401	12	6'-10 1/2"		2"
B501	40	15'-2"	2'-8"	2 1/2"
B502	144	16'-2"	3'-2"	2 1/2"
B503	6	9'-7"		Str.
B504	6	35'-9"		Str.
B505	12	52'-8"		Str.
B506	45	8'-7 1/2"	2'-4"	2 1/2"
B507	9	13'-3 1/2"	4'-8"	2 1/2"
B508	24	8'-4"		Str.
B1101	9	55'-8"		11 1/4"
B1102	9	52'-8"		Str.
F601	84	14'-10"		4 1/2"
F901	60	10'-7"		9"
F1001	162	16'-4"		10"
C501	"A"	12'-4"		3 3/4"
C502	6	307'-4"		3 3/4"
C901	60	"B"		Str.

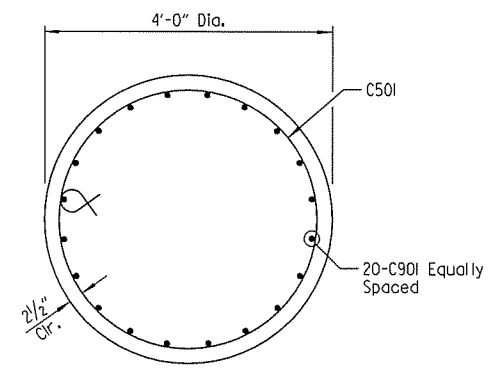
NOTE: Number of bars shown is for one intermediate bent.



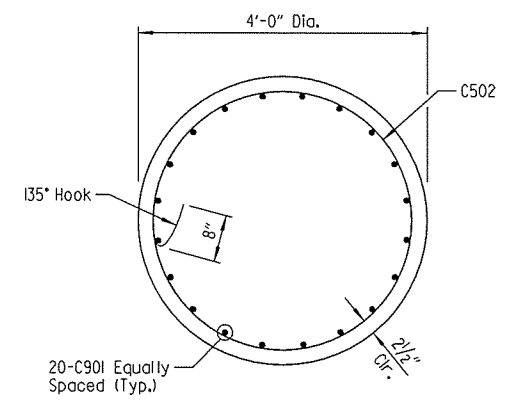
**PLAN - FOOTING**  
Scale: 1/2" = 1'-0"



**VIEW G-G**  
Scale: 3/4" = 1'-0"



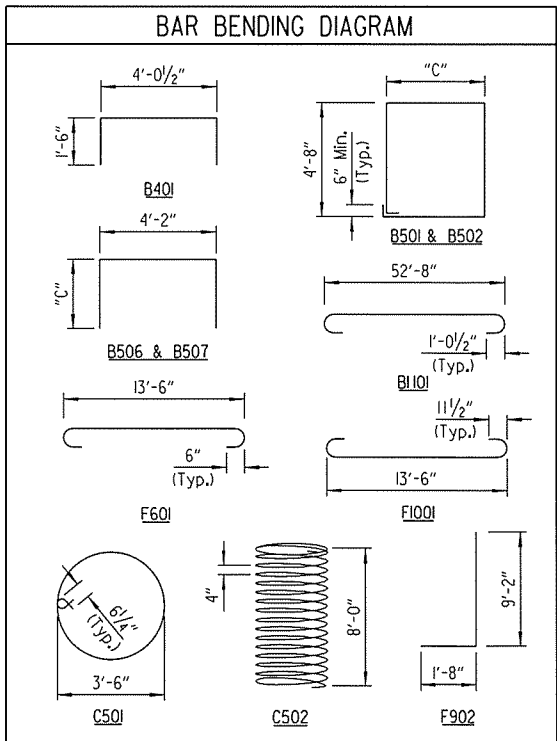
**SECTION E-E**  
Scale: 3/4" = 1'-0"



**SECTION H-H**  
Scale: 3/4" = 1'-0"

**GENERAL NOTES**  
All concrete shall be Class "S" with a minimum 28-day compressive strength  $f'_c = 3500$  psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless otherwise noted.  
All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (Yield Strength = 60,000 psi) except as noted otherwise.  
Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.  
For additional information, see Layout.

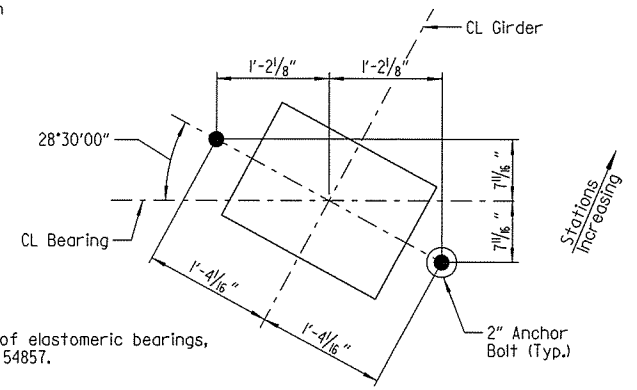
**NOTES FOR SPIRAL REINFORCING:**  
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322 Type A or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".  
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, additional splices, or bracing needed for assembly, shipping, handling, or erecting.  
Ends of spirals shall be terminated with 1 1/2 turns and a 135° hook with an 8" tail around a vertical bar.



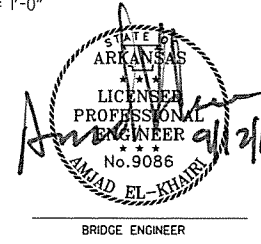
NOTE: Dimensions of bars are out-to-out.

TABLE OF VARIABLES		
Bent No.	"A"	"B"
10	120	37'-0"
11	39	23'-6"

NOTE:  
For details of elastomeric bearings, see Dwg. No. 54857.



**TYPICAL ANCHOR BOLT LAYOUT**  
(Bent Nos. 10 & 11)  
Scale: 1" = 1'-0"



**SHEET 2 OF 2**  
**DETAILS OF INTERMEDIATE BENT NOS. 10 & 11**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.  
DRAWN BY: HEW DATE: SEP. 2013 FILENAME: B060395\_B6.DGN  
CHECKED BY: AJK DATE: DEC. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: SEP. 2013  
BRIDGE NO. 07298 DRAWING NO. 54832

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 \\\CLTIDCON\IT\Projects\2010\107505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_B6.dgn  
 REVISED DATE:

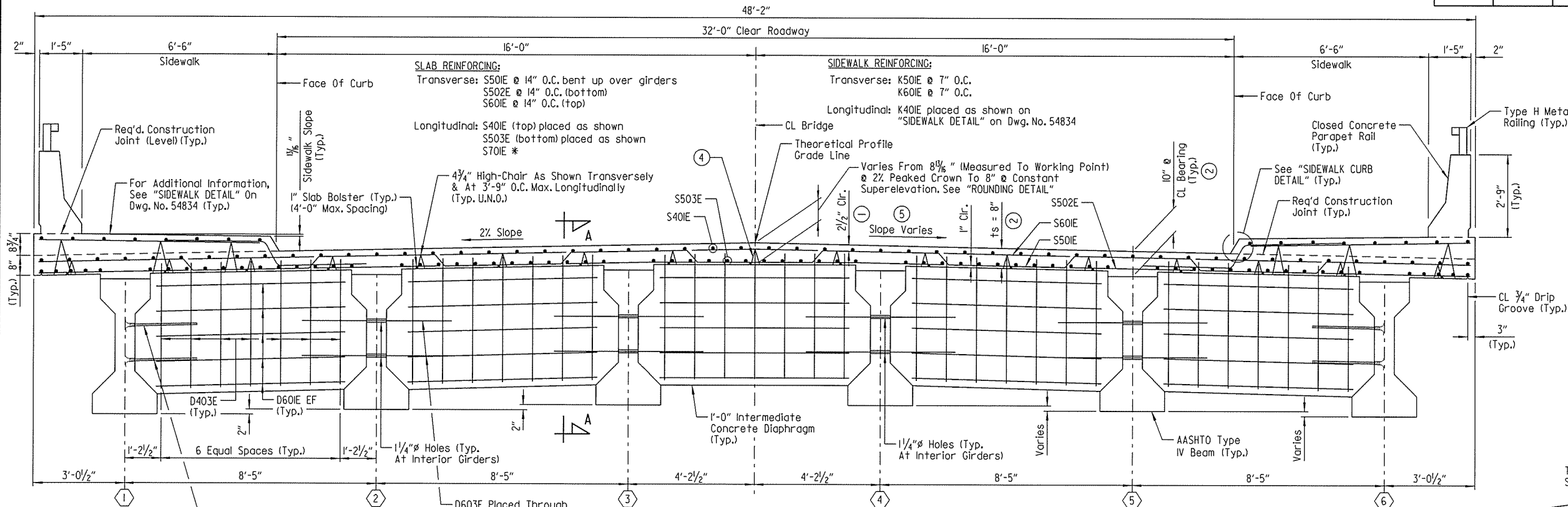
\* Placed over int. supports as shown on "TYPICAL SECTION AT FIXED BENT" on Dwg. No. 54834

Note:  
For hi-chair heights in sidewalk area, see "SIDEWALK DETAIL" on Dwg. No. 54834.

④ Adjust hi-chair heights in this bay as necessary to maintain 2 1/2" clear cover to top transverse bars.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395		54	141

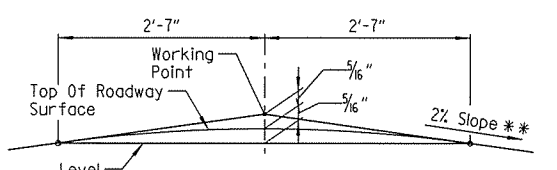
① 07298 184'-0" UNIT 54833



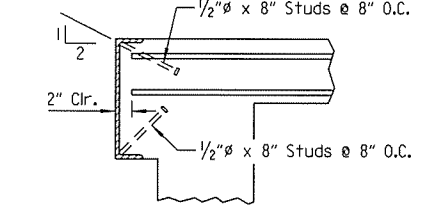
Note:  
Deck drains not shown for clarity. For deck drain layout and details, see Dwg. Nos. 54860 & 54861.

Notes:  
At the Contractor's option, one epoxy coated #5 bar in the top and one epoxy coated #5 bar in the bottom may be substituted for each bar S501E. Payment will be based on the weight of bar S501E.

Class I Protective Surface Treatment shall be applied to the roadway surface, face of curb, sidewalk surface and the face and top of concrete parapet rail.

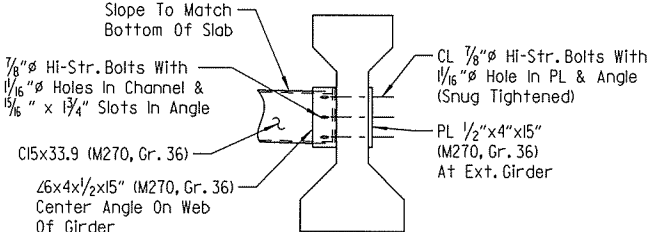


**TYPICAL SECTION**  
(Looking Forward)  
Scale: 1/2" = 1'-0"



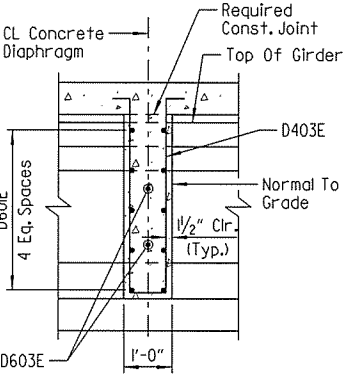
**DETAILS OF ALTERNATE ANCHORS**

Note:  
As an alternate to 5/8" studs, 1/2" x 8" studs spaced as shown may be used. Use weight of 5/8" stud as basis of measurement of structural steel.

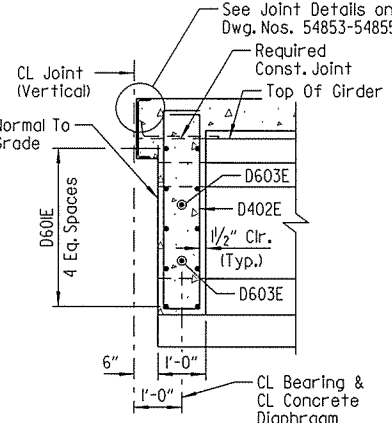


**DETAILS OF ALTERNATE INTERMEDIATE DIAPHRAGM**

Note:  
A standard washer shall be supplied under both the nut and the head for the 1/8" H.S. Bolt. An additional plate washer shall cover the angle slots.



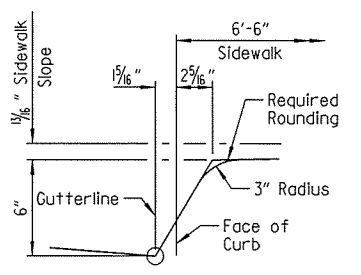
**SECTION A-A**  
(Intermediate Diaphragm)  
Scale: 1/2" = 1'-0"



**SECTION B-B**  
(End Of Unit Diaphragm)  
Scale: 1/2" = 1'-0"

Note:  
Sections A-A and B-B are cut normal to diaphragm.

\*\* Values shown are for 2% peaked crown. Dimension for Working Point to top of roadway surface varies from 0" at Sta. 19+90.61 to 3/8" at Sta. 20+90.61.



**SIDEWALK CURB DETAIL**

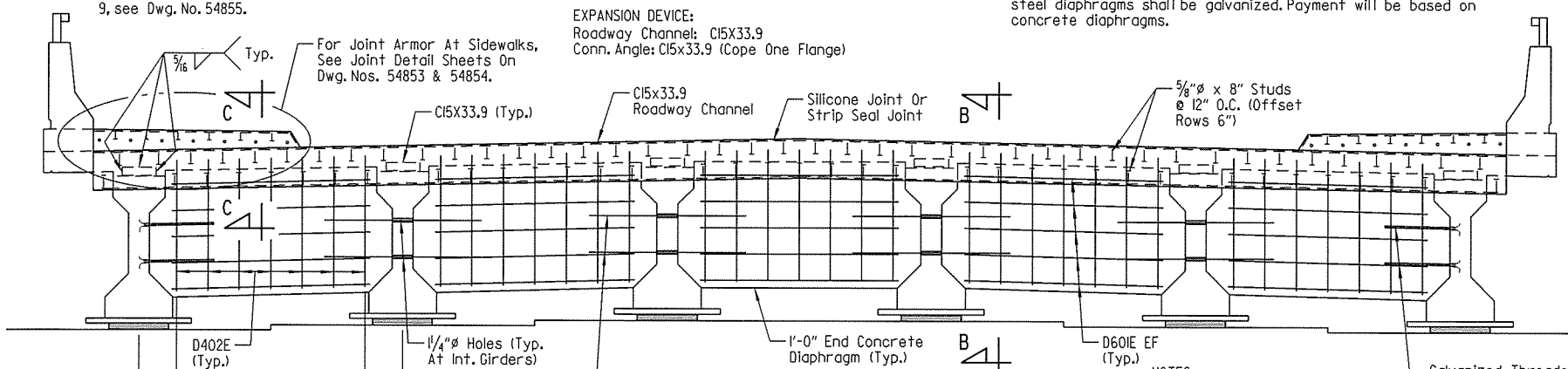
No Scale

- ① TOLERANCE:  
Minus = 1/4"  
Plus = Amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED" on Dwg. No. 54834.
- ② See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED" on Dwg. No. 54834.
- ③ Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferrule Insert or an approved equal. 3/4" galvanized threaded rods shall be AASHTO M270, Grade 36 or AASHTO M31 or M32 Type A, Gr. 60. Galvanizing shall be in accordance with AASHTO M232, Class C or ASTM B695, Class 50. These items are to be subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".

NOTE:  
For "SECTION C-C" at Bent Nos. 1, 3, 5 & 7, see Dwg. No. 54834.

For "SECTION C-C" at Bent No. 9, see Dwg. No. 54855.

EXPANSION DEVICE:  
Roadway Channel: C15X33.9  
Conn. Angle: C15X33.9 (Cope One Flange)



**TYPICAL SECTION THRU JOINT**  
(Looking Forward At Bent Nos. 1, 3, 5, & 7)  
(Looking Back At Bent No. 9)  
Scale: 3/8" = 1'-0"

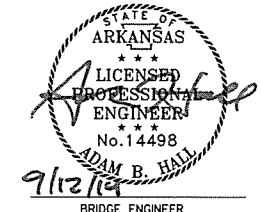
NOTES:  
For details of poured silicone joint, see Dwg. No. 54853.

For details of strip seal joint, see Dwg. Nos. 54854 & 54855.

Galvanized Threaded Inserts & 3/4" x 3'-6" Threaded Rods At Exterior Girders. For Number And Location, See "BEARING DETAIL NEAR JOINT" on Dwg. No. 54837. ③

**LEGEND**

EF = Each Face  
U.N.O. = Unless Noted Otherwise

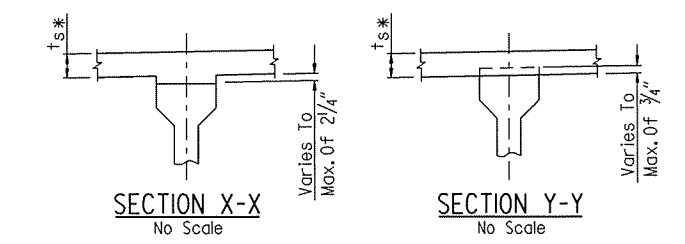
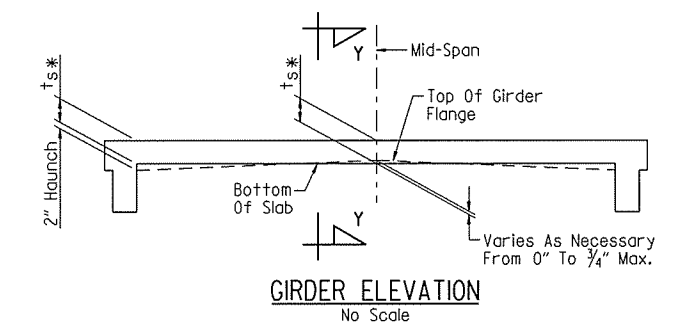
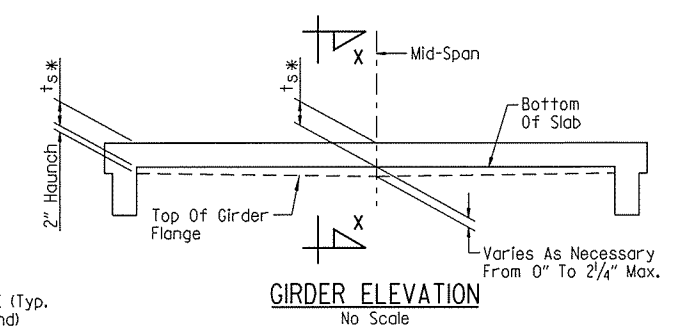
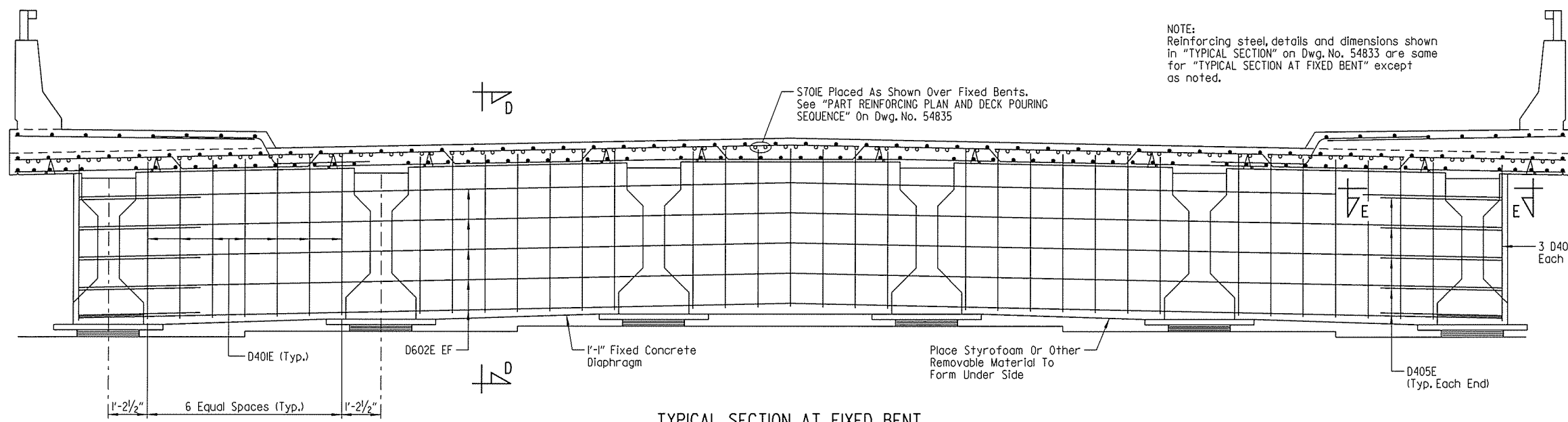


SHEET 1 OF 7  
DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

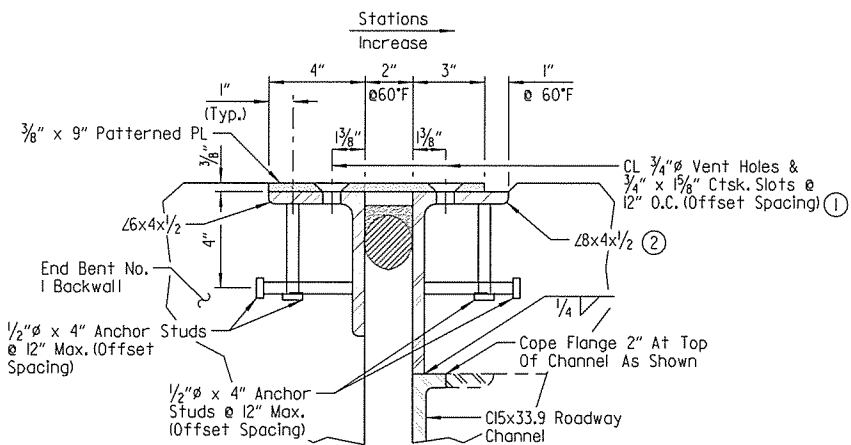
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CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54833

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 \\CLTDCON\IT\Projects\2011\07298 - Arch Street Bridge Replacement\Drawings\BRO\90\ Plans\B060395\_SL.dgn  
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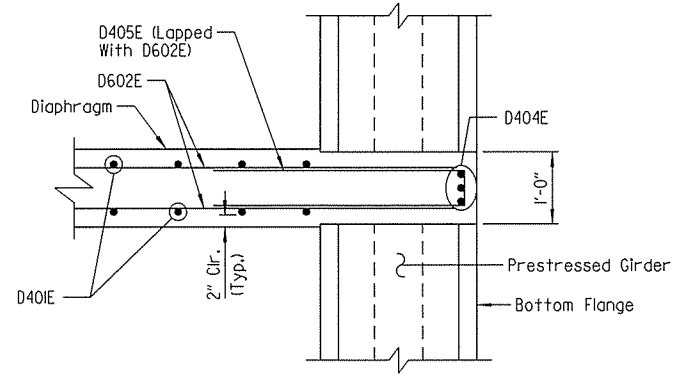
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				6	ARK.			
				JOB NO.		060395	55	141
				07298		184'-0" UNIT		54834



**TYPICAL SECTION AT FIXED BENT**  
(Looking Forward)  
Scale: 1/2" = 1'-0"



**NOTE:**  
Sidewalk patterned floor plates shall be AASHTO M270, Gr. 36 and shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". The surfaces of the plates which will not be in contact with the concrete shall be cleaned and painted in accordance with Section 638, or as directed by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting shall not be paid for directly but will be considered subsidiary to "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".



**SECTION E-E**  
Scale: 3/4" = 1'-0"

Note:  $t_s$  = slab thickness as shown on superstructure details. See "TYPICAL SECTION" on Dwg. No. 54833.

\* Tolerance when removable deck forming is used is  $\pm 1/2"$ ,  $-1/4"$ . Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used.

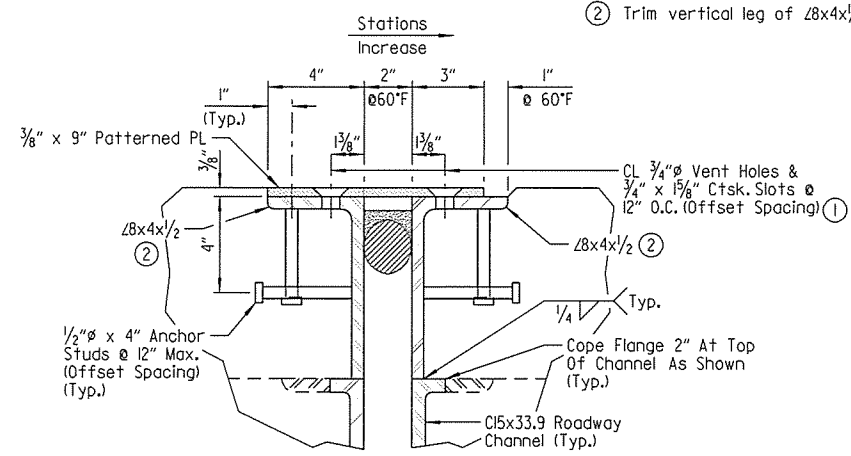
"GIRDER ELEVATION" sketches show the range of acceptability of the top of girder relative to bottom of slab after the placement of the slab. When the top of the girder projects more than  $3/4"$  into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans so when adjustment is necessary the profile grade can be adjusted over suitable increments so the revised grade line will produce a smooth riding surface. Variation of haunch height will be at the Contractor's expense.

**ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED**

**NOTE:**  
Concrete shall be hand packed under the joint armor in the sidewalk. For poured silicone joint details, see Dwg. No. 54853.

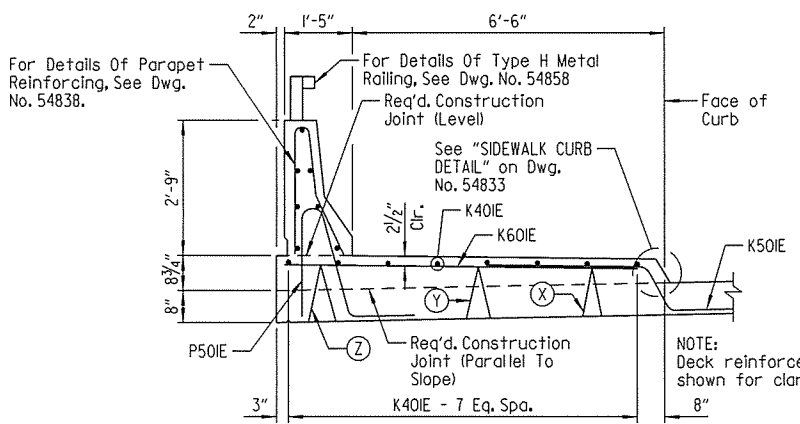
**SECTION C-C**  
(At Bent No. 1)  
Scale: 3" = 1'-0"

- ① Ctsk. 3/4" x 1 3/8" Slots in 3/8" patterned PL. Top 4" leg of angles for ASTM A449 3/8" x 1 3/8" Ctsk. Slots @ 12" O.C. (Offset Spacing) in the shop and ship as a unit. Screws in downstation side of joint shall remain after erection. See "DETAILS FOR BLOCKING EXPANSION JOINT DEVICE" on Dwg. No. 54853.
- ② Trim vertical leg of 28x4x1/2 as needed.



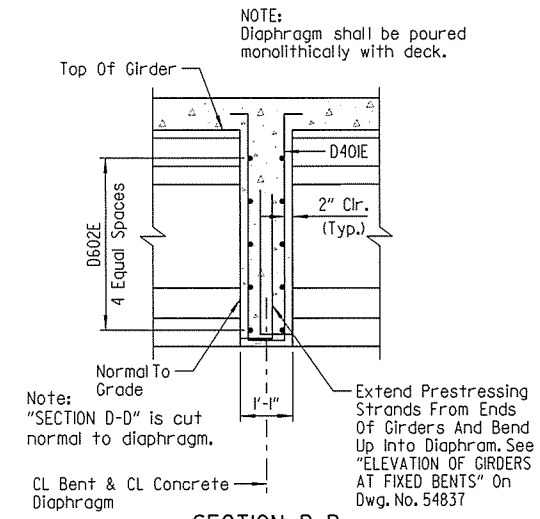
**SECTION C-C**  
(At Bent Nos. 3, 5 & 7)  
Scale: 3" = 1'-0"

**NOTE:**  
For "SECTION C-C" at Bent No. 9 and strip seal joint details, see Dwg. No. 54855.



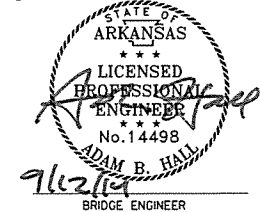
- (X) 1 1/2" Max. Hi-Chairs @ 3'-9" Longitudinally
- (Y) 1 1/2" Max. Hi-Chairs @ 3'-9" Longitudinally
- (Z) 1 3/4" Max. Hi-Chairs @ 3'-9" Longitudinally

**SIDEWALK DETAIL**  
Scale: 1/2" = 1'-0"



**SECTION D-D**  
(Fixed Bent Diaphragm)  
Scale: 1/2" = 1'-0"

**LEGEND**  
EF = Each Face



**SHEET 2 OF 7**  
**DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.

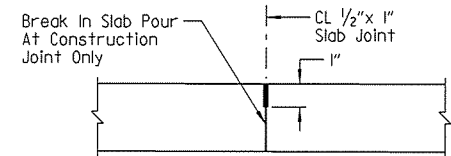
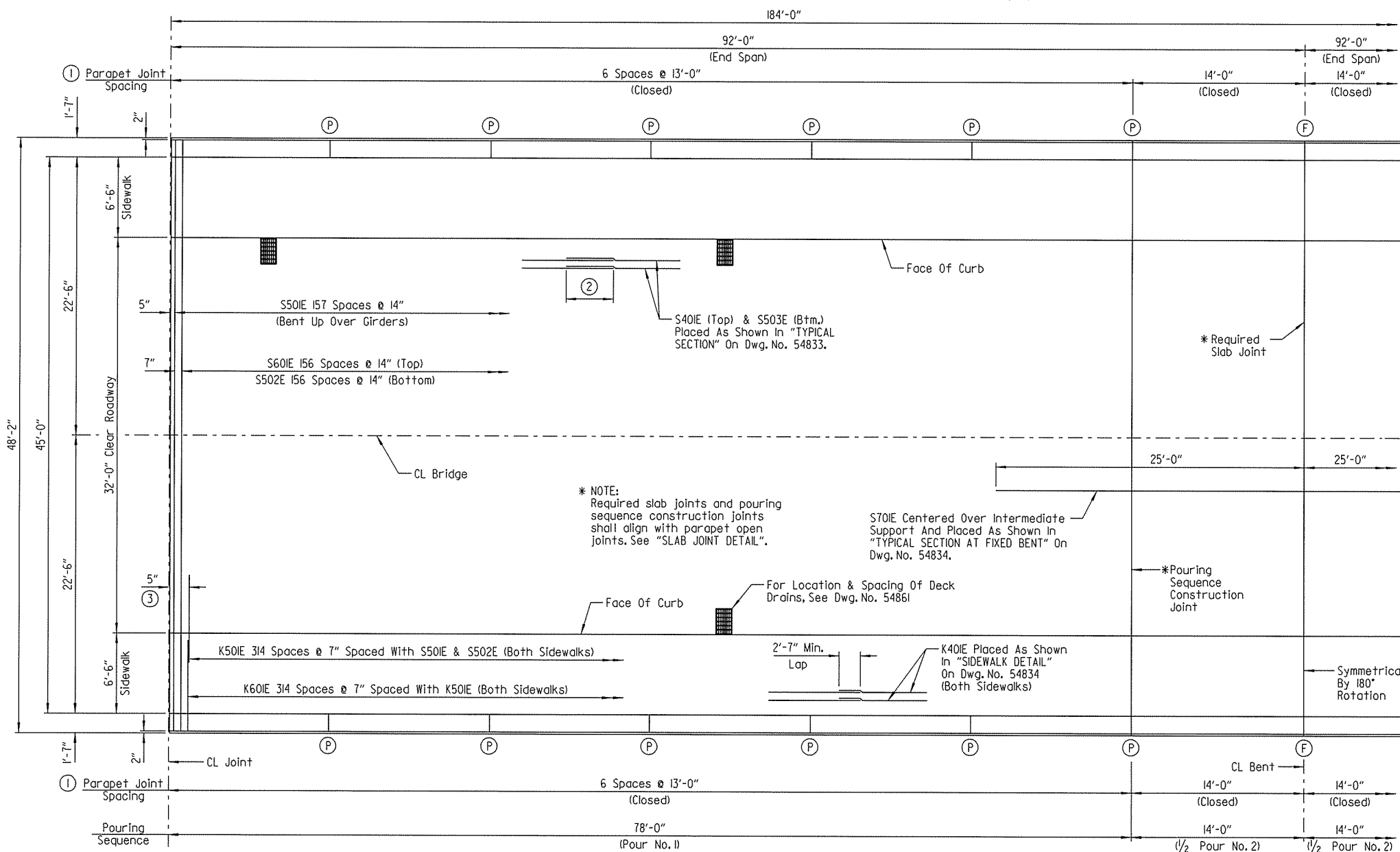
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CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54834

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 WORKSPACE: AHTD Bridge  
 \\\LITDCON\ITProjects\2011\01505 - Arch Street Bridge Replacement\Drawings\BRG\902 - Plans\B060395\_S2.dgn  
 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	56	141
				①	07298	184'-0" UNIT		54835

① Parapet joints designated with symbol (F) shall be stopped 4" from top of slab. All other parapet joints with symbol (P) shall be partial depth joints stopped 1'-2" from top of slab.

② Provide 2'-7" Min. Lap Splice For S40IE (Top) & 3'-3" Min. Lap Splice For S503E (Btm.)



The 1/2" x 1" Poured Joint Sealer (Type 3 or 4) in slab shall conform to Subsection 501.02(h) and 501.05(j). Backer Rod filler will not be required. The Poured Joint Sealer shall be paid for as "CLASS (S/AE) CONCRETE-BRIDGE". Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the sidewalk is poured. The slab joints in the sidewalk shall extend to the outside of the sidewalk and shall be installed before parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab and across the top of the sidewalk. No joint sealer shall be placed on the deck slab under the sidewalk or parapet rail. Slab joints and pouring sequence joints shall align with parapet open joints.

**SLAB JOINT DETAIL**  
No Scale

\* NOTE: Required slab joints and pouring sequence construction joints shall align with parapet open joints. See "SLAB JOINT DETAIL".

S70IE Centered Over Intermediate Support And Placed As Shown In "TYPICAL SECTION AT FIXED BENT" On Dwg. No. 54834.

For Location & Spacing Of Deck Drains, See Dwg. No. 54861

K40IE Placed As Shown In "SIDEWALK DETAIL" On Dwg. No. 54834 (Both Sidewalks)

**NOTES:**

Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pour (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing or sidewalk pours made before the entire slab unit has been placed must be approved by the Engineer. 72 hours shall elapse between the completion of the entire deck slab and the pouring of the sidewalk, and 72 hours shall elapse between the completion of the sidewalk and the pouring of the parapet railing.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

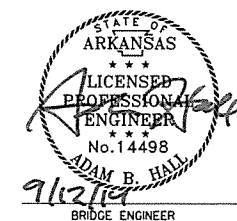
Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Diaphragm Pours: End of unit diaphragms and intermediate diaphragms shall be poured at least 48 hours prior to deck pours. Diaphragms at fixed bents shall be poured monolithically with the slab but shall not be poured until 90 days after girders are cast. See Dwg. Nos. 54833 & 54834 for section details.

③ For clarity, dimension is not drawn to scale.

**PART REINFORCING PLAN AND DECK POURING SEQUENCE**  
Scale: 3/16" = 1'-0"

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 \CLTDC\IT\Projects\2011\017505 - Arch Street Bridge Replacement\Drawings\BRC\902 - Plans\B060395\_S3.dgn  
 REVISED DATE:



SHEET 3 OF 7  
 DETAILS OF 184'-0" PRESTRESSED  
 CONCRETE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: DRG DATE: JAN. 2013 FILENAME: B060395\_S3.DGN  
 CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: JAN. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54835

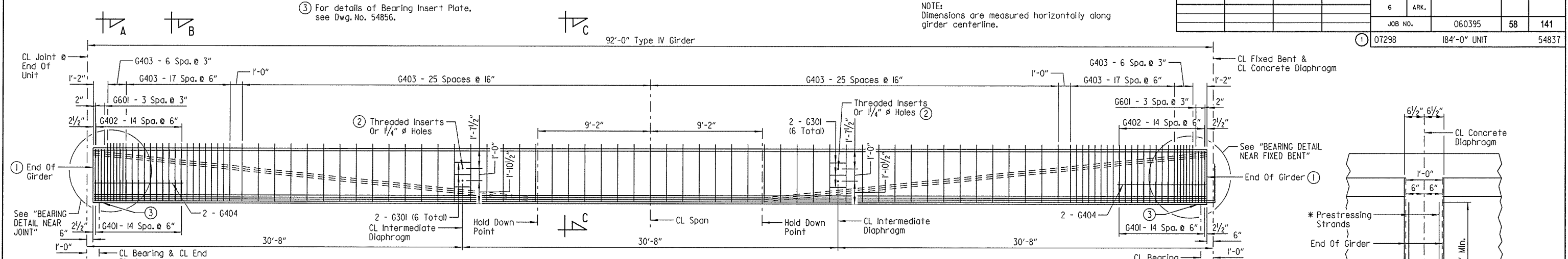




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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	58	141	
				07298	184'-0" UNIT		54837	

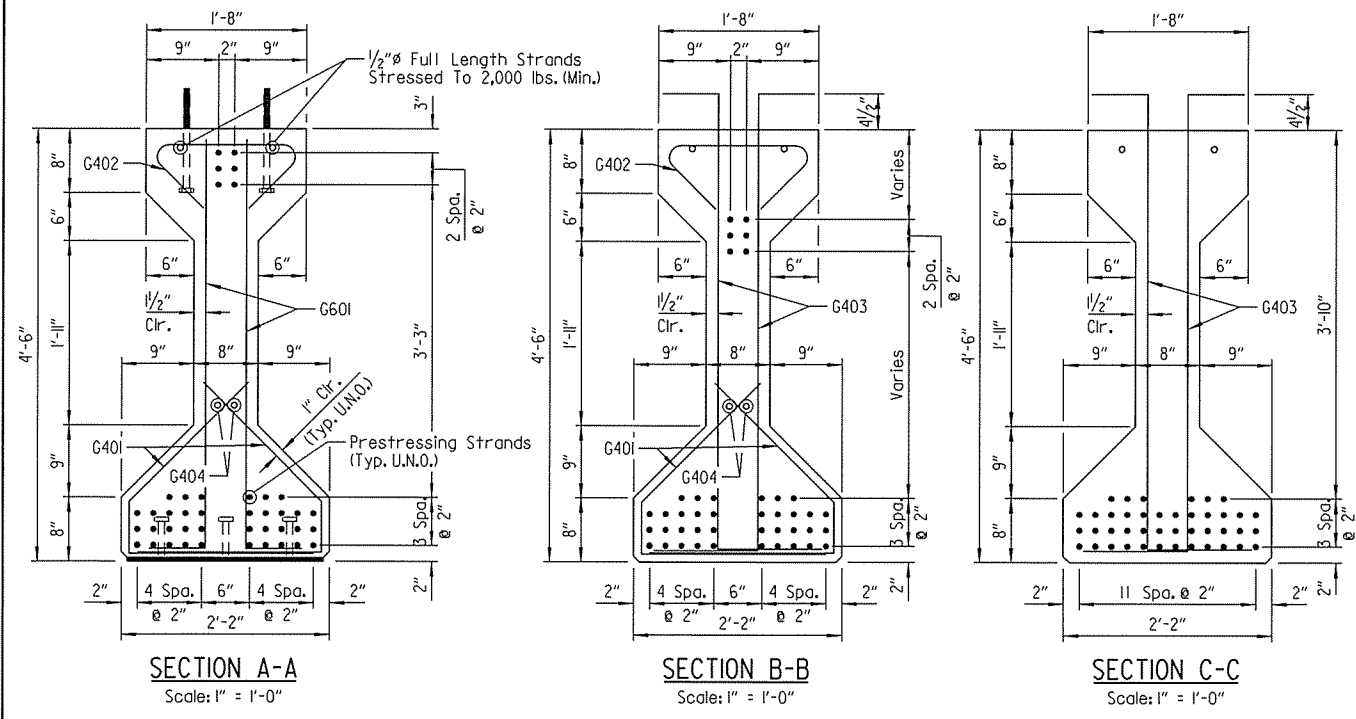
NOTE: Dimensions are measured horizontally along girder centerline.



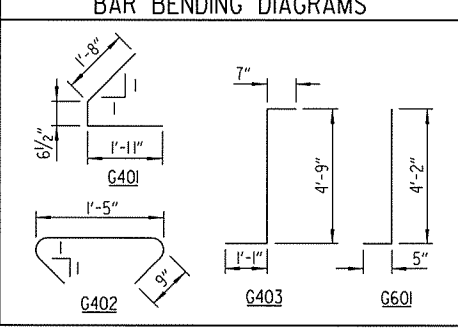
① Prestressing strands at ends of Unit (Bents 1, 3, 5, 7 & 9) shall be sawn flush with the end of the girder. Prestressing strands at fixed bents (Bents 2, 4, 6 & 8) shall be bent up into diaphragms as shown in "ELEVATION OF GIRDERS AT FIXED BENTS".

② 3/4" Galvanized Threaded Inserts (interior face of exterior girders) and 1/4" holes (interior girders) are for concrete diaphragms. For alternate steel diaphragms, see Dwg. No. 54833.

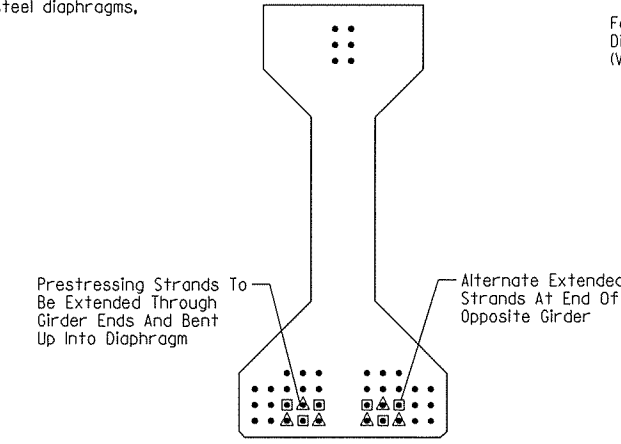
TYPICAL GIRDER ELEVATION (TYPE IV)  
Scale: 1/4" = 1'-0"



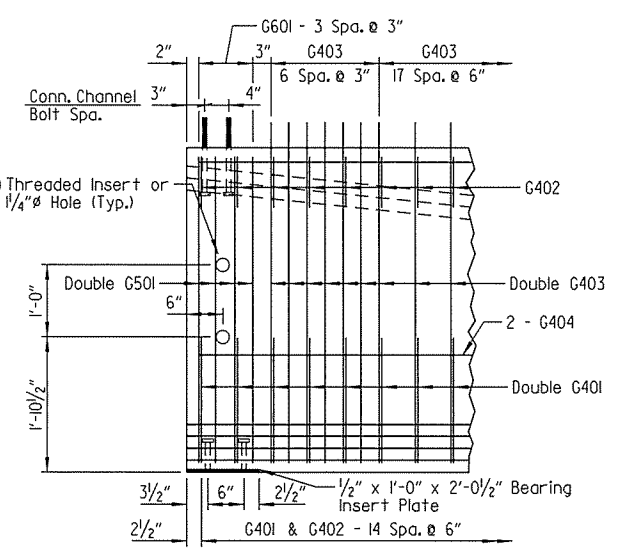
BAR LIST			
MARK	NO. REQ'D.	LENGTH	P.D.
G301	12	1'-3"	Str.
G401	60	4'-1"	2"
G402	30	3'-0"	3"
G403	198	6'-3"	2"
G404	4	7'-2"	Str.
G601	16	4'-5"	4 1/2"



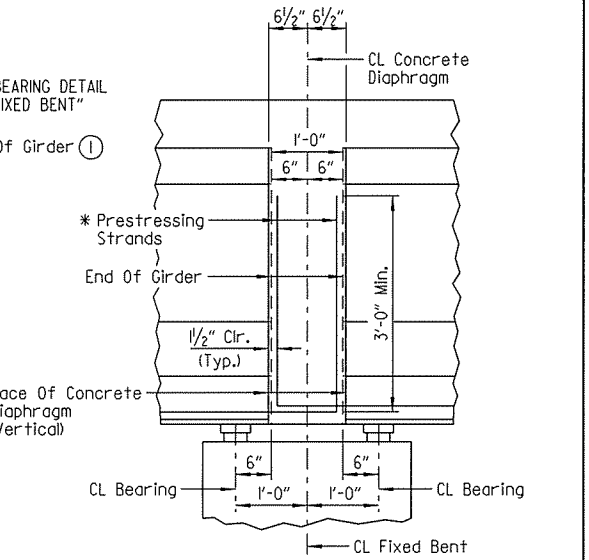
NOTES:  
 Dimensions of bars in bending diaphragm are out-to-out. Number of bars shown is for one girder only.  
 All bars in this list shall be subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".



POSITIVE MOMENT CONNECTIONS  
Scale: 1" = 1'-0"



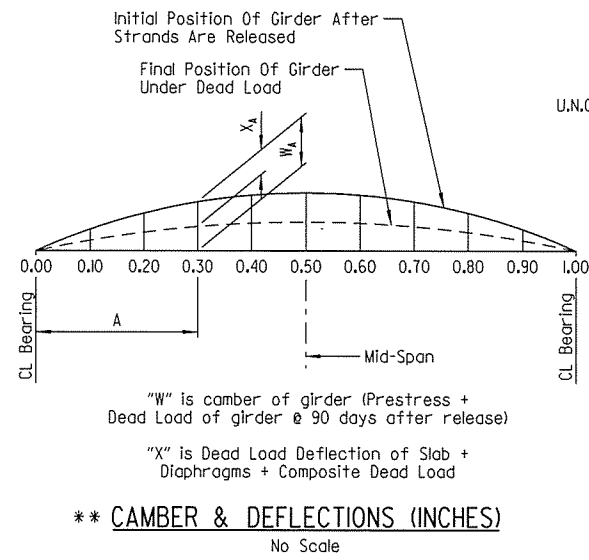
BEARING DETAIL NEAR JOINT  
Scale: 3/4" = 1'-0"



\* Shop bend 6 prestressing strands from each end of girder into diaphragm as required. See "POSITIVE MOMENT CONNECTIONS" for alternating pattern.

ELEVATION OF GIRDERS AT FIXED BENTS  
(Bent Nos. 2, 4, 6 & 8)  
Scale: 3/4" = 1'-0"

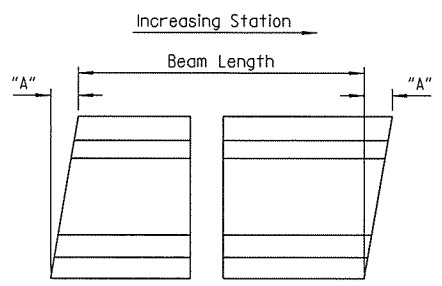
SPAN PT.	INCHES	
	W <sub>A</sub>	X <sub>A</sub>
0.00	0.00	0.00
0.10	1.017	0.353
0.20	1.801	0.686
0.30	2.361	0.942
0.40	2.701	1.100
0.50	2.814	1.156
0.60	2.701	1.100
0.70	2.361	0.942
0.80	1.801	0.686
0.90	1.017	0.353
1.00	0.00	0.00



\*\* CAMBER & DEFLECTIONS (INCHES)  
No Scale

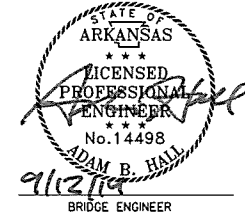
LEGEND  
 U.N.O. = Unless Noted Otherwise

\*\* Note:  
 Camber and deflection values shown are based on a concrete girder strength, f'c = 7000 psi. Greater strengths may require adjustments. See "SPECIAL CAMBER NOTES" on Dwg. No. 54839.



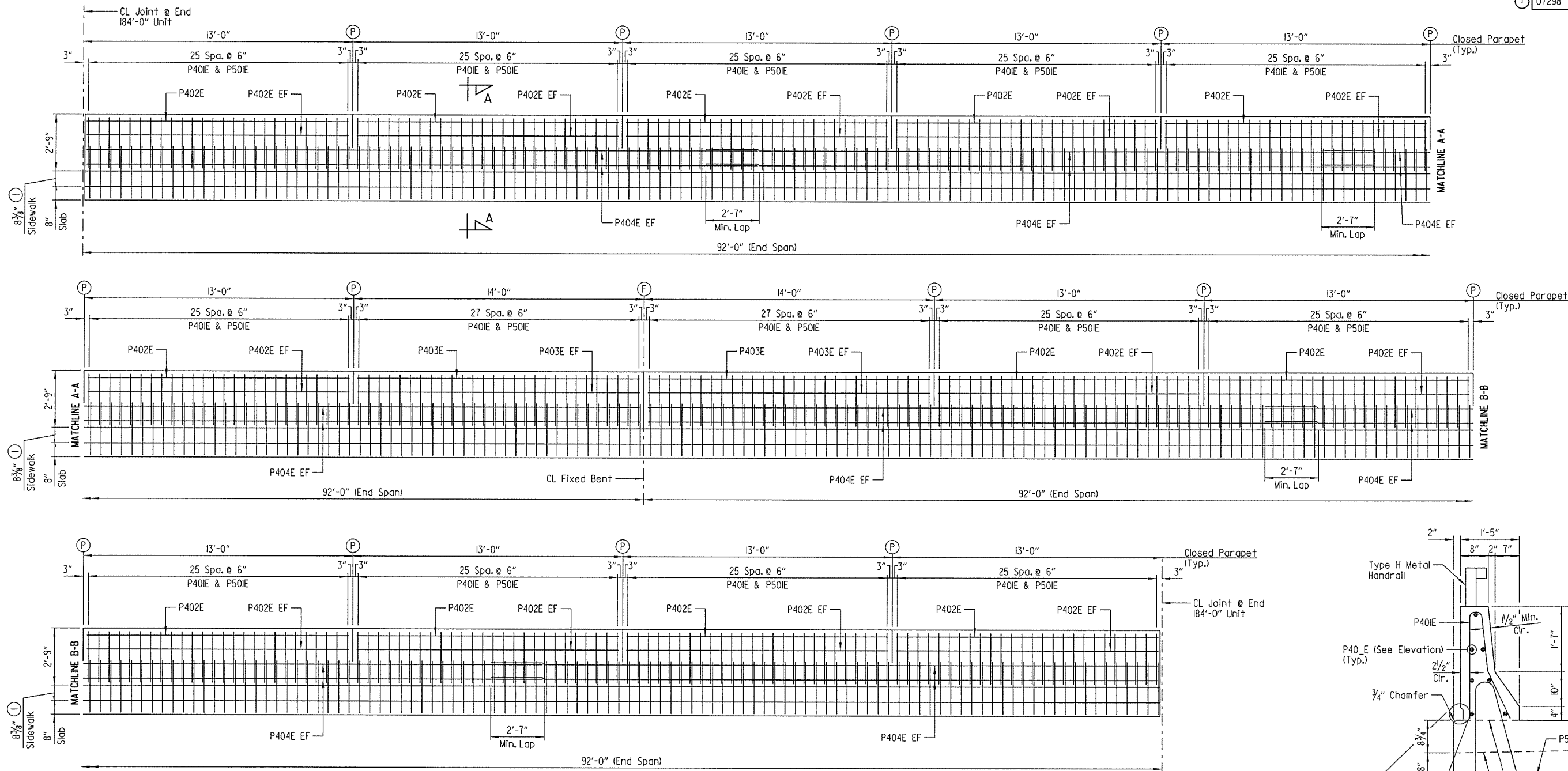
BEVEL DETAIL  
No Scale

TABLE OF BEAM BEVELS	
SPAN NO(S).	"A"
1-7	2"
8	1"



SHEET 5 OF 7  
 DETAILS OF 184'-0" PRESTRESSED CONCRETE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_S5.DGN  
 CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: JAN. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54837

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	59	141
				① 07298		184'-0" UNIT		54838



**PARAPET - ELEVATION**

(Looking At Inside Face of Parapet Rail)  
 (Left Parapet Shown, Right Parapet Symmetrical About CL Bridge)  
 Scale: 3/8" = 1'-0"

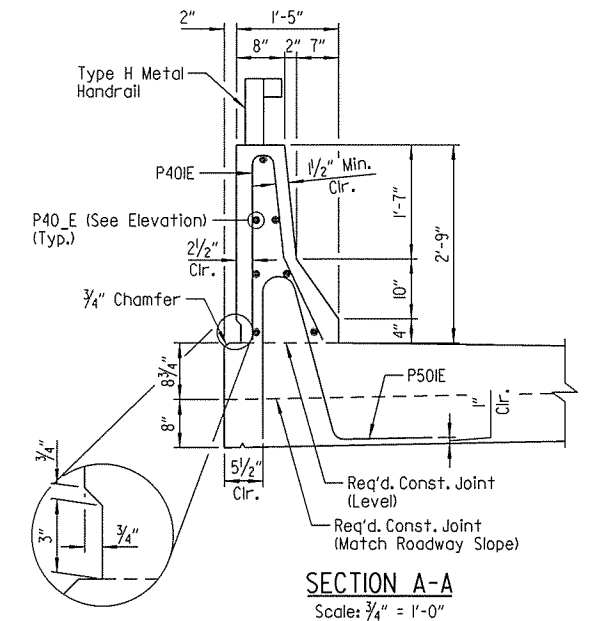
- Ⓟ CL Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. No. 54835, Stop 1'-2" from top of slab.
- Ⓡ CL Full-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. No. 54835, Stop 4" from top of slab.

① 8 3/8" sidewalk thickness typical at inside face of parapet. Sidewalk thickness at inside face of Right Parapet varies in area of super-elevation transition near Begin Bridge.

NOTE:  
 For "BAR LIST" and "BAR BENDING DIAGRAM", see Dwg. No. 54836.

**LEGEND**

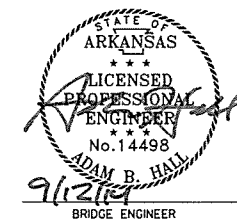
EF = Each Face



**SECTION A-A**  
 Scale: 3/4" = 1'-0"

SHEET 6 OF 7  
 DETAILS OF 184'-0" PRESTRESSED  
 CONCRETE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: JAN. 2013 FILENAME: B060395\_S6.DGN  
 CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: JAN. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54838



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 WORKSPACE: AHTD Bridge  
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 REVISED DATE:

**GENERAL NOTES**

**PRESTRESSED CONCRETE GIRDERS:**

Pretensioning steel shall be 1/2"  $\phi$  low relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M203.

Distances from the forms and spacing of the prestressing steel shall be maintained by stays, ties, hangers, spacers or other approved supports which shall be shown on the Shop Drawings.

All girders shall be Type IV as noted on the details and shall be the standard prestressing sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22.

Concrete shall be Class S and shall have a minimum 28-day compressive strength,  $f'c = 7,000$  psi. The initial tensile force applied to each 1/2"  $\phi$  strand shall be 31,000 lbs, except as noted. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 5,500 psi.

Dimensions shown are to the center of the strands.

The Contractor shall submit the method and sequence for release of strands to the Engineer for approval prior to casting of the girders.

The first 12" along the tops of the girders at beginning and end of unit shall have a smooth surface. The tops of the remaining length of the girders shall be rough floated at approximately the time of set. This portion of the tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding the slab.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

The points of support and directions of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.

Girder lengths shown on the design plans are net lengths measured horizontally along the girder centerlines. The girder manufacturer shall make the necessary allowances for grade and shortening due to elastic shortening, creep, and shrinkage.

Reinforcing steel shall be AASHTO M31 or M322 Type A, Gr. 60 ( $F_y = 60,000$  psi).

All exposed steel at ends of girders not extended into diaphragms at fixed bents shall be protected against corrosion by a coating of tar or other waterproofing material.

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with Subsection 802.22 except that only 1/2" diameter strands will be allowed.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted, and approved before fabrication is begun.

**REINFORCING STEEL:**

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Gr. 60. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "EPOXY COATED REINFORCING STEEL (GRADE 60)".

**CONCRETE:**

Concrete shall be poured in the dry, and all exposed corners shall be chamfered 3/4" unless otherwise noted. All concrete in slab, parapet and diaphragms shall be Class S(AE) with a minimum 28 day compressive strength,  $f'c = 4,000$  psi. All end of unit and mid-span diaphragms shall be cast-in-place and poured a minimum of 48 hours before the slab is poured. Fixed bent diaphragms shall be cast monolithically with the slab. Removable forms shall be used when pouring diaphragms. The slab and fixed bent diaphragms for the prestressed concrete girder units shall not be poured until at least 90 days after the release of the prestressing strands.

The superstructure details shown are for when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Std. Dwg. No. 55005 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a fine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. The 6'-6" sidewalk shall receive a broomed finish as specified in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the ralling. A minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the sidewalk, and a minimum of 72 hours shall elapse between the pouring of the sidewalk and the pouring of the parapet railing. Any ralling pours made before the entire slab has been placed and cured must be approved by the Engineer.

**STRUCTURAL STEEL:**

All structural steel shall be AASHTO M270, Gr. 50W unless noted otherwise, and all structural steel shall be paid for at the unit price per pound bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". All structural steel shall be cleaned in accordance with Subsection 807.84 unless noted otherwise. See Drawing No. 54857 for cleaning requirements of external load plates on elastomeric bearings.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on approved shop drawings. Shapes and materials shown in the plans will be the basis of payment, and no additional compensation will be made for any adjustments due to substitutions.

Drawings show general features of design only. Shop drawings shall be prepared in accordance with the specifications, submitted and approved before fabrication is begun.

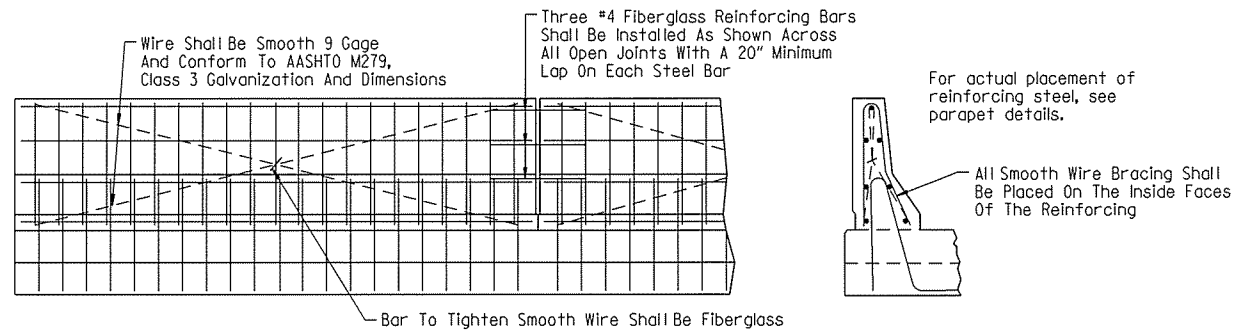
All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

**SPECIAL CAMBER NOTES**

The camber and dead load deflection values shown on the plans are estimated based on the required minimum concrete strength for the prestressed concrete girders. The Contractor shall provide the Engineer with the following information:

- A. Actual 28-day concrete strength of prestressed concrete girders
- B. Estimated age of prestressed concrete girders at time of erection
- C. Profile of each girder under its own weight.
- D. Number of days since release of strands of each girder.

Following receipt of the above data, the Engineer will provide an updated camber and deflection diagram to the Contractor.

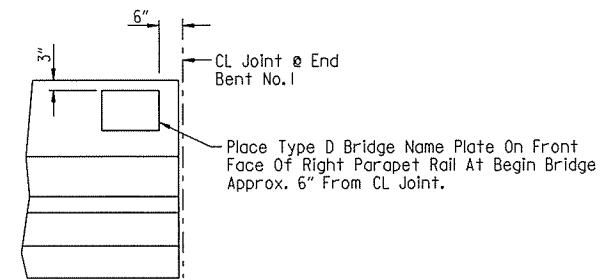


All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture.

**DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL**

No Scale

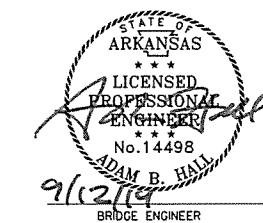


**VIEW SHOWING LOCATION OF NAME PLATE**

No Scale

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	60	141
				07298		184'-0" UNIT		54839

9/12/2014 12:16:10 PM  
 WORKSPACE: AHTD Bridge  
 \\GLITDCON\IT\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\90: Plans\B060395\_S7.dgn  
 REVISION DATE:



SHEET 7 OF 7  
 DETAILS OF 184'-0" PRESTRESSED  
 CONCRETE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: DRG DATE: OCT. 2013 FILENAME: B060395\_S7.DGN  
 CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: OCT. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54839

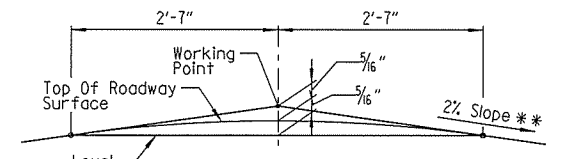
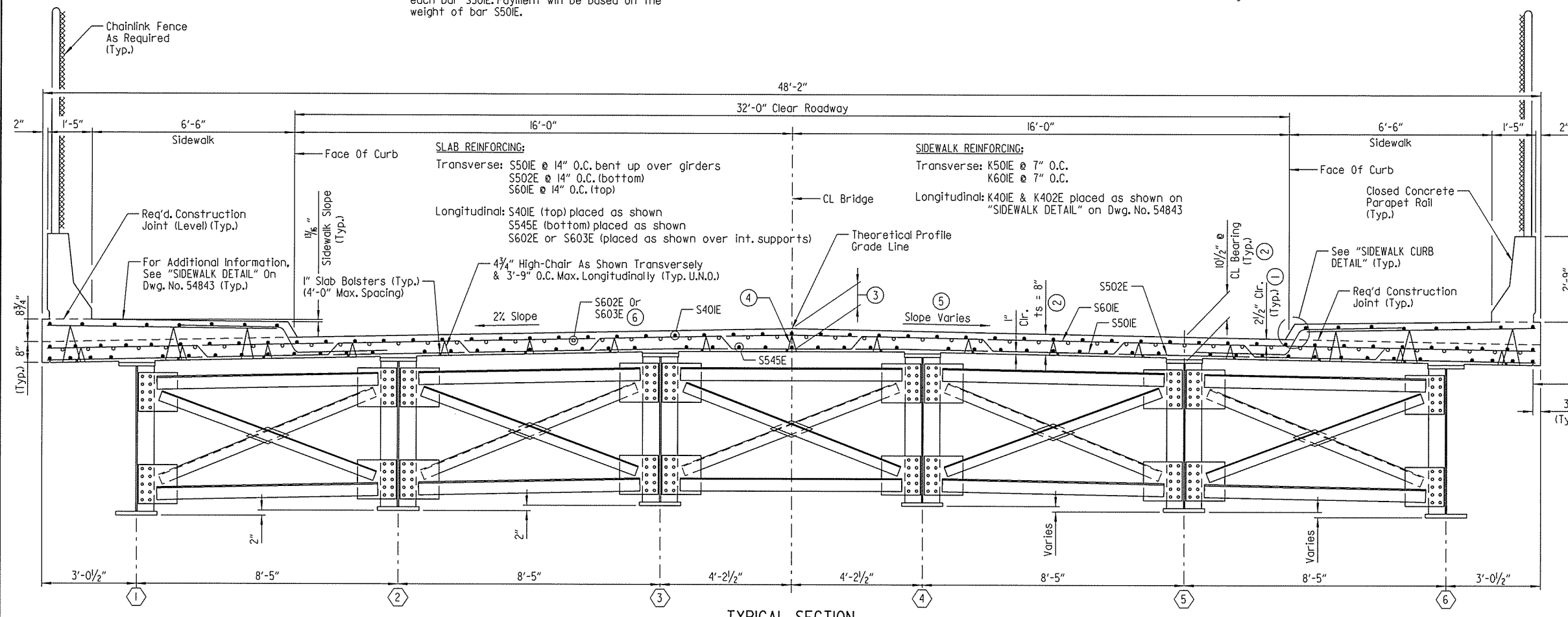
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	61	141
				07298		415'-0" UNIT		54840

Note:  
For hi-chair heights in sidewalk area, see "SIDEWALK DETAIL" on Dwg. No. 54843.

Note:  
At the Contractor's option, one epoxy coated #5 bar in the top and one epoxy coated #5 bar in the bottom may be substituted for each bar S501E. Payment will be based on the weight of bar S501E.

Note:  
Class I Protective Surface Treatment shall be applied to the roadway surface, face of curb, sidewalk surface and the face and top of concrete parapet rail.

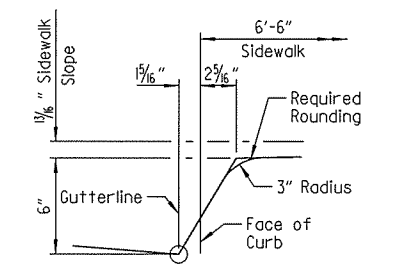
Note:  
Deck drains not shown for clarity. For deck drain layout and details, see Dwg. Nos. 54860 & 54861.



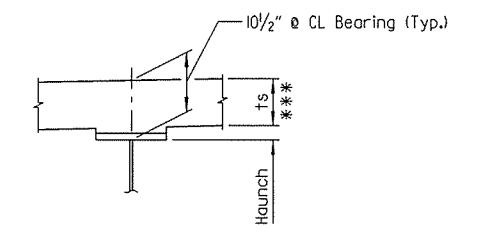
Note:  
Working Point matches Theoretical Profile Grade.

**ROUNDING DETAIL**  
No Scale

\*\* Values shown are for 2% peaked crown. Dimension for Working Point to top of roadway surface varies from 5/16" at Sta. 30+50.77 to 0" at Sta. 31+50.77.



**SIDEWALK CURB DETAIL**  
No Scale

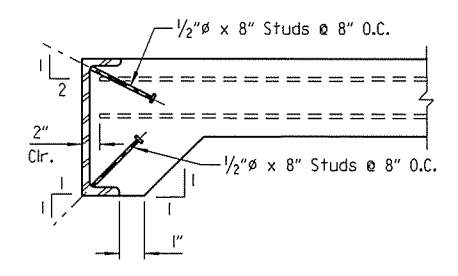


Note: ts = Slab Thickness as shown on "TYPICAL SECTION".  
\*\*\* Tolerance when removable deck forming is used is + 1/2", - 1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

**ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED**  
No Scale

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: minimum - occurs when the top flange contacts the bottom reinforcing steel; maximum - top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 1499I for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.



**DETAIL OF ALTERNATE ANCHORS**  
No Scale

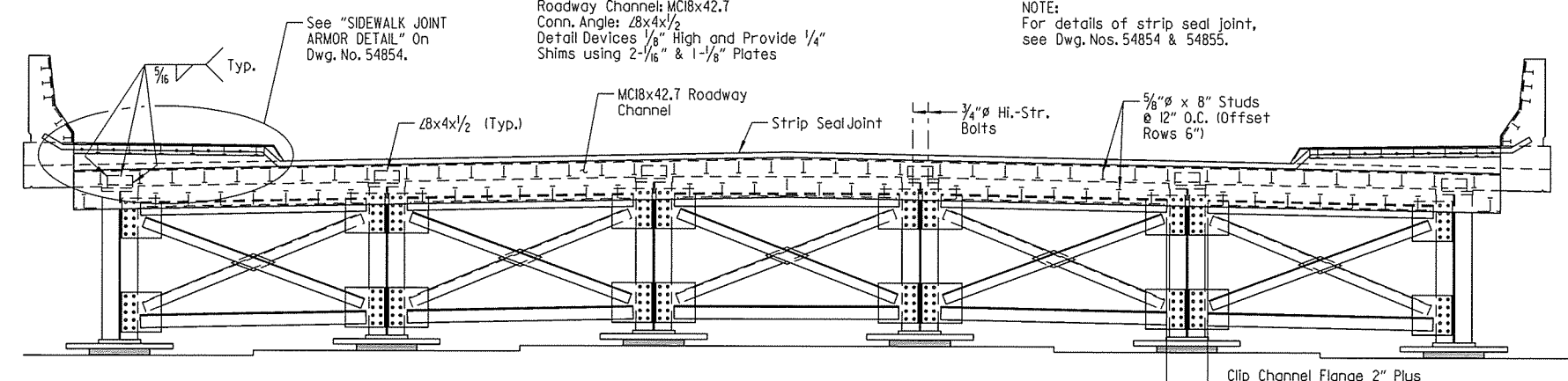
NOTE:  
As an alternate to 5/8" studs, 1/2" @ x 8" studs spaced as shown may be used. Use weight of 5/8" stud as basis of measurement of structural steel.

- ① TOLERANCE:  
Minus = 1/4"  
Plus = Amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".
- ② See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".
- ③ Varies From 8 7/8" (Measured To Working Point) @ 2% Peaked Crown To 8" @ Constant Superelevation. See "ROUNDING DETAIL"

- ④ Adjust hi-chair heights in this bay as necessary to maintain 2 1/2" clear cover to top transverse bars.
- ⑤ See "SUPERELEVATION TRANSITION NEAR END BRIDGE" on Dwg. No. 54816.
- ⑥ Placed as shown over fixed bents. See "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842.

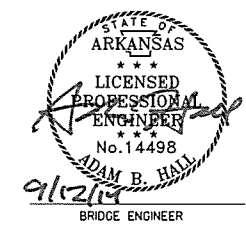
EXPANSION DEVICE:  
Roadway Channel: MC18x42.7  
Conn. Angle: 2Bx4x1/2  
Detail Devices 1/8" High and Provide 1/4" Shims using 2-1/16" & 1-1/8" Plates

NOTE:  
For details of strip seal joint, see Dwg. Nos. 54854 & 54855.



**TYPICAL SECTION THRU JOINT**  
(Looking Forward At Bent No. 9)  
(Looking Back At Bent No. 12)  
No Scale

**LEGEND**  
EF = Each Face  
U.N.O. = Unless Noted Otherwise



SHEET 1 OF 13  
DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: JAN. 2013 FILENAME: B060395\_SB.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54840

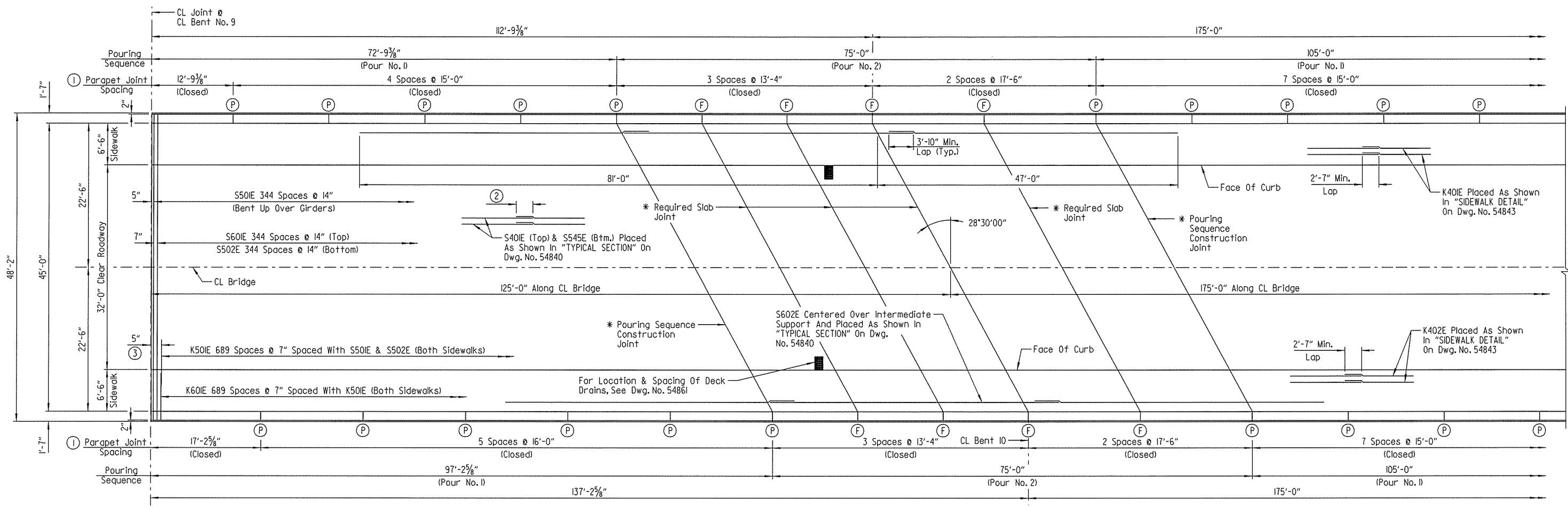
9/12/2014 12:16:11 PM  
 WORKSPACE: AHTD Bridge  
 \\GLTIDCON\ITP\Projects\2011\017505 - Arch Street Bridge Replacement\Drawings\BRC\907\_Plan\B060395\_SB.dgn  
 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	62	141
				07298		415'-0" UNIT		54841

① Parapet joints designated with symbol (F) shall be stopped 4" from top of slab. All other parapet joints with symbol (P) shall be partial depth joints stopped 1'-2" from top of slab.

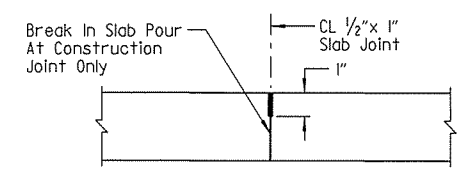
\* NOTE:  
Required slab joints and pouring sequence construction joints shall align with parapet open joints. See "SLAB JOINT DETAIL".

② Provide 2'-7" Min. Lap Splice For #4 (Top) Bars & 3'-3" Min. Lap Splice For #5 (Btm.) Bars.



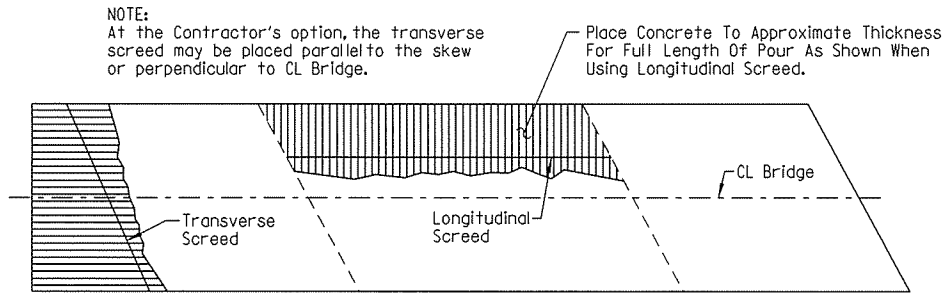
③ For clarity, dimension is not drawn to scale.

**PART REINFORCING PLAN AND DECK POURING SEQUENCE**  
Scale: 1/8" = 1'-0"



The 1/2" x 1" Poured Joint Sealer (Type 3 or 4) in slab shall conform to Subsection 501.02(h) and 501.05(j). Backer Rod filler will not be required. The Poured Joint Sealer shall be paid for as "CLASS (SAE) CONCRETE-BRIDGE". Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the sidewalk is poured. The slab joints in the sidewalk shall extend to the outside of the sidewalk and shall be installed before parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab and across the top of the sidewalk. No joint sealer shall be placed on the deck slab under the sidewalk or parapet rail. Slab joints and pouring sequence joints shall align with parapet open joints.

**SLAB JOINT DETAIL**  
No Scale



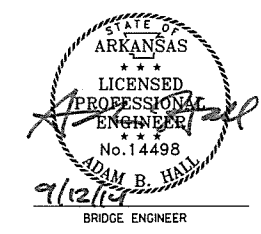
NOTE:  
At the Contractor's option, the transverse screed may be placed parallel to the skew or perpendicular to CL Bridge.

**CONCRETE PLACEMENT PROCEDURE**  
No Scale

NOTES:  
Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pour (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing or sidewalk pours made before the entire slab unit has been placed must be approved by the Engineer. 72 hours shall elapse between the completion of the entire deck slab and the pouring of the sidewalk, and 72 hours shall elapse between the completion of the sidewalk and the pouring of the parapet railing.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.



SHEET 2 OF 13  
DETAILS OF 415'-0" CONTINUOUS  
COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: JAN. 2013 FILENAME: B060395\_S9.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54841

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 WORKSPACE: AHTD Bridge  
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 REVISION DATE:

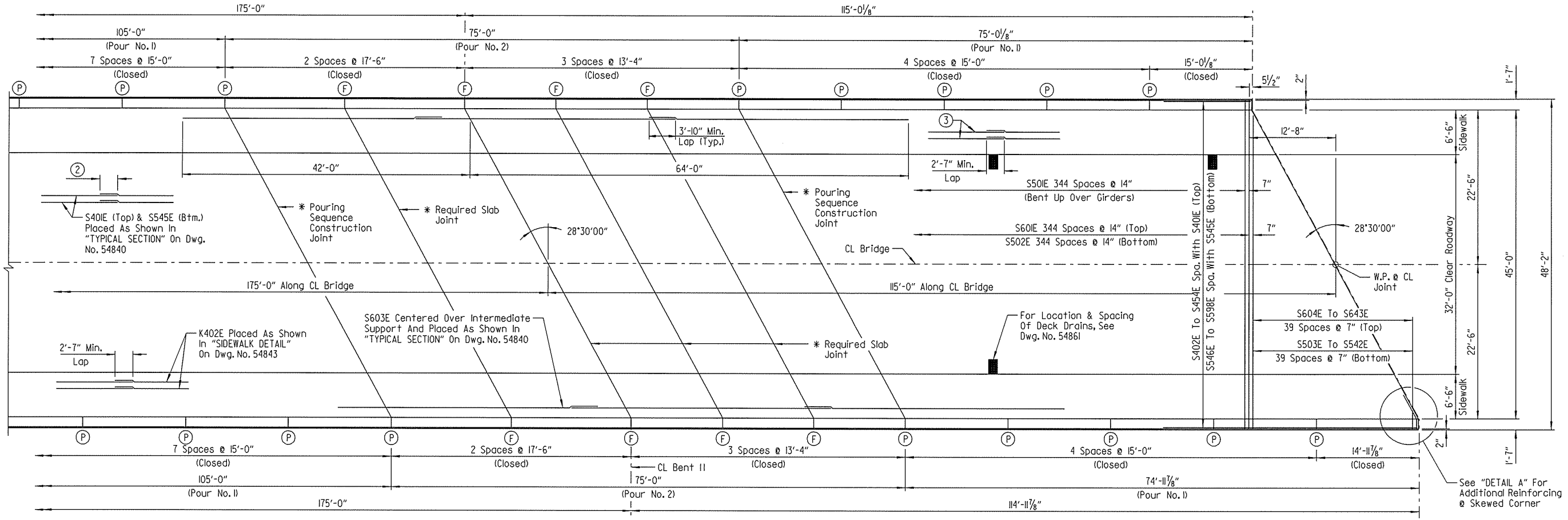
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				6	ARK.			
				JOB NO.	060395		63	141
				① 07298	415'-0" UNIT		54842	

① Parapet joints designated with symbol (F) shall be stopped 4" from top of slab. All other parapet joints with symbol (P) shall be partial depth joints stopped 1'-2" from top of slab.

② Provide 2'-7" Min. Lap Splice For #4 (Top) Bars & 3'-3" Min. Lap Splice For #5 (Btm.) Bars.

③ K40IE Placed As Shown In "SIDEWALK DETAIL" On Dwg. No. 54843

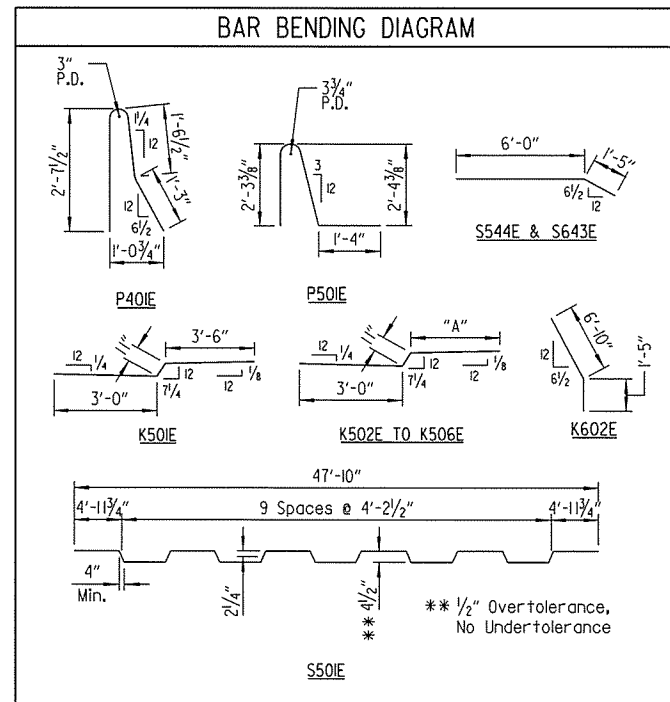
\* NOTE: Required slab joints and pouring sequence construction joints shall align with parapet open joints. See "SLAB JOINT DETAIL" on Dwg. No. 54841.



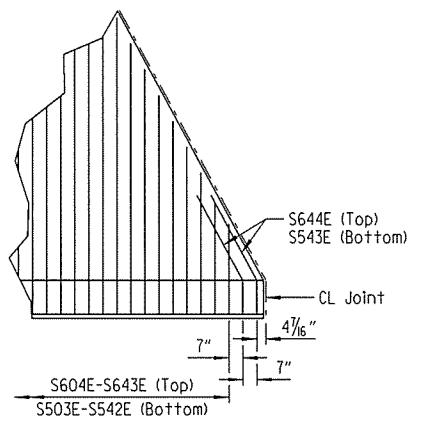
PART REINFORCING PLAN AND DECK POURING SEQUENCE  
Scale: 1/8" = 1'-0"

BAR LIST			
Mark	No. Req'd.	Length	P.D.
S40IE	583	38'-0"	Str.
S402E TO S454E	1 Each	13'-6"	Str.
S50IE	345	48'-11"	3"
S502E	345	47'-10"	Str.
S503E TO S542E	1 Each	45'-7"	Str.
S543E	2	7'-5"	3"
S545E	371	58'-0"	Str.
S546E TO S598E	1 Each	20'-0"	Str.
S598E		44'-6"	
S60IE	345	47'-10"	Str.
S602E	156	45'-3"	Str.
S603E	156	37'-11"	Str.
S604E TO S643E	1 Each	45'-7"	Str.
S643E		2'-8"	
S644E	2	7'-5"	4 1/2"

BAR LIST (CONTINUED)				
Mark	No. Req'd.	"A"	Length	P.D.
P40IE	1653		5'-6"	3"
P402E	3		12'-5"	Str.
P403E	84		14'-8"	Str.
P404E	68		13'-0"	Str.
P405E	40		17'-2"	Str.
P406E	12		30'-4"	Str.
P407E	32		36'-11"	Str.
P408E	24		31'-1"	Str.
P409E	15		15'-8"	Str.
P410E	3		16'-10"	Str.
P411E	12		38'-6"	Str.
P50IE	1653		6'-1"	3 3/4"
K40IE	88		39'-3"	Str.
K402E	96		37'-11"	Str.
K50IE TO K506E	1 Each	5'-6"	9'-5"	2 1/2"
K506E		1'-3"	5'-2"	
K60IE	1412		7'-7"	Str.
K602E	4		8'-3"	4 1/2"
K603E TO K608E	1 Each		7'-9"	Str.
K608E			2'-5"	
K609E	1		8'-3"	Str.

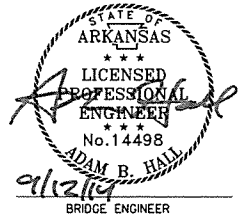


NOTE: Dimensions of bars are out-to-out. Bar designations ending with "E" indicate epoxy coated bars.



DETAIL A  
Scale: 1/4" = 1'-0"

NOTE: See Dwg. Nos. 54849-54852 for parapet reinforcing details.



SHEET 3 OF 13  
DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: JAN. 2013 FILENAME: 8060395\_SIO.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54842

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 WORKSPACE: AHTD Bridge  
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 REVISION DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	64	141	
				07298	415'-0" UNIT			54843

**GENERAL NOTES**

**CONCRETE:**

Concrete shall be poured in the dry, and all exposed corners shall be chamfered 3/4" unless otherwise noted. All concrete shall be Class (SAE) with a minimum 28 day compressive strength f'c = 4,000 psi.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurements of Class (SAE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a tined finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. The 6'-6" sidewalk shall receive a broomed finish as specified in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing. A minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the sidewalk, and a minimum of 72 hours shall elapse between the pouring of the sidewalk and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

**REINFORCING STEEL:**

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "EPOXY COATED REINFORCING STEEL (GRADE 60)".

**STRUCTURAL STEEL:**

All structural steel shall be AASHTO M270, Gr. 50W unless noted otherwise, and all structural steel shall be paid for at the unit price per pound bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". All exposed surfaces shall be cleaned in accordance with Subsection 807.84 unless noted otherwise. Structural steel completely embedded in concrete may be AASHTO M270 Gr. 36 unless noted otherwise. See Drawing No. 54857 for cleaning requirements of external load plates on elastomeric bearings.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Drawings show general features of design only. Shop drawings shall be prepared in accordance with Subsection 807.04, submitted and approved before fabrication is begun.

Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of plan quantities.

All girder webs, flanges of plate girders, and splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly but are considered as subsidiary to the item "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".

Steel plates for main load carrying members (flange and web plates) and flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with a minimum length of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with a minimum length of 25'-0" for sections. Material specifications and locations of shop-welded splices, if any, shall be shown on the shop drawings. No additional payment for these welded splices will be made.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

All girders shall be blocked in their true positions with webs horizontal in the shop as specified in Subsection 807.54 (b)(2). The camber, length of sections, distance between bearings and opening of joints shall be measured with the girders in their true positions and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60°F. A tolerance of +/- 1/4" is allowed for camber.

Groove welds in flange and web plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications. Fillet welds at flange to web plate connections shall be Quality Control (Q.C.) tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the Contractor's expense.

All connection plates and intermediate stiffeners shall be fabricated normal to the top flange and on the side of the girder web as indicated on the framing plan. No intermediate stiffeners are to be placed on the outside of the exterior girders except as noted. All bearing stiffeners shall be fabricated to be plumb in their final positions.

Crossframes shall be installed as girders are erected. All bolts in crossframes and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring of the concrete deck.

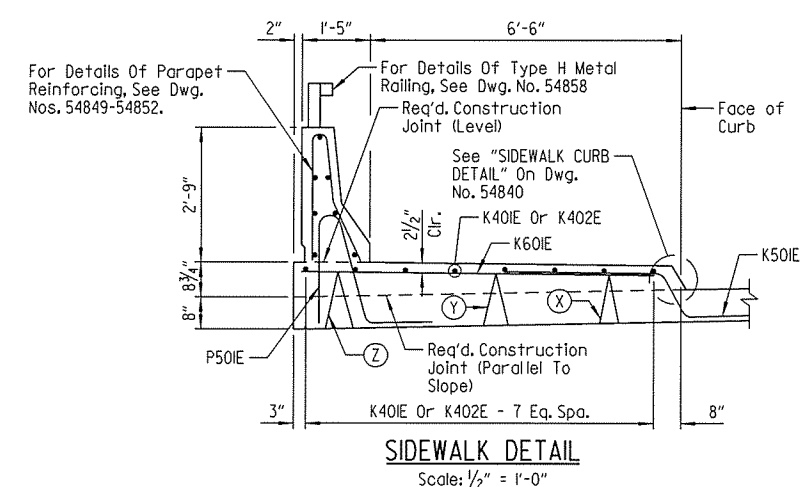
Field connections shall be bolted with high-strength bolts and shall be 7/8" bolts unless otherwise noted. Open holes shall be 1/8" unless otherwise noted. Holes for 1/8" high-strength bolts may be 1/16" if a washer is supplied for use under both the nut and head of the bolt. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of the girder flanges.

All contact surfaces between plates at field splices shall be free of oil, rust or scale before assembly.

All stud shear connectors shall be granular flux filled, solid fluxed or equal and shall be automatically end welded in accordance with recommendations of the Manufacturer.

Bearings shall be firmly seated in accordance with Subsection 808.08. This work is to be considered subsidiary to the item "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)" and will not be paid for directly.

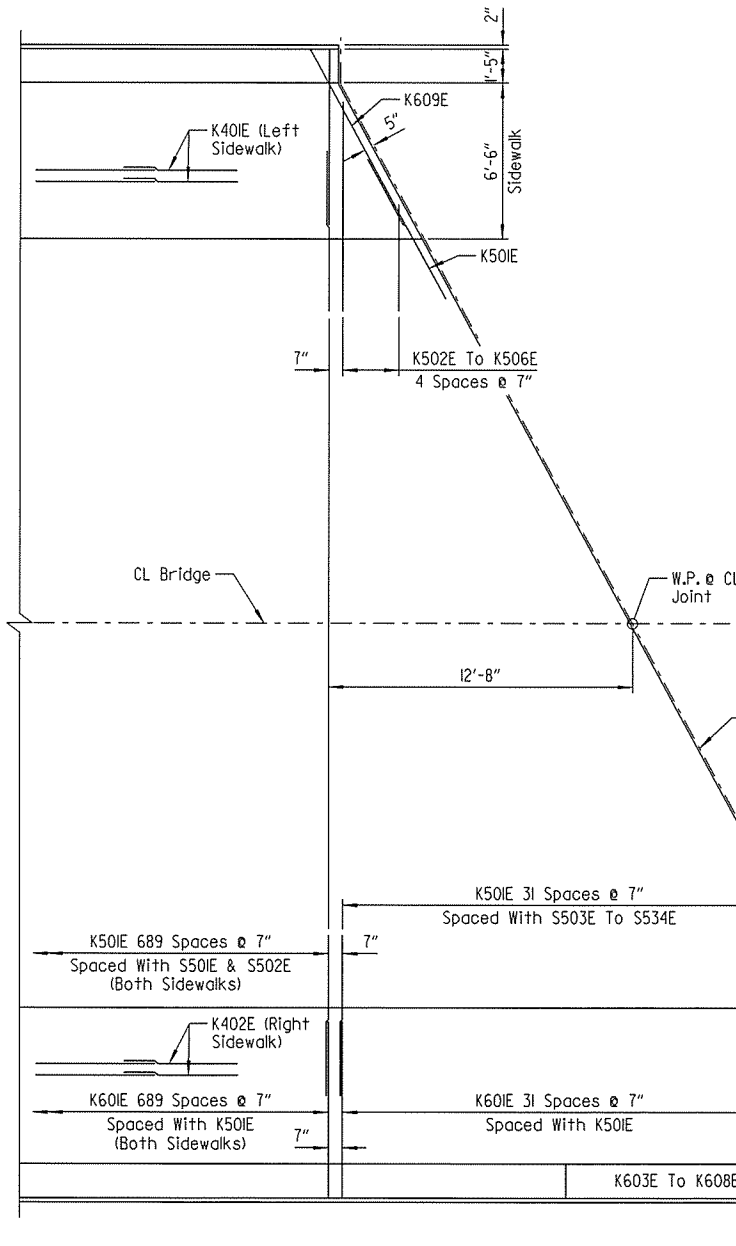
Anchor bolts shall be AASHTO designation M314 Gr. 55, including supplemental requirement SI, and shall be galvanized to conform to AASHTO M232, Class C or ASTM B695 Class 50. Anchor bolts will be paid for at the contract unit price bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".



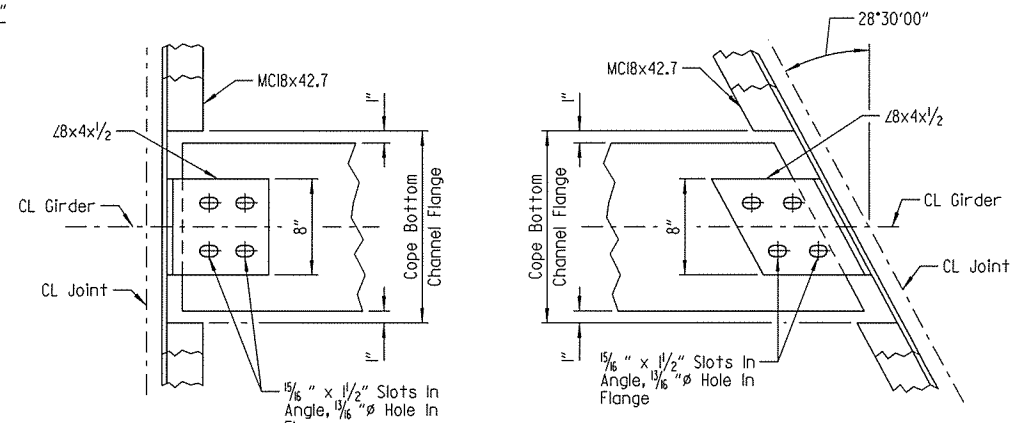
**SIDEWALK DETAIL**  
Scale: 1/2" = 1'-0"

NOTE:  
Deck reinforcement not shown for clarity.

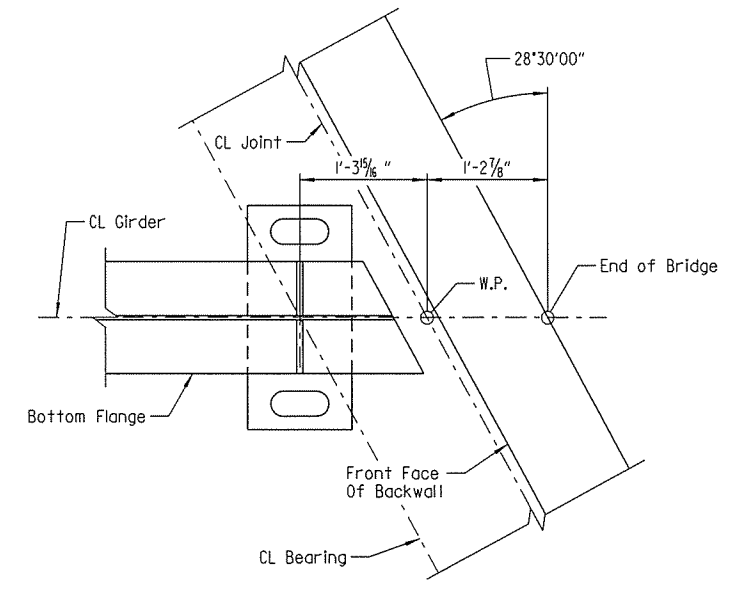
ⓧ 1 1/2" Max. Hi-Chairs @ 3'-9" Longitudinally  
Ⓨ 12 1/2" Max. Hi-Chairs @ 3'-9" Longitudinally  
Ⓩ 13 1/4" Max. Hi-Chairs @ 3'-9" Longitudinally



**SIDEWALK REINFORCING NEAR END BRIDGE**  
Scale: 1/4" = 1'-0"



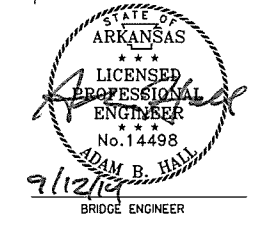
**BENT 9**  
**BENT 12**  
**CHANNEL CONNECTION DETAIL**  
Scale: 1/2" = 1'-0"



**BEARING PLAN AT END BENT 12**  
Scale: 1" = 1'-0"

SHEET 4 OF 13  
DETAILS OF 415'-0" CONTINUOUS  
COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

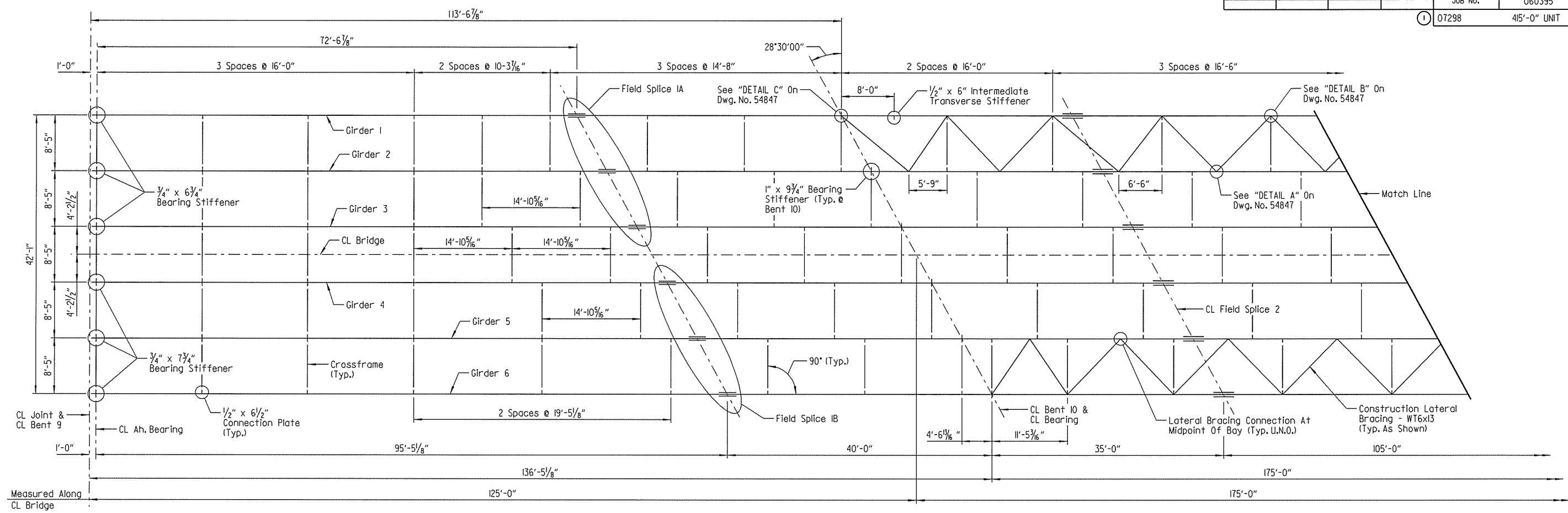
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CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54843



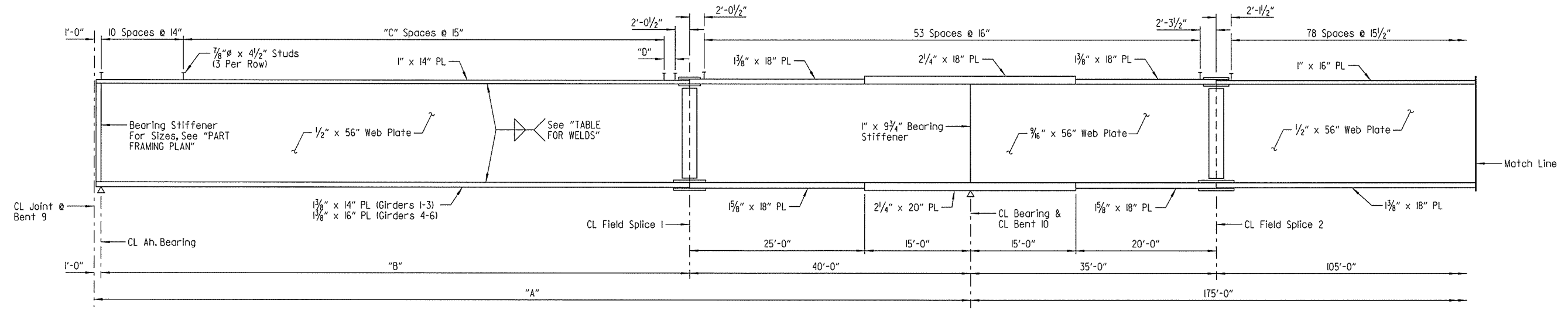
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 REVISION DATE:



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	65	141	
				07298	415'-0" UNIT		54844	



**PART FRAMING PLAN**  
Scale: 1/8" = 1'-0"



**PART GIRDER ELEVATION**  
No Scale

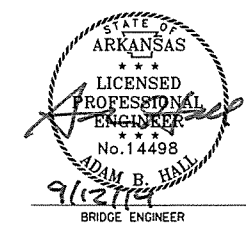
GIRDER	"A"	"B"	"C"	"D"
1	113'-6 7/8"	72'-6 7/8"	46	16 3/8"
2	118'-1 3/4"	77'-1 3/4"	50	11 1/4"
3	122'-8 1/8"	81'-8 1/8"	54	6"
4	127'-3 3/8"	86'-3 3/8"	57	16"
5	131'-10 1/4"	90'-10 1/4"	61	10 3/4"
6	136'-5 1/8"	95'-5 1/8"	65	5 7/8"

Material Thickness Of Thicker Part Joined (Inches)	Minimum Size Of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	Used

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

**LEGEND**  
U.N.O. = Unless Noted Otherwise

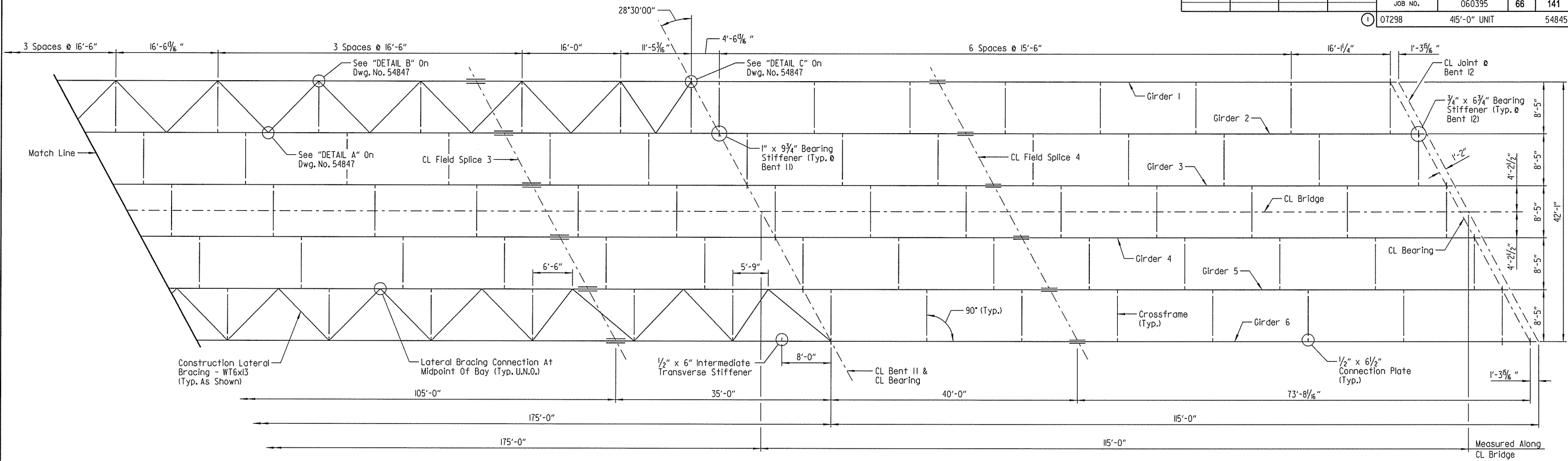
NOTES:  
For "BEARING STIFFENER DETAIL", "CONNECTION PLATE & INTERMEDIATE TRANSVERSE STIFFENER DETAIL" & "CROSSFRAME DETAIL", see Dwg. No. 54847.  
For "GENERAL NOTES", see Dwg. No. 54843.



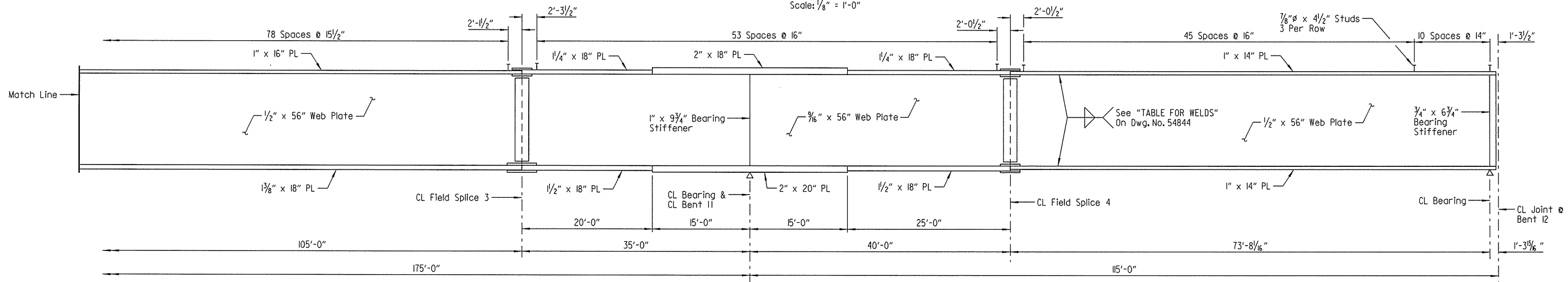
SHEET 5 OF 13  
DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: MAR. 2013 FILENAME: B060395\_S12.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: ABH DATE: MAR. 2013  
BRIDGE NO. 07298 DRAWING NO. 54844

9/12/2014 12:16:14 PM  
 WORKSPACE: AHTD Bridge  
 \\GLTDCON\IT\Projects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_S12.dgn  
 REVISED DATE:

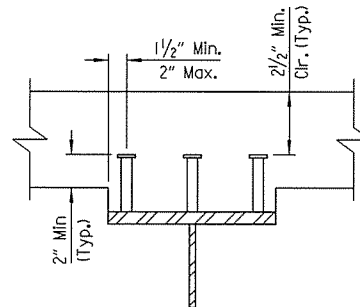
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	66	141
				07298		415'-0" UNIT		54845



**PART FRAMING PLAN**  
Scale: 1/8" = 1'-0"



**PART GIRDER ELEVATION**  
No Scale



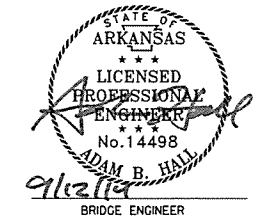
**SHEAR CONNECTOR DETAIL**  
No Scale

Stud shear connectors shown shall be 1/8"Ø x 4 1/2" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the Manufacturer. 3/4"Ø studs may be used in place of the 1/8"Ø studs shown, at the ratio of 1.361 - 3/4"Ø studs in place of one 1/8"Ø stud. 1/8"Ø studs will be used as basis for measurement of structural steel.

**LEGEND**

U.N.O. = Unless Noted Otherwise

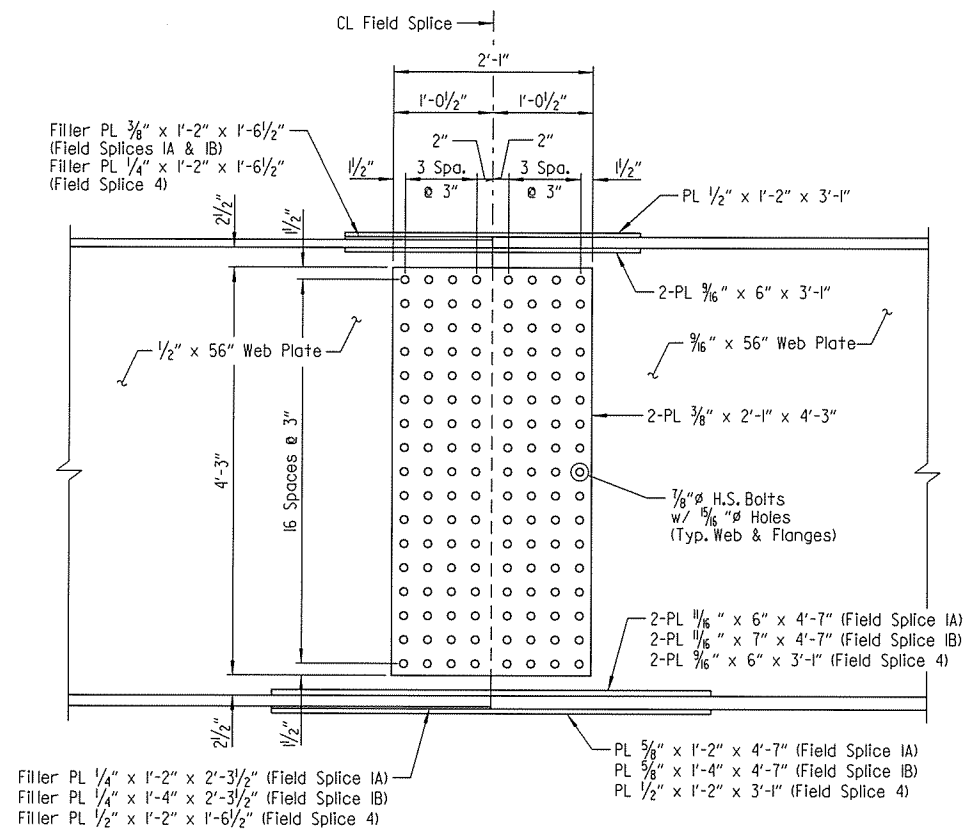
NOTES:  
For "BEARING STIFFENER DETAIL", "CONNECTION PLATE & INTERMEDIATE TRANSVERSE STIFFENER DETAIL" & "CROSSFRAME DETAIL", see Dwg. No. 54847.  
For "GENERAL NOTES", see Dwg. No. 54843.



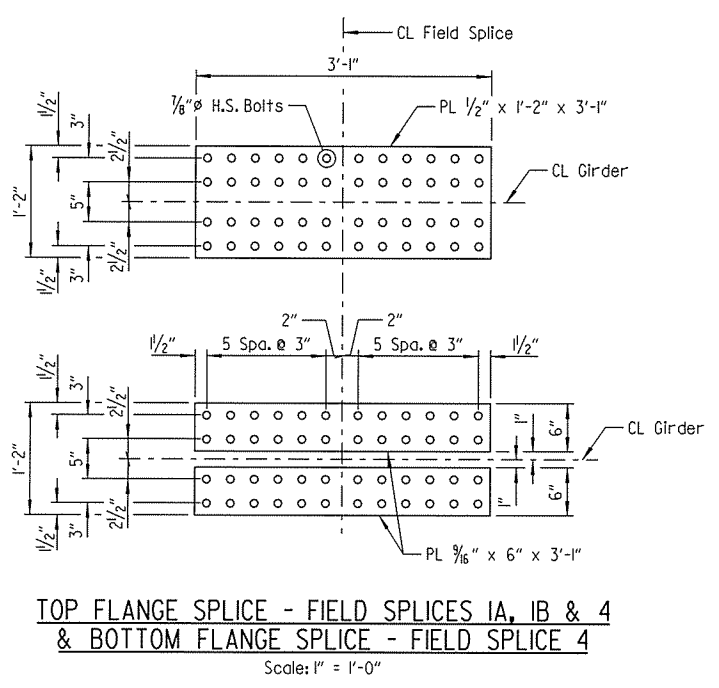
SHEET 6 OF 13  
DETAILS OF 415'-0" CONTINUOUS  
COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: MAR. 2013 FILENAME: B060395\_S13.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: ABH DATE: MAR. 2013  
BRIDGE NO. 07298 DRAWING NO. 54845

9/12/2014 12:46:20 PM  
 WORKSPACE: AHTD Bridge  
 \\GLTDC001\ITProjects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_S13.dgn  
 REVISED DATE:

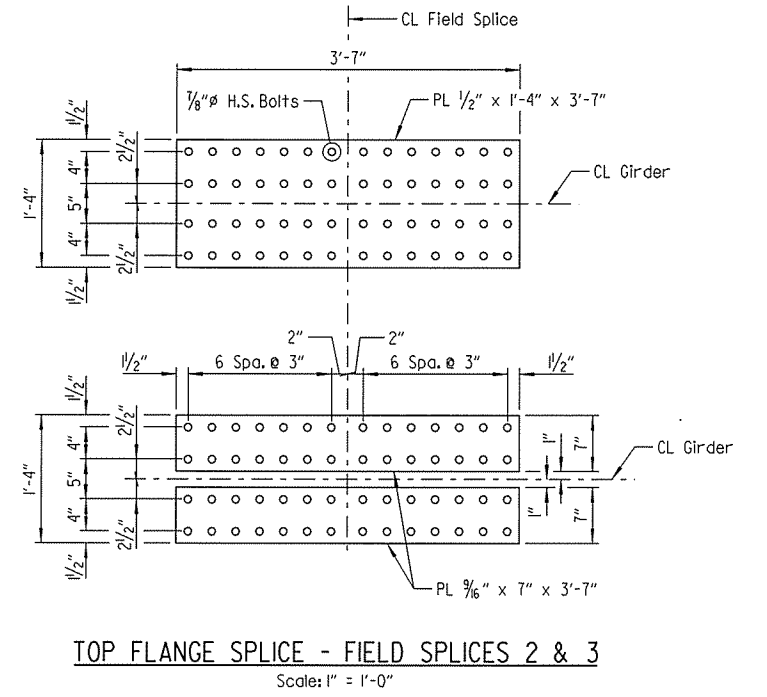
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	67	141	
				07298	415'-0" UNIT		54846	



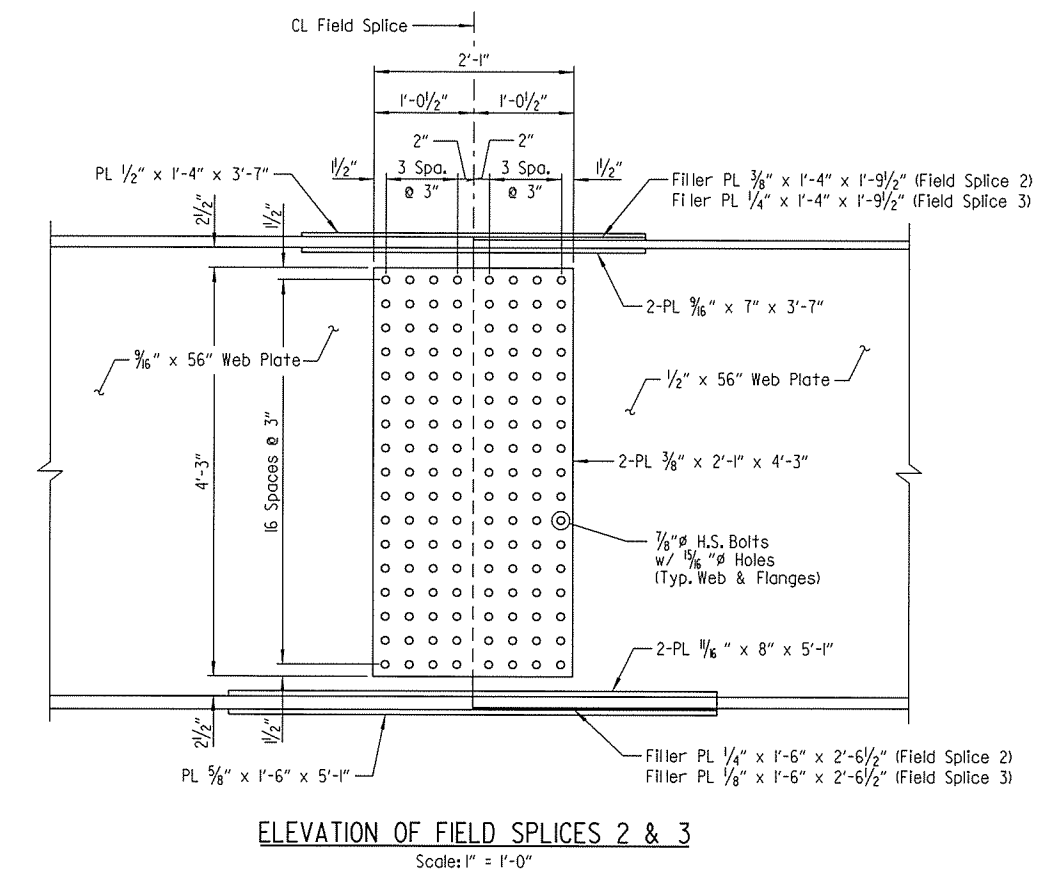
**ELEVATION OF FIELD SPLICES IA, IB & 4**  
Scale: 1" = 1'-0"



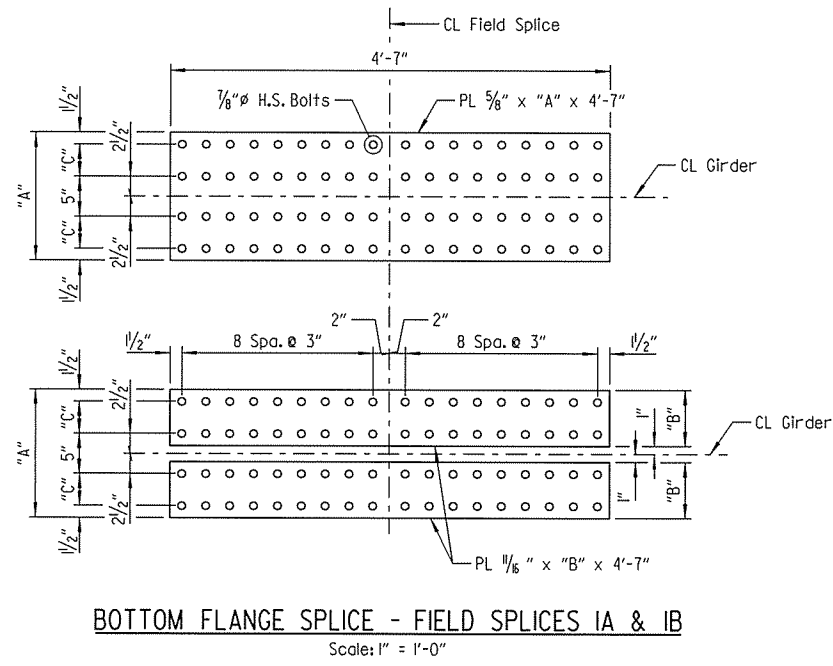
**TOP FLANGE SPLICE - FIELD SPLICES IA, IB & 4  
& BOTTOM FLANGE SPLICE - FIELD SPLICE 4**  
Scale: 1" = 1'-0"



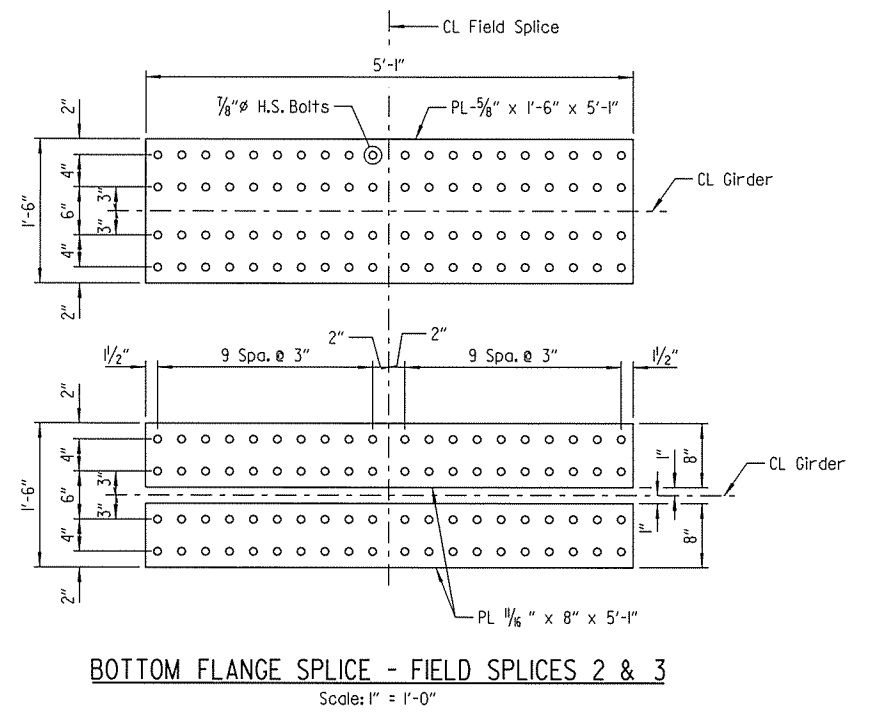
**TOP FLANGE SPLICE - FIELD SPLICES 2 & 3**  
Scale: 1" = 1'-0"



**ELEVATION OF FIELD SPLICES 2 & 3**  
Scale: 1" = 1'-0"



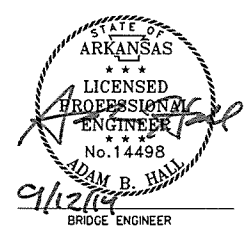
**BOTTOM FLANGE SPLICE - FIELD SPLICES IA & IB**  
Scale: 1" = 1'-0"



**BOTTOM FLANGE SPLICE - FIELD SPLICES 2 & 3**  
Scale: 1" = 1'-0"

**NOTES:**  
All field splice bolts shall be 7/8" H.S. bolts.  
All holes for splice bolts shall be 15/16".  
All field splice plates shall be AASHTO M270, Gr. 50W steel.  
Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

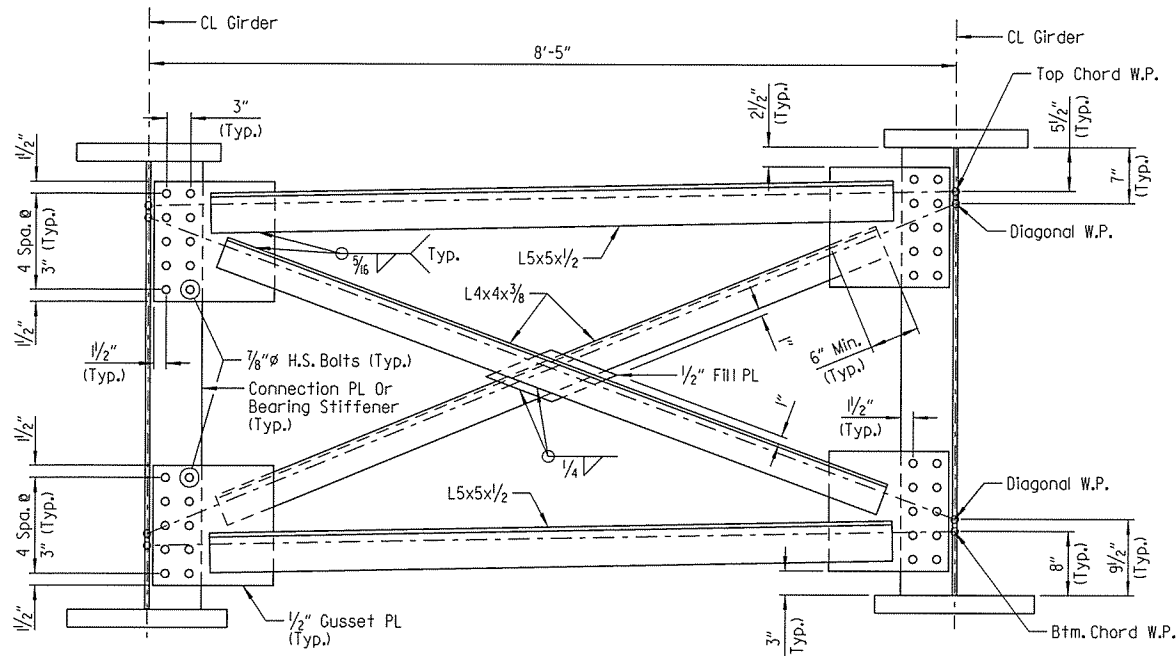
TABLE OF VARIABLES			
Field Splice	"A"	"B"	"C"
IA	1'-2"	6"	3"
IB	1'-4"	7"	4"



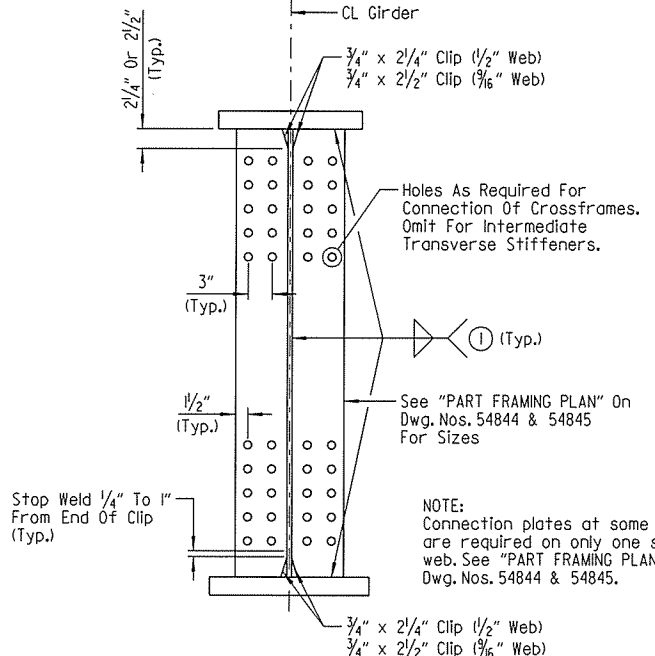
SHEET 7 OF 13  
DETAILS OF 415'-0" CONTINUOUS  
COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: MAR. 2013 FILENAME: B060395\_S14.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: ABH DATE: MAR. 2013  
BRIDGE NO. 07298 DRAWING NO. 54846

9/12/2014 12:16:20 PM  
 WORKSPACE: AHTO Bridge  
 \GLTDCON\ITP\Projects\2011\011505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_S14.dgn  
 REVISED DATE:

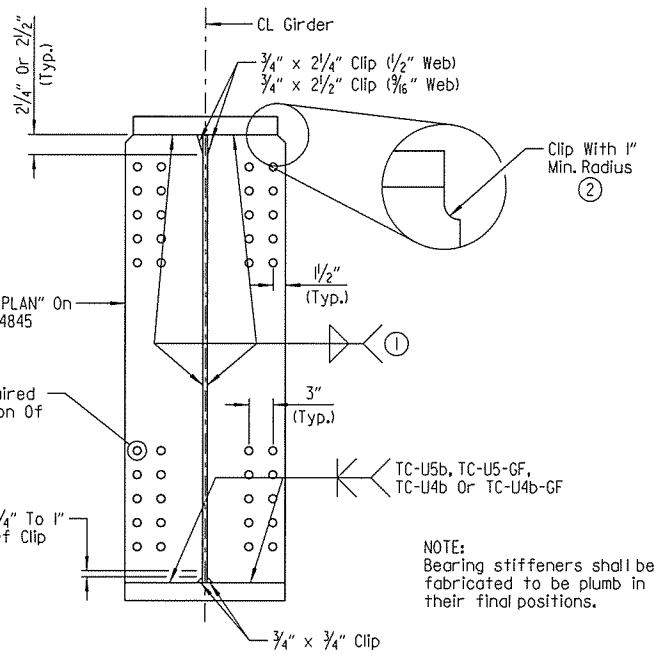
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	68	141
				07298		415'-0" UNIT		54847



**CROSSFRAME DETAIL**  
Scale: 1" = 1'-0"



**CONNECTION PLATE & INTERMEDIATE TRANSVERSE STIFFENER DETAIL**  
Scale: 1" = 1'-0"

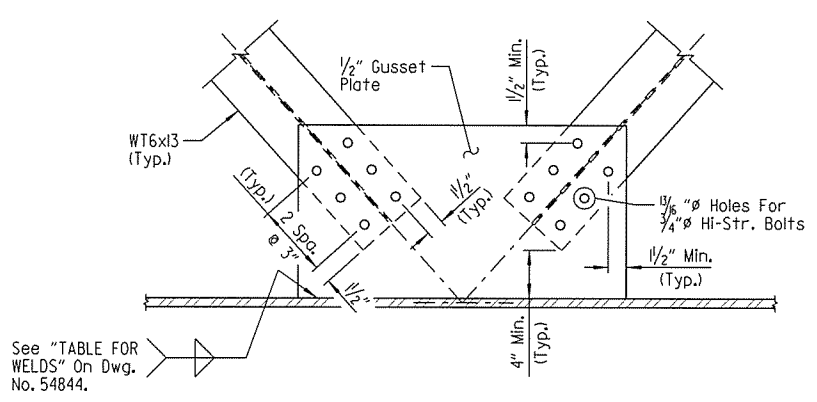


**BEARING STIFFENER DETAIL**  
Scale: 1" = 1'-0"

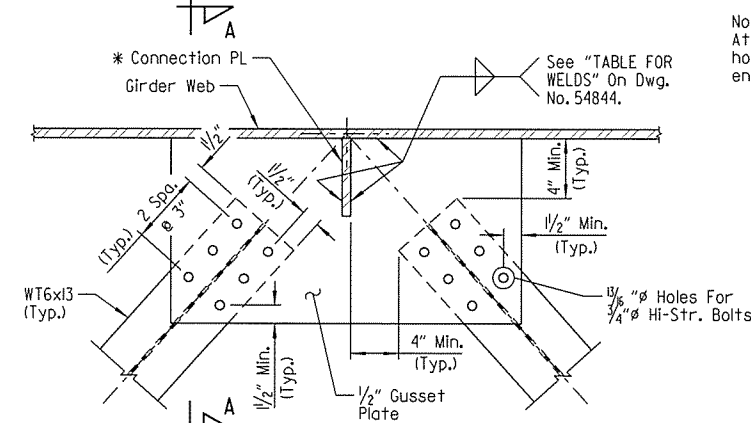
- See "TABLE FOR WELDS" on Dwg. No. 54844 for min. weld size.
- If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

\* Connection plates shall be discontinuous at lateral bracing gusset plates. See "SECTION A-A".

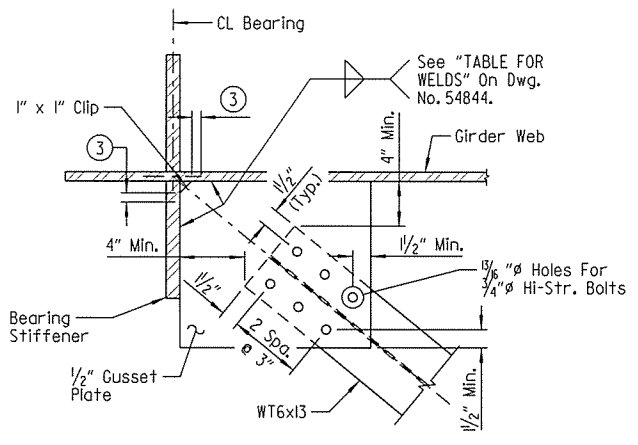
Note: At the Contractor's option, 1/8" holes may be field drilled in one end of each WT6x13 member.



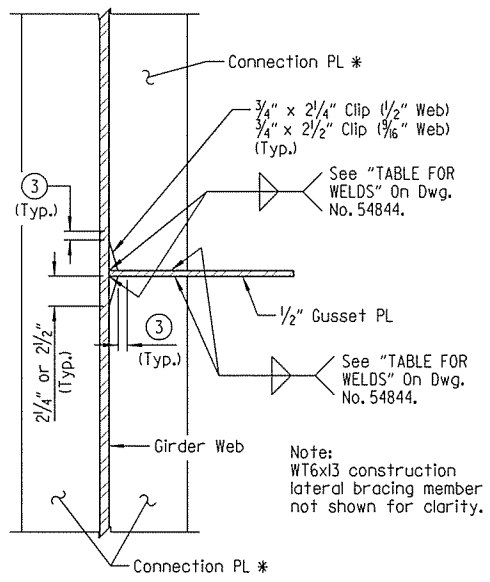
**DETAIL A**  
No Scale



**DETAIL B**  
No Scale

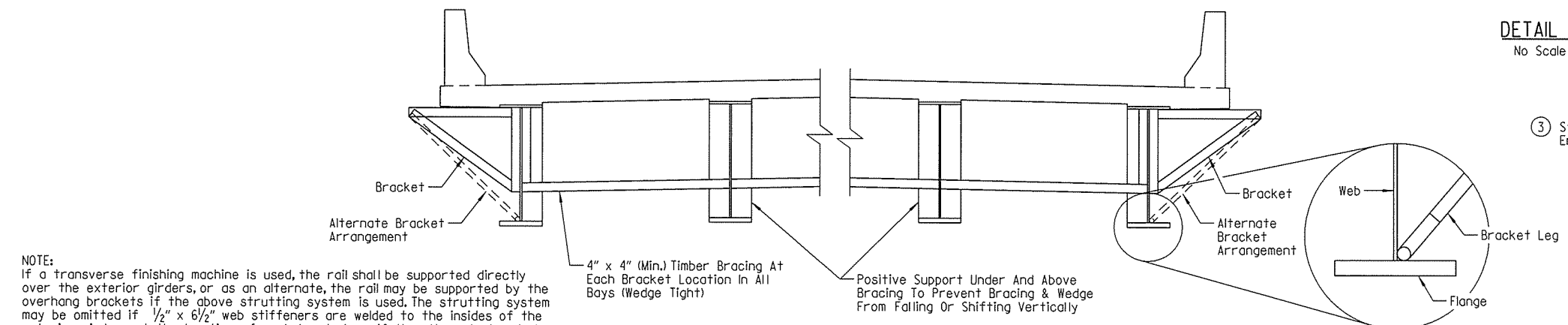


**DETAIL C**  
No Scale



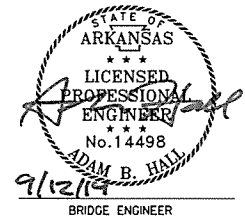
**SECTION A-A**  
Scale: 1/2" = 1'-0"

③ Stop Weld 1/4" To 1" From End Of Clip



**SCREED RAIL SUPPORT DETAIL**  
No Scale

NOTE: If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if 1/2" x 6 1/2" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket shown above is used. The alternate bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffeners shall conform to the details for crossframe connection plates shown on this drawing. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)."



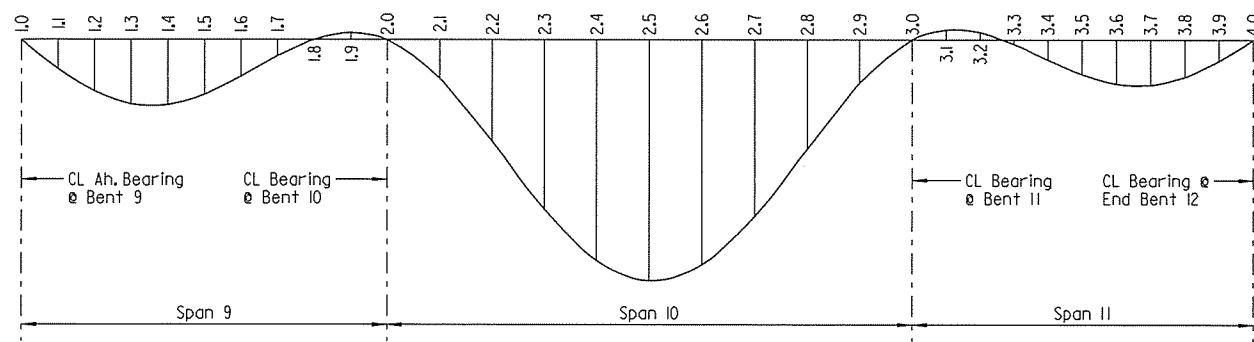
SHEET 8 OF 13  
DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: DRG DATE: MAR. 2013 FILENAME: B060395\_S15.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: ABH DATE: MAR. 2013  
BRIDGE NO. 07298 DRAWING NO. 54847

9/12/2014 12:16:21 PM  
 WORKSPACE: AHTD\_Bridge  
 \GLTDCON\ITP\Projects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRG\90% Plans\B060395\_S15.dgn  
 REVISED DATE:

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

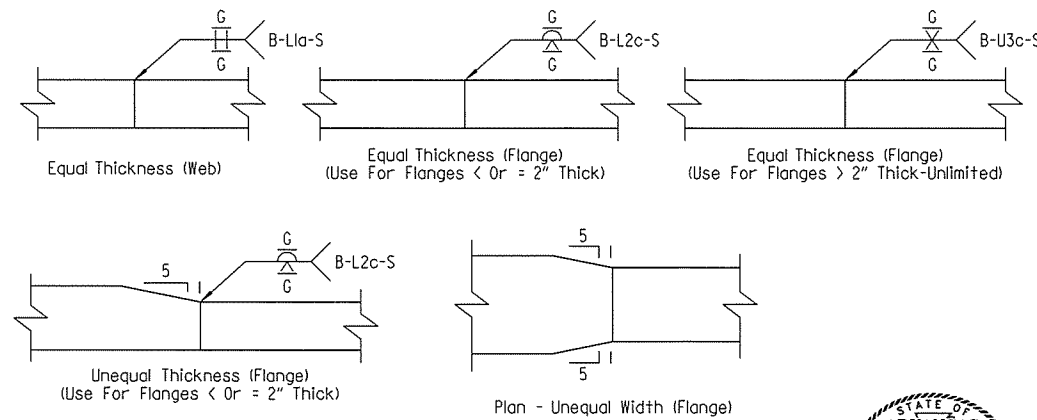
Point Of Deflection	Girder 1			Girder 2			Girder 3			Girder 4			Girder 5			Girder 6		
	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames, And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk	Wt. Of Girder And Cross-Frames	Wt. Of Girder, Cross-Frames And Slab	Wt. Of Girder, Cross-Frames, Slab, Parapet & Sidewalk
SPAN 9																		
1.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.1	0.059	0.265	0.340	0.091	0.398	0.493	0.123	0.529	0.645	0.155	0.656	0.794	0.187	0.782	0.946	0.220	0.905	1.097
1.2	0.100	0.454	0.585	0.159	0.697	0.864	0.218	0.938	1.144	0.277	1.173	1.421	0.334	1.393	1.686	0.394	1.623	1.967
1.3	0.116	0.536	0.698	0.193	0.852	1.062	0.271	1.167	1.427	0.350	1.478	1.793	0.429	1.788	2.166	0.508	2.096	2.540
1.4	0.104	0.494	0.656	0.189	0.839	1.053	0.274	1.183	1.453	0.363	1.533	1.865	0.452	1.884	2.285	0.540	2.232	2.706
1.5	0.066	0.343	0.477	0.148	0.670	0.854	0.230	0.996	1.234	0.318	1.342	1.640	0.407	1.696	2.062	0.493	2.042	2.477
1.6	0.014	0.127	0.213	0.083	0.396	0.524	0.152	0.667	0.840	0.231	0.972	1.198	0.310	1.292	1.576	0.388	1.614	1.958
1.7	-0.037	-0.087	-0.057	0.014	0.104	0.166	0.065	0.299	0.394	0.124	0.526	0.660	0.183	0.764	0.938	0.239	1.007	1.221
1.8	-0.067	-0.222	-0.235	-0.037	-0.118	-0.113	-0.007	-0.006	0.019	0.030	0.133	0.180	0.067	0.284	0.354	0.105	0.459	0.552
1.9	-0.061	-0.217	-0.248	-0.047	-0.171	-0.192	-0.035	-0.128	-0.141	-0.019	-0.069	-0.074	-0.002	-0.002	0.002	0.016	0.087	0.100
SPAN 10																		
2.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.1	0.205	0.752	0.907	0.194	0.741	0.886	0.180	0.696	0.831	0.162	0.630	0.757	0.142	0.547	0.668	0.114	0.402	0.516
2.2	0.498	1.842	2.238	0.494	1.901	2.280	0.472	1.838	2.201	0.441	1.724	2.073	0.405	1.570	1.910	0.348	1.271	1.606
2.3	0.803	2.978	3.629	0.812	3.133	3.758	0.788	3.074	3.677	0.750	2.935	3.521	0.701	2.728	3.306	0.623	2.301	2.878
2.4	1.029	3.817	4.658	1.050	4.049	4.857	1.028	4.006	4.788	0.988	3.863	4.627	0.933	3.629	4.386	0.843	3.127	3.886
2.5	1.117	4.132	5.048	1.145	4.402	5.282	1.127	4.377	5.230	1.089	4.244	5.080	1.034	4.012	4.842	0.943	3.499	4.332
2.6	1.046	3.848	4.707	1.073	4.101	4.923	1.059	4.090	4.888	1.028	3.981	4.764	0.978	3.775	4.552	0.897	3.320	4.100
2.7	0.830	3.029	3.710	0.849	3.217	3.866	0.840	3.214	3.844	0.816	3.132	3.751	0.778	2.978	3.591	0.718	2.639	3.253
2.8	0.525	1.887	2.313	0.533	1.987	2.390	0.527	1.986	2.377	0.512	1.935	2.318	0.487	1.838	2.217	0.454	1.647	2.026
2.9	0.217	0.761	0.930	0.218	0.789	0.947	0.215	0.788	0.941	0.208	0.765	0.914	0.196	0.720	0.868	0.186	0.658	0.806
SPAN 11																		
3.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.1	-0.062	-0.189	-0.220	-0.059	-0.183	-0.210	-0.058	-0.181	-0.206	-0.054	-0.169	-0.192	-0.048	-0.147	-0.169	-0.048	-0.144	-0.165
3.2	-0.070	-0.169	-0.181	-0.063	-0.142	-0.151	-0.059	-0.136	-0.141	-0.053	-0.115	-0.117	-0.043	-0.078	-0.076	-0.045	-0.089	-0.083
3.3	-0.041	-0.006	0.032	-0.023	0.075	0.118	-0.018	0.085	0.132	-0.009	0.113	0.165	0.003	0.158	0.216	-0.001	0.126	0.194
3.4	0.009	0.231	0.332	0.037	0.363	0.470	0.042	0.375	0.486	0.052	0.407	0.523	0.066	0.457	0.580	0.056	0.388	0.524
3.5	0.066	0.480	0.642	0.095	0.631	0.793	0.102	0.647	0.813	0.111	0.678	0.849	0.125	0.727	0.907	0.110	0.624	0.818
3.6	0.105	0.637	0.834	0.137	0.805	1.000	0.143	0.821	1.018	0.152	0.851	1.053	0.165	0.894	1.105	0.148	0.780	1.006
3.7	0.119	0.669	0.866	0.149	0.827	1.021	0.154	0.841	1.036	0.162	0.866	1.065	0.171	0.899	1.106	0.155	0.787	1.007
3.8	0.104	0.559	0.719	0.126	0.680	0.837	0.130	0.691	0.848	0.135	0.708	0.868	0.142	0.732	0.898	0.129	0.641	0.816
3.9	0.061	0.322	0.413	0.073	0.388	0.476	0.075	0.393	0.482	0.078	0.403	0.493	0.081	0.414	0.507	0.073	0.361	0.458
4.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



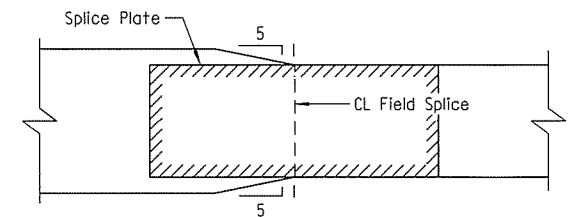
DEAD LOAD DEFLECTION DIAGRAM  
No Scale

NOTE:

Camber for dead load deflection plus vertical curve +/- 1/4" tolerance. Deflections shown are from a chord from Centerline Bearing to Centerline Bearing. Corrections for vertical curve and deck transitions are not included. Negative sign (-) indicates point above chord.



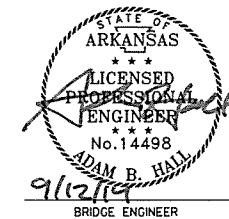
DETAILS OF WELDED SPLICES  
No Scale



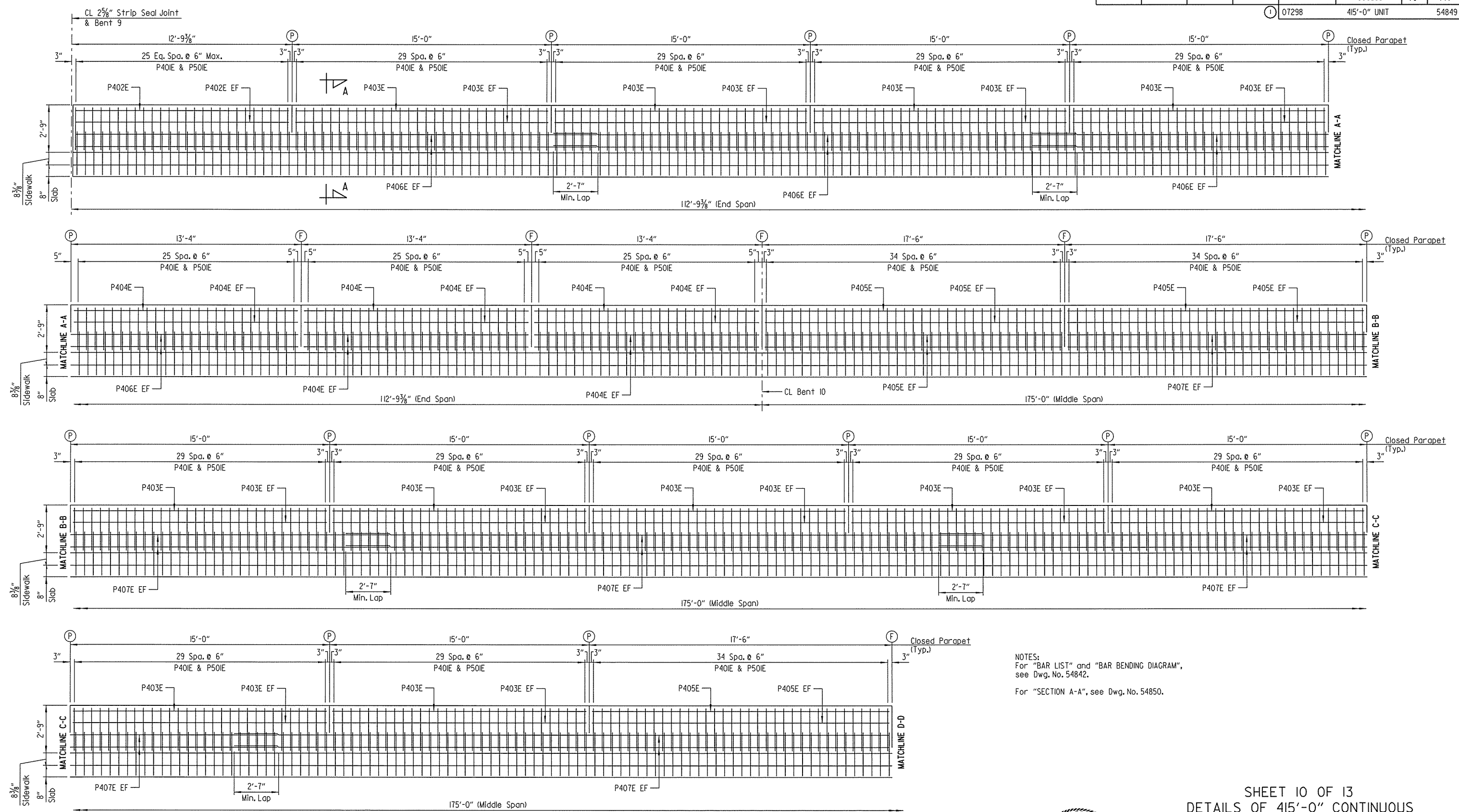
DETAIL OF BOTTOM FLANGE TRANSITION  
No Scale

SHEET 9 OF 13  
DETAILS OF 415'-0" CONTINUOUS  
COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: MAR. 2013 FILENAME: B060395\_S16.DGN  
CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: MAR. 2013  
BRIDGE NO. 07298 DRAWING NO. 54848



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	70	141
				07298		415'-0" UNIT		54849

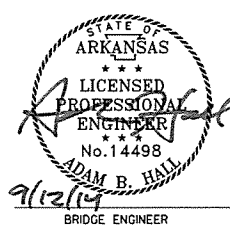


NOTES:  
 For "BAR LIST" and "BAR BENDING DIAGRAM",  
 see Dwg. No. 54842.  
 For "SECTION A-A", see Dwg. No. 54850.

- (P) CL Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 1'-2" from top of slab.
- (F) CL Full-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 4" from top of slab.

**LEFT PARAPET - ELEVATION**  
 (Looking At Inside Face Of Parapet Rail)  
 Scale: 3/8" = 1'-0"

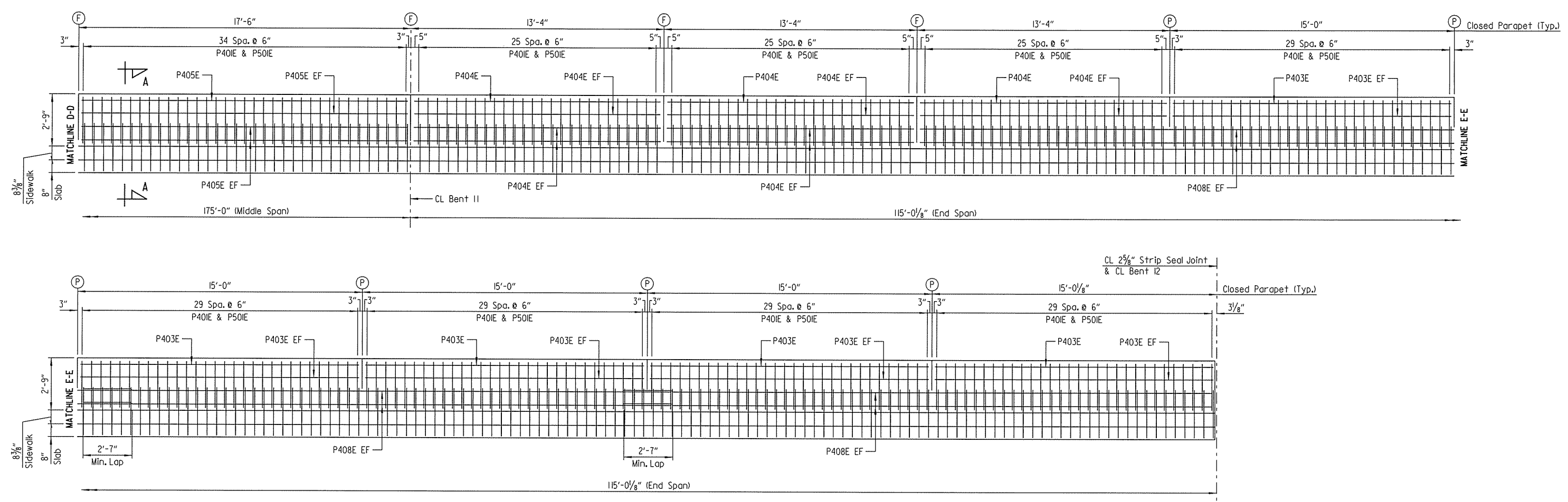
**LEGEND**  
 EF = Each Face



SHEET 10 OF 13  
 DETAILS OF 415'-0" CONTINUOUS  
 COMPOSITE PLATE GIRDER UNIT  
 ROUTE 66  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
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 CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: OCT. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54849

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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				07298		415'-0" UNIT		54850

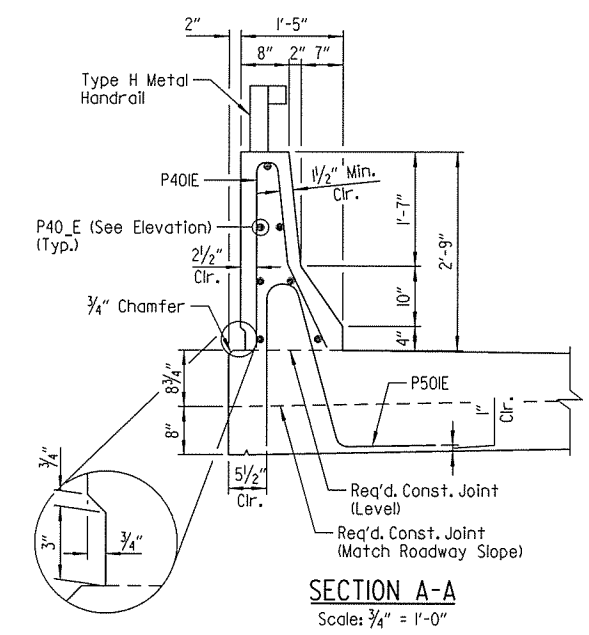


**LEFT PARAPET - ELEVATION**  
 (Looking At Inside Face Of Parapet Rail)  
 Scale: 3/8" = 1'-0"

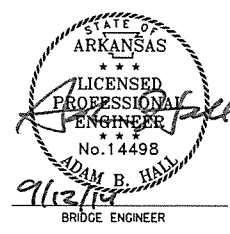
NOTE:  
 For "BAR LIST" and "BAR BENDING DIAGRAM",  
 see Dwg. No. 54842.

- (P) CL Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 1'-2" from top of slab.
- (F) CL Full-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 4" from top of slab.

**LEGEND**  
 EF = Each Face



**SECTION A-A**  
 Scale: 3/4" = 1'-0"

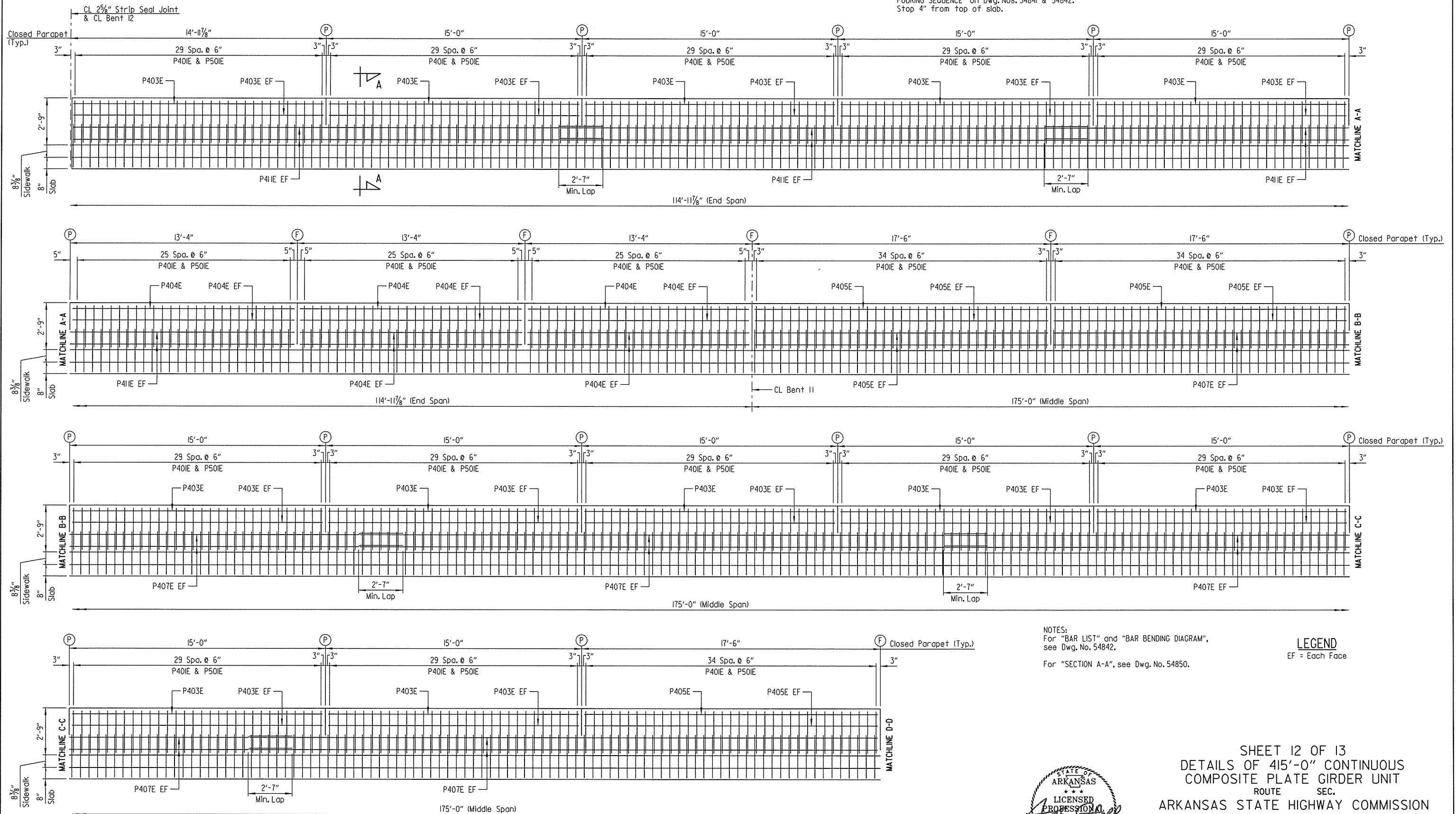


SHEET 11 OF 13  
 DETAILS OF 415'-0" CONTINUOUS  
 COMPOSITE PLATE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_S18.DGN  
 CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: OCT. 2013  
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 REVISION DATE:

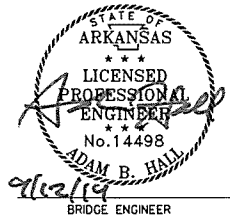
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				6	ARK.			
				JOB NO.	060395	72	141	
				07298	415'-0" UNIT		54851	

- (P) CL Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 1'-2" from top of slab.
- (F) CL Full-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 4" from top of slab.



NOTES:  
 For "BAR LIST" and "BAR BENDING DIAGRAM", see Dwg. No. 54842.  
 For "SECTION A-A", see Dwg. No. 54850.

**LEGEND**  
 EF = Each Face



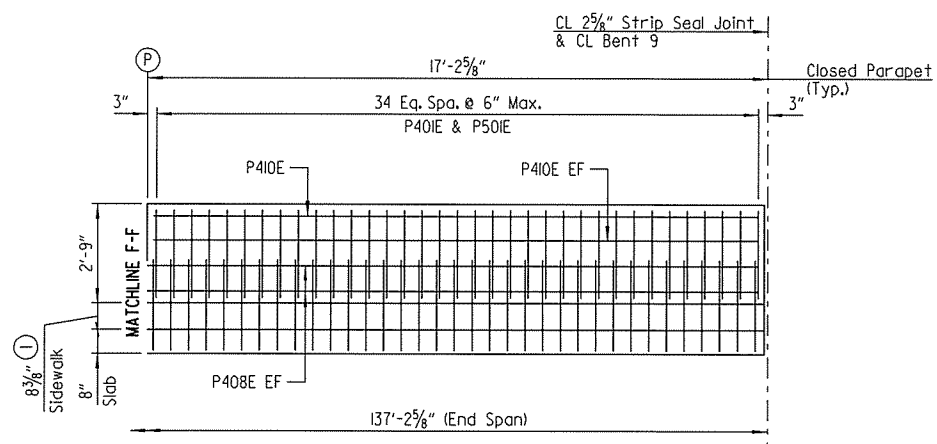
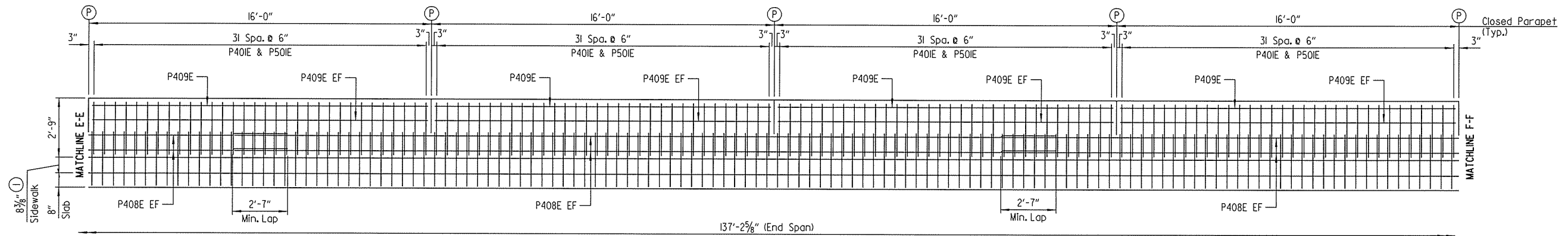
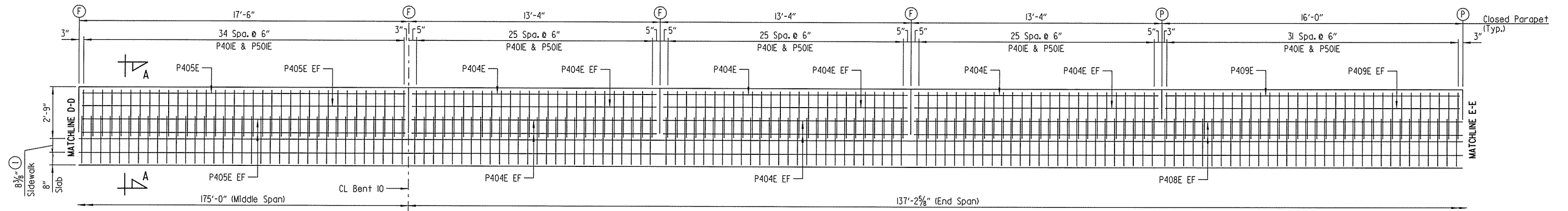
**RIGHT PARAPET - ELEVATION**  
 (Looking At Inside Face of Parapet Rail)  
 Scale: 3/8" = 1'-0"

SHEET 12 OF 13  
 DETAILS OF 415'-0" CONTINUOUS  
 COMPOSITE PLATE GIRDER UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_S19.DGN  
 CHECKED BY: JHR DATE: NOV. 2013 SCALE: AS SHOWN  
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dr:good 9/12/2014 12:16:24 PM  
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 REVISION DATE:

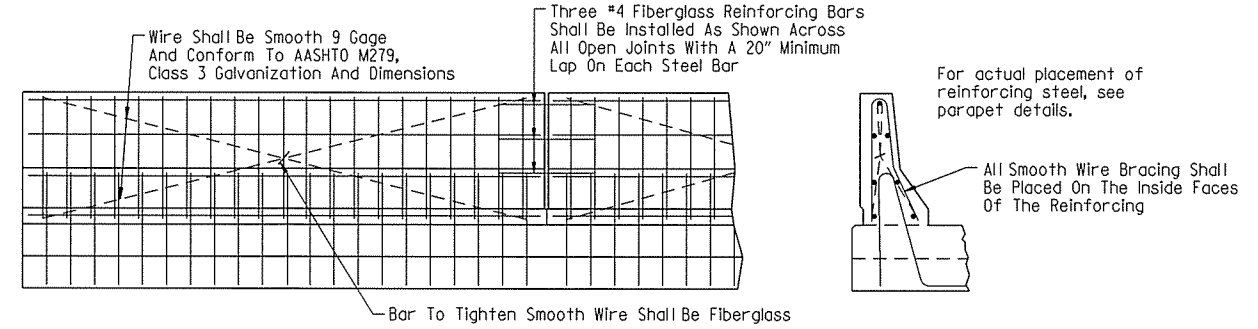


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	73	141	
				① 07298	415'-0" UNIT			54852



- Ⓟ CL Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 1'-2" from top of slab.
- Ⓡ CL Full-Depth Parapet Joint (1/4" to 1" Max.) as shown on "PART REINFORCING PLAN AND DECK POURING SEQUENCE" on Dwg. Nos. 54841 & 54842. Stop 4" from top of slab.

**RIGHT PARAPET - ELEVATION**  
(Looking At Inside Face of Parapet Rail)  
Scale: 3/8" = 1'-0"



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

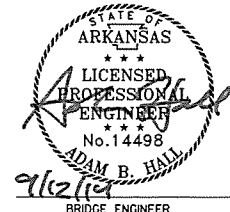
The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture.

**DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL**  
No Scale

① 8 3/8" sidewalk thickness typical at inside face of parapet. Sidewalk thickness at inside face of Right Parapet varies in area of superelevation transition near End Bridge.

NOTE:  
For "BAR LIST" and "BAR BENDING DIAGRAM", see Dwg. No. 54842.  
For "SECTION A-A", see Dwg. No. 54850.

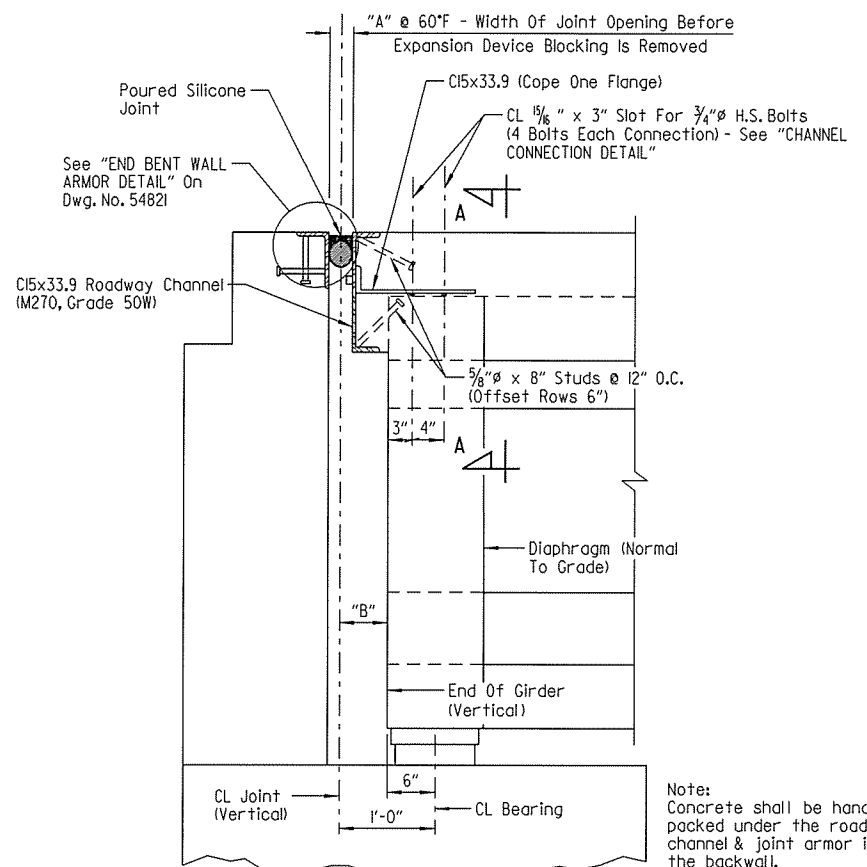
**LEGEND**  
EF = Each Face



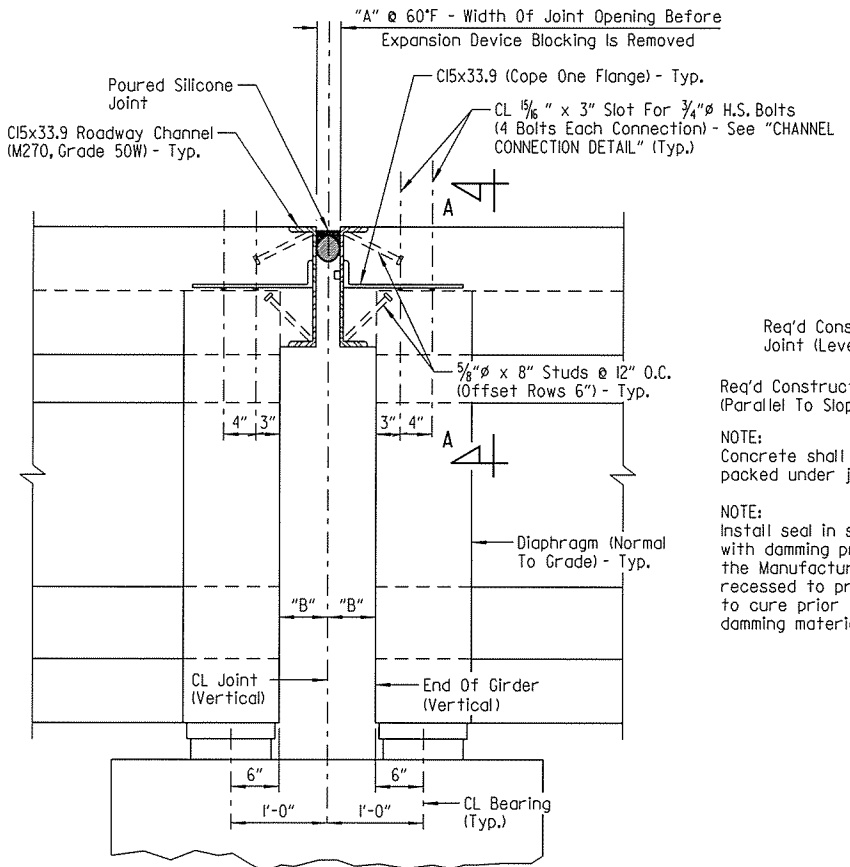
SHEET 13 OF 13  
DETAILS OF 415'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_S20.DGN  
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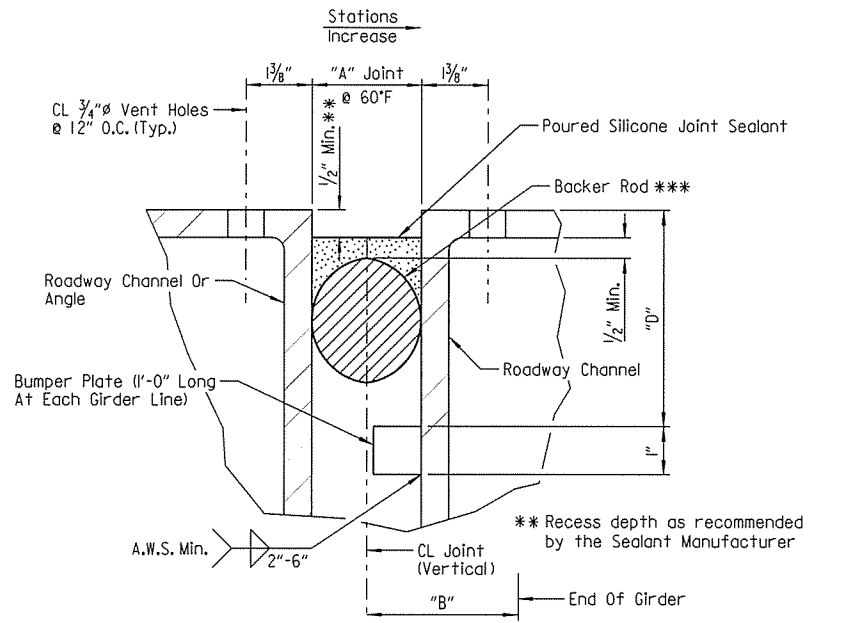
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				6	ARK.			
				JOB NO.	060395	74	141	
				07298	JOINT DETAILS		54853	



**SECTION THRU JOINT AT BENT I**  
(Section Taken Normal To CL Joint)  
Scale: 1" = 1'-0"



**SECTION THRU JOINT AT BENT NOS. 3, 5 & 7**  
(Section Taken Normal To CL Joint)  
Scale: 1" = 1'-0"



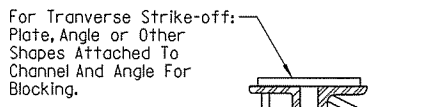
**DETAIL OF POURED SILICONE JOINT**  
Scale: 6" = 1'-0"

**\*\*\* BACKER ROD NOTE:**  
Use an appropriately sized backer rod at the depth shown in the Manufacturer's literature based on the joint width at the time of sealing.  
Except as noted, do not install more backer rod than can be sealed in one day.  
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.

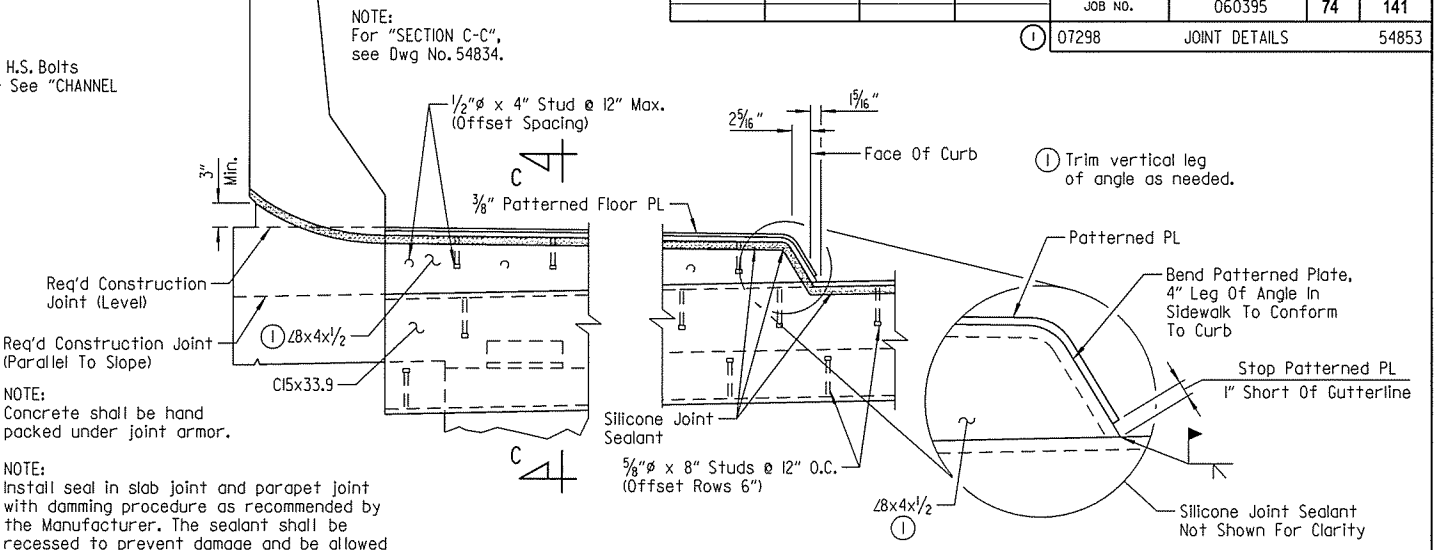
**Note:**  
All structural steel shall be AASHTO M270, Grade 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". For additional notes on sidewalk patterned floor plates, see Dwg. No. 54834.

**Note:**  
Each expansion joint device shall be blocked in the shop by the Fabricator to the dimension "A" shown for 60°F, and the blocking details shall be shown on the shop drawings. Blocking shall be placed within 2' of each end of the device and with a maximum spacing of 8'.

One of two different blocking systems is required depending on the type of span finishing machine that is used.



**DETAILS FOR BLOCKING EXPANSION JOINT DEVICE**  
No Scale

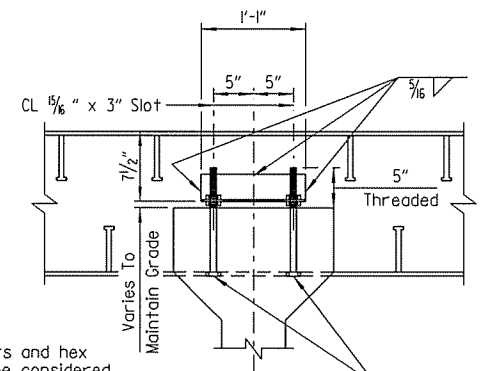


**JOINT SEAL AND SIDEWALK JOINT ARMOR DETAIL**  
(Looking Forward)  
No Scale

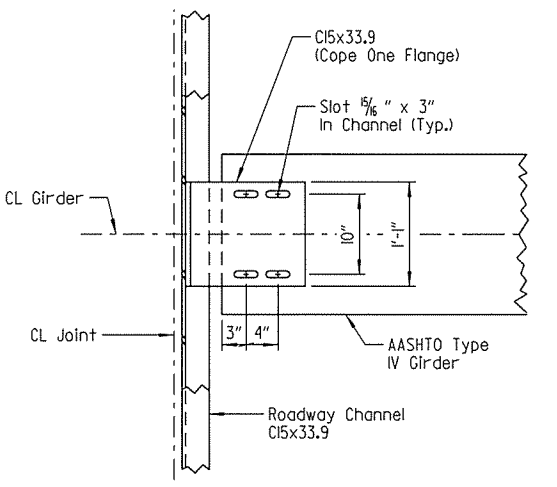
**NOTE:**  
For "SECTION C-C", see Dwg. No. 54834.

**NOTE:**  
Concrete shall be hand packed under joint armor.

**NOTE:**  
Install seal in slab joint and parapet joint with damming procedure as recommended by the Manufacturer. The sealant shall be recessed to prevent damage and be allowed to cure prior to removal of the outer damming material.



**SECTION A-A**  
Scale: 1" = 1'-0"



**CHANNEL CONNECTION DETAIL**  
Scale: 1" = 1'-0"

**EXPANSION DEVICE INSTALLATION AT BENT NO. 1:**

The Contractor may elect to install the expansion device using one of the following two alternatives.

- 1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.
- 2) The backwall shall be poured to the optional construction joint after girders are erected. The blocked expansion device shall be installed and adjusted for grade. The connection bolts shall be fully tightened only on the unit whose concrete will be poured first. Connection bolts on the second unit shall be loosely installed to allow for thermal movements and for end rotation of the girders of the first unit while the concrete deck is poured. After the concrete on the first unit has hardened and immediately prior to pouring concrete for the second unit, the blocking shall be removed and the joint width shall be adjusted for temperature. After the joint width has been set, the connection bolts on the second unit shall be tightened, and concrete in the second unit can then be poured. A joint opening adjustment is not required for end rotation of the girders caused by the weight of the slab and parapets.

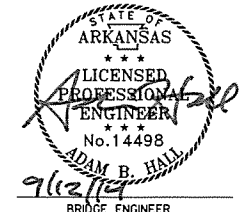
**EXPANSION DEVICE INSTALLATION AT BENT NOS. 3, 5 & 7:**

After all girders on both sides of the joint are erected, the blocked expansion device shall be installed and adjusted for grade. The connection bolts shall be tightened only on the unit whose concrete will be poured first. Connection bolts on the second unit shall be loosely installed to allow for thermal movements and for end rotation of the girders of the first unit while the concrete deck is poured. After the concrete on the first unit has hardened and immediately prior to pouring concrete for the second unit, the blocking shall be removed and the joint width shall be adjusted for temperature. After the joint width has been set, the connection bolts on the second unit shall be tightened, and concrete in the second unit can then be poured. A joint opening adjustment is not required for end rotation of the girders caused by the weight of the slab and parapets.

SILICONE JOINT DATA						
Bent No(s).	"A" Width Perpendicular To Joint At 24 Hour Average Temperature ± 0°F:			"B" Perpendicular To Joint At 60°F	"D"	Bumper Plate Size
	40°F	60°F	80°F			
3, 5, 7	2 1/4"	2"	1 3/4"	6"	4 1/2"	1" x 1"
1	2 1/8"	2"	1 7/8"	6"	4 1/2"	1" x 1"

\* The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary.

**Notes:**  
The temperature limitations recommended by the sealant Manufacturer shall be observed.

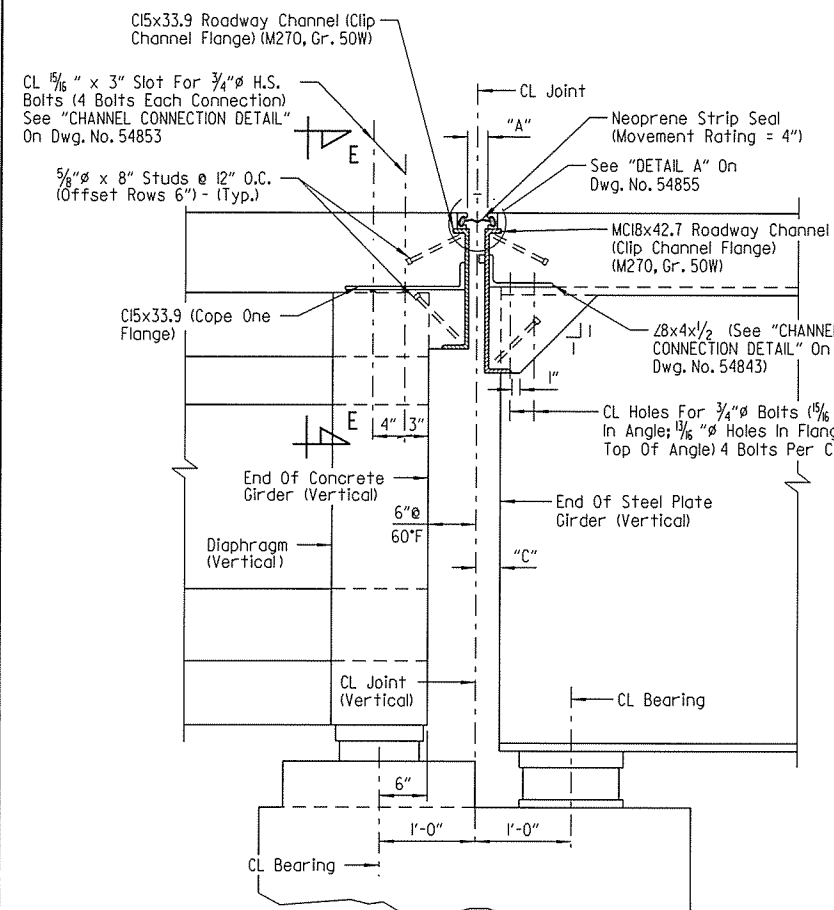


**DETAILS OF POURED SILICONE JOINT**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.

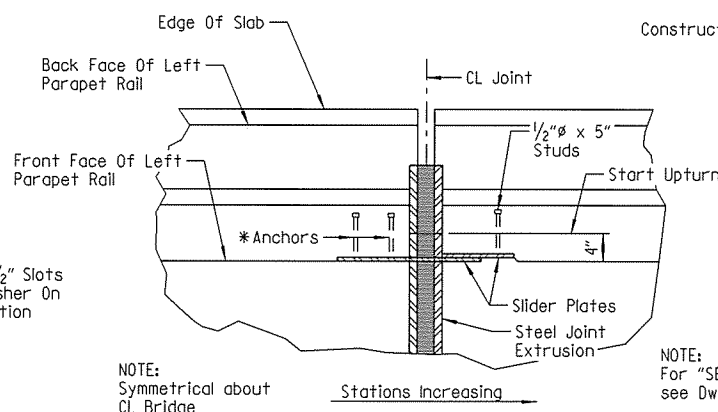
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DESIGNED BY: DRG DATE: JAN. 2013  
BRIDGE NO. 07298 DRAWING NO. 54853

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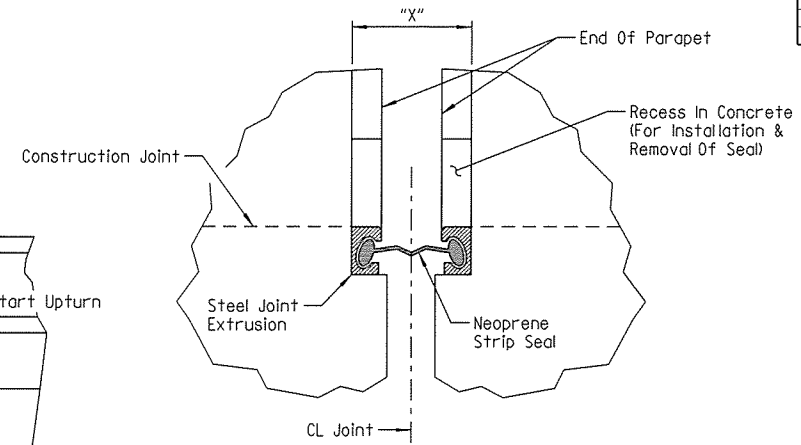
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				JOB NO.		060395	75	141
				07298	JOINT DETAILS			54854



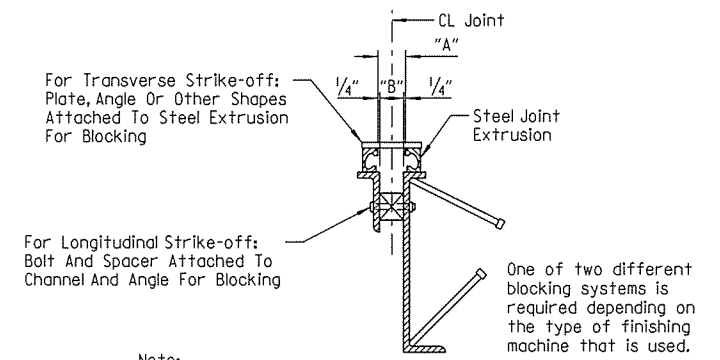
**SECTION THRU JOINT AT BENT 9**  
(Section Taken Normal To CL Joint)  
Scale: 1" = 1'-0"



**SECTION A-A - BENT 9**  
Scale: 1" = 1'-0"



**SECTION D-D**  
No Scale



**DETAILS FOR BLOCKING EXPANSION JOINT DEVICE**

**EXPANSION DEVICE INSTALLATION AT END BENT NO. 12:**  
The Contractor may elect to install the expansion device using one of the following two alternatives.

- 1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature and grade, and the backwall constructed.
- 2) The backwall shall be poured to the optional construction joint after girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature and grade.

**EXPANSION DEVICE INSTALLATION AT BENT NO. 9:**  
After all girders on both sides of the joint are erected, the locked expansion device shall be installed and adjusted for grade. The connection bolts shall be tightened only on the unit whose concrete will be poured first. Connection bolts on the second unit shall be loosely installed to allow for thermal movements and for end rotation of the girders of the first unit while the concrete deck is poured. After the concrete on the first unit has hardened and immediately prior to pouring concrete for the second unit, the blocking shall be removed and the joint width shall be adjusted for temperature. After the joint width has been set, the connection bolts on the second unit shall be tightened, and concrete in the second unit can then be poured. A joint opening adjustment is not required for end rotation of the girders caused by the weight of the slab and parapets.

NOTE: Symmetrical about CL Bridge

NOTE: For "SECTION A-A - BENT 12", see Dwg. No. 54855.

\* The method of attachment of the slider plate assembly or similar device must be such that it may be removed in order to provide for future replacement of the neoprene seal.

Method of installation and fabrication shall be determined by the Manufacturer.

Anchors will not be paid for directly but will be considered subsidiary to "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".

**GENERAL NOTES**

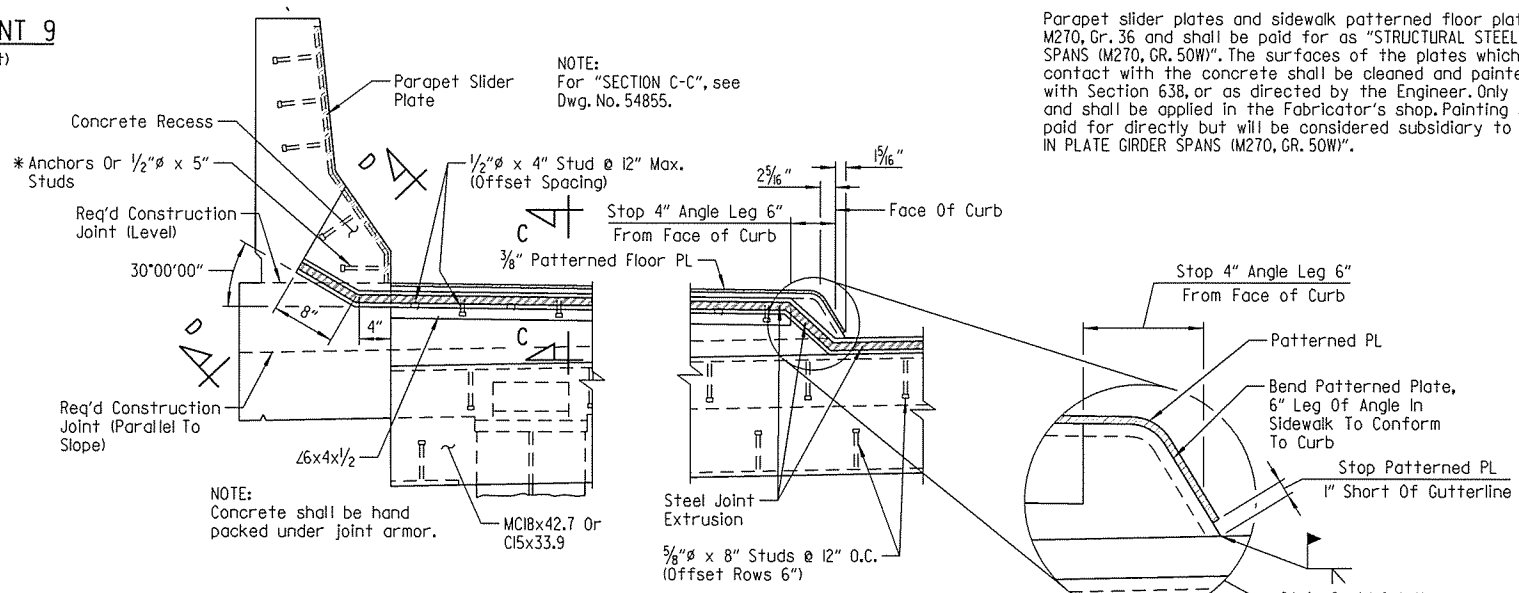
**EXPANSION NEOPRENE STRIP SEAL:** The expansion device shall provide a movement of 4" as shown in the "STRIP SEAL JOINT DATA" table. The expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

All structural steel shall be AASHTO M270, grade 50W unless noted otherwise.

All structural steel, except for the steel extrusion for the strip seal, shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". The steel extrusion and neoprene strip seal shall be paid for in accordance with Section 809.

Details of the proposed slider plate assembly shall be submitted to and approved by the Engineer prior to fabrication of the structural steel at the expansion device.

Parapet slider plates and sidewalk patterned floor plates shall be AASHTO M270, Gr. 36 and shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". The surfaces of the plates which will not be in contact with the concrete shall be cleaned and painted in accordance with Section 638, or as directed by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting shall not be paid for directly but will be considered subsidiary to "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".



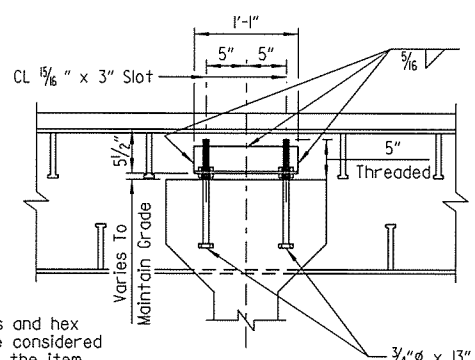
**SIDEWALK JOINT ARMOR DETAIL**  
No Scale

**STRIP SEAL JOINT DATA**

Bent No.	Movement Rating	"A" Width Perpendicular To Joint At 24 Hour Average Temperature ** Of:			"B" Width Perpendicular To Joint At 24 Hour Average Temperature ** Of:			"C" Perpendicular To Joint At 24 Hour Average Temperature Of 60°F
		40°F	60°F	80°F	40°F	60°F	80°F	
9	4"	3 1/16"	2 5/8"	2 3/16"	2 3/16"	2 1/8"	1 1/16"	3" ±
12	4"	2 5/8"	2 5/8"	2 5/8"	2 7/16"	2 1/8"	1 1/16"	3" ±

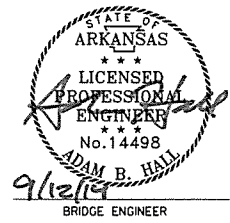
\*\* The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Installation is limited to 40°F min. and 80°F max. Interpolation of the table may be necessary. The temperature limitations of the lubricant-adhesive Manufacturer shall be observed.

NOTE: Details of joint turn-up in curb and parapet are general and show basic design controls only. See Section 809. Method of installation and fabrication shall be determined by the Manufacturer.



**SECTION E-E**  
Scale: 1" = 1'-0"

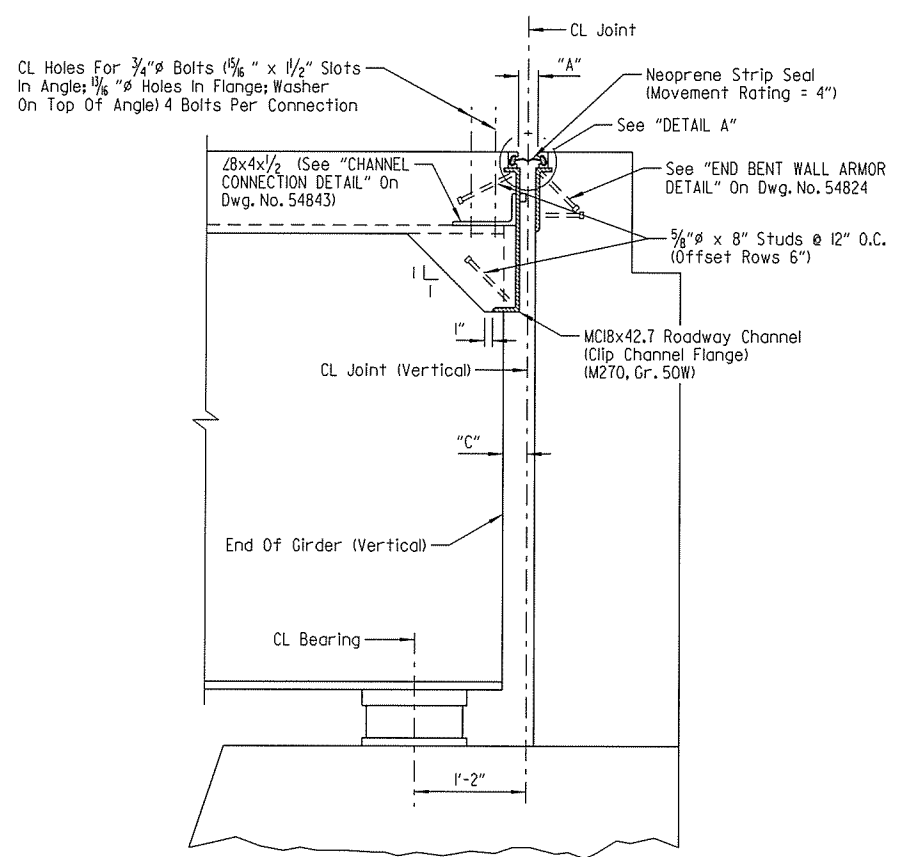
Note: Bolts, washers and hex nuts shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".



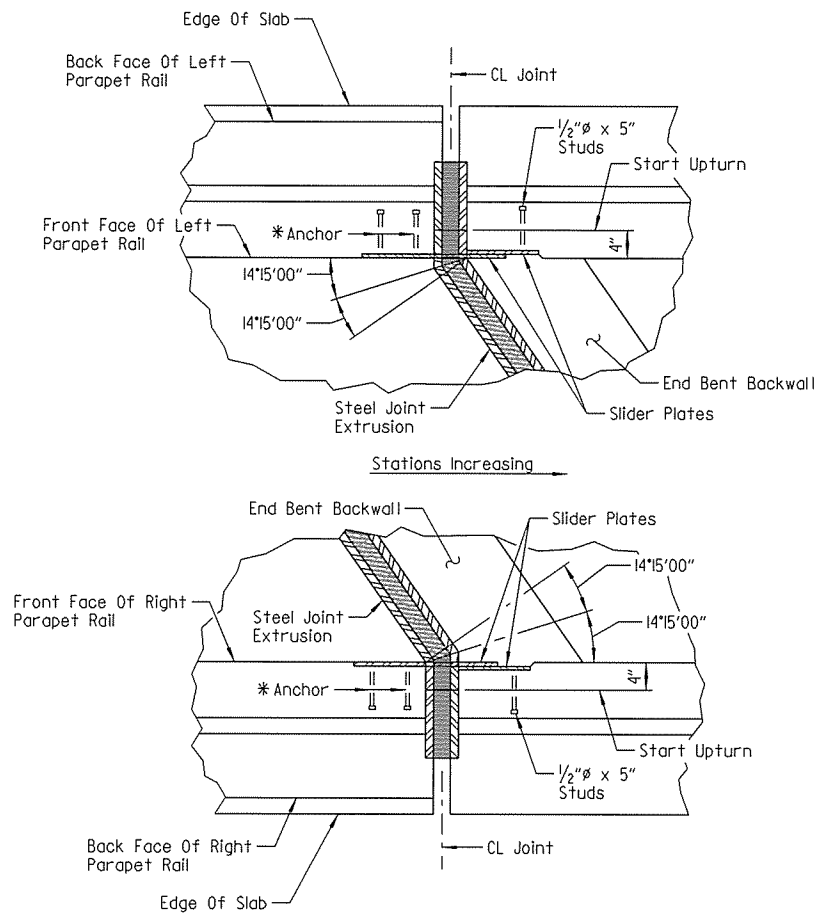
SHEET 1 OF 2  
DETAILS OF STRIP SEAL JOINT  
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ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
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CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: OCT. 2013  
BRIDGE NO. 07298 DRAWING NO. 54854

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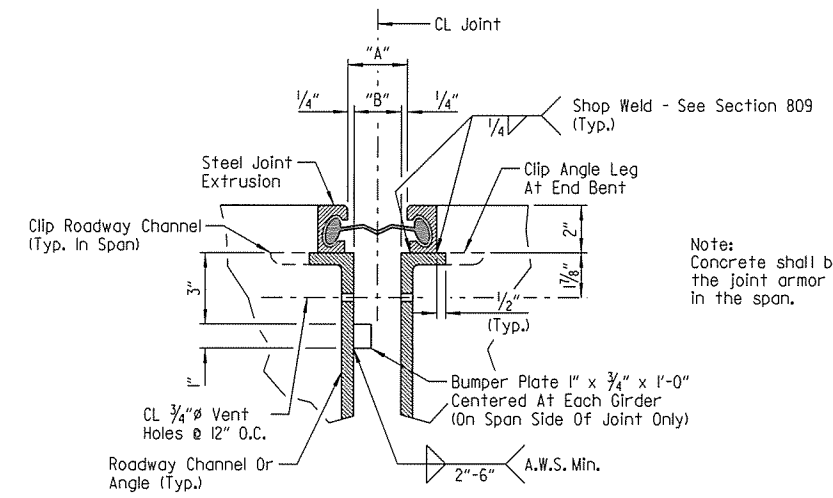
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				6	ARK.			
				JOB NO.		060395	76	141
				07298		JOINT DETAILS		54855



**SECTION THRU JOINT AT BENT 12**  
(Section Taken Normal To CL Joint)  
Scale: 1" = 1'-0"

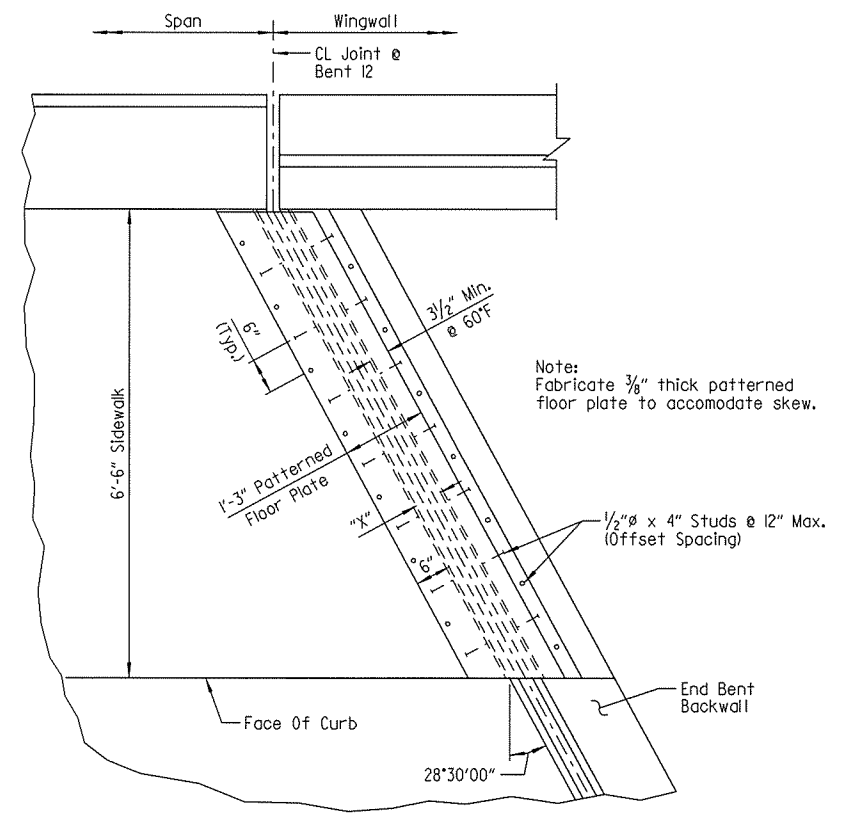


**SECTION A-A - BENT 12**  
Scale: 1" = 1'-0"



**DETAIL A**  
Scale: 3" = 1'-0"

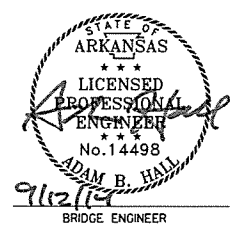
Note: Concrete shall be hand packed under the joint armor in the backwall and in the span.



**SIDEWALK FLOOR PLATE AT BENT 12**  
Scale: 3/4" = 1'-0"  
(Left sidewalk shown, Right sidewalk similar.)

SHEET 2 OF 2  
DETAILS OF STRIP SEAL JOINT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: DRG DATE: OCT. 2013 FILENAME: B060395\_J3.DGN  
CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: OCT. 2013  
BRIDGE NO. 07298 DRAWING NO. 54855

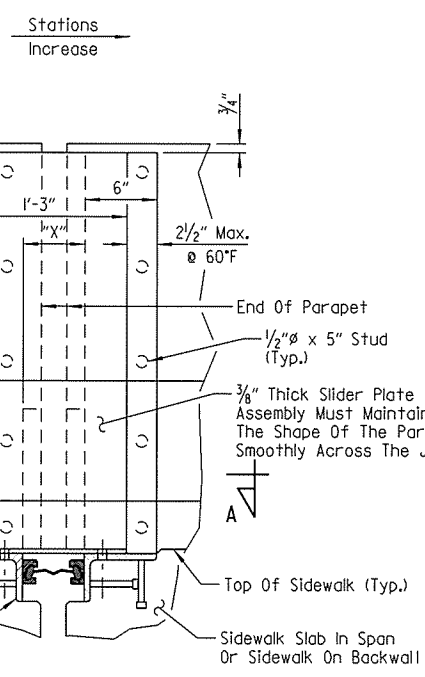


\* The method of attachment of the slider plate assembly or similar device must be such that it may be removed in order to provide for future replacement of the neoprene seal.

Method of installation and fabrication shall be determined by the Manufacturer.

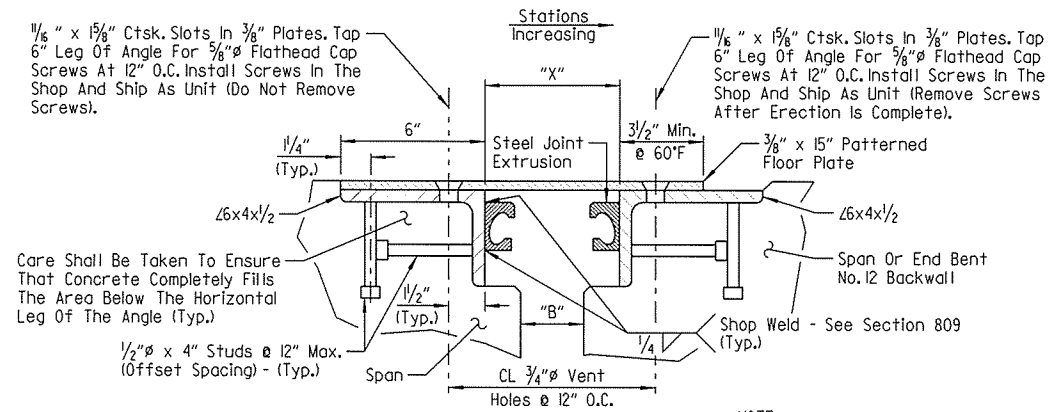
Anchors will not be paid for directly but will be considered subsidiary to "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".

NOTE:  
For variables "A", "B" and "C", see "STRIP SEAL JOINT DATA" on Dwg. No. 54854.  
For "GENERAL NOTES", see Dwg. No. 54854.



**ELEVATION - STRIP SEAL AT PARAPET CURB**  
Scale: 1/2" = 1'-0"

Note:  
Left parapet shown, Right parapet slider plate assembly symmetrical about CL Bridge.



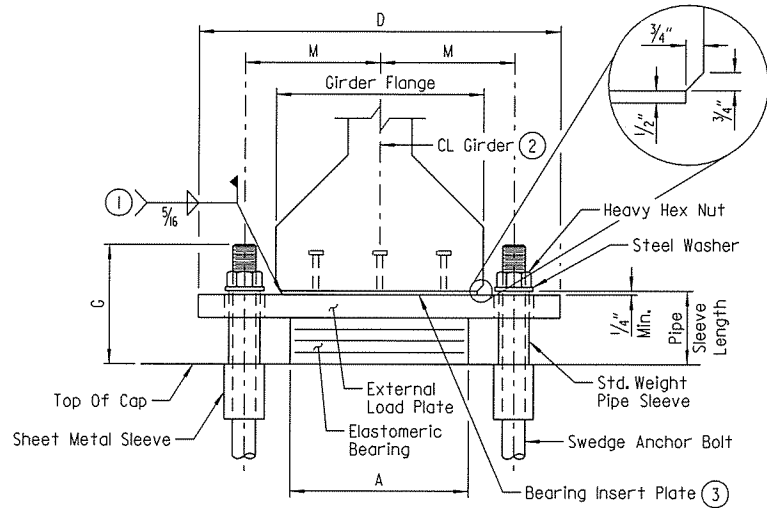
**SECTION C-C**  
No Scale

NOTE:  
Dimension "X" equals the width of the recess in parapet at front face to allow for removal or repair of joint.

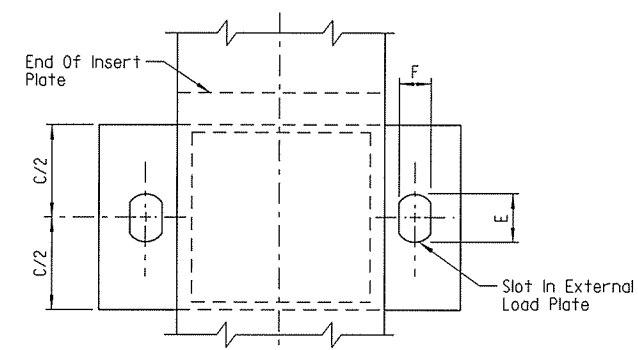
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	77	141	

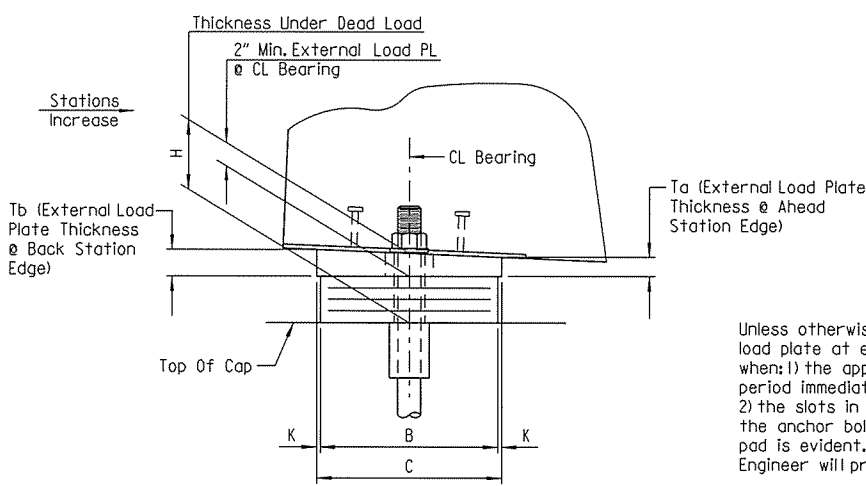
07298 ELASTOMERIC BEARINGS 54856



FRONT VIEW - AT BENT NOS. 1, 3, 5, 7 & 9 BK.

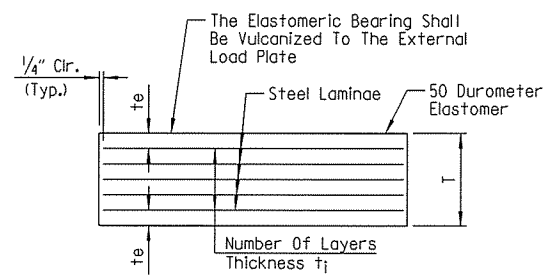


PLAN VIEW - AT BENT NOS. 1, 3, 5, 7 & 9 BK.



SIDE VIEW - AT BENT NOS. 1, 3, 5, 7 & 9 BK.

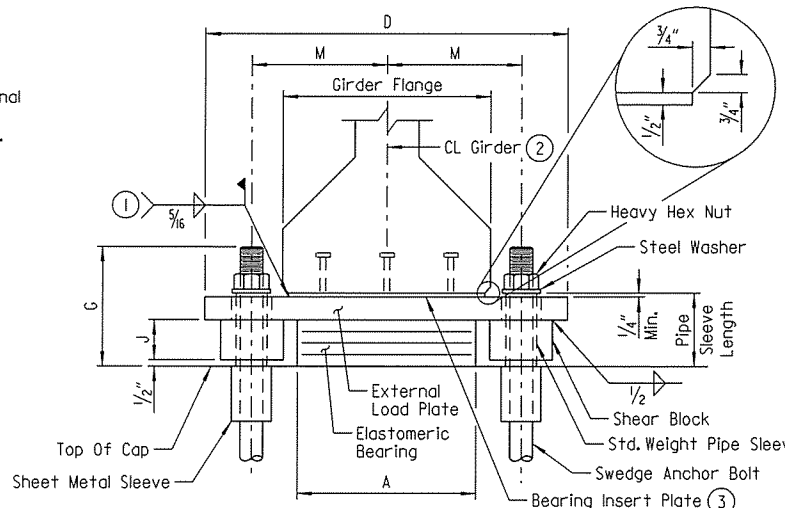
- Care shall be taken to ensure that the external load plate is in full and complete contact with the bearing insert plate before welding begins.
- Centerline elastomeric pad shall be aligned with centerline girder.
- Bearing insert plate (M270, Gr. 50W) & studs shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE IV)".



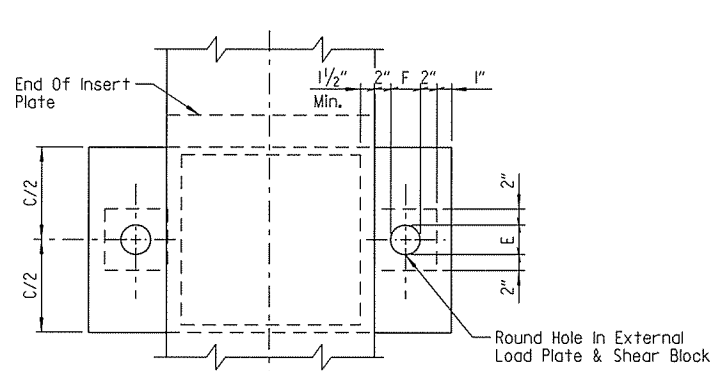
ELASTOMERIC BEARING  
(Bent Nos. 1-8 & 9 Bk.)

NOTE:  
The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in "TABLE OF FABRICATOR VARIABLES".

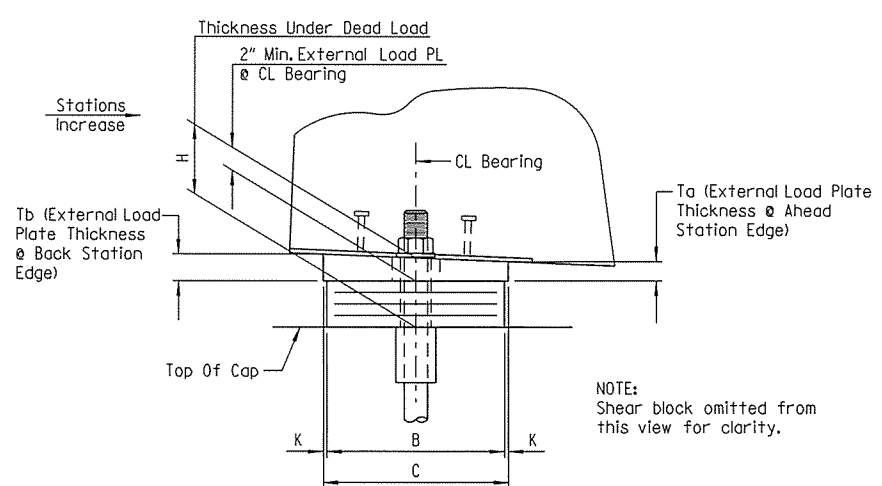
Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



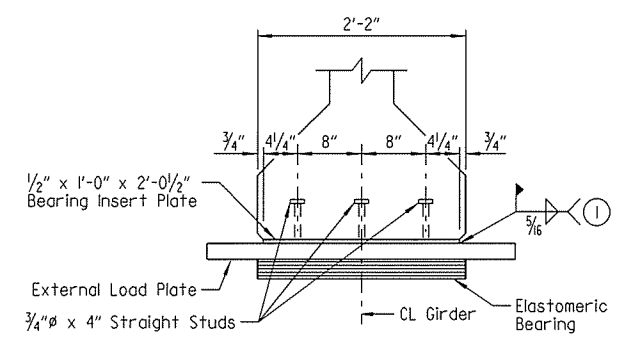
FRONT VIEW - AT BENT NOS. 2, 4, 6 & 8



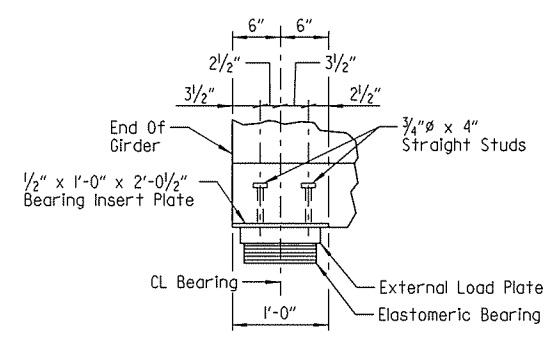
PLAN VIEW - AT BENT NOS. 2, 4, 6 & 8



SIDE VIEW - AT BENT NOS. 2, 4, 6 & 8



FRONT VIEW



SIDE VIEW

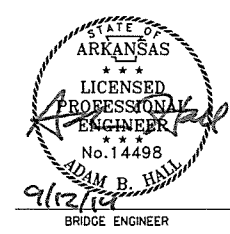
BEARING INSERT PLATE & STUD DETAIL

Note:  
For "ANCHOR BOLT DETAIL" and "GENERAL NOTES", see Dwg. No. 54857.

TABLE OF FABRICATOR VARIABLES

Location Bent Nots.	Girder No.	Bearing Type	No. Of Bearings Each Bent	* Maximum Design Load (Kips)	G	H	Elastomeric Pad										External Load Plate										Anchor Bolt			
							A	B	N	ti	te	No. & Thickness Of Steel Laminae	T	C	D	E	F	J	K	M	Ta	Tb	Anchor Bolt		Pipe Sleeve Size (Dia. x L)	Sheet Metal Sleeve Size (Dia. x L)	Steel Washer Size (O.D.)			
																									(Dia. x L)	Grade	(Dia. x L)	(Dia. x L)		
1	All	Exp.	6	185	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	38 1/2"	4 3/4"	3 3/8"	-	1/2"	16"	2.20"	1.80"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 7"	3 3/4"			
2 Bk.	All	Fixed	6	209	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	45 1/4"	3 3/8"	3 3/8"	2"	1/2"	18 1/16"	2.20"	1.80"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
2 Ah., 4 Ah., 4 Bk., 6 Bk., 6 Bk.	All	Fixed	6	209	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	45 1/4"	3 3/8"	3 3/8"	2"	1/2"	18 1/16"	2.22"	1.78"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
3 Ah., 3 Bk., 5 Ah., 5 Bk. & 7 Bk.	All	Exp.	6	185	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	38 1/2"	4 3/4"	3 3/8"	-	1/2"	16"	2.22"	1.78"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
7 Ah.	All	Exp.	6	185	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	38 1/2"	4 3/4"	3 3/8"	-	1/2"	16"	2.19"	1.81"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
8 Bk.	All	Fixed	6	209	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	45 1/4"	3 3/8"	3 3/8"	2"	1/2"	18 1/16"	2.19"	1.81"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
8 Ah.	All	Fixed	6	209	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	45 1/4"	3 3/8"	3 3/8"	2"	1/2"	18 1/16"	2.09"	1.91"	2" x 31"	55	2 1/2" x 4 5/8"	4" x 10"	3 3/4"			
9 Bk.	All	Exp.	6	185	7 5/8"	4 3/8"	26"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	10"	38 1/2"	4 3/4"	3 3/8"	-	1/2"	16"	2.09"	1.91"	2" x 33"	55	2 1/2" x 4 5/8"	4" x 18"	3 3/4"			

\* Maximum Design Load = Service I Limit State

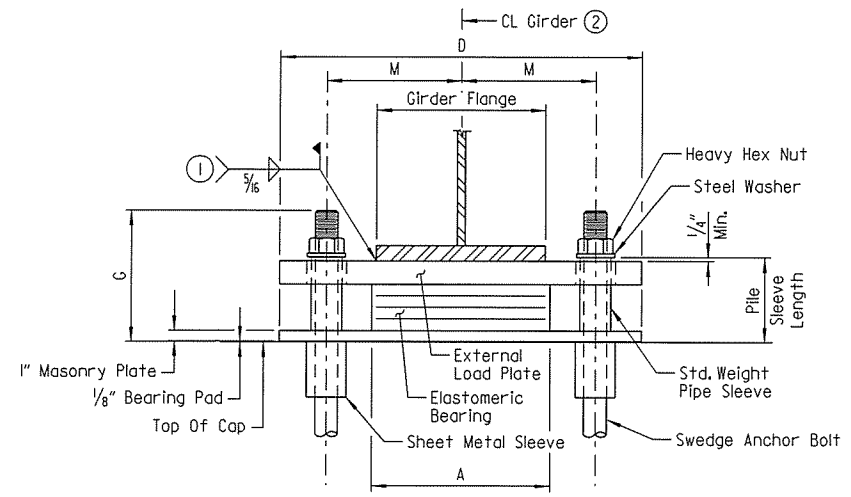


SHEET 1 OF 2  
DETAILS OF ELASTOMERIC BEARINGS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

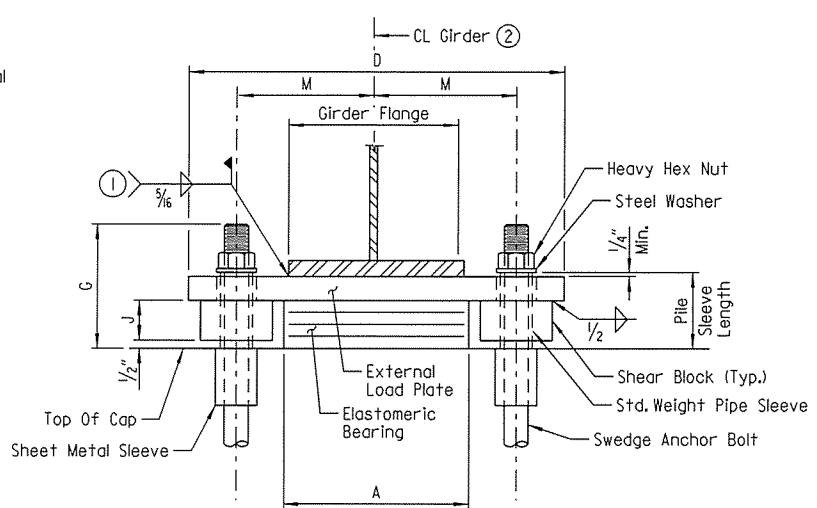
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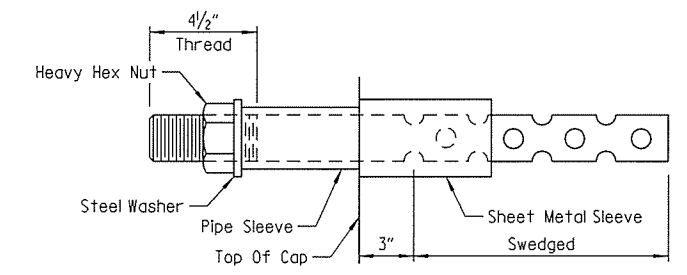
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				6	ARK.			
				JOB NO.	060395	78	141	
				① 07298	ELASTOMERIC BEARINGS		54857	



FRONT VIEW - AT BENT NOS. 9 AH. & 12



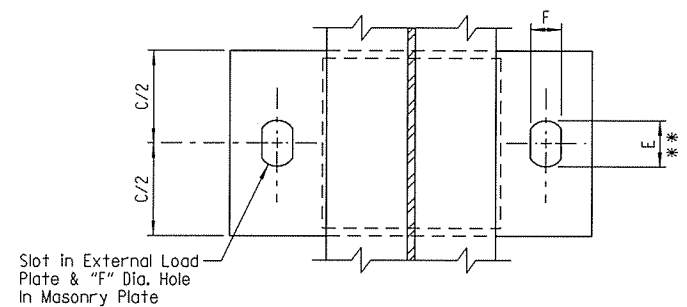
FRONT VIEW - AT BENT NOS. 10 & 11



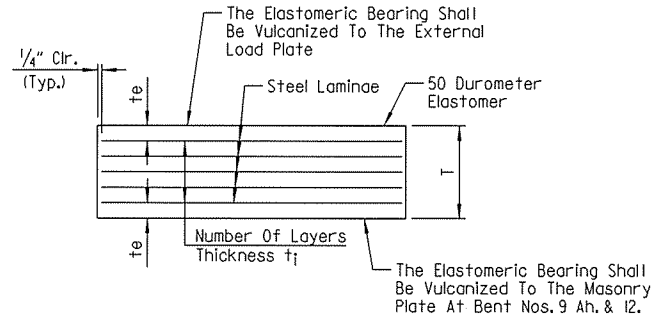
ANCHOR BOLT DETAIL

NOTE:  
Anchor bolts may be cast in place or drilled and grouted into place. If anchor bolts are to be cast in place, the galvanized sheet metal sleeves will not be required.

If anchor bolts are to be drilled and grouted in place, the galvanized sheet metal sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of structural steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized sheet metal sleeves will not be paid for directly but will be considered subsidiary to the item "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)".



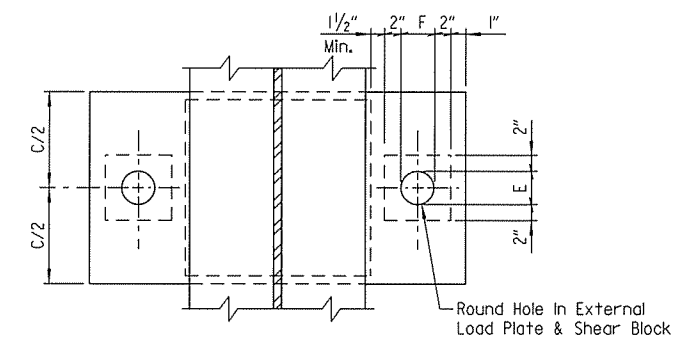
PLAN VIEW - AT BENT NOS. 9 AH. & 12



ELASTOMERIC BEARING  
(Bent Nos. 9 Ah. & 10-12)

te = Thickness Of Elastomer Cover On Top And Bottom Of Pad  
ti = Thickness Of Elastomer Between Steel Laminae  
N = Number Of Elastomer Layers Of Thickness ti

Note:  
The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in "TABLE OF FABRICATOR VARIABLES".



PLAN VIEW - AT BENT NOS. 10 & 11

GENERAL NOTES

Elastomeric bearings shall conform to Section 808 and shall be paid for at the unit price bid for "ELASTOMERIC BEARINGS."

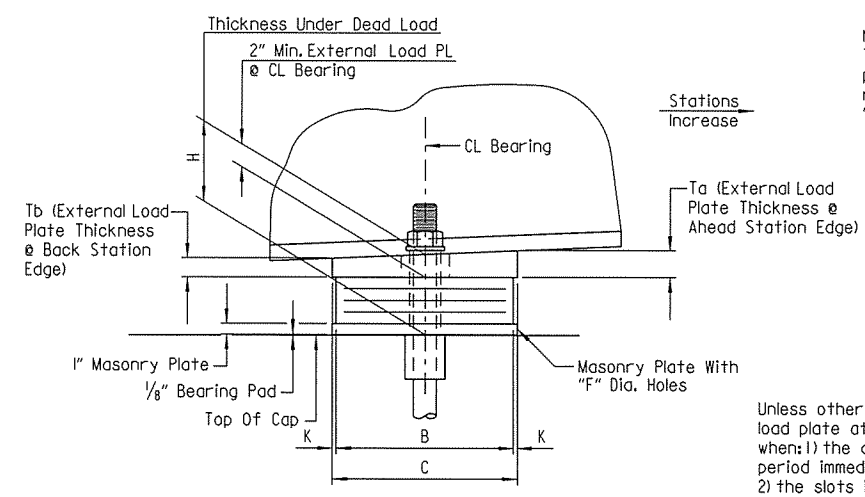
External load plates, shear blocks and masonry plates shall conform to AASHTO M270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M232, Class C or ASTM B695, Class 50.

External load plates (with shear blocks as applicable) and masonry plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

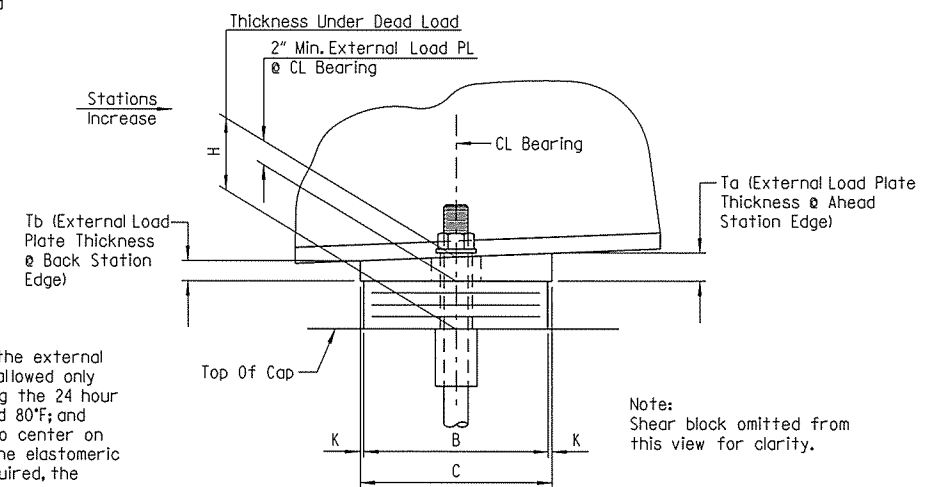
Anchor bolts, washers and nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "TABLE OF FABRICATOR VARIABLES". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe sleeves, anchor bolts, washers and nuts shall be paid for at the unit price bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W)". External load plates, masonry plates and shear blocks will not be measured or paid for separately but will be included in the unit price bid for "ELASTOMERIC BEARINGS".

Bearings with masonry plates shall be seated in accordance with Subsection 807.66. Bearings without masonry plates shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the item "ELASTOMERIC BEARINGS" and will not be paid for directly.



SIDE VIEW - AT BENT NOS. 9 AH. & 12

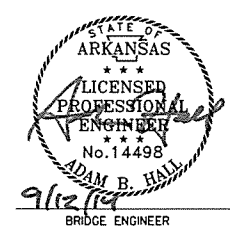


SIDE VIEW - AT BENT NOS. 10 & 11

TABLE OF FABRICATOR VARIABLES

Location	Bearing Type	No. Of Bearings Each Bent	* Maximum Design Load (Kips)	Elastomeric Pad										External Load Plate										Anchor Bolt			
				G	H	A	B	N	ti	te	No. & Thickness Of Steel Laminae	T	C	D	E **	F	J	K	M	Ta	Tb	Anchor Bolt (Dia. x L)	Grade	Pipe Sleeve Size (Dia. x L)	Sheet Metal Sleeve Size (Dia. x L)	Steel Washer Size (O.D.)	
9 Ah.	I-3	Exp.	152	13 3/16"	9 1/8"	16"	12"	10	1/2"	1/4"	11 @ 12 Ga.	6 5/8"	13"	28"	7 1/4"	3 1/8"	-	1/2"	10 3/4"	2.06"	1.94"	2 1/4" x 39"	55	2 1/2" x 9 1/8"	4" x 10"	4"	
9 Ah.	4-6	Exp.	136	13 3/16"	9 1/8"	16"	12"	10	1/2"	1/4"	11 @ 12 Ga.	6 5/8"	13"	28 1/2"	7 1/4"	3 1/8"	-	1/2"	11"	2.06"	1.94"	2 1/4" x 39"	55	2 1/2" x 9 1/8"	4" x 10"	4"	
10	All	Fixed	488	7 5/8"	4 3/8"	22"	16"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	17"	4 1/4"	3 1/8"	3 1/8"	1 7/8"	1/2"	16 1/16"	1.86"	2.14"	2" x 32"	55	2 1/2" x 4 5/8"	4" x 12"	3 3/4"	
11	All	Fixed	463	7 5/8"	4 3/8"	22"	16"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	17"	4 1/4"	3 1/8"	3 1/8"	1 7/8"	1/2"	16 1/16"	1.73"	2.27"	2" x 32"	55	2 1/2" x 4 5/8"	4" x 15"	3 3/4"	
12	All	Exp.	137	13 3/16"	9 1/8"	16"	12"	10	1/2"	1/4"	11 @ 12 Ga.	6 5/8"	13"	28"	5 1/2"	3 1/8"	-	1/2"	10 3/4"	1.91"	2.09"	2 1/4" x 39"	55	2 1/2" x 9 1/8"	4" x 7"	4"	

\* Maximum Design Load = Service I Limit State  
\*\* The dimension "E" does not apply to masonry plates. See "SIDE VIEW - AT BENT NOS. 9 AH. & 12".



SHEET 2 OF 2  
DETAILS OF ELASTOMERIC BEARINGS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

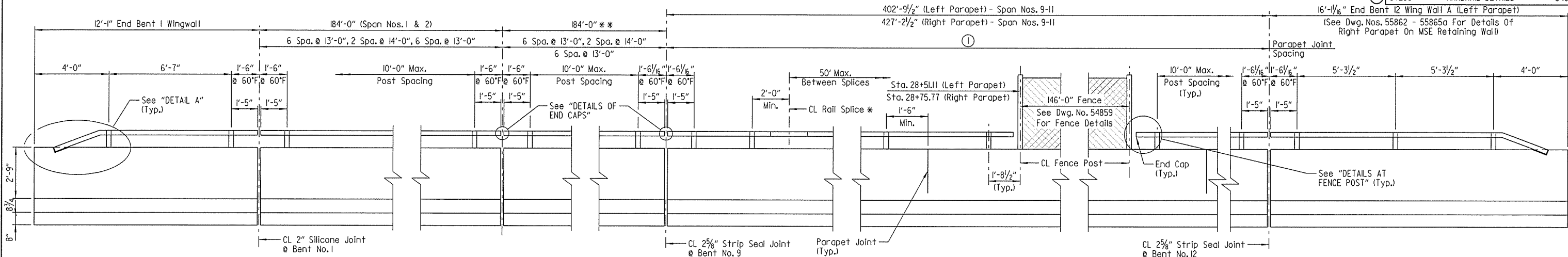
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	79	141
						07298	HANDRAIL DETAILS	54858

NOTE:  
Rail layout shall conform to the vertical and horizontal alignment of the bridge.

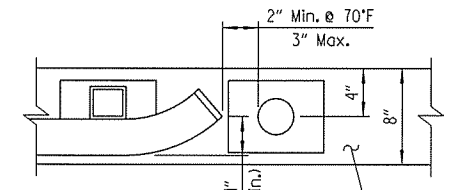
- ① 1 Spa. @ 12'-9 3/8", 4 Spa. @ 15'-0", 3 Spa. @ 13'-4", 2 Spa. @ 17'-6", 7 Spa. @ 15'-0", 2 Spa. @ 17'-6", 3 Spa. @ 13'-4", 4 Spa. @ 15'-0", 1 Spa. @ 15'-0 1/8" (Left Parapet)
- 1 Spa. @ 17'-2 5/8", 5 Spa. @ 16'-0", 3 Spa. @ 13'-4", 2 Spa. @ 17'-6", 7 Spa. @ 15'-0", 2 Spa. @ 17'-6", 3 Spa. @ 13'-4", 4 Spa. @ 15'-0", 1 Spa. @ 14'-11 1/8" (Right Parapet)



NOTE:  
Railing on the MSE Wall (not shown in "RAIL POST SPACING DETAIL") shall be paid for in the roadway quantities. See "ELEVATION - METAL RAILING & CHAIN LINK FENCE" on Dwg. No. 54865 for details.

- \* Splices to be at 50' max. spacing. Rail sections must be fabricated to attach to at least three posts. CL splices shall be located at a minimum of 2'-0" from CL post. See "SPICE DETAIL".
- \*\* Typical for 184'-0" (92'-92') unit unless noted otherwise. Only showing one typical 184'-0" unit for clarity.

**RAIL POST SPACING DETAIL**  
(Horizontal dimensions are along face of rail and do not include a vertical curve correction)  
No Scale



NOTE:  
Bend or mitre as shown.

**DETAILS AT FENCE POST**  
No Scale

**NOTES FOR BRIDGE RAILING:**  
The cost of all labor, materials and equipment required for the fabrication and installation of the Type "H" Bridge Railing shall be included in the unit price bid per linear foot for "METAL BRIDGE RAILING (TYPE H)".

Rail layout shall conform to vertical and horizontal alignment of bridge.  
Maximum post spacing = 10'-0"  
Minimum distance from centerline post to centerline open or contraction joints in parapet = 1'-6"

Rail splices shall be at 50' maximum spacing. Centerline splices shall be located at a minimum of 2' from centerline of post. Rail sections shall be fabricated to attach to at least three posts.

Base plates shall not be placed upon areas that are improperly finished, deformed or irregular.

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

**MATERIALS:**  
Tubing, Posts, and Accessories: AASHTO M270, Gr. 36 or ASTM A500-Grade B.  
Steel rail members shall be galvanized in accordance with AASHTO M111 after fabrication.

Cast in place anchor bolts shall be of stainless steel or high strength steel. Stainless steel anchor bolts shall conform to ASTM A193 or A320-Grade B8 with a minimum yield strength of 80,000 psi. High strength steel anchor bolts shall conform to AASHTO M164 or A354-Grade BC galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.

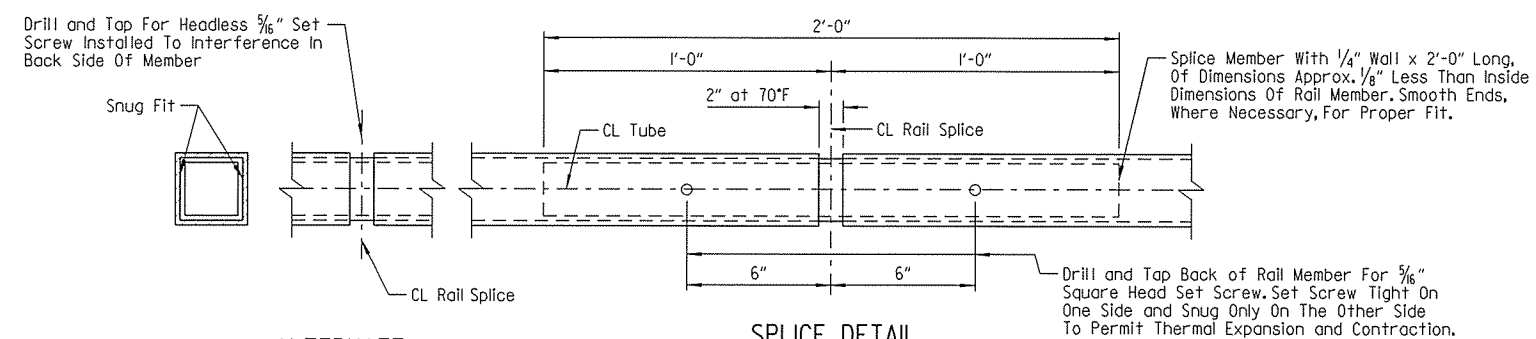
Splice Set Screws shall conform to the requirements of ASTM A193 or A320-Gr. B8 (stainless steel) or AASHTO M270, Gr. 36 (galvanized).

Nuts shall conform to AASHTO M292, Gr. 8A (stainless steel) or galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.

Threads on bolts, screws and nuts shall conform to American Standard Coarse Series, Class 2 Fit, ASA Specification B11.

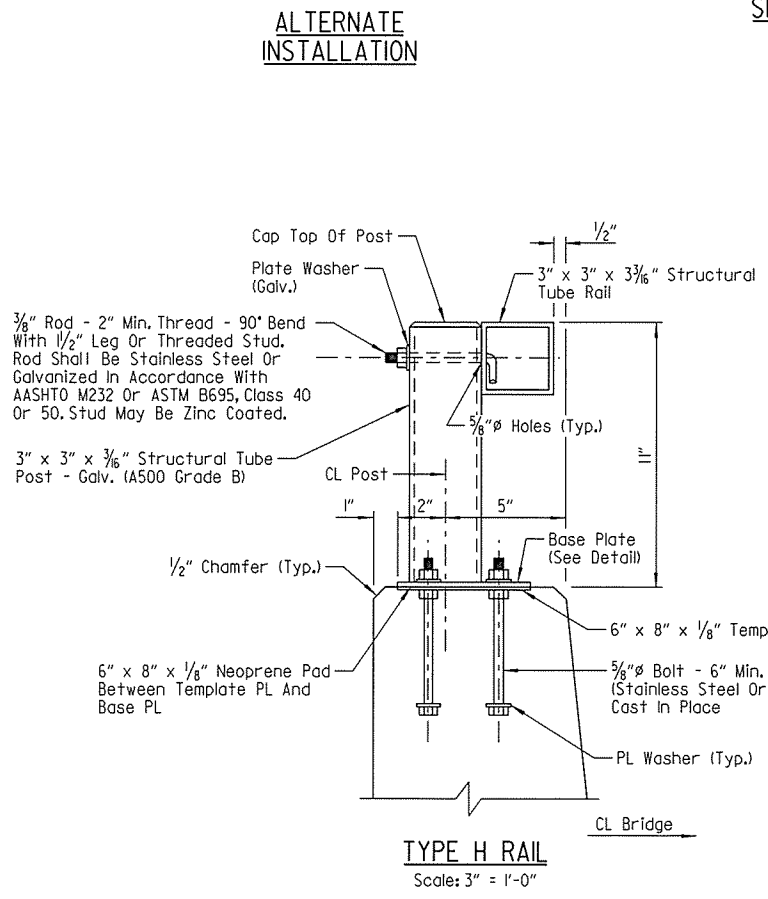
Washers shall be stainless steel and conform to the requirements of ASTM A276 or A167-Type 302 with dimensions meeting ASTM F436, or high strength steel conforming to AASHTO M293 and galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.

Plate Washers shall be stainless steel and conform to the requirements of ASTM A167-Type 302 or AASHTO M270, Gr. 36, galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50. Plate washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series).  
Mixing of stainless steel and galvanized fasteners will not be permitted.

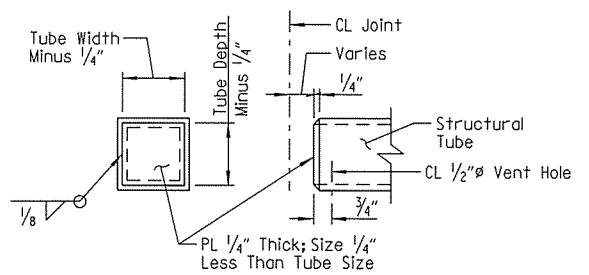


**ALTERNATE INSTALLATION**

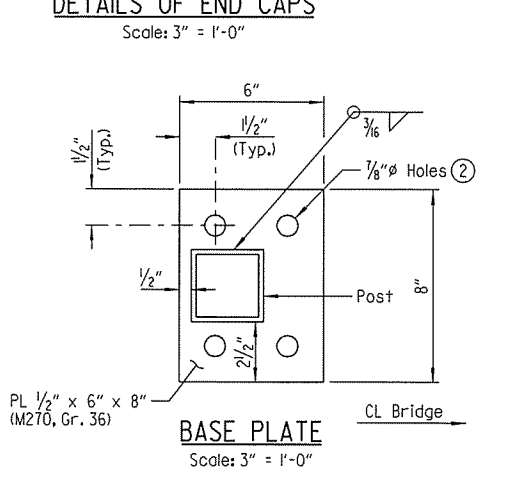
**SPICE DETAIL**  
Scale: 3" = 1'-0"



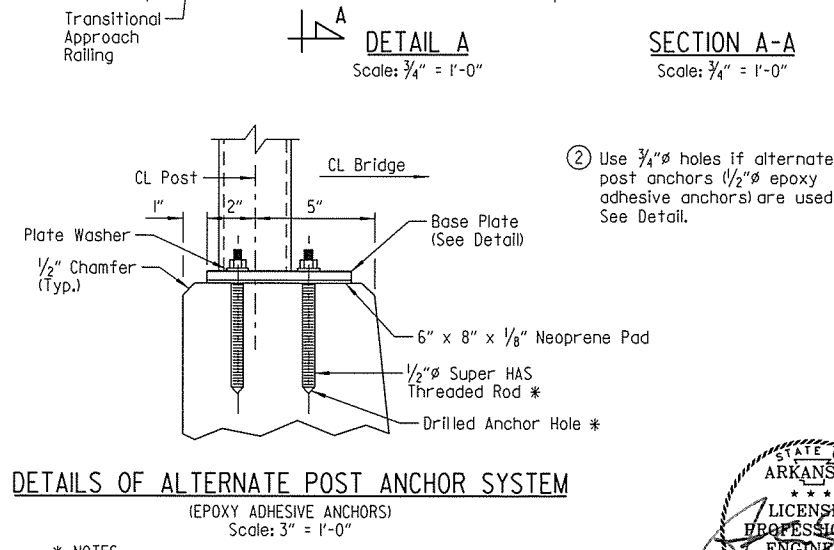
**TYPE H RAIL**  
Scale: 3" = 1'-0"



**END ELEV. SIDE ELEV.**  
**DETAILS OF END CAPS**  
Scale: 3" = 1'-0"

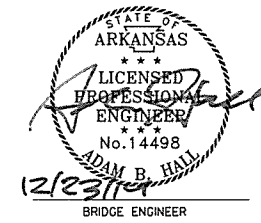


**BASE PLATE**  
Scale: 3" = 1'-0"



**DETAILS OF ALTERNATE POST ANCHOR SYSTEM**  
(EPOXY ADHESIVE ANCHORS)  
Scale: 3" = 1'-0"

\* NOTES:  
HLTI HIT RE 500 Epoxy Adhesive Anchor System with 4 1/2" embedment or approved equal.  
The HLTI Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

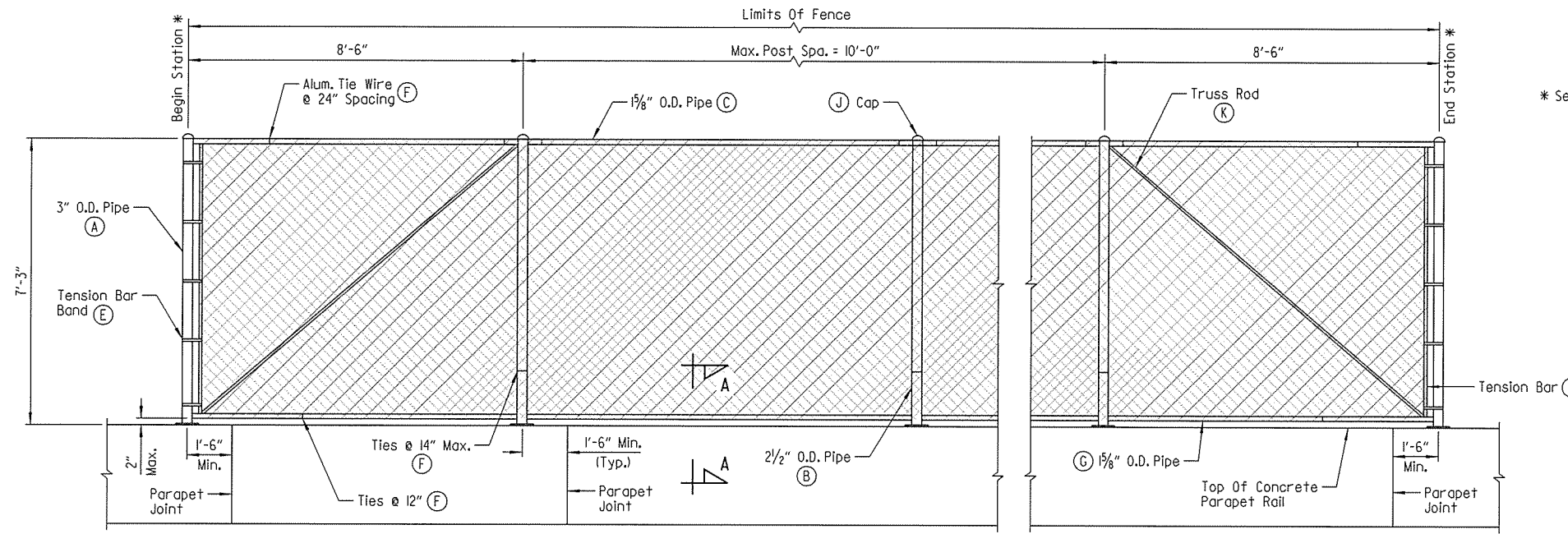


**DETAILS OF TYPE H BRIDGE RAILING**  
ROUTE SEC.  
**ARKANSAS STATE HIGHWAY COMMISSION**  
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_R.DGN  
CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: OCT. 2013  
BRIDGE NO. 07298 DRAWING NO. 54858

12/19/2014 1:24:31PM  
WORKSPACE: AHTD Bridge  
\\CLTIDC\CLTIDP\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\003 - Plans\B060395\_R.dgn  
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	80	141
				① 07298		FENCE DETAILS		54859



\* See "FENCE DETAILS" table.

### MATERIALS FOR CHAIN LINK FENCE

Posts and Rails: ASTM A53 (Grade B)  
 Tubing: ASTM A500 (Grade B)  
 Base Plate and Fence Accessories: AASHTO Specification M270, Gr. 36.  
 Fence members shall be galvanized in accordance with AASHTO Specifications. Mill after fabrication.  
 Cast in place anchor bolts shall be of stainless steel or high strength steel. Stainless steel anchor bolts shall conform to ASTM A193 or A320 - Grade 8B with a minimum yield strength of 80,000 psi. High strength steel anchor bolts shall conform to AASHTO M164 or ASTM A354 - Grade BC galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.  
 Nuts: Nuts shall conform to AASHTO M292, Gr. 8A (stainless steel) or AASHTO M164 galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.  
 Threads: Threads on bolts, screws and nuts shall conform to American Standard Course Series, Class 2 fit, ASA Specification B11.  
 Washers: Washers shall be stainless steel and conform to the requirements of ASTM A167 - Type 302 with dimensions meeting ASTM F436, or high strength steel conforming to AASHTO M293 and galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.  
 Plate Washers shall be stainless steel and conform to the requirements of ASTM A167 - Type 302 or AASHTO M270, Gr. 36, galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50. Plate Washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series).

**DETAIL OF CHAIN LINK FENCE**  
No Scale

- (A) End Post: 3" O.D.
- (B) Line Post: 2 1/2" O.D.
- (C) Top Rail: 1 5/8" O.D.
- (D) Tension Bar: 3/8" x 3/4" Bar
- (E) Tension Bar Band: 3/4" x .074 w/ 5/16" x 1 1/4" Bolt (1 Band top & bottom w/ 15" max. spaces)
- (F) Tie Wire: 9 Ga. Aluminum
- (G) Bottom Rail: 1 5/8" O.D.
- (H) Fabric: 9 Ga. 2" Mesh w/ Knocklug or Twisting Selvage
- (J) Caps: All posts shall be capped & shall conform to ASTM F626-84
- (K) Truss Rod: Min. of 5/8" round with Tighteners and Fittings

NOTE:  
Chain link fabric to be placed on inside face of posts.

FENCE DETAILS			
Parapet Location	Begin Sta.	End Sta.	Fence Length
Left	28+51.11	29+97.11	146.0'
Right	28+75.77	30+21.77	146.0'
** Right	32+42.42	33+64.00	124.0'

\*\* Fence located on MSE Wall. See Dwg. Nos. 54862 - 54865a for details. Fence located on MSE Wall shall be included in roadway quantities.

### GENERAL NOTES

Fence layout shall conform to vertical and horizontal alignments of the bridge. Fence posts shall be set plumb (true vertical position), 7 days shall elapse after pouring parapet before stretching and securing fabric to posts.  
 Unless alternate post anchor system is used, post anchorage shall be cast in the parapet. No portion of the fence shall be erected until the entire parapet has been poured and cured.

Base plates shall not be placed upon areas that are improperly finished, deformed or irregular.

Neoprene pads and template plates shall not be paid for directly but shall be considered incidental to the unit price bid for item "7' STEEL CHAIN LINK FENCE".

All galvanizing which has been damaged in handling or transportation shall be repaired.

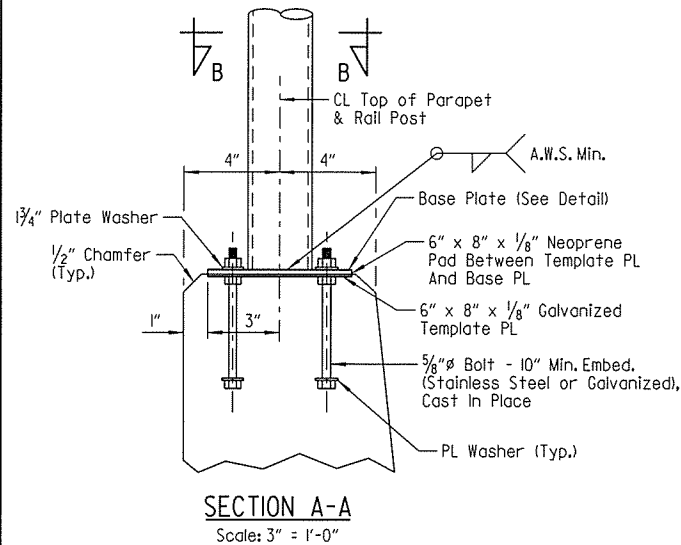
All exposed edges shall be smooth.

All bolt heads shall be to the sidewalk side of the parapet.

Chain link fence attached to Bridge shall be paid for as "7' STEEL CHAIN LINK FENCE". For additional details of chain link fence, see Std. Dwg. WF-3.

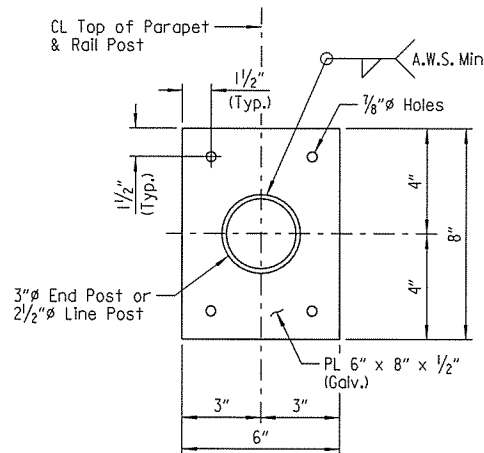
### LEGEND

O.D. = Outside Diameter

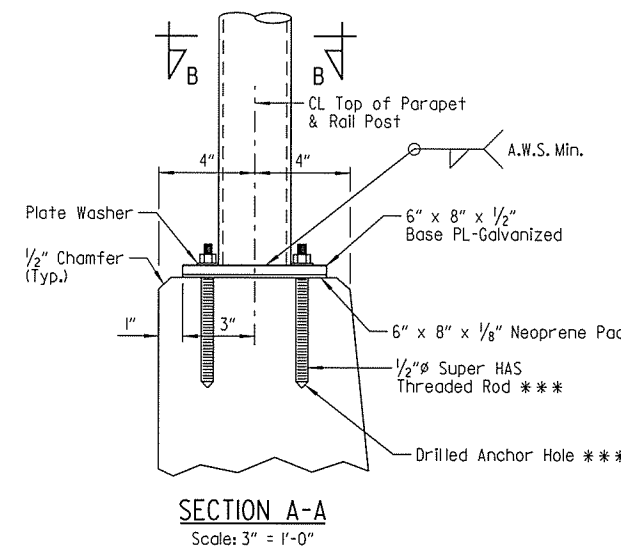


**SECTION A-A**  
Scale: 3" = 1'-0"

### DETAILS OF POST ANCHOR SYSTEM



**SECTION B-B**  
No Scale



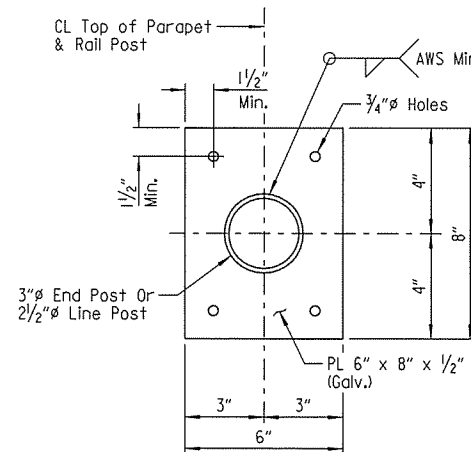
**SECTION A-A**  
Scale: 3" = 1'-0"

\*\*\* NOTES:  
HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4 1/2" embedment or approved equal.

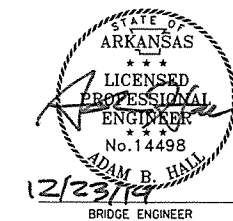
The HILTI Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

### DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(Epoxy Adhesive Anchors)



**SECTION B-B**  
No Scale

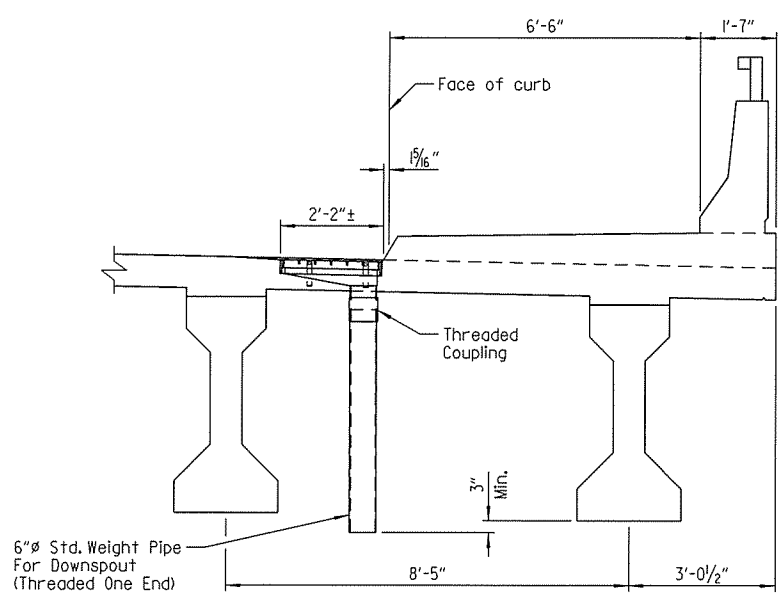


DETAILS OF CHAIN LINK FENCE  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

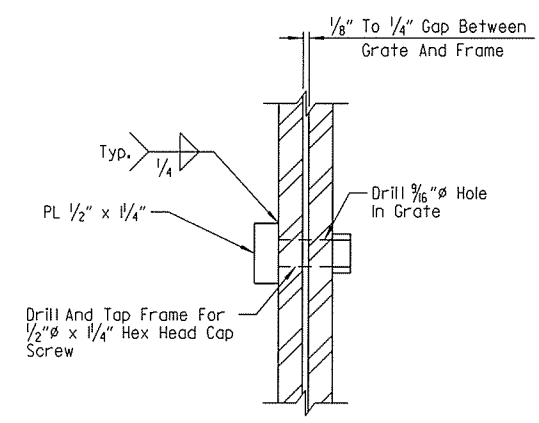
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 CHECKED BY: ABH DATE: NOV. 2013 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: OCT. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54859



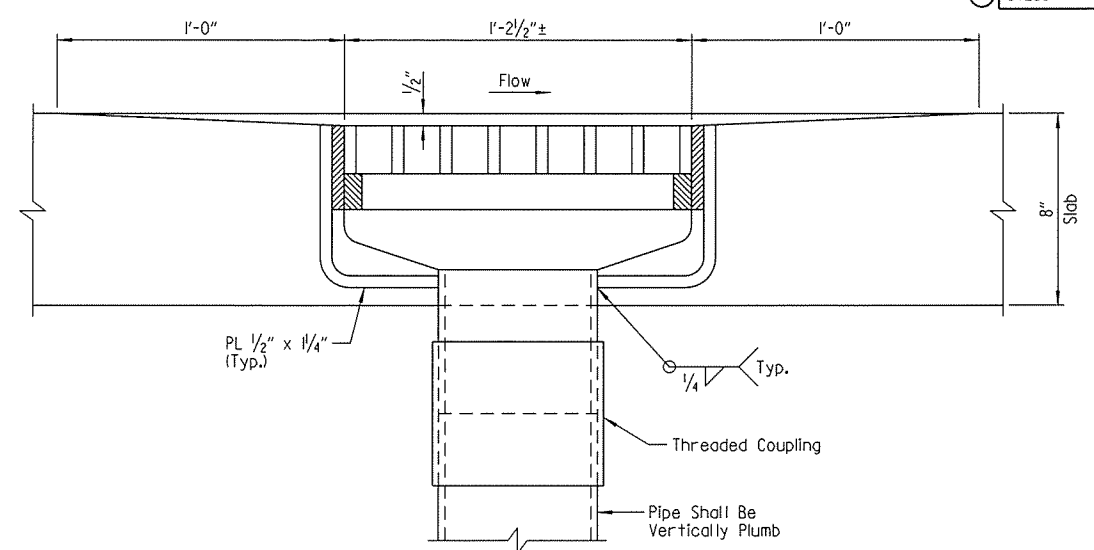
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	81	141	
				07298	DECK DRAIN DETAILS			54860



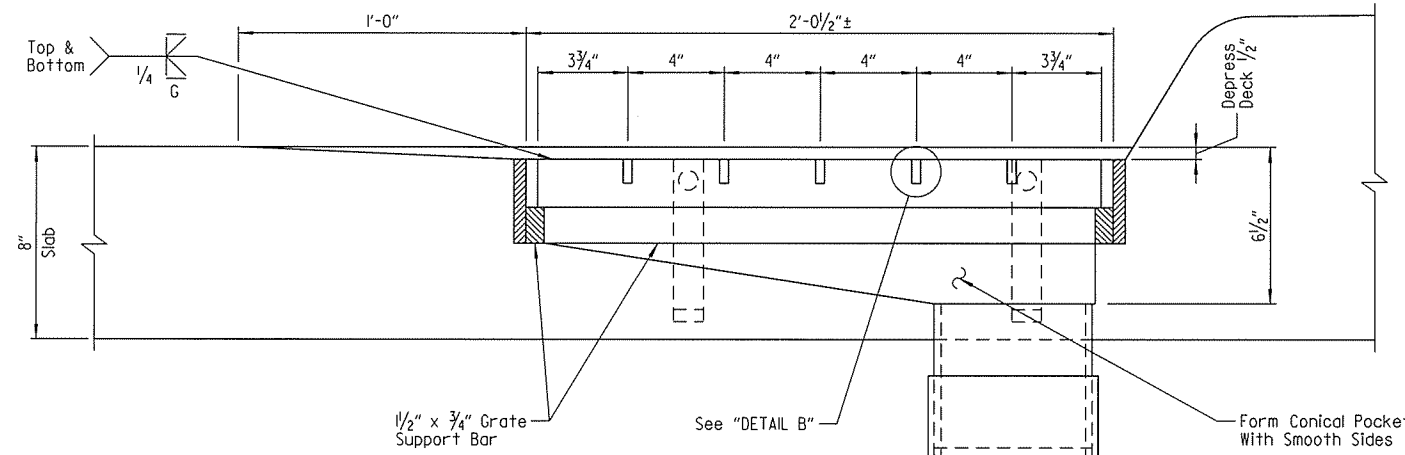
**SECTION AT DECK DRAIN**  
Scale: 1/2" = 1'-0"



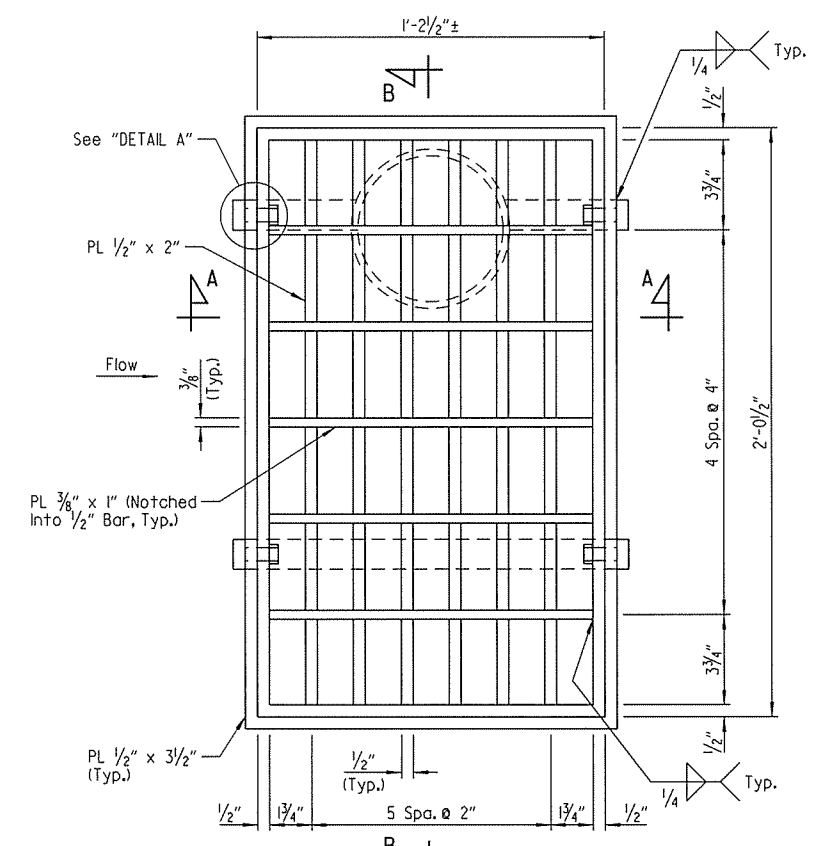
**DETAIL A**  
Scale: 6" = 1'-0"



**SECTION A-A**  
Scale: 3" = 1'-0"



**SECTION B-B**  
Scale: 3" = 1'-0"

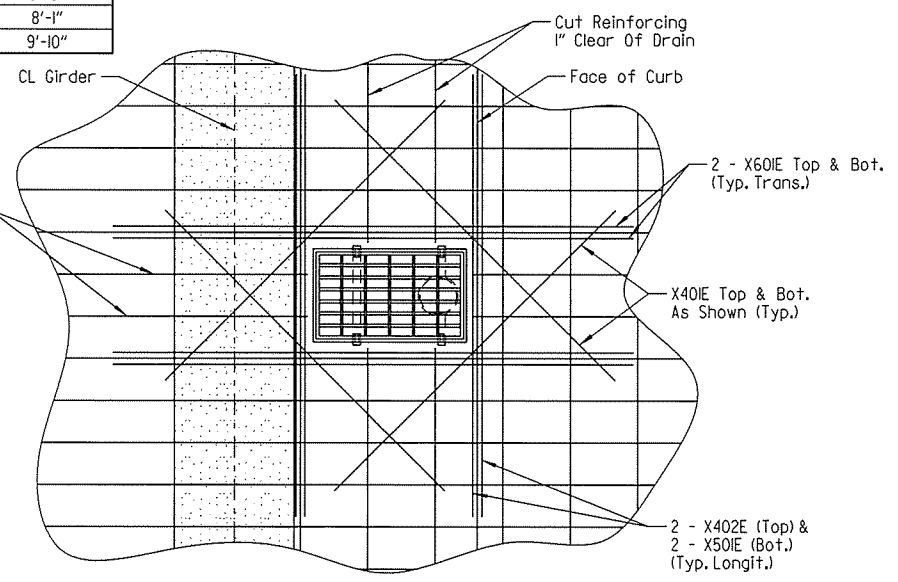


**PLAN**  
Scale: 3" = 1'-0"

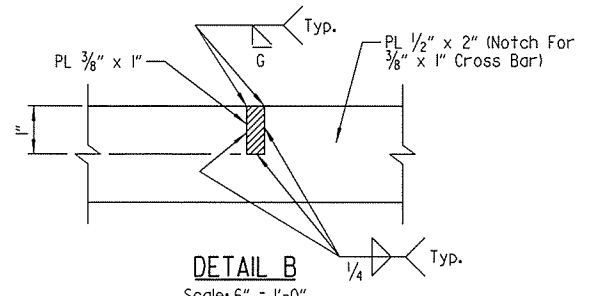
**BAR LIST - PER DRAIN**

Mark	No. Req'd.	Length
X401E	8	5'-6"
X402E	4	6'-9"
X501E	4	8'-1"
X601E	8	9'-10"

NOTE:  
Details of deck drains are shown for prestressed concrete girder spans. Details for plate girder spans are similar.

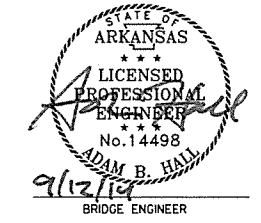


**PLAN OF REINFORCING AT DECK DRAINS**  
No Scale



**DETAIL B**  
Scale: 6" = 1'-0"

For "GENERAL NOTES" and deck drain placement plans, see Dwg. No. 54861.



SHEET 1 OF 2  
DETAILS OF DECK DRAINS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_D1.DGN  
CHECKED BY: DRG DATE: DEC. 2013 SCALE: AS SHOWN  
DESIGNED BY: ABH DATE: OCT. 2013  
BRIDGE NO. 07298 DRAWING NO. 54860

9/12/2014 12:16:30 PM  
 WORKSPACE: AHTD Bridge  
 \GLTIDCON\ITProjects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_D1.dgn  
 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	82	141	
				07298	DECK DRAIN DETAILS			54861

①

**GENERAL NOTES:**

Drain locations may be adjusted to clear diaphragm connections and avoid reinforcing bars.

Steel fasteners shall be galvanized in accordance with AASHTO M232 or ASTM B695, Class 40 or 50.

Structural steel in deck drains shall not be paid for directly but shall be considered subsidiary to the item "STRUCTURAL STEEL IN PLATE GIRDER SPANS (AASHTO M270, GR. 50W)".

Top longitudinal reinforcing steel in the slab shall be cut as required to install the deck drains. Two #4 x 6'-9" straight bars (longitudinally) shall be placed on each side of the drain.

Top and bottom transverse reinforcing steel in the slab shall be cut as required (up to a maximum of three bars per mat) to install deck drains. Add two #6 x 9'-10" straight bars (transversely) per mat on each side of the drain.

Add one #4 x 5'-6" straight bar to top and bottom mat of reinforcing @ 45° angle to each corner of deck drain (total 8 bars per drain).

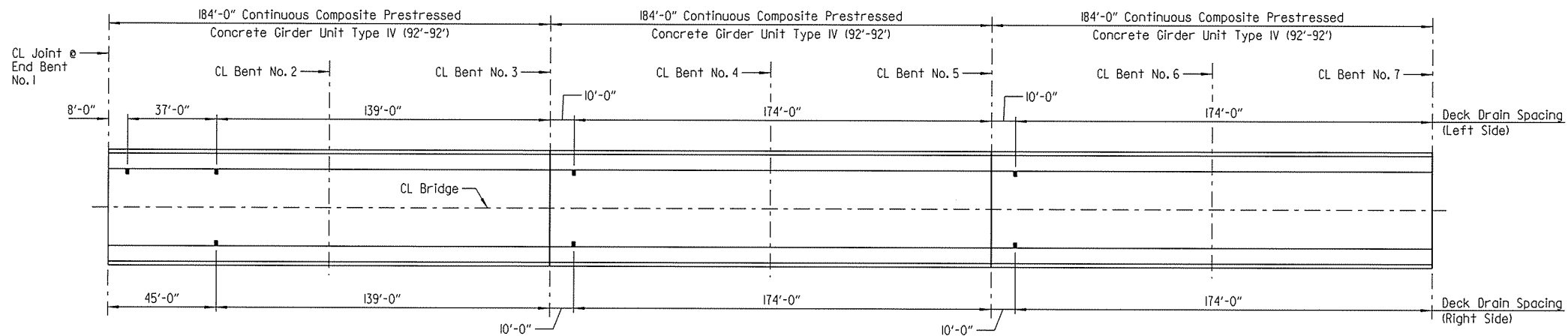
Repair all cut or damaged epoxy bars according to the Standard Construction Specifications.

All additional reinforcing steel placed around deck drains shall be epoxy coated and shall not be paid for directly but shall be considered subsidiary to the item "EPOXY COATED REINFORCING STEEL (GRADE 60)."

All pipe and fittings shall be 6" diameter standard weight steel pipe as noted in the plans. Pipe and fittings shall be in conformance with ASTM A53 or ASTM A501 Grade A and shall be hot-dipped galvanized in accordance with AASHTO M111. Pipe and fittings conforming to ASTM A500 Grade B and galvanized in accordance with ASTM A123 may also be provided.

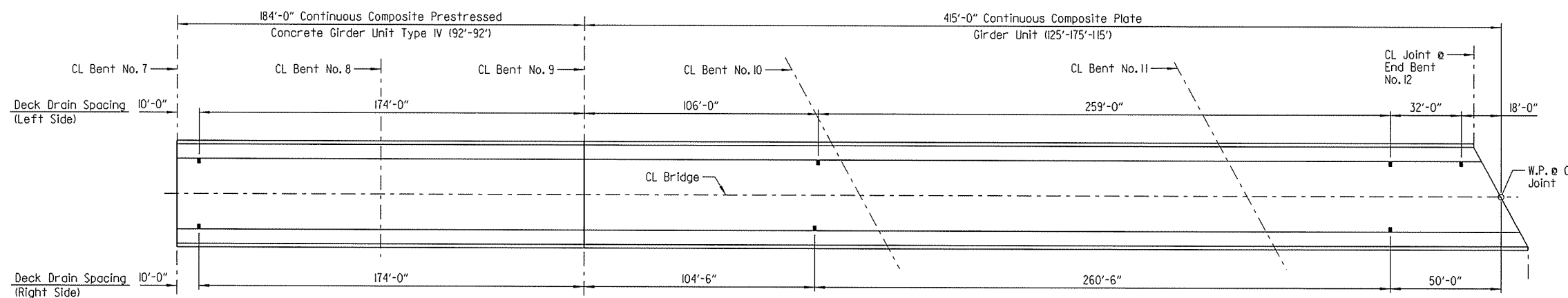
All exposed surfaces of galvanized pipe and fittings and any galvanized fasteners shall be cleaned in accordance with SSPC-SPI (Solvent Cleaning). All surfaces of the drain inlets and any ungalvanized fasteners shall be cleaned in accordance with Section 638. All elements of the drain system shall be painted with an aluminum epoxy paint conforming to Section 638 prior to final assembly on the bridge structure.

All coatings shall be supplied by the same manufacturers to ensure compatibility and shall be from the Department's Qualified Products List 638 or 807 as appropriate.



**DECK DRAIN PLACEMENT PLAN - UNIT NOS. 1-3**

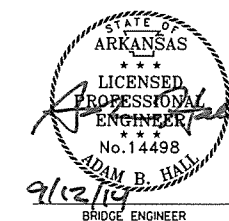
Scale: 1" = 30'-0"



**DECK DRAIN PLACEMENT PLAN - UNIT NOS. 4 & 5**

Scale: 1" = 30'-0"

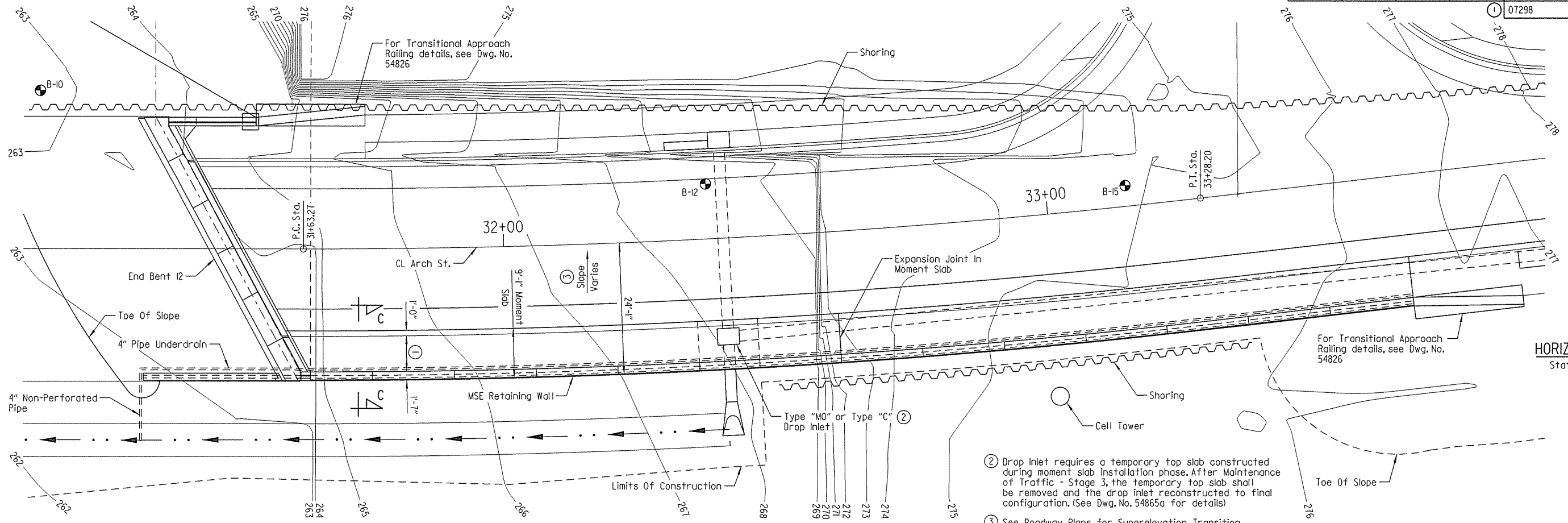
**NOTE:**  
A Pre-Manufactured Gate or Gate and Frame may be submitted for approval of the Engineer in place of the steel fabrication shown in the plans. Gate shall have an AASHTO-AGC-ARTBA Type 5 or 6 Configuration and shall be designed for a 16,000 lb. wheel load.



SHEET 2 OF 2  
 DETAILS OF DECK DRAINS  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: CWT DATE: OCT. 2013 FILENAME: B060395\_D2.DGN  
 CHECKED BY: DRG DATE: DEC. 2013 SCALE: AS SHOWN  
 DESIGNED BY: ABH DATE: OCT. 2013  
 BRIDGE NO. 07298 DRAWING NO. 54861

9/12/2014 12:16:31 PM  
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 \\CLTDCON\IT\Projects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\90% Plans\B060395\_D2.dgn  
 REVISED DATE:

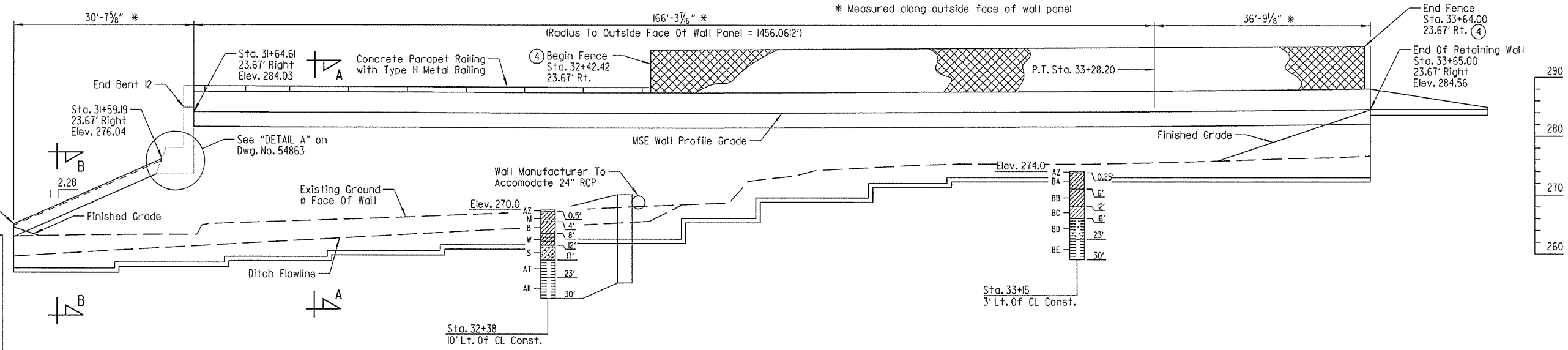
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	83	141
				07298		WALL DETAILS		54862



**HORIZONTAL CURVE DATA**  
 State Highway 367 (Arch St.)  
 PI = 32+45.83  
 Δ = 6°35'49.6" Lt.  
 D = 4'00"00"  
 T = 82.56'  
 L = 164.93'  
 e = 0.03'/'  
 R = 1432.39'

**PLAN - MSE RETAINING WALL**  
 Scale: 1" = 10'-0"

- ② Drop Inlet requires a temporary top slab constructed during moment slab installation phase. After Maintenance of Traffic - Stage 3, the temporary top slab shall be removed and the drop inlet reconstructed to final configuration. (See Dwg. No. 54865a for details)
- ③ See Roadway Plans for Superelevation Transition
- ④ See "DETAILS OF CHAIN LINK FENCE" on Dwg. No. 54859 and "ELEVATION - METAL RAILING & CHAIN LINK FENCE" on Dwg. No. 54865

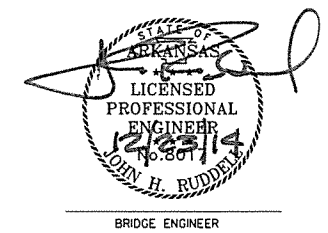


**ELEVATION - MSE RETAINING WALL**  
 Scale: 1" = 10'-0"

**N VALUES**

Sta. 31+5	Sta. 31+5	Sta. 32+38	Sta. 33+5
Offset 29' Lt.	Offset 29' Lt.	Offset 10' Lt.	Offset 3' Lt.
1.0-2.0, N=11	33.5-34.0, N=50/0"	0.5-1.5, N=6	0.5-1.5, N=8
2.5-3.5, N=7	38.5-39.0, N=50/0"	2.5-3.5, N=12	2.5-3.5, N=6
4.5-5.5, N=5	43.5-44.0, N=50/0"	4.5-5.5, N=9	4.5-5.5, N=6
9.0-10.0, N=50/8"	48.5-49.0, N=50/0"	9.0-10.0, N=26	9.0-10.0, N=6
19.0-20.0, N=43	53.5-54.0, N=50/0"	14.0-15.0, N=26	19.0-20.0, N=50/8"
23.5-24.0, N=50/2"	58.5-59.0, N=50/0"	19.0-20.0, N=40	24.0-25.0, N=50/8"
28.5-29.0, N=50/0"	63.5-64.0, N=50/0"	24.0-24.5, N=50/5"	29.5-30.0, N=50/6"
		29.5-30.0, N=50/4"	

**NOTES:**  
 For "GENERAL NOTES", "SECTION A-A", "SECTION B-B" and "TABLE OF WALL ELEVATIONS", see Dwg. No. 54863.  
 For "SECTION C-C", see Dwg. No. 54864.  
 Stations shown are along CL Arch St.  
 For "BORING LEGEND", see Dwg. No. 54815.  
 Offsets shown are measured from CL Arch St. to outside vertical face of MSE wall.

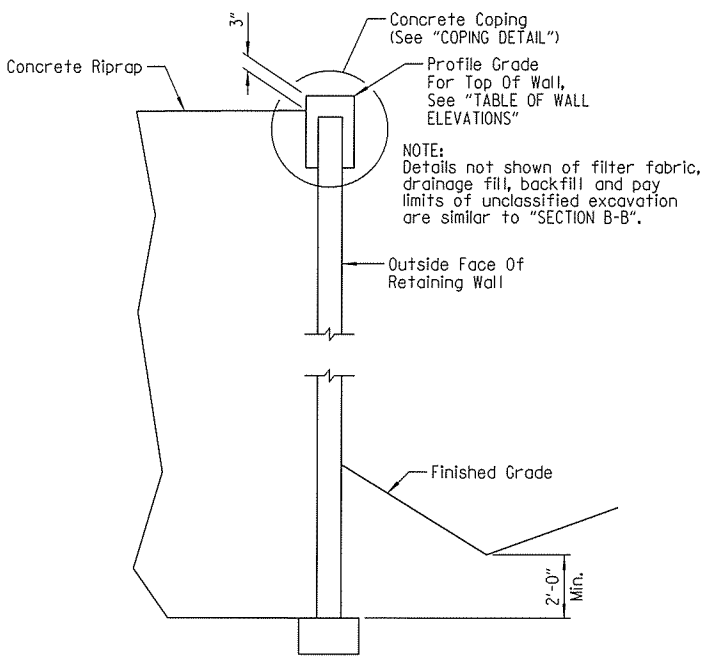
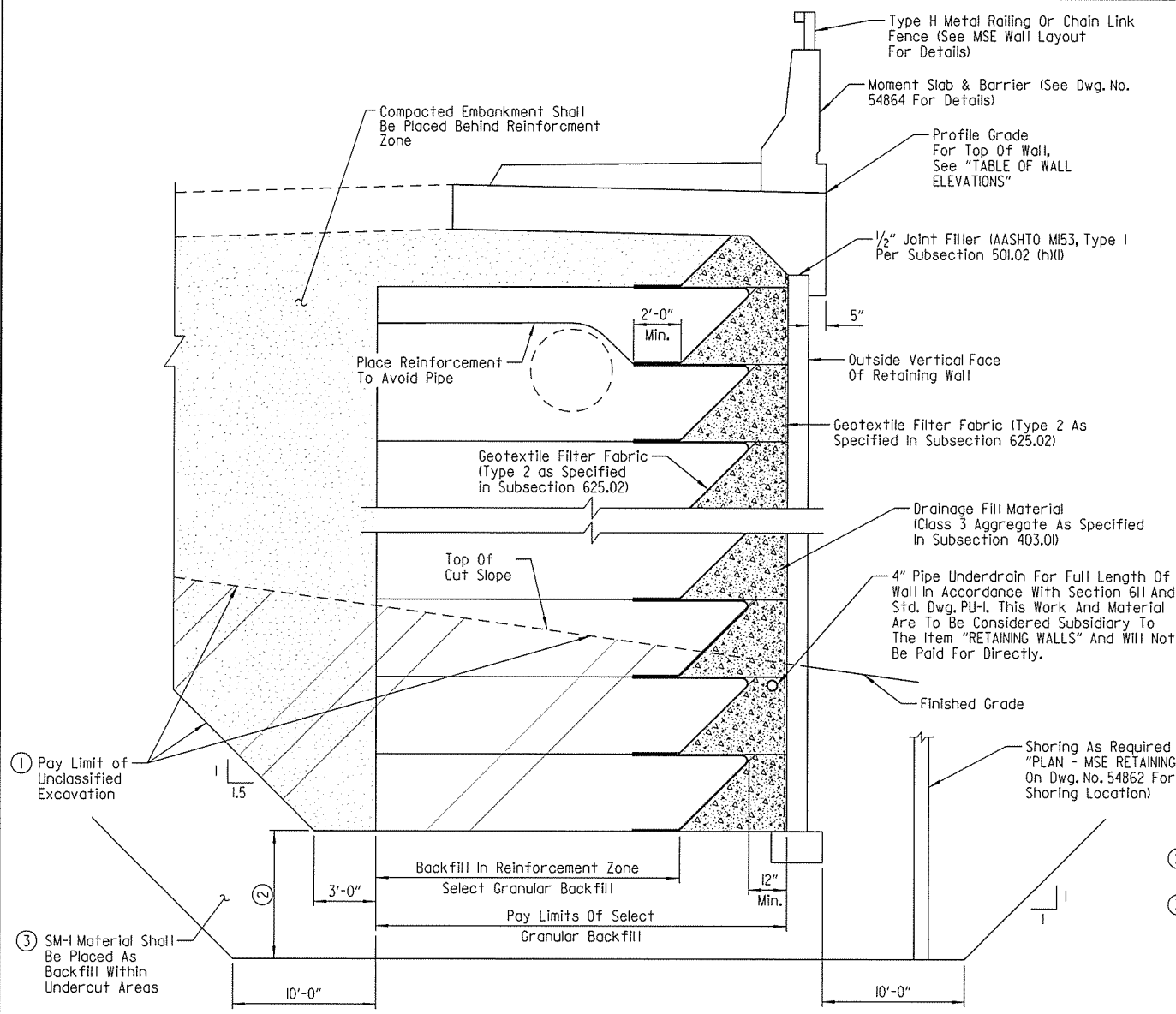


SHEET 1 OF 5  
 DETAILS OF MSE RETAINING WALL  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

DRAWN BY: DRG DATE: JULY 2014 FILENAME: B060395\_WLDGN  
 CHECKED BY: JHR DATE: AUG. 2014 SCALE: AS SHOWN  
 DESIGNED BY: DRG DATE: JULY 2014  
 BRIDGE NO. 07298 DRAWING NO. 54862

12/19/2014 12:43:33 PM  
 WORKSPACE: AHTD Bridge  
 \\\LITDCON\ITProjects\2011\071505 - Arch Street Bridge Replacement\Drawings\BRC\007\_Plan\B060395\_WLDGN  
 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	84	141
				07298		WALL DETAILS		54863



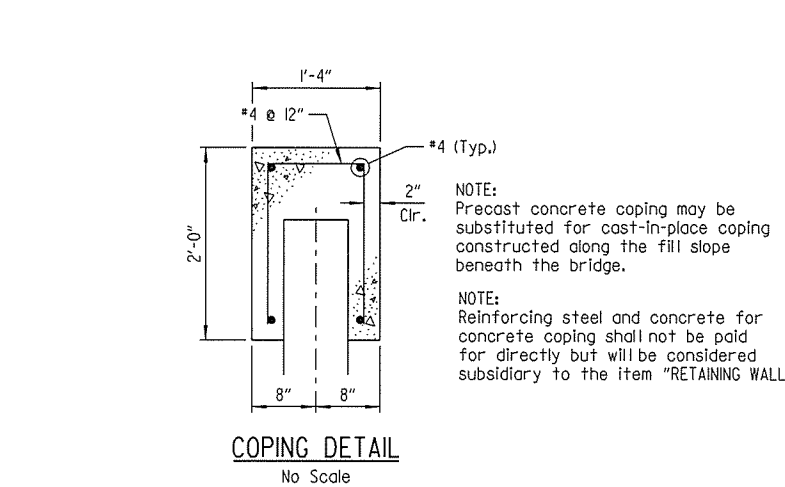
Station	Top Of Wall Elevation	Existing Ground Elevation	Ditch Flowline Elevation
31+64.61	284.08	263.22	261.26
31+70.00	284.01	265.13	261.55
31+80.00	283.97	265.48	262.10
31+90.00	283.94	265.83	262.65
32+00.00	283.93	266.21	263.24
32+10.00	283.88	266.56	263.75
32+20.00	283.84	266.99	264.29
32+30.00	283.82	267.47	264.84
32+40.00	283.81	267.96	265.38
32+50.00	283.82	268.39	-
32+60.00	283.84	272.40	-
32+70.00	283.88	273.98	-
32+80.00	283.93	274.63	-
32+90.00	284.01	275.16	-
33+00.00	284.03	275.30	-
33+10.00	284.07	275.25	-
33+20.00	284.12	275.31	-
33+30.00	284.19	275.54	-
33+40.70	284.29	275.85	-
33+50.00	284.38	276.15	-
33+60.00	284.50	276.43	-
33+65.00	284.56	276.67	-

NOTE: Stations shown are along CL Arch Street

**SECTION A-A**  
No Scale

① Excavation required for the Reinforcement Zone, Leveling Pad and Placement of SM-1 Material will be paid for under the pay item "UNCLASSIFIED EXCAVATION". See SP JOB 060395 "RETAINING WALLS".

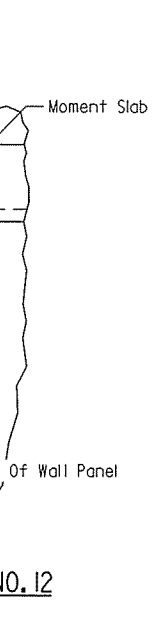
NOTE: All backfill and drainage fill material within the Reinforcement Zone shall be included in the price bid for "SELECT GRANULAR MATERIAL". Select material required behind the Reinforcement Zone shall be included in the price bid for "COMPACTED EMBANKMENT". See SP JOB 060395 "RETAINING WALLS".



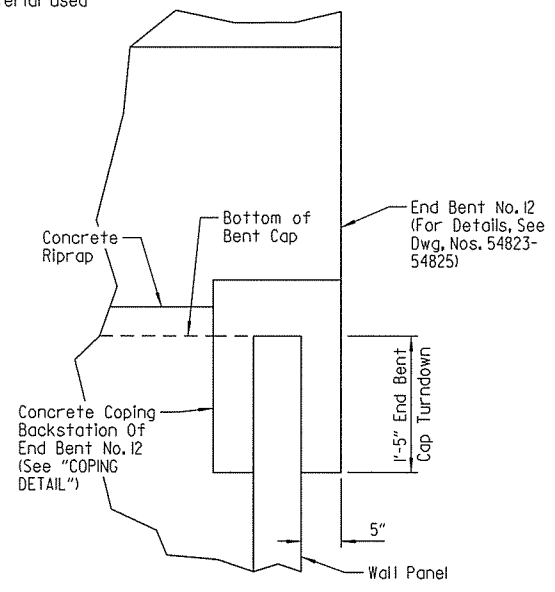
**COPING DETAIL**  
No Scale

② Depth of undercut varies from 0' to 11' as directed by the Engineer

③ The backfill material placed within the undercut area shall be measured and paid for as "COMPACTED EMBANKMENT". See SP JOB 060395 "EXCAVATION AND EMBANKMENT" for material requirements of SM-1 Material used as undercut backfill.



**MSE WALL AT END BENT NO. 12**  
No Scale



**SECTION X-X**  
No Scale

**GENERAL NOTES**

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with Current Interim Revisions

SEISMIC PERFORMANCE ZONE: I SDI = 0.15 Site Class = C

4" pipe underdrain shall maintain a minimum slope of 1/8" per foot toward nearest outlet.

Elevations are approximate. Wall dimensions may vary depending on wall design selected.

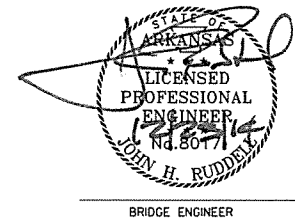
See SP JOB 060395 "RETAINING WALLS" for additional information.

Boring logs, including laboratory results, may be obtained from Programs and Contracts Division.

Joint filler, joint sealer, polystyrene foam board and rodent screen will not be paid for directly but will be considered subsidiary to SP JOB 060395 "RETAINING WALLS".

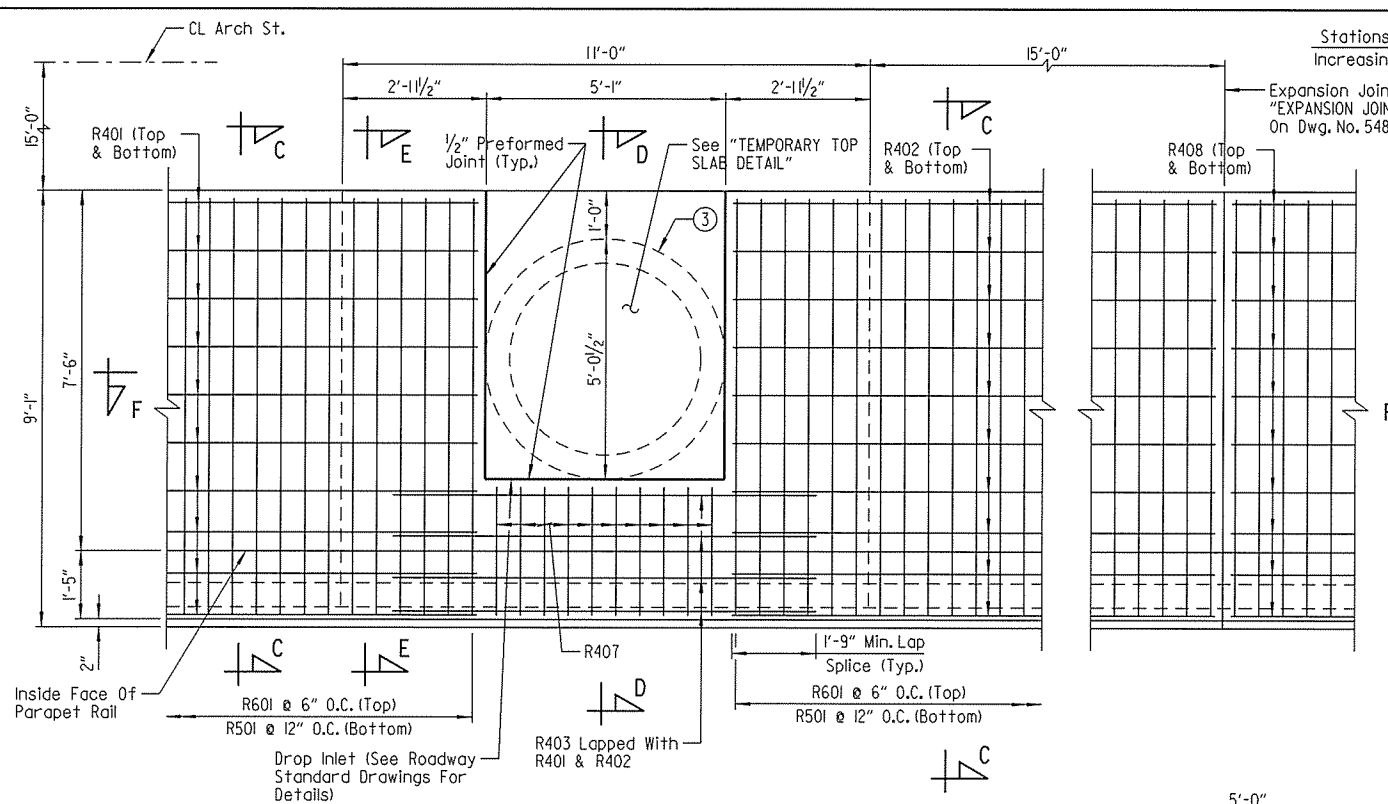
SHEET 2 OF 5  
DETAILS OF MSE RETAINING WALL  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: DRG DATE: JUNE 2014 FILENAME: B060395\_W2.DGN  
CHECKED BY: JHR DATE: AUG. 2014 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JUNE 2014  
BRIDGE NO. 07298 DRAWING NO. 54863

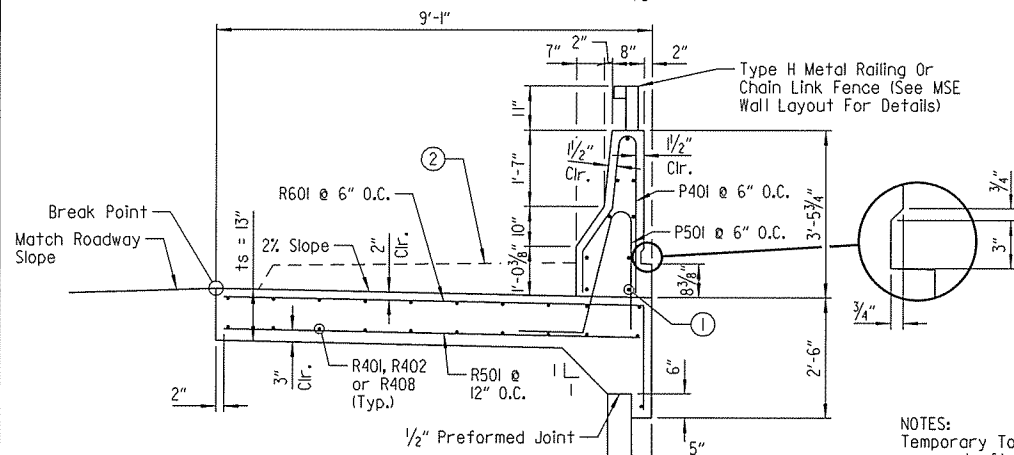


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 REVISED DATE:

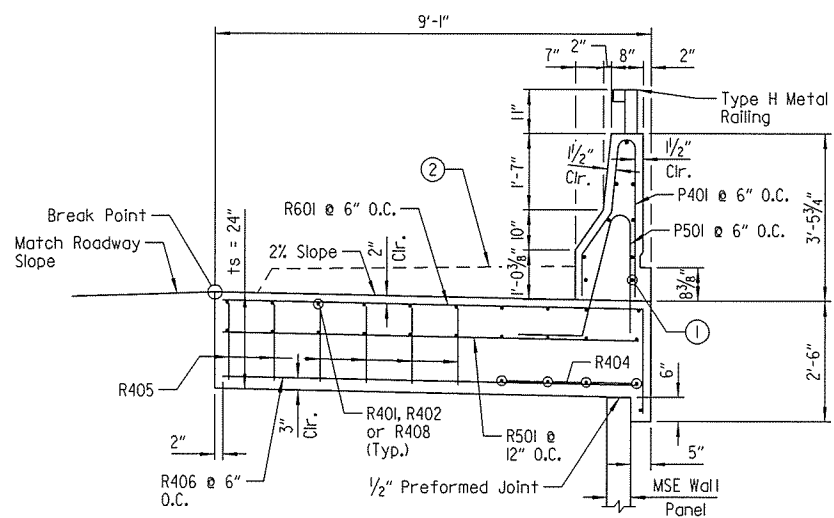
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				JOB NO.	060395		85	141
				07298	WALL DETAILS		54864	



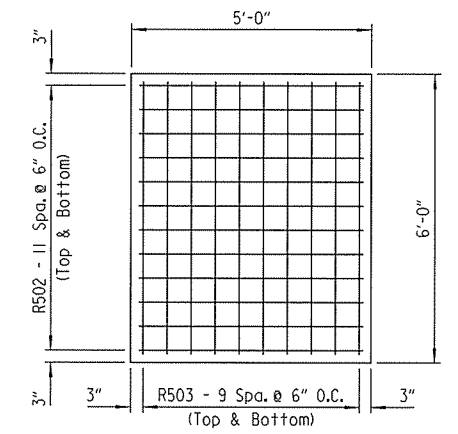
**PLAN - MOMENT SLAB AT DROP INLET**  
(Drop Inlet Centered At Sta. 32+40.34)  
Scale: 1/2" = 1'-0"



**SECTION C-C**  
Scale: 1/2" = 1'-0"



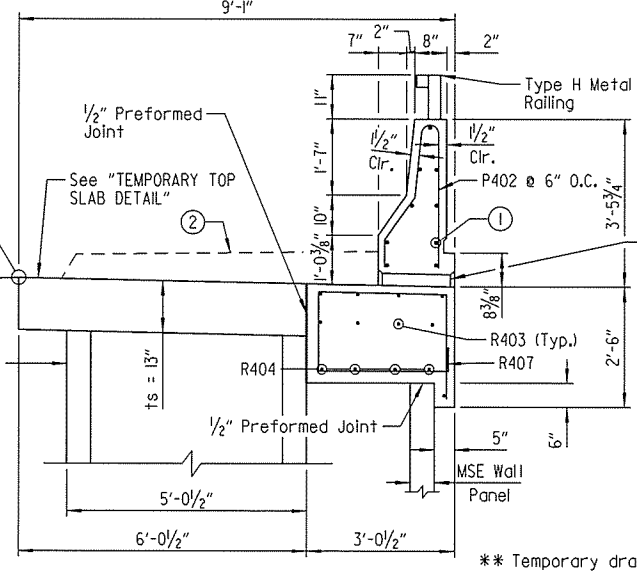
**SECTION E-E**  
Scale: 1/2" = 1'-0"



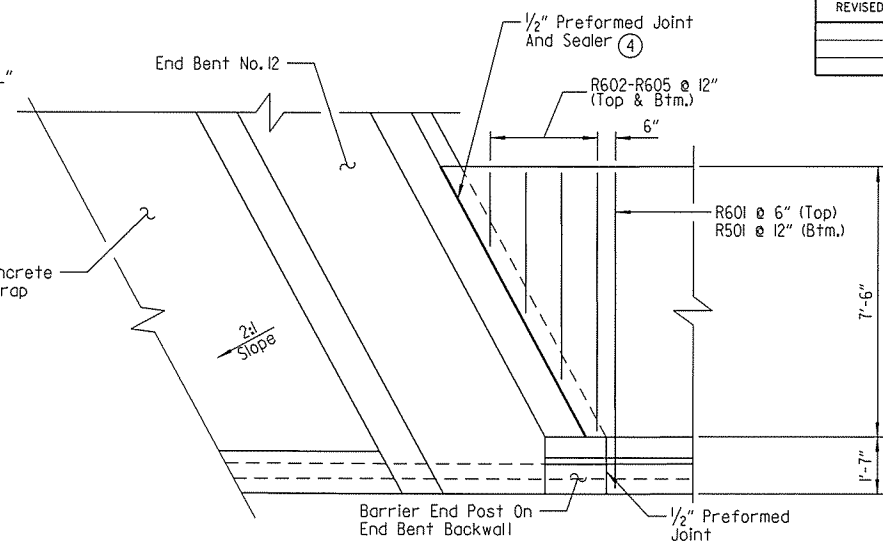
**TEMPORARY TOP SLAB DETAIL**  
Scale: 1/2" = 1'-0"

NOTES:  
Temporary Top Slab to be removed after Maintenance of Traffic - Stage 3.  
Reinforcing steel in temporary top slab shall maintain 2" min. cl. cover.

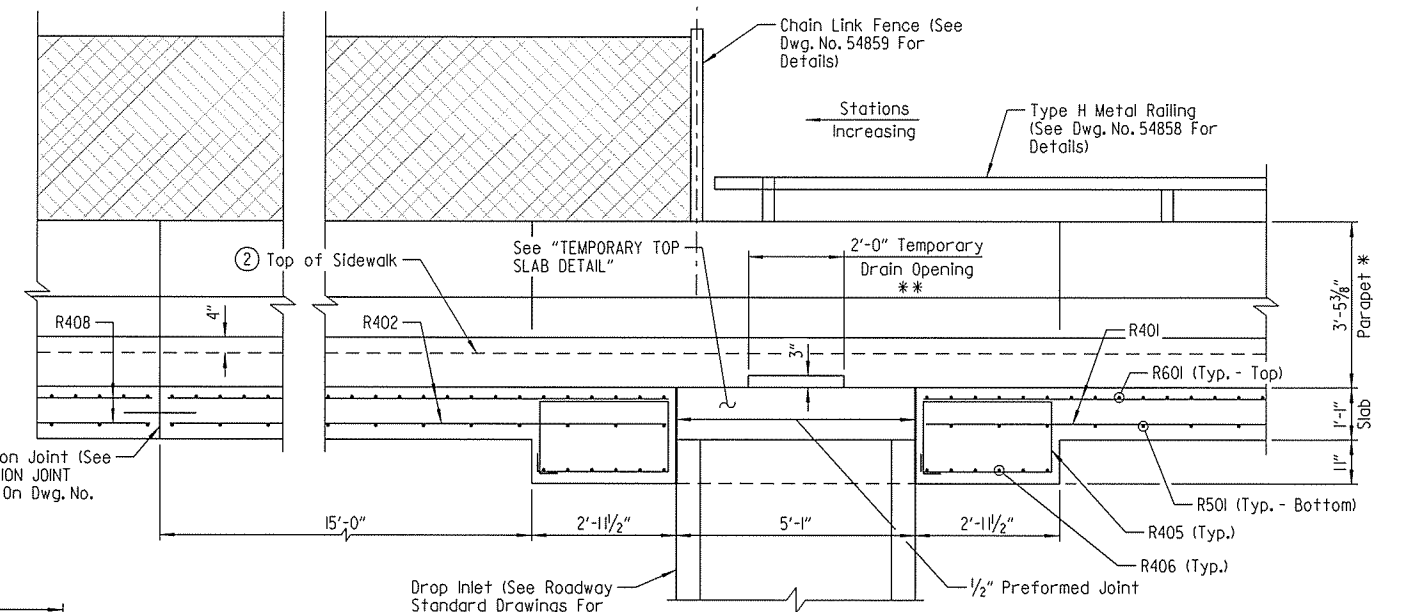
- #4 bars (Typ. - See "PARAPET REINFORCING DETAILS" on Dwg. No. 54865 for bar designations)
- Sidewalk to be constructed after Maintenance of Traffic - Stage 3, See "SIDEWALK DETAILS" on Dwg. No. 54865a.
- Type "M0" Drop Inlet Shown. Details For Type "C" Inlet Are Similar.



**SECTION D-D**  
Scale: 1/2" = 1'-0"



**MOMENT SLAB AT END BENT NO. 12**  
Scale: 3/8" = 1'-0"



**SECTION F-F**  
No Scale

NOTE: Sidewalk not shown for clarity. \* Measured at inside face of parapet

④ Use 1/2" Preformed Joint AASHTO M153 Type 1 and 1/2" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j)

TABLE OF QUANTITIES			
ITEM NO.	619	631	806
ITEM	7" STEEL CHAINLINK FENCE	CONCRETE BARRIER WALL (PARAPET TYPE SPECIAL) ⑤	METAL BRIDGE RAILING (TYPE H)
UNIT	LINEAR FOOT	LINEAR FOOT	LINEAR FOOT
	124	203	78

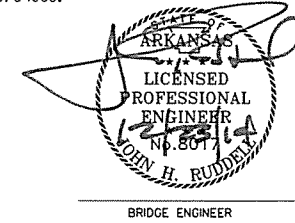
⑤ The cost of the Concrete Barrier Wall (Parapet Type Special) shall include all concrete, reinforcing steel, preformed joint material, joint sealant and expansion joint dowel bars necessary for the construction of the moment slab, concrete barrier, temporary top slab and sidewalk.

**GENERAL NOTES**

All concrete for the moment slab, concrete barrier and sidewalk shall be Class (S1AE) f'c = 4,000 psi.  
All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (fy = 60,000 psi).

SHEET 3 OF 5  
DETAILS OF MSE RETAINING WALL  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

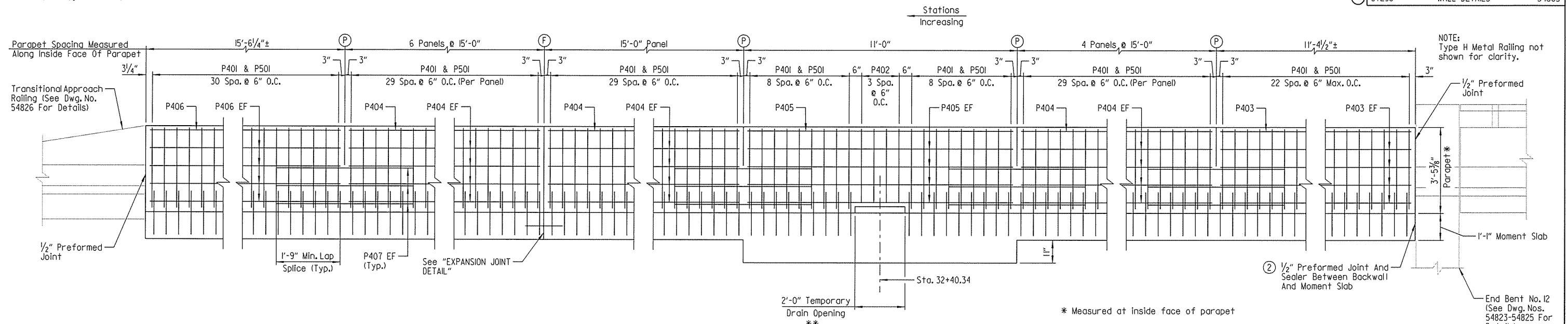
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CHECKED BY: JHR DATE: AUG. 2014 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JUNE 2014  
BRIDGE NO. 07298 DRAWING NO. 54864



12/19/2014 12:43:34 PM  
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 \\CLTDC01\IT\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\BRC\1002 - Plans\B060395\_W3.dgn  
 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	060395	86	141	
				07298	WALL DETAILS		54865	

- (F) CL Full-Depth Parapet Joint (1/2" Wide)  
Stop at top of moment slab.
- (P) CL Partial-Depth Parapet Joint (1/4" to 1" Max.)  
Stop 1'-10 3/8" from top of moment slab.

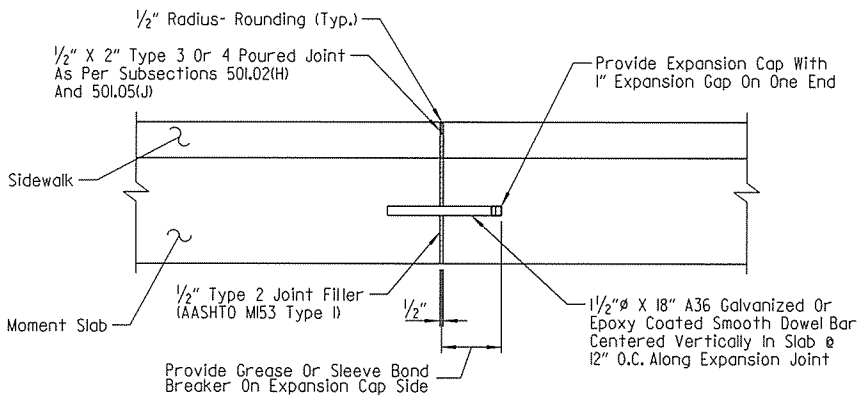


NOTES:  
For moment slab reinforcing details, see Dwg. No. 54864.

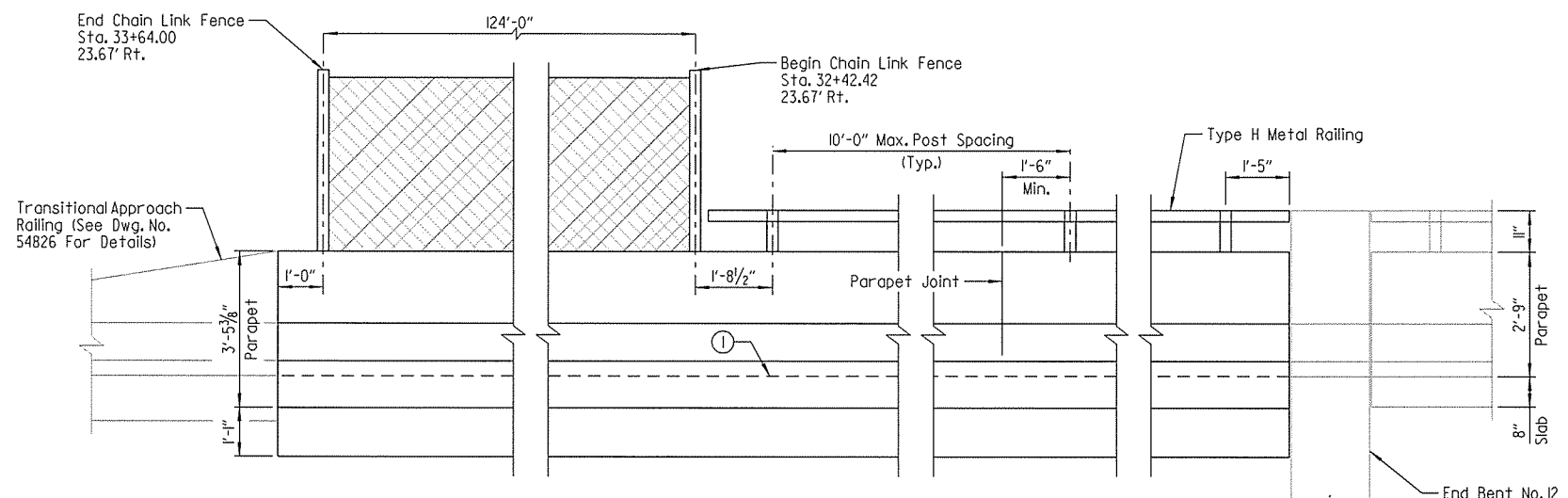
**PARAPET REINFORCING DETAILS**  
(Looking At Front Face Of Parapet)  
Scale: 1/2" = 1'-0"

\* Measured at inside face of parapet  
\*\* Temporary drain opening shall be filled with concrete when sidewalk is constructed.

② Use 1/2" Preformed Joint AASHTO M53 Type I and 1/2" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j)



**EXPANSION JOINT DETAIL**  
No Scale

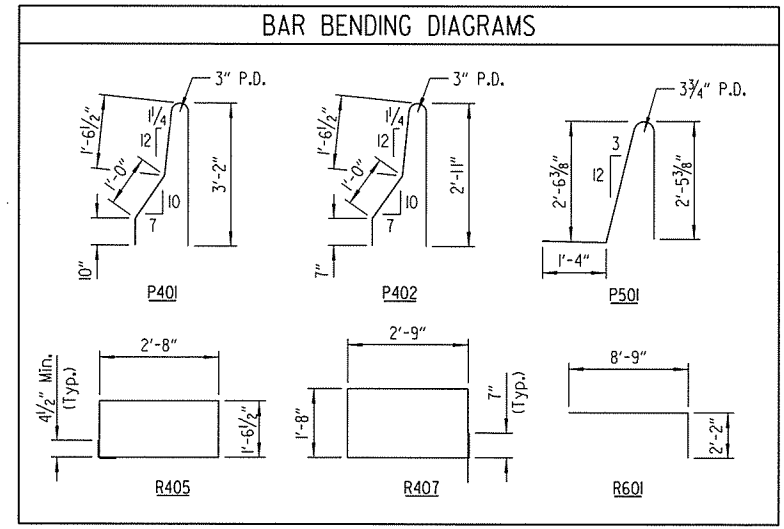


① Sidewalk to be constructed after Maintenance of Traffic - Stage 3, see "SIDEWALK DETAILS" on Dwg. No. 54865a.

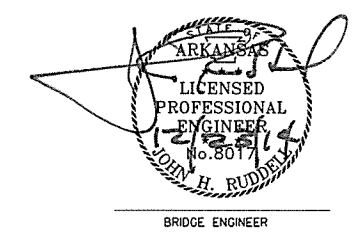
NOTES:  
For details of Type H Metal Railing, see Dwg. No. 54858  
For details of Chain Link Fence, see Dwg. No. 54859

**ELEVATION - METAL RAILING & CHAIN LINK FENCE**  
(Looking At Front Face Of Parapet)  
No Scale

BAR LIST			
MARK	NO. REQ'D	LENGTH	P.D.
R401	42	40'-0"	Str.
R402	21	17'-8"	Str.
R403	9	8'-10"	Str.
R404	4	10'-8"	Str.
R405	12	8'-9"	2"
R406	12	8'-9"	Str.
R407	10	9'-8"	2"
R408	63	36'-4"	Str.
R501	198	8'-9"	Str.
R502	24	4'-8"	Str.
R503	20	5'-8"	Str.
R601	397	10'-9"	4 1/2"
R602	2	7'-2"	Str.
R603	2	5'-9"	Str.
R604	2	3'-10"	Str.
R605	2	2'-0"	Str.
P401	402	6'-8"	3"
P402	4	6'-2"	3"
P403	9	11'-6"	Str.
P404	99	14'-8"	Str.
P405	9	10'-8"	Str.
P406	9	15'-2"	Str.
P407	66	3'-10"	Str.
P501	402	6'-5"	2 1/2"



**LEGEND**  
EF = Each Face

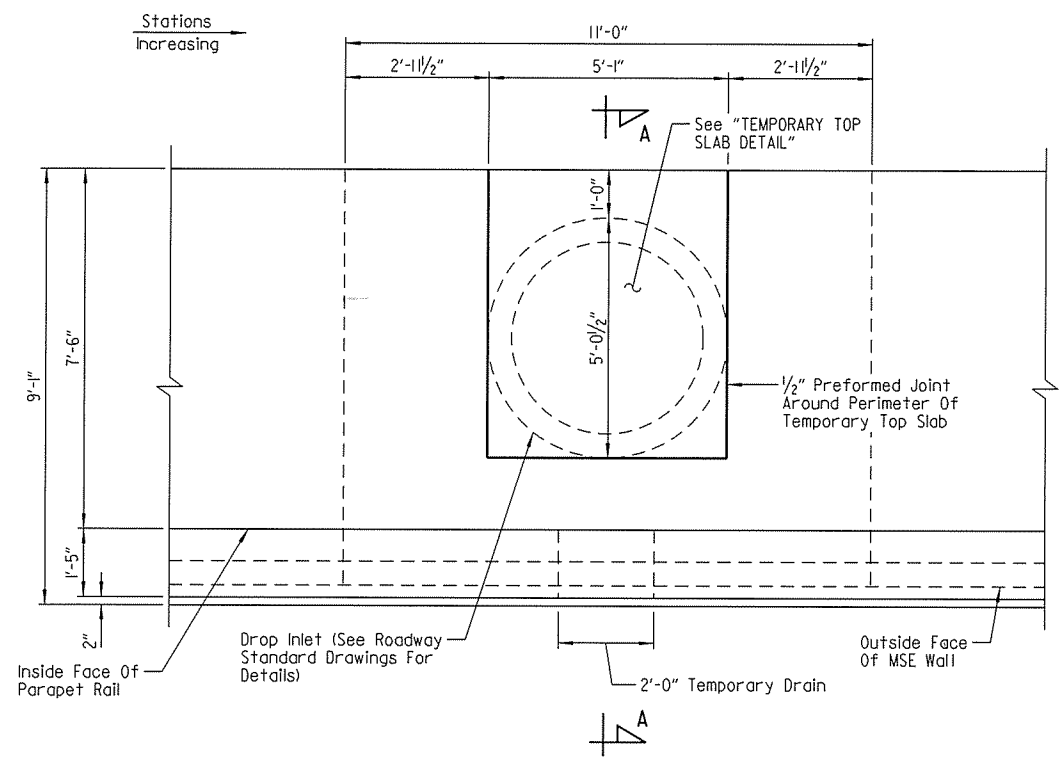


SHEET 4 OF 5  
DETAILS OF MSE RETAINING WALL  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

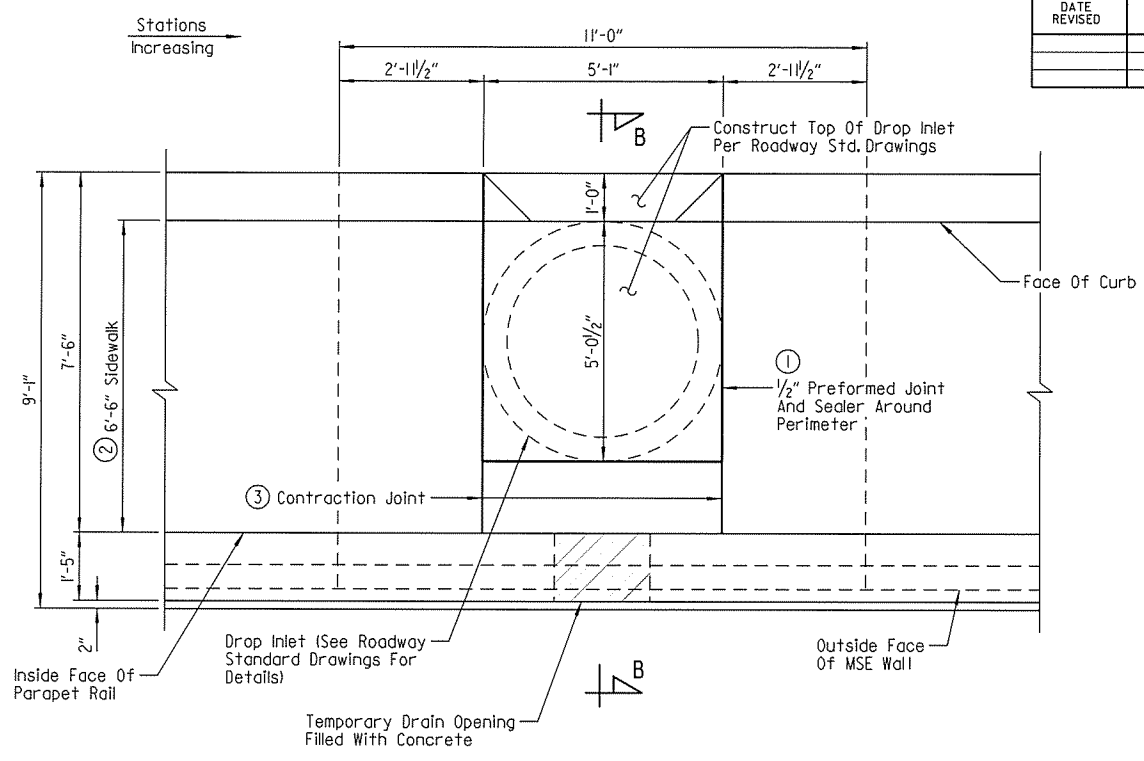
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DESIGNED BY: DRG DATE: JUNE 2014  
BRIDGE NO. 07298 DRAWING NO. 54865

12/19/2014 12:43:35 PM  
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 REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060395	87	141
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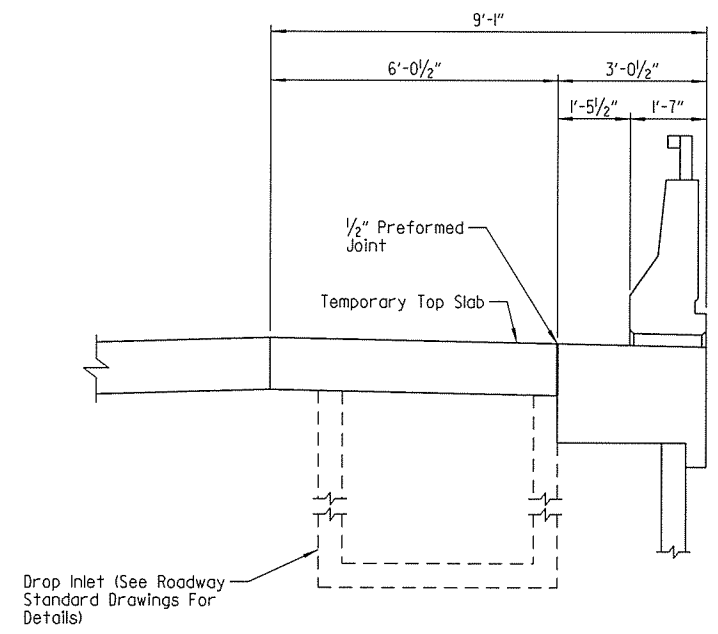
**PLAN - DROP INLET AT STA. 32+40.34**  
(Showing Temporary Top Slab)  
Scale: 1/2" = 1'-0"



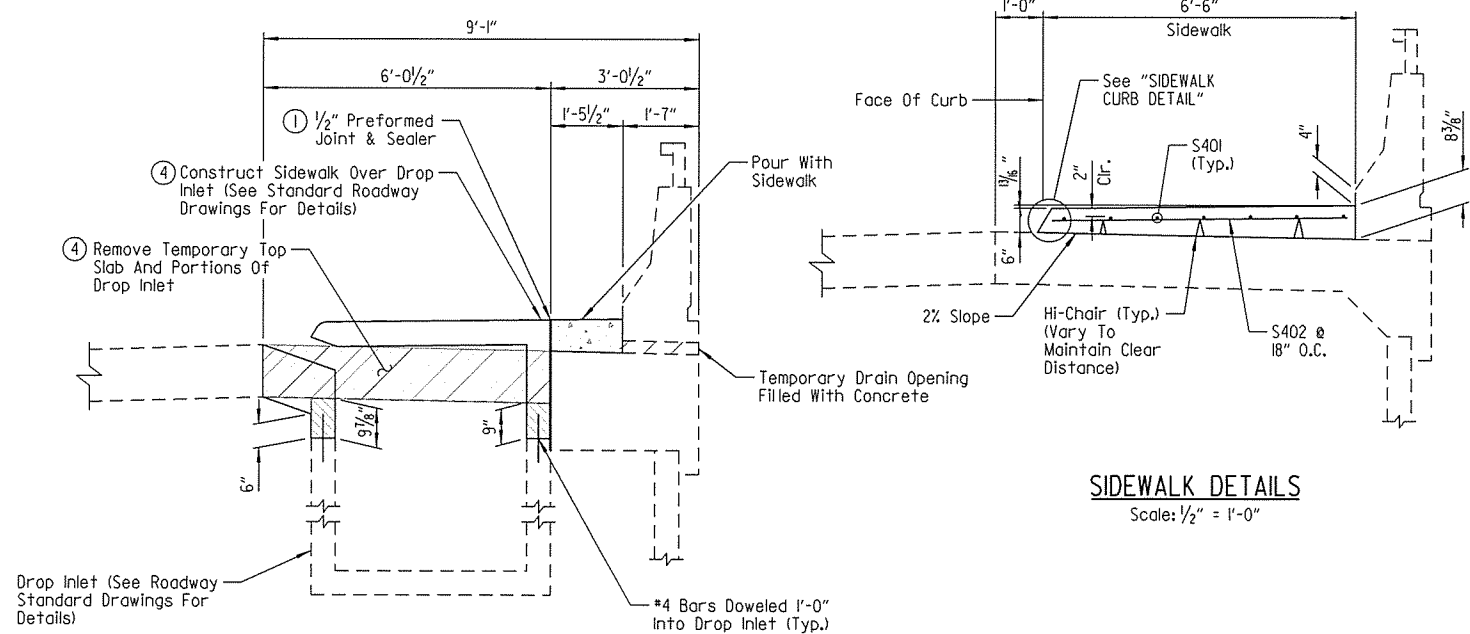
**PLAN - DROP INLET AT STA. 32+40.34**  
(Showing Final Drop Inlet Configuration)  
Scale: 1/2" = 1'-0"

NOTES:  
For moment slab and temporary top slab reinforcing details, see Dwg. No. 54864  
For parapet reinforcing details, see Dwg. No. 54865.  
For "BAR LIST" and "BAR BENDING DIAGRAMS", see Dwg. No. 54865.

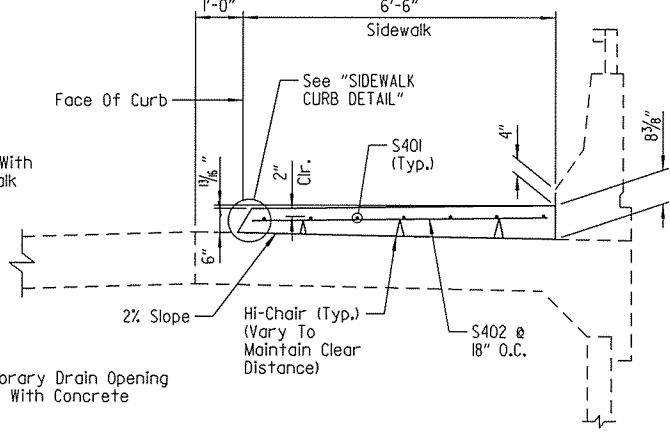
- ① Use 1/2" Preformed Joint AASHTO M53 Type 1 and 1/2" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j).
- ② Construct sidewalk after Maintenance Of Traffic - Stage 3.
- ③ Contraction joints shall be placed in accordance with Subsection 633.03(c) except that the spacing of the contraction joints shall not exceed 15'. The location of the contraction joints shall match the open joints in the concrete barrier.



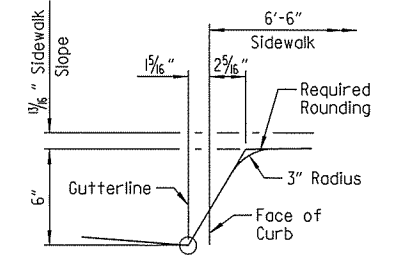
**SECTION A-A - MAINTENANCE OF TRAFFIC - STAGE 2**  
No Scale



**SECTION B-B - MAINTENANCE OF TRAFFIC - STAGE 4**  
No Scale

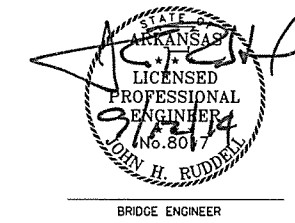


**SIDEWALK DETAILS**  
Scale: 1/2" = 1'-0"



**SIDEWALK CURB DETAIL**  
No Scale

④ The cost associated with the removal of the Temporary Top Slab and other modifications required to construct the drop inlet shall be included in the cost of the item "DROP INLET (TYPE C)" or "DROP INLET (TYPE MO)".

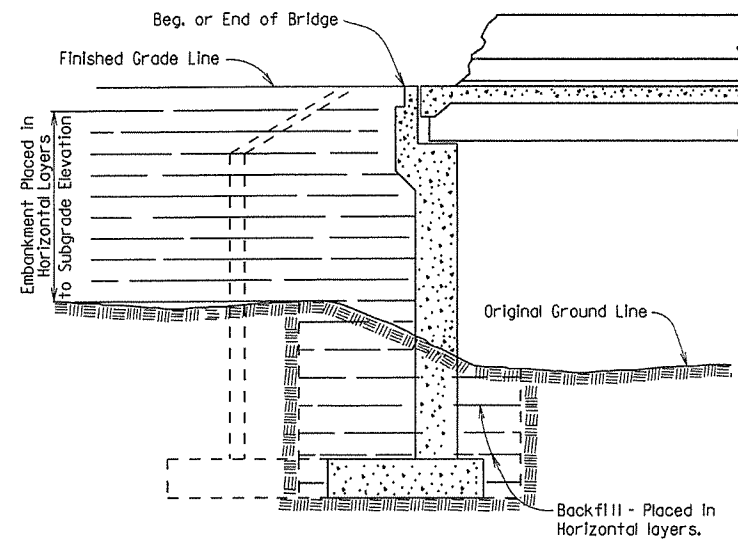


SHEET 5 OF 5  
DETAILS OF MSE RETAINING WALL  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: DRG DATE: JULY 2014 FILENAME: B060395\_W4.DGN  
CHECKED BY: JHR DATE: AUG. 2014 SCALE: AS SHOWN  
DESIGNED BY: DRG DATE: JULY 2014  
BRIDGE NO. 07298 DRAWING NO. 54865a

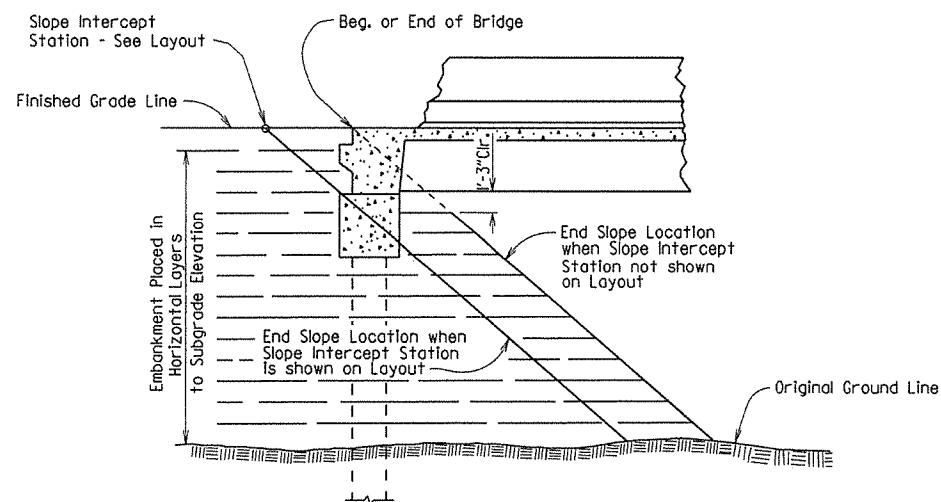
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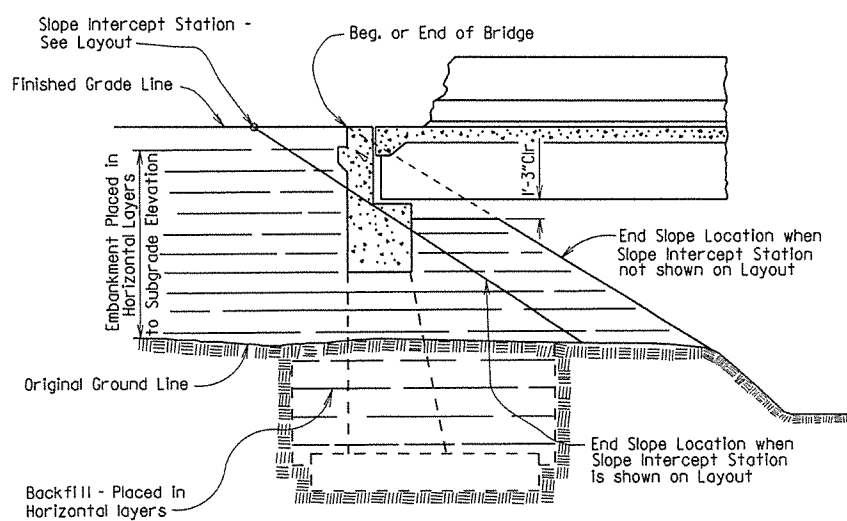
① EMBANKMENT & BACKFILL 55000



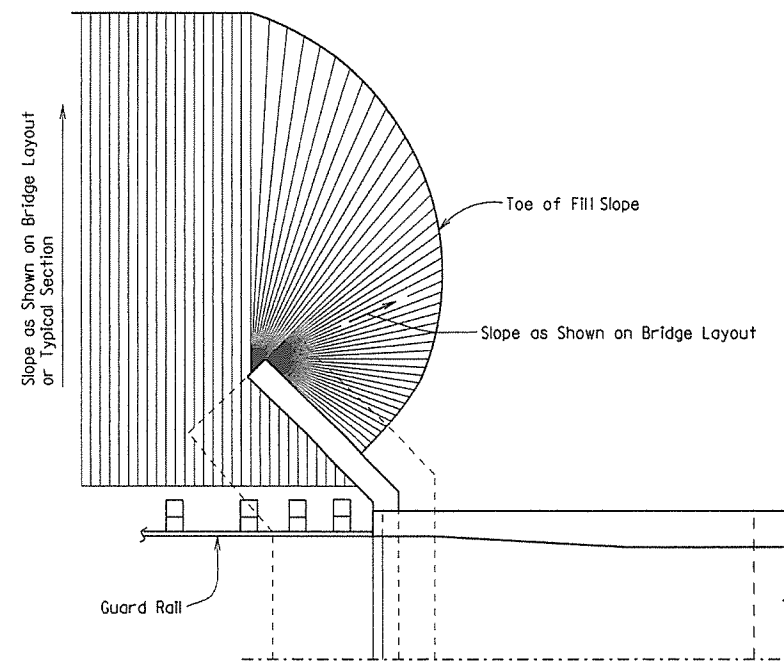
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



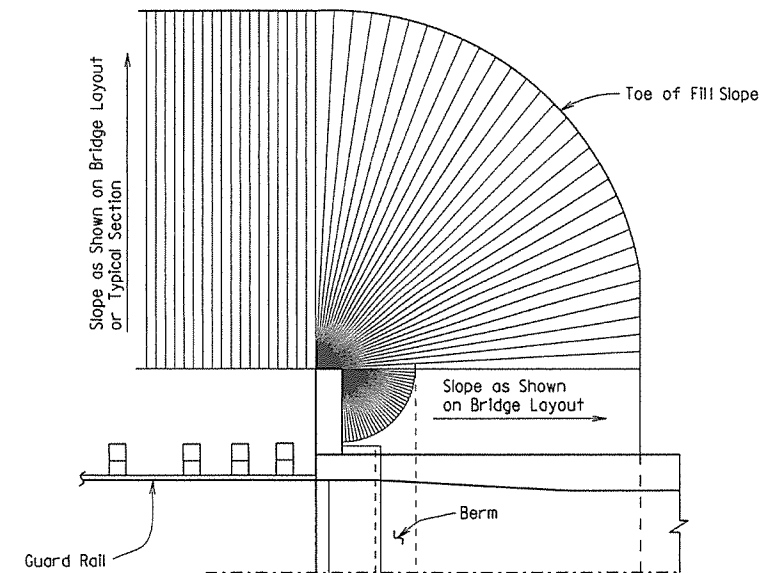
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



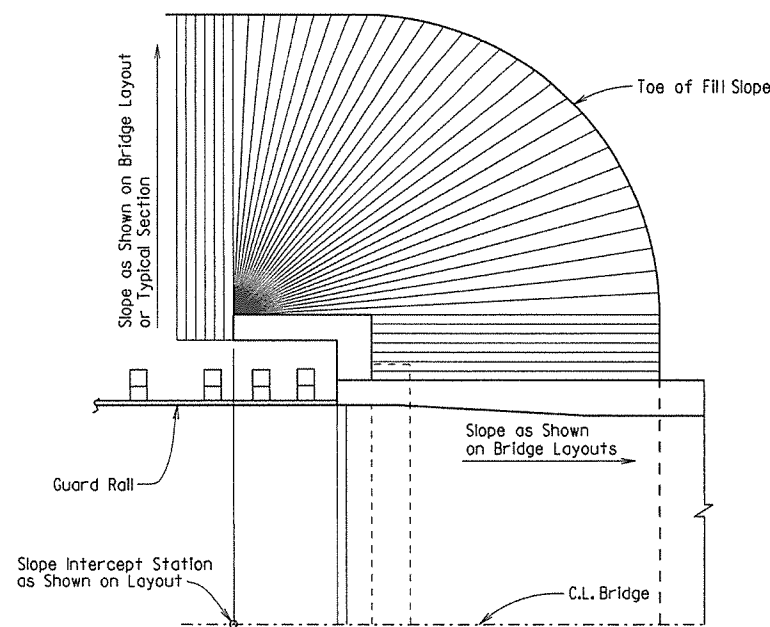
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



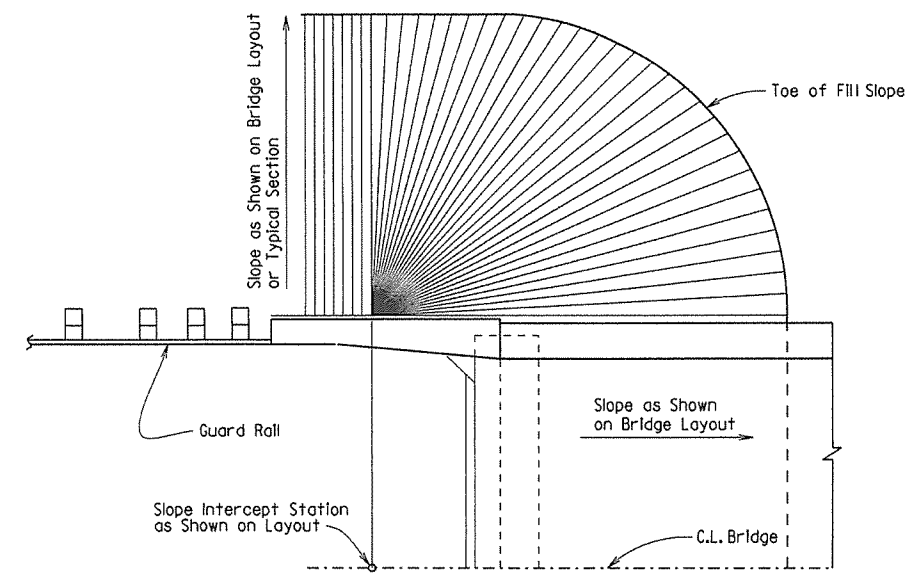
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

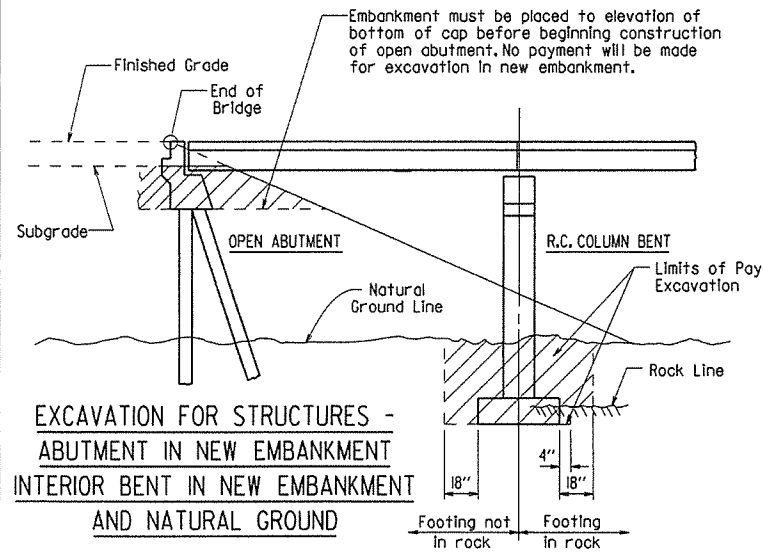
LITTLE ROCK, ARK.

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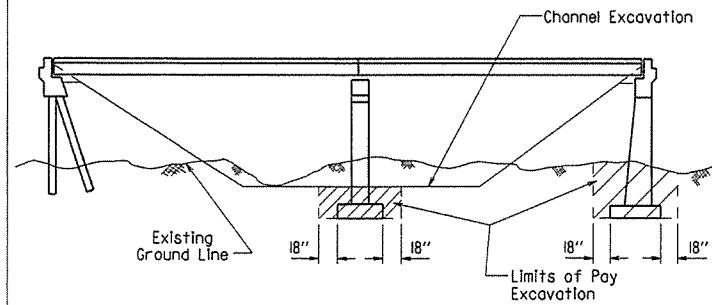
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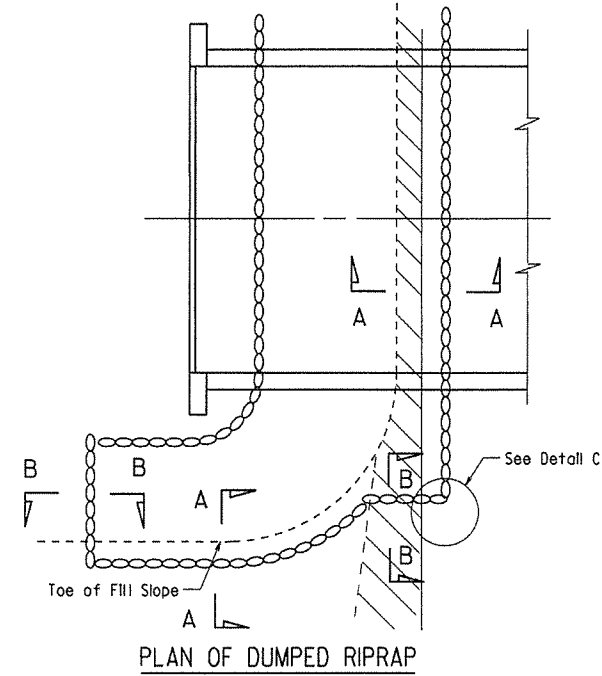
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							①	RIPRAP & EXCAV. 55001



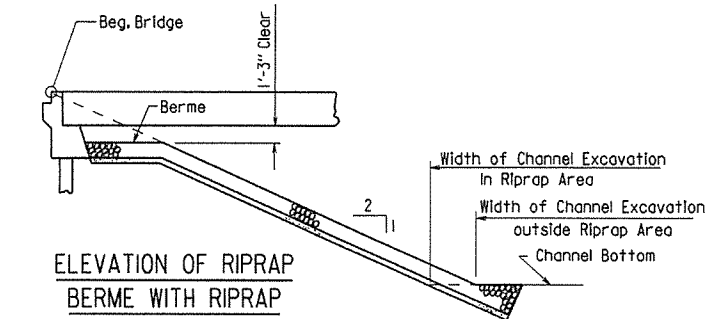
**EXCAVATION FOR STRUCTURES -  
ABUTMENT IN NEW EMBANKMENT  
INTERIOR BENT IN NEW EMBANKMENT  
AND NATURAL GROUND**



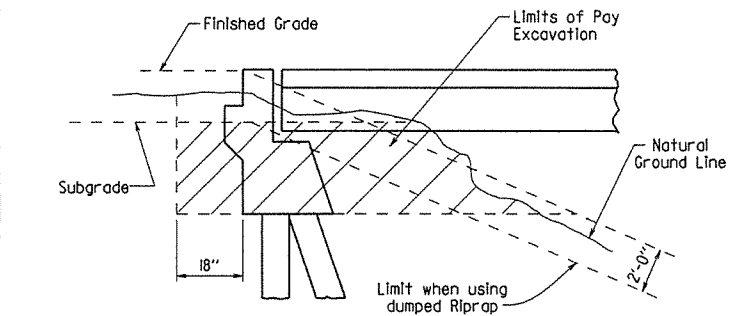
**EXCAVATION FOR STRUCTURES - BRIDGE  
LOCATION WITH DESIGNATED CHANNEL CHANGE**



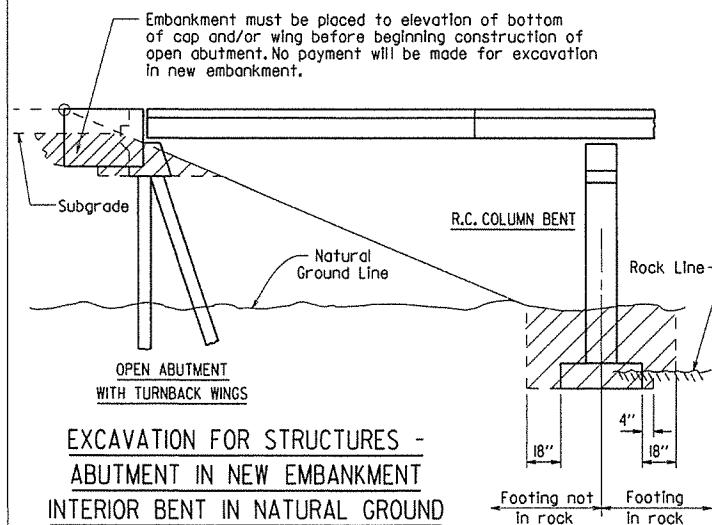
**PLAN OF DUMPED RIPRAP**



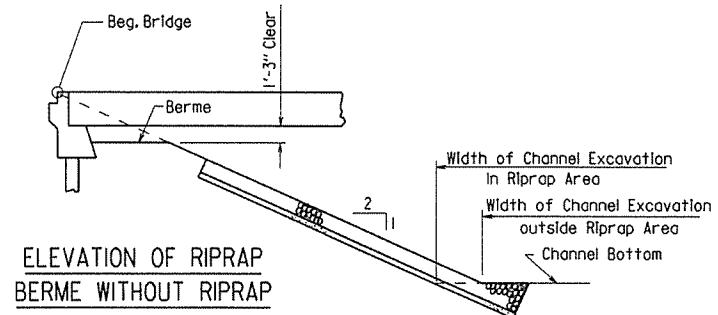
**ELEVATION OF RIPRAP  
BERME WITH RIPRAP**



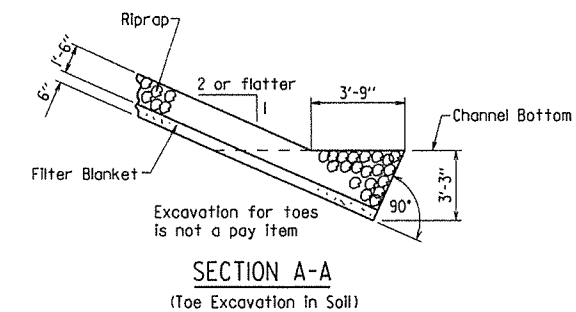
**EXCAVATION FOR STRUCTURES -  
ABUTMENT IN NATURAL GROUND**



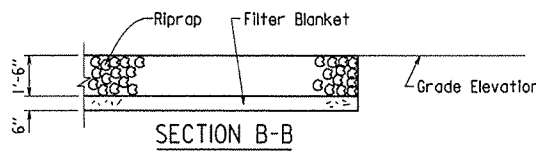
**EXCAVATION FOR STRUCTURES -  
ABUTMENT IN NEW EMBANKMENT  
INTERIOR BENT IN NATURAL GROUND**



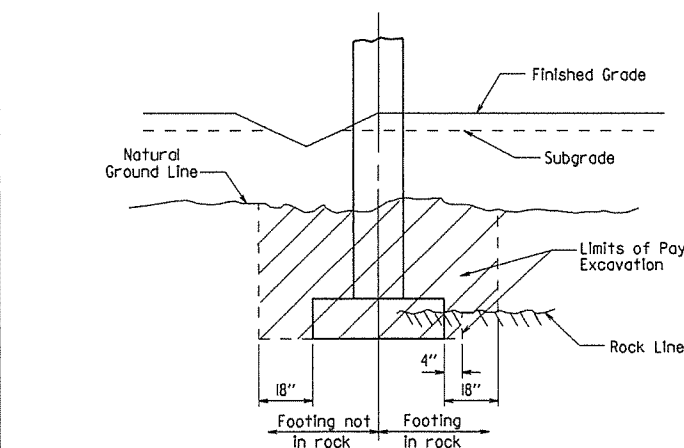
**ELEVATION OF RIPRAP  
BERME WITHOUT RIPRAP**



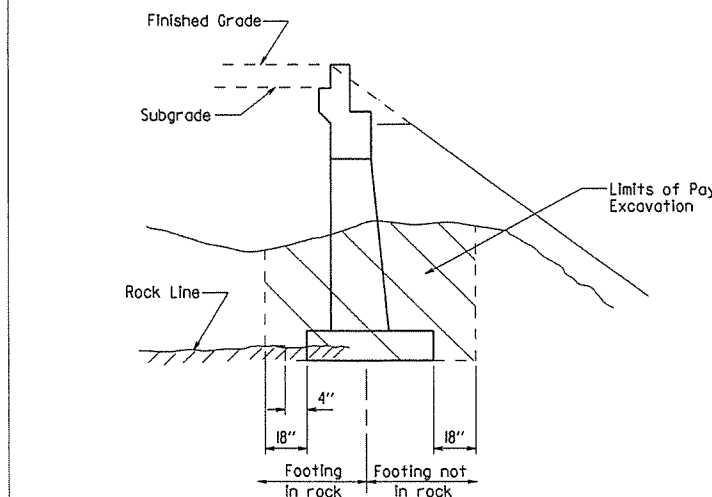
**SECTION A-A  
(Toe Excavation in Soil)**



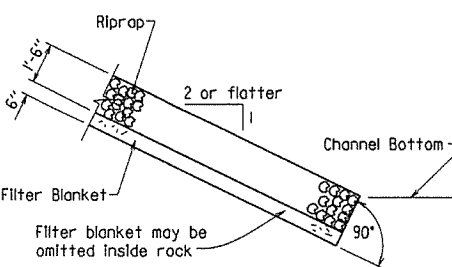
**SECTION B-B**



**EXCAVATION FOR STRUCTURES -  
BENT IN ROADWAY FILL SECTION  
AND NATURAL GROUND**



**EXCAVATION FOR STRUCTURES - ABUTMENT  
IN NATURAL GROUND AND NEW EMBANKMENT**

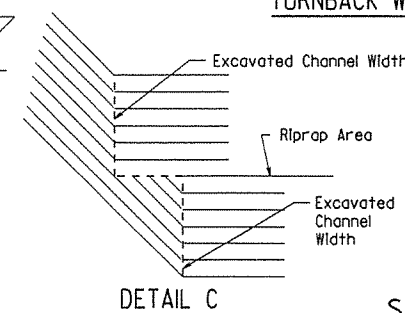


**SECTION A-A  
(Toe Excavation in Rock)**

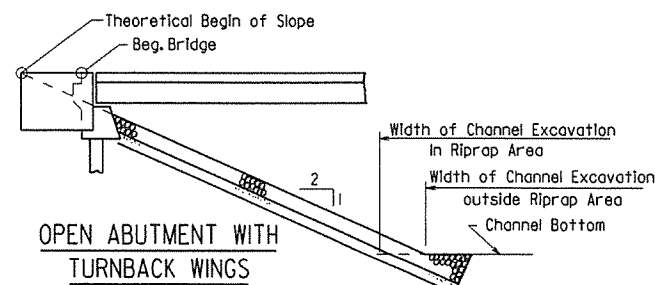
Note: Use this type of toe when rock is encountered which is in a stable condition.

Note: In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 916.02(e) may be used.

Note: Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



**DETAIL C**



**OPEN ABUTMENT WITH  
TURNBACK WINGS**

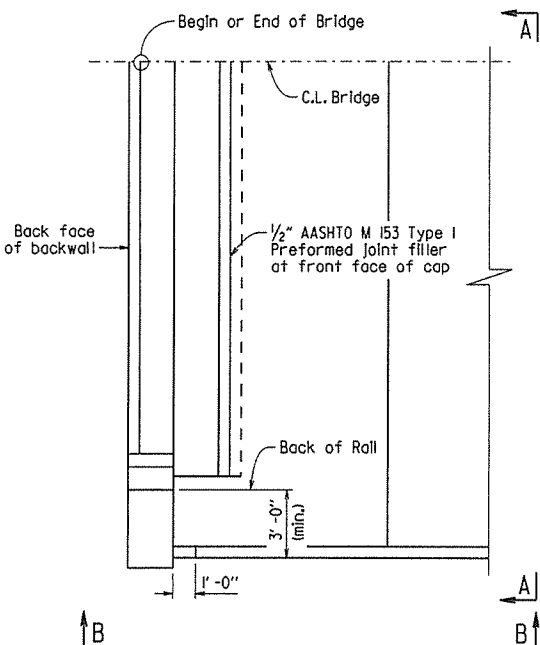
**STANDARD DETAILS FOR  
DUMPED RIPRAP AND FILTER BLANKET  
AND COMPUTING  
EXCAVATION FOR STRUCTURES  
ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

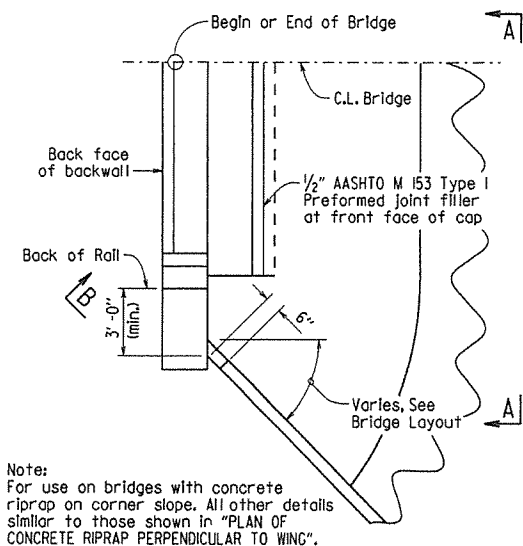
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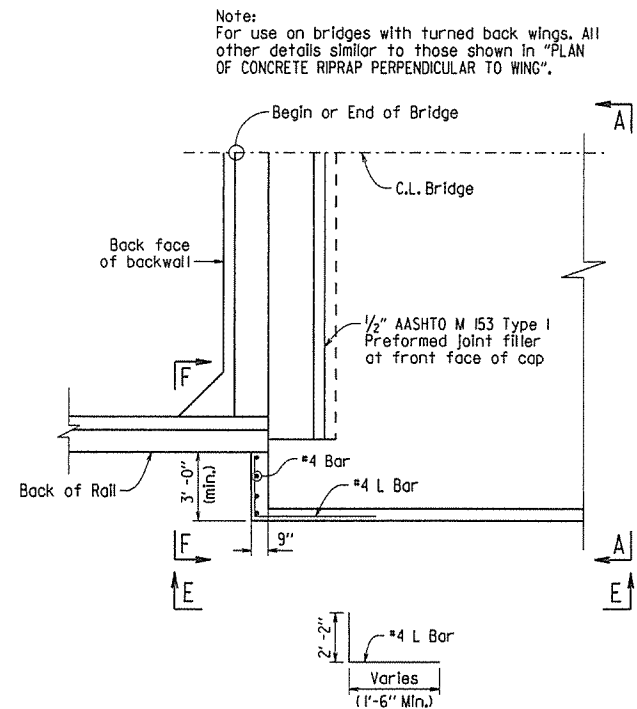
Note:  
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



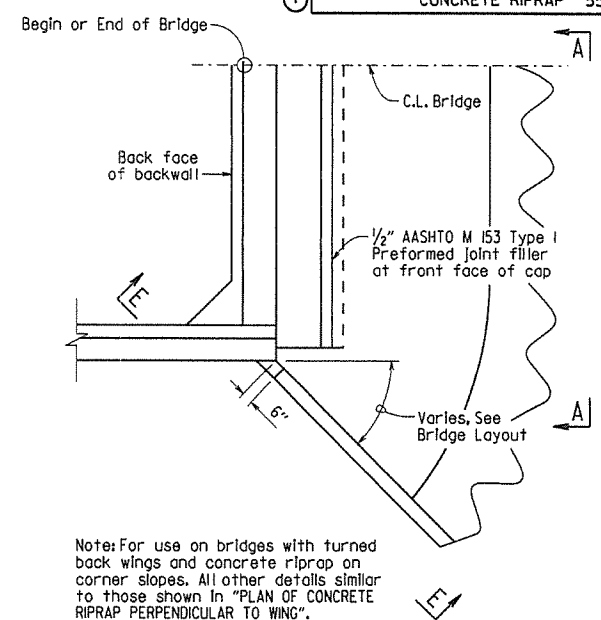
PLAN OF CONCRETE RIPRAP  
PERPENDICULAR TO WING  
1/4" = 1'-0"



PLAN OF CONCRETE RIPRAP  
AT ANGLE TO WING  
1/4" = 1'-0"

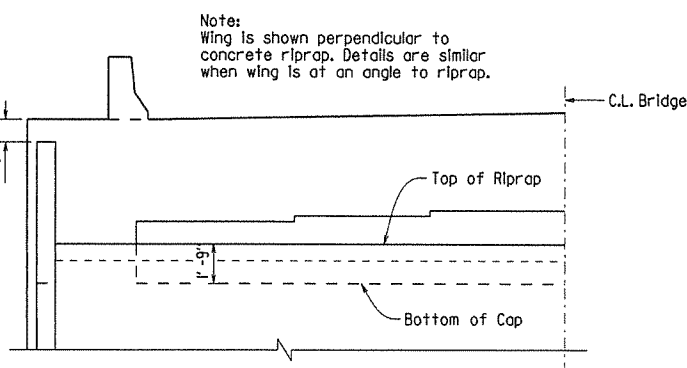


PLAN OF CONCRETE RIPRAP  
PERPENDICULAR TO TURNED BACK WING  
1/4" = 1'-0"

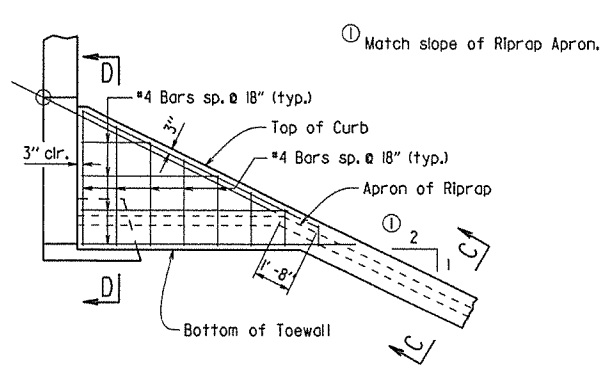


PLAN OF CONCRETE RIPRAP  
AT ANGLE FROM TURNED BACK WING  
1/4" = 1'-0"

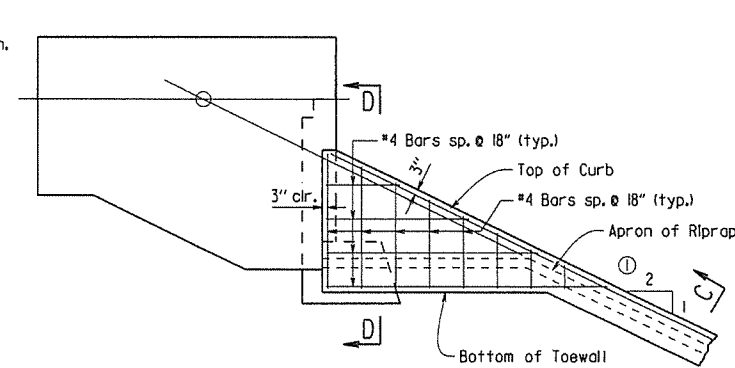
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		90	
JOB NO.							CONCRETE RIPRAP	55002



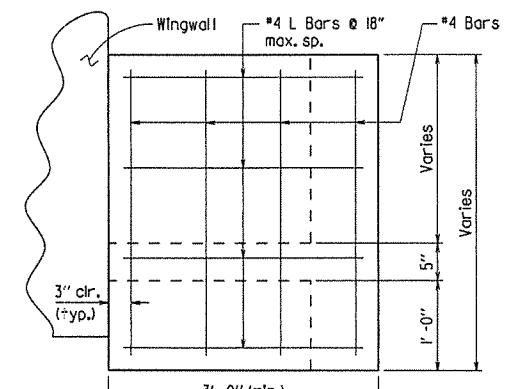
VIEW A-A  
1/4" = 1'-0"



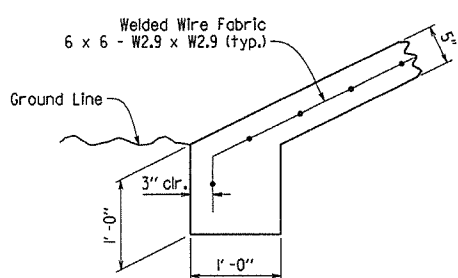
VIEW B-B  
1/4" = 1'-0"



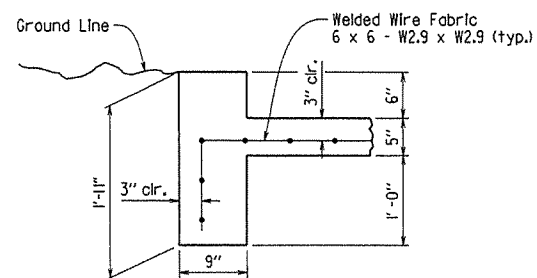
VIEW E-E  
1/4" = 1'-0"



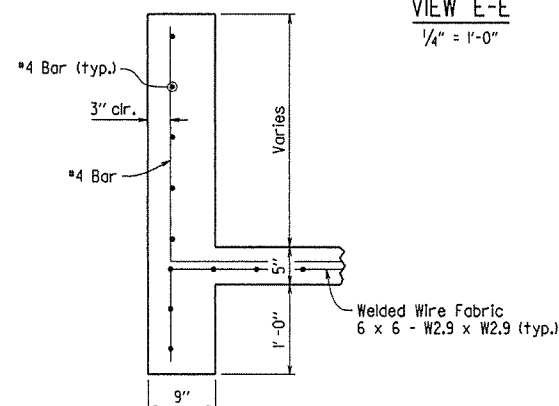
VIEW F-F  
1" = 1'-0"



TOE OF CONCRETE RIPRAP  
1" = 1'-0"



SECTION C-C  
1" = 1'-0"



SECTION D-D  
1" = 1'-0"

GENERAL NOTES

All concrete shall be Class A with a minimum compressive strength, f'c = 2,100 psi.

Welded wire fabric shall conform to AASHTO M55 or M221.

STANDARD DETAILS FOR  
CONCRETE RIPRAP

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

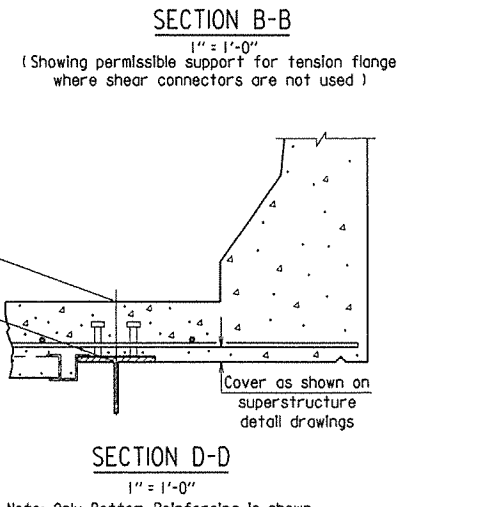
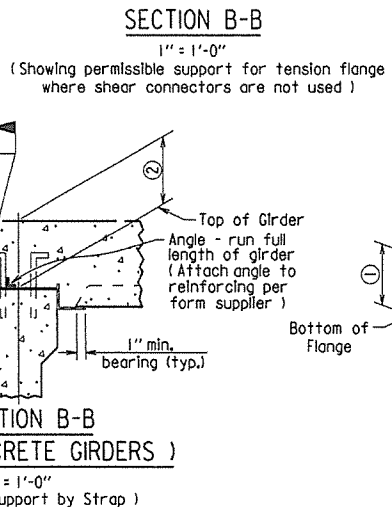
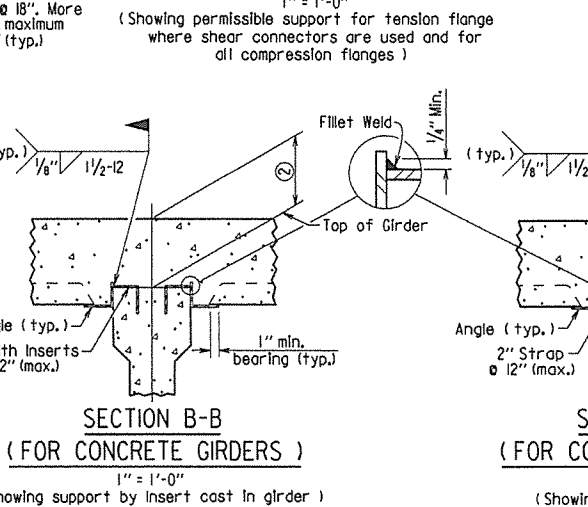
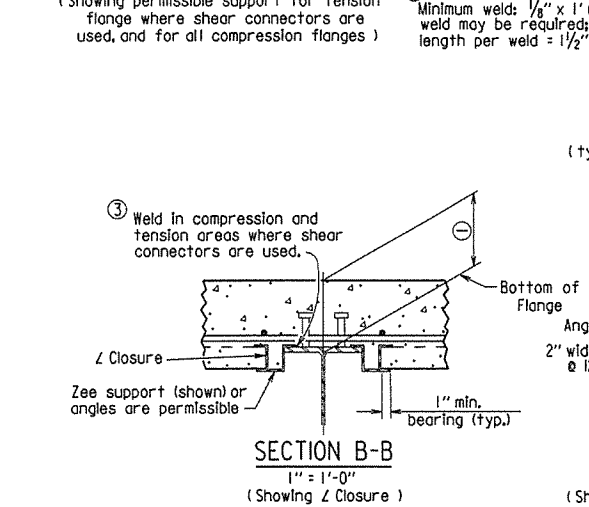
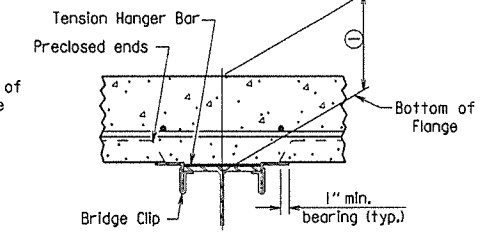
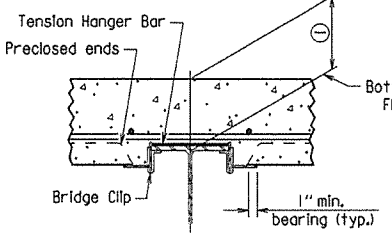
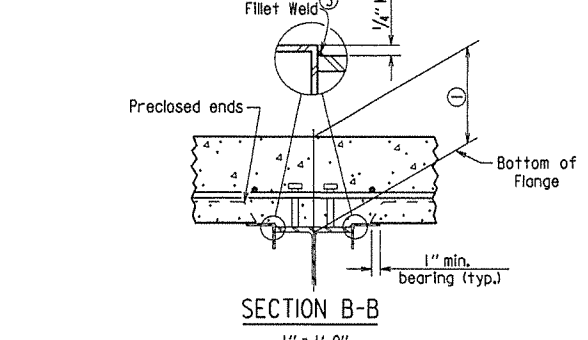
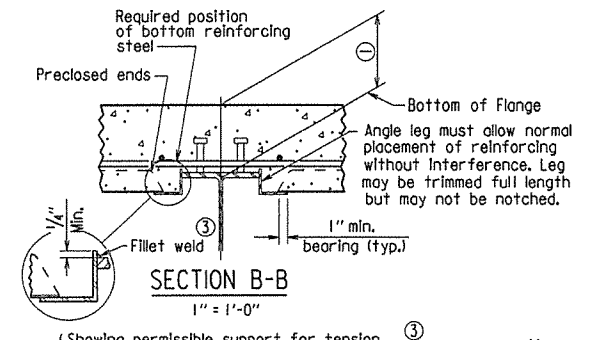
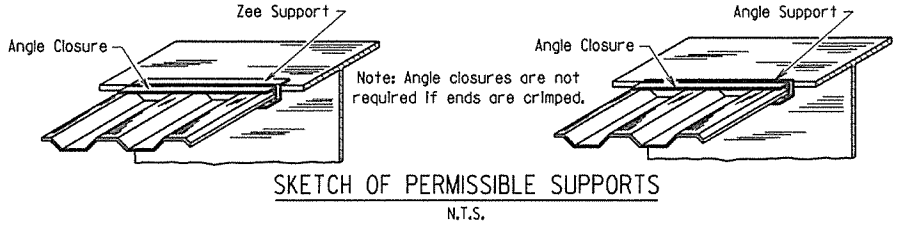
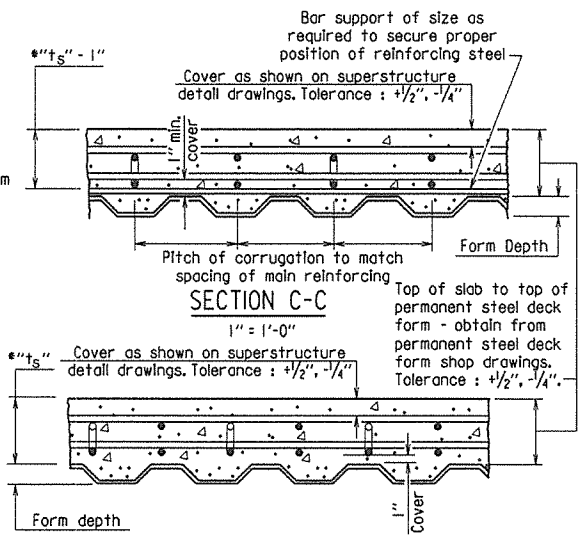
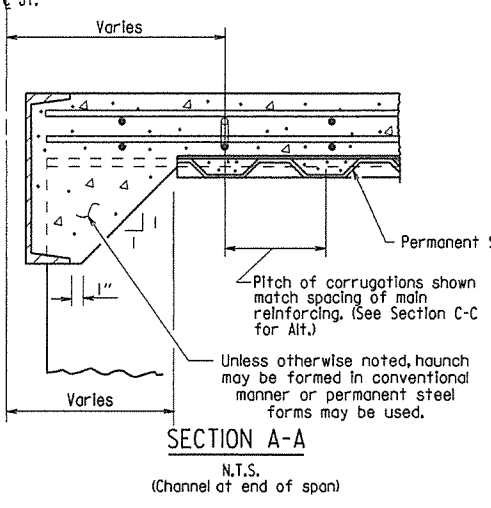
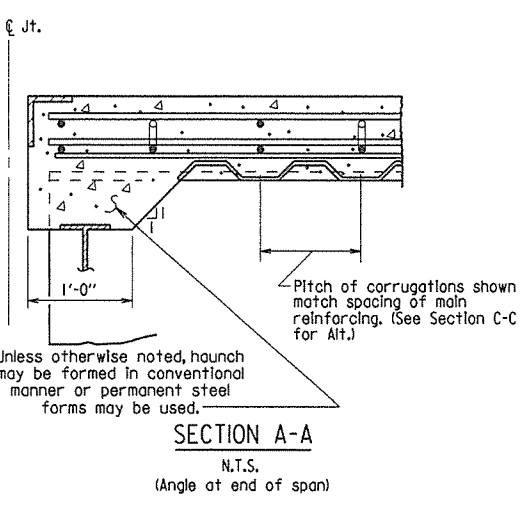
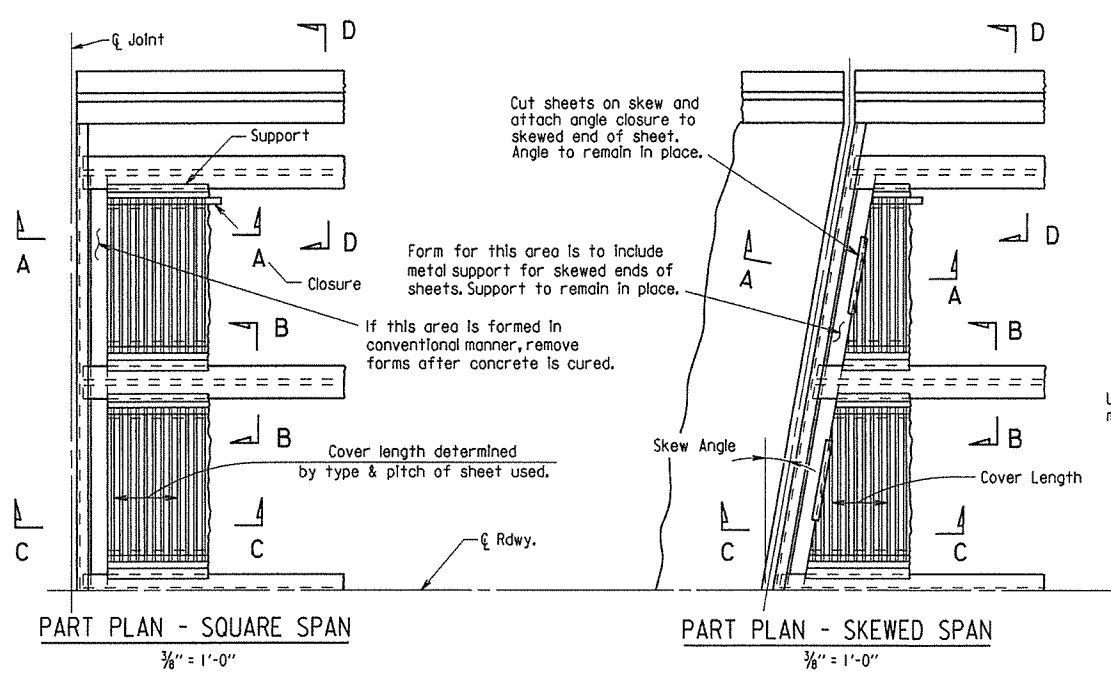
DRAWN BY: ACP DATE: 2/27/2014 FILENAME: b55002.dgn

CHECKED BY: BEF DATE: 2/27/2014 SCALE: AS SHOWN

DESIGNED BY: Std. DATE: ---

DRAWING NO. 55002

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		91	
JOB NO.							BRIDGE DECK FORMS	55005



(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

③ Minimum weld: 1/8" x 1' Ø 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances: Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t<sub>s</sub> + 1 1/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances: Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(Showing permissible support for tension flange where shear connectors are not used)

(Showing permissible support for tension flange where shear connectors are not used)

Note: Only Bottom Reinforcing is shown.

\*t<sub>s</sub> = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or Z supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

### STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

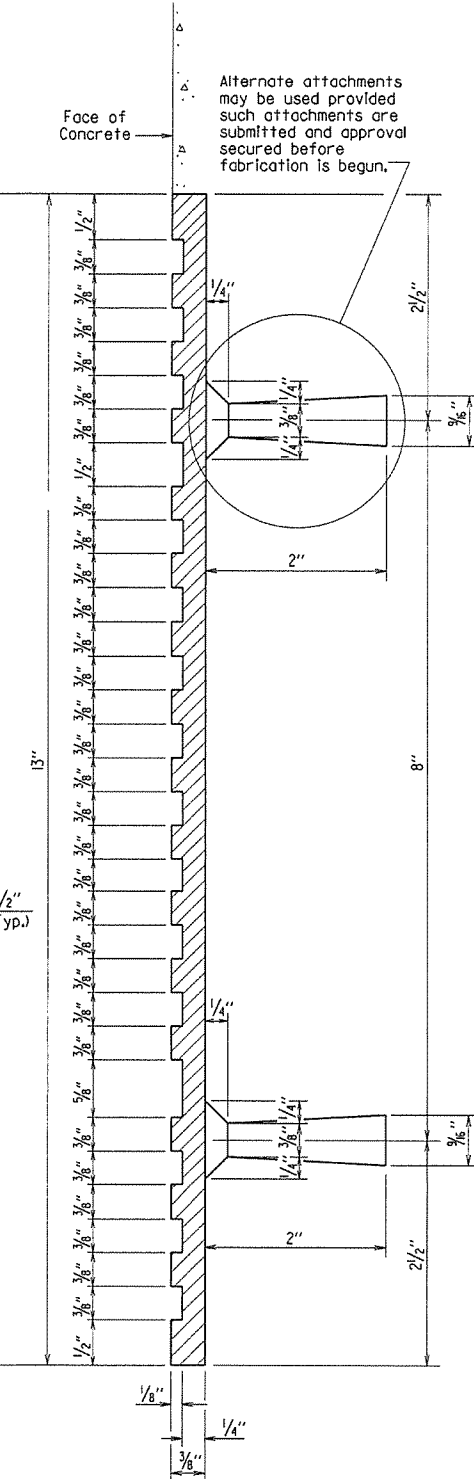
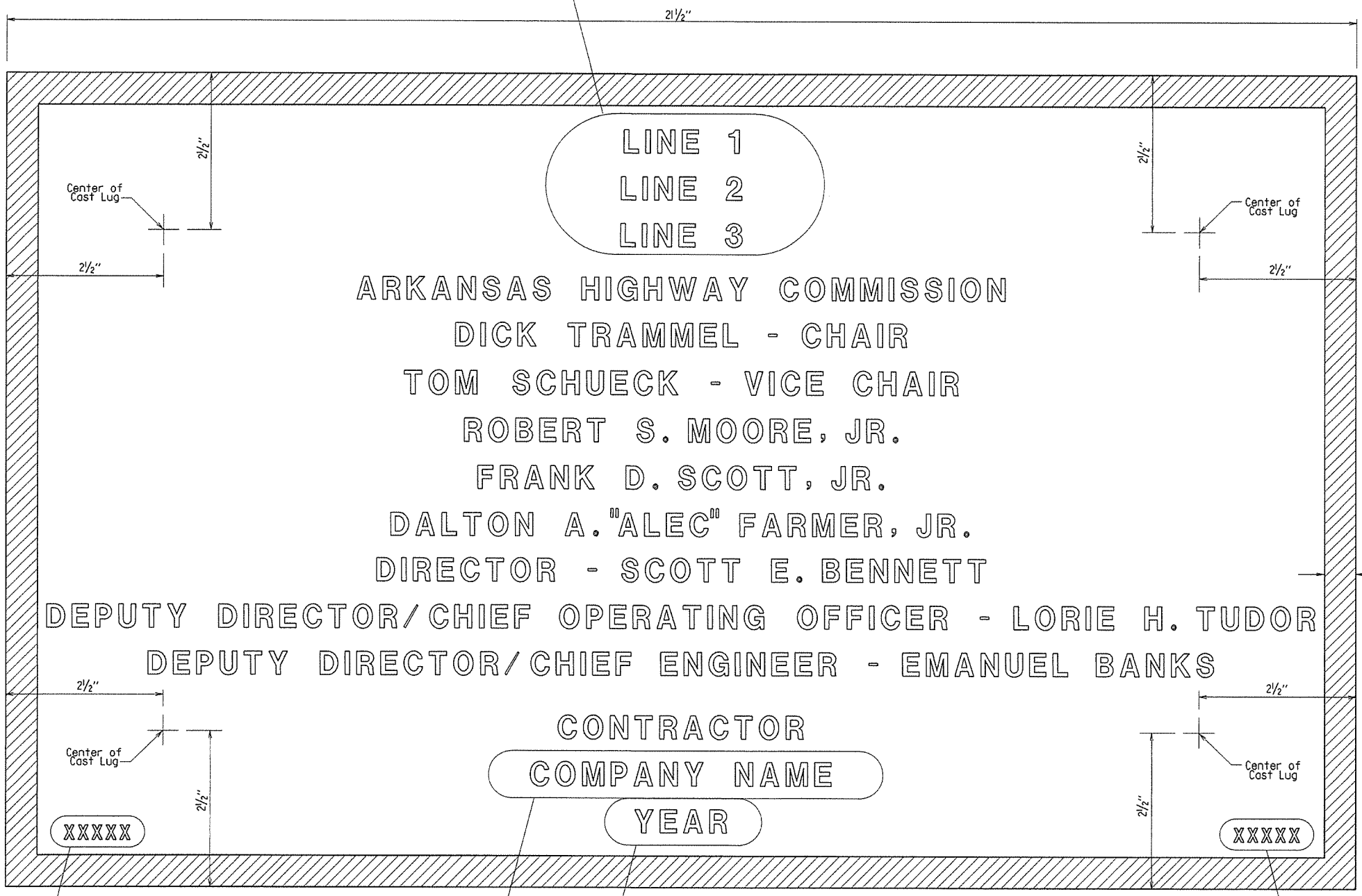
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CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE  
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14				6	ARK.		92	
1-14-15								
				JOB NO.				
							TYPE D NAME PLATE	55010

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

Line	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	Highway
Line 2	Relief	Rail road	River	5
Line 3		Overpass	Relief	



**GENERAL NOTES**

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 1/4" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples: HS 20 HL-93

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example: ABCD CONSTRUCTION, INC.

TYPICAL BRIDGE NAME PLATE

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples: A1234 05432

- ▲ Revised Chair and Vice Chair Added New Commissioner  
1-14-15 KDH Checked By: CRE
- ▲ Revised Deputy Director/Chief Engineer Added Deputy Director/Chief Operating Officer  
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn  
 CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE  
 DESIGNED BY: STD. DATE: \_\_\_\_\_

DRAWING NO. 55010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		43	
JOB NO.							1	
STEEL H-PILES								55020

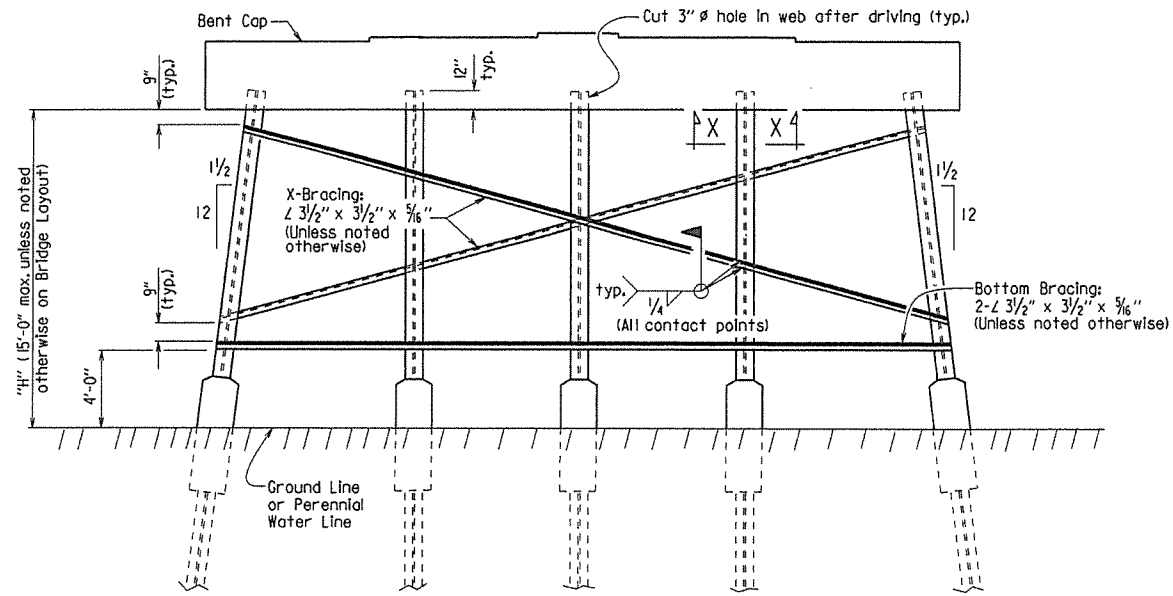
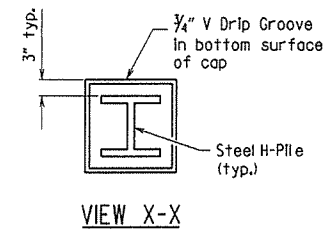
**GENERAL NOTES FOR STEEL H-PILES:**

Steel H-Piles shall conform to AASHTO M 270, Grade 36 or greater.

See Bridge Layout and Bent Details for pile size, estimated length, spacing, pile anchorage (if required) and for driving information.

Steel H-Piles that extend above the ground and are not protected by pile encasement shall be painted in accordance with Subsection 805.02.

Brackets, lugs, cap plates, pile tips, driving points, pile painting, splicing and welding shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".



**Notes:**

All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

Unless noted otherwise, omit X-Bracing when "H" is less than 8 feet.

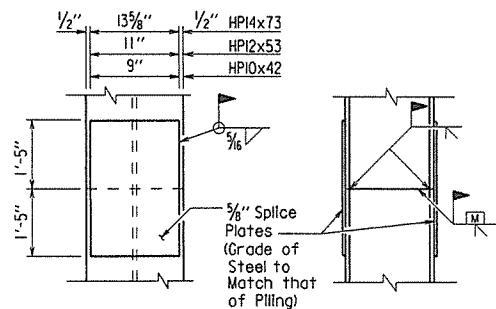
Omit X-Bracing and Bottom Bracing when "H" is 5 feet or less.

When required on the Bridge Layout sheet, pile encasements shall be constructed. See Notes and Details for H-Pile Encasements.

Omit all bracing (and V-groove in cap) when pile encasement is extended to bottom of bent cap.

**TYPICAL DETAILS OF H-PILE TRESTLE INTERMEDIATE BENT**

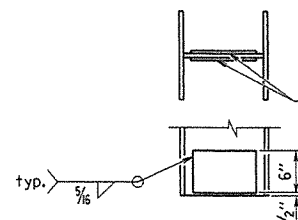
(Shown with Partial Height Encasement)



**Notes:**

The Contractor may for his own convenience and at his own expense provide as many as three splices per pile. Minimum spacing between splices shall be 5 feet.

**TYPICAL SPLICE DETAILS**



**REINFORCING DETAIL FOR STEEL H-PILE TIP**

**Notes:**

Steel pile tip reinforcing not required when approved H-Pile driving points are used.

Steel pile tip reinforcing shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".

- HPI4x73 - PL 1/2" x 6" x 11"
- HPI2x53 - PL 1/2" x 6" x 9"
- HPI0x42 - PL 1/2" x 6" x 7"

**GENERAL NOTES FOR H-PILE ENCASEMENTS:**

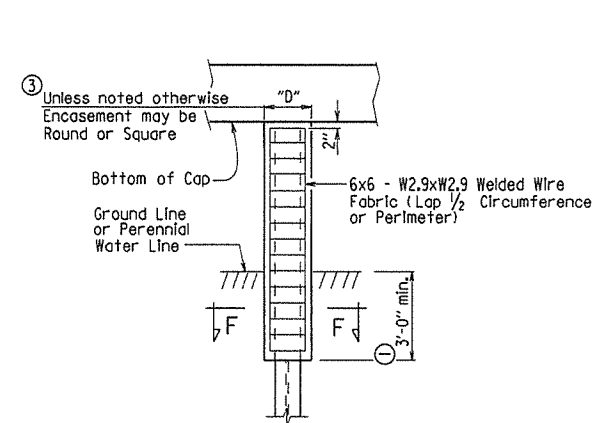
See Bridge Layout for additional notes and required location of pile encasements.

All concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

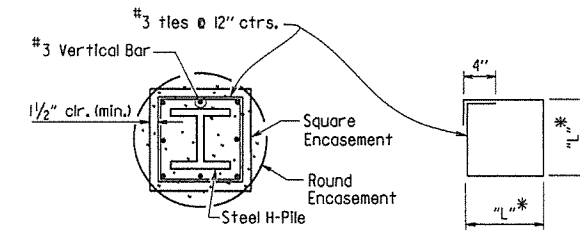
Welded Wire Fabric shall conform to AASHTO M 55 or M 221. Galvanized Corrugated Steel Pipe shall conform to AASHTO M 36 and M 218.

Concrete, welded wire fabric or reinforcing steel and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".



**PILE ENCASEMENT DETAIL FOR STEEL H-PILES**

(Shown with Encasement to Bottom of Cap)

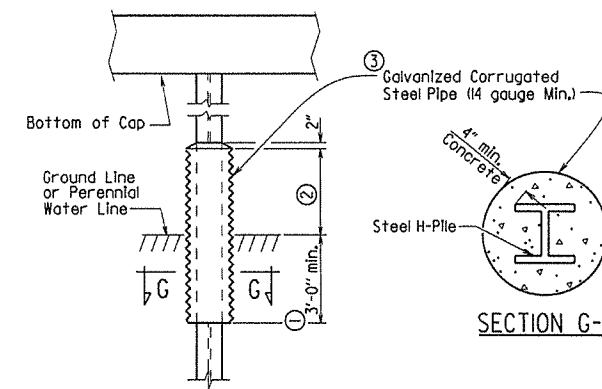


**SECTION F-F**

\*Measured out-to-out of bar.

**TABLE OF VARIABLES FOR PILE ENCASEMENT**

Pile Size	"D"		"L"*
	Square Encsmt.	Round Encsmt.	
HPI0x42	1'-7"	2'-0"	1'-4"
HPI2x53	1'-8"	2'-2"	1'-5"
HPI4x73	1'-11"	2'-6"	1'-8"



**ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL H-PILES**

(Shown with Partial Height Encasement)

① Unless otherwise noted on Bridge Layout.

② 3'-0" minimum or as shown on Bridge Layout.

③ Encasement dimensions shall be sized to maintain a minimum concrete cover of 4" from the H-Pile. Reinforcement shall be sized to provide a minimum concrete cover of 1 1/2" and a minimum clearance of 1 1/4" from the pile.

④ Alternate pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the Partial Height Encasement detail.

⑤ Alternate pile encasement may not be allowed. See Bridge Layout.

**STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASEMENTS**

ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

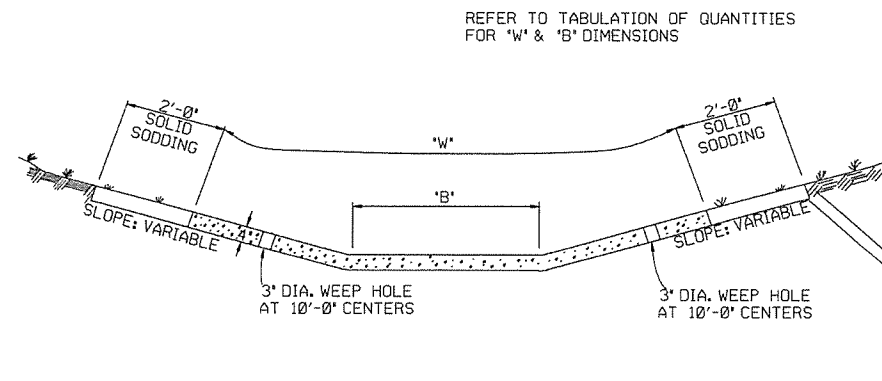
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DRAWING NO. 55020

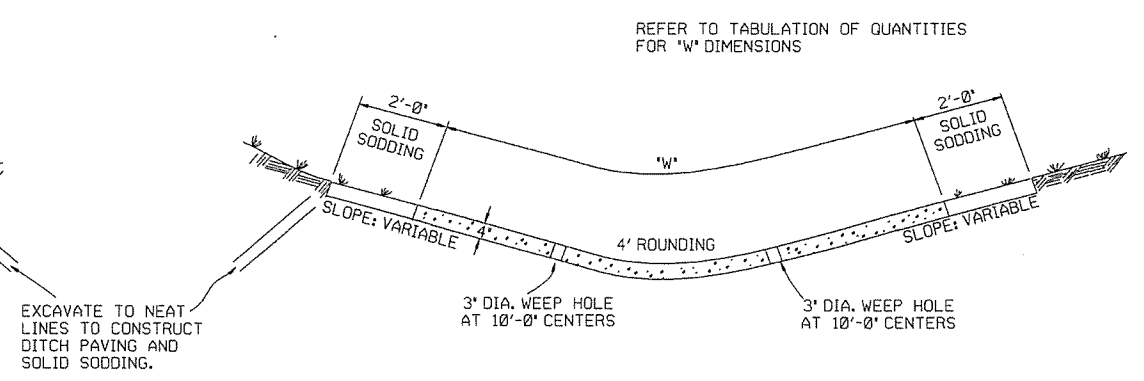


This document was originally issued and sealed by Carl J. Fuseller, PE No. 7510, on February 27, 2014. This copy is not a signed and sealed document.

BRIDGE ENGINEER



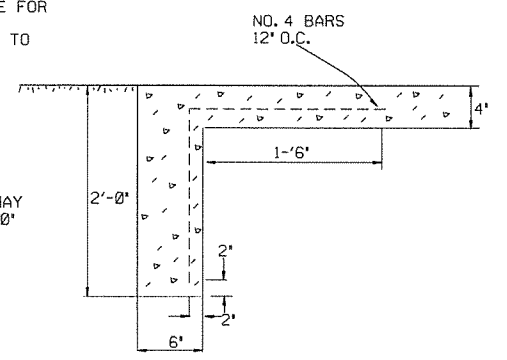
TYPE A



TYPE B

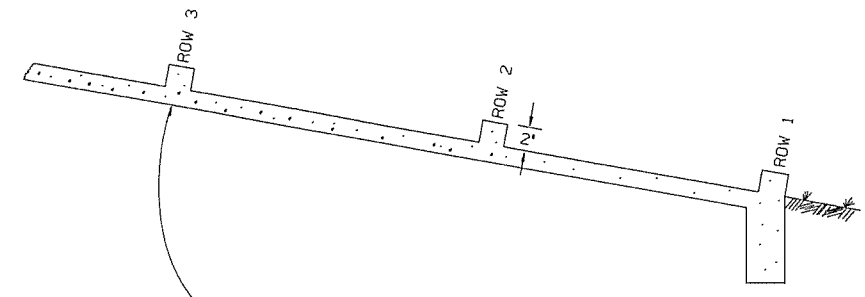
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'



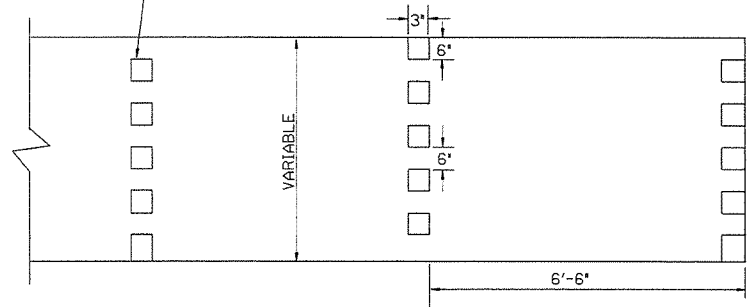
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNINCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS  
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.  
TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

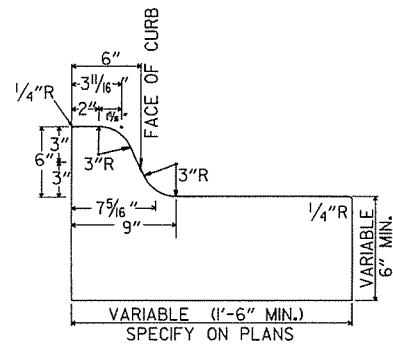
1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS	508-11-1-84
11-1-84	ADDED	
11-1-84	EXCAVATION DETAILS ADDED	
	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

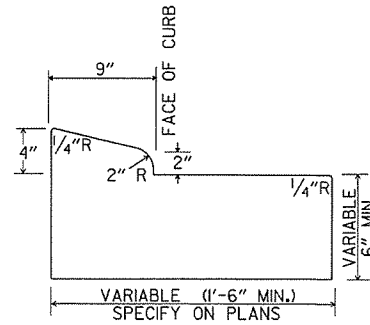
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

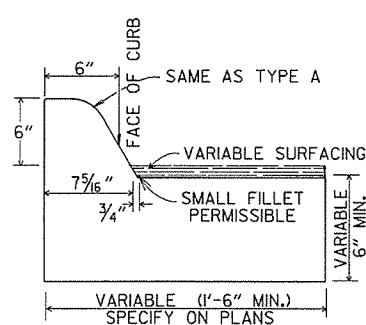
STANDARD DRAWING CDP-1



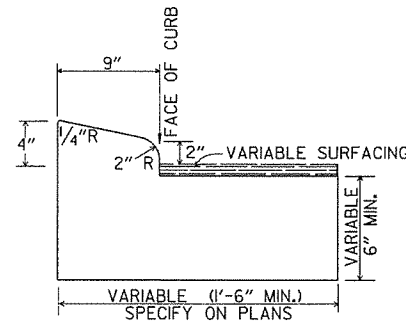
TYPE A



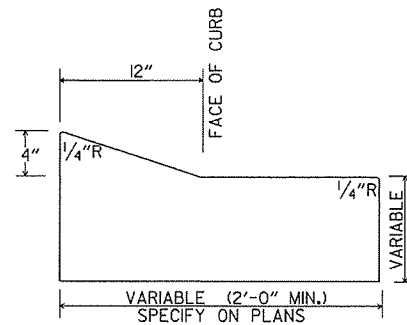
TYPE B-1



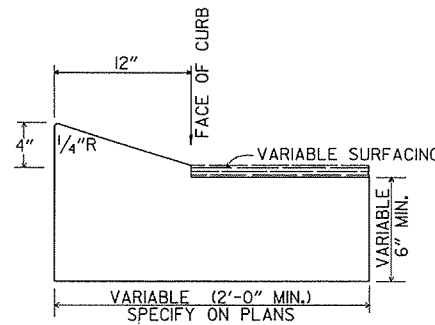
TYPE C



TYPE B-2

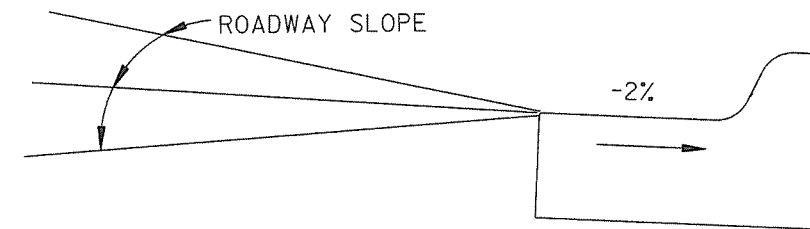


TYPE E-1

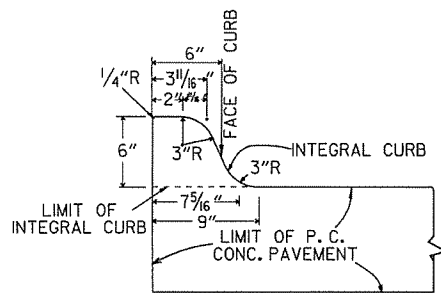


TYPE E-2

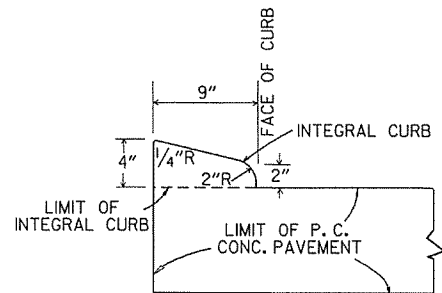
CONCRETE COMBINATION CURB AND GUTTER



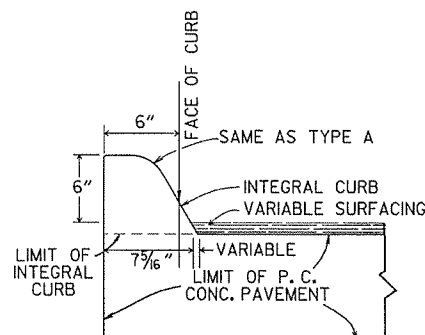
DETAIL OF GUTTER SLOPE  
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

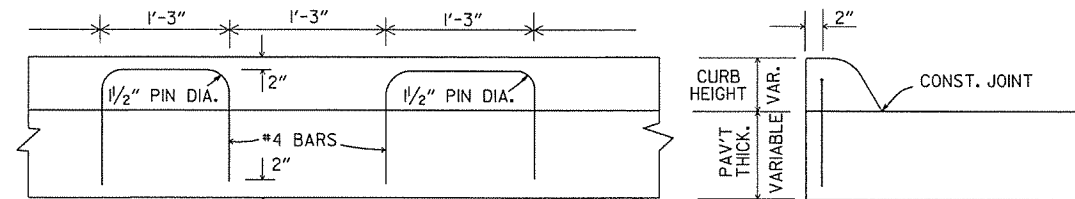


TYPE B



TYPE C

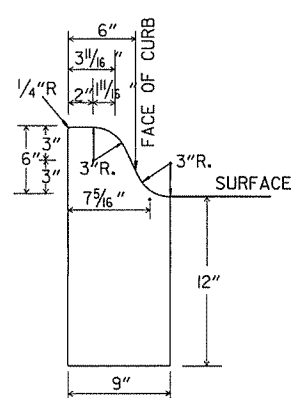
INTEGRAL CURB



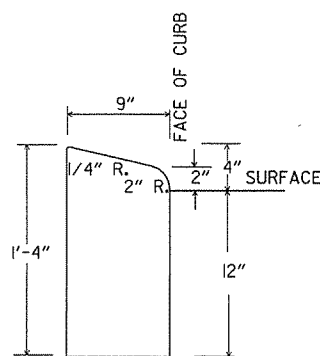
LONGITUDINAL SECTION

ELEVATION

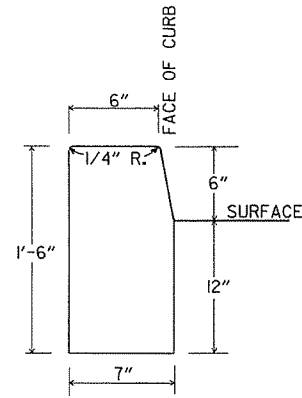
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



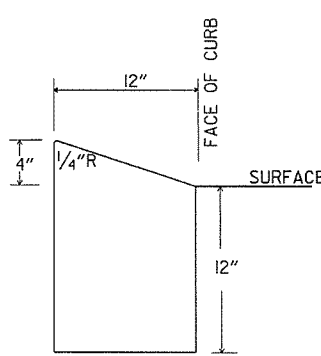
TYPE A



TYPE B

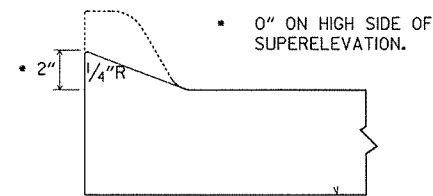


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

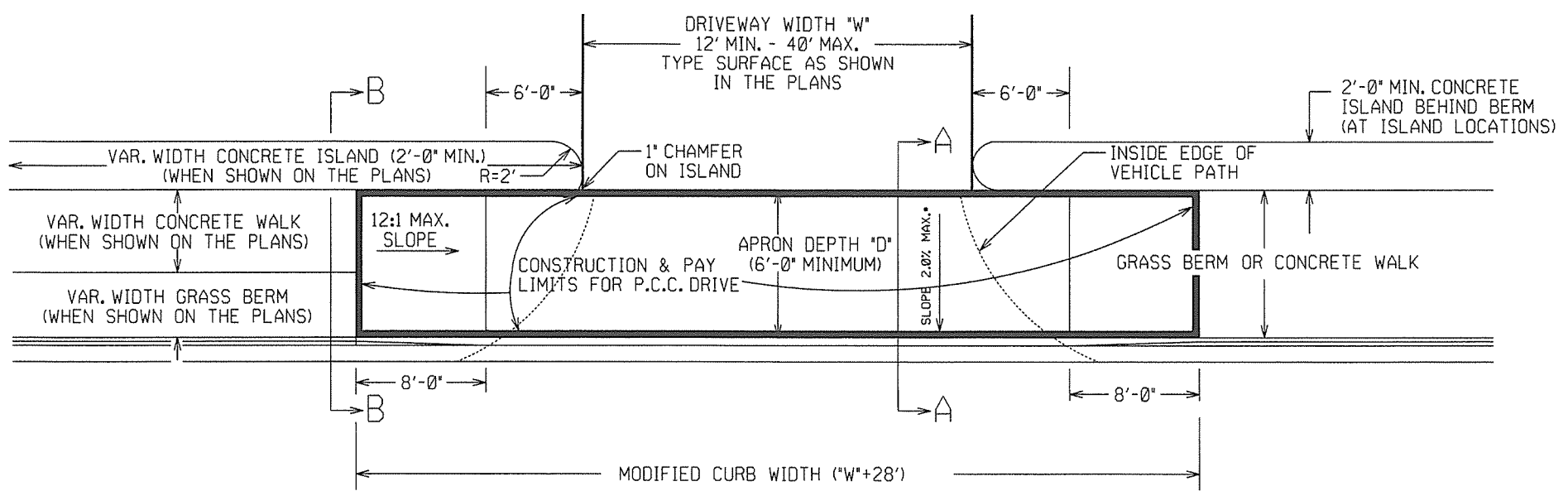
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
1-18-98	REVISED MODIFIED CURB	
8-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

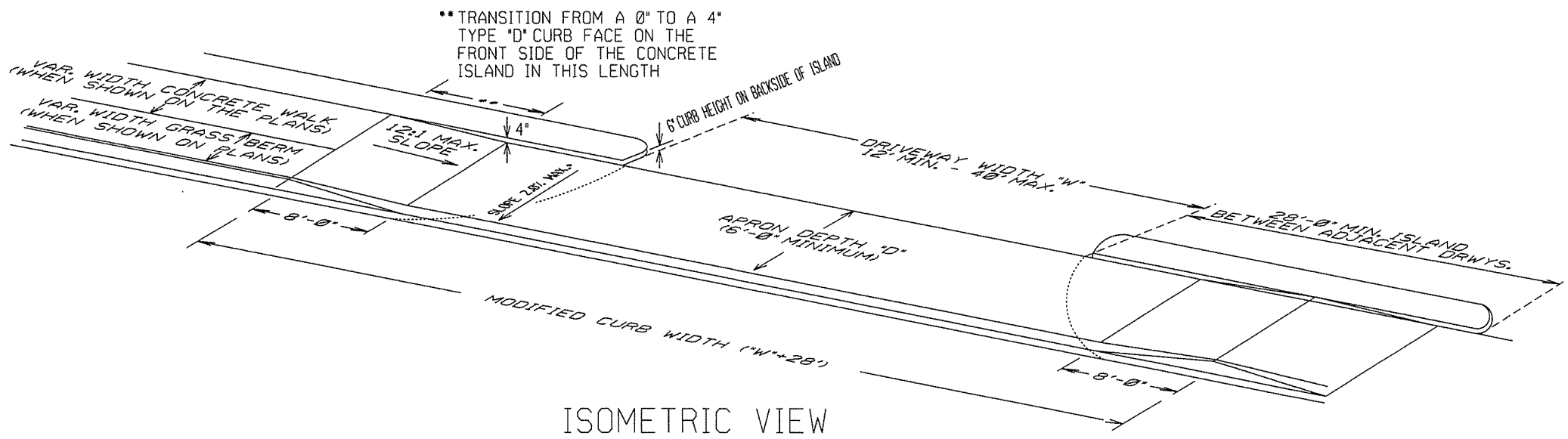
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

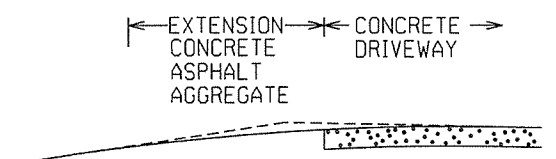
STANDARD DRAWING CG-1



PLAN VIEW



ISOMETRIC VIEW

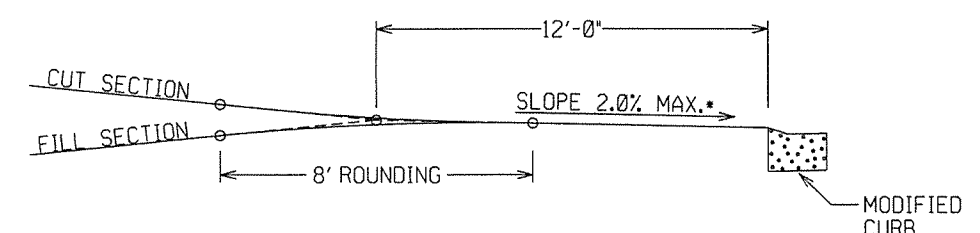


EXTENSION TYPICAL SECTIONS

- 1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY
- 2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
4" ACHM BINDER COURSE (1") OR  
4" ACHM BASE COURSE (1-1/2")
- 3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
7" AGGREGATE BASE COURSE
- 4: AGGREGATE - 6" AGGREGATE BASE COURSE

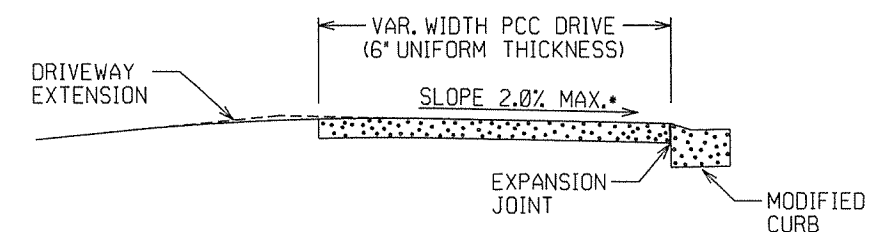
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

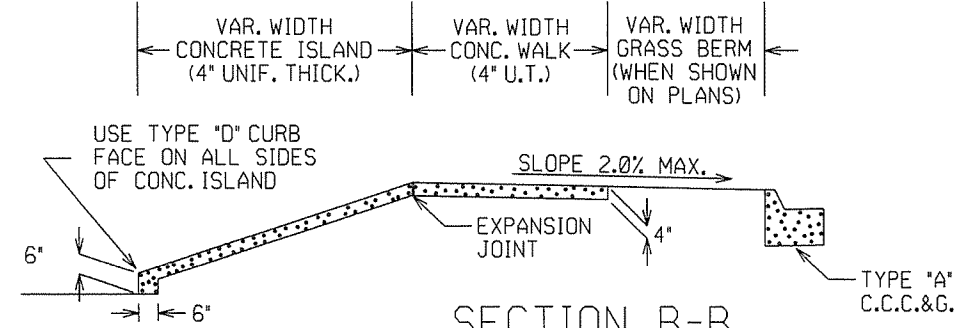


DRIVEWAY VERTICAL ALIGNMENT DETAILS

\* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.

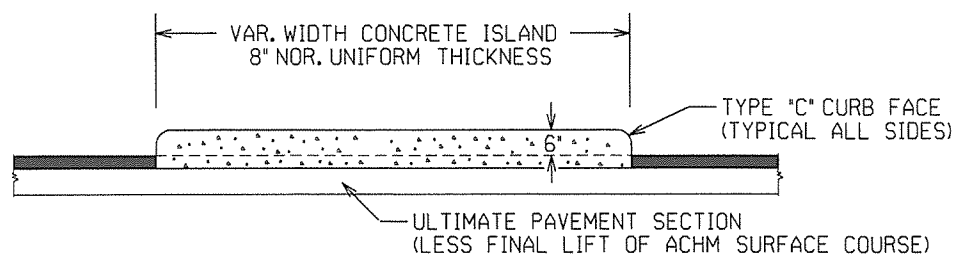
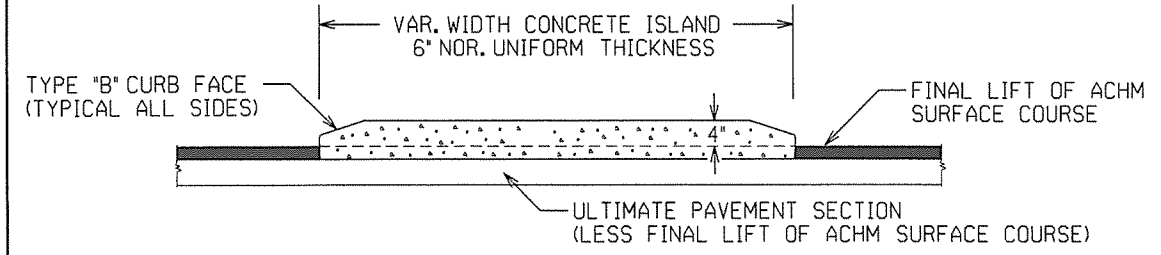


SECTION A-A



SECTION B-B  
CURBED ISLAND BEHIND WALK

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

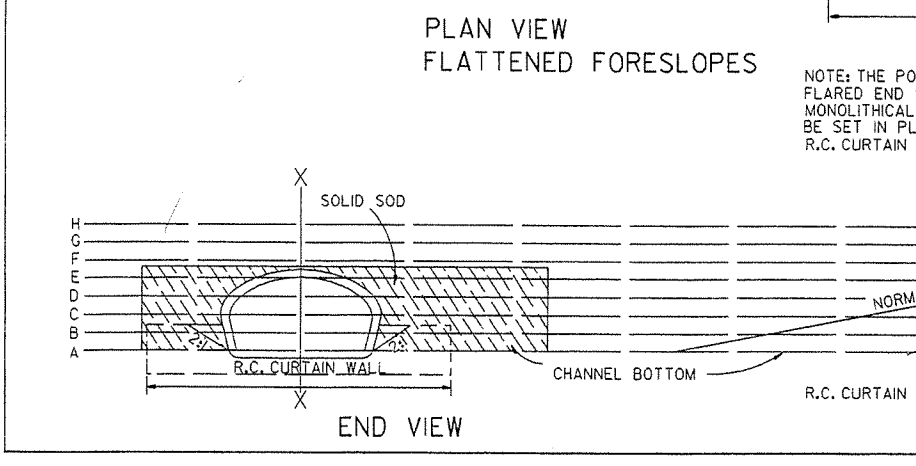
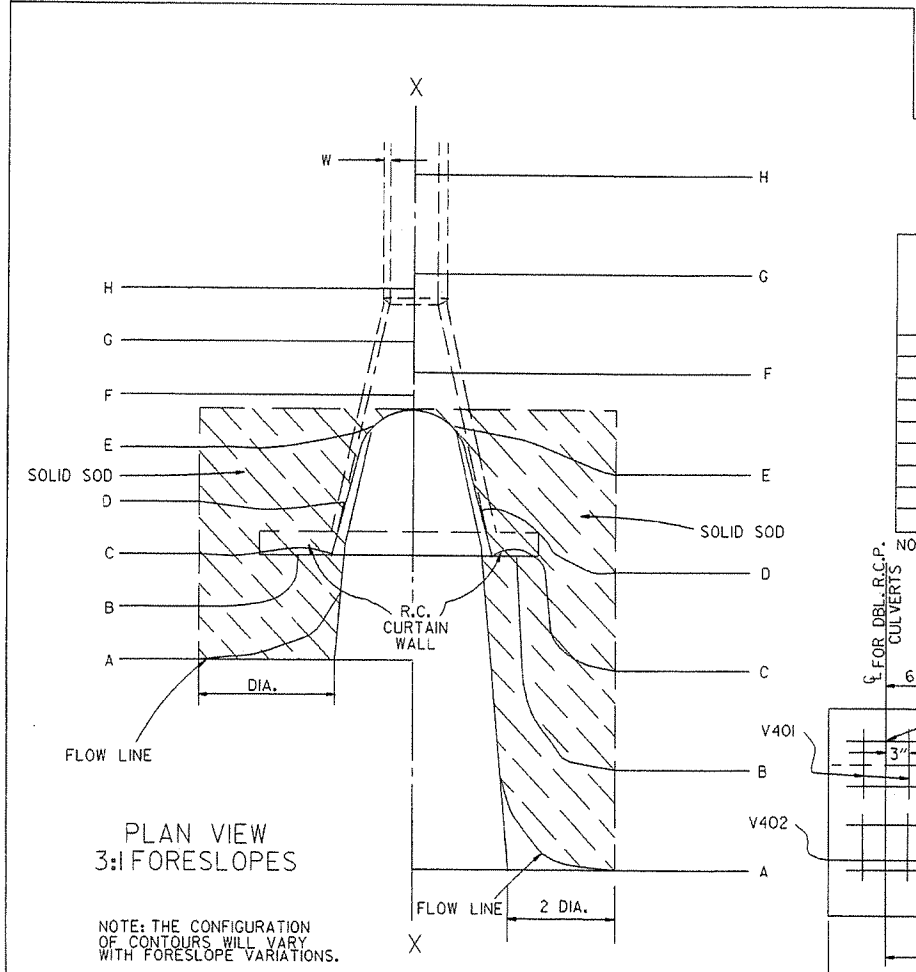
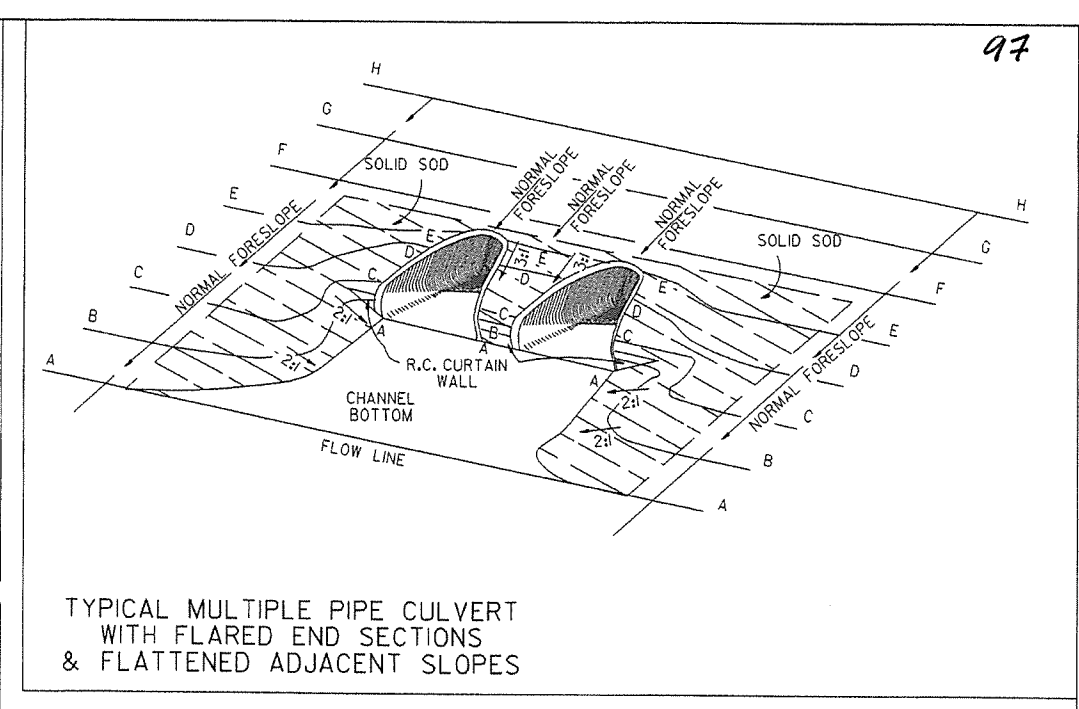
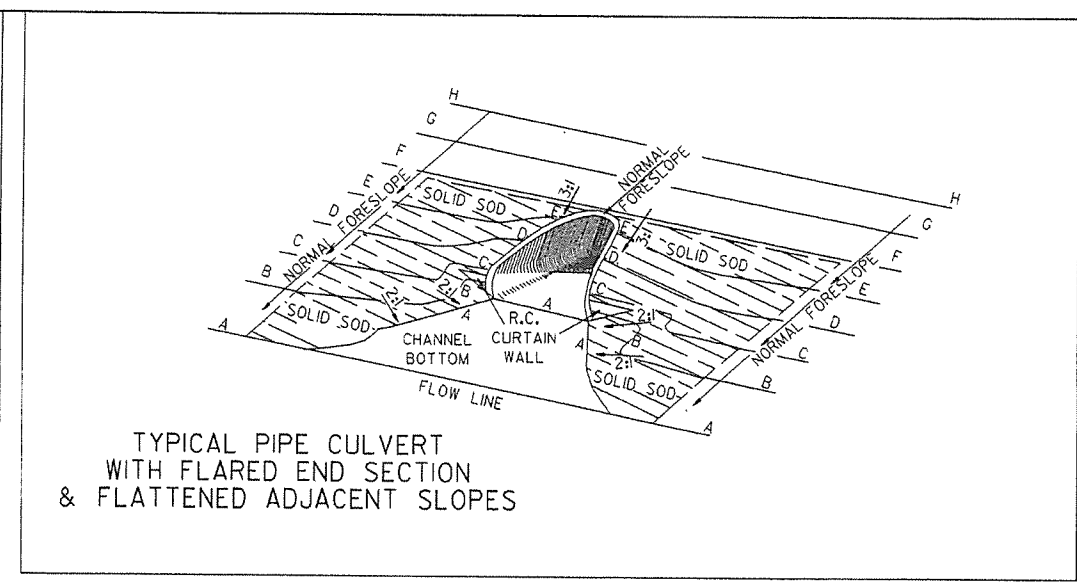
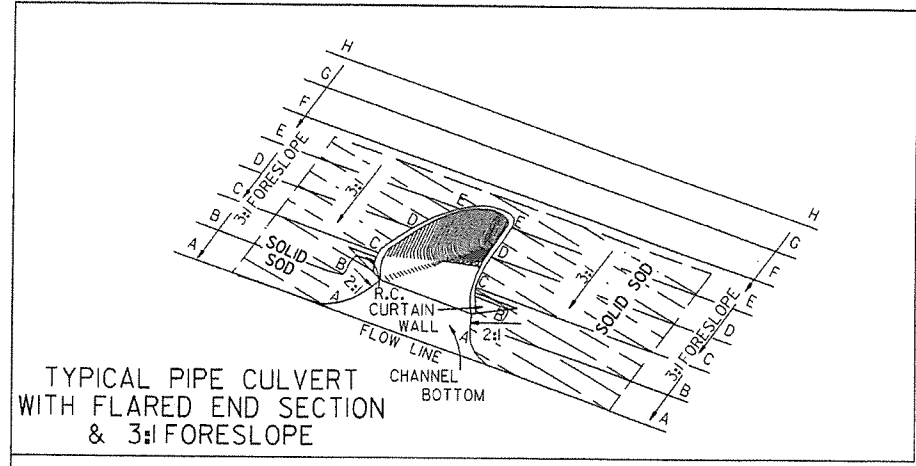


CURBED ISLANDS FOR CHANNELIZATION

DATE	REV	DATE FILMED	DESCRIPTION
2-27-14			REVISED PLAN & ISOMETRIC VIEW
11-29-07			ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05			REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02			ADDED ISLAND DETAILS & NOTES
3-30-00			REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98			REVISED NOTES
11-18-98			REDRAWN AND REISSUED

ARKANSAS STATE HIGHWAY COMMISSION  
DETAILS OF DRIVEWAYS & ISLANDS  
STANDARD DRAWING DR-1

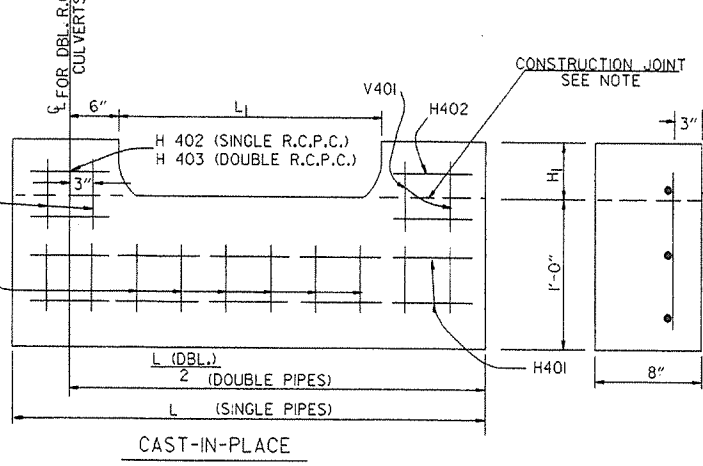




R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

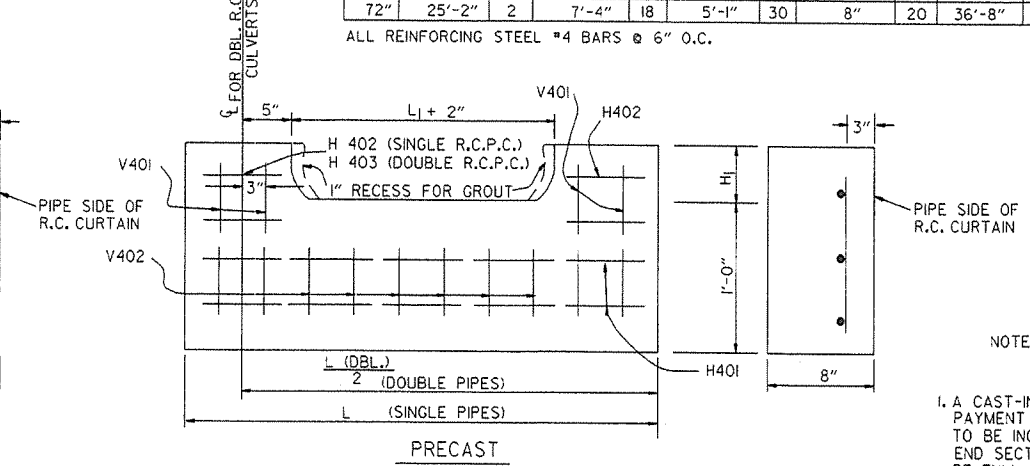
PIPE DIA.	H <sub>1</sub>	L <sub>1</sub>	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.

R.C. CURTAIN WALL DETAILS



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12	8"	18
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

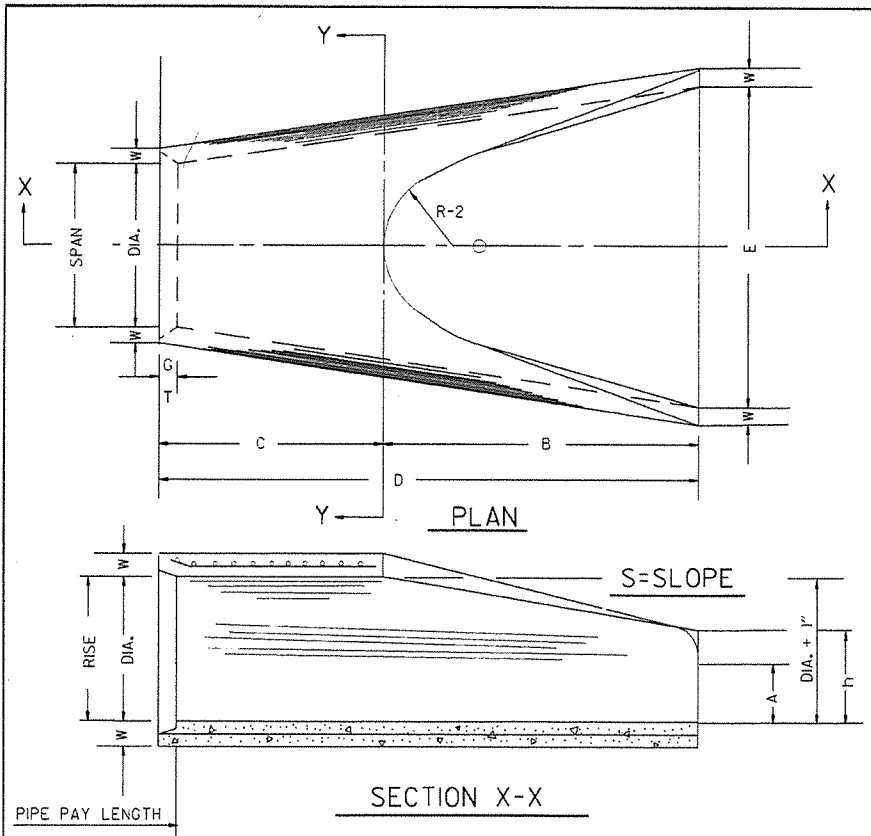
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
- A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
  - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
  - CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
  - WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

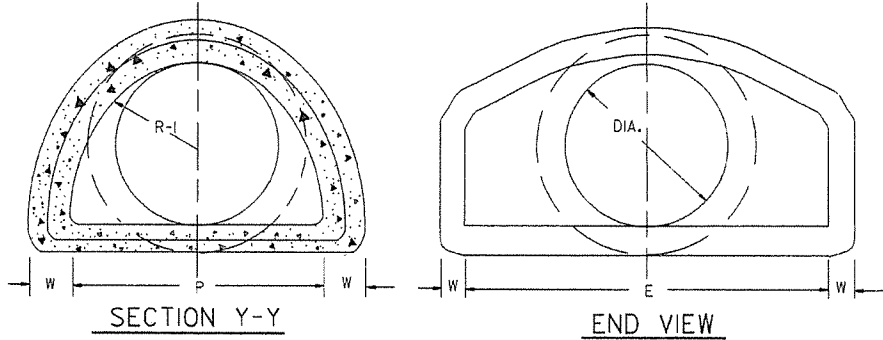
10-18-96	ADDED NOTE TO SOLID SODDING			
10-12-95	CORRECTED SPELLING		10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
11-3-94	ADDED GENERAL NOTE NO. 4			
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.			
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES			
5-15-80	ADDED PRECAST WALL & GENERAL NOTES			
10-2-72	REVISED AND REDRAWN			
DATE	REVISION	FILMED		STANDARD DRAWING FES-1



SECTION X-X  
END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. - 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/4"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 7/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/8"	38 1/8"	24"	5"	13250	4'-6"

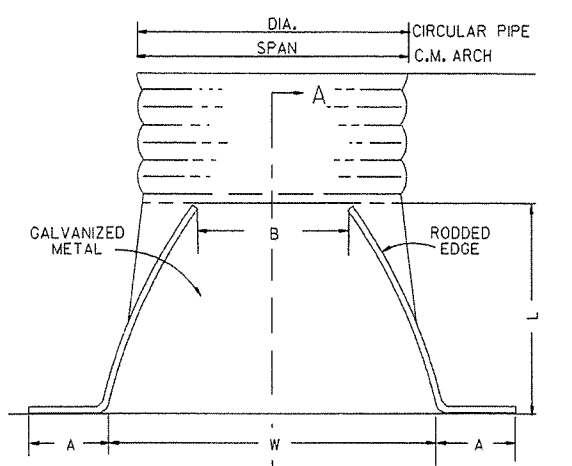
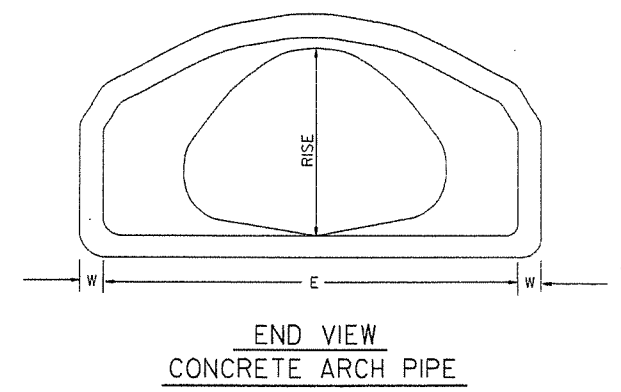


NOTE: TONGUE END ON UPSTREAM SECTION  
GROOVE END ON DOWNSTREAM SECTION

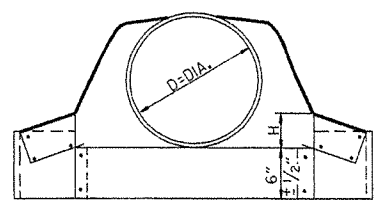
ARCH PIPE

EQUIV. DIA.	SPAN		RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/8"	22"	3 1/4"	2 1/2:1
42	51 1/8	51	31 3/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 3/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/2:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/2:1

\* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



PLAN



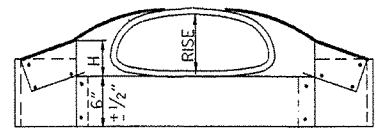
CIRCULAR PIPE

CIRCULAR PIPE

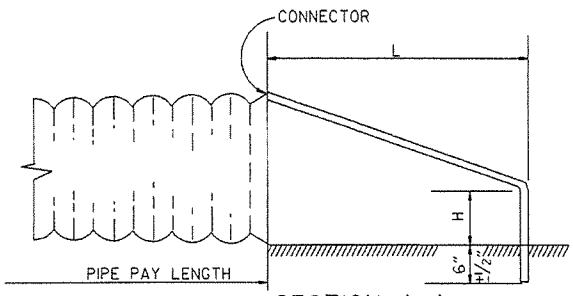
D. DIA.	GAUGE	A	B. MAX.	H	L	W	S
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27	12	78	90	2 1/2:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1 3/4:1
66	12	18	36	12	87	120	1 1/2:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A	B. MAX.	H	L	W	S	GAUGE
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2 1/2:1	12
48"	57	36	18	26	12	63	90	2 1/2:1	12
54"	64	43	18	30	12	70	102	2 1/4:1	12
60"	71	47	18	33	12	77	114	2 1/4:1	12



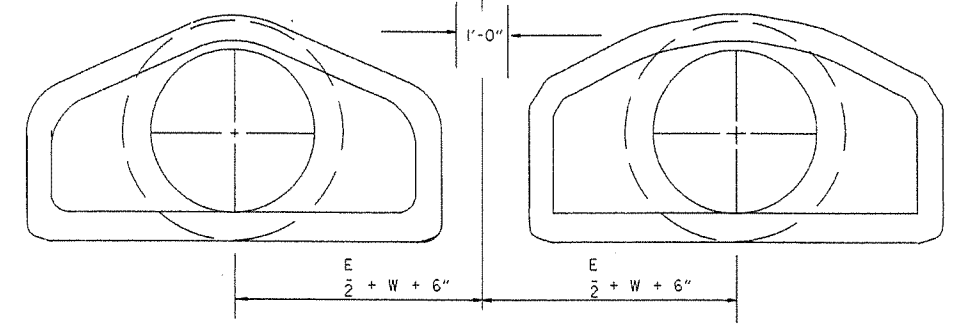
C.M. ARCH PIPE



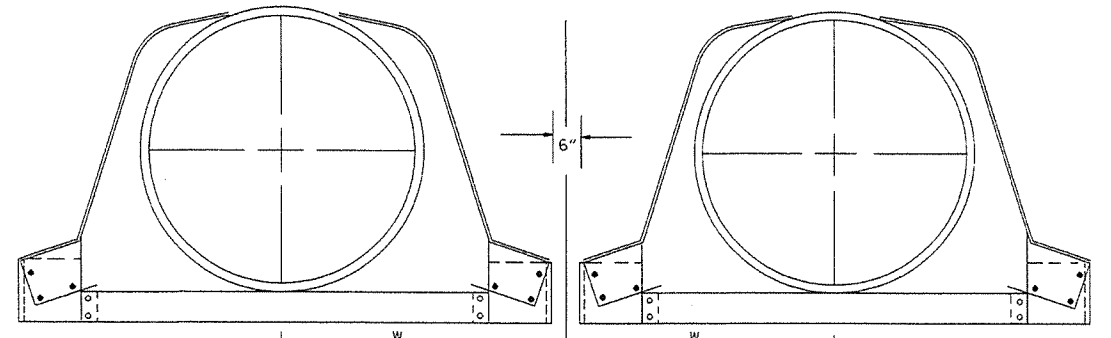
SECTION A-A

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

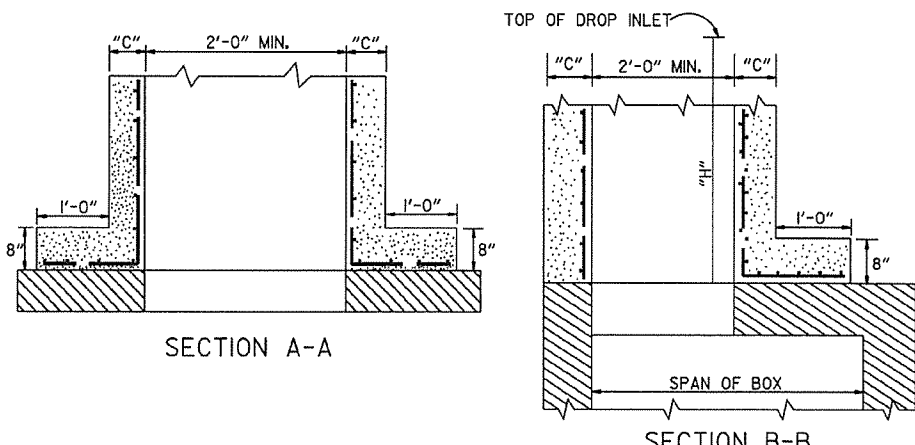
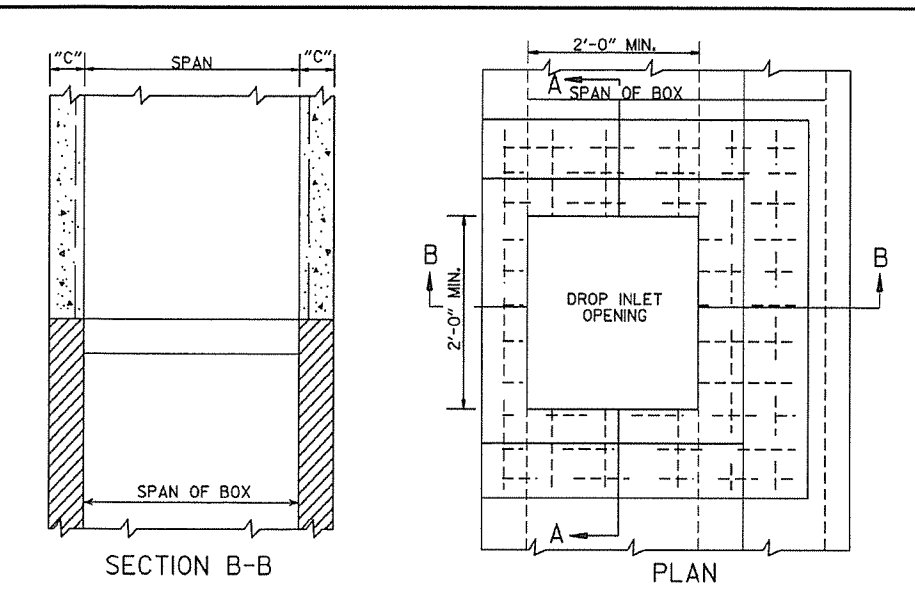


MULTIPLE R.C. PIPE CULVERTS

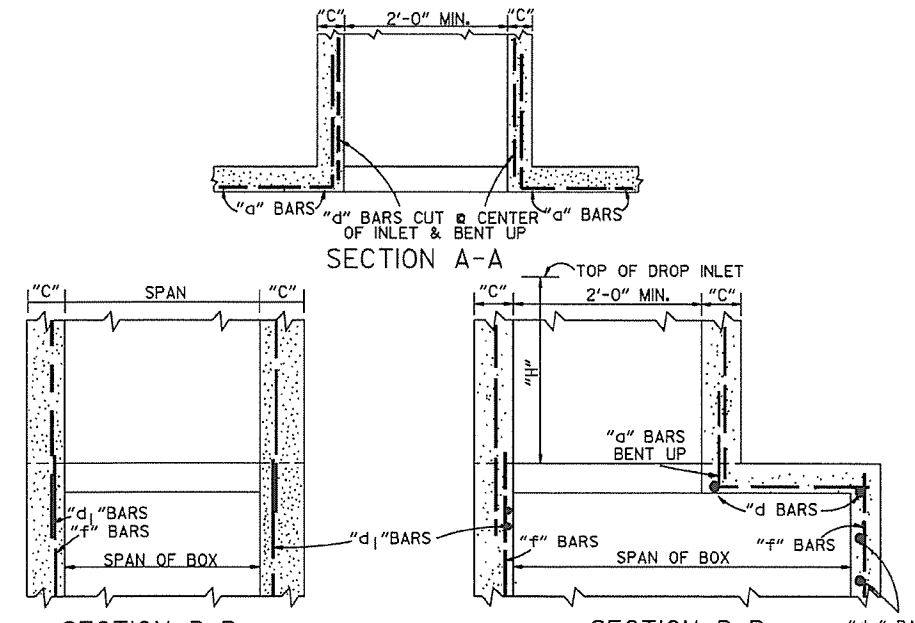


MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	FLARED END SECTION
12-5-74	REMOVED NOTE RE REIN. FOR R.C.F.E.S.	500-12-5-74	
5-24-73	COMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73	
10-2-72	REVISED AND REDRAWN	760-10-2-72	STANDARD DRAWING FES-2
DATE	REVISION	FILE NO.	

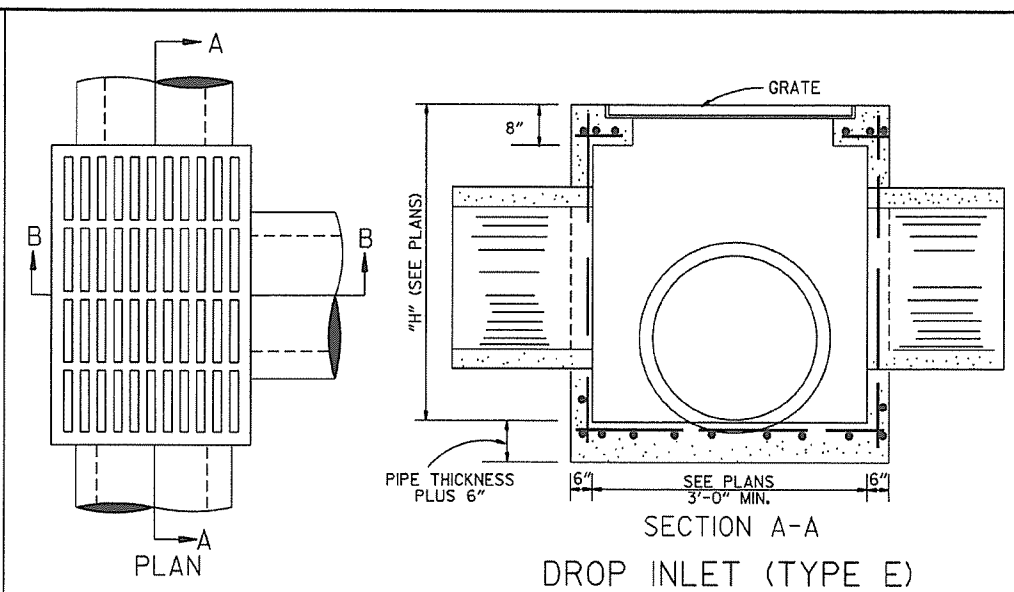


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



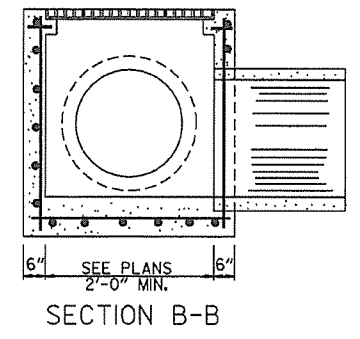
METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

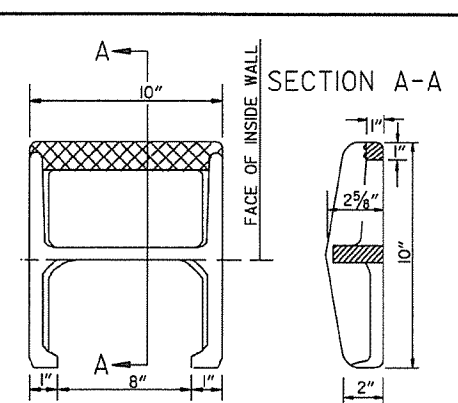


DROP INLET (TYPE E)

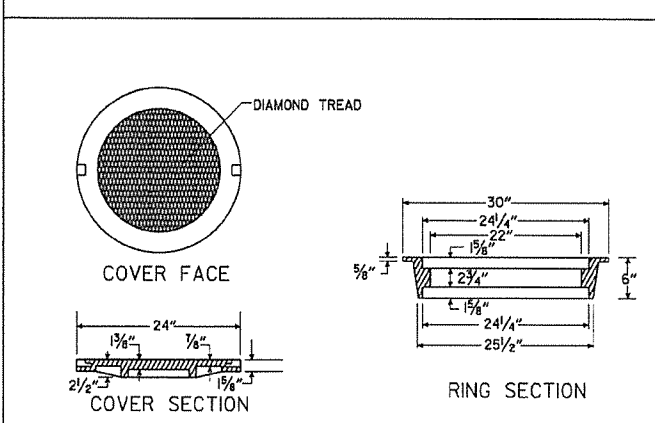
NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



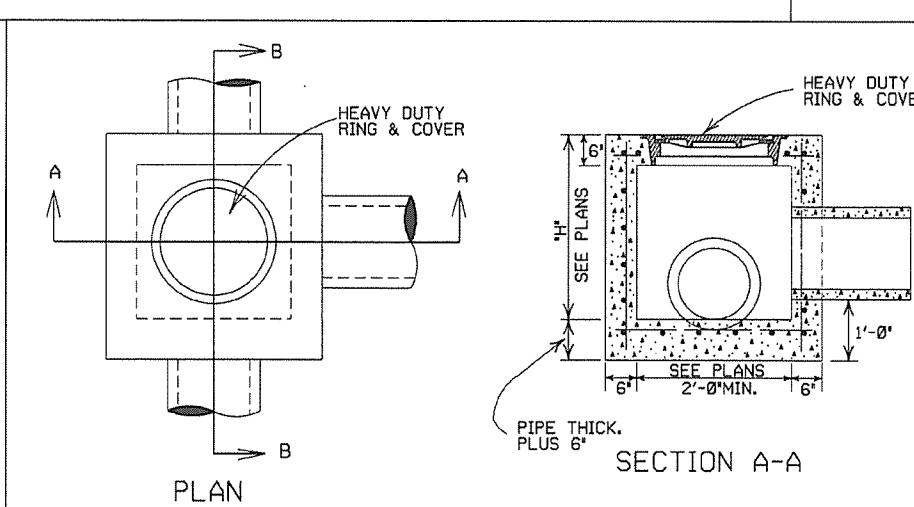
SECTION B-B



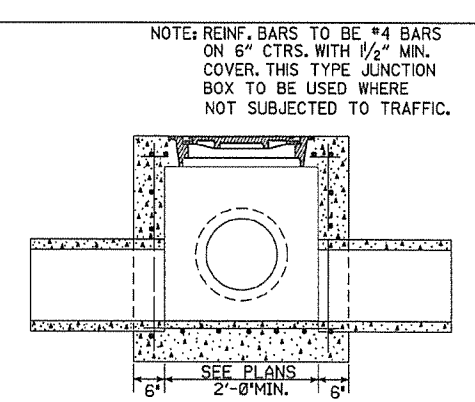
DETAIL OF STEP FOR DROP INLET  
APPROX. WEIGHT = 11 LBS. (CAST IRON)  
PLAN  
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.



HEAVY DUTY RING & COVER  
APPROXIMATE TOTAL WEIGHT = 333 LBS.

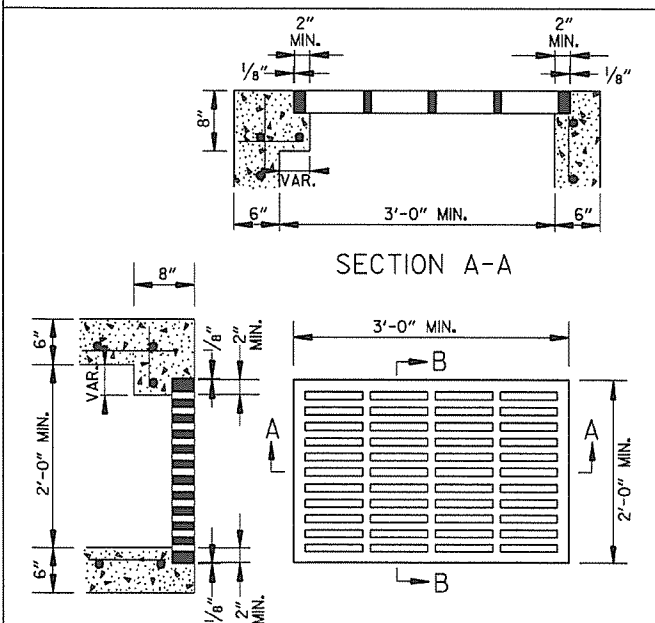


JUNCTION BOX (TYPE E)



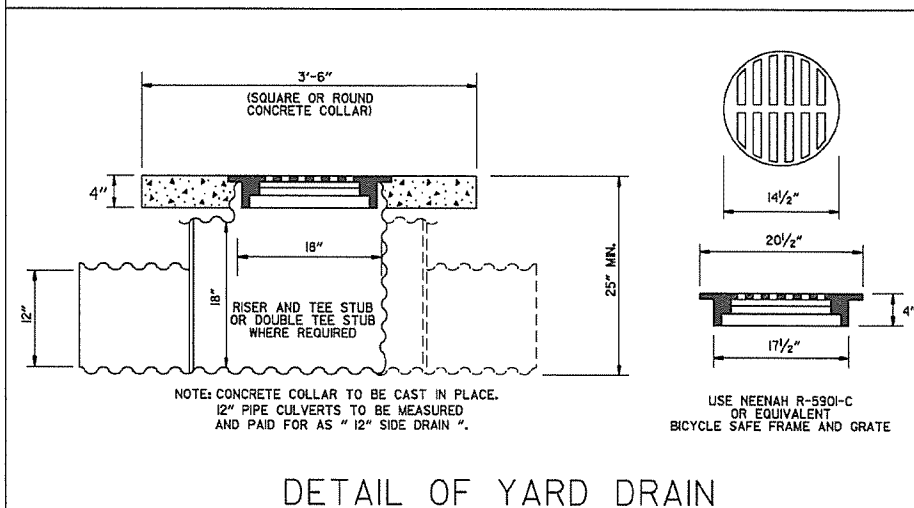
SECTION B-B

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



GRATE FOR TYPE E DROP INLET

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.



DETAIL OF YARD DRAIN

- GENERAL NOTES:
1. ALL EXPOSED CORNERS SHALL BE 3/4" CHAMFERED.
  2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
  3. EXPANSION JOINT MATERIAL SHALL BE 3/4" PREFORMED FIBER.
  4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
  5. GRATE AND FRAME SHALL NOT BE PAINTED.
  6. GRATE SHALL BE BICYCLE SAFE.
  7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
  8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
  9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
  10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE	REV.	REVISION	DATE FILMED
11-16-01		ADDED NOTE 10	
1-12-00		REVISED HEAVY DUTY RING & COVER	
7-02-98		CHANGED GRATE DETAIL, DELETED DI (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97		ADDED DIMENSION TO TYPE IV-A	
10-18-96		ADDED DETAIL OF YARD DRAIN	
8-15-91		DELETE TYPE IV GRATE	
7-15-88		REVISED STEP DETAIL	
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83		ADDED GENERAL NOTE NO. 4	
3-2-81		ADDED TYPE IV-A GRATE	
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72		REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

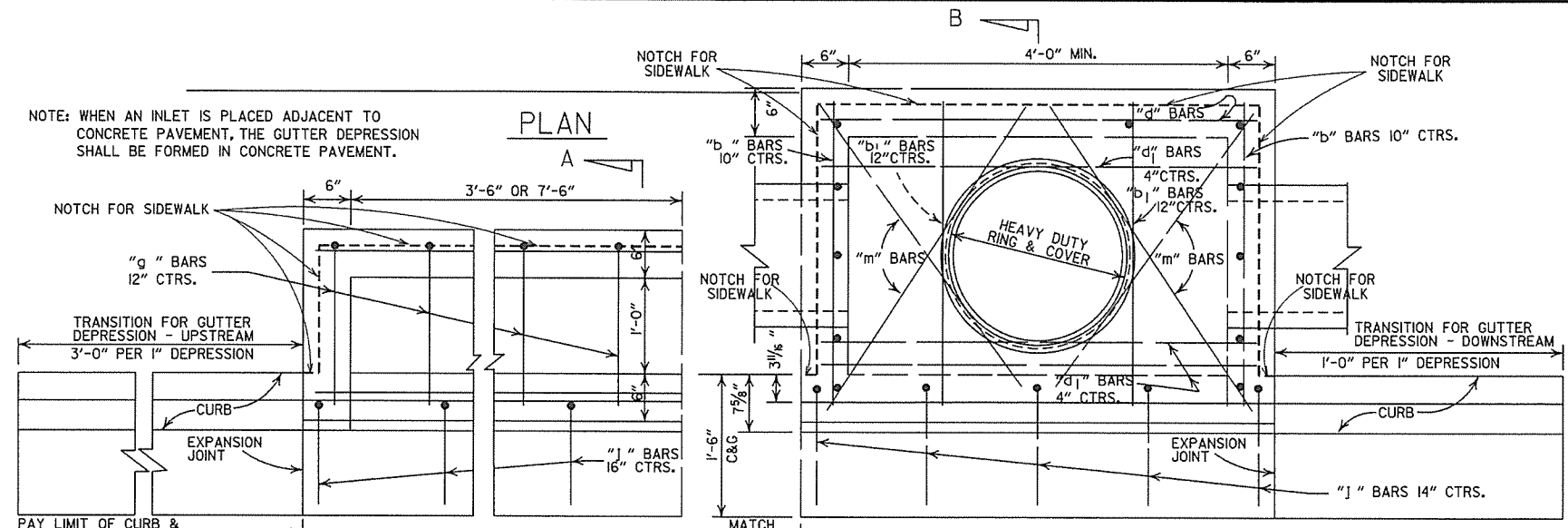
STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET DROP INLET EXTENSION

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22				
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28				
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

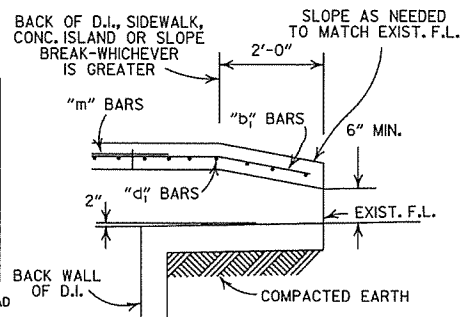
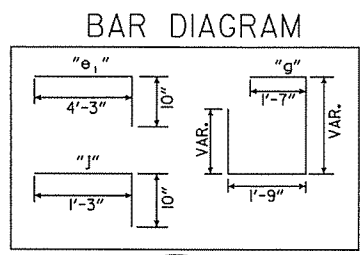
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.



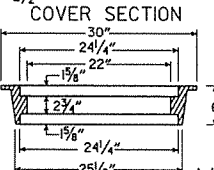
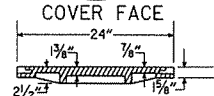
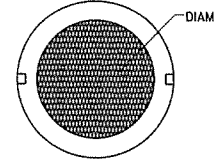
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE INCHES	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8



BACK OPENING

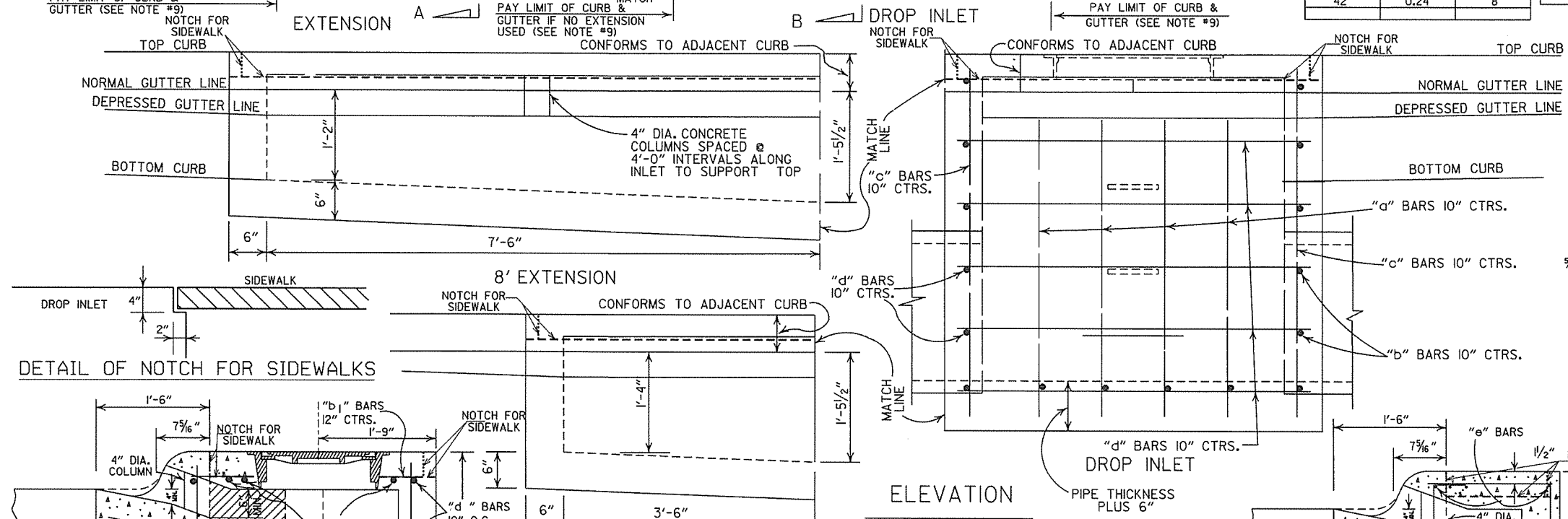
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).



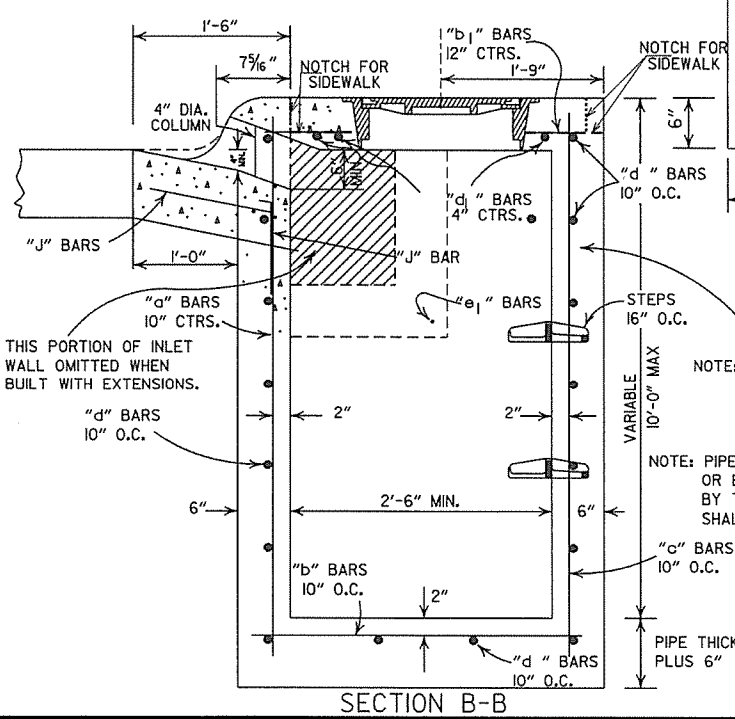
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

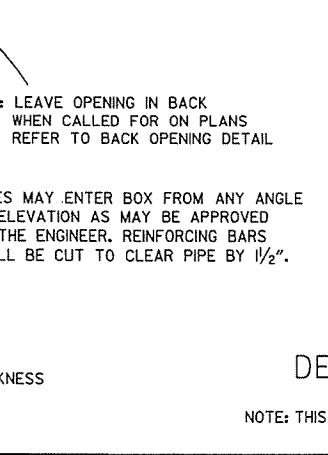
- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
  - STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
  - ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
  - DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
  - THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
  - WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
  - HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
  - DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
  - PAYMENT FOR CURB AND/OR GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
  - HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
  - HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
  - 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
  - DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



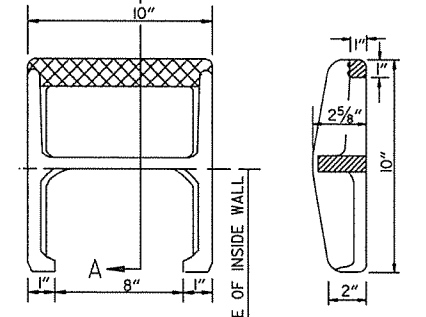
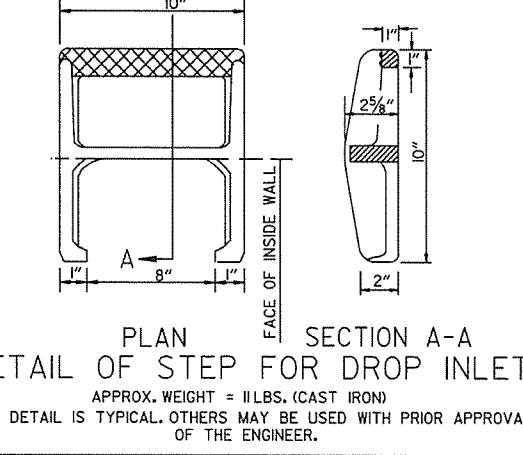
DETAIL OF NOTCH FOR SIDEWALKS



4' EXTENSION



8' EXTENSION



SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

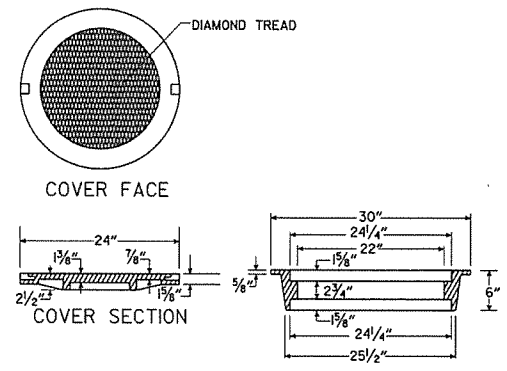
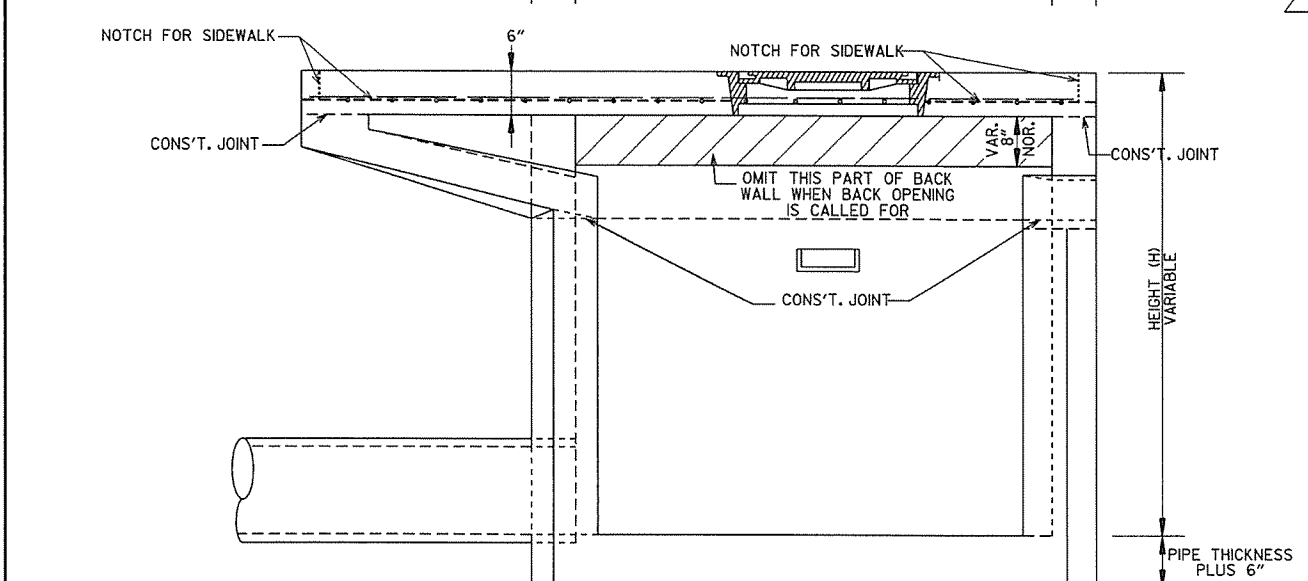
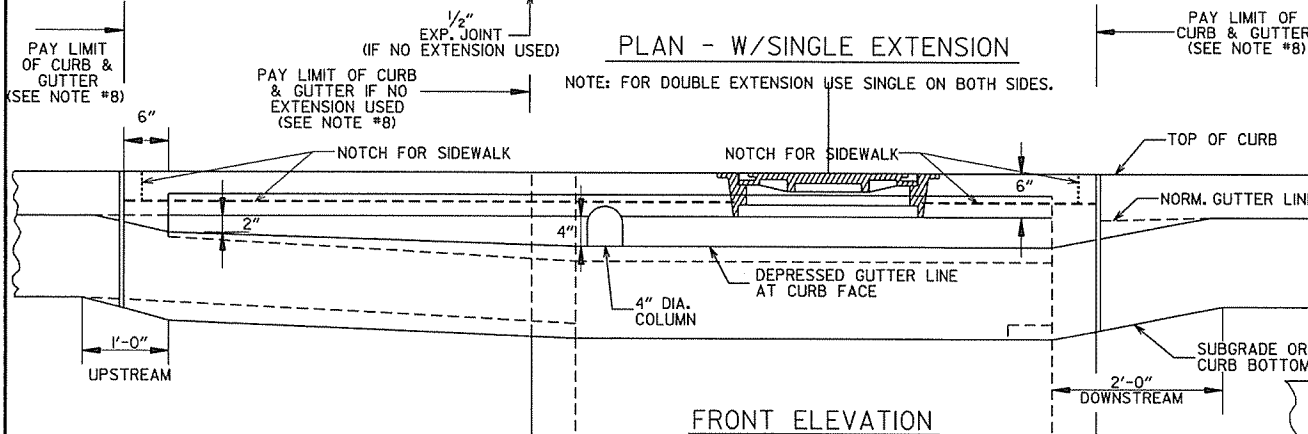
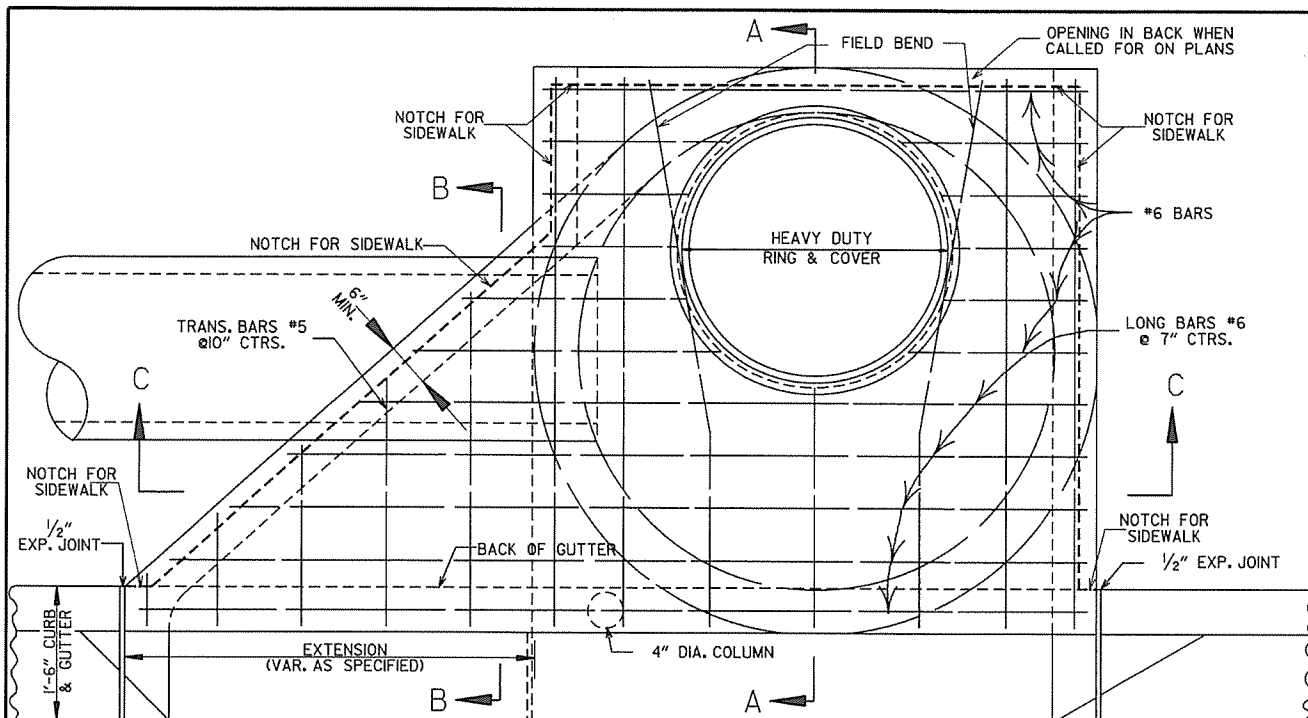
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DATE	REV.	REVISION	DATE FILED
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01		ADDED NOTE 13; REVISED SECTION B-B	
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98		REPLACED RING & COVER W/HEAVY DUTY RING & COVER	
		ADDED NOTES 9,10,&11	
10-18-96		CORRECTED SPELLING	
4-26-96		ADDED NOTE 8 & REVISED (4') (8') EXTENSION TITLES	10-18-96
4-1-93		REVISED BACK OPENING & NOTE	
8-15-91		DELETE TYPE IV GRATE	
7-15-88		REVISED STEP DETAIL	
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83		ADDED GENERAL NOTE NO. 4	
3-2-81		ADDED TYPE IV-A GRATE	
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72		REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

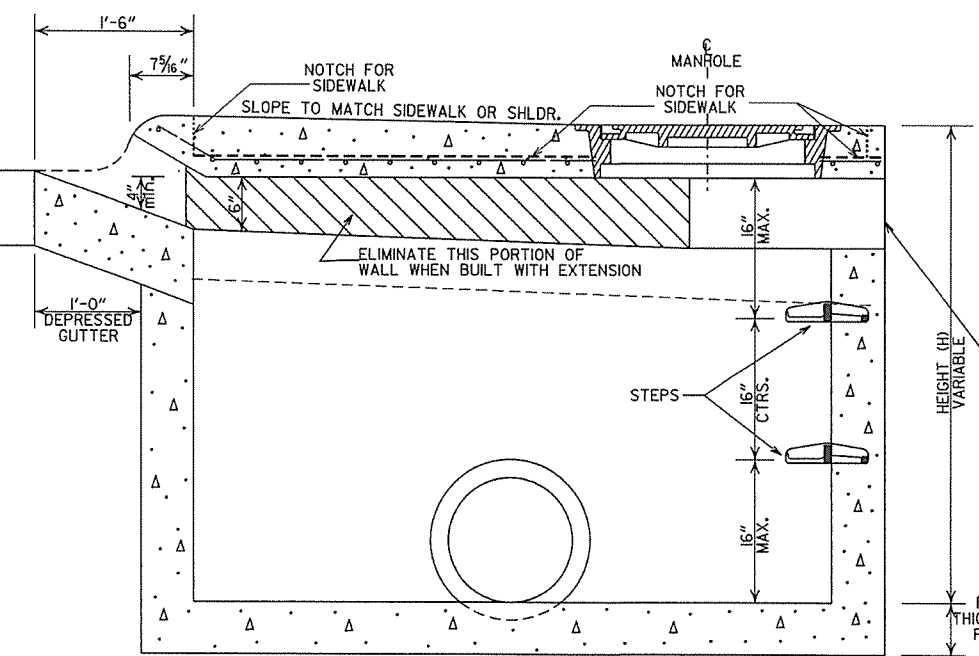
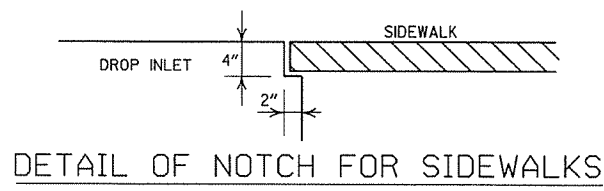
DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

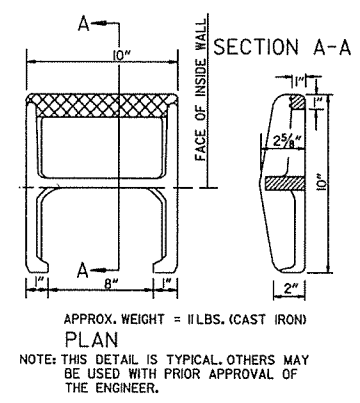


RING SECTION  
APPROXIMATE TOTAL WEIGHT = 333 LBS.  
**HEAVY DUTY RING & COVER**

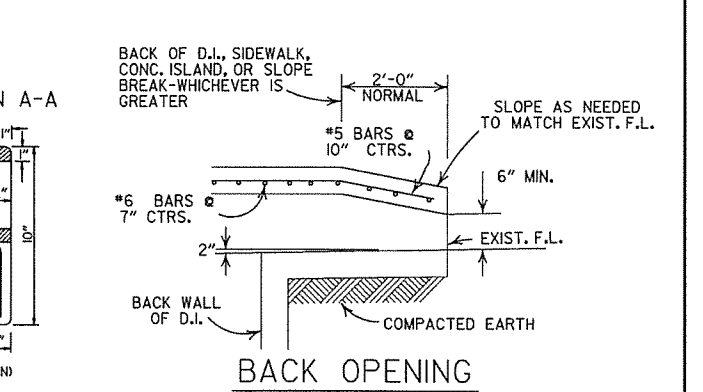
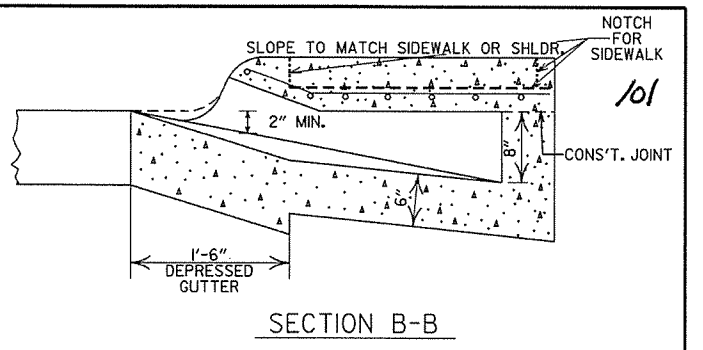
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



SECTION A-A



DETAIL OF STEP FOR DROP INLET



BACK OPENING

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
  2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
  3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1/2" COVER.
  4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
  5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
  6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
  7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
  8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
  9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
  10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
  11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
  12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
  13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

MINIMUM WALL THICKNESS			
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4" I.D.	12" THRU 27"	6"	5"
5" I.D.	30" THRU 42"	8"	6"
6" I.D.	48" THRU 54"	8"	7"

PIPE THICKNESS PLUS 6"

DATE	ISSUED	REVISIONS	DATE FILMED
18-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01		ADDED NOTE 13	
11-12-00		REVISED HEAVY DUTY RING & COVER	
5-13-99		ADDED NOTCH DETAIL FOR SIDEWALKS	
1-02-98		REV. NOTE B, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-28-95		ADDED NOTE IN ALL OPENING DIMENSION	
10-12-95		CORRECTED #6 BAR SPACING	
7-20-95		CORRECTED DIAMETER OF D.I. IN BOX	
7-2-95		TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94		REVISED GENERAL NOTES	
4-1-93		REV. BACK OPEN DETAIL & NOTE	11-4-92
11-16-91		REVISED NOTES 11, 12 & ADDED BK. OPEN DETAIL	4-1-93
11-10-89		ADDED NOTE NO. 17	8-15-91
3-23-89		ADDED NOTE 1 & MINIMUM WALL THICKNESS	11-30-89
1-15-88		ADDED EXTEND NOTE TO SECTION A-A	5-15-78-88
1-14-87		MODIFIED WALL THICKNESS	7-6-14-87
11-12-87		ISSUED	2-6-12-87

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(F)(1).

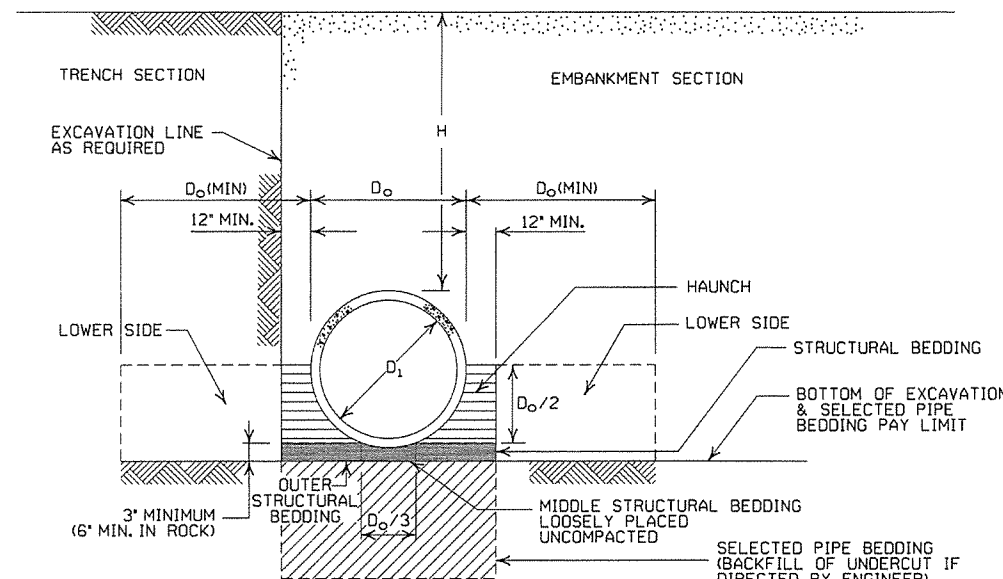
NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

- LEGEND -

- D<sub>1</sub> = NORMAL INSIDE DIAMETER OF PIPE
- D<sub>2</sub> = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

- \* SM-3 WILL NOT BE ALLOWED.
- \*\* MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
PIPE ID (IN.)	TYPE 1 OR 2	TYPE 3	ALL	ALL
	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

**CORRUGATED STEEL PIPE (ROUND)**

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	73
42	2		43	67	70	
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

**CONSTRUCTION SEQUENCE**

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

**CORRUGATED ALUMINUM PIPE (ROUND)**

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM						
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

**EQUIVALENT METAL THICKNESSES AND GAUGES**

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

**CORRUGATED METAL PIPE ARCHES**

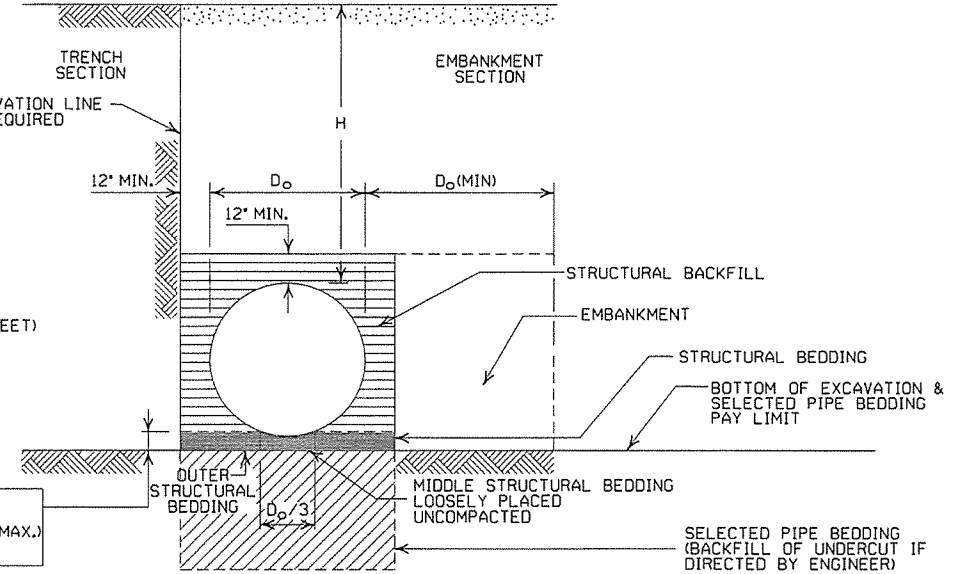
EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)			
				INSTALLATION			INSTALLATION			
				TYPE 1	TYPE 1		TYPE 1	TYPE 1		
2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
15	17x13	3	0.064	2	15	0.060	2	15		
18	21x15	3	0.064	2	15	0.060	2	15		
21	24x18	3	0.064	2.25	15	0.060	2.25	15		
24	28x20	3	0.064	2.5	15	0.075	2.5	15		
30	35x24	3	0.079	3	12	0.075	3	12		
36	42x29	3 1/2	0.079	3	12	0.105	3	12		
42	49x33	4	0.079	3	12	0.105	3	12		
48	57x38	5	0.109	3	13	0.135	3	13		
54	64x43	6	0.109	3	14	0.135	3	14		
60	71x47	7	0.138	3	15	0.164	3	15		
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
			INSTALLATION		INSTALLATION					
			TYPE 2	TYPE 1	TYPE 2	TYPE 1				
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3" x 1/2" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

**- LEGEND -**

- D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- [Hatched Box] = STRUCTURAL BACKFILL MATERIAL
- [Diagonal Lines] = UNDISTURBED SOIL
- [Dotted Box] = EQUIV. DIA. = EQUIVALENT DIAMETER
- H = FILL COVER HEIGHT OVER PIPE (FEET)



**EMBANKMENT AND TRENCH INSTALLATIONS**

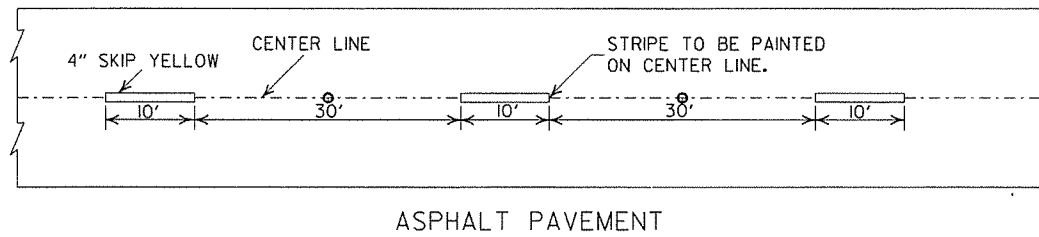
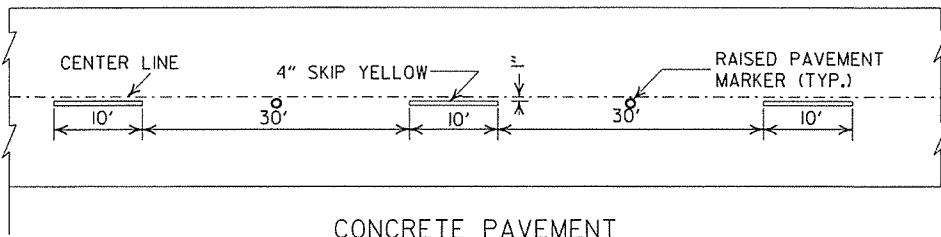
1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/4" x 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" x 1" OR 5" x 1" CORRUGATION.

**GENERAL NOTES**

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

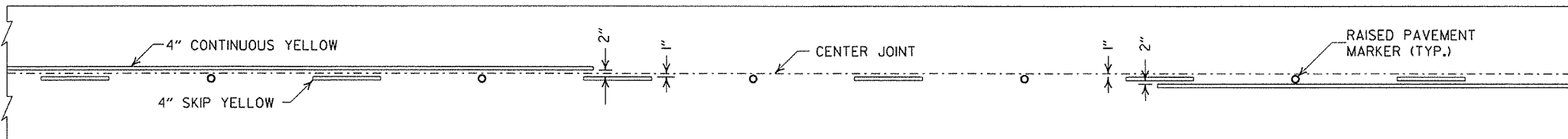
ARKANSAS STATE HIGHWAY COMMISSION	
<b>METAL PIPE CULVERT FILL HEIGHTS &amp; BEDDING</b>	
STANDARD DRAWING PCM-1	



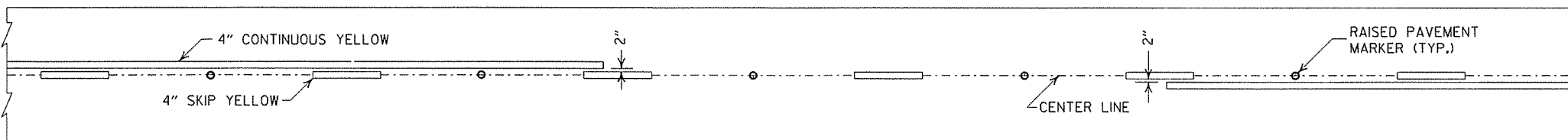
CONCRETE PAVEMENT

ASPHALT PAVEMENT

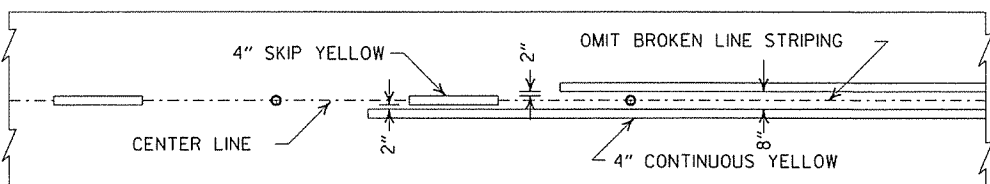
BROKEN LINE STRIPING



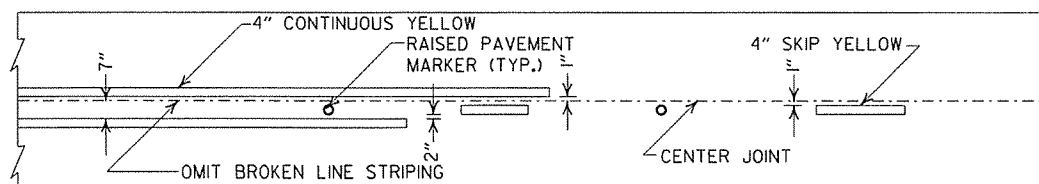
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

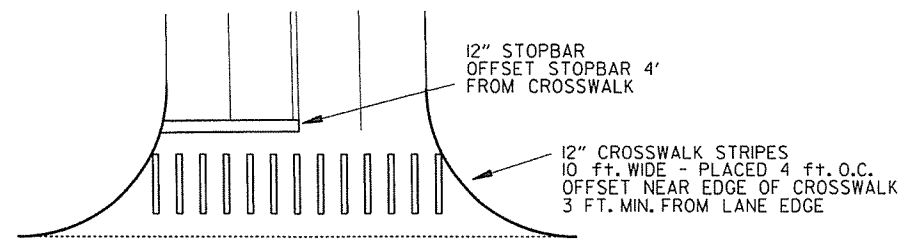


ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

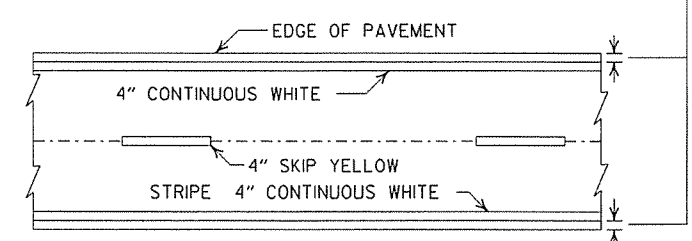


CROSSWALK AND STOPBAR DETAILS

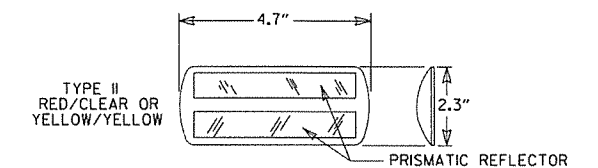
NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.

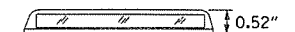
2" FOR ASPHALT OR CONCRETE PAVEMENT  
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:  
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:  
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:  
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

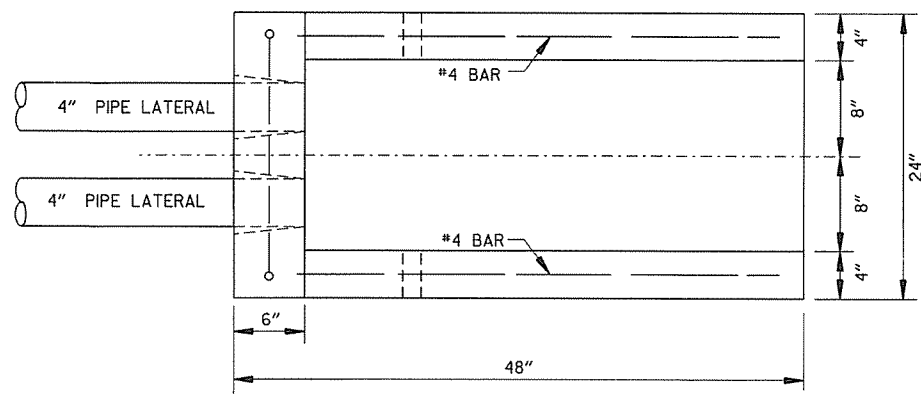
ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

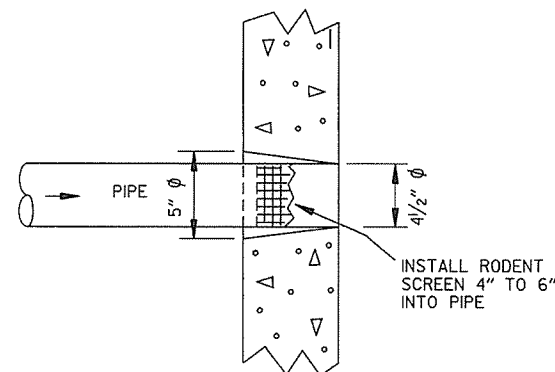
STANDARD DRAWING PM-1



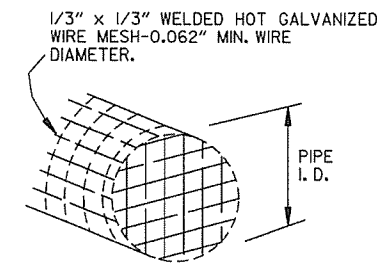
NOTE:  
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.  
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.  
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



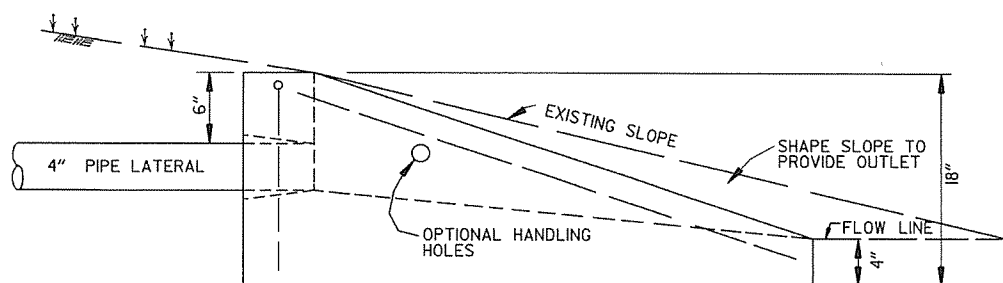
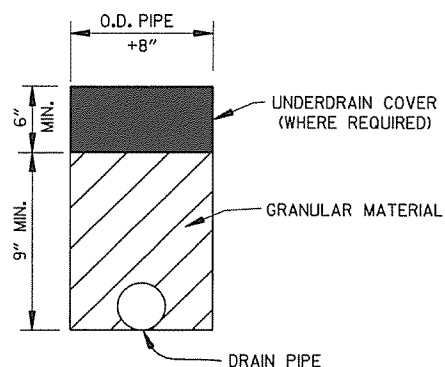
PLAN VIEW



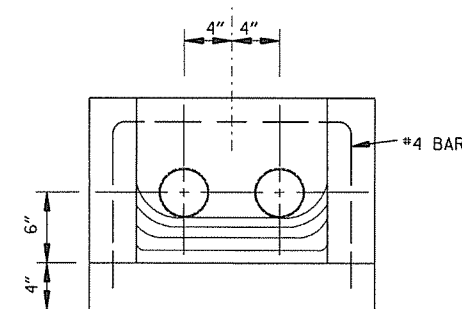
DETAIL OF HOLE FOR 4" PIPE



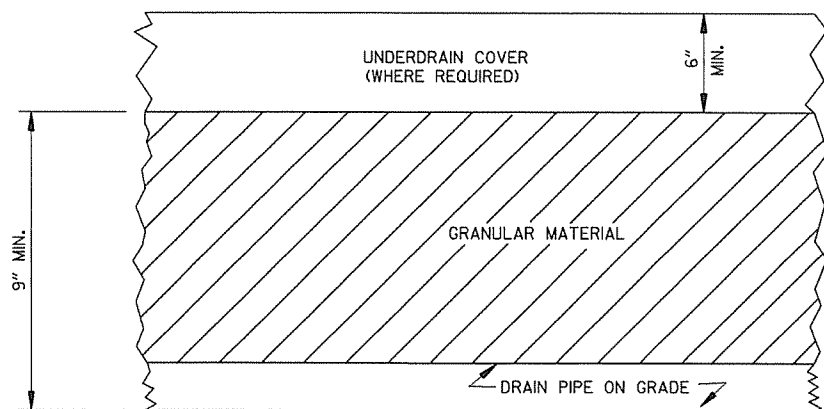
DETAIL OF RODENT SCREEN



SIDE VIEW

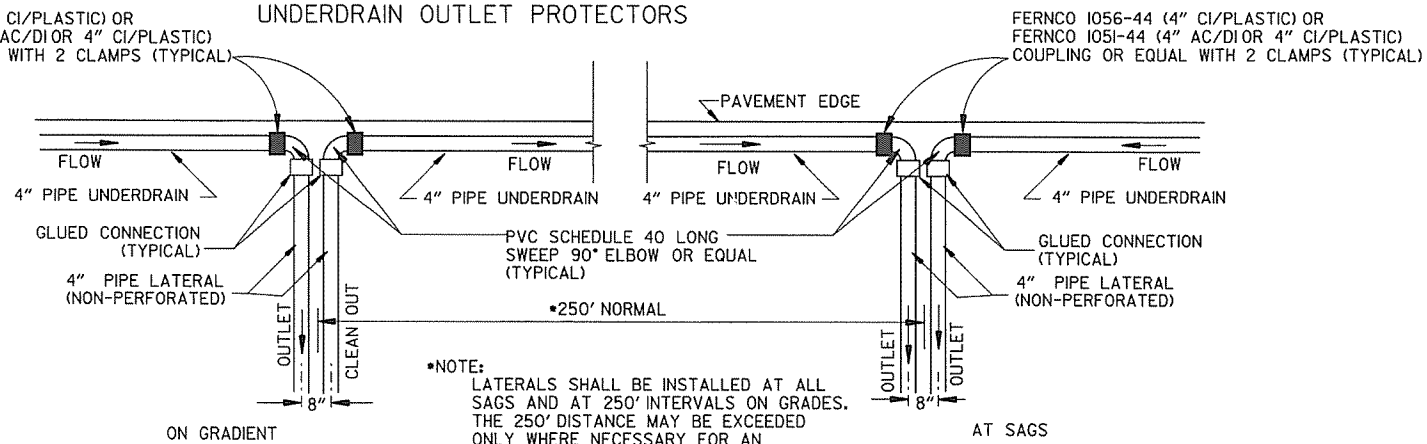


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



\*NOTE:  
 LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
	REVISION	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		0.022		0.023		0.028	
1° 00'	N.C.		N.C.		0.021		0.026		0.030		0.037	
1° 15'	N.C.		N.C.		0.026		0.032		0.037		0.046	
1° 30'	N.C.		0.021		0.031	200	0.037		0.043	250	0.054	300
1° 45'	N.C.		0.025		0.036		0.043	225	0.049		0.062	
2° 00'	R.C.		0.028	175	0.040		0.048		0.055	300	0.070	
2° 15'	R.C.		0.031		0.045	250	0.053		0.061		0.078	300
2° 30'	0.021		0.034		0.049		0.058		0.067		0.085	315
2° 45'	0.023		0.037		0.053		0.063		0.072		0.091	335
3° 00'	0.025		0.040	200	0.057		0.067	230	0.077	260	0.096	350
3° 15'	0.027	150	0.043		0.061		0.072	245	0.082	275	0.098	360
3° 30'	0.029		0.046		0.065	205	0.076	255	0.086	285	0.100	360
3° 45'	0.031		0.049		0.069	215	0.080	265	0.090	295		
4° 00'	0.033	200	0.051		0.072	225	0.083	270	0.093	305		
4° 30'	0.037		0.056		0.078	240	0.087	280	0.096	315		
5° 00'	0.040		0.061		0.083	250	0.091	295	0.098	320		
5° 30'	0.043		0.066	185	0.088	260	0.094	300				
6° 00'	0.046		0.070	190	0.092	270	0.096	305				
6° 30'	0.050		0.074	200	0.095	280	0.100	315				
7° 00'	0.053		0.078	210	0.098	285						
7° 30'	0.056		0.081	215	0.099	290						
8° 00'	0.058		0.084	220	0.084	220						
8° 30'	0.061		0.087	225	0.087	225						
9° 00'	0.063		0.089	230	0.089	230						
10° 00'	0.068	160	0.094	235								
11° 00'	0.072	170	0.097	250								
12° 00'	0.076	175	0.099	250								
13° 00'	0.080	180	0.100	250								
14° 00'	0.083	190										
15° 00'	0.086	195										
16° 00'	0.089	200										
17° 00'	0.091	200										
18° 00'	0.093	205										
19° 00'	0.095	210										
20° 00'	0.097	215										
21° 00'	0.098	215										
22° 00'	0.099	215										
23° 00'	0.099	215										
24° 00'	0.100	220										

D MAX = 24' 45"

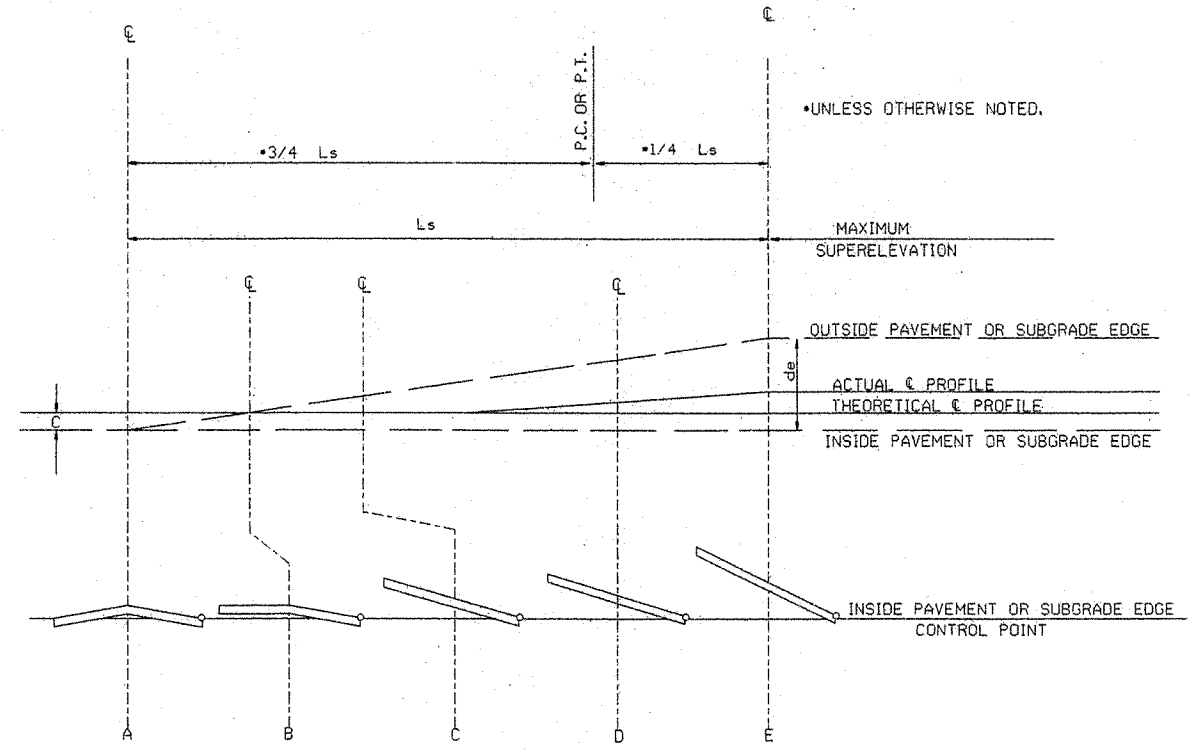
GENERAL NOTES

- ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
- SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
- LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
- PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:
  - 3 LANE UNDIVIDED - - - - +20%
  - 4 LANE UNDIVIDED - - - - +50%
  - 5 LANE UNDIVIDED - - - - +80%
  - 6 LANE UNDIVIDED - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2%.  
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

ABBREVIATIONS

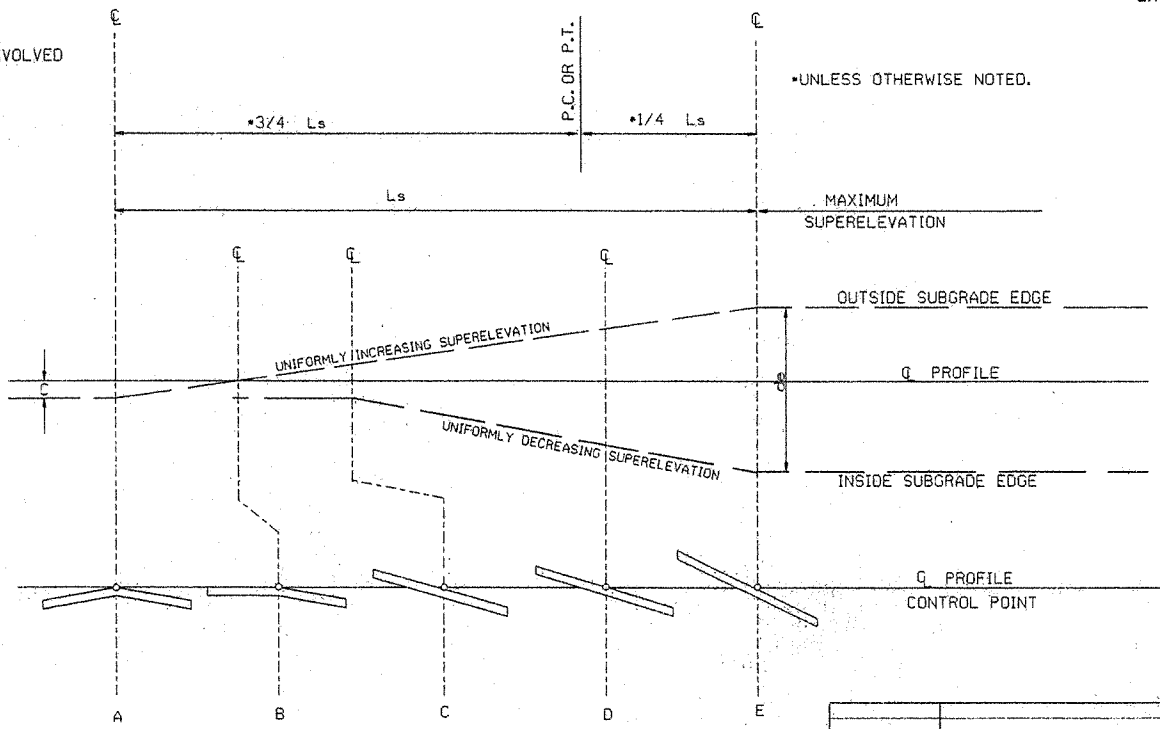
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
- C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

SUPERELEVATION FORMULA =  $\frac{Lde}{Ls}$



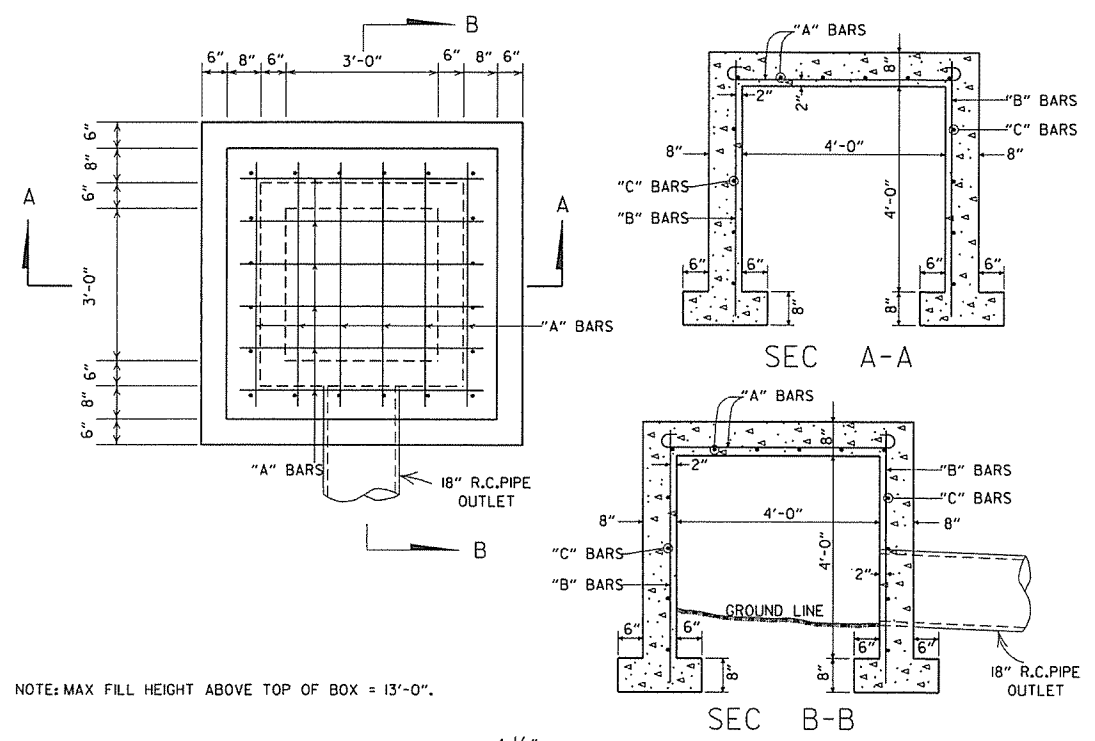
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

10-18-96	ADDED FORMULA	18-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

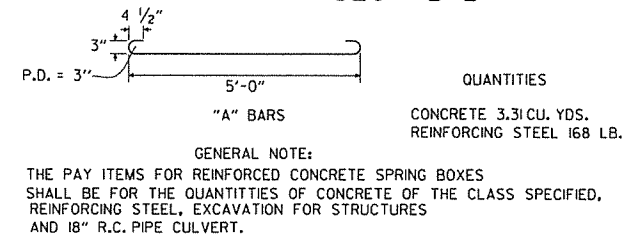
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

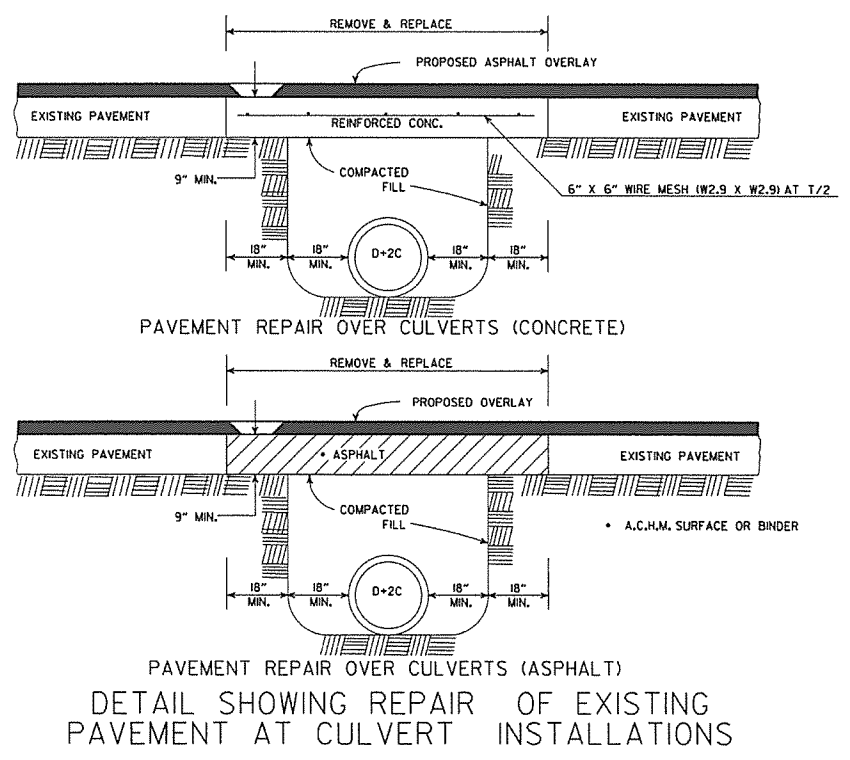


STEEL SCHEDULE

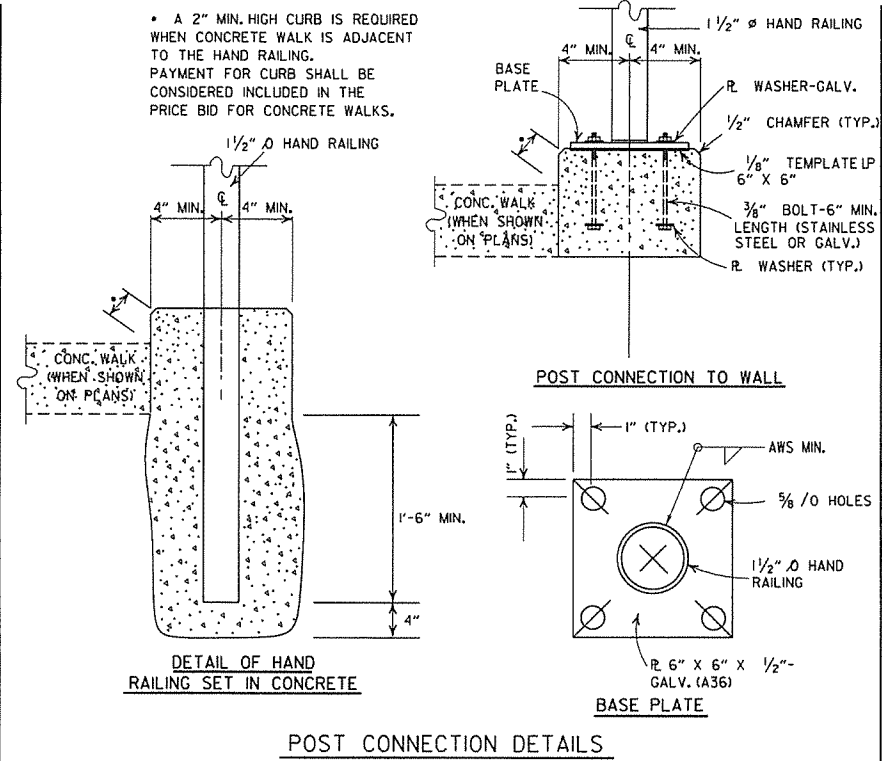
BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"



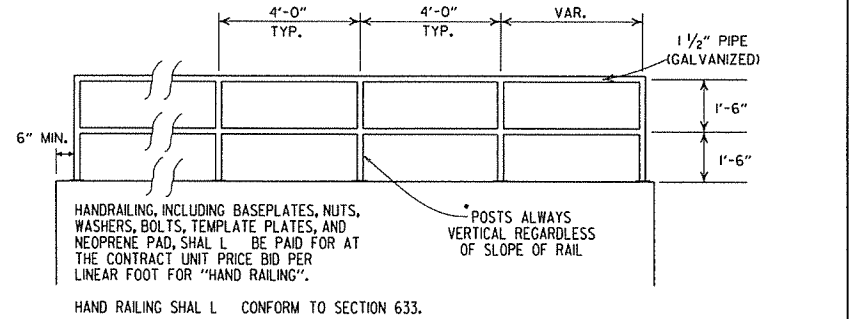
REINFORCED CONCRETE SPRING BOX



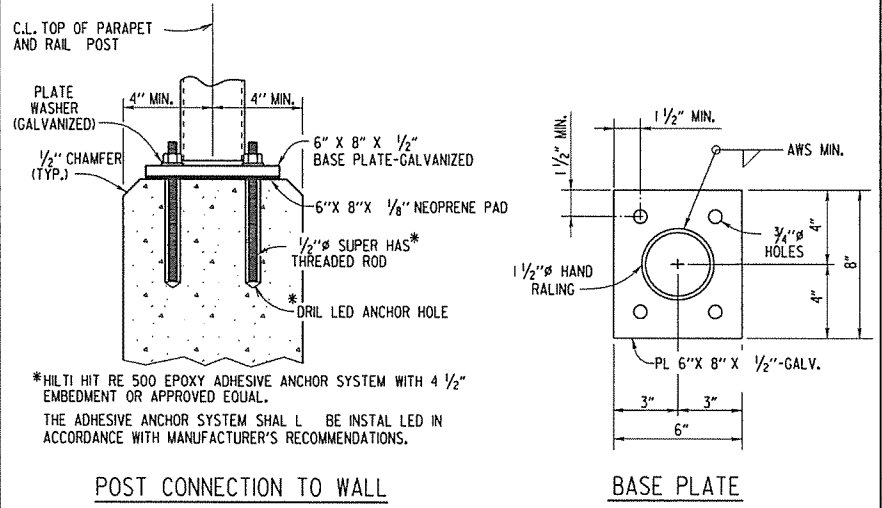
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS



POST CONNECTION DETAILS



HAND RAILING SHALL CONFORM TO SECTION 633.

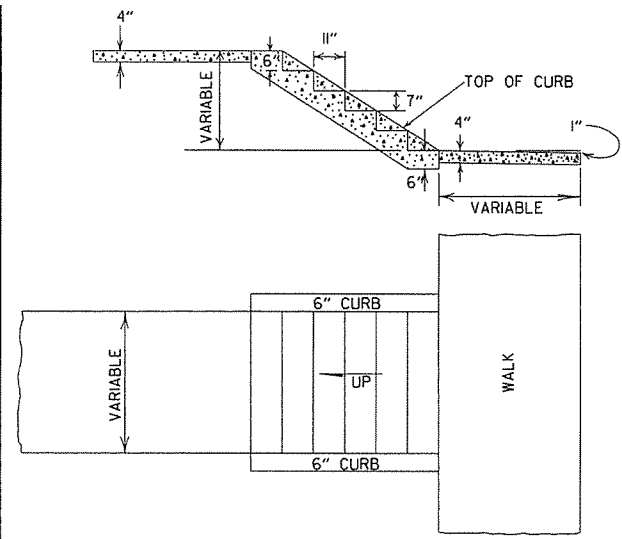


POST CONNECTION TO WALL

BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PYMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PYMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
11-1-84	ADDED HDWL. MODS. DEL. PIPE UNDERDRAINS	
1-4-83	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REV. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

ADVANCE DISTANCES (XXXX)


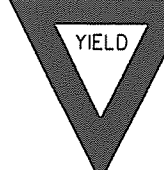
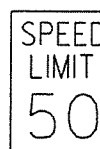
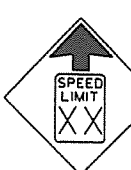

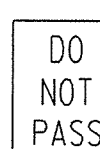
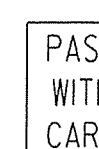
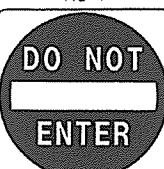
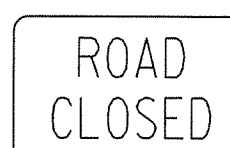
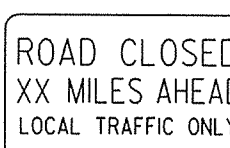
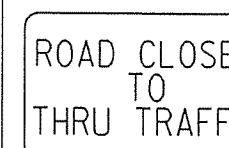
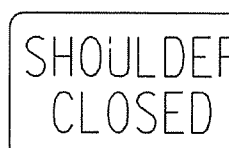
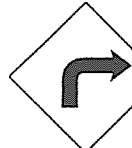

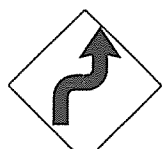

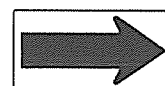

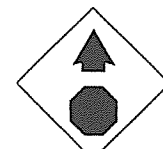
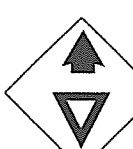
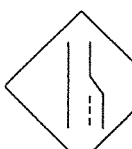

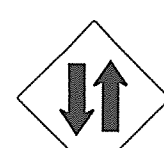





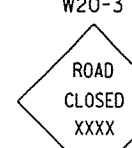




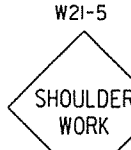


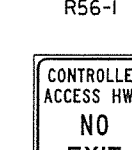

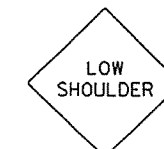
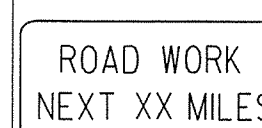
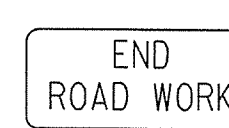
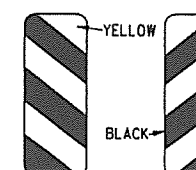
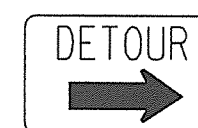

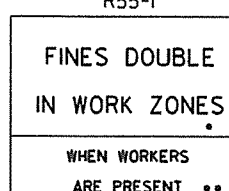
500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

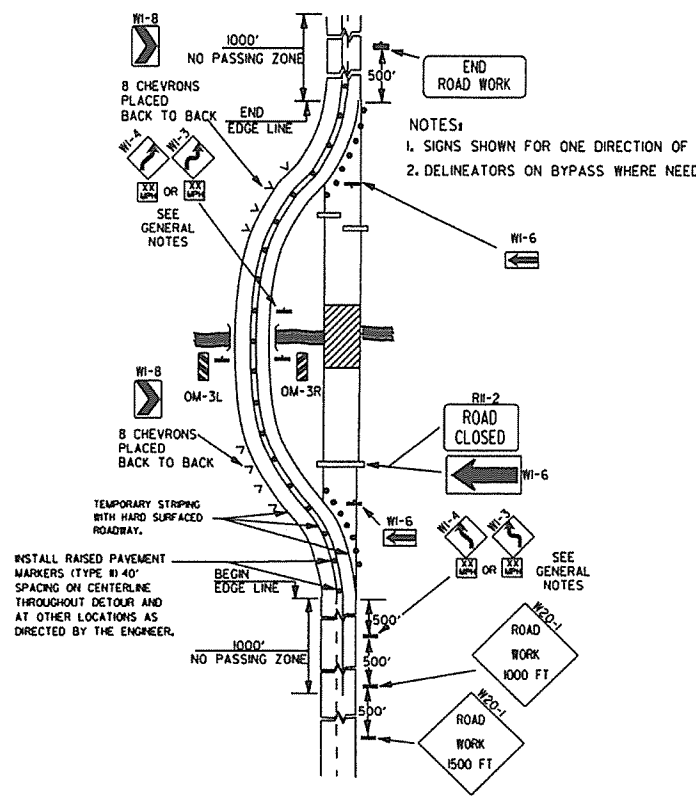
- GENERAL NOTES:
1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
  2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
  3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
  4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
  5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
  6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
  7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
  8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
  9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
  10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE, IF A SPEED LIMIT REDUCTION IS IN EFFECT. THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

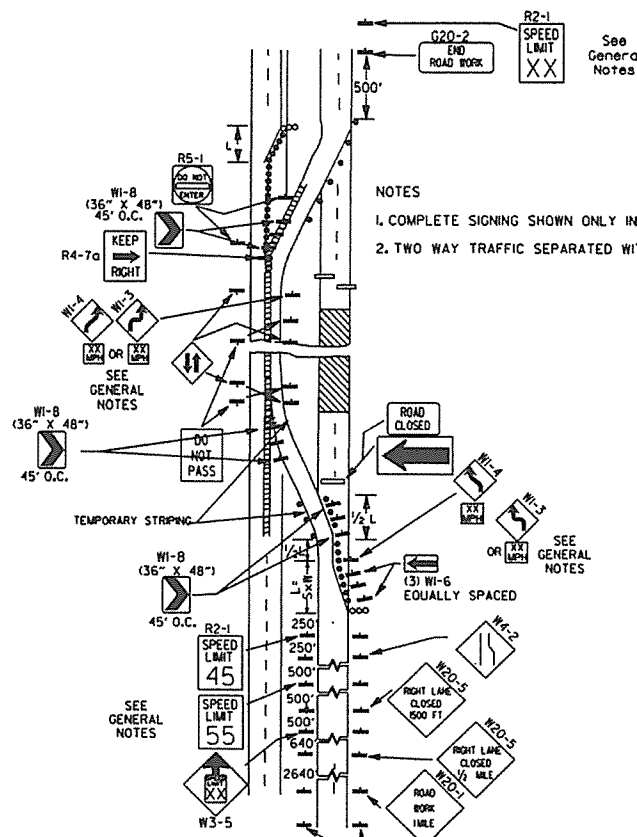
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-1	REVISED W24-1	
1-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
1-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-94	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION  
STANDARD DRAWING TC-1

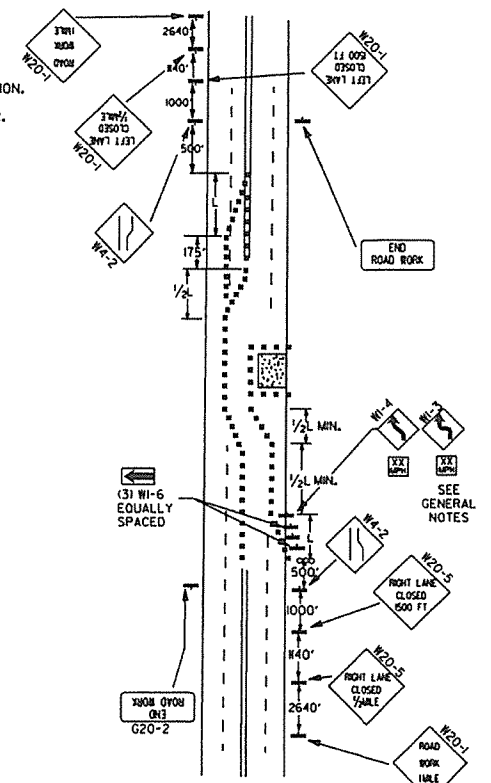
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>
<p>W20-3</p>  <p>STD. 48"x48"</p>	<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 24"</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>
<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>	<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>
<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>				



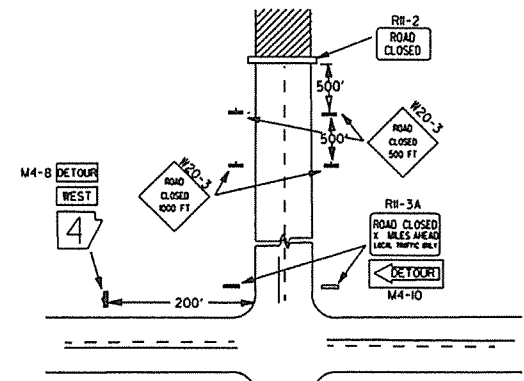
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



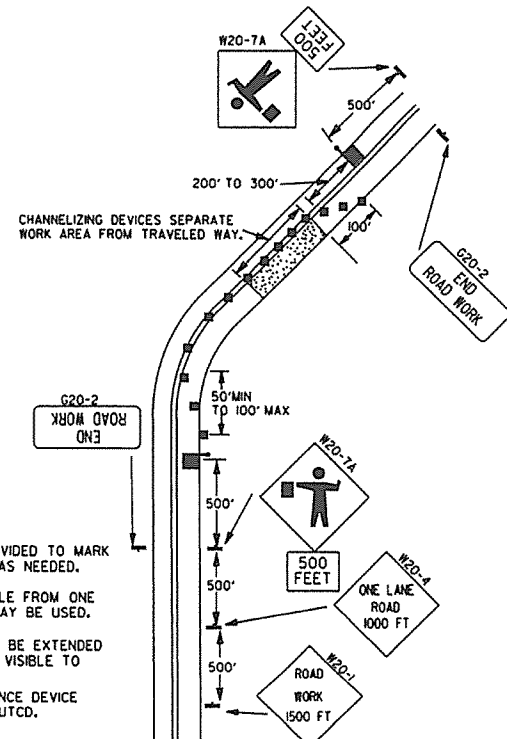
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ENTIRE ROADWAY IS CLOSED.



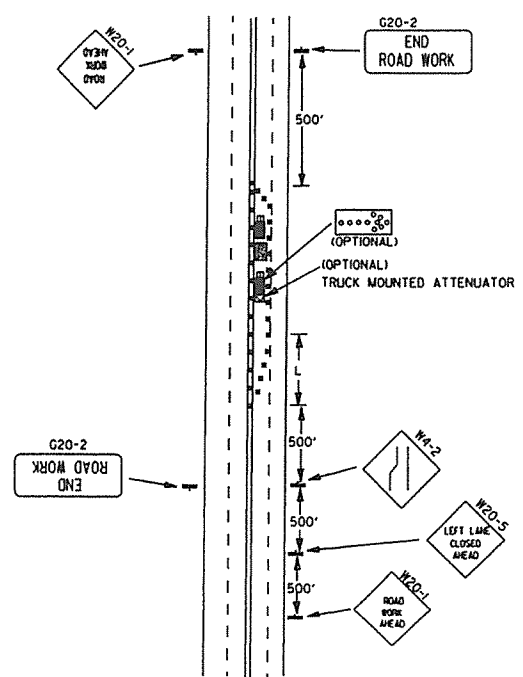
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.

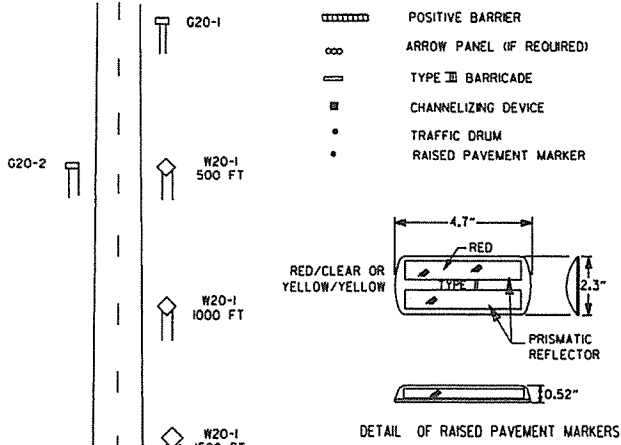


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

- KEY:
- FLAGGER
  - POSITIVE BARRIER
  - ARROW PANEL (IF REQUIRED)
  - TYPE III BARRICADE
  - CHANNELIZING DEVICE
  - TRAFFIC DRUM
  - RAISED PAVEMENT MARKER



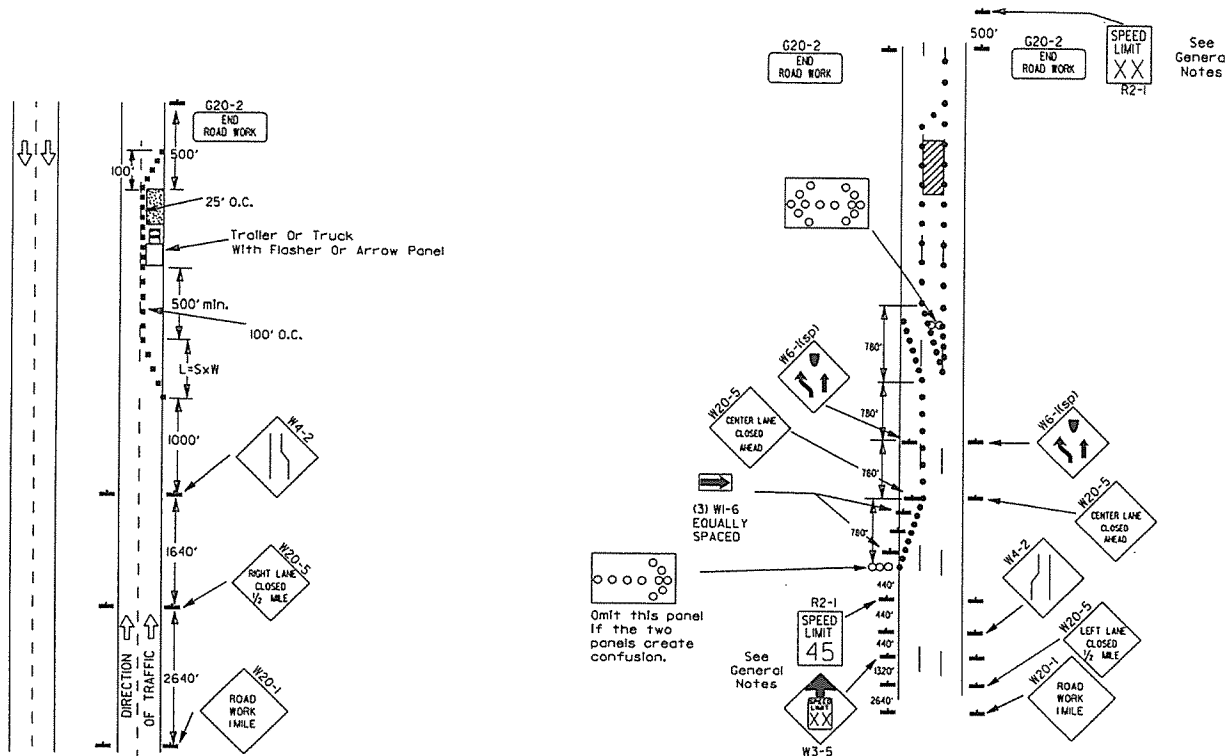
TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:  
 L=SW FOR SPEEDS OF 45MPH OR MORE.  
 L=  $\frac{WS^2}{60}$  FOR SPEEDS OF 40MPH OR LESS.  
 WHERE:  
 L= MINIMUM LENGTH OF TAPER.  
 S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.  
 W= WIDTH OF OFFSET.

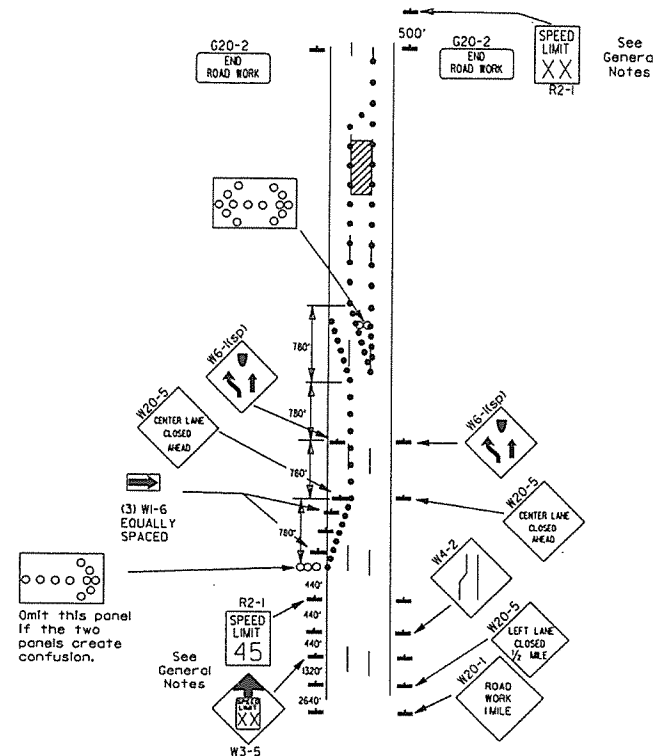
- GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
  2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(45) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
  3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(55) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
  4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
  5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
  6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
  7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
  8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-1-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILED

Channelizing devices



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

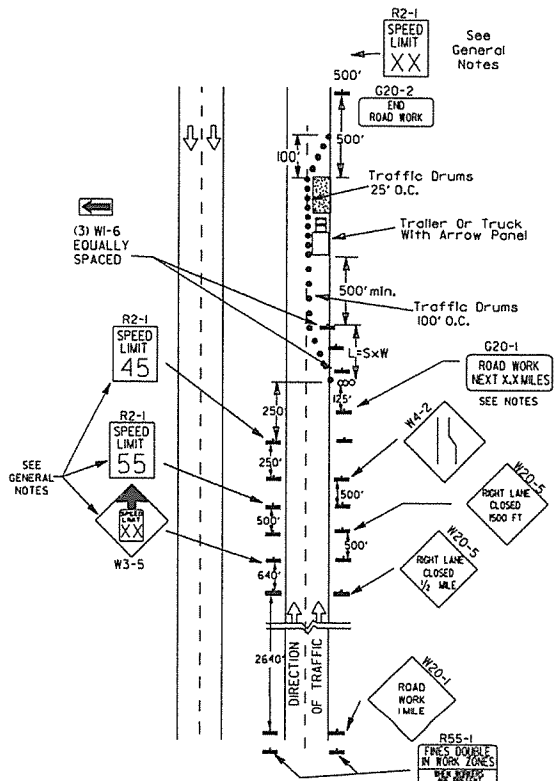


(B) Typical application - 3-lane one-way roadway where center lane is closed.

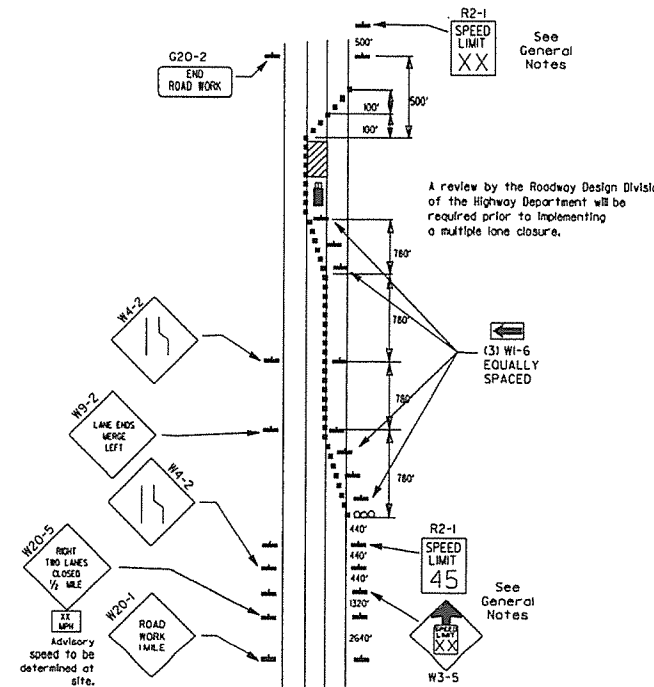
- KEY:
- ◻ Arrow Panel (if Required)
  - Channelizing Device
  - Traffic drum

GENERAL NOTES:

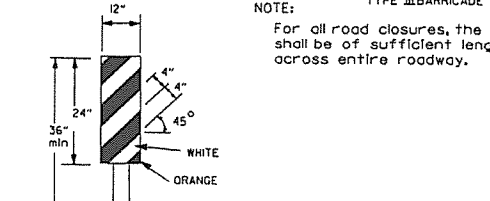
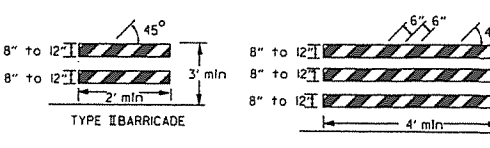
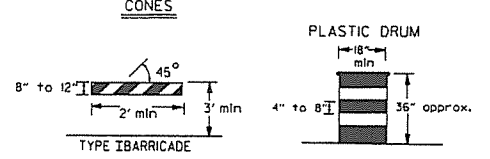
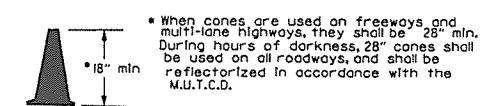
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-1(55) speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 1/2 mile in advance of the job limit. Additional W20-1(1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



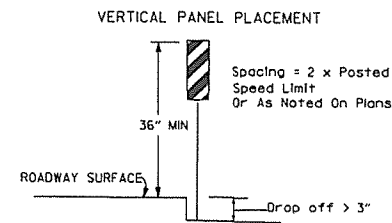
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



(D) Typical application - closing multiple lanes of a multilane highway.



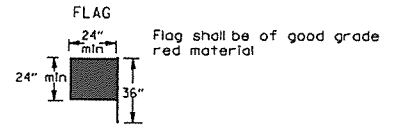
NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



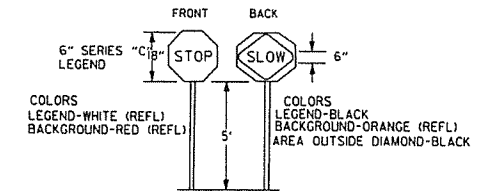
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-Land vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

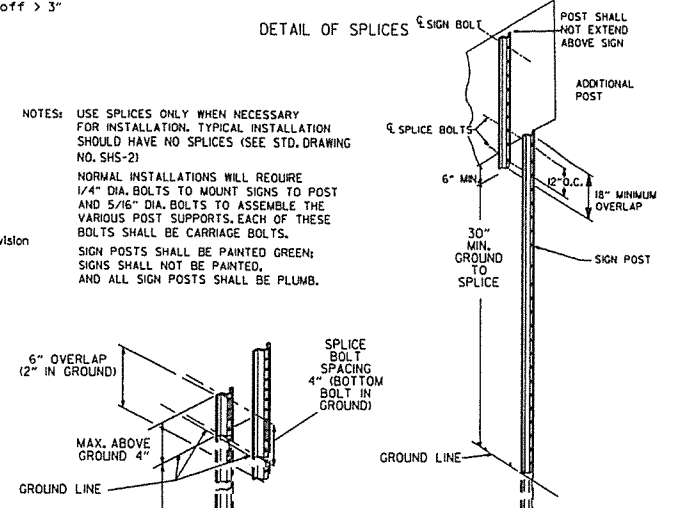
\* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE

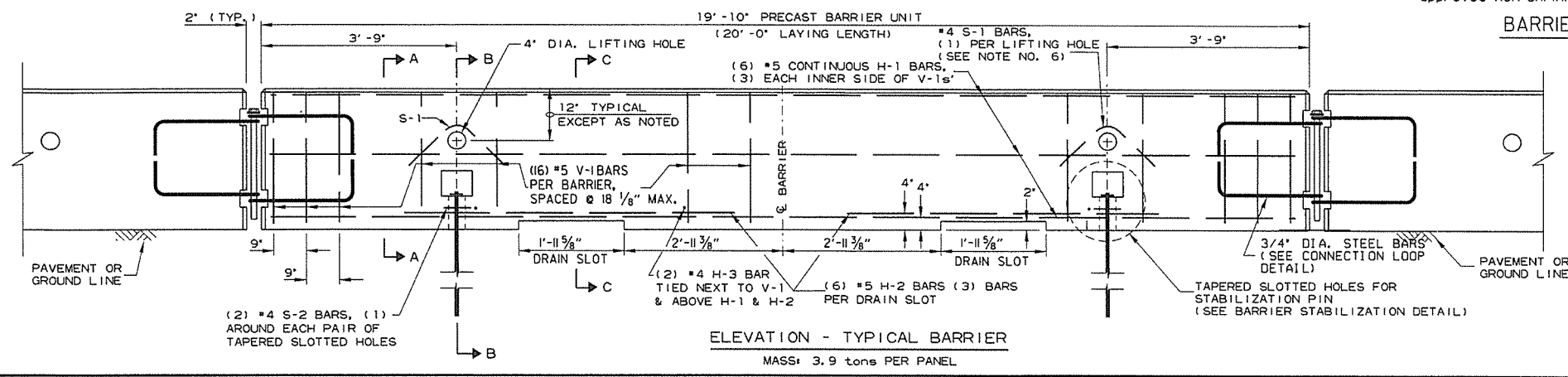
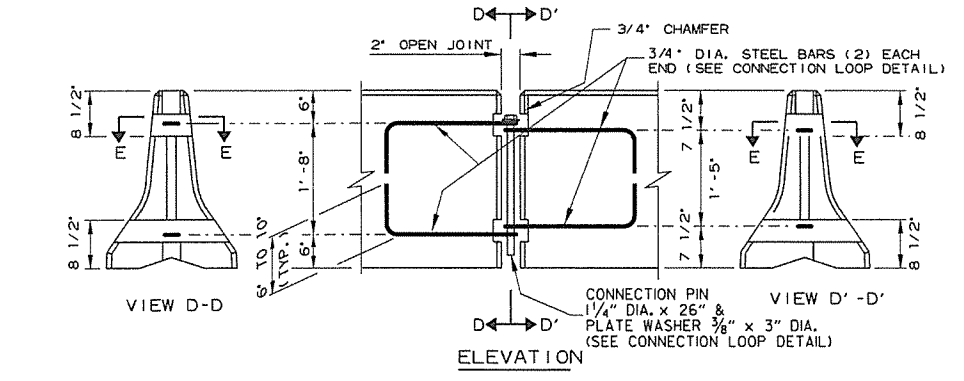
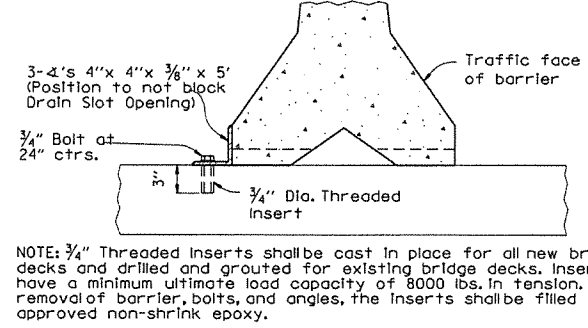
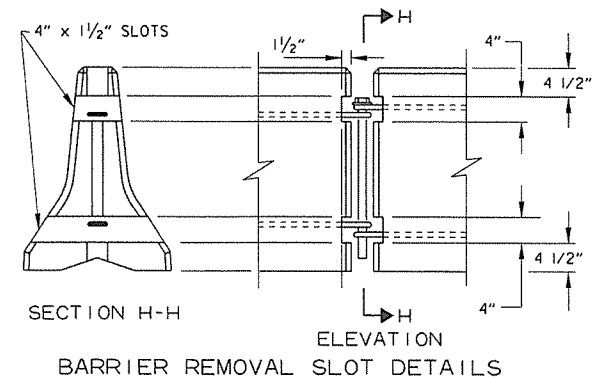
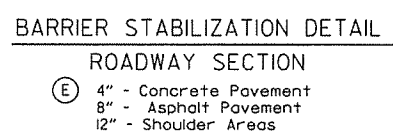
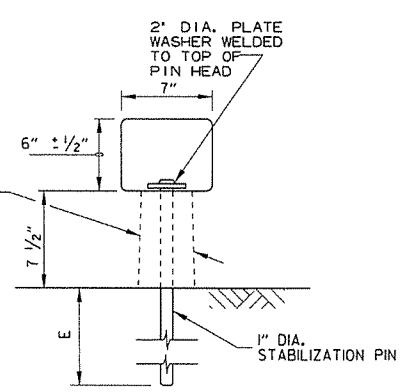
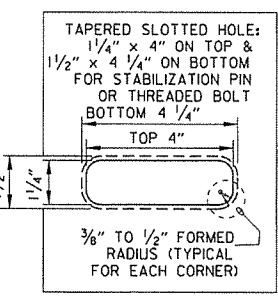
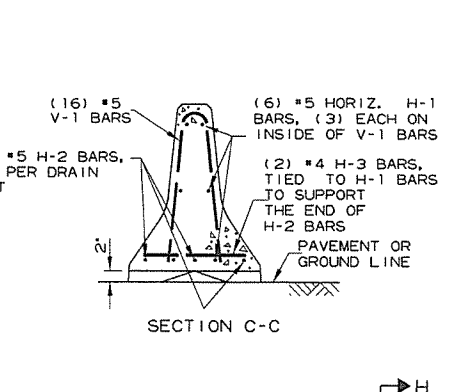
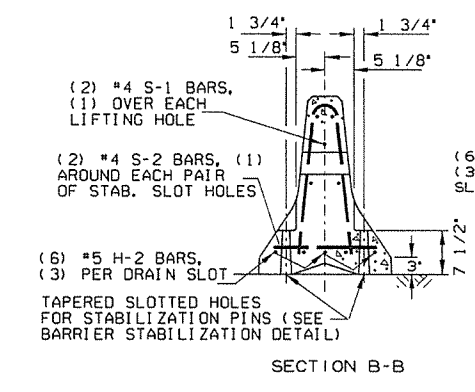
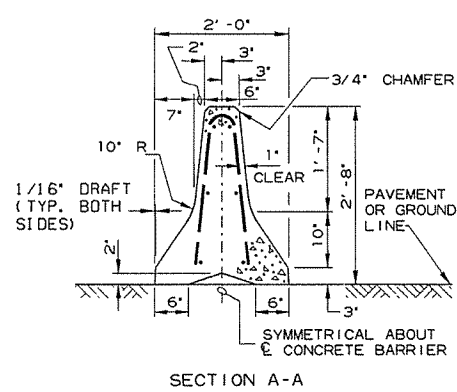
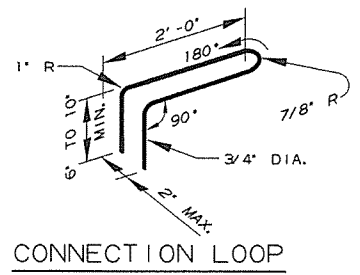
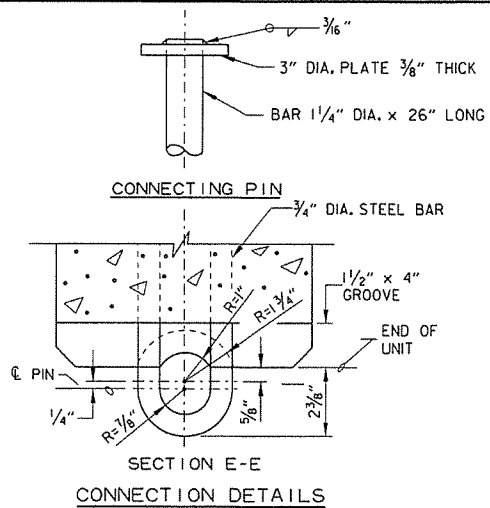


DETAIL OF SPLICES



DATE	REVISION	FILED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SPI) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

REINFORCING BAR TABLE PER BARRIER UNIT				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	



- General Notes**
- The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
  - Materials shall meet the following minimum requirements:  
 Concrete: 2500 psi compressive strength at 28 days.  
 Reinforcing Steel: AASHTO M 31 or M 53, Grade 60  
 Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.  
 Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.  
 In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.  
 Payment for delineators shall be considered included in the price bid per Ln. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
  - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
  - Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
  - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
  - A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

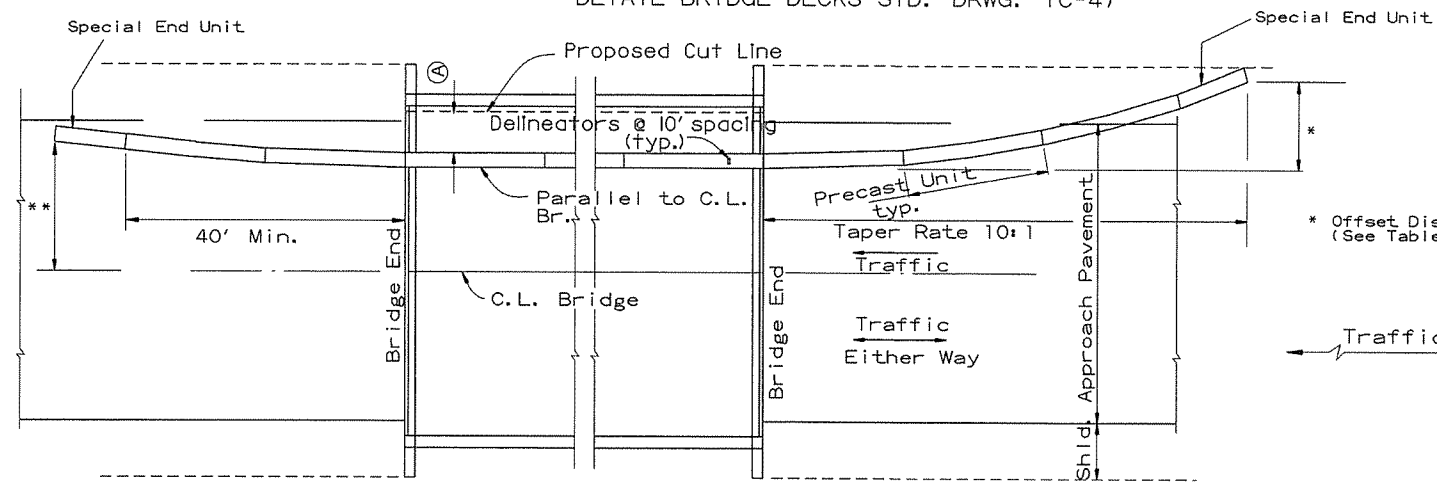
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

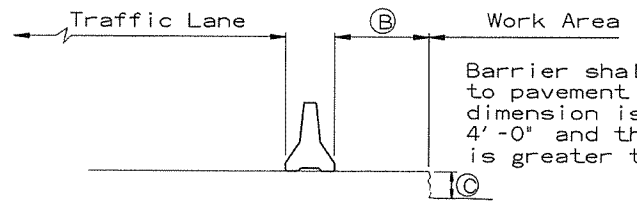
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

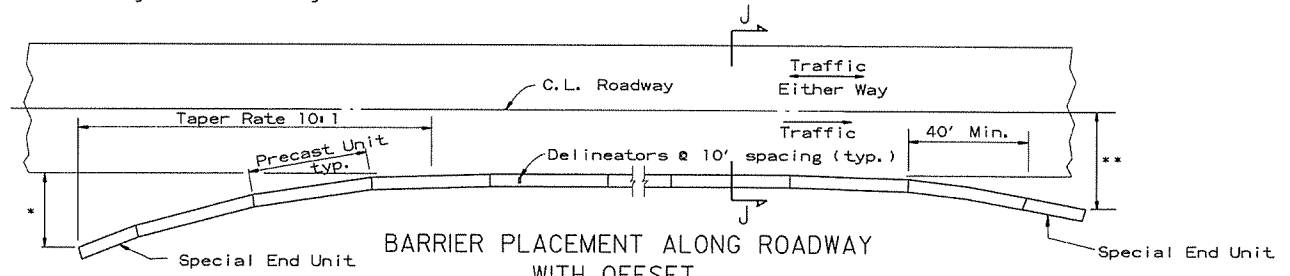
No Scale

\*\* Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

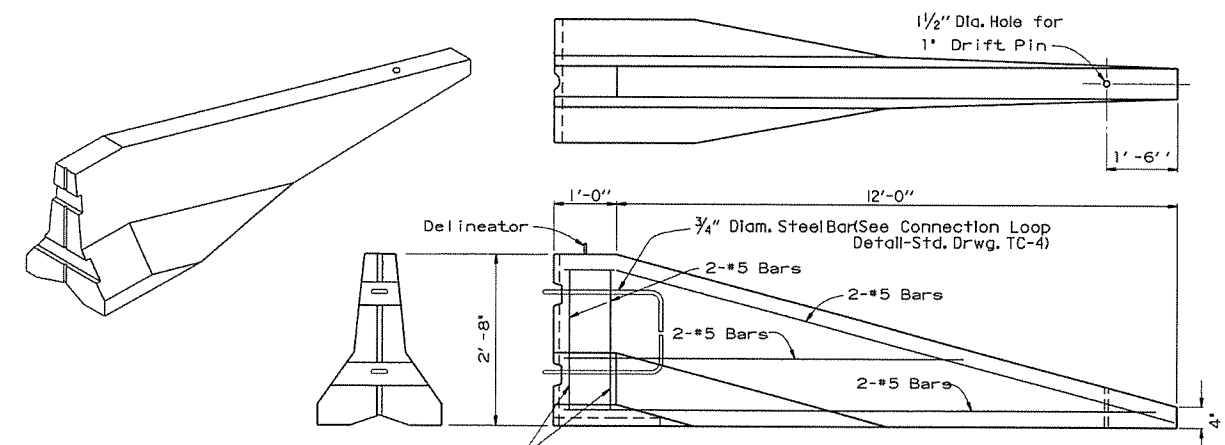
No Scale

\* Offset Distance (See Table)

\*\* Offset Distance For Two Way Traffic Only

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

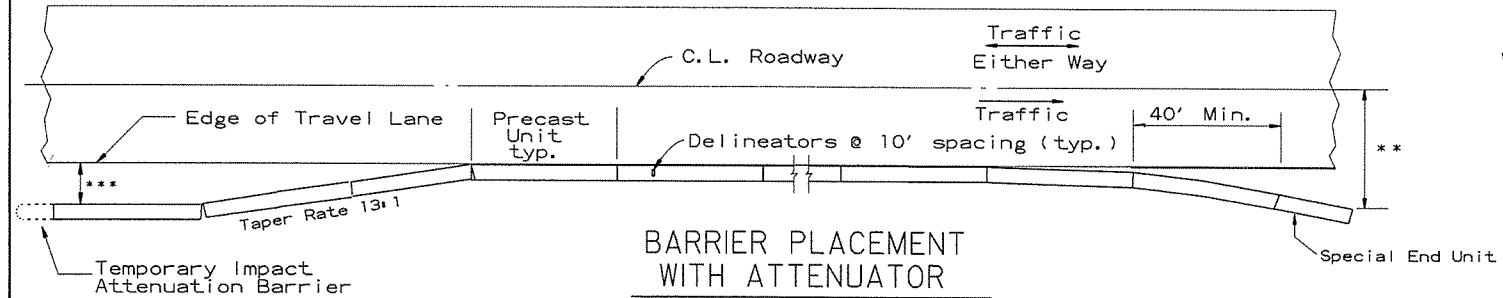


SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

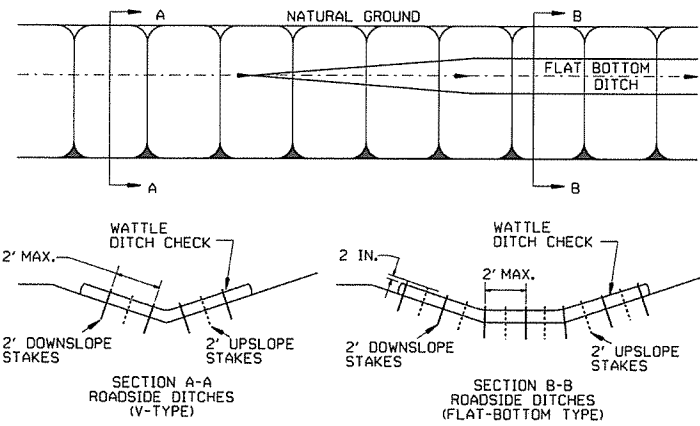
\*\* Offset Distance For Two Way Traffic Only

\*\*\* Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

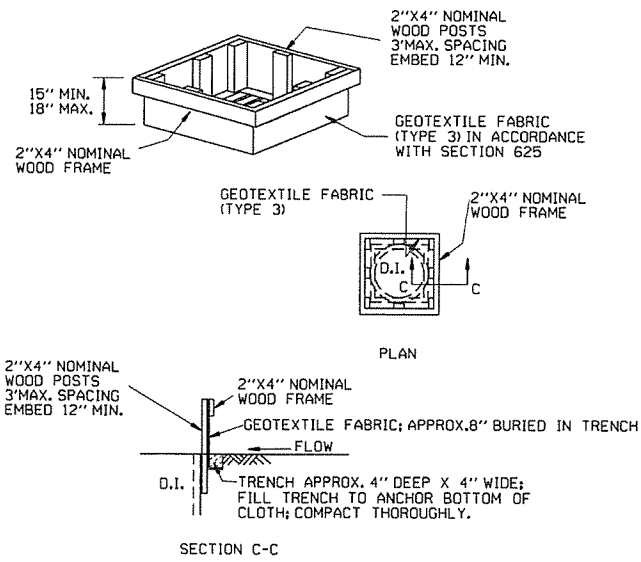
			ARKANSAS STATE HIGHWAY COMMISSION
			STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
			STANDARD DRAWING TC-5
10-15-09	ADDED REFERENCE TO MASH		
5-25-06	REVISED BARRIER PLACEMENT		
8-22-02	ISSUED NEW DRAWING		
DATE	REVISION	FILMED	



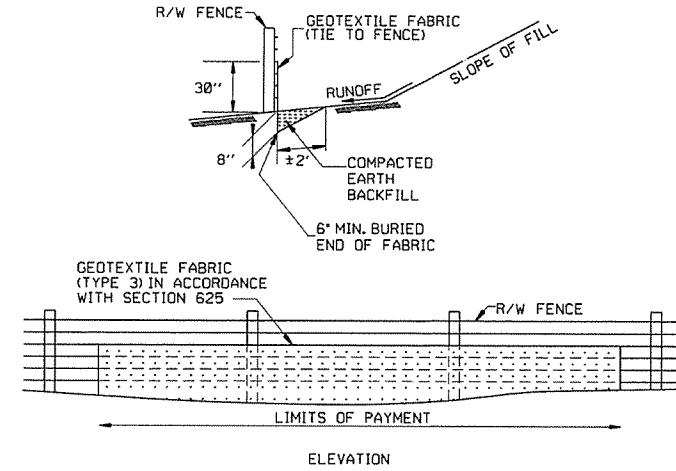
GENERAL NOTES  
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



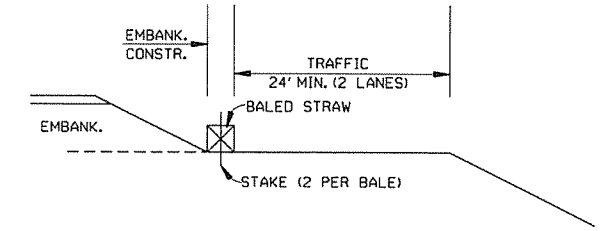
DROP INLET SILT FENCE (E-7)



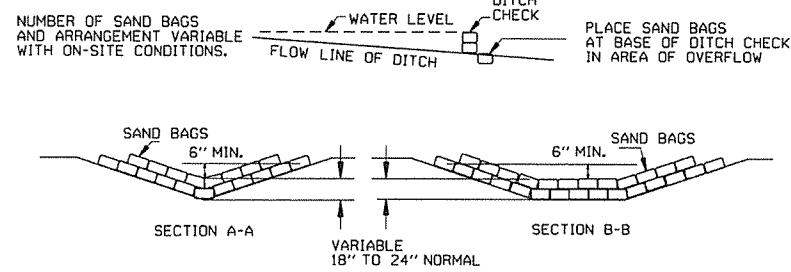
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES  
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

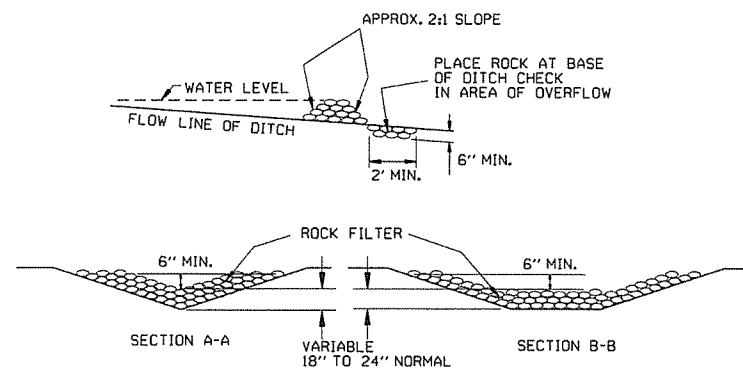
GENERAL NOTES  
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.  
2. NO GAPS SHALL BE LEFT BETWEEN BALES.  
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE 610 PER BALE FOR BALED STRAW DITCH CHECKS.



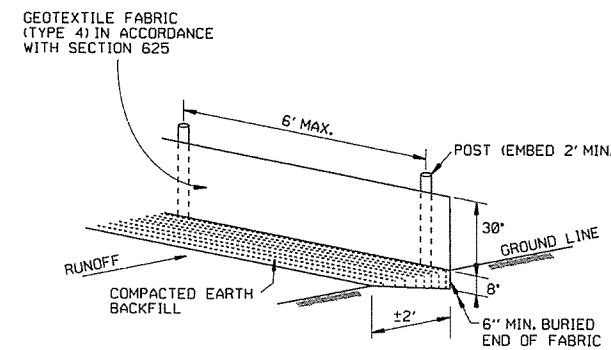
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



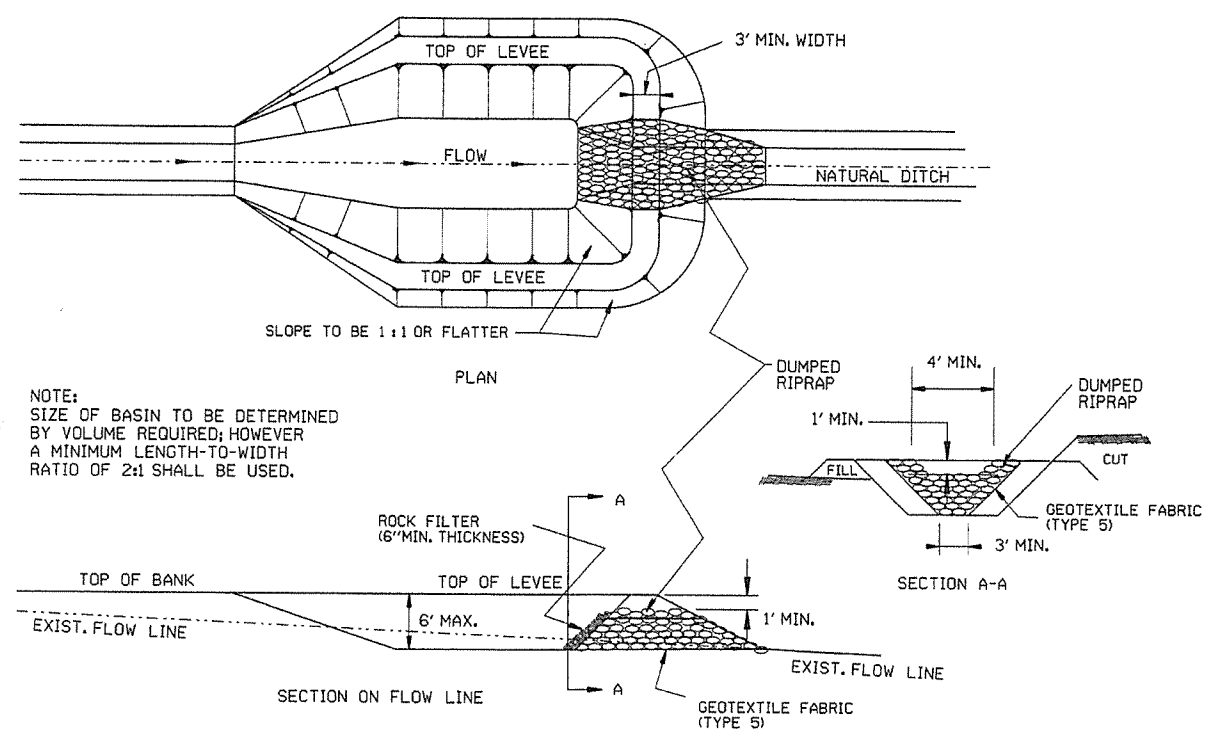
SILT FENCE (E-11)

GENERAL NOTES  
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

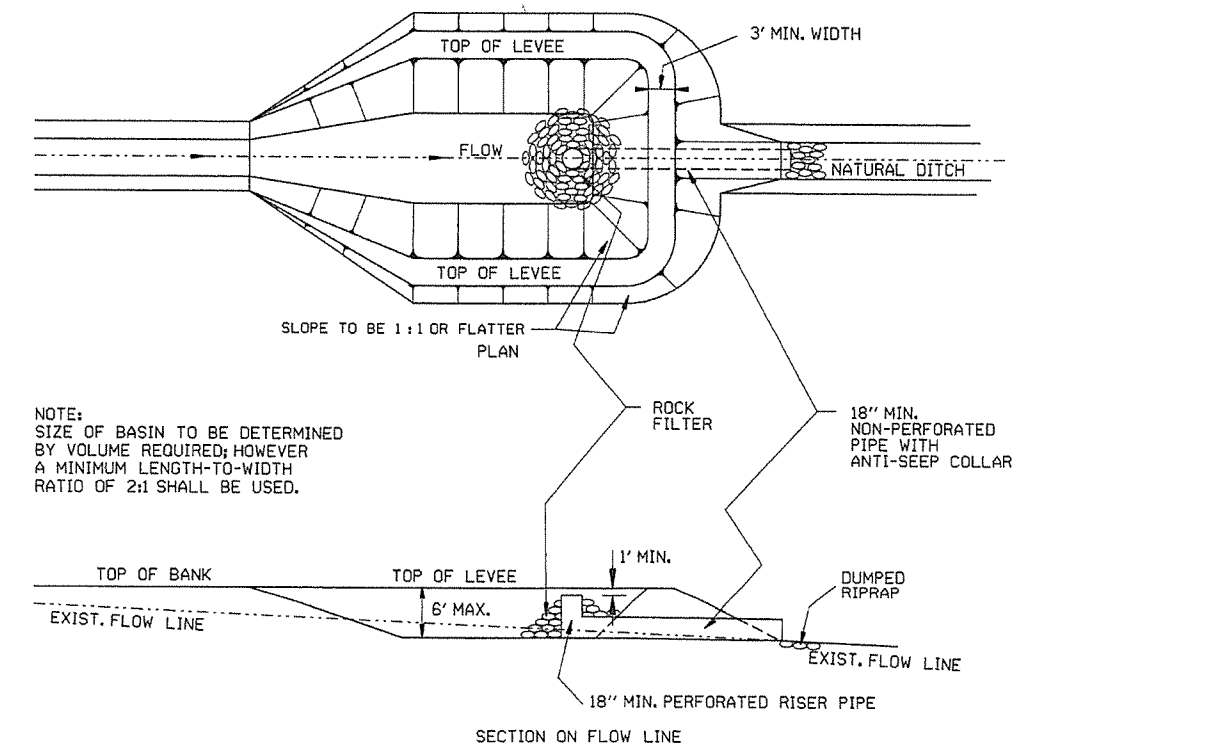
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	

TEMPORARY EROSION CONTROL DEVICES

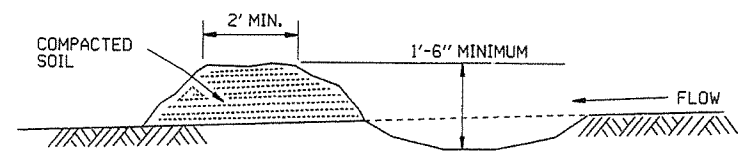
STANDARD DRAWING TEC-1



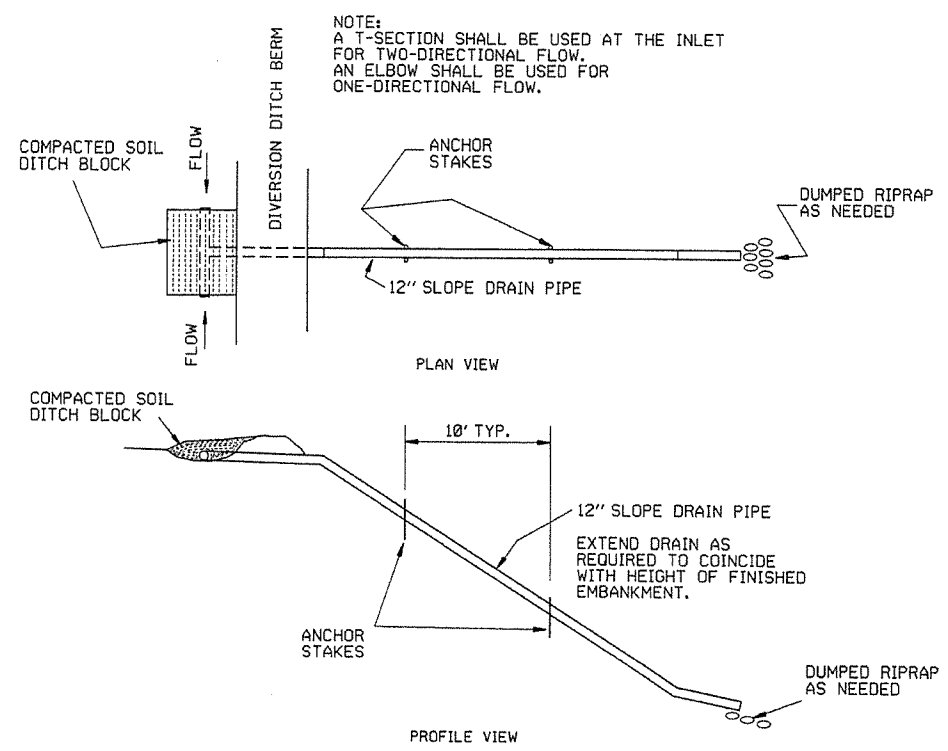
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



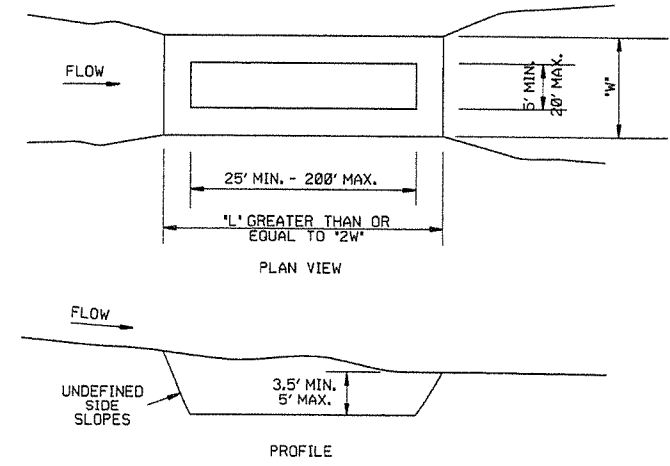
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

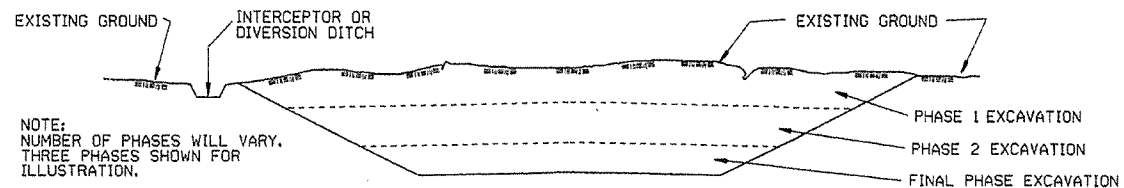
		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED
			STANDARD DRAWING TEC-2

# CLEARING AND GRUBBING

## CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES, DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

# EXCAVATION



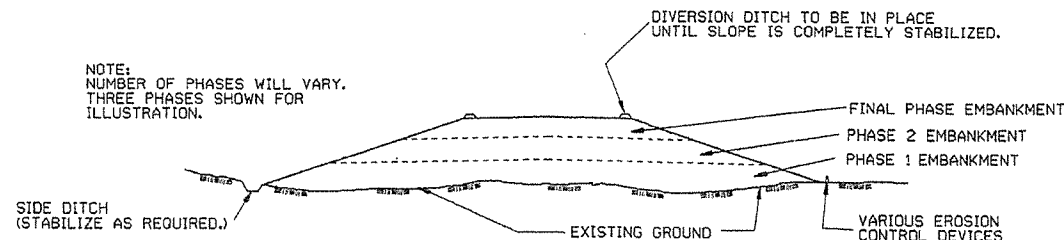
## GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

## CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

# EMBANKMENT



## GENERAL NOTE

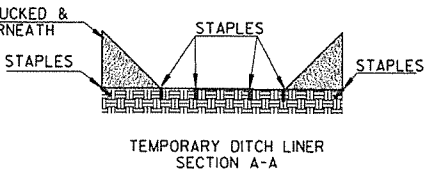
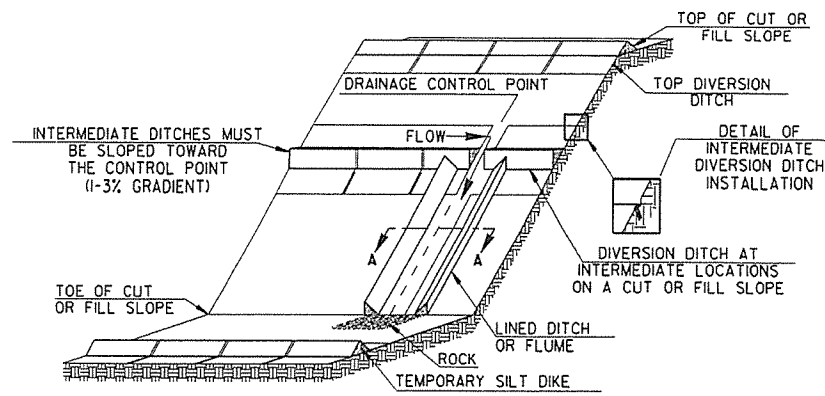
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

## CONSTRUCTION SEQUENCE

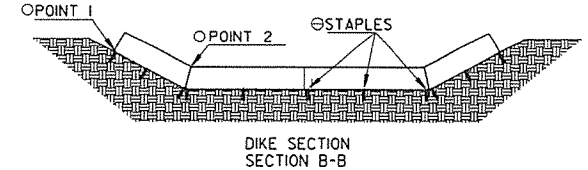
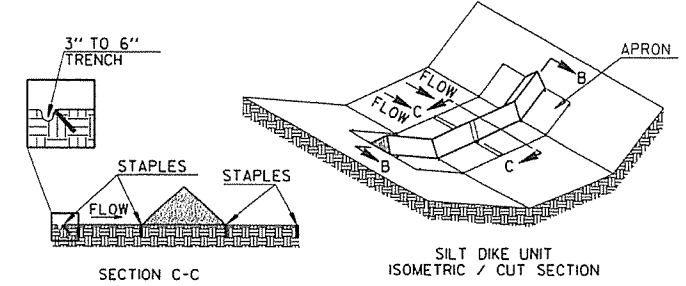
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

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ARKANSAS STATE HIGHWAY COMMISSION		
TEMPORARY EROSION CONTROL DEVICES		
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94
DATE	REVISION	FILMED
STANDARD DRAWING TEC-3		

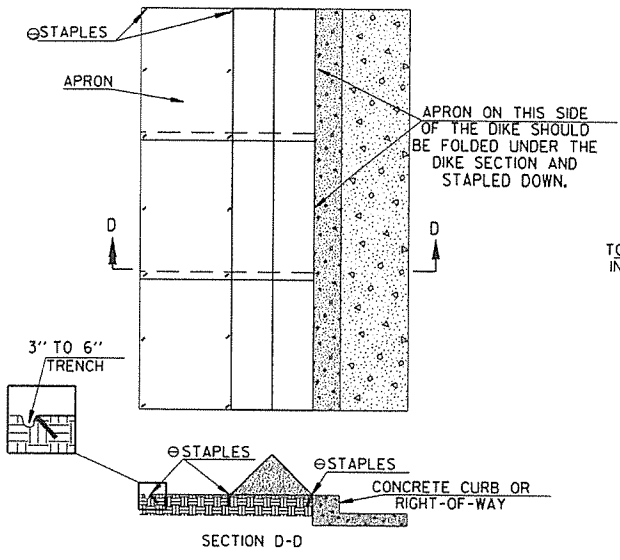


TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER

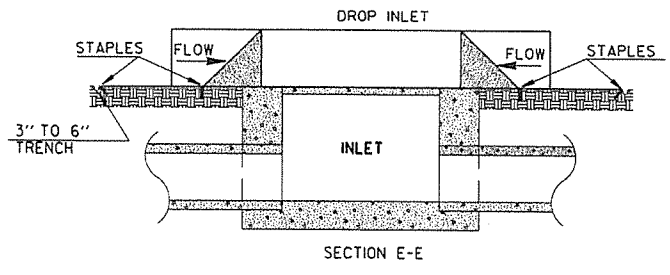
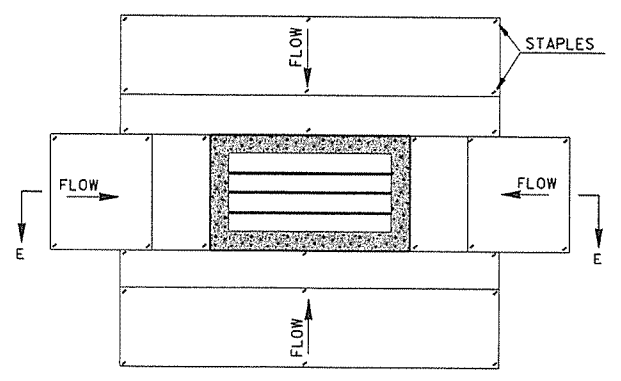


TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

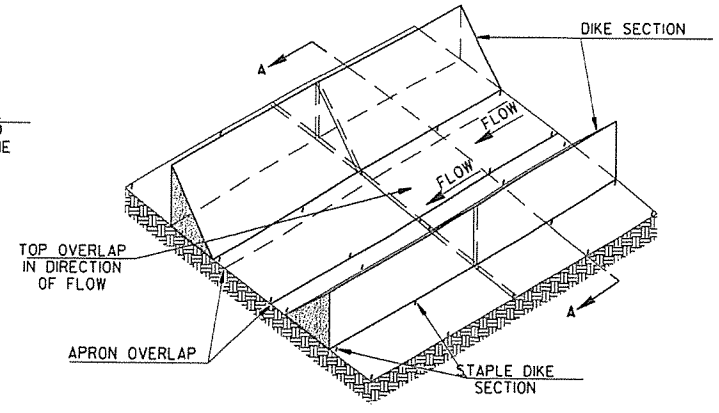
○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.  
 ⊗ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



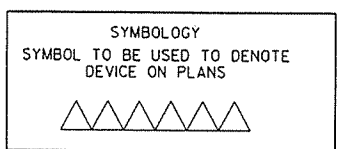
TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

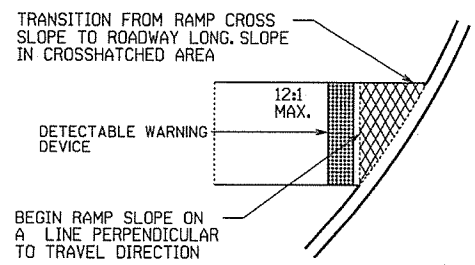
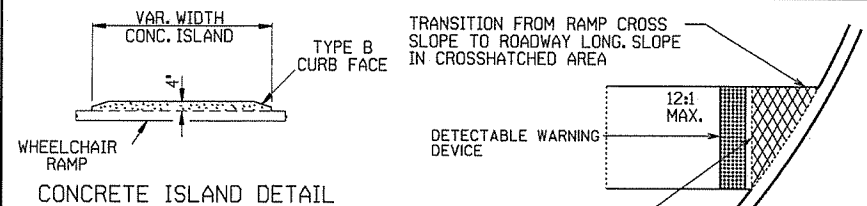
GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.



NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION	
			TEMPORARY EROSION CONTROL DEVICES	
			STANDARD DRAWING TEC-4	
7-26-12	REVISED GENERAL NOTE 2.			
12-15-11	ISSUED			
DATE	REVISION			FILMED

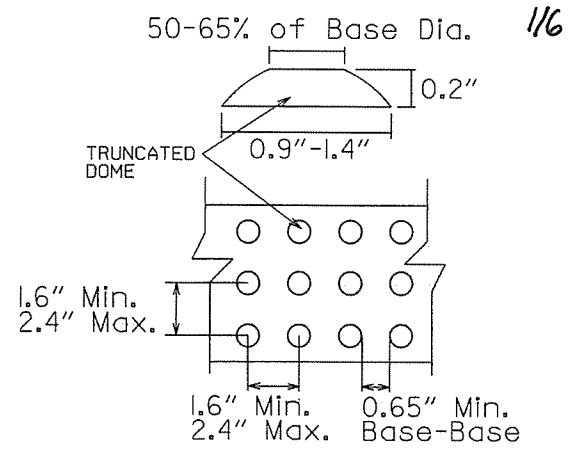


TYPE 1 RAMP DIMENSIONS AND QUANTITIES

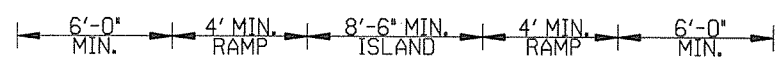
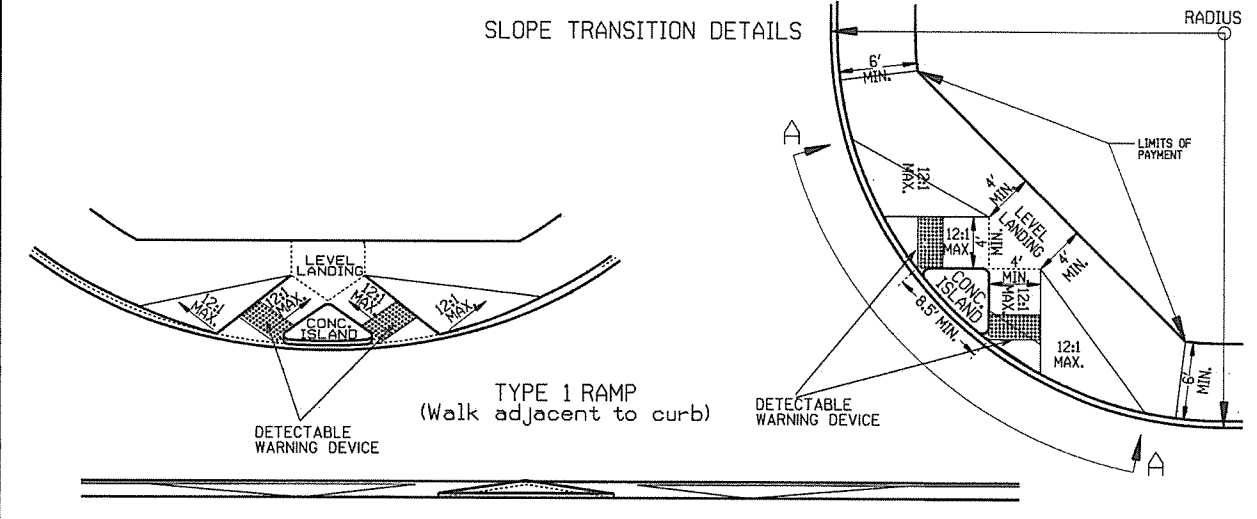
RADIUS 'R'	DISTANCE 'X'	DISTANCE 'Y'	LENGTH 'L'	RAMP AREA 'A'
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB. TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

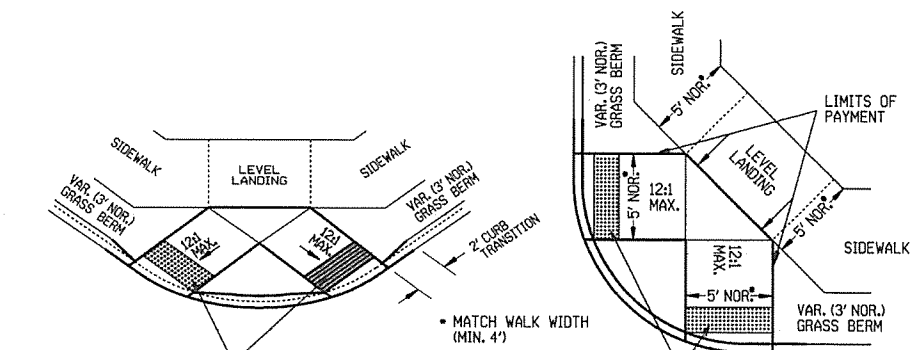


DETECTABLE WARNING DEVICE DETAIL

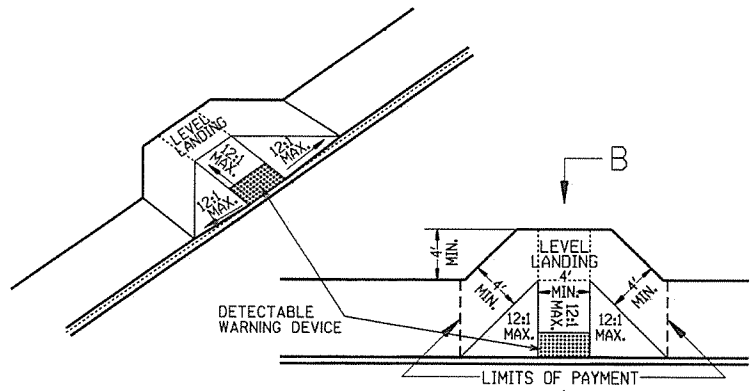


SECTION A-A

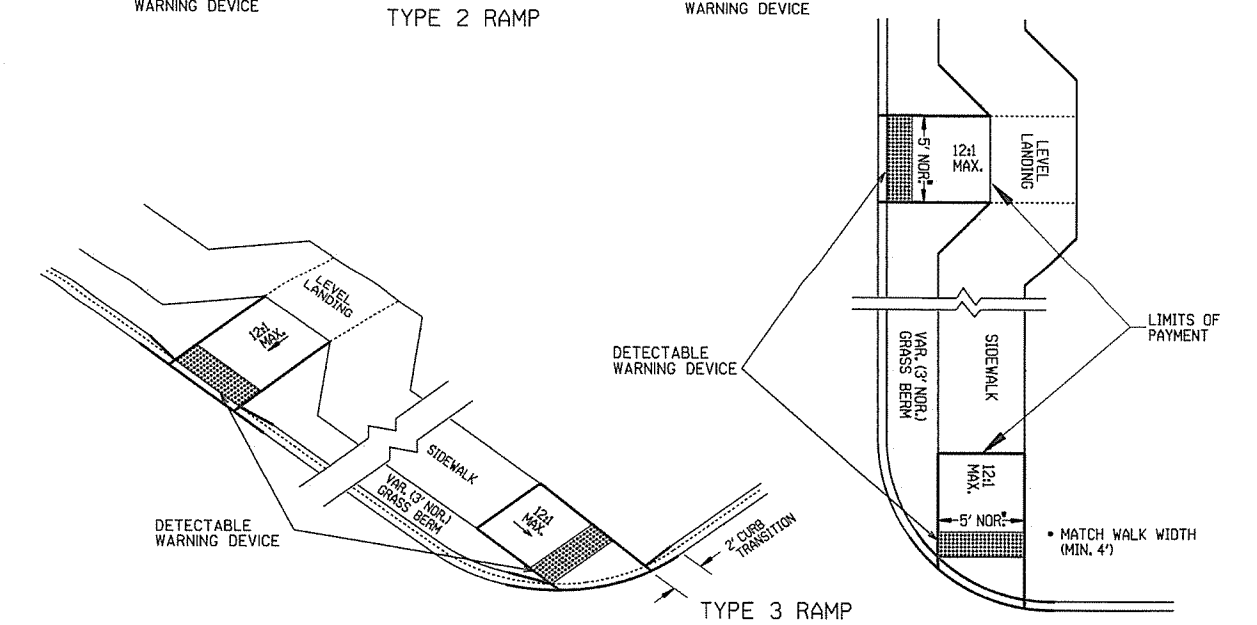
NOTE: THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.



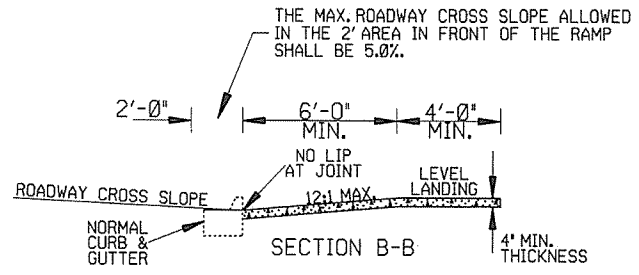
TYPE 2 RAMP



TYPE 4 RAMP (Walk adjacent to curb)



TYPE 3 RAMP



SECTION B-B

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS. IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS. THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19. THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4". THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER. RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION. THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

RAMP SELECTION CRITERIA

CHOICE	TYPE	DESCRIPTION
FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED. AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	ISSUED-P.H.D.	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY		
10-9-03	REVISED GEN. NOTES & ADDED NOTE		
4-10-03	REV. DETECTABLE WARNING DEVICES		
8-22-02	ADD DETECTABLE WARNING DEVICES		
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.		
1-18-98	REVISED NOTES		
8-12-98	REVISED TEXTURE		
7-02-98	REDRAWN & REISSUED		
10-18-96	CORRECTED DIMENSIONS	10-18-96	
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPES	5-24-90	
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88	
7-14-88	INCL. "CONC. ISLD." IN PAY ITEM		
6-02-76	ISSUED-P.H.D.	299-7-28-76	

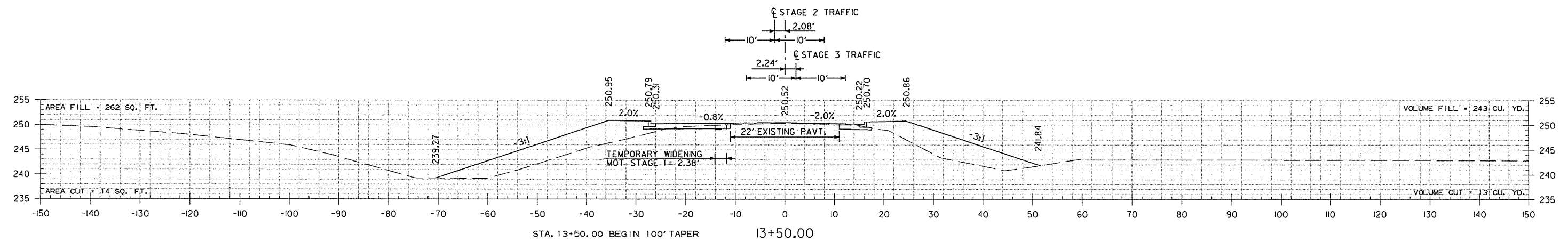
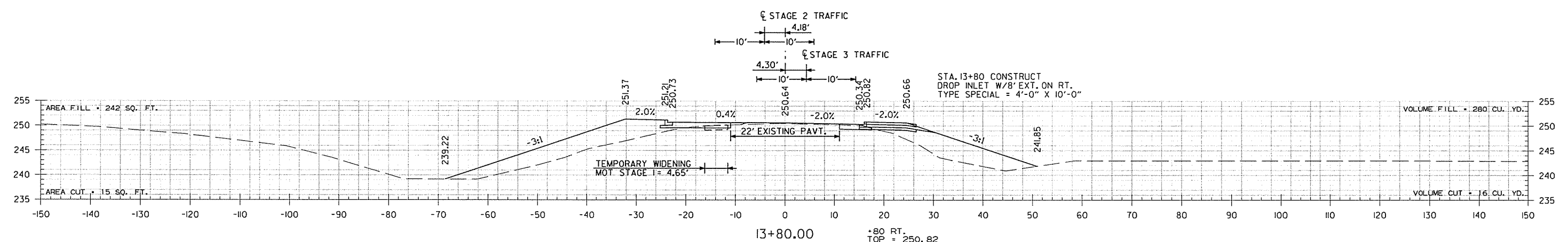
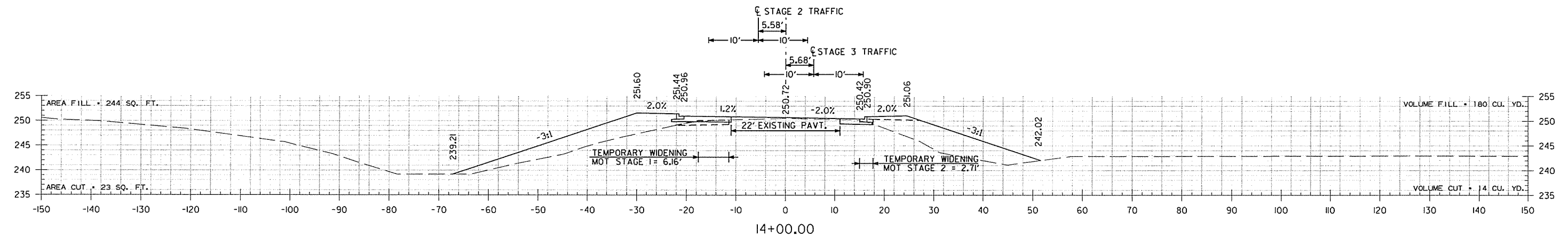
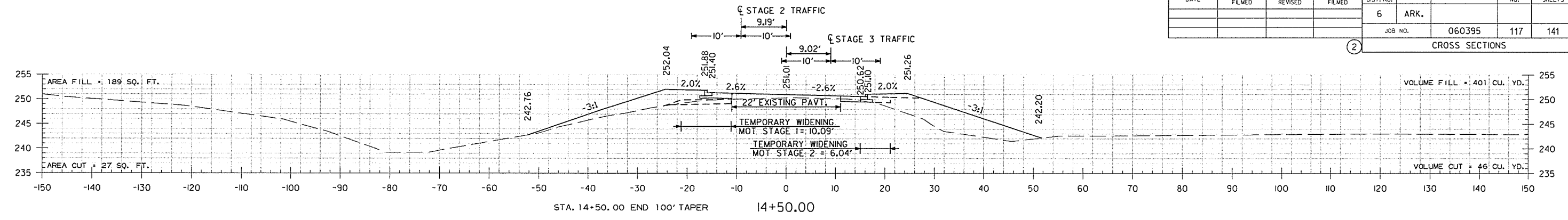
ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS  
NEW CONSTRUCTION  
AND ALTERATIONS

STANDARD DRAWING WR-1

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							117	141

2 CROSS SECTIONS



STA. 13+50.00 BEGIN JOB 060395  
STA. 13+20.22 BEGIN SUPERELEVATION  
STA. 13+00.00 BEGIN TRANSITION

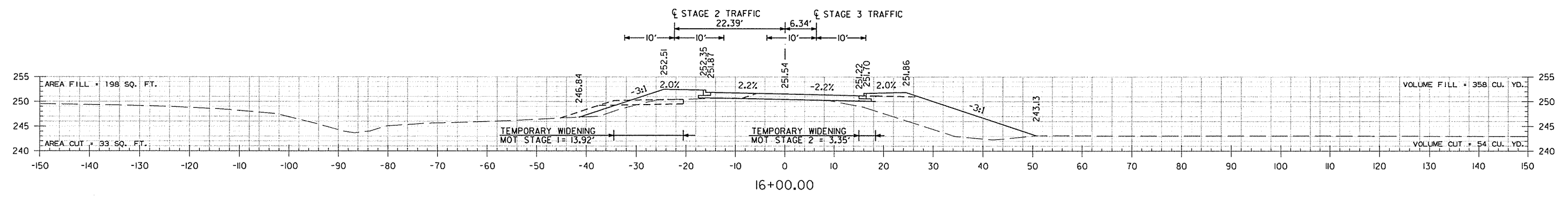
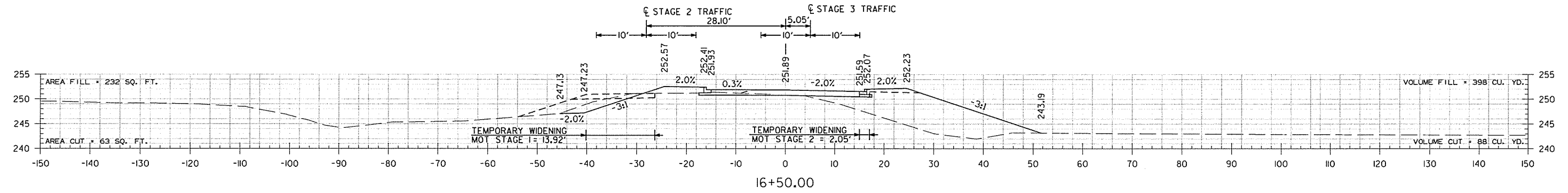
AREA FILL = 0 SQ. FT.  
AREA CUT = 0 SQ. FT.

VOLUME FILL = 0 CU. YD.  
VOLUME CUT = 0 CU. YD.

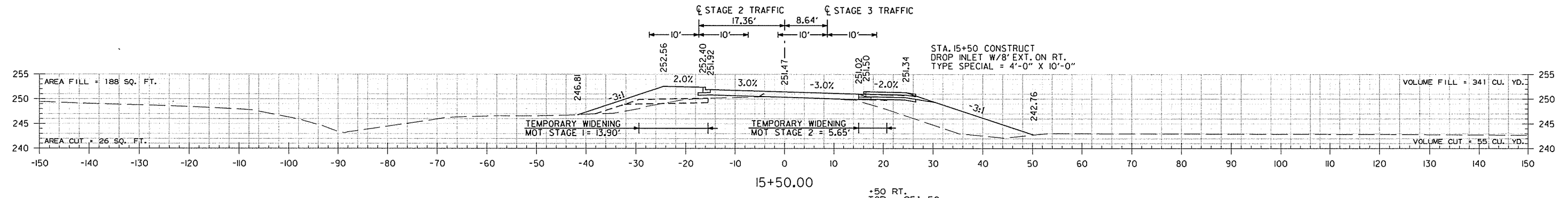
HWY. 367  
STA. 13+50 TO STA. 14+50

JFCentlberly 9/18/2014 8:30:28 PM  
 N:\geopac\Info\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\ASB\_CX\_ARCH.dgn  
 REVISION DATE:

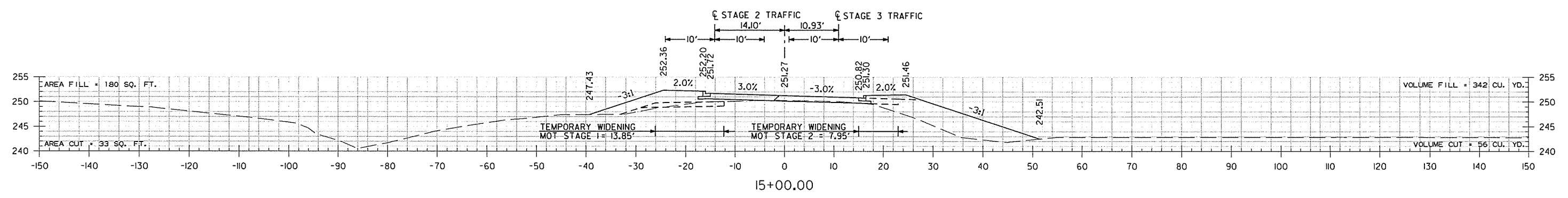
DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 060395	118	141
(2) CROSS SECTIONS									



STA. 15+57.88 MAX SUPERELEVATION (0.03' /')



+50 RT.  
TOP = 251.50

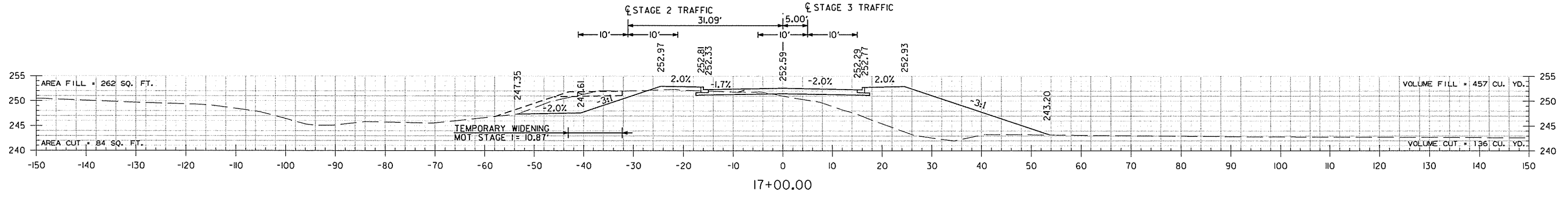
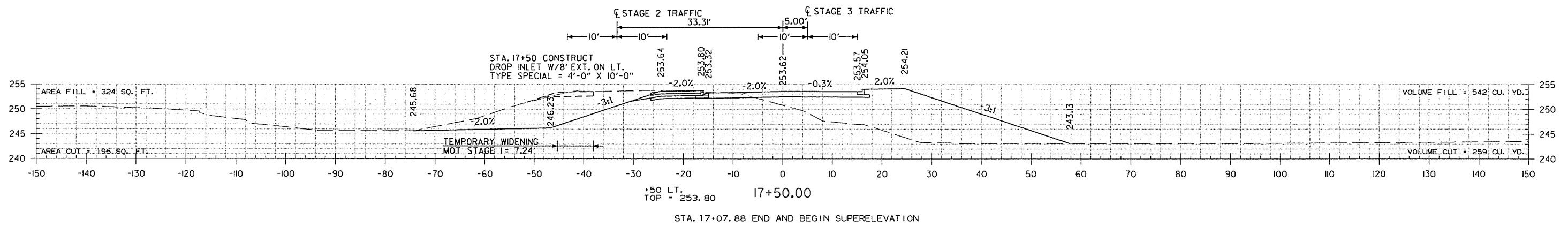
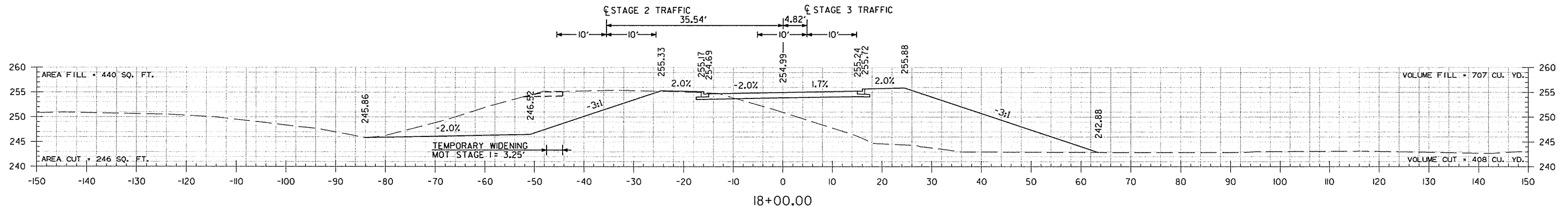
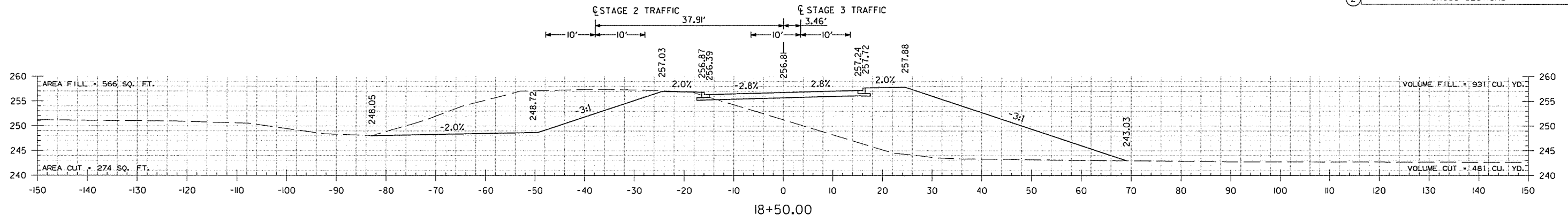


STA. 14+70.22 MAX SUPERELEVATION (0.03' /')

HWY. 367  
STA. 15+00 TO STA. 16+50

JFCentabery 9/18/2014 8:30:29 PM  
 WORKSPACE: AHTD  
 \\garverinc\lfrp\project\1011017505 - Arch Street Bridge Replacement\Drawings\ASB.CX.ARCH.dgn  
 REVISION DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 060395	119	141
② CROSS SECTIONS									

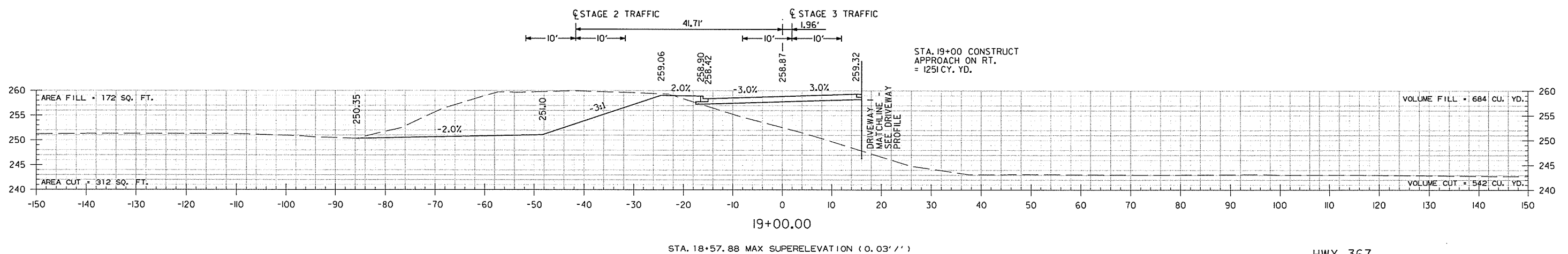
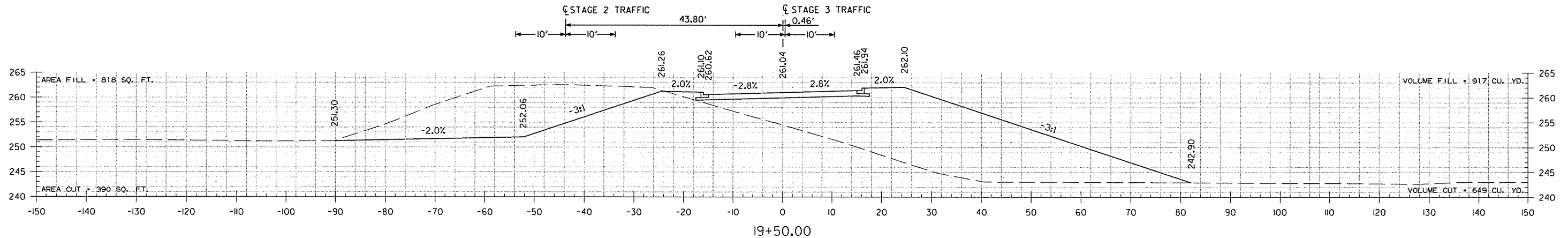
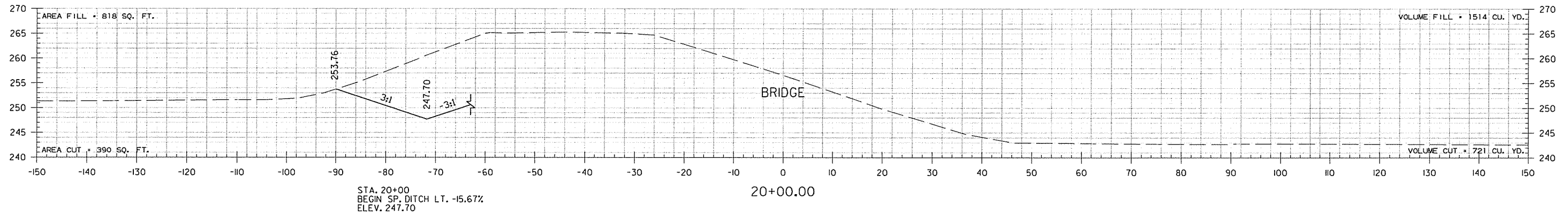


HWY. 367  
STA. 17+00 TO STA. 18+50

JFCantberry 9/8/2014 8:30:30 PM  
 WORKSPACE\PROJECTS\2014\170505 - Arch Street Bridge Replacement\Drawings\ASB\_CX\_ARCH.dgn  
 REVISIONS:



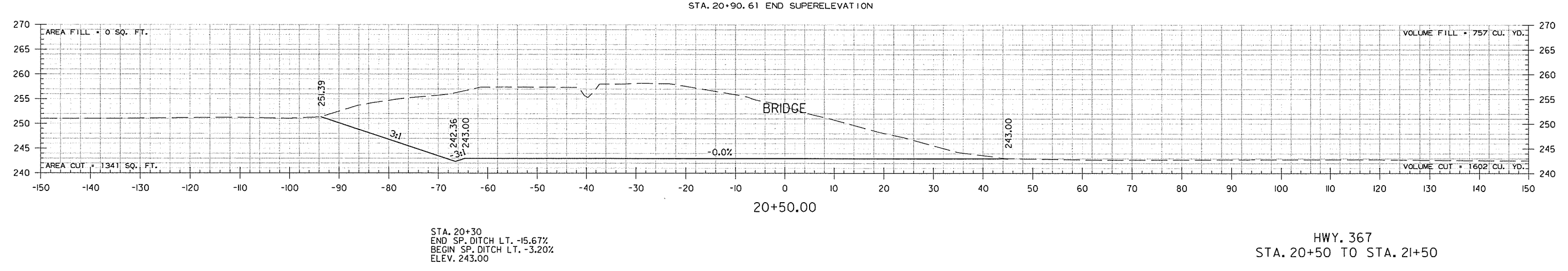
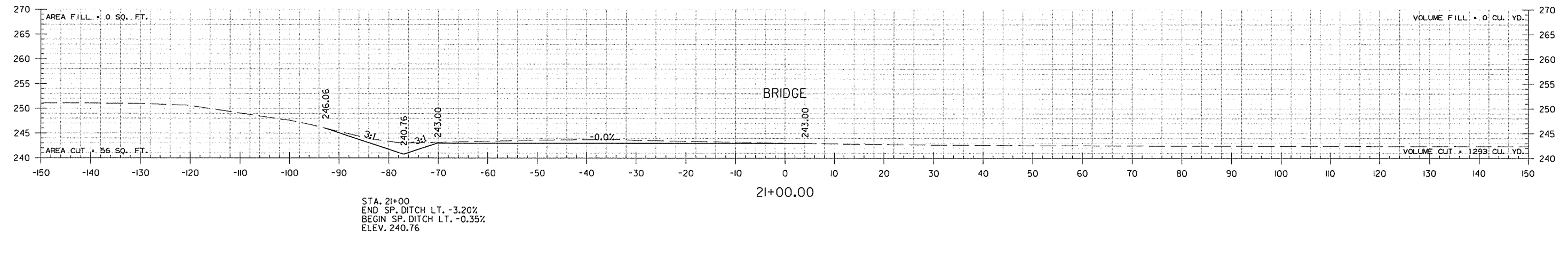
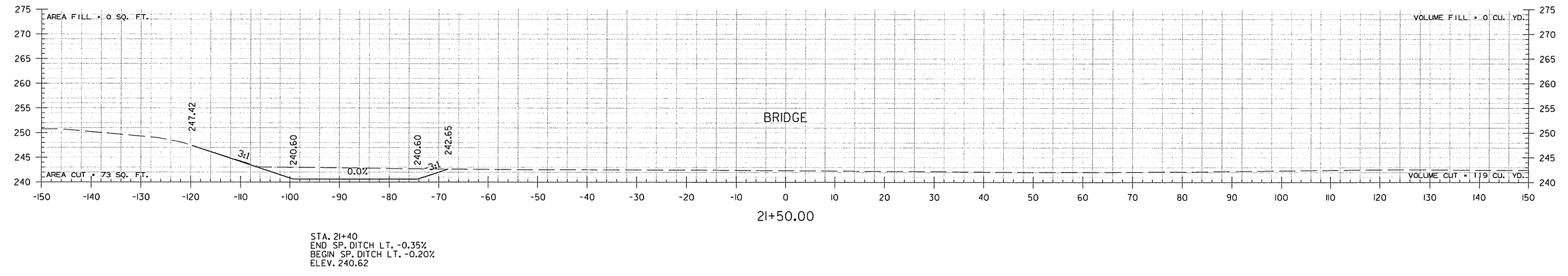
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				6	ARK.			
							JOB NO.	060395
								120
								141
(2)								CROSS SECTIONS



HWY. 367  
STA. 19+00 TO STA. 20+00

JFCortney 9/8/2014 8:30:30 PM  
 WORKSPACE: A:\10  
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 REVISION DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	121	141
② CROSS SECTIONS								



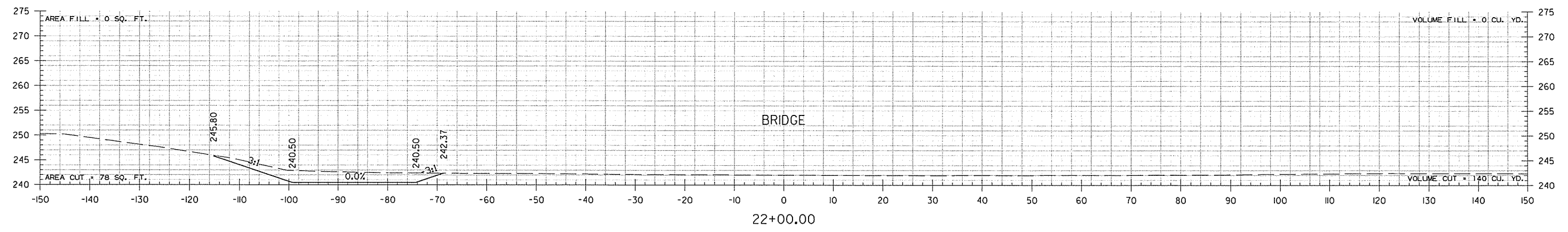
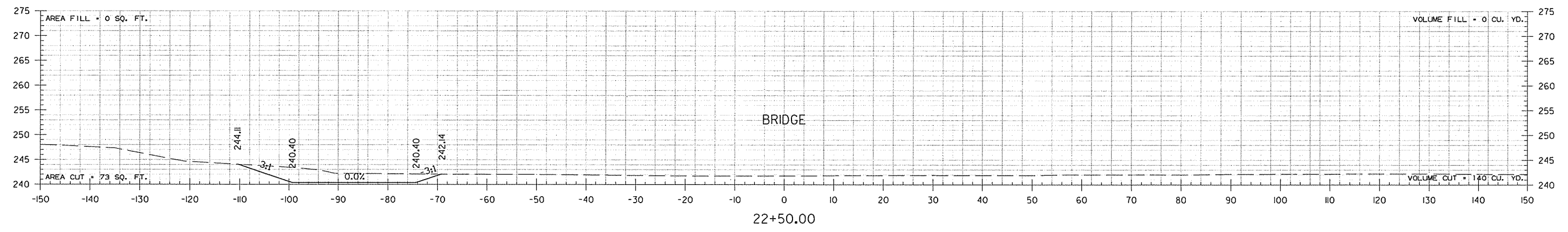
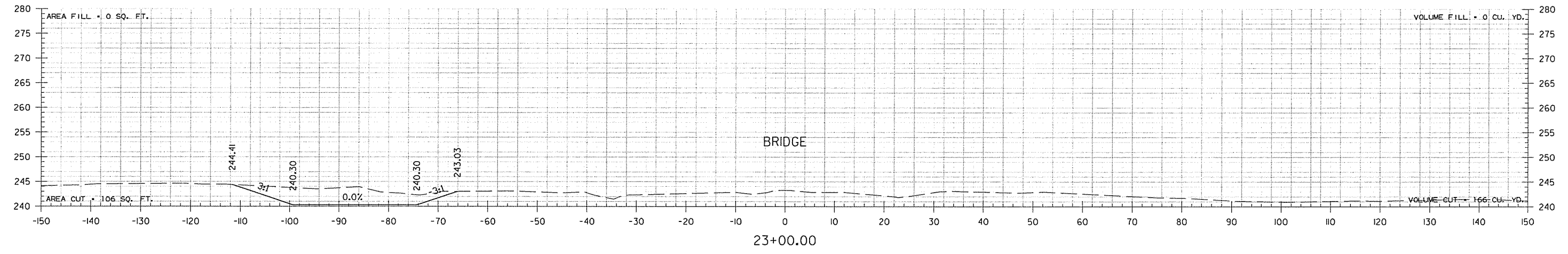
HWY. 367  
STA. 20+50 TO STA. 21+50

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 JFCentberry  
 W:\Projects\2011\07505 - Arch Street Bridge Replacement\Drawings\ASB.CX.ARCH.dgn  
 REVISION DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	060395
								122
								141

STA. 23+25.27  
 END SP. DITCH LT. -0.20%  
 ELEV. 240.25

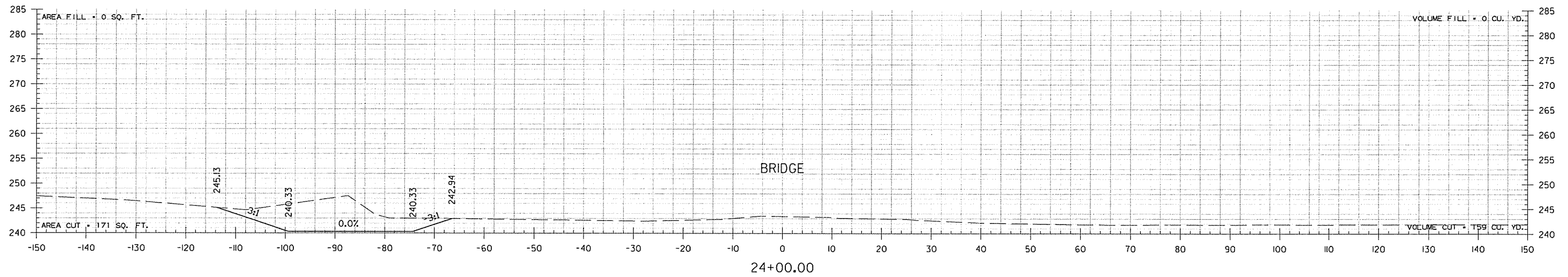
② CROSS SECTIONS



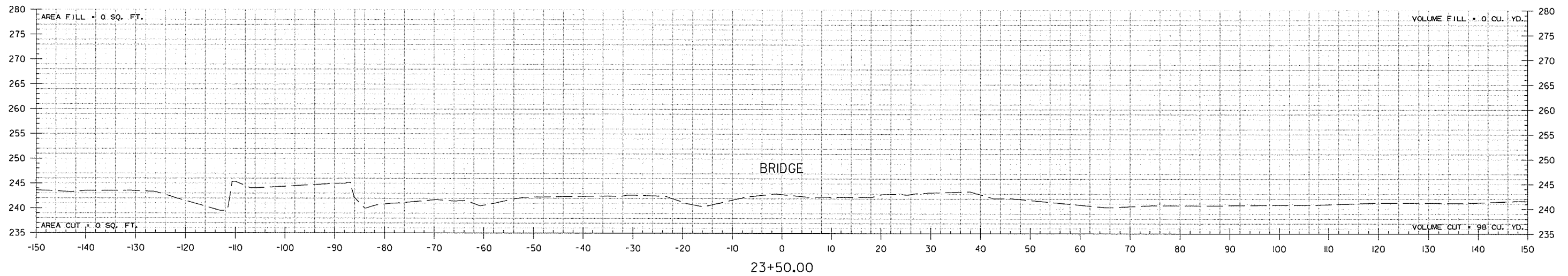
HWY. 367  
 STA. 22+00 TO STA. 23+00

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 REVISION DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	123	141
(2) CROSS SECTIONS								



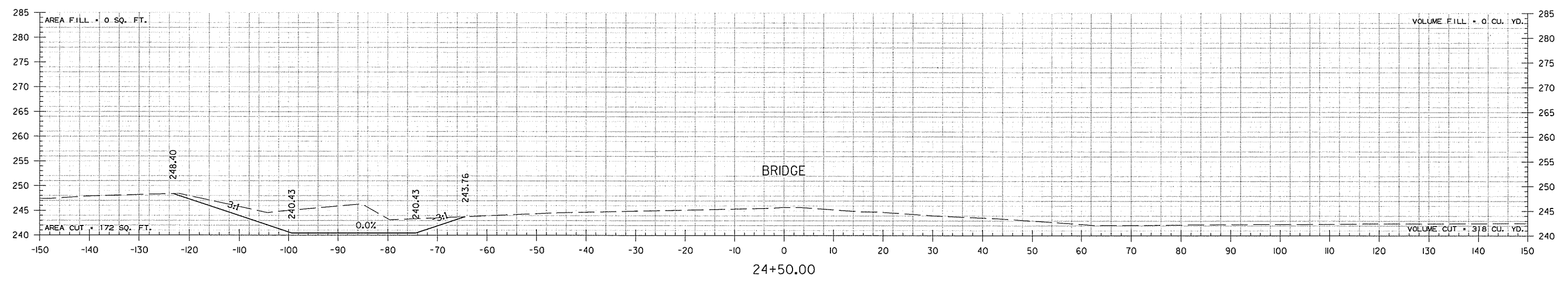
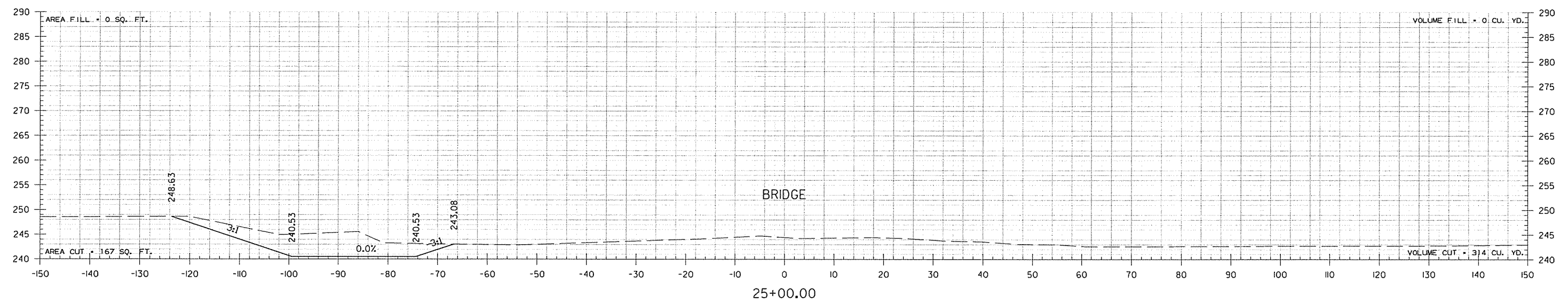
STA. 23+65.27  
 BEGIN SP. DITCH LT. 0.20%  
 ELEV. 240.26



HWY. 367  
 STA. 23+50 TO STA. 24+00

9/18/2014 8:50:31 PM  
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 REVISION DATE:

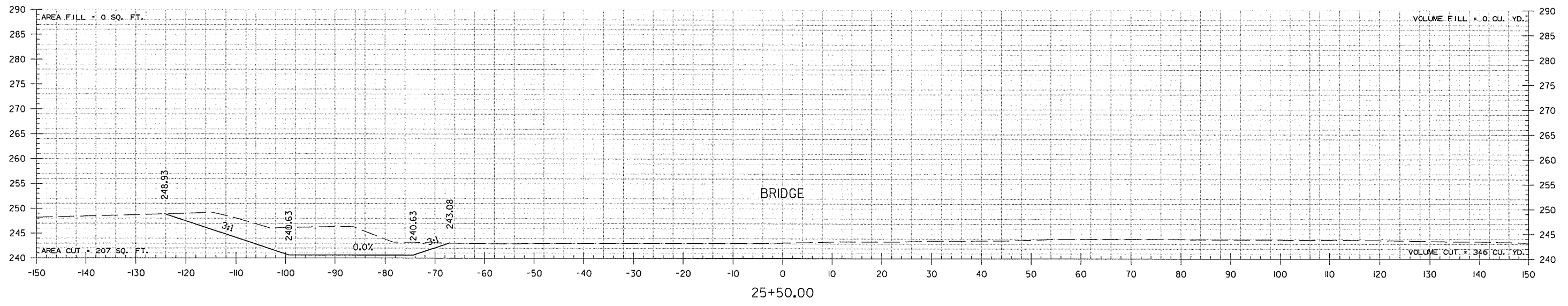
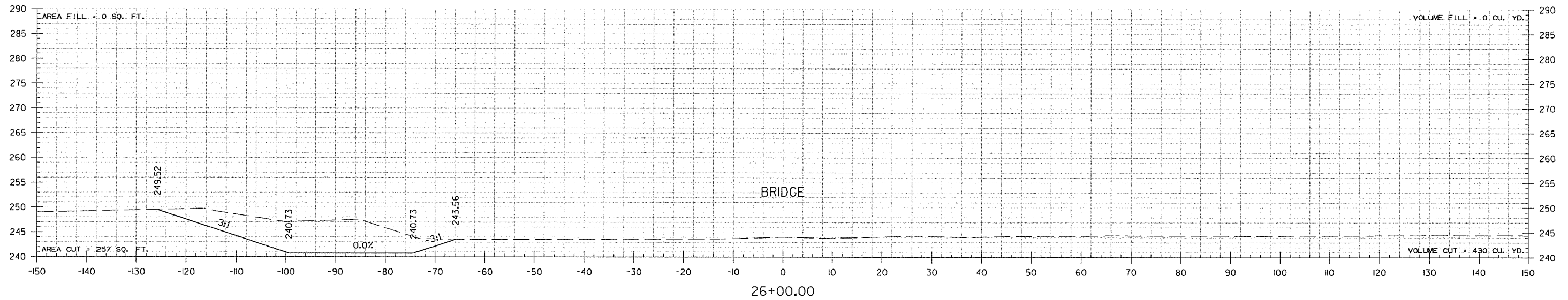
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				6	ARK.			
						JOB NO. 060395	124	141
② CROSS SECTIONS								



HWY. 367  
STA. 24+50 TO STA. 25+00

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REVISED DATE:

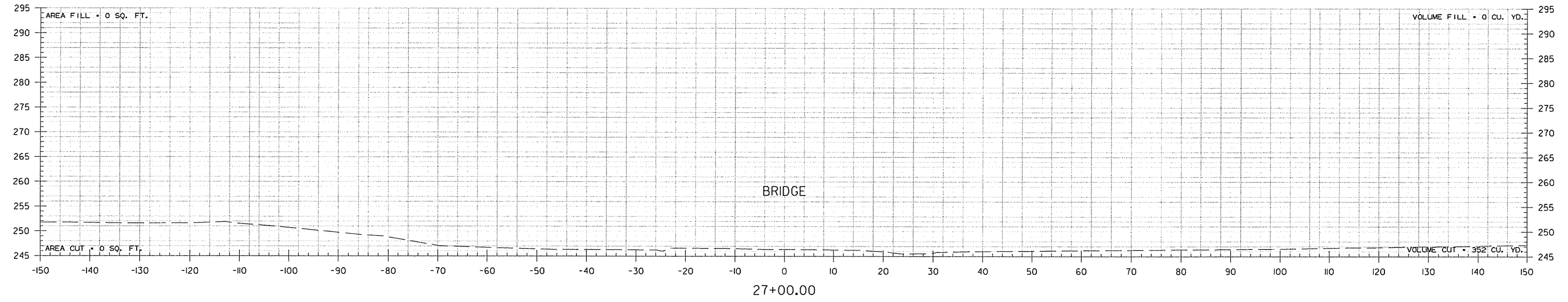
DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	125	141
② CROSS SECTIONS								



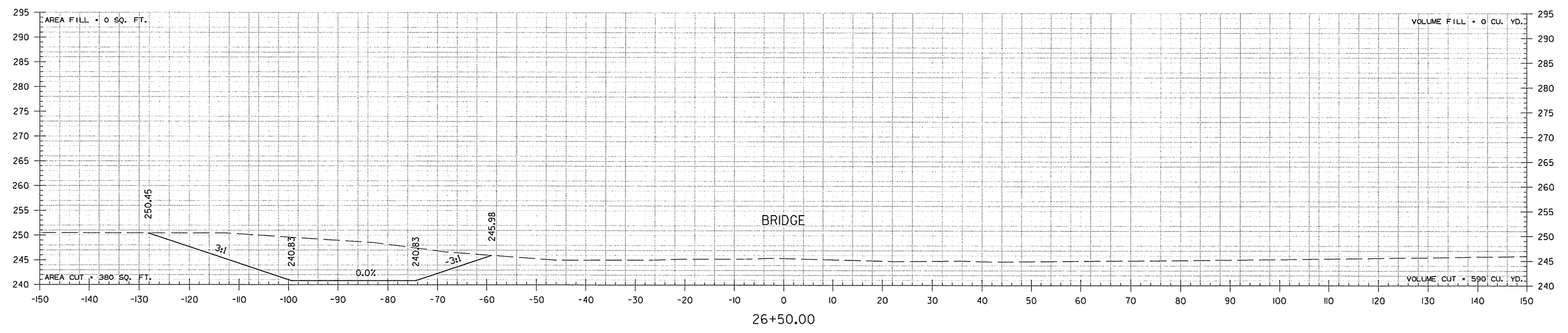
HWY. 367  
STA. 25+50 TO STA. 26+00

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REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	126	141
② CROSS SECTIONS								



STA. 26+60  
 END SP. DITCH LT. 0.20%  
 ELEV. 240.85

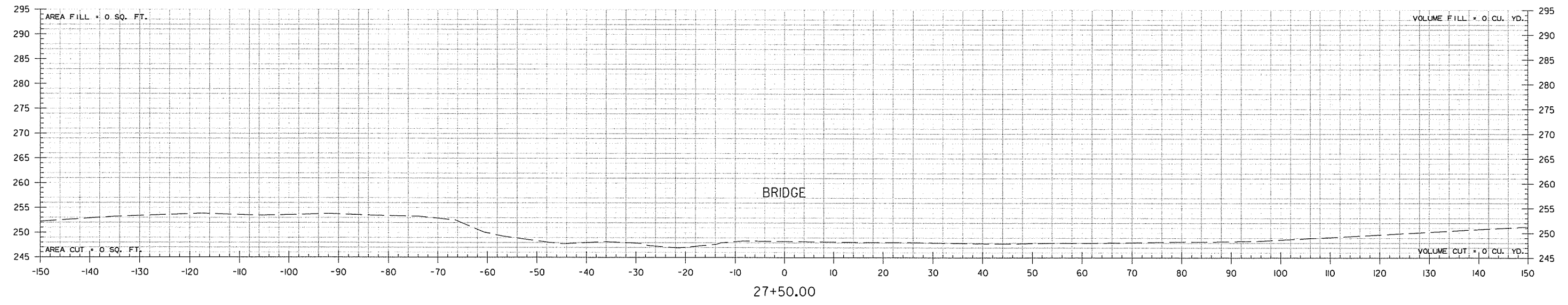
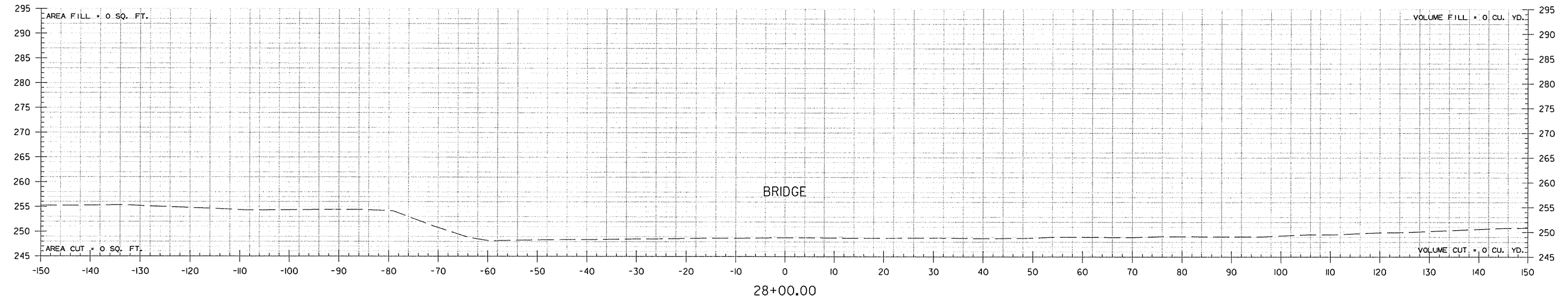


HWY. 367  
 STA. 26+50 TO STA. 27+00

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 REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	127	141

② CROSS SECTIONS

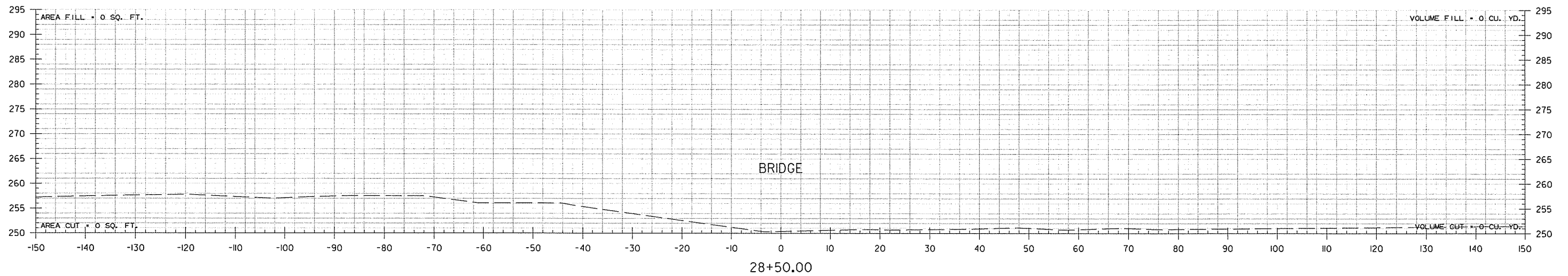
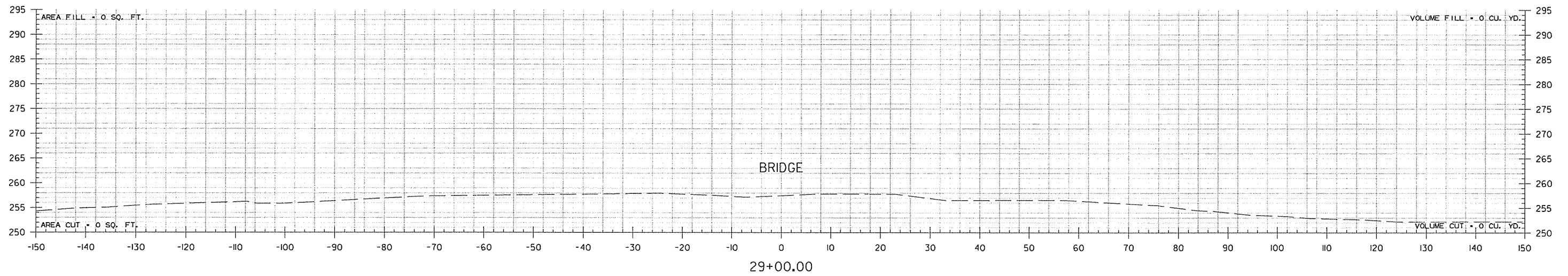


HWY. 367  
STA. 27+50 TO STA. 28+00

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 REVISED DATE:



DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	128	141
② CROSS SECTIONS								

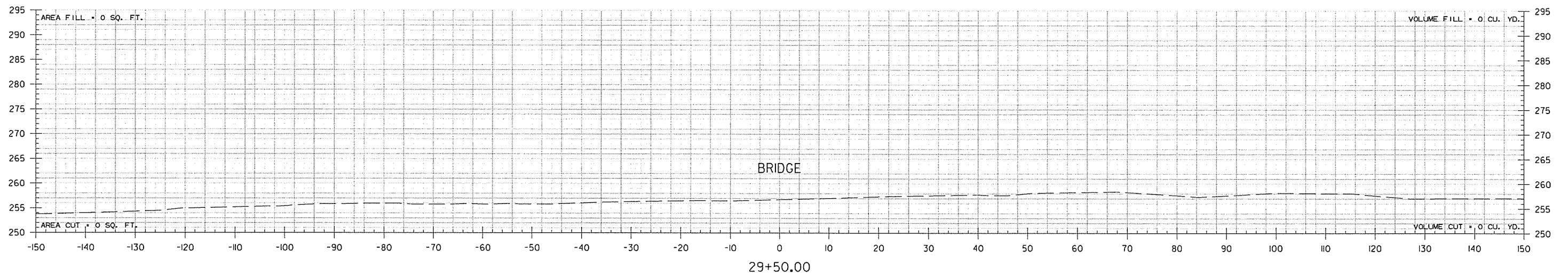
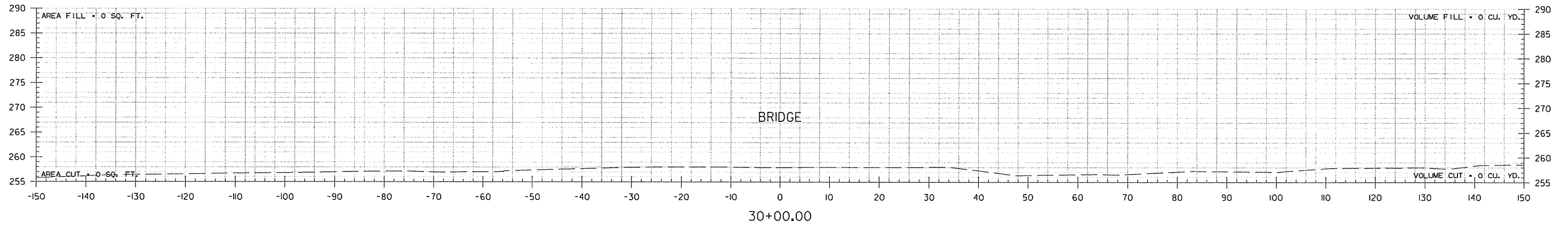


HWY. 367  
STA. 28+50 TO STA. 29+00

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 REVISION DATE:

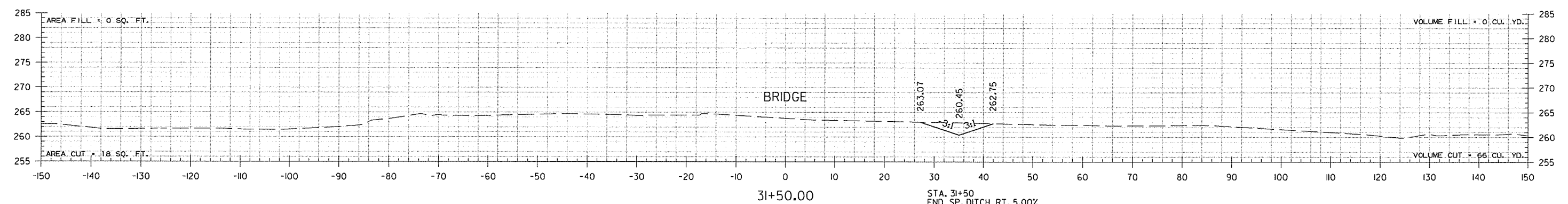
DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	129	141

② CROSS SECTIONS



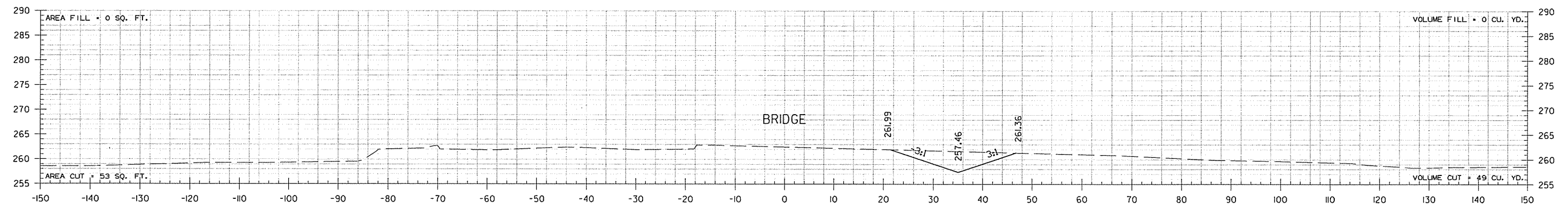
HWY. 367  
STA. 29+50 TO STA. 30+00

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							130	141
② CROSS SECTIONS								



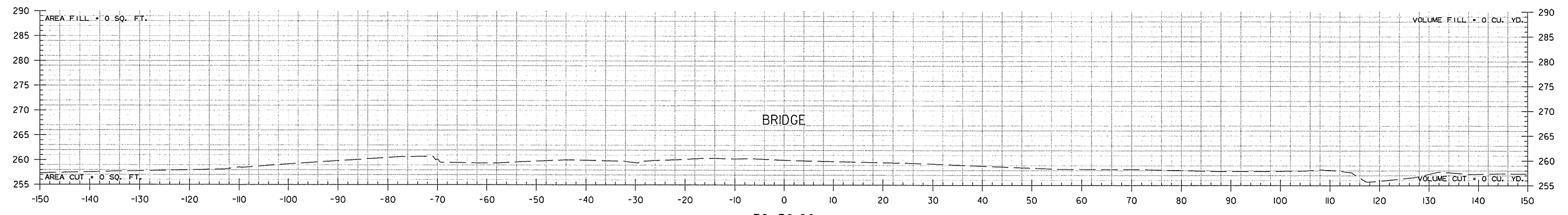
STA. 31+50  
 END SP. DITCH RT. 5.00%  
 BEGIN SP. DITCH RT. 5.50%  
 ELEV. 260.45

STA. 31+10  
 END SP. DITCH RT. 9.89%  
 BEGIN SP. DITCH RT. 5.00%  
 ELEV. 258.45



STA. 30+65  
 BEGIN SP. DITCH RT. 9.89%  
 ELEV. 254.00

STA. 30+50.77 BEGIN SUPERELEVATION

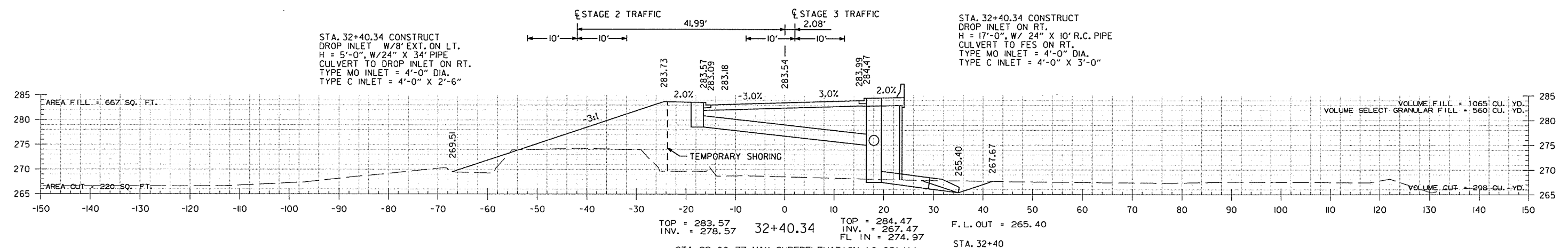
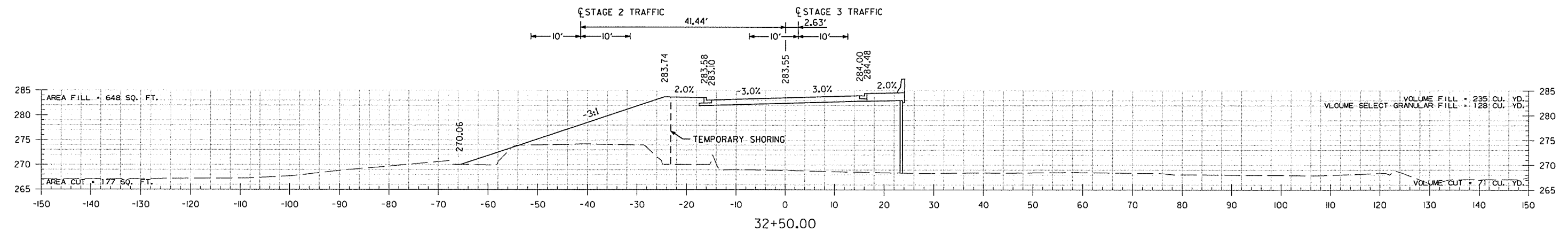


HWY. 367  
 STA. 30+50 TO STA. 31+50

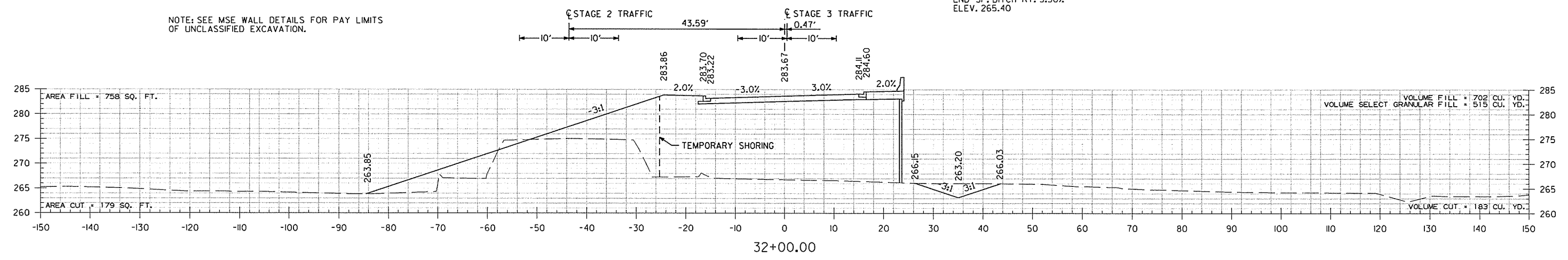
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 REVISION DATE:

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				6	ARK.			
							JOB NO.	060395
							SHEET NO.	131
							TOTAL SHEETS	141

2 CROSS SECTIONS



NOTE: SEE MSE WALL DETAILS FOR PAY LIMITS OF UNCLASSIFIED EXCAVATION.



HWY. 367  
STA. 32+00 TO STA. 32+50

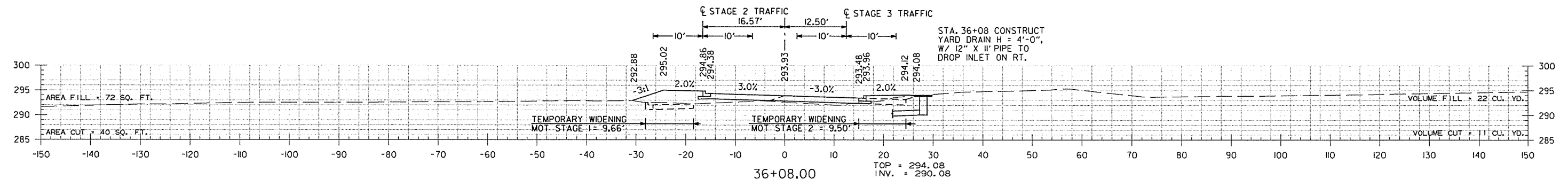
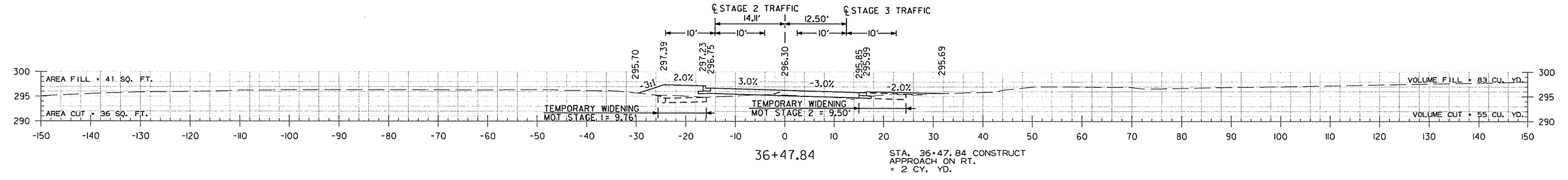
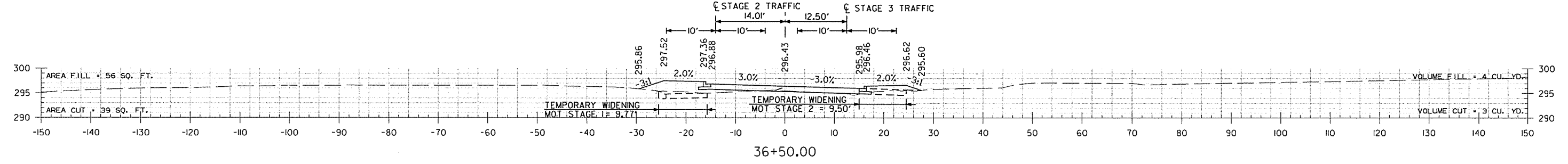
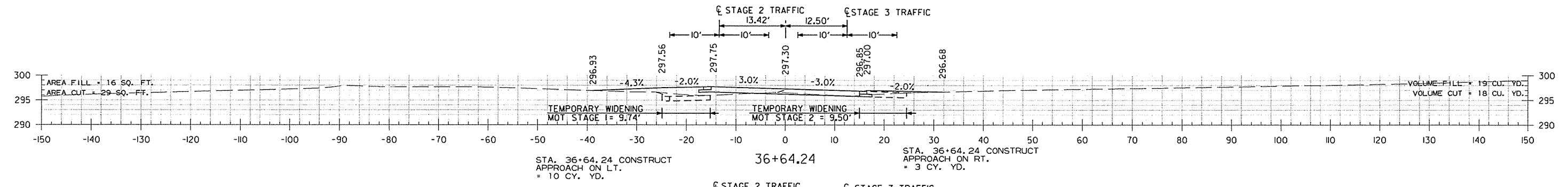
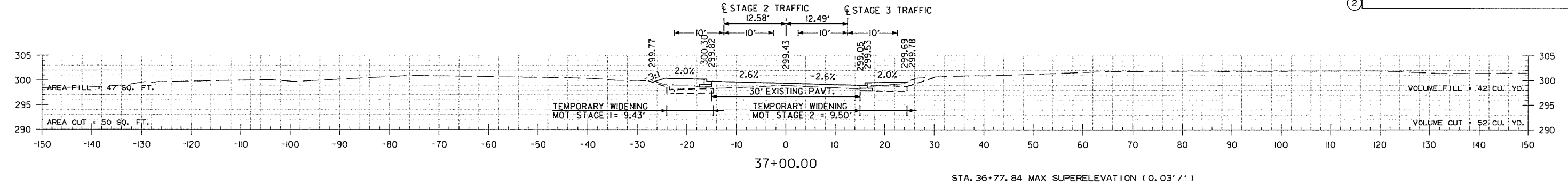
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 REVISED DATE:





DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	060395	134
								141

2



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 REVISION DATE:

HWY. 367  
 STA. 36+08 TO STA. 37+00

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 060395	135	141
(2) CROSS SECTIONS									

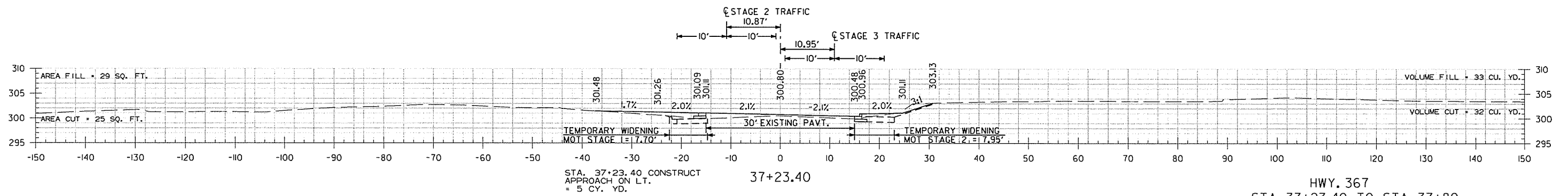
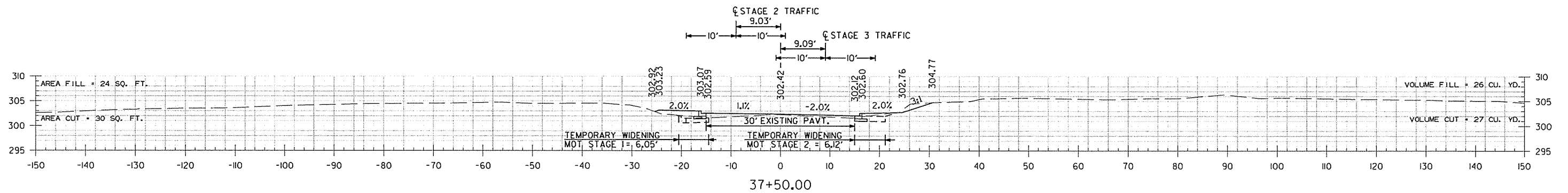
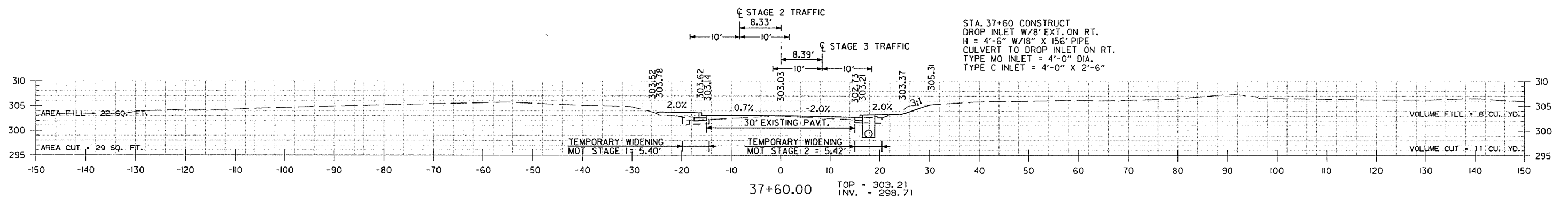
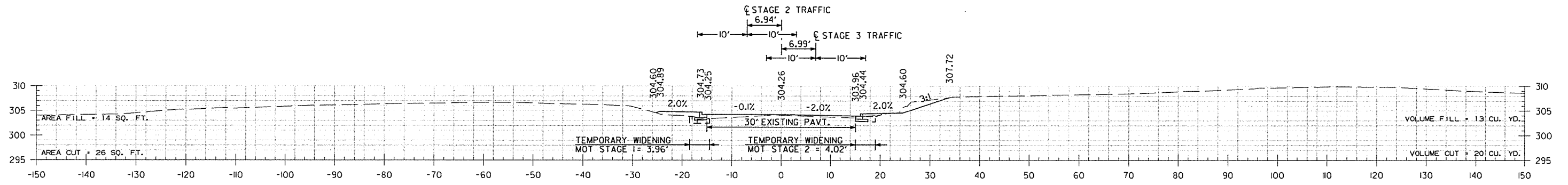
AREA FILL = 0 SQ. FT.  
AREA CUT = 0 SQ. FT.

STA. 38+30.00 END TRANSITION

STA. 38+27.84 END SUPERELEVATION

STA. 37+80.00 END JOB 060395

VOLUME FILL = 13 CU. YD.  
VOLUME CUT = 24 CU. YD.

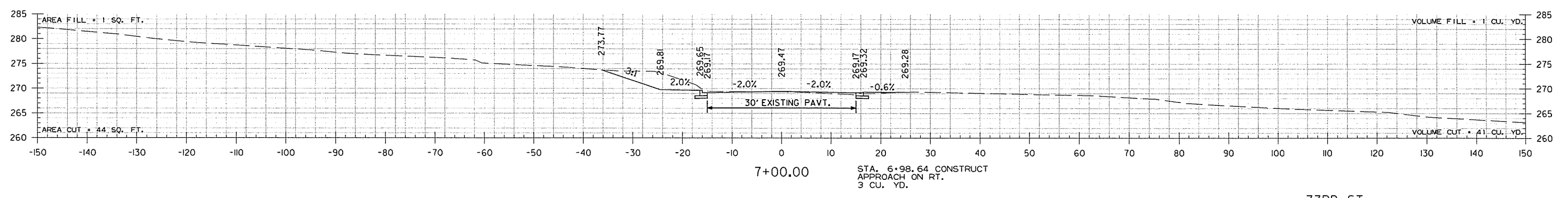
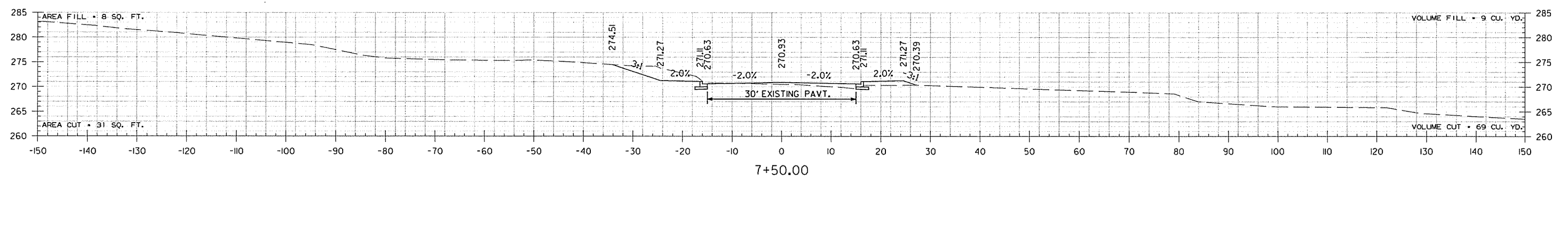
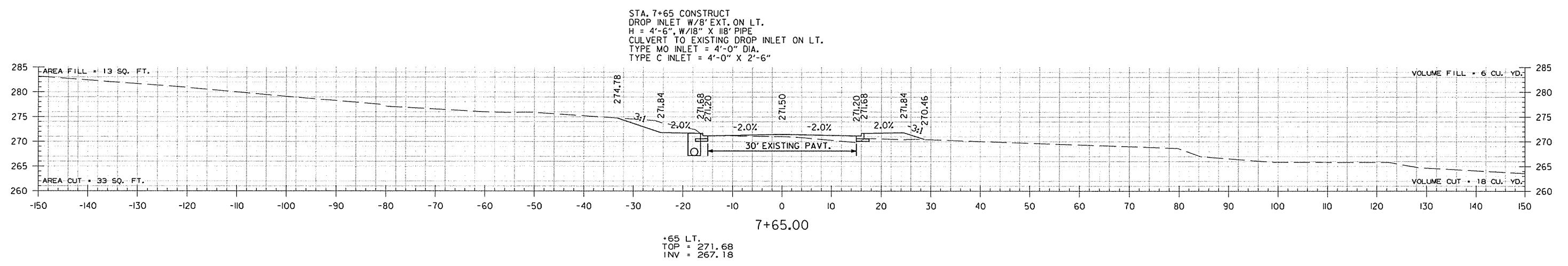


HWY. 367  
STA. 37+23.40 TO STA. 37+80

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 REVISED DATE:



DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							136	141
② CROSS SECTIONS								



AREA FILL = 0 SQ. FT.  
 AREA CUT = 0 SQ. FT.

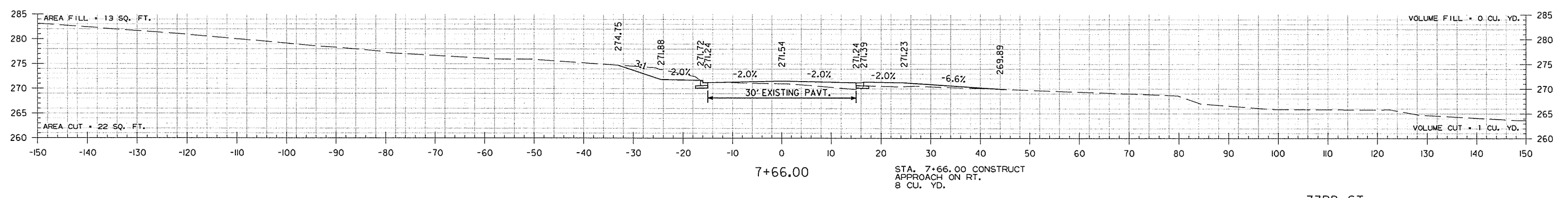
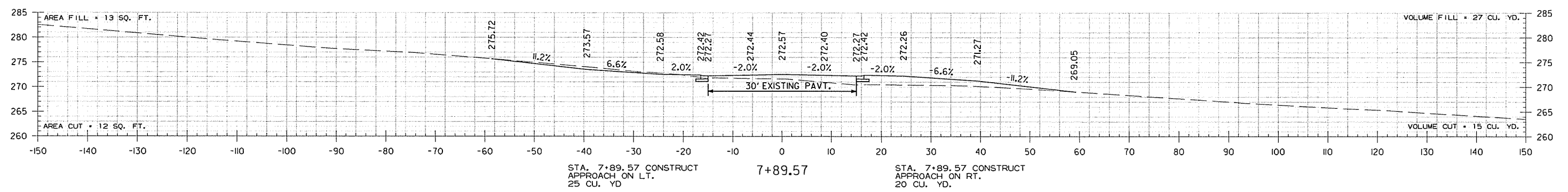
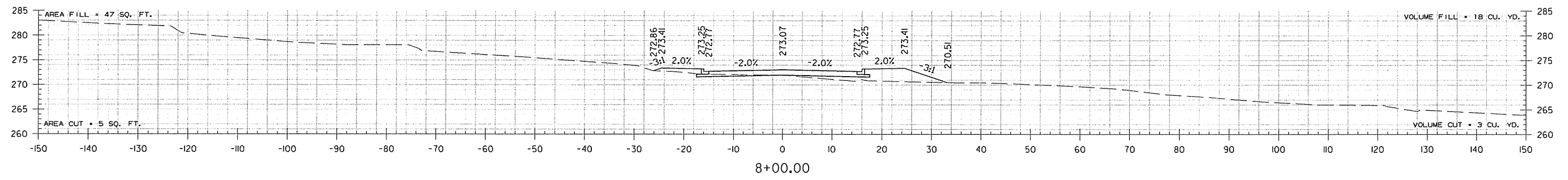
STA. 7+00.00 BEGIN 33RD STREET CONSTRUCTION

VOLUME FILL = 0 CU. YD.  
 VOLUME CUT = 0 CU. YD.

33RD ST.  
 STA. 7+00 TO STA. 7+65

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 REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 060395	137
							② CROSS SECTIONS	141



33RD ST.  
STA. 7+66 TO STA. 8+00

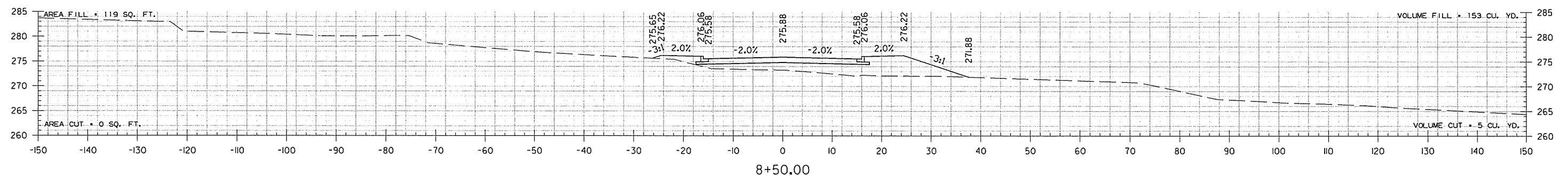
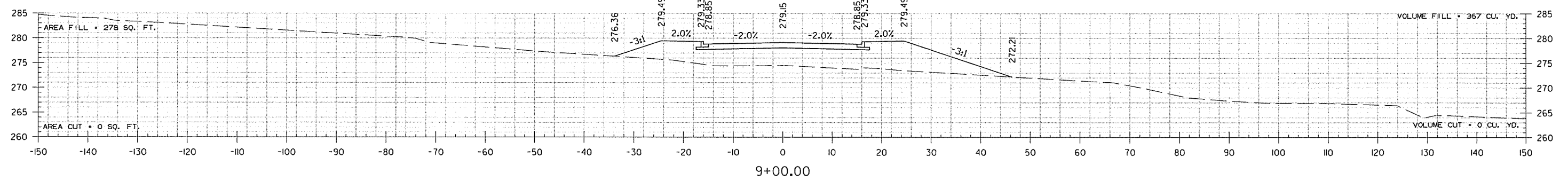
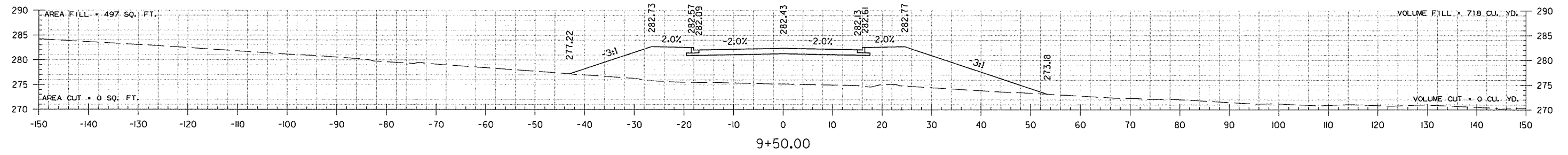
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 REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 060395	138	141
② CROSS SECTIONS									

AREA FILL = 0 SQ. FT.  
AREA CUT = 0 SQ. FT.

STA. 9+84.91 END 33RD STREET CONSTRUCTION

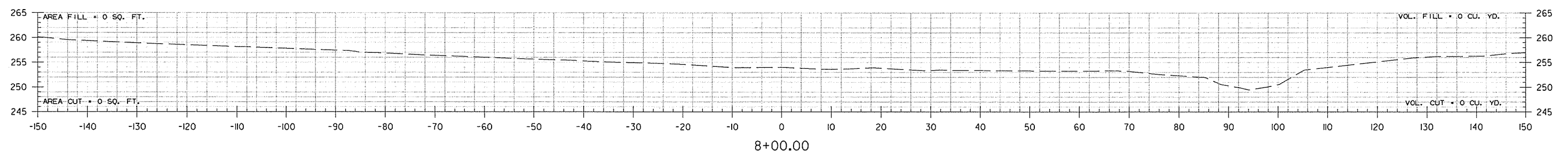
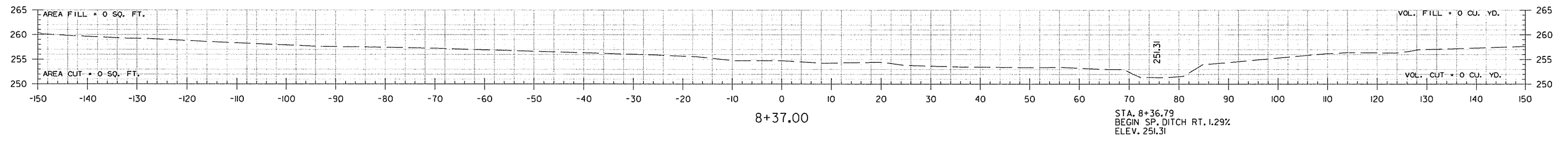
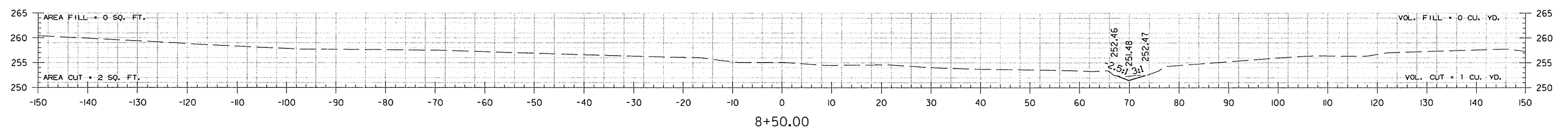
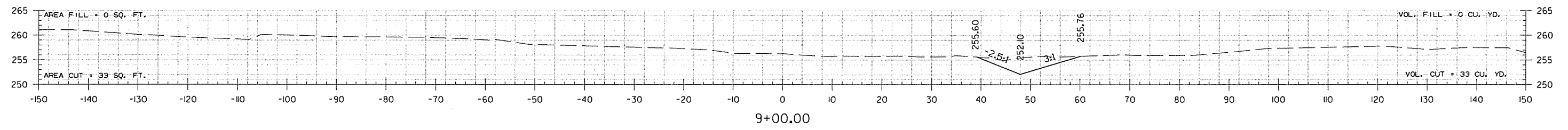
VOLUME FILL = 321 CU. YD.  
VOLUME CUT = 0 CU. YD.



33RD ST.  
STA. 8+50 TO STA. 9+50

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 W:\GIS\Projects\2011\017505 - Arch Street Bridge Replacement\Drawings\ASB.CX.33RD ST.dgn  
 REVISION DATE:

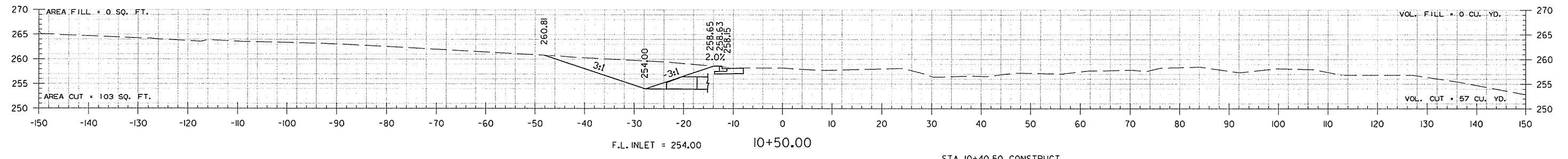
DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 060395	139	141
② CROSS SECTIONS									



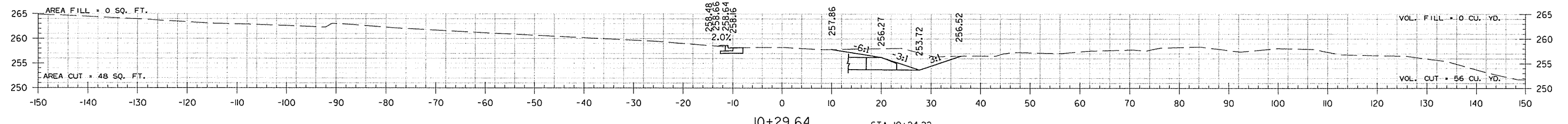
34TH ST.  
STA. 8+00 TO STA. 9+00

J:\Cortney 9/18/2014 8:30:39 PM  
 WORKSPACE  
 \Server\Inc\I\Projects\2011\017505 - Arch Street Bridge Replacement\Drawings\ASB\CX\_34TH ST.dgn  
 REVISED DATE:

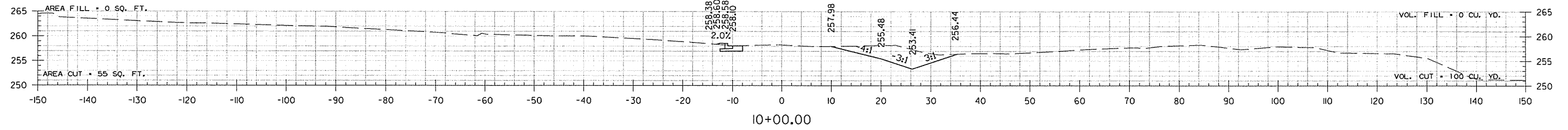
DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 060395							140	141
② CROSS SECTIONS								



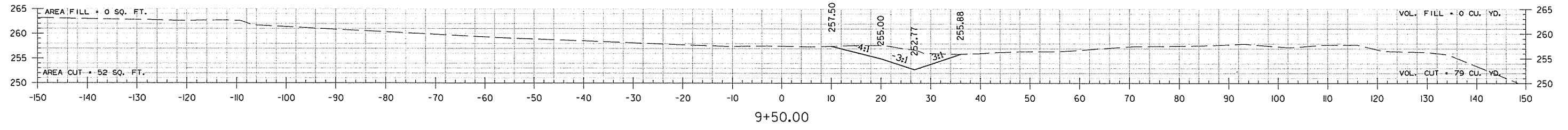
STA. 10+40.50 CONSTRUCT  
 36" X 23" X 38"  
 R.C. ARCH PIPE CULVERT  
 28'30" LT. FWD. SKEW  
 (CLASS IV) TYPE 3 BEDDING  
 WITH FES LT. & RT.  
 Q10 = 20.4 CFS DA = 6.7 ACRES



STA. 10+24.22  
 END SP. DITCH RT. 1.29% F.L. OUTLET = 253.72  
 ELEV. 253.72



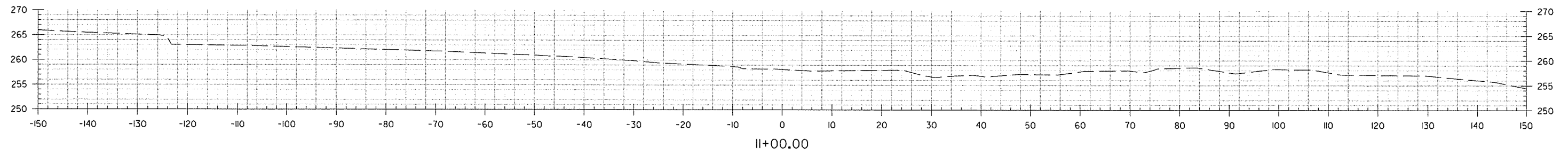
STA. 9+86.64 BEGIN 34TH STREET CONSTRUCTION



34TH ST.  
 STA. 9+50 TO STA. 10+50

9/18/2014 8:30:39 PM  
 W:\Projects\2011\107505 - Arch Street Bridge Replacement\Drawings\ASB\CX\_34TH ST.dgn  
 REVISIONS:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 060395	141	141
② CROSS SECTIONS								



AREA FILL = 0 SQ. FT.  
 AREA CUT = 103 SQ. FT.

STA. 10+83.67 END 34TH STREET CONSTRUCTION

VOL. FILL = 0 CU. YD.  
 VOL. CUT = 129 CU. YD.

34TH ST.  
 STA. II+00 TO STA. II+00

J:\Cortney 9/8/2014 8:30:40 PM  
 WORKSPACE\AHTD  
 \N\gpr\p\inc\l\p\projects\20\10\07505 - Arch Street Bridge Replacement\Drawings\ASB.CX\34TH ST.dgn  
 REVISED DATE: